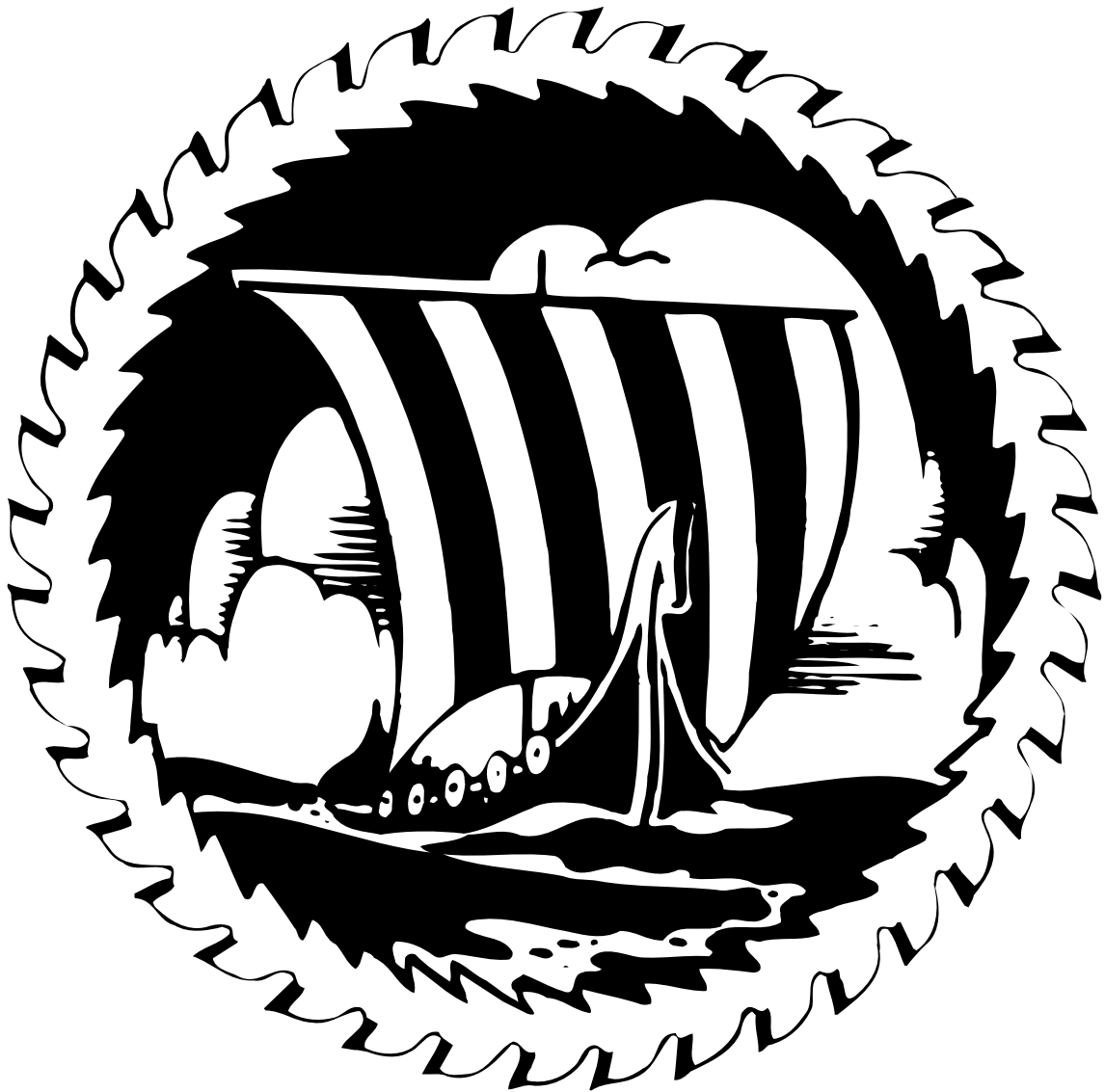


NORDIC INC.

SAW & TOOL MANUFACTURERS



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Turlock, California

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PRODUCT FOLLOWING THE ONE YEAR PERIOD OF THE EXPRESS WARRANTY PROVIDED BY NORDIC SAW AND TOOL MANUFACTURERS, INC. NORDIC SAW AND TOOL MANUFACTURERS, INC., WILL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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THERE ARE NO OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE THAT APPLIED TO THIS

ADDITIONAL TERMS AND CONDITIONS

- Engineering Service:** We offer a complete engineering and design service on all types of saw blades, shaper cutters and router bits. Our continuing research and experimentation program allows us to help you in newer, faster and better methods to accomplish your job.
- Resharpener Service:** We have a complete sharpening and repair service for all types of blades, regardless of the original manufacturer. They are reground on the same machines, by the same caliber of men who originally made them, so you are assured that they are returned to you in excellent shape.
- When Ordering:** Please give complete information with each order to assure prompt service. List tool number, size, quantity and complete data as directed with each tool in this catalog. Always allow time for delivery by anticipating your tool requirements. By following these suggestions, we will avoid the necessity of writing or telephoning for additional information.
- Shipping Procedure:** State how you want the material shipped...whether by air, parcel post, United Parcel Service, or truck. All shipments are generally made by United Parcel Service (if possible) or via parcel post unless otherwise specified.
- Returned Merchandise Policy:** New merchandise only may be returned with advance approval only, and must have date of purchase and our invoice number. Any merchandise returned because of customer error is subject to a 15% restocking charge and must be in "Brand New" condition. Custom or special tools are not returnable. No merchandise may be returned after 6 months from date of purchase. Return shipping charges must be prepaid.
- Terms:** On standard orders, cancellation will be accepted without charge. Special orders may be cancelled, but there will be a proportionate charge that is reasonable and proper, based on the status of merchandise in process and expenses already incurred as well as commitments made by the company.
- Prices:** Accounts will be net 30 days from date of invoice. Past due accounts will be charged a FINANCE CHARGE at the periodic rate of 1-1/2% per month, which is an ANNUAL PERCENTAGE RATE OF 18%. A MINIMUM finance charge of \$1.00 will be charged on past-due accounts. All collection costs, including attorneys fees, will be the expense of the customer.

ALL PRICES AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. All prices are FOB Turlock, California.

MATERIAL SAFETY HAZARD STATEMENT

WARNING - Our tools are sharp. They are intended to cut. Anyone using these or any cutting tools should always bear in mind the potential for injury and use tools with caution.

DUST - Dust appears to be the major offending item within material safety data sheets. We presume this concern will extend to the dust produced by the use of our cutting tools. We encourage using adequate ventilation and housekeeping to keep the dust under control.

All of the producers of the materials (steel, tungsten carbide, copper and silver solder) used in our tools warn that hazardous dust and/or fumes MAY be generated if their materials are welded, burnt, cut, ground, heated or melted.

Dust and/or fumes that are possibly hazardous could be generated during sharpening or retipping of our product. To avoid adverse health hazards, use adequate ventilation or prevent the generation of this dust and/or fumes. Material Safety Data sheets typical of the materials used in our products are available on request.

REPRODUCTION OF ANY PORTION OF THIS CATALOG BY ANY MEANS, INCLUDING PHOTOCOPY MACHINES, WITHOUT PERMISSION IS PROHIBITED.

WE SPECIALIZE IN SOLVING CUTTING PROBLEMS

SAW BLADES

Designed to cut all the new and difficult materials and give you the finish you have always dreamed about. See pages 4 through 22 for further details and specifications required.

SHAPER CUTTERS

With all of today's newest technology, we can design and manufacture a cutter to shape all patterns and designs you will ever need. See inside back cover for details and specifications required.

ROUTER BITS

We carry a complete line of Router bits that will fit most all of your needs. We design and engineer many special bits that are not listed in the catalog. Send us your specific requirements.

We are your metric tooling specialist for all sizes of boring bits, drill bits and saw blades.

With the wood industry going to this new type of tooling, we stock a complete line of Inserts as well as design and manufacture all types of cutter heads and router bits.

METRIC TOOLING

INDEXABLE INSERT TOOLING

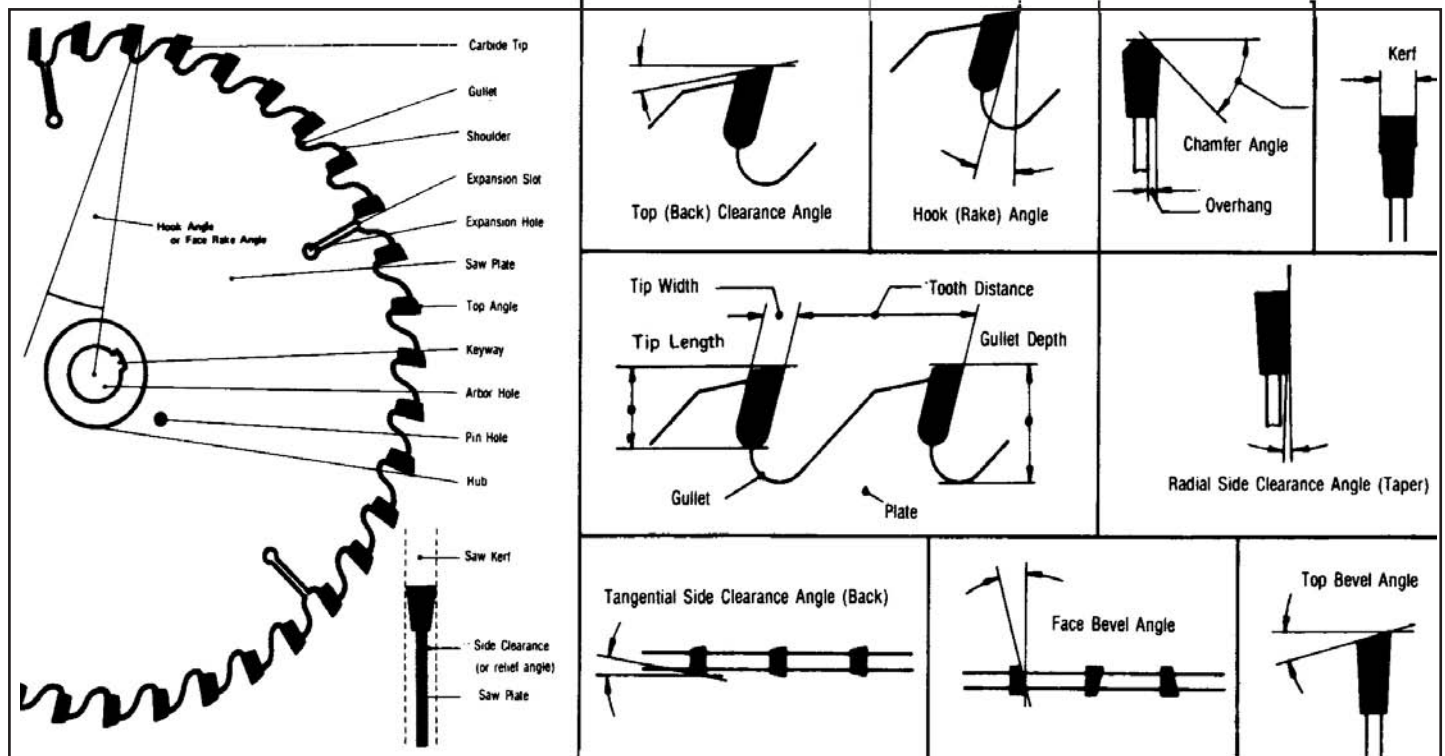
We specialize in custom router bits for all CNC operations.

CNC TOOLING

WE ARE NOT CONTENT TO JUST SELL YOU OUR TOOLS, WE WANT TO SERVE AND HELP YOU TO PRODUCE A BETTER PRODUCT: SEND US YOUR REQUIREMENTS

WE TAKE PRIDE IN DOING THE IMPOSSIBLE

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CARBIDE TIPPED CUSTOM SAW BLADES
Manufactured on Special Order

Diameter	Number of Teeth													
	20	24	30	36	40	50	60	70	80	90	100	120	150	200
6-6 1/4-6 1/2	x	x	x	x	x	x	x	x	x	x				
7-7 1/4-7 1/2	x	x	x	x	x	x	x	x	x	x	x			
8	x	x	x	x	x	x	x	x	x	x	x	x		
9	x	x	x	x	x	x	x	x	x	x	x	x		
10	x	x	x	x	x	x	x	x	x	x	x	x	x	
12	x	x	x	x	x	x	x	x	x	x	x	x	x	
14	x	x	x	x	x	x	x	x	x	x	x	x	x	
16	x	x	x	x	x	x	x	x	x	x	x	x	x	x
18	x	x	x	x	x	x	x	x	x	x	x	x	x	x
20	x	x	x	x	x	x	x	x	x	x	x	x	x	x
22	x	x	x	x	x	x	x	x	x	x	x	x	x	x
24	x	x	x	x	x	x	x	x	x	x	x	x	x	x
26					x	x	x	x	x	x	x	x	x	x
28					x	x	x	x	x	x	x	x	x	x
30					x	x	x	x	x	x	x	x	x	x
32					x	x	x	x	x	x	x	x	x	x
34					x	x	x	x	x	x	x	x	x	x
36					x	x	x	x	x	x	x	x	x	x

Intermediate diameters take price of next larger size.
 Blades over 36" - quote from factory.

Arbor speed in RPM

Material - thickness to be cut

Power Feed or Hand Feed

Rate of feed per minute

Make and type of machine

Type of Material

Finish Required

OPTIONS AVAILABLE

Different grades of carbide

Hook or Rake angles

(positive or negative)

Heavy Plates & Kerf

Thin Rim - 1 side or both sides

Face angles or bevel

Thin Kerfs

Hollow grind plate

WHEN ORDERING:

Diameter - inches or millimeters

Number of teeth

Arbor Hole (w/ pinholes and keyways, submit drawings)

Collar size on saw

Kerf required

Plate thickness

CARBIDE GRADES

C-2

C-3

ARC

*See price list for add ons.

TOOTH STYLES AVAILABLE

Alternate Top - any angle

* Alternate Top and Face Bevel

Alternate Chamfer

* Concave Face

Conical

* FCC (First Class Cut)

2 & 1 Combination

4 & 1 Combination

Left or Right hand trimmer

* MF (Mirror Finish)

Square Top

Triple Chip

Uni-Chip

Uni-Chip-MOD

* See price list for add ons

KERF:

Standard Kerf 12" & smaller is .125

Standard Kerf 14" & 16" is .170

Standard Kerf 18" & 20" is .195

Standard Kerf over 20" is .220

*For different kerfs see price list for add ons.

CARBIDE TIPPED RIP BLADES

STYLE "R" Standard thickness rip saws for hard and soft woods in hand feed operation. Plenty of hook with precision ground clearances which allows for fast and easy hand feed cutting. Supplied with Square Top grind unless otherwise ordered with Uni-Chip top grind.



Diameter	Plate Gauge	Kerf Gauge	Number of Teeth			
			24	30	36	40
8	.095	.125	x			
9	.095	.130	x			
10	.095	.130	x	x	x	
12	.095	.130	x	x	x	x
14	.120	.170	x	x	x	x
16	.120	.170	x	x	x	x

For larger diameters see custom saw blade

STYLE "R-HD" Heavy duty rip saws for single blade rip machines and power feed equipment. Supplied with less hook than Style "R" to reduce tooth shock and furnished with heavy gauge to give long life in this fast feed rate application. Blades come with Square Top grind unless otherwise ordered with Uni-Chip top grind.



Diameter	Plate Gauge	Kerf Gauge	Number of Teeth			
			24	30	36	40
8	.120	.180	x			
9	.120	.180	x			
10	.120	.180	x			
12	.120	.180	x	x	x	x
14	.135	.195	x	x	x	x
16	.135	.195	x	x	x	x

For larger diameters see custom saw blade

STYLE "R-GL" Rip saws for Glue Line applications where a smooth cut is required. Plate & kerf is slightly heavier than standard, ground with special radial and tangential clearances so a good finish will prevail. Blades are supplied with Uni-Chip top grind.



Diameter	Plate Gauge	Kerf Gauge	Number of Teeth		
			30	36	40
10	.120	.180	x	x	x
12	.120	.180		x	x
14	.135	.195		x	x
16	.135	.195		x	x

For larger diameters see custom saw blade

STYLE "R-GR" Rip saws for Gang Rip application on power feed machines. Engineered with proper hook angle and gullet design, with tough shock resistant carbide for long life. Furnished with heavier than standard plate and kerf so blade will stand up under this heavy use application. Supplied with Square Top grind unless otherwise ordered with Uni-Chip top grind.

STYLE "RIP-MF" Mirror finish blades are all quoted from factory. Will need to know the following information before quoting:



Diameter	Plate Gauge	Kerf Gauge	Number of Teeth			
			24	30	36	40
10	.120	.180	x	x	x	x
12	.120	.180	x	x	x	x
14	.135	.195	x	x	x	x
16	.135	.195	x	x	x	x

For larger diameters see custom saw blade

Diameter
 Make & type machine
 Number of teeth
 Type material to be cut (specify)
 Collar size of saw
 Thickness of material

Kerf required
 Hand Feed or Power Feed
 Horse Power
 Rate of feed per minute if power feed
 Arbor speed in RPM
 Arbor Hole (w/ pinholes & keyways, submit drawings)

CARBIDE TIPPED COMBINATION BLADES

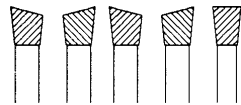
STYLE "C" combination blades are unequalled for giving smooth cuts on plywood, hardboard, partical board and soft woods. This blade can be used on all types of wood working machines. The tooth design is made up of five teeth. The first and third teeth are beveled one way, while the second and fourth teeth are beveled in the opposite direction and every fifth tooth is ground square and slightly lower than the beveled teeth. This design will give you splinter free cuts on crosscutting plywood and partical board. In extreme cases - face bevel on all teeth may be required to give splinter free cuts.

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth						
			40	50	60	70	80	100	
6-6 1/4-6 1/2	.090	.120	x						
7-7 1/4-7 1/2	.090	.120	x	x					
8	.095	.125	x	x	x				
9	.095	.130	x	x	x	x	x		
10	.095	.130	x	x	x	x	x		
12	.095	.130	x	x	x	x	x	x	
14	.120	.170	x	x	x	x	x	x	
16	.120	.170	x	x	x	x	x	x	
18	.135	.185		x	x	x	x	x	
20	.150	.195			x	x	x	x	

CARBIDE TIPPED COMB. PLANER BLADE

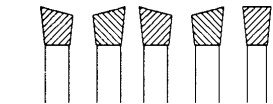


UNI-CHIP GRIND



4 & 1 COMBINATION GRIND

STYLE "C-B" Combination Planer Blade. The old style body plates with the large deep gullet every fifth tooth. Tooth style is 4: Alt. Top with 1: Square Raker.



4 & 1 COMBINATION GRIND

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth				
			40	50	60	70	80
8	.095	.130	x				
9	.095	.130	x				
10	.095	.130		x			
12	.095	.130			x		
14	.120	.170				x	
16	.120	.170					x

For larger diameters see custom saw blade

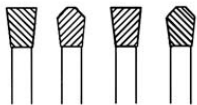
and no splinters. It is used for cutting mouldings, picture frames and other operations that require a quality cut.

CARBIDE TIPPED CROSSCUT & CUT OFF BLADES

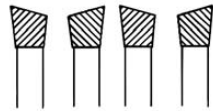
STYLE "CC" crosscutting blades are designed for fast hand and power feed cutting and trimming both hard and soft woods. Top grind is furnished with alternate top bevel and square face. The bevel teeth provide the shearing action necessary to sever the wood fibers in cutting across the grain. When cutting tempered hardboard, fiberboard, high density partical board, we recommend the Uni-Chip top grind, when finish on the bottom side of material is not critical.

STYLE "CC-FB" crosscutting blades are designed with alternate top bevel grind with face bevel to cut off and trim wood with extreme smoothness

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth					
			40	50	60	70	80	100
6-6 1/4-6 1/2	.090	.120	x					
7-7 1/4-7 1/2	.090	.120	x	x				
8	.095	.125	x	x	x			
9	.095	.130	x	x	x	x	x	
10	.095	.130	x	x	x	x	x	
12	.095	.130	x	x	x	x	x	x
14	.120	.165	x	x	x	x	x	x
16	.120	.170	x	x	x	x	x	x
18	.135	.185		x	x	x	x	x
20	.150	.195			x	x	x	x



UNI-CHIP GRIND



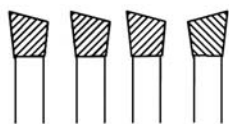
ALTERNATE TOP BEVEL AND ALTERNATE TOP & FACE BEVEL

CARBIDE TIPPED TRIMMER BLADES

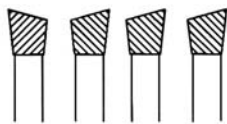
STYLE "T" standard trimmer blades have three teeth beveled one way and every fourth tooth is slightly lower and beveled opposite. These blades are strictly for crosscutting where only one side of the wood would require a smooth cut.

STYLE "T-FB" trimmer blades as per above only with face bevel for even finer trimming when you want to eliminate edge splinter when cutting across the grain.

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth					
			40	50	60	70	80	100
8		.130	x	x	x			
9		.130		x	x	x		
10		.130			x	x	x	
10		.170			x	x	x	
12		.130			x	x	x	x
12		.190			x	x	x	x
14		.190			x	x	x	x
16		.190			x	x	x	x



LEFT HAND TRIMMER GRIND



RIGHT HAND TRIMMER GRIND

Left hand tooth style: As blade is rotating toward you, the 3 bevel teeth would be on the left hand side.

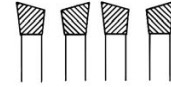
Right hand tooth style: As blade is rotating toward you, the 3 bevel teeth would be on the right hand side.

CARBIDE TIPPED CUTOFF BLADES FOR POP-UP MACHINE

STYLE "PU" for pop-up cross cutting blades. These blades give smooth finish cuts when trimming both soft and hard woods. These blades are engineered with zero rake and an alternate teeth grind that provide a shearing action to sever the wood fibers in cutting across the grain.

STYLE "PU-FB" crosscutting blades are designed with Alternate Top bevel grind with face bevel to cut off and trim wood with extreme smoothness and no splinters. It is used for cutting mouldings, picture frames and other operations that require a quality cut.

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth			
			60	70	80	100
14	.120	.165	x	x	x	x
16	.120	.170	x	x	x	x
18	.135	.185	x	x	x	x
20	.150	.195	x	x	x	x



ALTERNATE TOP BEVEL AND ALTERNATE TOP & FACE BEVEL

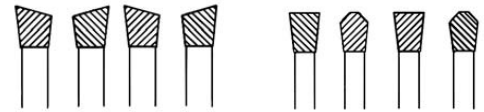
CARBIDE TIPPED MITER/SLIDE COMPOUND MITER BLADES

STYLE "M" miter saw blades are engineered to cut all types of hard and soft woods. Supplied with a top grind of Alternate Top or Uni-Chip design.

The thin kerf blades should be used with lightweight import miter box saws with low horsepower. Please specify kerf when order is placed.

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth		
			60	80	100
8	.065	.095	x		
8	.095	.130	x		
8-1/4	.065	.095	x		
8-1/4	.095	.130	x		
8-1/2	.065	.095	x		
8-1/2	.095	.130	x		
9	.065	.095	x		
9	.095	.130	x	x	
10	.065	.095	x	x	
10	.095	.130	x	x	x

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth	
			80	100
12	.080	.110	x	x
12	.095	.130	x	x
14	.100	.130	x	x
14	.120	.170	x	x
15	.100	.130	x	x
15	.120	.170	x	x
16	.100	.130	x	x
16	.120	.170	x	x



ALTERNATE TOP BEVEL

UNI-CHIP GRIND

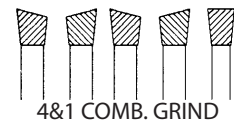
CARBIDE TIPPED THIN RIM BLADES

STYLE "TR" is narrow kerf saw blade to keep stock loss at a minimum. These blades are designed for finish work in cutting expensive plastics, veneer and wood, and are not recommended for heavy rough cutting

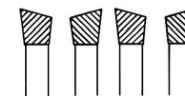
Diameter	Hub Dia.	Hub	Rim	Kerf Gauge	Number of Teeth			
					60	70	80	100
8	4			.095	x	x	x	
10	6			.095	x	x	x	x
12	8			.095	x	x	x	x



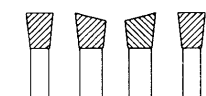
UNI-CHIP GRIND



4&1 COMB. GRIND



ALTERNATE TOP GRIND



2&1 COMB. GRIND

CARBIDE TIPPED CORDWOOD (FIREWOOD) BLADES

STYLE "CW" cordwood blades are designed for fast and easy cutting without operator fatigue. They can be run off of tractor P.T.O. as well as gas engines or electrical motors. These carbide tipped saw blades will give you long life between sharpenings and many of our customers are experiencing cutting 100 cords or more before sharpening. The top grind recommended is Alternate Top but Uni-Chip is available for long life; however it requires more horsepower and more physical effort to push the blade through the material. Minimum size saw collar is 4" and on larger blade sizes we recommend 6".

Diameter	Plate Gauge	Kerf	Max. R.P.M.	No. of Teeth		
				80	90	100
28	.150		1500	x		
30	.150		1500	x		
32	.150		1400	x		
34	.150		1300		x	
36	.150		1200			x



UNI-CHIP GRIND



ALTERNATE TOP GRIND

CARBIDE TIPPED SLIDING TABLE PANEL BLADE

STYLE "STP" sliding table panel sizing blades are designed to cut all types of MDF, presswood, plywood, chipboard and hardboard with or without plastic or veneer lamination. It would be best on two sided material to use the STYLE "A-SC" or "SC" scoring blade, if possible for clean chip free bottom cuts. Special Abrasive Resistant Carbide tips are used for long life on all "STP" style blades. Available with 2 different top grinds. When ordering specify type of material and thickness to be cut.

MILLIMETER SIZES INCH

Altendorf, Holzma, Pan Hans, SCMI
all use 30MM bore

Diameter		Plate Gauge	Kerf Gauge	No. of Teeth			
MM	Inches			40	60	80	100
300	11-13/16	.095	.130		x	x	x
350	13-25/32	.120	.170		x	x	x

SIZES

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth		
			60	80	100
10	.095	.130	x	x	
12	.095	.130	x	x	x
14	.120	.170	x	x	x
16	.120	.170	x	x	x



UNI-CHIP GRIND



ALTERNATE TOP GRIND

CARBIDE TIPPED VERTICAL PANEL SIZING BLADE

STYLE "VP" vertical panel sizing blades are designed to cut all types of plywood, chipboard, MDF and presswood with or without plastic or veneer lamination. It would be best on two sided material to use the STYLE "A-SC" or "SC" scoring blade, if possible for clean chip free bottom cuts. Special Abrasive Resistant Carbide tips are used for long life on all "VP" style blades. Available with 2 different top grinds. When ordering specify type of material and thickness to be cut.

*also see Style "CF" concave face blades on page 13

MILLIMETER SIZES INCH

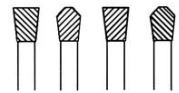
Holz-her, Striebig have 30MM bore

Diameter		Plate Gauge	Kerf Gauge	No. of Teeth				
MM	INCHES			40	60	70	80	100
220	8-21/32	.095	.130	x	x	x		
250	9-27/32	.095	.130		x	x	x	
300	11-13/16	.095	.130		x		x	x

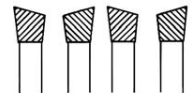
SIZES

Safety Speed cut has 5/8 bore

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth		
			40	60	70
7-1/4	.095	.130	x	x	x
8	.095	.130	x	x	x



UNI-CHIP GRIND

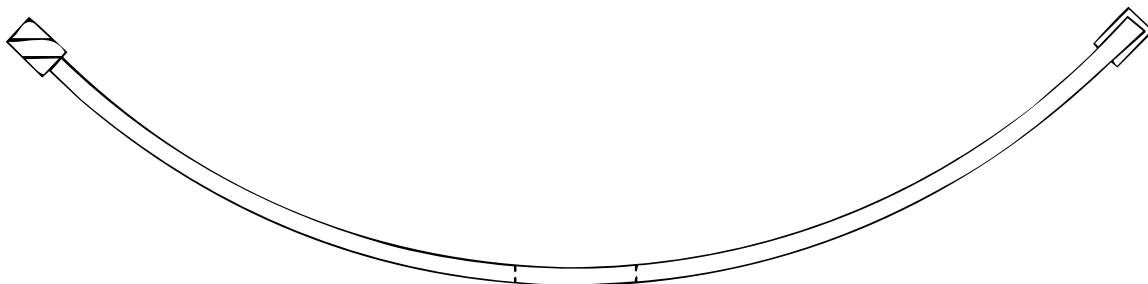


ALTERNATE TOP GRIND

Scoring saw attachment for 10" table saw see page 38.

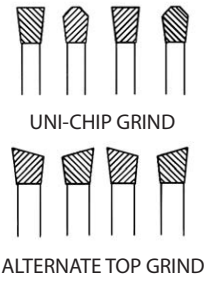
CARBIDE TIPPED SAW BLADES FOR WOODEN BARREL MANUFACTURERS

STYLE "WB" a carbide tipped blade designed and engineered exclusively for the wooden barrel manufacturer. We can make any diameter of blade with any concave radius you require. Send us a sample blade or detail drawing and we will send you a quote.



CARBIDE TIPPED HORIZONTAL PANEL SIZING BLADE

STYLE "HPS" horizontal panel sizing blades are designed to cut all types of chipboard, hardboard, MDF, presswood and plywood with or without plastic or veneer lamination. It would be best on two sided material to use the STYLE "A-SC" or "SC" scoring blade if possible for clean chip free bottom cuts. Special Abrasive Resistant Carbide tips are used for long life on all "HPS" style blades. Available with two different top grinds. When ordering specify type of material and thickness to be cut.



INCH SIZES

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth			
			60	80	100	120
10	.095	.130	x	x		
12	.095	.130	x	x	x	
14	.120	.170	x	x	x	
16	.120	.170	x	x	x	
18	.150	.200	x	x	x	
20	.150	.200	x	x	x	x

Diameter		Plate Gauge	Kerf Gauge	No. of Teeth							
MM	Inches			40	48	54	60	72	80	96	100
220	8-21/72	.095	.130				x				
250	9-27/22	.095	.130		x		x		x		
254	10	.095	.130	x	x		x		x		
300	11-13/16	.095	.130				x	x	x		
305	12-1/64	.095	.130				x		x	x	
350	13-25/32	.120	.170			x	x	x	x	x	
355	13-31/32	.120	.170			x	x		x	x	
370	14-9/16	.120	.170				x	x	x	x	
380	14-31/32	.120	.170				x	x	x	x	
400	15-3/4	.120	.170				x	x	x	x	
406	15-63/64	.120	.170				x		x	x	
420	16-17/32	.135	.180				x	x	x	x	
430	16-59/64	.135	.180				x	x	x	x	
450	17-23/32	.150	.195				x	x	x	x	
460	18-1/8	.150	.195				x	x	x	x	
470	18-1/2	.150	.195				x		x	x	
480	18-29/32	.150	.195				x	x	x	x	

Diameter		Plate Gauge	Kerf Gauge	No. of Teeth						
MM	Inches			60	72	80	84	100	120	
500	19-11/16	.150	.195	x		x				
508	20	.150	.200	x		x			x	x
520	20-15/32	.150	.200	x	x	x			x	x
530	20-7/8	.150	.200	x		x			x	x
540	21-1/4	.150	.200	x	x	x	x	x	x	x
550	21-21/32	.150	.200	x	x	x			x	x
570	22-7/16	.150	.200	x		x			x	x
600	23-5/8	.150	.220	x		x			x	x
630	24-13/16	.150	.220	x		x			x	x
650	25-19/32	.150	.220	x		x			x	x
670	26-3/8	.150	.220	x		x			x	x
700	27-9/16	.150	.220	x		x			x	x

Partial list of machines w/std dia. of blades, w/arbor hole size required (If pin holes are required, send specs in)

MACHINE	Dia. MM	Arbor MM
ATTENDORF	300	30
ANTHON 300	60	
	400	60
	500	60
CASADEI 355	80	4/2PH
GABBIANI	350	80
	355	80 4/2PH
	400	60 4/2PH
	400	80
	400	80 4/2PH
	450	80
	500	80 2PH
	550	80
GIBEN	300	75
	305	75
	350	75
	350	1-1/4"
	355	75
	400	75
	400	75 4PH
	430	50 3PH
	430	75 4PH
	450	75
	470	75 4PH
	500	75
	550	100
HOLZ-HER	220	30
	250	30
See blades under Style"CF" Concave On Page 13 or Style"VP" on Page 8.		

MACHINE	Dia. MM	Arbor MM
HOLZMA	380	60
	400	60
	420	60
	450	60
	500	60
	508	60
	520	60
	540	60
	550	60
	570	60
	600	60
	670	60
	700	80
IRION	400	30
	450	30
	500	30
JUNIOR	305	75
MAYER	305	30
	355	30
	400	30
PAN HANS	254	30
	305	30
	355	30
	400	30
	406	30
	450	30
PRISMATIC-1	400	75 4PH
PRISMATIC-2N	430	50 3PH
PRISMATIC-2	430	75 4PH
PRISMATIC-3	470	75 4PH

MACHINE	Dia. MM	Arbor MM
SCM	355	30
SCMI	300	1"
	300	80
	350	30
	350	1-1/4"
	358	80
	400	30
	400	1-1/4"
SCHEER	305	30
SCHELLING	350	30
	370	30
	400	30
	430	30
	450	30
	460	30
	480	30
	500	30
	530	30
	630	40
	650	40
SELCO	350	80
		400 80 2P
H		
430	80 2PH	
	450	80 2PH
STRIELIG	300	30
See blades under Style"CF" Concave on Page 13 or Style"VP" on Page 8.		
TEUTOMATIC	550	80

SCORING BLADE - 1 PIECE WITH CONICAL TOOTH DESIGN

STYLE "SC" carbide tipped scoring blades are designed with conical tooth design. This allows the blade to be adjusted to match the kerf of the main circular saw blade by raising or lowering the spindle height adjustment. Special Abrasive Resistant Carbide tips are used for long life.

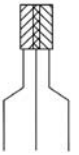


Part #	Diameter	Kerf Range	No. Teeth	Bore	Machine
SC1002420	100MM(3-15/16")	3.0-4.0MM .118-.157	24	20MM	Schelling
SC1252422	125MM(4-59/64")	4.4-5.0MM .173-.197	24	22MM	Martin, Panhans
SC1252045	125MM(4-59/64")	4.4-5.0MM .173-.205	20	45MM	Giben, Mayer-Lombach
SC1252445	125MM(4-59/64")	5.0-5.8MM .197-.229	24	45MM	Giben
SC1403016	140MM(5-33/64")	3.2-4.0MM .126-.157	30	16MM	Scheer
SC1502420	150MM(5-29/32")	4.4-5.0MM .173-.197	24	20MM	Schelling
SC1502430	150MM(5-29/32")	4.4-5.0MM .173-.197	24	30MM	SCM
SC150241.250	150MM(5-29/32")	4.4-5.0MM .173-.197	24	1-1/4	SCM
SC1603655	160MM(6-19/64")	4.4-5.0MM .173-.197	36	55MM	Gabbiani, SCM
SC1753045	175MM(6-29/32")	4.4-5.0MM .173-.197	30	45MM	Holzma
SC1804016	180MM(7-3/32")	3.2-4.0MM .126-.157	40	16MM	Scheer
SC1803020	180MM(7-3/32")	4.4-5.0MM .173-.197	30	20MM	Schelling
SC1803030	180MM(7-3/32")	4.4-5.0MM .173-.197	30	30MM	Panhans, Teutomatic
SC1803055	180MM(7-3/32")	5.2-6.0MM .205-.237	30	55MM	Giben
SC1803020-HD	180MM(7-3/32")	6.2-7.0MM .244-.276	30	20MM	Anthon
SC2003630	200MM(7-7/8")	3.2-4.0MM .126-.157	36	30MM	Scheer
SC2003630	200MM(7-7/8")	4.0-5.0MM .157-.197	36	30MM	Snid, Teutomatic, Panhans, MTS
SC2002420	200MM(7-7/8")	4.3-5.1MM .169-.204	24	20MM	Schelling
SC2003645-A	200MM(7-7/8")	4.4-5.0MM .173-.197	36	45MM	Holzma
SC2003645-B	200MM(7-7/8")	4.8-5.8MM .189-.229	36	45MM	Holzma
SC2003620	200MM(7-7/8")	5.0-6.0MM .197-.237	36	20MM	Schelling
SC2003665	200MM(7-7/8")	4.4-5.0MM .173-.197	36	65MM	Selco

Scoring saw attachment for 10" table saw see page 38.

SCORING BLADE - 2 PIECE - ADJUSTABLE-SPLIT TYPE

STYLE "A-SC" carbide tipped adjustable split type scoring blades are designed to be used on panel sizing saws with pre-scoring units. Using thin shims between the blade, you can adjust these to the same kerf as the main sizing saw. Square Top tooth grind furnished.



Tool No.	Diameter	Kerf Range	No. Teeth	Bore	Machine
ASC802020	80MM (3-9/64)	2.8-3.6MM .110-.140	2 pc - 10ea.	20MM	Casadei, Ema, Minimax, SCM
ASC1002020	100MM (3-15/16)	2.8-3.6MM .110-.140	2 pc - 10ea.	20MM	SCM, Schelling
ASC10020750	100MM (3-15/16)	2.8-3.6MM .110-.140	2 pc - 10ea.	3/4	SCM, Delta
ASC1002022	100MM (3-15/16)	2.8-3.6MM .110-.140	2 pc - 10ea.	22MM	Altendorf, Martin, Panhans
ASC1002425.4	100MM (3-15/16)	2.8-3.6MM .110-.140	2 pc - 12ea.	1"	Delta
ASC1052420	105MM (4-1/8)	2.8-3.6MM .110-.140	2 pc - 12ea.	20MM	Wadkin
ASC1202420	120MM (4-23/32)	2.8-3.6MM .110-.140	2 pc - 12ea.	20MM	SCM
ASC12024750	120MM (4-23/32)	2.8-3.6MM .110-.140	2 pc - 12ea.	3/4	SCM
ASC1202422	120MM (4-23/32)	2.8-3.6MM .110-.140	2 pc - 12ea.	22MM	Altendorf, Martin
ASC1254045	125MM (4-59/64)	4.0-4.8MM .157-.189	2 pc - 20ea.	45MM	Mayer-Lombach
ASC1603220	160MM (6-19/64)	2.8-3.6MM .110-.140	2 pc - 16ea.	20MM	Holzma
ASC1603230	160MM (6-19/64)	2.8-3.6MM .110-.140	2 pc - 16ea.	30MM	Holz-er
ASC1604045	160MM (6-19/64)	4.0-4.8MM .157-.189	2 pc - 20ea.	45MM	Holzma, Anthon
ASC1804045	180MM (7-3/32)	4.8-5.4MM .189-.213	2 pc - 20ea.	45MM	Holzma
ASC2204845	220MM (8-21/32)	4.4-5.2MM .173-.205	2 pc - 24ea.	45MM	Holzma
ASC2904845	290MM (11-27/64)	4.4-5.2MM .173-.205	2 pc - 24ea.	45MM	Holzma
ASC3204845	320MM (12-19/32)	4.4-5.6MM .173-.221	2 pc - 24ea.	45MM	Holzma
ASC3404845	340MM (13-3/8)	4.4-5.6MM .173-.221	2 pc - 24ea.	45MM	Holzma

THIN METRIC SHIM SETS FOR 2 PIECE ADJUSTABLE SCORING BLADES FOR BOTH 20MM, 22MM AND 3/4" BORES. USE #6070 FOR ALL SIZES.

Tool No.	ID	OD	Thickness
6070	22MM	2-3/4"	.004, .008 .011, .014

Scoring saw attachment for 10" table saw see page 38.

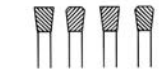
CARBIDE TIPPED SPECIAL PLASTIC CUTTING BLADES (FIRST CLASS CUT)

STYLE "FCC" First Class Cut is the finest plastic cutting blade on the market today. It is engineered with special radial and tangential side clearance to give you a quality cut with a minimum of chipping or none at all. It will eliminate any build up of melted plastic on the side of your plastic stock.

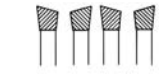
We use a special Abrasive Resistant Carbide (ARC see page 55) that will give you longer cutting life. The FCC will cut ABS, Acrylics, Delrins, PVC and Styrenes. Engraving stock must be cut with the .095 kerf with maximum number of teeth. Available with 3 different top grinds. When ordering specify type of material and thickness to be cut. ALL STYLE FCC BLADES MUST BE USED WITH LARGE SAW COLLARS TO GIVE A GOOD CUT see page



UNI-CHIP GRIND



UNI-CHIP-MOD



ALTERNATE TOP GRIND

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth		
			60	80	100
8	.065	.095	x	x	
8	.095	.130	x	x	
10	.065	.095	x	x	x
10	.095	.130	x	x	x

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth			
			60	80	100	120
12	.080	.110	x	x	x	x
12	.095	.130	x	x	x	x
14	.100	.135	x	x	x	x
14	.120	.170	x	x	x	x
16	.120	.170	x	x	x	x

For cutting LEXAN - use STYLE "P-LX"

For cutting NYLON - use STYLE "N"

For LOW MELT/POLYPROPYLENE - use STYLE "P-POLY"

CARBIDE TIPPED PLASTIC CUTTING BLADES - GENERAL USE

STYLE "P" Our standard general use plastic cutting saws. Will cut all types of plastic. For a more accurate and precise cut see STYLE "FCC" above.

For cutting LEXAN - use STYLE "P-LX"

For cutting NYLON - use STYLE "N"

For LOW MELT/POLYPROPYLENE - use STYLE "P-POLY"

Available with four top grinds.



UNI-CHIP GRIND



ALTERNATE TOP GRIND



ALTERNATE CHAMFER



2&1 COMB. GRIND

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth											
			20	24	30	40	50	60	80	100	120			
6-6 1/4-6 1/2	.095	.125	x	x	x	x	x	x						
7-7 1/4-7 1/2	.095	.125	x	x	x	x	x	x						
8	.095	.125			x	x	x	x	x					
9	.095	.130				x	x	x	x					
10	.095	.130				x	x	x	x	x				
12	.095	.130							x	x	x			
14	.120	.170							x	x	x	x		
16	.120	.170							x	x	x	x		
18	.150	.195							x	x	x	x		
20	.150	.195								x	x	x	x	

LEXAN - POLY- CARBONATE PLASTICS

STYLE "P-LX" blades are designed and engineered for Lexan-Poly-Carbonate plastics. They have strong shoulder and tooth design to prevent damage to saw blade. Do not use above STYLE "P" blades as damage will occur.

Diameter	Plate Gauge	Kerf	No. of Teeth	
			40	50
6-6 1/4-6 1/2	.095		x	
7-7 1/4-7 1/2	.095		x	
8	.095		x	
9	.095			x

Diameter	Plate Gauge	Kerf	No. of Teeth	
			60	80
10	.095		x	
12	.095		x	
14	.120			x
16	.120			x



UNI-CHIP GRIND

CARBIDE TIPPED NYLON CUTTING BLADE

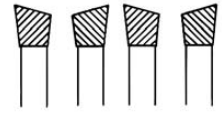
STYLE "N" nylon and low melt materials are cut quickly and easily with these specially designed blades. They do not leave huge amounts of residue on the side of material after cutting.

Square top grind furnished.

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	
			8	12
8	.095	.135	x	
10	.095	.135	x	
12	.095	.145	x	
14	.120	.180		x
16	.120	.180		x

MELAMINE NO CHIP - CARBIDE TIPPED SAW BLADE

STYLE "MAN-NC" a new line of engineered carbide tipped saw blades to cut Kortron, Melamine, M.D.F. in painted or printed stock with a MINIMUM OF CHIPPING or none at all. Made with Abrasive Resistant Carbide (ARC - see page 55) for long life. Used on saws that do not have a scoring blade. Manufactured with negative rake with high bevel angle on OD grind for chip free cuts. This saw blade should be used with large saw collars (see page 22) for best performance. For concave face blade see style "CF" below.



ALTERNATE TOP BEVEL

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth		
			60	70	80
8	.070	.100	x		
8	.095	.130	x		
9	.070	.100		x	
9	.095	.130		x	
10	.070	.100			x
10	.095	.130			x

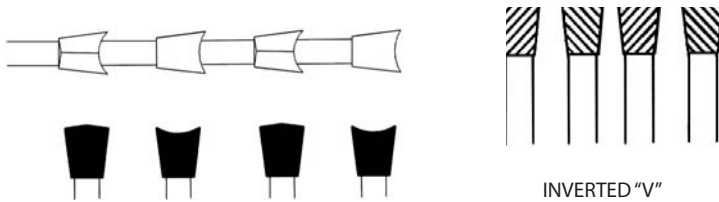
Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	
			80	100
12	.095	.130	x	
12	.095	.130		x
14	.120	.170	x	
14	.120	.170		x
16	.135	.180	x	
16	.135	.180		x

MELAMINE NO CHIP - CARBIDE TIPPED DADO SETS

see page 15

CARBIDE TIPPED CONCAVE FACE BLADE

STYLE "CF" Concave face - inverted "V" top-grind panel sizing blades. These are engineered to give you a minimum of chipping or none at all on top & bottom cuts. Materials such as Kortron, Melamine, M.D.F. in painted or printed stock, Double-sided plastic laminates and vinyls.



INVERTED "V"

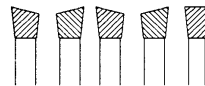
Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
8	.085	.130	40
220mm*	.085	.120	40
250mm*	.085	.120	50
300mm*	.085	.120	60
9	.085	.130	40
10	.085	.130	50
12	.085	.130	60
14	.120	.170	70
16	.120	.170	80
18	.120	.170	90
20	.120	.170	100

HOLZ-HER and STRIEBIG have 30MM Bore

*Come standard 30mm bore.

POLYPROPYLENE PLASTICS

STYLE "P-POLY" blades are engineered and designed for cutting Polypropylene. This blade will cut this low melt material quickly and easily without leaving a large amount of residue on the side of the material after cutting.

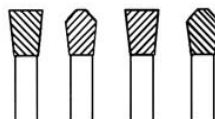


4&1 COMB. GRIND

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth		
			20	24	30
10	.095	.130	x		
12	.095	.130		x	
14	.120	.170		x	
16	.120	.170			x

CARBIDE TIPPED VINYL EXTRUSION CUTTING BLADE

STYLE "P-VE" saw blades are engineered for double cut miter or single cutoff saws to cut vinyl window extrusion. These blades will give a smooth and true cut on the vinyl. The carbide tips are tough, shock resistant, and will give you long live with low maintenance cost. The top grind is Uni-Chip.

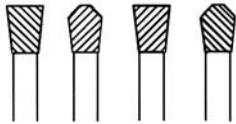


UNI-CHIP GRIND

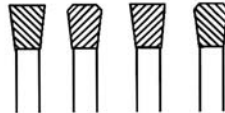
Diameter	Plate Gauge	Kerf Gauge	Number of Teeth			
			60	80	100	120
10	.095	.130	x	x		
12	.095	.130		x	x	
14	.120	.170		x	x	
16	.120	.170		x	x	x

CARBIDE TIPPED CORIAN CUTTING BLADE

STYLE "COR" will cut all types of solid surface material. Jointing, planing and sanding are almost eliminated or none at all is required to make perfect miter or straight joints because of the specific engineered specifications for this type of material. Long life between sharpening is normal due to the special Abrasive Resistant Carbide (ARC - see page 32) that is used. For best results use saw blade collars (see page 22). Available with 2 top grinds.



UNI-CHIP GRIND



UNI-CHIP-MOD GRIND

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	
			8	12
8	.095	.130	60	
10	.095	.130	60	
12	.095	.130	80	
14	.120	.170	80	
16	.120	.170	100	

HEAVY DUTY - COUNTERTOP BLADE

STYLE "P-HD" Heavy duty laminated countertop blades for those who want a heavier blade. Will cut a straight and true edge. For standard thickness see STYLE "P".



UNI-CHIP GRIND

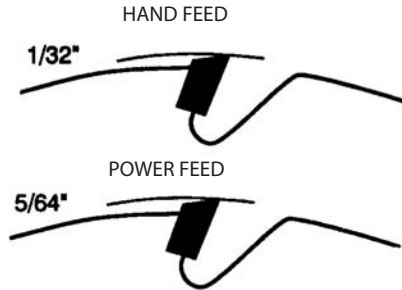
Diameter	Plate Gauge	Kerf Gauge	No. of Teeth			
			80	90	100	120
14	.150	.200	x	x	x	x
16	.150	.200	x	x	x	x
18	.180	.230	x	x	x	x
20	.180	.230	x	x	x	x

CARBIDE TIPPED SAFETY STYLE BLADES "WOOD"

STYLE "S-W" saws are sometimes called "easy-cut" blades. This type of blade is designed with each tooth cutting a limited size chip, as the back of the tooth acts as a stop to prevent overfeeding. These blades are low priced and a good quality and have the following advantages: requires less power, tendency to kick back is almost nil, fewer teeth to sharpen. They are used on all types of machines for a rough cut in ripping, cut-off and combinations operations. They are supplied with square tooth grind. Uni-Chip top grinds are available at a minimal charge.

HAND FEED:

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	
			8	12
8	.095	.130	x	
9	.095	.130	x	
10	.095	.130	x	x
12	.095	.130		x
14	.120	.170		x
16	.120	.170		x



POWER FEED:

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	
			12	16
12	.135	.195	x	x
14	.135	.195	x	x
16	.135	.195	x	x

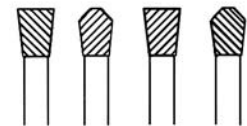
CARBIDE TIPPED BLADES FOR RAFTER - TRUSS MACHINES

With 6 Countersink Pinholes

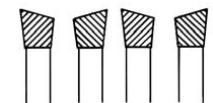
STYLE "R-T" rafter and truss saw blades are designed to give long life and durability with an option of a heavy duty plate for minimum run out when cutting at extreme angles. Two tooth designs are available. Alternate Top design will give a cleaner cut with less splintering, while Uni-Chip design will give longer life between sharpenings.

When ordering specify: Top grind, Alt. top or Uni-chip, bore size, pin-hole specs, and which side countersink. Would appreciate a sample blade or accurate drawing.

Diameter	Plate Gauge	Kerf Gauge	Number of Teeth				
			40	50	60	80	100
14 std	.120	.170	x	x	x		
14 HD	.135	.195	x	x	x		
16 std	.120	.170	x	x	x		
16 HD	.135	.195	x	x	x		
18	.150	.210		x	x		
20	.150	.210		x	x		
22	.150	.210		x	x		
28	.150	.230				x	x
30	.150	.230				x	x
32	.150	.230				x	x



UNI-CHIP GRIND



ALTERNATE TOP GRIND

CARBIDE TIPPED DADO SETS CUTTING WOOD

For Melamine cutting see below

STYLE "D-S" standard dado sets are designed for cutting rough and knotty lumber and for grooving with the grain only. Outside dado blade teeth have no face angle and the top grind is at a low angle to give maximum strength to the carbide tip. It can be used to cross grain grooving but will tend to sliver slightly.

STYLE "D-F" fine cut dado sets are designed with a face angle on the outside blade teeth and the top grind is at a high angle to give you grooves without splintering when cutting across the grain in all types of materials. It will also cut smooth grooves with grain.

Diameter	No. of teeth per outside saw			
	16	22	28	38
6"	x	x	x	
8"	x	x	x	x
10"	x	x	x	x
12"		x	x	x
14"		x	x	x

Other sizes available

SET ARRANGEMENT

Set No.	1	2	3	4	5	6	7	8
Saws 1/8"	2	2	2	2	2	2	2	2
Fillers 1/16"	1	1	1	1	1	1	1	1
Fillers 1/8"	1	1	2	2	2	2	2	2
Fillers 1/4"		1	1	2	4	6	10	14
Total Width	7/16	11/16	13/16	1-1/16	1-9/16	2-1/16	3-1/16	4-1/16



All dado sets come with standard scribe bottom cut. If flat bottom is required, it can only be manufactured on a D-F style, add - FB to catalog number.

Dado sets consist of two (2) 1/8" thick outside blades and the proper number of chippers between the saw blades to cut a specific groove. Chippers have 2 teeth. Components can be purchased separately. When ordering extra components to add to an existing set, return the entire set so that it can be properly jointed. A sharpening charge will apply for this service.

MELAMINE NO CHIP - CARBIDE TIPPED DADO SETS

STYLE "MAN-NC-D" a NEW line of engineered carbide tipped DADO saw blades to cut Kortron, Melamine, M.D.F. in painted or printed stock with a MINIMUM OF CHIPPING or none at all. For the table saw. Made with Abrasive Resistant Carbide (ARC) for long life. Used on saws that do not have a scoring blade. Manufactured with negative rake with high bevel angle on OD grind for CHIP FREE CUTS, scribe cut only.

Diameter	No. of Teeth per outside saw		
	36	56	76
6"	x		
8"		x	
10"		x	
12"		x	
12"			x



SET ARRANGEMENT

Set No.	1	2	3	4	5	6
Saws 1/8"	2	2	2	2	2	2
Fillers 1/16"	1	1	1	1	1	1
Fillers 1/8"	1	1	2	2	2	2
Fillers 1/4"		1	1	2	4	6
Total Width	7/16	11/16	13/16	1-1/16	1-9/16	2-1/16

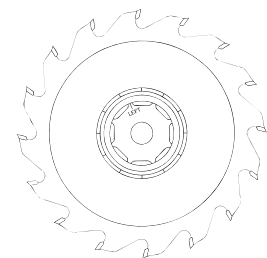
CARBIDE TIPPED QUICK SET DADO

(Made in New Zealand)

STYLE "D-QS" the very popular quick set dado that adjusts from 3/16" to 13/16" width. It will not cut as smooth as our STYLE "D-S" or "D-F" standard dado but it is an inexpensive way to perform a dado operation.

716-D-QS

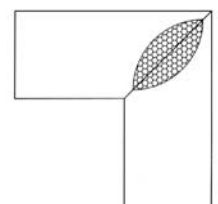
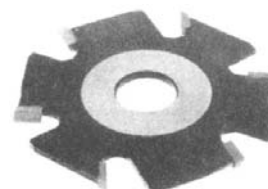
7" Dia. x 16 Teeth x 5/8" Bore



CARBIDE TIPPED PLATE JOINTER (BISCUIT) BLADE

STYLE "L" grooving blades are designed with Alternate Face & Alternate Top design to give clean cut.

Tool #	Diameter	Plate Gauge	Kerf Gauge	Hub	Bore	No. of Teeth
100621	100MM 2"	.115	.160		7/8	4
100622	100MM 3-15/16	.115	.160		22mm	6
100623	100MM 3-15/16	.115	.160		7/8	6
100624	100MM 3-15/16	.150	.160	2-5/16	7/8	12



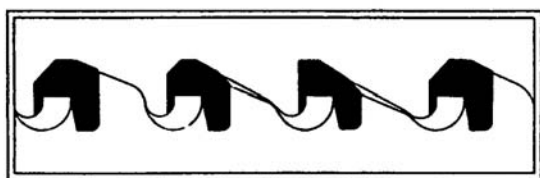
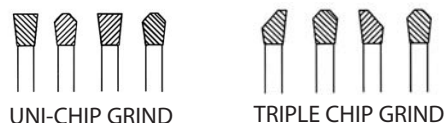
Delta, DeWalt, Elu, Freud, Lamello, Virutex, uses 22MM bore; Porter Cable, Ryobi, Skill uses 7/8 bore. Blade for Porter Cable has a hub on both sides of the blade.

ALUMINUM EXTRUSION

CARBIDE TIPPED ALUMINUM & NON-FERROUS EXTRUSION CUTTING BLADES

STYLE "A-X" extrusion cutting blades are designed with the tip inserted into the blade for maximum strength when cutting all types of copper, brass, magnesium and aluminum both hardcoat and standard finishes. All blades up to 14" diameter are hollow ground for added strength and they will also give clean cuts with a smooth finish on all standard store front and window extrusion, thin wall tubing, light channel and thin gauge sheets. The best metal cutting grade of carbide tips are used in these blades for efficient production sawing. A lubricant should be used and the material must always be held down securely.

These blades are available with Triple Chip or Uni-Chip top grind.



Diameter	Plate Gauge	Kerf Gauge	Hub Dia.	Number of Teeth								
				40	50	60	70	80	90	100	120	
6-6 1/4-6 1/2	.095	.130	2	x	x	x						
7-7 1/4-7 1/2	.095	.130	2		x	x	x					
8	.095	.130	2-1/2		x	x		x				
9	.095	.130	3			x			x			
10	.095	.130	3			x				x		
12	.095	.130	4					x		x	x	
14	.135	.160	4					x		x	x	
16	.135	.160						x		x	x	
18	.150	.195								x	x	
20	.150	.195								x	x	

Saws or other specifications available on order.

CARBIDE TIPPED ALUMINUM & NON-FERROUS "THIN" EXTRUSION CUTTING BLADES

STYLE "A-TX" thin extrusion (window screen type) cutting saw blades are built with a maximum number of teeth to give clean, burr-free cuts. Hollow ground to prevent kickback and teeth are inserted to give maximum tip strength. A lubricant must be used and the material must be held down securely while cutting. For cutting aluminum space bar see below STYLE "CT-SB-ALT" or STYLE "SHS-SB".

Diameter	Plate Gauge	Kerf Gauge	Hub Dia.	No. of Teeth
8	.095	.095	2-1/2	108
9	.095	.095	3	120
10	.095	.095	3	120
10	.095	.095	3	144
12	.095	.095	4	150



FOR CUTTING ALUMINUM OR STEEL SPACER BAR - SEE NEXT PAGE 18.

SEMI-HIGH SPEED STEEL BLADES (For Non-Ferrous and Plastic)

STYLE "SHS" semi-high speed steel saw blades are hollow ground to give clean cut in all types of materials. They are made of an excellent grade of tough tool steel and are scientifically heat treated which combines exceptional edge holding qualities with maximum plate toughness.

TOOTH STYLE is furnished Square Top. For plastic cutting where chipping is to be held to a minimum, the Alternate Top and Face Bevel is furnished when requested.

NUMBER OF TEETH: 80, 100, 120, 150, 180, 200, 250, 300

Diameter	Thickness of Blade				Collar Size
	1/16	3/32	1/8	5/32	
8	x	x			3-1/2
9	x	x			4
10	x	x	x		4
12		x	x		5
14			x		5-1/2
16				x	6

SPRAY MIST EQUIPMENT, COOLANT, WAX & TALLOW GREASE LUBRICANT STICKS, SEE PAGES 25 & 26.

ALUMINUM PLATES AND BILLETS

CARBIDE TIPPED ALUMINUM AND NON-FERROUS

"SOLID METAL" CUTTING BLADE

STYLE "A-S" blades will cut all type of aluminum, copper, brass, and magnesium plate, billets, heavy rod-bar-angle and heavy wall tubing. Tough, shock resistant carbide tips are used for this cutting application which allows for long life and low maintenance cost. These blades are flat ground and by utilizing the correct tooth spacing and gullet depth will give smooth finishes on all thickness. A lubricant should always be used and for longer blade life and better quality cuts the material must be held down securely. The top grind is Uni-Chip. Triple Chip is also available.

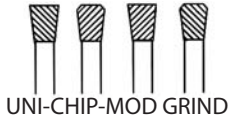


Diameter	Plate Gauge	Kerf Gauge	Number of teeth recommended for different thickness of materials		
			HEAVY	MEDIUM	LIGHT
8	.095	.130	40	50	60
9	.095	.130	40	50	60
10	.095	.130	40	60	80
12	.135	.170	40	60	80
14	.135	.170	40	60	80
16	.135	.170	40	60	80
18	.150	.195	60	80	100
20	.150	.195	60	80	100
22	.150	.195	60	80	100
24	.150	.195	60	80	100

Saws of other specifications available on order.

MIRROR FINISH SAW BLADE FOR SOLID METAL / PLATE

STYLE "AS-MF" blades are engineered with special radial and tangential clearances to give a very smooth finish on all types of non-ferrous materials. A lubricant of some kind must always be used while cutting and the material must be held down securely. These blades are flat ground and tensioned for the correct RPM. We use shock resistant tough carbide tips for long life and low maintenance cost. The top grind is Uni-Chip Modified.

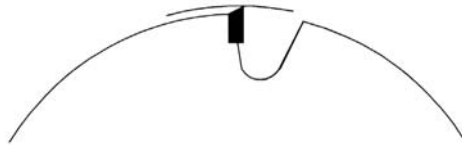


Diameter	Plate Gauge	Kerf Gauge	Number of teeth recommended for different thickness of materials		
			HEAVY	MEDIUM	LIGHT
8	.095	.130	40	50	60
9	.095	.130	40	50	60
10	.095	.130	40	60	80
12	.135	.170	40	60	80
14	.135	.170	40	60	80
16	.135	.170	40	60	80

CARBIDE TIPPED SAFETY STYLE BLADES "METAL"

STYLE "S-M" safety style metal cutting blades are tough and very good quality at a low price. They are designed to prevent grabbing and overfeeding and are very safe to use. These blades take a lot of abuse and where blade damage happens regularly, they are an option, as they stand up well under extreme conditions. It is a multi-purpose blade for cutting all types of non-ferrous metals. This blade is standard with Square Top grind. Uni-Chip grind is available at a minimal charge. For precision cutting of non-ferrous metals see our STYLE "A-X" and STYLE "A-S".

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth		
			24	40	50
8	.095	.130	x		
9	.095	.130	x		
10	.095	.130	x		
12	.095	.130		x	
14	.120	.165			x
16	.120	.165			x



BLADES FOR PACIFIC ROLLER DIE MACHINES FOR CUTTING STEEL OR ALUMINUM CULVERTS

STYLE "F-PRD" a friction saw blade for cutting steel culvert pipe. Due to the heat generated by this type of cutting, saw blades cannot be guaranteed against cracking but the blades have expansion slots to control and minimize the rim cracks.

STYLE "PRD" a carbide tipped saw blade designed for cutting aluminum culvert pipe. Cannot be used for cutting steel pipe.

Style	Diameter	Thickness	No. of Teeth	Bore	Material to be cut
F-PRD	30	.300	376	1 3/4	Steel
PRD	30	.280	200	1 3/4	Aluminum

SPACER BAR - ALUMINUM OR STEEL

FOR CUTTING ALUMINUM SPACER BAR WITH CARBIDE TIPPED BLADES

STYLE "CT-SB-ALT" a thin carbide tipped saw blade with alternate top bevel with a maximum number of teeth to give clean, burr-free cuts in spacer bar for windows. Teeth are inserted to give maximum tip strength. A lubricant should be used for longer life.



ALTERNATE TOP GRIND

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
6	.075	.095	60
7	.075	.095	70
8	.075	.095	108
9	.075	.095	120
10	.075	.095	120
10	.075	.095	144

FOR CUTTING ALUMINUM SPACER BAR WITH SEMI-HIGH SPEED STEEL BLADES

STYLE "SHS-SB" semi-high speed saw blades are hollow ground with a special tooth design of Alternate Top and Face Bevel design for clean, smooth cut in non-ferrous spacer bar.

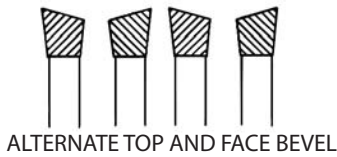


ALTERNATE TOP AND
FACE BEVEL

Diameter	No. of Teeth	Thick-ness	Collar Size
8	200	1/16	4
9	220	1/16	5
10	250	1/16	6

FOR CUTTING ALUMINUM SPACER BAR ON "TOOLS FOR BENDING MACHINERY"

STYLE "SHSS-SB-TFB"



ALTERNATE TOP AND FACE BEVEL

ALTERNATE TOP BEVEL

Part #	Diameter	No. of Teeth	Thickness	Collar Size
SHSS-SB-TFB (Steel Blade)	6	150	1/16	3-1/2
CT-SB-TFB (Carbide Tipped)	6	60	3/32	—
Tools for Bending uses 5/8 bore (newer model)				
Tools for Bending uses 1/2 bore (older model)				

FOR CUTTING STAINLESS STEEL SPACER BAR WITH CARBIDE TIPPED SAW BLADES

STYLE "CT-SS-SB-ALT" Engineered and designed for cutting stainless steel spacer bar with metal cutting grade of saw tips. Has the maximum number of teeth, thin blade with alternate top bevel to give clean, trim free cuts. Teeth are inserted to give maximum tip strength. A lubricant should be used for longer life.



ALTERNATE TOP GRIND

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
6	.075	.095	60
7	.075	.095	70
8	.075	.095	108
9	.075	.095	120
10	.075	.095	120
10	.075	.095	144

SHAPER -MILLING CUTTERS

Specially designed carbide tipped cutters for aluminum window manufacturers. Send us you prints and/or

CARBIDE TIPPED ALUMINUM CUTTING ROUTER BITS - 2 FLUTE

see page 97.

CARBIDE TIPPED SAW BLADES FOR NAIL CUTTING

Style "NC" - These blades work satisfactorily and are designed for high impact application when occasional nails are encountered. Pallet recycling companys use these blades as well as fire department and demolition teams for cutting through sections of buildings. They will cut most building material including roofing, nails, tar paper, and non-ferrous materials. Feed with smooth, even pressure. If cutting tar paper or roofing material, clean blade with solvent after each cut.

These blades use Ni-Matrix* Carbide tips, which are metal cutting grades of carbide. they were spevifically designed for superior blade life in high-impact nail cutting applications as encountered in recycling pallet lumber. These unique tips exhibit a fracture resistance as much as eight times greater than standard carbide tips which use a cobalt or nickel binder.

DIAMETER	PLATE GUAGE	KERF GUAGE	HOOK	NUMBER OF TEETH								
				12	14	18	20	24	26	28	30	36
6-1/2	.080	.140	-5°	X								
7-1/4	.080	.140	-5°		X							
8	.080	.140	-5°			X						
10	.090	.150	-5°					X				
12	.096	.160	-5°	X								
12	.120	.180	-5°		X							
12	.096	.160	-5°					X				
12	.120	.180	-5°						X			
14	.120	.180	-5°									
14	.120	.180	-5°					X				
16	.134	.195	-5°				X					
16	.134	.195	-5°									
18	.134	.195	-5°					X				
20	.134	.195	-5°									
22	.134	.195	-5°							X		
24	.134	.195	-5°								X	
30	.134	.195	-5°									X

Style " NC-LITE" - These blades are designed as per above except they have thinner kerf to go with a positive hook, to be used on machines that are under-powered on horsepower and are not the commercial industrial type saw.

DIAMETER	PLATE GUAGE	KERF GUAGE	HOOK	NUMBER OF TEETH								
				12	14	16	18	24	26	30	36	38
6-1/2	.080	.130		X								
7-1/4	.080	.130			X							
8	.080	.130					X					
10	.072	.125		X								
10	.080	.130						X				
10	.120	.180						X				
10	.120	.170						X				
12	.083	.130			X							
12	.120	.170							X			
14	.083	.130				X						
14	.120	.170						X				
16	.134	.185								X		
18	.134	.185									X	
20	.134	.185										X

CARBIDE TIPPED GROOVERS

STYLE "G" groovers are engineered for grooving hard or soft woods, particle board, fiberboard, hardboard and plastic. They are supplied in six top grind. DIAMETERS: 6" TO 12" KERF: 3/16" TO 1" NUMBER OF TEETH: 4 TO 60



SQUARE TOP GRIND

For grooving with the grain only. Will tend to splinter if used for cross grain grooving.



ALTERNATE TOP GRIND

Used where a square bottom is not necessary and for grooving across the



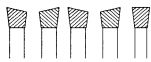
SHEAR FACE W/
ALTERNATE FACE-
SQUARE TOP

Designed for groovers wider than 3/8" and will cut in any direction of the grain. Will produce a square bottom cut.



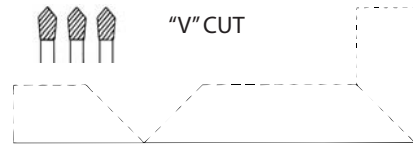
2 & 1
COMB. GRIND

Will cut in any direction of the grain without tearout and will have a square bottom



4 & 1
COMB. GRIND

As per above only for groovers with over 24 teeth.



"V" CUT

cut. For groovers up to 3/8" thick and with 224 teeth or less.

These groovers were developed to cut material that has been laminated with vinyl facing. The "V" groovers will cut a 90° cut to the depth of vinyl and using the vinyl as a hinge, 90° turns can be made so there is no seam at the corner. Groovers can be manufactured at any angle and can be grouped together to make an assortment of

A - Groovers that are extra wide & need to be recessed to fit on table saw arbor.

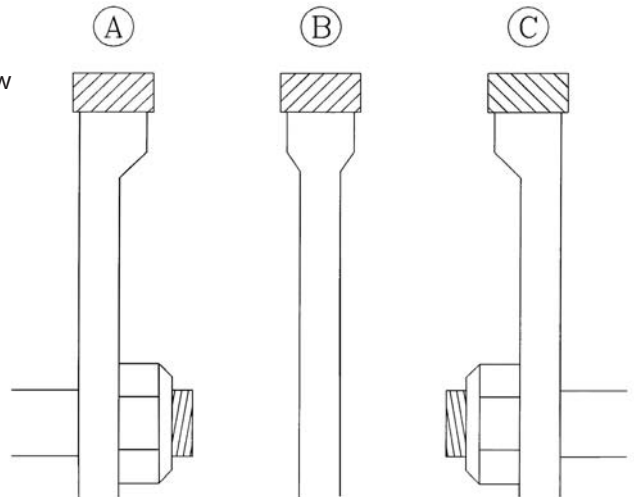
B - Blade is rotating toward you.

A - Recessed right side

B - Recessed both sides

C - Recessed left side

Info: Old style R.H. unisaw needs Style C
New style L.H. unisaw needs Style A



CARBIDE TIPPED GROOVERS FOR NO CHIP DRAWER SIDE SLOTTING

STYLE "G-GERM" This special groover will slot without chipping or tearing when grooving or slotting Melamine or cutting across the grain of solid wood or plywood.

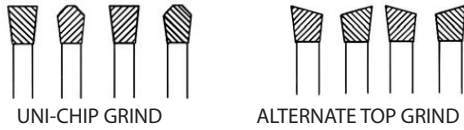
Two thirds of the teeth are designed with 30° face angle and 30° top angle with a negative rake angle so it will cut clean, and one third of the teeth are designed with a positive hook angle and a square grind at .020 low.

For this design in shaper cutters see Page ____.

Diameter	Kerf					No. of Teeth			
	1/8		.220	1/4	17/64	12	24	30	40
6"	x		x	x	x	x	x		
7"	x		x	x	x	x	x	x	
8"	x		x	x	x	x	x	x	x
10"	x		x	x	x	x	x	x	x

CARBIDE TIPPED SAW BLADE FOR PNEUMATIC AIR SAWS

STYLE "AR" saw blades are designed for small portable air saws. They are being used to cut all types of abrasive and non-ferrous materials. Comes in two tooth styles.



Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
3	.095	.125	12
3	.075	.100	12
3-1/4	.095	.125	12
3-1/4	.075	.100	12
4	.075	.100	12
4	.095	.125	12
4	.075	.100	20
4	.095	.125	20
4	.075	.100	24
4	.095	.125	24

CARBIDE TIPPED GRAPHIC ARTS BLADES

STYLE "GA" saws are especially designed for use in the printing industry. These blades are available in various sizes for mounting on all linotype saws. These blades will cut all types of composing room metals such as linotype sluge, half-tones, based, stereotype, zinc, lead, copper, brass, plastic and all new alloys.

COMPOSING

Tough, shock resistant carbide tips, along with precision machining and diamond-lapped sharpening, will give burr-free cuts with ultra smooth finishes which eliminates the need for trimmers.

STEREOTYPE

Blades engineered and designed with maximum number of teeth for easy free-hand cutting. Utilizing an insert tip to give maximum tip and shoulder strength.

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
6	.070	.100	40
6-1/2	.070	.100	40
7	.070	.100	40
8	.070	.100	40

WHEN ORDERING:

Need make of machine. Also trace arbor hole pattern and send it with the order.

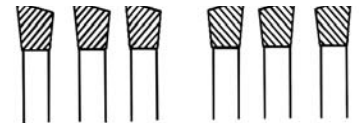
Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	No. of Teeth
8	.070	.100	60	80
9	.070	.100	70	90
10	.070	.100	80	100

CARBIDE TIPPED EASING BLADES FOR SHAPERS

STYLE "TS" saw blades are used to precut the edge of cabinet door skins to prevent splintering or tearing when cutting across the grain with the shaper cutter. Will save you many dollars in sharpening of your shaper cutters, plus the added feature of a nice clean edge on the cabinet door. This saw is mounted on saw mandrel just in front of the shaper cutter. This mandrel must be so mounted to give you depth of cut both up and down, plus in and out. The blade is cutting down (climb cut) into the material to prevent the lifting of the grain of wood.

If your shaper turns counter clockwise a left hand blade is required or if it runs clockwise a right hand blade is needed. Other sizes available.

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
4-1/2	.095	.130	30



LEFT HAND

RIGHT HAND

HYDRAULIC HOSE STEEL CUTTING BLADE

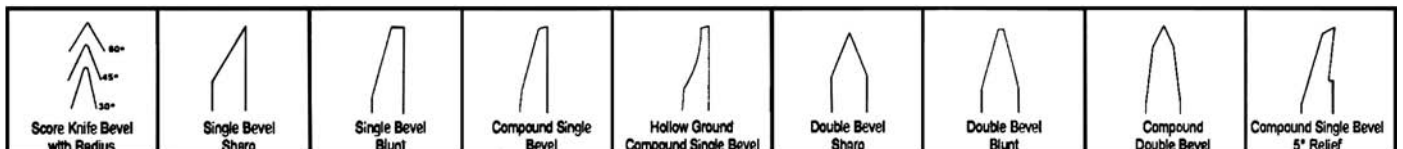
STYLE "HH" a wear resistant saw blade which is designed for cutting reinforced single and multiple wire braided rubber hose. Our standard blade comes in a double bevel edge but a single or double scallop edge is available at an additional cost. These blades are not guaranteed against cracking due to the severe application. They also can be used for cutting a variety of materials.

Diameter	Bore	Thickness	Bevel-only with no teeth
7	5/8	3/32	Both Sides - 3/8" Long
8	5/8	3/32	Both Sides - 3/8" Long
10	3/4	3/32	Both Sides - 3/8" Long
12	1	1/8	Both Sides - 1/2" Long

CIRCULAR STEEL KNIVES & SLITTERS

(STAINLESS OR TOOL STEEL)

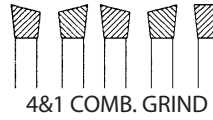
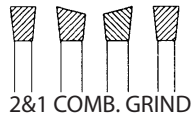
STYLE "CSK" all sizes and types are available for the food and paper industry. Send us a print and a sample and we will quote your requirements. Below are some of the typical bevel profiles that are available:



CARBIDE TIPPED SMALL DIAMETER COMBINATION BLADES INDUSTRIAL GRADE

STYLE "CS" combination blades are designed for cutting all types of wood and plastics except fiberglass. Four tooth designs available all with 1/8" kerf.

Diameter	Plate Gauge	Kerf Gauge	No. of Teeth
4	.095	.130	24
4-1/2	.095	.130	30
5	.095	.130	36
5-1/2	.095	.130	40



CARBIDE TIPPED SMALL PORTABLE SAWS- THIN KERF

STYLE "SDCSTK" saws are engineered for small contractor portable saws. They have thin kerf for saws with low horsepower and have alternate tooth design to eliminate most of the edge splinter when cutting across the grain.

Tool No.	Diameter	Plate Gauge	Kerf Gauge	Bore	No. of Teeth			
					12	18	24	30
SDCSTK3375-12	3-3/8	.040	.065	15MM	x			
SDCSTK3375-24	3-3/8	.040	.065	15MM			x	
SDCSTK4375-12	4-3/8	.045	.070	20MM	x			
SDCSTK4375-18	4-3/8	.040	.065	20MM		x		
SDCSTK4375-30	4-3/8	.040	.065	20MM				x
SDCSTK4500-18	4-1/2	.040	.065	3/8		x		
SDCSTK5375-24	5-3/8	.040	.065	10MM			x	
SDCSTK5500-16	5-1/2	.045	.075	5/8 B 1/2		x		
SDCSTK5500-24	5-1/2	.045	.070	5/8 B 1/2			x	
SDCSTK6000-30	6	.045	.070	5/8 B 1/2				x

SMALL PORTABLE SAWS SPECS

Name	Model	Diameter	Arbor
Porter Cable	314	4-1/2	3/8
Porter Cable	345	6	1/2
Makita Cordless	50	3-3/8	15MM
Makita	4200N	4-3/8	20MM
Makita	5005BA	5-1/2	5/8

INEXPENSIVE CARBIDE TIPPED SAW BLADE Made in New Zealand / United Kingdom

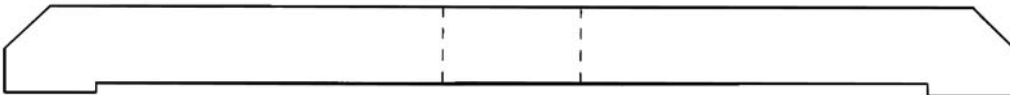
STYLE "LAZ" good quality blades with standard size carbide tips with one tooth style (Alternate Top). Arbor hole up to 8" is Universal, 9" and 10" have 5/8 bore.

Tool No.	Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	Arbor
LAZ650-18	6-1/2	.060	.105	18	Universal
LAZ725-18	7-1/4	.060	.105	18	Universal
LAZ725-24TK	7-1/4	.045	.070	24	Universal
LAZ725-24	7-1/4	.060	.105	24	Universal
LAZ725-40	7-1/4	.060	.105	40	Universal
LAZ800-24	8	.060	.105	24	Universal
LAZ800-40	8	.070	.120	40	Universal

Tool No.	Diameter	Plate Gauge	Kerf Gauge	No. of Teeth	Arbor
LAZ900-30	9	.070	.120	30	5/8
LAZ100-28	10	.085	.125	28	5/8
LAZ100-36TK	10	.070	.105	36	5/8
LAZ100-40	10	.085	.125	40	5/8
LAZ120-24	12	.098	.128	24	1" B 5/8

*TK - Thin Kerf

SAW COLLARS - STIFFENERS



These engineered collars are precision-ground and are designed to help reduce saw scream or whistle and lower cutting noise. They hold your blade more rigid and allow for a truer cut with less run-out, thereby giving a better finish to your cut. Motor, belt and pulley vibrations are less likely to be transmitted to the saw teeth, thus giving you a cleaner and smoother cut.

We recommend the collars to be 1/2 to 2/3 of the saw diameter and to fit on each side of the blade for best results. If necessary, only one can be put on the outside of the blade to keep the blade centered in the slot of the table insert.

Tool No.	Dia.	Thick-ness	Bore
7004	4	1/4	5/8
7005	5	1/4	5/8
7006	6	1/4	5/8
7007	7	1/4	5/8
7008	8	1/4	1
7009	9	1/4	1
7010	10	1/4	1

Other bores are available as well as larger diameter and thicker collars. See price list.

SAW - SHAPER - DADO SET BUSHINGS - SHIMS - SPACERS: SEE PAGES 38 & 39

**“VIKING” BRAND
COMPETITIVE BLADES - INDUSTRIAL GRADE**

STYLE “VIKING” these blades are manufactured to Industrial Grade specifications and have the full-size European style carbide tip. Hook/Rake and Top Grind as shown are not subject to change. Made in Canada, Europe and USA.

Nordic Tool #	Dia.	# of Teeth	Bore	Plate	Kerf	Hook	Tooth Grind	Application
V-848-A	8	48	5/8	.080	.120	12°	ALT	General Purpose
V-848-UC	8	48	5/8	.080	.120	12°	UC	General Purpose
V-960-A	9	60	5/8	.080	.120	12°	ALT	General Purpose
V-960-UC	9	60	5/8	.080	.120	12°	ALT	General Purpose
V-1024-UC	10	24	5/8	.085	.125	15°	UC	Rip
V-1024-SQ	10	24	5/8	.098	.138	20°	SQUARE	Rip
V-1040-A	10	40	5/8	.085	.125	10°	ALT	General Purpose
V-1040-UC	10	40	5/8	.085	.125	10°	UC	General Purpose
V-1050-C	10	50	5/8	.085	.125	15°	COMB.	Combination
V-1060-A	10	60	5/8	.085	.125	10°	ALT	General Purpose
V-1060-UC	10	60	5/8	.085	.125	10°	UC	General Purpose
V-1080-A	10	80	5/8	.085	.125	5°	ALT	Cut Off
V-1080-UC	10	80	5/8	.085	.125	5°	UC	Cut Off
V-1080-A-TK	10	80	5/8	.065	.095	12°	ALT	Thin Kerf General Purpose
V-1080-UC-TK	10	80	5/8	.065	.095	12°	UC	Thin Kerf General Purpose
V-1080-C	10	80	5/8	.085	.110	-2°	COMB.	Miter - Rad. Arm
V-1080-MNC	10	80	5/8	.085	.120	-5°	30°ALT	Melamine-No Chip
V-1224-UC	12	24	1	.085	.125	15°	UC	Rip
V-1224-SQ	12	24	1	.110	.155	20°	SQUARE	Rip
V-1240	12	40	1	.120	.180	20°	SQUARE	H.D.RIP
V-1260-C	12	60	1	.085	.125	15°	COMB.	Combination
V-1272-A	12	72	1	.085	.125	10°	ALT	General Purpose
V-1296-A	12	96	1	.085	.125	10°	ALT	General Purpose
V-1296-UC	12	96	1	.085	.125	10°	UC	General Purpose - Plastic
V-1296-A-TK	12	96	1	.065	.095	12°	ALT	Thin Kerf General Purpose
V-1296-UC-TK	12	96	1	.065	.095	12°	UC	Thin Kerf General Purpose
V-12100-C	12	100	5/8	.095	.120	-2°	COMB.	Miter - Rad. Arm
V-1484-A	14	84	1	.100	.140	10°	ALT	General Purpose
V-1484-UC	14	84	1	.100	.140	10°	UC	General Purpose
V-14108-A	14	108	1	.100	.140	10°	ALT	General Purpose
V-14108-UC	14	108	1	.100	.140	10°	UC	General Purpose
V-1684-A	16	84	1	.100	.140	10°	ALT	General Purpose
V-1684-UC	16	84	1	.100	.140	10°	UC	General Purpose
V-16120-A	16	120	1	.100	.140	10°	ALT	General Purpose
V-16120-UC	16	120	1	.100	.140	10°	UC	General Purpose

**BLADES FOR PACIFIC ROLLER DIE MACHINES FOR
CUTTING STEEL OR ALUMINUM CULVERTS**

STYLE “F-PRD” a friction saw blade for cutting steel culvert pipe. Due to the heat generated by this type of cutting, saw blades cannot be guaranteed against cracking but the blades have expansion slots to control and minimize the rim cracks.

STYLE “PRD” a carbide tipped saw blade designed for cutting aluminum culvert pipe. Cannot be used for cutting steel pipe.

Style	Diameter	Thickness	No. of Teeth	Bore	Material to be cut
F-PRD	30	.300	376	1-3/4	Steel
PRD	30	.280	200	1-3/4	Aluminum

COLD SAW BLADES

HIGH SPEED STEEL BLADES FOR COLD SAW MACHINES-LOW RPM

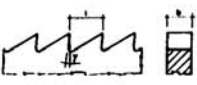
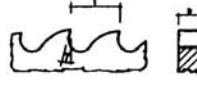

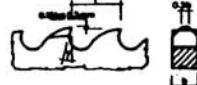
For Steel-Ferrous and Non-Ferrous

STYLE "CS-HSS" high speed steel blades designed for metal cutting on cold saw machines (low RPM). These blades are made from AISI M2 steel and heat treated to 63-65 Rockwell C scale. Four tooth styles to cover the complete saw cutting field.

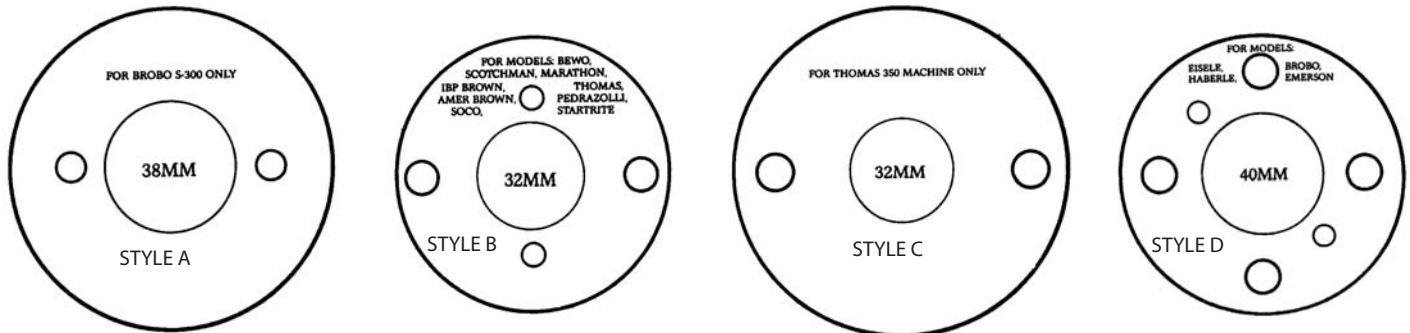
NUMBER OF TEETH AVAILABLE FOR DIFFERENT SIZE MATERIAL CUTTING

BLADE DIAMETER INCH (mm)				TUBES WALL THICKNESS	SOLIDS
		11"(275mm)		○ ◇ □	● ■
		240		less than .08"(<2.0mm)	ABOVE
		220		.05" - .10"(1.5mm - 2.5mm)	to 1/4" (6mm)
		180		.08" - .14"(2.0mm - 3.5mm)	to 1/2"(12mm)
		140		.12" - .20"(3.0mm - 5.0mm)	to 3/4"(19mm)
		120		.18" - .40"(4.5mm - 10mm)	to 1"(25mm)
		80		above than .30"(>8.0mm)	to 1-1/2"(38mm)
		60			to 2"(51mm)

(The above number of teeth are suitable for hand operated machine only. Down one grade to coarse teeth for sawhead auto down-feed machine.)

STYLE A Straight Back	STYLE B Round Back Square Top	STYLE BW Round Back Alternate Top Bevel	STYLE C High-Low Round Back Triple Chip
			
For most aluminum extrusions	For copper, brass or aluminum tubing	For thin walled steel and non-ferrous tubing	For solid sections of ferrous or non-ferrous metal

Sample arbor holes shown below; for actual size see price list and blade specification reference chart for most cold sawing machines.



FRICTION BLADES

Ferrous metals

STYLE "F" friction saw blades are used for cutting light weight angles, channels, tubing, pipe and other structural shapes. Blades should be run at 15,000 to 20,000 surface feet per minute for maximum efficiency. The machine must have ample horsepower so the rim speed will not slow down as blade pressure is applied to the material being cut. Once the blade has made contact with the material, the pressure of the blade against the material must not let up until the cut is finished.

The friction of the special designed teeth of the saw blade against the material to be cut generates sufficient heat to actually melt the metal and the teeth pull these hot pieces of metal out of the cut. Due to the heat generated by this type of cutting, saw blades cannot be guaranteed against cracking but the blades have expansion slots to control and minimize the rim cracks.

Diameter	Thick-ness	No. of Teeth	Collar Size
12	1/8	200	5
14	1/8	220	6
16	5/32	240	6
18	5/32	280	8
20	5/32	300	10
22	3/16	300	11
24	3/16	300	12

SPRAY MIST EQUIPMENT AND COOLANT

A KOOL MIST system will give you longer tool life as it absorbs the heat right at the cutting point. The result will be a longer lasting saw blade and improve machinability. It will up your production and allow you to cut at faster speeds and better micro-finishes become possible. Models come with 1,2,3 or 4 outlets with choice of straight, 45° or 90° nozzles.

Formula 78 is 100% synthetic biodegradable and meets all OSHA standards. It is free of halogens and sulfides. It is safe for operations and its proprietary formula completely prevents dermatitis and rancidity and the formulation contains no irritants. The coolant comes in a concentrate form and may be diluted with water at a ratio of 32 to 1.

Models complete with stainless tank



Model KM100N with 1 outlet shown with magnetic positioner No. KM 205



Model KM102N with 2 outlets with straight nozzle.



Model KM100MF12 with flex-line and 1 outlet.

Models for use with your own tank



Model KM60M18



Model KM60M12



Model KM805M

Nozzle Positioners

These positioners aim the mist spray exactly where you want it. A swivel base and a two-way top swivel provide an infinite variety of positions.

The permanent positioner can usually be attached to any convenient bolt or hole. The magnetic type is simply placed on any iron or steel surface.

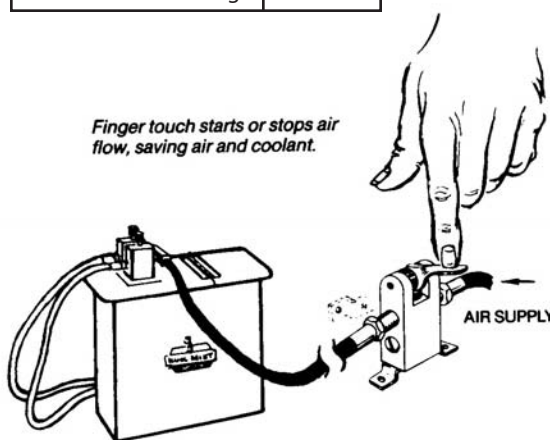


Type	Light Duty	General Purpose	Large Capacity
	Model No.	Model No.	Model No.
Permanent	KM300	KM305	KM305
	KM200	KM205	KM205

Quick on-off control Air switches

Item	No.
Air switch	KM26
4 ft. air hose w/fittings	KM264

Finger touch starts or stops air flow, saving air and coolant.



Coolants



Available in 1, 5 or 55 gallon containers.

OTHER MODELS, SIZES, NOZZLES, OUTLETS, FLEXLINES, SEE PRICE LIST



#6840-A
(11.5 oz. Aerosol)

SANDARO.
DRI-COTE.
BLADE & BIT
CUTTING LUBRICANT



- For Cleaner, Truer Cuts of Wood, Laminates, Metals
- Reduces Resin Build-up
- Prolongs Tool Life



#6830-A
(10 oz. Aerosol)

SANDARO.
TOP-COTE.
TABLE & TOOL
SURFACE SEALANT



- Reduces Sliding Friction & Hang-ups
- Repels Dirt & Moisture
- Inhibits Rust & Corrosion



#6820-A
(5.5 oz. Aerosol)

SANDARO.
BEARING
LUBRICANT.



- Seals & Protects Bearings
- Frees Frozen Bearings
- Reduces Bearing Load Friction & Burn-out

SLIPIT

(Silicone free sealant and lubrication, non-toxic, non-staining, non-flammable)



- #6860 Aerosol Spray 12oz.
- #6865 Gel - pint
- #6866 Gel - quart

Slipit has been on the market since 1939. *For woodworking. Lubricates & protects sliding surfaces on table saws, gang rip saws, band saws, panel saws, jointers, shapers, edgers, drill presses, planers, lathes, miters, routers, various assembly systems etc. Easy-on, easy-off protection for laminate surfaces. All hand tools. Pneumatic tools: magazine, slide, feed springs, feed mechanism, nose piece, Lubricates & prevents resin build-up on saw blades, router bits, drill bits, jointers, planer, edgers, screws & nails. Seals wood preventing moisture absorption and sticking. *For printing or binding. Sliding surfaces, conveyer rollers etc. *Also lubricates chains, shears, paper cutters & drills, bindery knives, pulleys, gears etc. *General lubrication. Wood or metal windows, doors, door tracks, drawers, roll top desks, cabinets, extension tables, hinges, lock cylinders, hatches, latches, overhead doors.



SAW CLEANER

#6850

Cleans saws, router bits and shaper cutters of pitch, gum, etc. Spray on - clean off; works in minutes. Available in 18 ozs. aerosol



EMPIRE ROUTER BIT LUBRICANT

#6851

- *Penetrates bearings to clean and lubricate services for longer bearing life.
- *Protects, Lubricates and seals the tooling surface while removing heat.
- *Smoother, faster, and easier routing with better results.

WAX STICK LUBRICANT

#6070-WSL

An alternate to the #6060-TG grease stick per above. Has no odor and performs as good or better than the tallow grease stick.



TALLOW GREASE STICKS

#6060-TG

To be used when cutting non-ferrous materials for lubricant when air-mist coolant is not available. Gives a cleaner cut and allows the saw blade to last longer between sharpenings. Comes in approximately 1 lb. cardboard tubes.

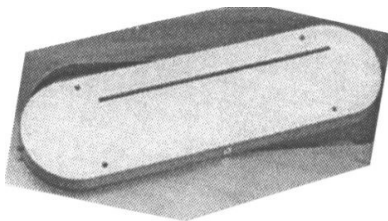


TABLE SAW INSERTS

These plastic precision inserts help reduce splintering and chip out on the bottom side of the material. Raise your saw blade through the insert to create a slot which matches the width of your saw blade. Set screws level and eliminate side-to-side play for better accuracy than factory inserts. Bright colors are used for safety purposes.

Tool No.	Description
2800	Delta 10" -12", Grizzly 13-3/8" x 3-3/4" x 1/2"
2801	Dewalt 18-1/2" x 3-3/4" x 3/8"
2802	General 350-13-7/8" x 3-1/2" x 3/8"

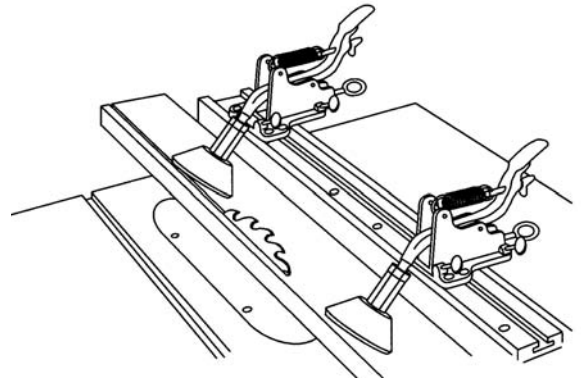
Tool No.	Description
2803	Jet JCS/JTS10 12-7/16" x 3-7/16" x 3/8"
2804	Jet Xacta 13-5/16" x 3-7/16" x 1/2"
2805	Powermatic 63 13-1/4" x 3-3/4" x 1/2"
2806	Powermatic 66 14-7/16" x 4" x 3/8"

BOARD BUDDIES® HOLD DOWNS FOR TABLE SAW, RADIAL ARM SAW, SHAPERS & ROUTER TABLES

BOARD BUDDIES® are a necessity for the safety-conscious woodworker. These maintain simultaneous, even pressure against the table and fence. Your customers will find that using them will result in safer, cleaner cutting operations. They are completely adjustable to accommodate various lumber thicknesses. Shipped two per set and mount directly to your customers shop-made wood fences. Optional sliding tracks available.

FOR TABLE SAWS & ROUTER TABLES:

These feature yellow wheels that turn clockwise to prevent kickback on table saws and router tables. Mounts to fences 3" - 3-1/2" high x 1" or wider. **NS1104-YELLOW**



FOR SHAPERS:

These are constructed from die-cast aluminum and feature non-marring green neoprene rubber wheels. Because the wheels turn in both directions, they function as hold-downs rather than anti-kickback devices. Mounts to fences 3" - 3-1/2" high x 1" or wider. **NS1105-GREEN**

FOR RADIAL ARM SAWS:

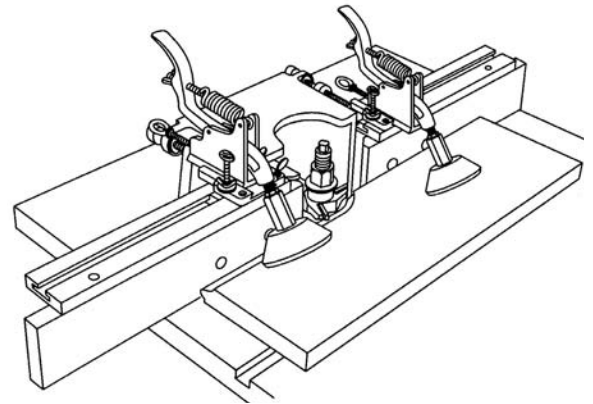
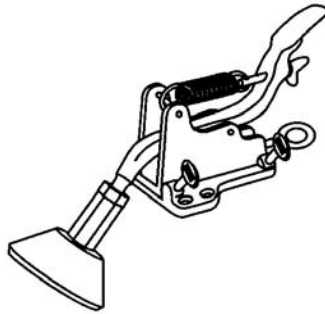
These feature orange wheels that turn counter-clockwise to prevent kickback on radial arm saws and router tables. Mounts to fences 3" - 3-1/2" high x 1" or wider. **NS1106-ORANGE**

OPTIONAL TRACKS:

- NS1107** 12" TRACK
- NS1108** 24" TRACK

FOR TALLER FENCES:

- NS1110** 4"
- NS1111** 4-1/2"
- NS1112** 5"
- NS1113** 5-1/2"
- NS1114** 6"

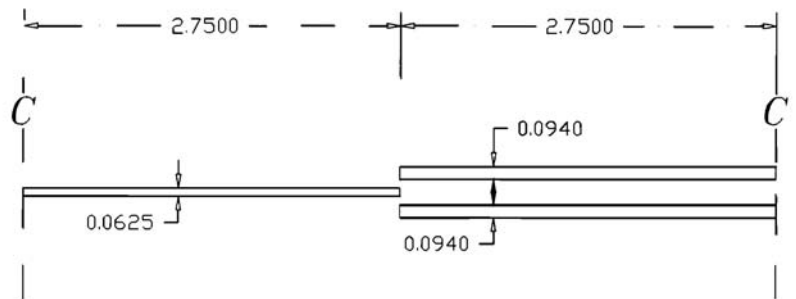


Extra wheels available - See price list.

SLITTER KNIVES FOR MARBELL FORMICA SLITTER

3-pc Set of SHSS slitter knives for Marbell Slitter LS-1, 5-1/2" Dia x 3/4" bore, 2 blades .095, 1 blade .062, Square grind - No teeth & No bevel.

Tool No. **2999**

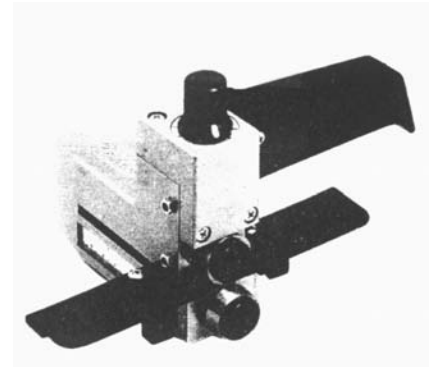


LAMINATE HAND SLITTER

This new model of the very popular Virutex hand tool has two rotating hardened steel shear cutters that allow you to cut strips of laminate easily and to a preselected width from 1/2" to 4-5/16". Cuts plastic up to 0.075" thick. The top knob adjusts depth of cutter penetration. Best results are obtained if the score is made just deep enough to require a slight breaking action by hand to remove the strip. Size 6" x 9" x 7" Weight 3lb.

Tool No. **2990**

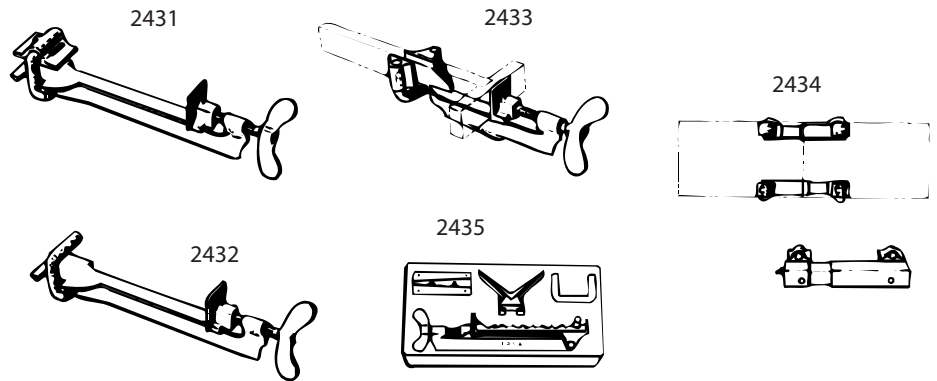
Tool No. **2990-CO** (spare cutter - 1 pair)



FACE FRAME CLAMPING - DADO SHELF CLAMP

This new style of light-weight alloy clamps work on individual joints with no-cuff jaws for use on 13/16" finished stock. The short length will allow you to work with these on the job site. You'll find these are the most handy and useful clamps in your shop.

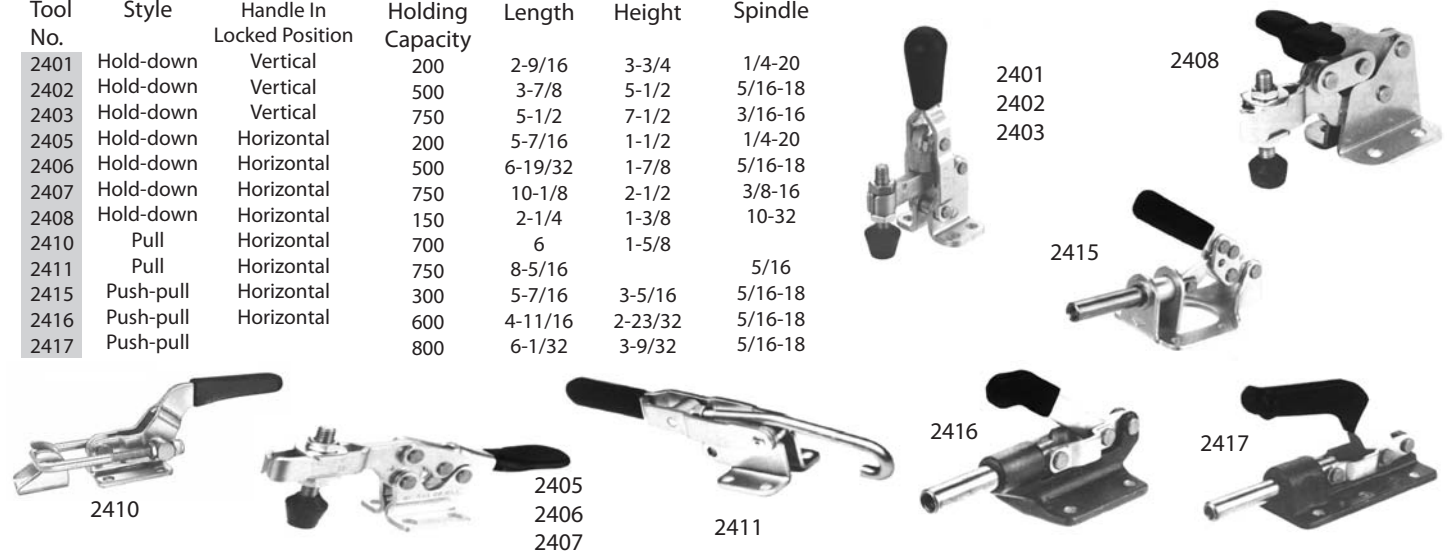
Tool No.	Style
2431	General use
2432	Extended general use
2433	Right-angle-dado-skill
2434	Center panel pull
2435	Comb-set includes #2431 with 2 pieces miter joint & bench adapter
2436	Adapter for 1-1/2" maximum thickness



TOGGLE CLAMPS FOR TEMPLATE AND PRODUCTION JIGS

These quick-release toggle clamps are excellent for hold-down applications. They will save you many hours of time and labor, as they permit rapid loading and unloading of the fixture. All clamps are provided with adjustable rubber pressure-tips except the "Pull" style.

Tool No.	Style	Handle In Locked Position	Holding Capacity	Length	Height	Spindle
2401	Hold-down	Vertical	200	2-9/16	3-3/4	1/4-20
2402	Hold-down	Vertical	500	3-7/8	5-1/2	5/16-18
2403	Hold-down	Vertical	750	5-1/2	7-1/2	3/16-16
2405	Hold-down	Horizontal	200	5-7/16	1-1/2	1/4-20
2406	Hold-down	Horizontal	500	6-19/32	1-7/8	5/16-18
2407	Hold-down	Horizontal	750	10-1/8	2-1/2	3/8-16
2408	Hold-down	Horizontal	150	2-1/4	1-3/8	10-32
2410	Pull	Horizontal	700	6	1-5/8	
2411	Pull	Horizontal	750	8-5/16		5/16
2415	Push-pull	Horizontal	300	5-7/16	3-5/16	5/16-18
2416	Push-pull	Horizontal	600	4-11/16	2-23/32	5/16-18
2417	Push-pull	Horizontal	800	6-1/32	3-9/32	5/16-18



FEATHERBOARD

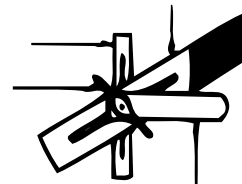
Tool #2420

This is designed to fit in a 3/4" slot of a tablesaw. This will prevent wood stock from kicking back while cutting edge strips from remnant stock. Included is a aluminum hold down feature to keep material from riding up on the saw blade.

NO CLAMPS, NO HASSLE, NO TOOLS NEEDED TO INSTALL

SAW TABLE
LOCKING INSERT

WING NUT



SPRING ACTION
HOLD-DOWN

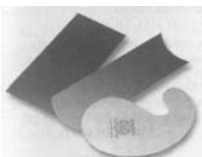
ADJUSTABLE ALLOY BAR CLAMP

Tool No.	Style	Tool No.	Style
2437	24" Adjustable bar	2440	60" Adjustable bar
2438	36" Adjustable bar	2441	72" Adjustable bar
2439	48" Adjustable bar		



CABINET SCRAPER SET - 3 PIECE

Tool #2850



These three different style scrapers make it simple to scrape glue chunks or paint from your woodworking projects. Ideal for fine finishing or to prepare for sanding. Choose the shape-Straight (2-1/2" x 5") Concave convex(2" x 5-7/8"), or Gooseneck (2-3/4" x 4-1/2").

SQUARE EDGE METAL SCRAPERS

4-PIECE - Tool # 2851

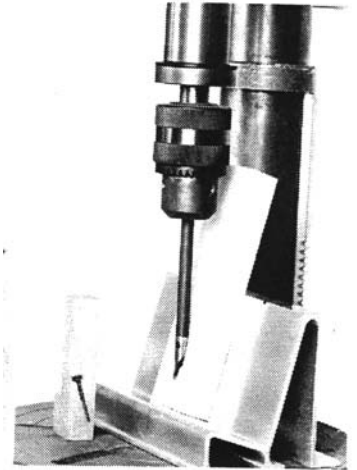


This set of four metal scrapers measures 2-1/2" x 6" each in varying thickness of .025", .032" and .042".

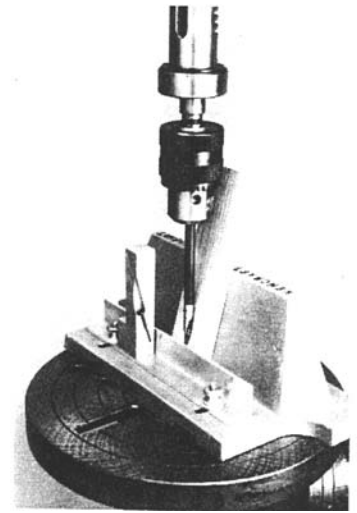
FACE FRAME KENCRAFT DRILLING JIGS FOR DRILL PRESS OPERATION
(with no drill bushing - drill fixture is angled for correct angle)

Tool No.	Description
2560-QJ-1	Set consists of: 1 - Cast aluminum drill fixture 1 - 4 flute HSS counterbore bit 1 - 1/8" Pilot bit 1 - 3/32" Allen wrench 1 - Phillips screwdriver bit 1 - Instruction sheet 50 pcs #6 - 1-1/4" screw (Hardwood) 50 pcs #6 - 1-1/2" screw (Softwood)
2560-QJ-JO	1 - Cast aluminum drill fixture only
2561-QJ-HHC	1 - Alum. extrusion drill fixture w/instruction sheet 1 - CT counterbore w/#29 HSS pilot bit 1 - 5/64" Allen wrench 1 - Phillips screwdriver bit 50 pcs #6 - 1-1/4" screw (Hardwood) 50 pcs # 6 - 1-1/2" screw (Softwood)
2561-QJ-JO	1 - Alum. extrusion drill fixture only
2562-QJ-7	1 - Portable guide fixture for job site drilling w/instruction sheet 1 - CT counterbore w/ #29 HSS Pilot bit 1 - 5/64" Allen wrench 1 - Phillips screwdriver bit 50 pcs #6 - 1-1/4" screw (Hardwood) 50 pcs #6 - 1-1/2" screw (Softwood)
ACCESSORIES	
Tool No.	Description
67	C.T. Counterbore complete w/ pilot bit
69-S	4" flute HSS counterbore bit
67-PD	#29 Pilot bit

2561-QJ-JO



2560-QJ-JO



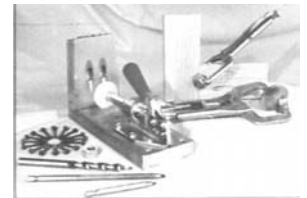
FACE FRAME KREG DRILL JIG W/ DRILL BUSHING

Tool No.	Description
2565-K2	2 - Hole drill jig w/clamp, HSS counterbore, w/pilot, w/stop collar
2567-CB	1 - HSS counterbore w/pilot only
2566-K2-MP	1 - Drill jig per above w/clamp 1 - HSS counterbore w/pilot, w/stop collar 1 - 6" Hand face clamp 2 - Phillips screw drill bit - 1- 6", 1- 3" 200 pcs #6 x 1-1/4 screw (Hardwood)

2565-K2

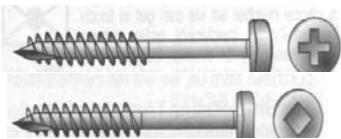


2566-K2-MP



Pneumatic jigs available or retro-fit. If already purchased, call office. See price list for extra screws.

FACE FRAME SCREWS
(Pan Head Type 17 - Point Type A)



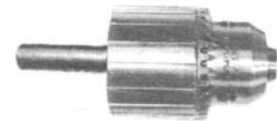
Tool No.	Size & Length	Style
2900	#6X1-1/4 long	Phillips Head
2901	#6X1-1/4 long	Square recess
2902	#6X1-1/2 long	Phillips Head
2903	#6X1-1/2 long	Square recess

ADJUSTABLE DRILL CHUCK WITH 7/16-14 TPI SHANK



Tool No.	Chuck Cap.
110-A	1/32"-1/4"
112-A	1/32"-3/8"
112-ADC	5/16"-1/2"

1/4" SHANK ADJUSTABLE DRILL CHUCK



#112

Permits use of drills with up to 1/2" shank diameter in 1/4" and 3/8" electric drills.

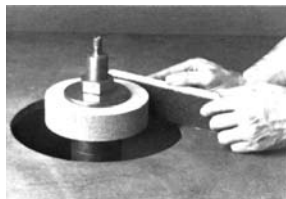
CONTOUR SANDING SYSTEM FOR WOOD

An abrasive sanding wheel that is easily shaped to almost any contour. It will hold its shape for the life of the wheel, as it will reduce the excessive cost of having to hand sand intricate moulding and other shaped wooden parts. Design wanted in wheel is roughed-in with a removable solid carbide shaping bit mounted in a hand tool, see below. An exact carbide tipped pattern tool is available for faster and more accurate shaping. Final exact pattern is obtained by covering the shaped part with a pressure-sensitive backed abrasive tape and very gently move the shaped part with the abrasive tape into the wheel so it will cut a mirror image on the wheel. Sanding wheels can be run on slow RPM shapers or make your own. See spindle on page 34.

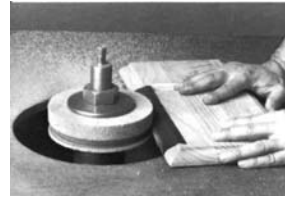
Diameters available 4", 5, 6, 7, 8, 9 & 10 . Stocked wheels are 6" & 8"
 Width of wheels available are 1/2" to 4". Stocked width 1", 1-1/2 & 2".
 Grit sizes available 24, 40, 60, 80, 100. Stocked grit 40, 60 & 80 .
 Bore size is 1-1/4" , all smaller sizes will be bushed.

**DO NOT RUN SANDING WHEELS AT HIGH RPM'S. WHEELS WILL DISINTEGRATE.
 SEE RECOMMENDED RPM.**

Set-Up and Shaping



1. For hand-shaping sanding wheels, spindle should be at 90° to table. After mounting, the wheel must be trued to the spindle at recommended operating speed since a wheel which is out-of-round will cause chatter and rapid wheel wear. This is done using a board covered with our pressure sensitive back abrasive paper.



2. Using an old file or our carbide shaping bit assembly #CSS-HT-SB, roughly shape the desired contour into the wheel. The wheel should be 1/4" wider per side than the part to ensure good outer edges. A narrower thickness does not sand outer edges well.



3. To obtain final shape, carefully cover desired contour of sample workpiece with our pressure sensitive back abrasive paper #CSS-PS-AP, working it tightly into all surfaces. You can now dress in final shape. Final dressing requires traversing the abrasive-covered workpiece very gently into the roughly formed wheel until desired final shape is achieved.

4. Wheel should be checked (can use rejected parts) for trueness and to ensure that all surface areas are being sanded. Wheel will retain shape during its life unless accidentally damaged. Dressing with the abrasive-covered workpiece quickly corrects this condition. A skilled operator can change and shape a sanding wheel in five to fifteen minutes, depending on shape complexity.

Suggested & Maximum Wheel Speeds

Wheel Diameter	Maximum Speeds	Poplar, Mahogany, Pine, Gum	Oak, Walnut, Maple, Pecan, Cherry	Particleboard, MDF
		1500 - 2000 SFPM	900 - 1400 SFPM	2000 - 2500 SFPM
4	5,200 RPM	1200 - 1750 RPM	700 - 1200 RPM	1900 - 2400 RPM
6	3,600 RPM	900 - 1250 RPM	550 - 850 RPM	1300 - 1600 RPM
8	2,600 RPM	650 - 900 RPM	400 - 600 RPM	950 - 1200 RPM
10	2,100 RPM	540 - 750 RPM	350 - 450 RPM	750 - 1000 RPM

Additional maximum speeds: 5" - 4200 RPM, 7" - 3000 RPM, 9" - 2300 RPM.

Product Recommendations (Suggested Starting Specifications)

Application	Product	Grit	Hardness
Intermediate Sanding of Harder Woods	1st choice CSS-G40-H54	40	Medium
	2nd choice CSS-G60-H54	60	Medium
Intermediate Sanding of Softer Woods	1st choice CSS-G60-H54	60	Medium
	2nd choice CSS-G40-H54	40	Medium
Finish Sanding of All Solid woods	CSS-G80-F42	80	Soft
Intermediate Sanding of Synthetic Board Products	CSS-C40-H54	40	Medium
	CSS-C60-H54	60	Medium
Finish Sanding of Synthetic Board Products	CSS-C80-F42	80	Soft
Sealer Sanding	CSS-G100-D30	100	Soft

TOOL NO.

Garnet - Type WG	Silicon Carbide - Type WC	Grit	Hardness Rating
CSS-G24-F42	-	24	Soft
CSS-G24-H54	-	24	Medium
CSS-G40-F42	-	40	Soft
CSS-G40-H54	CSS-C40-H54	40	Medium
CSS-G40-J66	CSS-C40-J66	40	Hard
CSS-G40-F42	-	60	Soft
CSS-G60-H54	CSS-C60-H54	60	Medium
CSS-G60-J66	CSS-C60-J66	60	Hard
CSS-G80-F42	CSS-C80-F42	80	Soft
CSS-G80-H54	CSS-C80-H54	80	Medium
CSS-G80-J66	CSS-C80-J66	80	Hard
CSS-G100-H54	CSS-C100-H54	100	Medium
CSS-G100-D30	CSS-C100-D30	100	Soft Sealer Sand

Tool No. CSS-HT = Hand held tool for holding replaceable solid carbide shaping bit.

Tool No. CSS-SB = Replaceable solid carbide shaping bit.

Tool No. CSS-HT-SB = Complete tool.

Tool No. CSS-PSAP = 2" wide conformable pressure sensitive back abrasive paper.

Exact carbide pattern shaping bit available on request.

HOLE SAW FOR METAL DOORS



Special design for lock and deadbolt hole drilling in metal doors.



- *Cuts both skins in one plunge.
- *Heavy duty construction.
- *Replaceable saw artridges.
- *Easy cote removal through top.

The recommended drill speed is 300 RPM and a replaceable back-up block should be used.

Tool No.	Description	Tool No.	Description
2896	Saw Holder	28112	1-1/2" Hole Saw
2895	Replacement Shank	28258	1-5/8" Hole Saw
2894	Replacement Set Screw	28128	2-1/8" Hole Saw

CARBIDE PRISMATIC GLASS DRILLS 1/4" SHANK



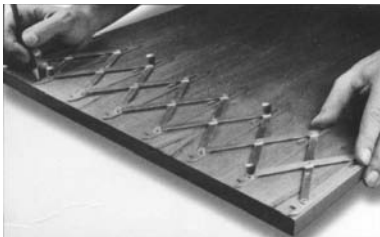
Carbide PRISMATIC DRILLS are the standard of quality glass drilling throughout the flat glass industry. Their Tungsten carbide tips mean you can produce hundreds of high quality holes without needing to resharpen them. The extra long tip assures long lasting, precision drilling. Prismatic drills should only be used in glass drilling machines, or securely held electric drills. We do not recommend you use them with hand brace drills. Be sure to keep the drill cool with turpentine or another collant during drilling. The 1/8" drill is fragile. There is no warrenty against breakage.

Tool No.	Dia.	Suggested RPM	Tool No.	Dia.	Suggested RPM
9090	1/8"	500 to 600	9095	5/16"	500 to 600
9091	5/32"	500 to 600	9096	3/8"	400 to 500
9092	3/16"	500 to 600	9097	7/16"	400 to 500
9093	7/32"	500 to 600	9098	1/2"	400 to 500
9094	1/4"	500 to 600			

LAYOUT AND CENTERING TOOL

Tool No. 2595

Layout up to 8 equally spaced points on stock up to 24" wide. Macimum width of points apart is 4-1/2".

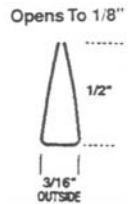


PLASTIC HANDSAW GUARDS

A plastic extrusion to protect your handsaw while not in use. Cut with scissors for shorter length if needed.

Tool No	Color	Length
6095	Red	26"

Other colors are available in large quantities and other lengths are available.



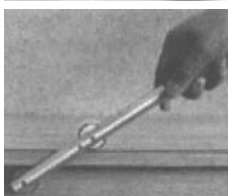
PRESSURE ROLLERS FOR PLASTIC LAMINATES AND WOOD VENEERS

Tool No	Description
9900	J-Roller 3" X 1-1/2"
9901	Pressure Roller 3" X 1-1/2"
9902	Double Edge Roller
9903	Extention Roller 9" X 1-1/2" (Extends from 17" to 28")

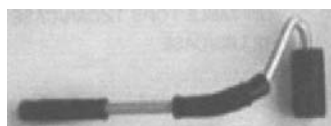
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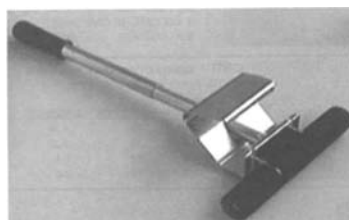
#9902



#9901



#9903



PLUGS FOR SAW BLADE PLUGGING

Tool No.	Diameter	Thickness	Material
9950-A-L	1/8"	1/8"	Alum-Lead Alloy
9950-C	1/8"	1/8"	Copper
9951-A-L	3/16"	1/8"	Alum-Lead Alloy
9951-C	3/16"	1/8"	Copper
9952-A-L	3/16"	3/16"	Alum-Lead Alloy
9952-C	3/16"	3/16"	Copper
9953-A-L	1/4"	1/8"	Alum-Lead Alloy
9953-C	1/4"	1/8"	Copper
9954-A-L	3/8"	1/8"	Alum-Lead Alloy
9954-C	3/8"	1/8"	Copper

Other sizes are available - send request.

ABRASIVE WHEEL DRESSERS (K.O. LEE)

Tool No	Description
9960	Complete Tool
9961	Wheel only



Other parts are available - see price list..

CARBIDE TIPPED HEAVY DUTY HOLE SAWS:

STEEL (COARSE & FINE CUTTING) PLASTIC - STUCCO - TILE - WOOD

Industrial grade of carbide tipped hole saws have large carbide tips that can be sharpened many times and replaced when necessary. Cutterheads are removable from shank so they can be purchased separately or in a complete unit. Pilot drills of 1/4" are used with hole saws thru 1 3/4", 2" and larger use 3/8" pilot drills.

STYLE M: Metal cutting, coarse tooth design sizes range from 1" to 6" with 1" depth of cut. 1/2" shank on sizes up to 3 3/4", 3/4" shank on sizes 4" to 6". Standard shank length is 3" or optional 10".

STYLE M-FT: Metal cutting for interrupted cut, fine tooth design. Sizes range for 1" to 6" with 1" depth of cut. 1/2" shank on sizes up to 3 3/4", 3/4" shank on sizes 4" to 6". Standard shank length is 7" or with optional 10".

STYLE W: Wood cutting with 2" depth of cut. Sizes range from 1" to 4". Shank size is 1/2" diameter x 3" long.

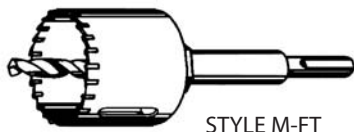
STYLE P: Plastic cutting with 2" depth of cut. Sizes range from 1" to 4". Shank size is 1/2" diameter x 3" long.

STYLE I: Cuts stucco, wood, & aluminum siding. Designed for insulation contractors to cut holes in installed foam insulation. Cuts all type of siding. Standard cutting depth is 2", with shank size of 1/2" diameter x 3" long.

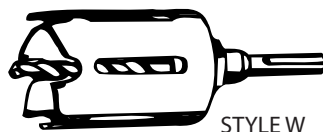
STYLE TTS: Used for tub, tile, & spa cutting. Will cut ceramic tile, marble, granite, spas and hot tubs.



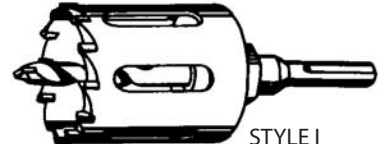
STYLE M



STYLE M-FT



STYLE W
STYLE P



STYLE I
STYLE TTS

CARBIDE TIPPED 3 PIECE HOLE SAW KIT FOR CUTTING PORCELAIN

This kit consists of one each carbide tipped pilot drill, spring-loaded Porcelain Saw, Cast Iron cutting finish saw. The exclusive spring-loaded design produces chip-free holes in just minutes. (For use in any 3/8" variable-speed electric drill).

TOOL NO.	SIZE
PCK-HS-0078	7/8"
PCK-HS-0114	1-1/4"
PCK-HS-0134	1-3/4"
PCK-HS-0238	2-3/8"

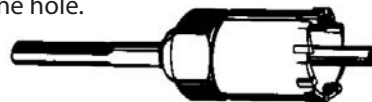
The Carbide Tipped Pilot Drill is used to drill a hole completely through the sink to provide a guide for both the porcelain saw and the finish saw.



The Spring-Loaded Porcelain Saw is used to cut through the porcelain surface only. This saw cuts a smooth, chip-free, beveled groove through the porcelain to the metal base.



The Finish Hole Saw is used to cut through the metal base to create the hole.



DIAMOND COATED TOOLS MANUFACTURED ON SPECIAL ORDER

Band Saws
Beveling Bits
Boring Wheels

Circular Saws
Counter Bores
Counter Sinks

Edge Planers
Hole Saws
Jig Saws

Milling Wheels
Router Bits
Router Wheels

These diamond coated tools are being used extensively in the aerospace, aircraft, paneling, boats, yachts, furniture, circuit boards, automotive, caskets and burial vaults, construction, pipe, and other industries using reinforced composites of:

PLASTIC - GLASS LAMINATES - POLYESTERS - MELAMINE - EPOXIES - SILICA RESIN - PHENOLICS - MICARTA - REFRASIL - ASTRALITE - CONOLAN - GLASS BASED PHENOLICS - PURE CARBON - GRAPHITE - CARBON SILICA RESIN LAMINATES ETC.

HOLE SAWS

Carbide Grit

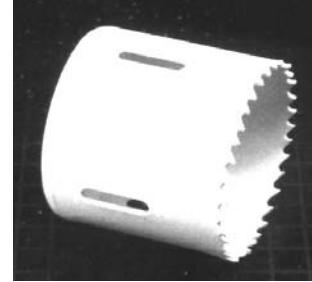
Carbide Tipped

Diamond Edge

HSS

Hole Saws come in 4 different grades for all types of materials. Sizes range from 9/16" to 6", except diamond grit maximum is 4 1/2". Separate removable shank of 1/4", 1/2" and 3/4". See price list for additional information.

- HSS - Bi-Metal Hole Saws - cutting depth 1 5/8"
- Carbide Tipped - For hard & abrasive materials - cutting depth 1 5/8"
- Carbide Grit - Will cut ceramics, glass resins, asbestos and other highly abrasive materials - cutting depth 1 5/8"
- Diamond Edge - Fiberglass & other reinforced plastic, Germanium, and other abrasive material that you can't cut with carbide - cutting depth 1 3/8".



Approximate Revolutions Per Minute (RPM) for sawing various materials with high speed steel hole saws

Recommended Cutting Speeds for Abrasive Cutting Saws

Saw Dia. Inch	Mild Steel	Tool Steel	Aluminum	Brass and Wood
9/16"-1"	580-350	300-175	790-470	800-500
1 1/16"-2"	325-170	160-85	435-230	500-200
2 1/16"-3"	165-115	80-35	220-150	200-150
3 1/8"-4"	110-85	55-40	140-110	150-100
4 1/8"-6"	80-55	40-25	100-75	100-75

Diamond Grit Inch	Carbide Grit Inch	Min.(125FPM) RPMs	Max. (250 FPM) RPMs
9/16"-1"	7/8"-1"	500	1000
1 1/16"-2"	1 1/16"-2"	250	500
2 1/4"-3 1/4"	2 1/8"-3 1/4"	150	300
3 1/2"-5"	3 1/2"-4 1/2"	100	200

HSS HOLE SAW

SIZE	TOOL NO.	SIZE	TOOL NO.	SIZE	TOOL NO.
9/16"	HS-0096	1-5/8"	HS-0158	3-1/8"	HS-0318
5/8"	HS-0058	1-11/16"	HS-1116	3-1/4"	HS-0314
11/16"	HS-1016	1-3/4"	HS-0134	3-3/8"	HS-0338
3/4"	HS-0034	1-13/16"	HS-1136	3-1/2"	HS-0312
13/16"	HS-1036	1-7/8"	HS-0178	3-5/8"	HS-0358
7/8"	HS-0078	2"	HS-0200	3-3/4"	HS-0334
15/16"	HS-1056	2-1/16"	HS-0216	3-7/8"	HS-0378
1"	HS-1000	2-1/8"	HS-0218	4"	HS-0400
1-1/16"	HS-0116	2-1/4"	HS-0214	4-1/8"	HS-0418
1-1/8"	HS-0118	2-5/16"	HS-0256	4-1/4"	HS-0414
1-3/16"	HS-0136	2-3/8"	HS-0238	4-3/8"	HS-0438
1-1/4"	HS-0114	2-1/2"	HS-0212	4-1/2"	HS-0412
1-5/16"	HS-0156	2-9/16"	HS-0296	4-3/4"	HS-0434
1-3/8"	HS-0138	2-5/8"	HS-0258	5"	HS-0500
1-7/16"	HS-0176	2-3/4"	HS-0234	5-1/2"	HS-0512
1-1/2"	HS-0112	2-7/8"	HS-0278	6"	HS-0600
1-9/16"	HS-0196	3"	HS-0300		

Replacement 1/4" HSS pilot drill Tool No. HS-HS-PD-14

Replacement 1/4" CT pilot drill Tool No. HS-CT-PD-14

SHANKS

TOOL NO.	Fit Hole Saw Dia.	Screw Thread	Shank Size	Chuck Size
HS-A1	9/16" - 1-3/16"	1/2" -20	11/32" Hex	3/8"
HS-A2-QH	1-1/4" - 6"	5/8" -18	7/16" Hex	1/2"
HS-A4	9/16" - 1-3/16"	1/2" -20	1/4" Round	1/4"
HS-A-10-QH	1-1/4" - 6"	5/8" -18	11/32" Hex	3/8"
HS-A11	9/16" - 1-3/16"	1/2" -20	7/16" Hex	1/2"

SHANK COMES WITH HSS PILOT DRILL

Build your own tools with our component parts: Sanders - Saws - Shapers - Grinders - Polishers - Vacuum Table

SHAPER MANDREL

This industrial-type ball bearing component shaper mandrel can save you hundreds of dollars by enabling you to build your own shaper.

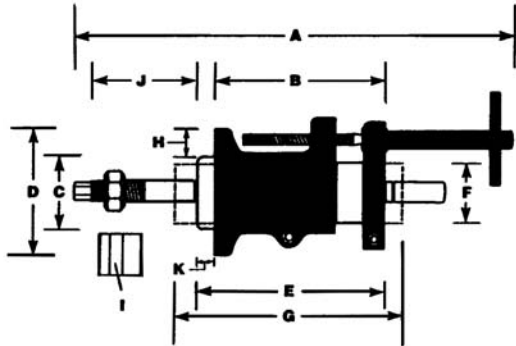
Mounts securely with four bolts to any frame (wood or steel) and is safety engineered at speeds up to 9,000 R.P.M.

Changing cutters and setups take valuable time and over a period of months, you could pay for this mandrel with money saved by having a shaper for each of your operations.

You can also use these mandrels for profile sanders and inflatable drum sanders.

TOOL NO.	SPINDLE	TOOL NO.	SPINDLE
2500-8	1/2	2500-16	1"
2500-12	3/4	2500-20	1-1/4

Left hand - add LH to Tool No. (Clockwise rotation)

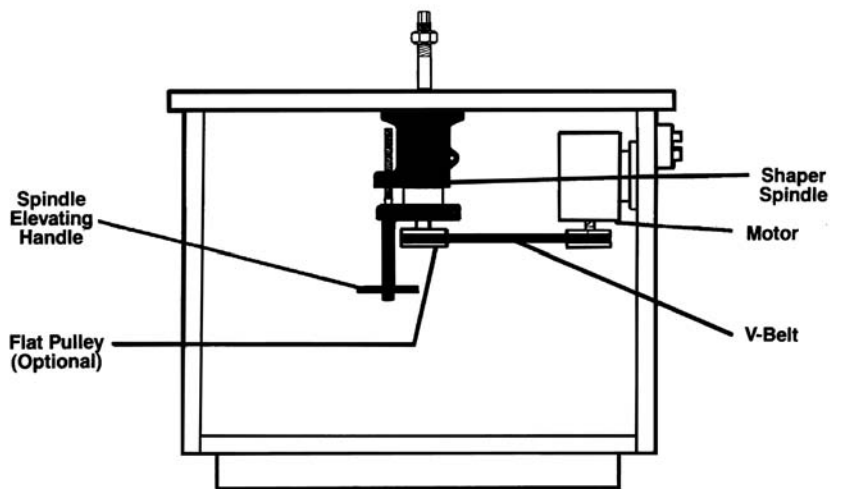


SPECIFICATIONS	1/2"	3/4"	1"
SIZE	1/2"	3/4"	1"
A) Overall Length	17"	17"	20-1/4"
B) Housing Length	5"	5"	6-1/2"
C) Housing Dia.	2-3/4"	2-3/4"	3-3/4"
D) Flange Dia.	5"	5"	6"
E) Quill Length	6-5/8"	6-5/8"	9-5/16"
F) Quill Dia.	2-1/4"	2-1/4"	3"
G) Quill Travel	3"	3"	3-1/2"
H) Flange Width	1"	1"	1"
I) Spacers	3/8"	3/8"	3/8"
1 each	1/2"	1/2"	1/2"
	3/4"	3/4"	3/4"
Weight	10 LB	10LB	24 LB

WARNING: Do Not run unit above 9,000 R.P.M! Manufacturer is not responsible for damage or injury due to exceeding maximum speed recommendations, or unsafe usage. Should be guarded and operated in accordance with OSHA specifications!

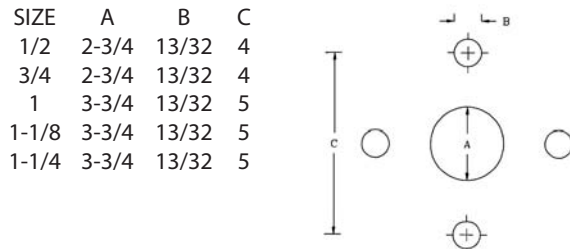


Suggested Shaper Table Design



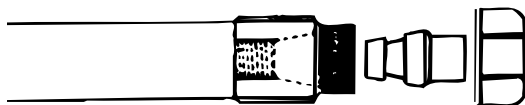
MOTOR RPM - PULLEY SIZE = SPINDLE RPM		
Motor R.P.M.	3,450	3,450
Motor Pulley Size	4"	5"
Shaft Pulley Size	2"	2"
Spindle R.P.M.	6,900	9,000

Layout specs for mounting shaper mandrel to table top.



OPTION: ROUTER BIT ADAPTER FOR #2500 SERIES SHAPER MANDRELS

We machine the top of the shaper spindle with special threads to accept a threaded collet chuck. Comes complete with collet nut and one 1/2" and 1/4" collet adapter. To use spindle as a shaper, you must remove threaded chuck so shaper cutter can slide on spindle.



TOOL NO.	SPINDLE
2500-RBA-8	1/2
2500-RBA-12	3/4
2500-RBA-16	1"
2500-RBA-20	1-1/4

ROUTER BIT ADAPTER FOR ROCKWELL-DELTA POWERMATIC SHAPERS

Turn your shaper into a router with this adapter which includes a split sleeve and nut assembly for a positive holding of 1/4" and 1/2" shanks.

TOOL NO.	MAKE OF SHAPER
115	Rockwell-Delta - Heavy Duty
116	Rockwell-Delta - Light Duty
117	Powermatic



SAW AND SANDER MANDRELS

Saw mandrels come in 8 sizes for speeds up to 7,500 RPM

- Finish polished aluminum
- Precision-machine fixed and loose collar eliminated blade and wheel wobble.
- Pregreased ball bearings.
- Precision-machine spindles eliminated pulley chatter.

Tool No.	Shaft
1000-6	3/8
1000-8	1/2
1000-10	5/8
1000-12	3/4
1000-16	1"



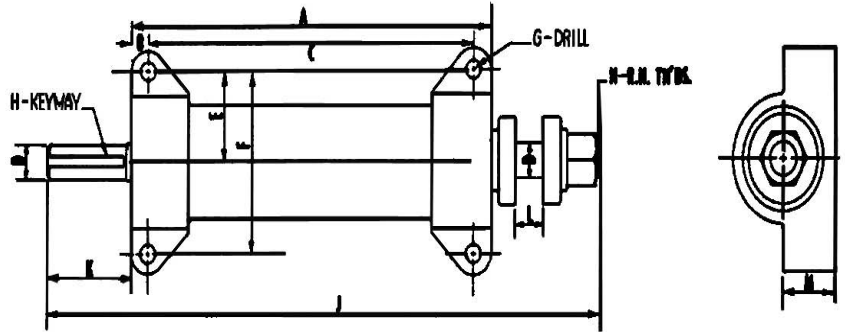
1000-20	1-1/4
1000-22	1-3/8
1000-24	1-1/2
1000-28	1-3/4

Same as above with short housing

Tool No.	Shaft
100-8	1/2
100-10	5/8
100-12	3/4
100-16	1"



#1000 SERIES														WT.
SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	
3/8	4-1/8	3/8	3-7/16	3/8	1-7/64	2-7/32	17/64		7-3/4	1-5/8	7/8	3/4	3/8-24	2
1/2	5-13/16	3/8	5	1/2	1-7/32	2-7/16	17/64	Flat	10-1/2	2-1/4	1-1/8	7/8	1/2-20	3
5/8	8-1/8	7/16	7-5/16	5/8	1-13/32	2-13/16	21/64	3/16	12-1/2	2	7/8	1-3/32	5/8-18	5
3/4	8-1/8	7/16	7-5/16	3/4	1-41/64	3-9/32	21/64	3/16	12-1/2	2-1/8	1/2	1-1/4	3/4-16	6
1	11	1/2	10	1	2-5/32	4-5/16	25/64	1/4	18	3-1/2	1	1-11/16	1-14	13
1-1/4	12-1/8	9/16	11	1-1/4*	2-3/4	5-1/2	25/64	3/8	23-1/4	5-1/4	2	2-3/16	1-1/4-12	45
1-3/8	12-1/8	9/16	11	1-3/8*	2-3/4	5-1/2	25/64	3/8	23-1/4	5-1/4	2	2-3/16	1-3/8-12	45
1-1/2	12-1/8	9/16	11	1-1/2*	2-3/4	5-1/2	25/64	3/8	23-1/4	5-1/4	2	2-3/16	1-1/2-12	45
*PULLEY END IS 1-1/2"														
#100 SERIES														WT.
SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	
1/2	3-13/16	5/16	3-3/16	1/2	1-1/4	2-1/2	17/64	Flat	7-5/8	1-7/8	5/8	29/32	1/2-20	3
5/8	4-1/8	11/32	3-13/32	5/8	1-3/8	2-3/4	17/64	3/16	8-1/4	1-7/8	11/16	1-3/32	5/8-18	4
3/4	4-3/4	3/8	4	3/4	1-9/16	3-1/8	21/64	3/16	9-1/4	2-1/4	9/16	1-7/32	3/4-16	5
1	5-7/32	13/32	4-3/8	1	1-11/16	3-3/8	21/64	1/4	11-1/4	3	1	1-11/32	1-14	8



SPECIAL EXTENDED SHAFT MANDREL



Tool No.	Shaft
1000-12-Long	w/extended 3/4" spindle one end only
1000-16-Long	w/extended 1" spindle on one end only
1000-12-D-Long	w/extended spindle on both ends, 3/4" on one end and 1" on the other end.

SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	WT.
3/4" Single ended	8-1/8	7/16	7-5/16	3/4	1-41/64	3-9/32	21/64	3/16	21	2-1/8	9	1-1/4	3/4-16	7
1" Single ended	11	1/2	10	1	2-5/32	4-5/16	13/32	1/4	28	3-1/2	11-1/2	1-11/16	1-14	16
1" Double ended	11	1/2	10	1*	2-5/32	4-5/16	13/32		9	35-1/2	3/4-16	11-1/2	1-11/16	19

* One end is 3/4" x 11" the Other is 1" x 13-1/2"

Do not operate over 1,800 R.P.M. w/6" drum, 1,200 R.P.M. w/larger sizes.

BALL BEARING GRINDER HEAD 3 SPEED PULLEY



Ball bearing center drive... Grease sealed ball bearing... Precision ground spindles and collars produce precision work... 3-step pulley with 36"V belt type "A". Aluminum housing... light weight... long life... vibrationless.

Tool No.	SPINDLE		Housing Length	Distance Between Wheels	Center of Spindle to Base	Wheel Capacity	3-step Pulley	Weight Lbs.	
	Threads RH & LH	Lght.							
2502-8	1/2	1/2-20	14	8	9	5-3/16	6 X 1-1/2	4-3-2	8
2502-10	5/8	5/8-18	14	8	9	5-3/16	6 X 1-1/2	4-3-2	9

BALL BEARING POLISHING HEAD 2 SPEED PULLEY



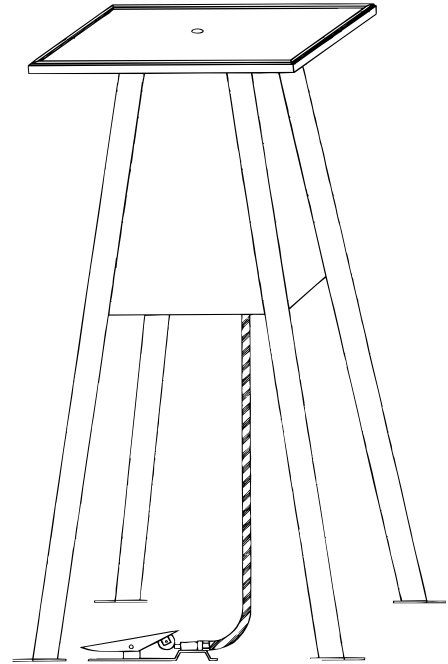
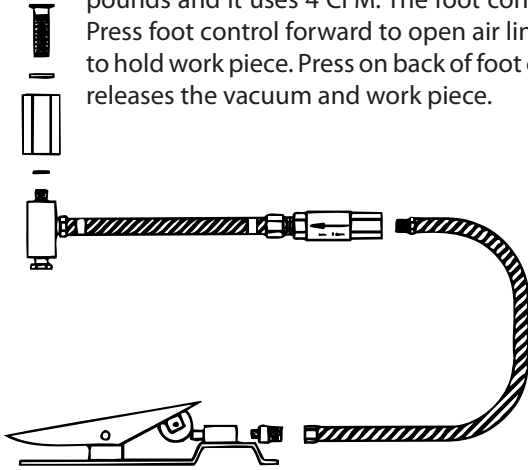
New type all aluminum housing and base gives new efficiency where speed and accuracy is demanded. To afford maximum grinding capacity it is equipped with a pulley of the same diameter as the housing, thus eliminating all interference from belt or the pulley.

This two-speed polishing head is perfect for factories, machine and woodworking shops, garages, farms, homes, hobbists and lapidarists. Wherever grinding, polishing, buffing wheels and saw blades are used. Base 5-1/4" x 7-5/8".

Tool No.	SPINDLE		Housing Length	Distance Between Wheels	Center of Spindle to Base	Wheel Capacity	2-step Pulley	Weight Lbs.	
	Threads RH & LH	Lght.							
2501-10	5/8	5/8-11	15	8	10-3/4	5-1/8	8 x 1	2-1/2 - 1-3/4	10
2501-12	3/4	3/4-10	15	8	10-3/4	5-1/8	8 x 1	2-1/2 - 1-3/4	11

BUILD YOUR OWN VACUUM TABLE

All the parts except the table are included which consist of a pump, adapter, foot control with 4' of air hose and a 15' roll of gasket material. You'll need to hook up to a clean air supply with hose pressure of 85 pounds and it uses 4 CFM. The foot control is an "on and off" control. Press foot control forward to open air lines which creates the vacuum to hold work piece. Press on back of foot control to close air lines which releases the vacuum and work piece.



PNEUMATIC AIR CLAMP CYLINDER

Build your own air clamping system and save many man hours. Can be used both vertical or horizontal and has a 1" stroke. Cylinder comes three ways - Threaded rod, non-threaded and 2" diameter flange attached to non-threaded rod with roll pin.

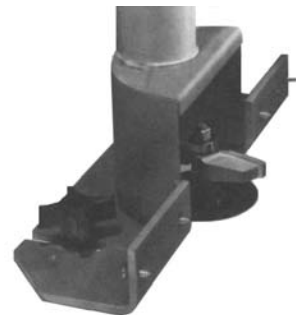
TOOL NO.	END OF PISTON ROD
2511	1/2-13 TPI
2512	Plain
2513	2" Flange
2514	Air valve for above



ROUTER FENCE

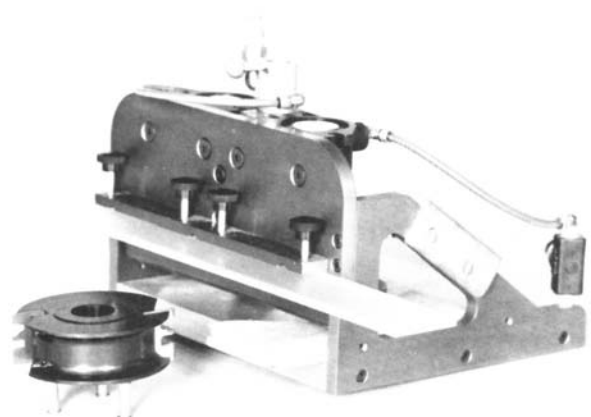
Transform your router into a shaper with this heavy duty 1/4" thick cast aluminum fence. Drilled and tapped hole to attach wooden fence (not included).

TOOL NO.	LENGTH	HEIGHT
2510	14-1/2"	4-1/2"
	DEPTH	OPENING
	4-1/2"	5-3/4" width 4-1/8" height 3-1/8" deep



NORDIC - COPECRAFTER - #2476 1 PIECE COPE - TENON JIG

Designed to be used on any spindle shaper with a miter slot table or it comes with a plastic straight edge and can be run off the shaper fence. The air clamps systems hold the work in place and make them operation safe. As well, the unit runs on a cushion of air for ease of operation. The opening width is 10" so you can make multiple cope cuts. When you use a blowout or backer board, you can practically eliminate blowout.



STILE AND RAIL PRODUCTION JIGS FOR CROWN RAISED PANEL DOORS

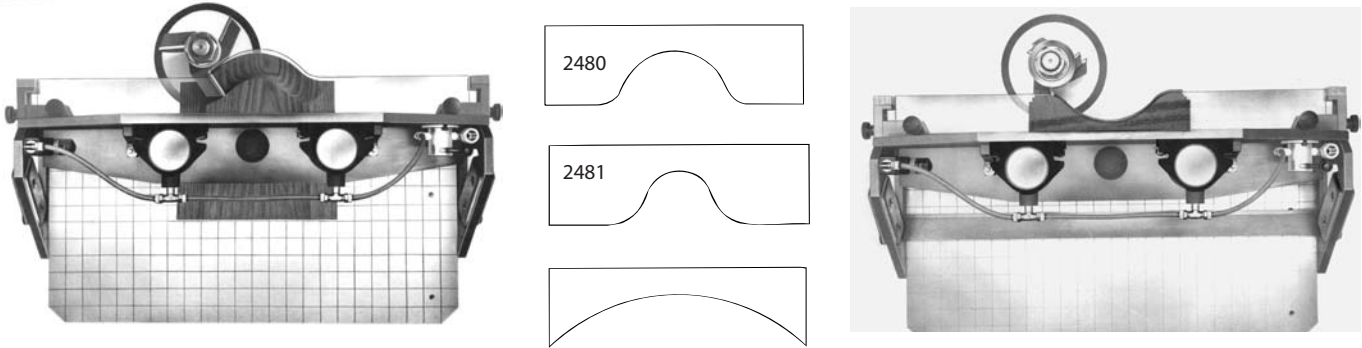
Maximum size of stock 1-7/8" x 24" wide

NORDIC - CRAFTER 1 PIECE SHAPER DOOR SYSTEM # 2475

This is a unique Shaper System for making Raised Panel Doors with arches or eyebrow patterns. It consists of only one jig that does both the arched raised panel and the arched rails. The jig will accept up to 1-7/8" thick x 24" wide stock. This will allow you to manufacture a maximum door size of 28" and minimum size of 9" using 2" stiles. The panel or rail is automatically centered in the jig by direct drive and not by a cable that will break or malfunction.

The Nordic-Crafter utilizes two air hold downs for safety and also runs on a cushion of air for ease of operation. There are a total of 22 clear plastic patterns that allow you to see the cutter cutting at all times. Ten (10) patterns each for panel and rail as well as 2 straight patterns for straight or cope cuts.

The Nordic-Crafter comes with 1 set of #2480 Patterns. Pattern #2481 and #2482 are not optional and are sold separately. Pattern #2480 has a 1-5/8" rise to top of arch. Pattern #2481 has a 2" rise. Pattern #2482 has a 1" rise to the top or eyebrow.



NORDIC CRAFTER - 1 PIECE ENTRY AND PASSAGEWAY DOOR SHAPER SYSTEM #2474

Maximum size of stock 2" x 28"

Has same qualities as #2475 Nordic Crafter as above only with four heavy duty pneumatic clamping cylinders. Has air flotation with thumb control on and off valve. Will make up to 36" wide doors with 4" wide stiles. This unique system is very cost effective and will save you hundreds of dollars. Comes with three straight plastic templates for you to make your own pattern.

NORDIC CRAFTER - 1 PIECE ENTRY AND PASSAGEWAY DOOR SHAPER SYSTEM #2473

Maximum size of stock 2" x 36"

As per above only will make up to 44" wide door with 4" wide stiles.

2 PIECE SET - CROWN AND RAIL JIG SYSTEM

Your panel is automatically centered over the desired pattern by the rack and pinion gear mechanism. This cuts the labor and errors down drastically and speeds up production as you don't have to find center of the panel or rail for every size door.

This setup is so simple and easy, you will wonder how you ever got along without it. We recommend that you rough-cut the crown panels and rails 1/8" oversize. Then run the pattern against the ball bearing rub collar to get the exact size and detail desired. The shaper cutters are on the bottom with the ball bearing on top. This way the pattern is always between your fingers and the shaper cutters for safety. Maximum opening in both jigs is 18", which if you use 2" style, the widest door will be 22"

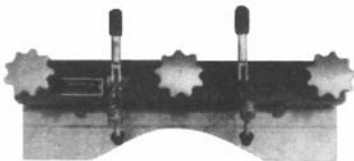
The crown panel and rail patterns are interchangeable and are 18" long. They come 10 patterns to a set which allows you to make perfect patterns for your doors from 9" to 22" wide. They are made out of hard wood for long life and no damage to your shaper cutter if hit.

TOOL NO. ITEM

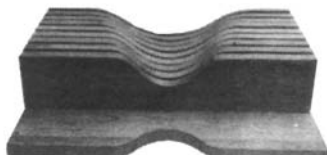
- 2450 Crown Rail Jig
- 2451 1 Set of 10 Crown Rail Jig Patterns
- 2452 1 Set of 10 Oval (arch) Rail Jig Patterns
- 2455 Large Crown Rail Jig for 30" Rails

TOOL NO. ITEM

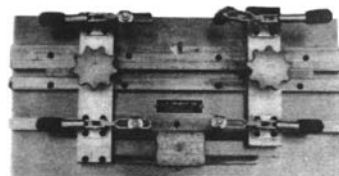
- 2460 Crown Panel Jig
- 2461 1 set of 10 Crown Panel Jig Patterns
- 2462 1 set of 10 Oval (arch) Panel Jig Patterns
- 2465 Large Crown Panel Jig for 30" panels



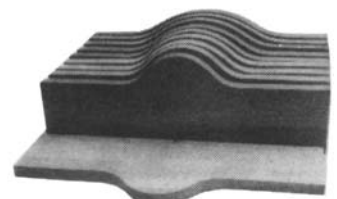
CROWN RAIL JIG



CROWN RAIL PATTERNS



CROWN PANEL JIG



CROWN PANEL PATTERN

SAW BUSHING - DADO SET BUSHING

Special sizes upon request

SAW BUSHINGS		
TOOL NO.	ID X OD	THICKNESS
6000	3/8 x 1/2	.050
6001	1/2 x 5/8	.055
6002	1/2 x 3/4	.062
6003	1/2 x 1	.062
6017	1/2 x 1-1/8	.090
6004	Skill x 5/8	.060
6005	5/8 x 3/4	.062
6006	5/8 x 7/8	.062
6007	5/8 x 1	.072
6018	5/8 x 1-1/8	.085
6019	5/8 x 1-1/4	.105
6008	3/4 x 7/8	.080
6009	3/4 x 1	.075
6020	3/4 x 1-1/8	.110
6010	7/8 x 1	.075
6011	1 x 1-1/8	.090
6012	1 x 1-1/4	.105
6013	1 x 1-3/8	.110
6014	1 x 1-1/2	.115

METRIC SAW BUSHINGS		
TOOL NO.	ID X OD	THICKNESS
6025	3/8 x 20MM	.060
6026	5/8 x 20MM	.065
6027	5/8 x 30MM	.085
6028	1 x 20MM	.075
6029	1 x 30MM	.106

DADO SET BUSHINGS			
TOOL NO.	ID	OD	LENGTH
6050	5/8	3/4	3/4
6051	5/8	3/4	1
6052	5/8	3/4	1-1/4
6053	5/8	3/4	1-1/2
6054	5/8	1	3/4
6055	5/8	1	1
6056	5/8	1	1-1/4
6057	5/8	1	1-1/2
6058	3/4	1	3/4
6059	3/4	1	1
6060	3/4	1	1-1/4
6061	3/4	1	1-1/2

MAGNETIC DADO SHIMS (APPROX. 3-3/4" DIA.)

Sold in sets, each set consists of 2 each of these sizes: .010 - .012 - .015

TOOL NO.	BORE SIZE	TOOL NO.	BORE SIZE
6065	5/8	6068	1-1/8
6066	3/4	6069	1-1/4
6067	1	6070	30MM

THIN METRIC SHIM SETS (4 pcs) FOR 2 PIECE ADJUSTABLE SCORING BLADE FOR 20MM, 22MM AND 3/4" BORES. Use below for all sizes.

TOOL NO.	ID	OD	THICKNESS
6072	22MM	2-3/4	1 each: .004, .008 2 each: .012

BUSHING FOR COLD SAWS

TOOL NO.	OD	ID	THICKNESS
6015	40MM	32MM	4.4

**CUSTOM BUSHINGS ARE AVAILABLE
WHEN ORDERING SPECIFY
ID - OD - THICKNESS**

REAR LOCKING KIT FOR YOUR BIESEMEYER® T-SQUARE SAW FENCE

Manufactured by Modulus 2000 Machinery

Tool #2995 makes your fence to be 100% in parallel. This is important when using our #2525 scoring saw attachment. Also important when fence is used together with power



SAW HANDLE SCREWS

TOOL NO.	DESCRIPTION
6090	1/2" Dia. #1 Plain Head
6091	13/16" Dia. #3 Medallian Head



SCORING SAW ATTACHMENT FOR 10" TABLE SAW With 2 Carbide Tipped Blades

#2525

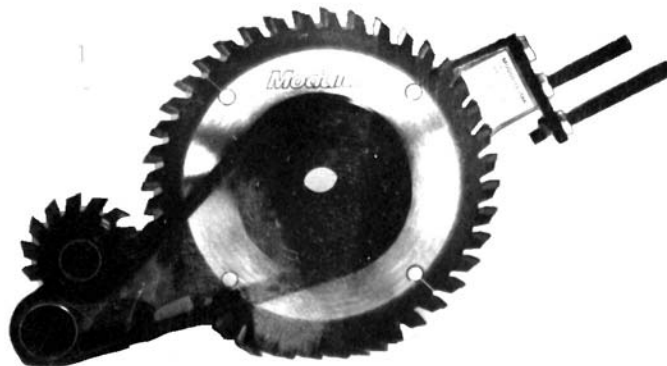
This scoring saw attachment was designed to eliminate the chipping associated with cuts made in wood and laminated boards. It is attached directly to the shaft of the saw and the splitter bracket. See instruction manual for more detailed instructions.

These units all have the new and improved mounting bracket.
Partial list of machines they fit:

Delta Unisaw - Std RH tilt	Jet JWTS-10 & JWCS-10
Delta Unisaw - LH tilt	Jet Cabinet Saw
Delta Cabinet Saw	King KC-10DS
Delta Contractor's saw	Lobo sunhill Contractor Saw
Busy Bee B-524	Powermatic #63 Artisan
General 350-1	Powermatic #66 Std LH
Grizzly Cabinet Saw G-1023	Powermatic #66 RH

WHEN ORDERING SPECIFY BRAND AND MODEL NUMBER, WHETHER RIGHT HAND OR LEFT HAND TILTING.

FOR PARTS LIST - SEE PRICE LIST

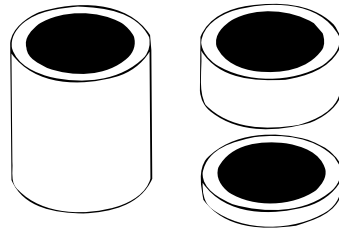


SHAPER BUSHINGS

STRAIGHT TYPE

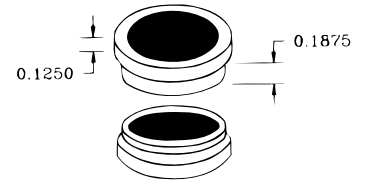
Tool No.	OD	ID	Length
5900	3/4	1/2	1/2
5901	3/4	1/2	3/4
5902	3/4	1/2	1
5903	3/4	1/2	1-1/4
5904	3/4	1/2	1-1/2
5905	1	1/2	1/2
5906	1	1/2	3/4
5907	1	1/2	1
5908	1	1/2	1-1/4
5909	1	1/2	1-1/2
5910	1	3/4	1/2
5911	1	3/4	3/4
5912	1	3/4	1
5913	1	3/4	1-1/4
5914	1	3/4	1-1/2

5915	1-1/8	3/4	1/2
5916	1-1/8	3/4	3/4
5917	1-1/8	3/4	1
5918	1-1/8	3/4	1-1/4
5919	1-1/8	3/4	1-1/2
5920	1-1/8	1	1/2
5921	1-1/8	1	3/4
5922	1-1/8	1	1
5923	1-1/8	1	1-1/4
5924	1-1/8	1	1-1/2



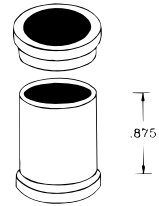
"T" TYPE REGULAR (Sold in pairs)

Tool No.	OD	ID
5925	1-1/4	3/4
5926	1-1/4	3/4
5927	1-1/4	3/4
5928	1-1/4	3/4
5929	1-1/4	3/4
5930	1-1/4	1
5931	1-1/4	1
5932	1-1/4	1
5933	1-1/4	1
5934	1-1/4	1
5935	1-1/4	1-1/8
5936	1-1/4	1-1/8
5937	1-1/4	1-1/8
5938	1-1/4	1-1/8
5939	1-1/4	1-1/8
5950	3/4	1/2
5951	1	1/2
5952	1	3/4
5953	1-1/8	1/2
5954	1-1/8	3/4
5955	1-1/8	1
5956	1-1/4	1/2
5957	1-1/4	3/4
5958	1-1/4	1
5959	1-1/4	1-1/8
5970	1-1/4	30MM
5972	1-1/2	30MM
5973	40MM	1-1/4
5974	40MM	1-1/2



"T" TYPE LONG (Sold in pairs)

Tool No.	OD	ID
5965	1-1/4	3/4
5966	1-1/4	1
5967	1-1/4	1-1/8
5971	1-1/4	30MM
5975	40MM	1-1/2

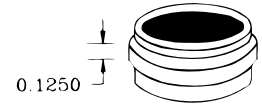


CUSTOM BUSHINGS ARE AVAILABLE

When ordering specify : Type - Length - ID - OD

DOUBLE FLANGE

Tool No.	OD	ID
5960	1-1/4	3/4
5961	1-1/4	1
5962	1-1/4	1-1/8



SHAPER - SHIMS - SPACERS

INDIVIDUAL THIN SHIMS

Tool No.	Bore Size	Outside Dia.	Tool No.	Bore Size	Outside Dia.
469	3/8	5/8	478	1-3/4	2-3/4
470	1/2	3/4	479	1-7/8	2-7/8
470-A	5/8	1	480	2	2-3/4
471	3/4	1-1/8	481	2-1/4	3-1/4
472	1	1-1/2	482	2-1/2	3-1/4
473	1-1/8	1-5/8	483	2-3/4	4
474	1-1/4	1-3/4	484	3	4-3/8
475	1-3/8	1-7/8	485	3-1/2	4-3/4
476	1-1/2	2-1/8	486	4	5-1/2
477	1-5/8	2-1/2			

Thickness	TOOL NUMBER	BORE SIZE						
		3/8"	1/2"	5/8"	3/4"	1"	1-1/8"	1-1/4"
.001		449-C-H	449-H	449-D-H	450-H	453-H	456-H	459-H
.0015		449-C-I	449-I	449-D-I	450-I	453-I	456-I	459-I
.002		449-C-J	449-J	449-D-J	450-J	453-J	456-J	459-J
.003		449-C-K	449-K	449-D-K	450-K	453-K	456-K	459-K
.004		449-C-L	449-L	449-D-L	450-L	453-L	456-L	459-L
.005		449-C-M	449-M	449-D-M	450-M	453-M	456-M	459-M
.006		449-C-N	449-N	449-D-N	450-N	453-N	456-N	459-N
.007		449-C-O	449-O	449-D-O	450-O	453-O	456-O	459-O
.008		449-C-P	449-P	449-D-P	450-P	453-P	456-P	459-P
.010		449-C-Q	449-Q	449-D-Q	450-Q	453-Q	456-Q	459-Q
.012		449-C-R	449-R	449-D-R	450-R	453-R	456-R	459-R
.015		449-C-S	449-S	449-D-S	450-S	453-S	456-S	459-S
.020		449-C-T	449-T	449-D-T	450-T	453-T	456-T	459-T
.025		449-C-U	449-U	449-D-U	450-U	453-U	456-U	459-U
.032		449-C-V	449-V	449-D-V	450-V	453-V	456-V	459-V
.047		449-C-W	449-W	449-D-W	450-W	453-W	456-W	459-W
.062		449-C-X	449-X	449-D-X	450-X	453-X	456-X	459-X
.093		449-C-Y	449-Y	449-D-Y	450-Y	453-Y	456-Y	459-Y
.125		449-C-Z	449-Z	449-D-Z	450-Z	453-Z	456-Z	459-Z
Outside Diameter		5/8"	3/4"	1"	1-1/8"	1-1/2"	1-5/8"	1-3/4"

STANDARD SHAPER SPACERS (Will not work as bushings)

Tool No.	Bore	OD	Approx Thickness	Tool No.	Bore	OD	Approx. Thickness	Tool No.	Bore	OD	Approx Thickness	Tool No.	Bore	OD	Approx Thickness
5700	1/2	1	3/8	5706	1	1-1/2	3/8	5711	1-1/8	1-5/8	3/8	5716	1-1/4	1-3/4	3/8
5701	1/2	1	1/2	5707	1	1-1/2	1/2	5712	1-1/8	1-5/8	1/2	5717	1-1/4	1-3/4	1/2
5702	1/2	1	3/4	5708	1	1-1/2	5/8	5713	1-1/8	1-5/8	5/8	5718	1-1/4	1-3/4	3/4
5703	3/4	1	3/8	5709	1	1-1/2	3/4	5714	1-1/8	1-5/8	1				
5704	3/4	1	1/2	5710	1	1-1/2	1	5715	1-1/8	1-5/8	1				
5705		1	3/4												

Special sizes upon request.

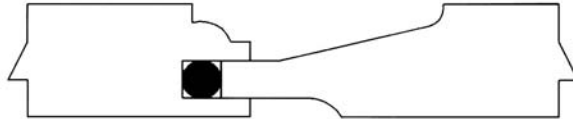
SPACE BALLS #2001 SERIES U.S. Patent #5317853

SPACE BALLS COME IN 2 SIZES - .210 (5.33MM) - .260 (6.6MM)

Specially designed SPACE BALLS are used to prevent cabinet doors from cracking at the glue joint due to temperature changes. The SPACE BALLS will compress which will allow the panel to expand. The SPACE BALLS will stop all panel rattles as the panel will become a floating panel and will always be centered in the door frame.

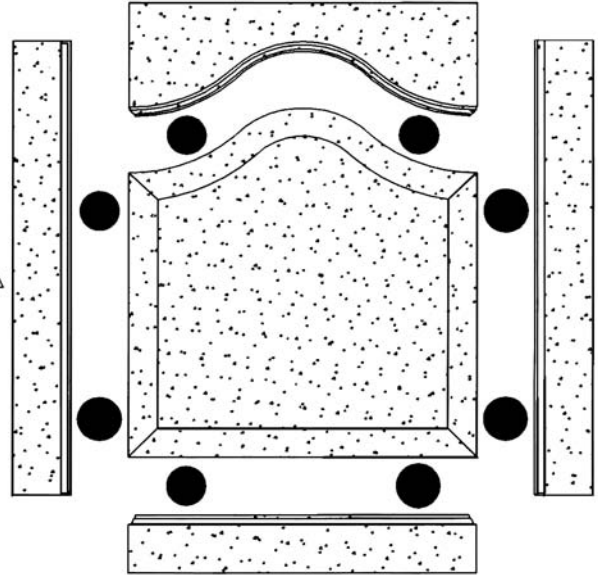
TOOL NO.	SIZE
2001-210	.210
2001-260	.260

(8 - 10 SPACE BALLS recommended per door)



SAVES MONEY as it reduces expensive call-backs and warranty repairs.

SAVES TIME over sponge cord as no cutting to length is required.



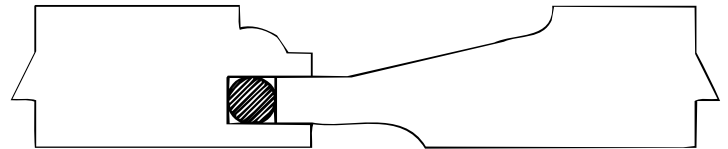
#108 EXPANSION SPONGE CORD

COMES IN THREE SIZES- 1/4, STANDARD 5/16, 3/8

Specially designed sponge cord is used to prevent cabinet doors from cracking and breaking at glue joint due to temperature changes. This cord allows the panel to expand without hitting the end of the groove. Depth of groove should be 1/4" deeper than your standard. Use two or three pieces of approximately 1" long cord on all sides of door. Saves time and money as it reduces expensive call-backs and warranty repairs.

TOOL NO.	SIZE
108-1/4	1/4"
108-5/16	5/16"
108-3/8	3/8"

When ordering, specify length - minimum order is 25 feet.

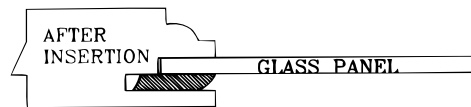


#109 VINYL GROOVE GLASS - PANEL RETAINERS

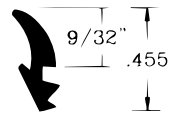
These retainers give a professional appearance to the inside of the door. They are used in conjunction with cutter set #48-GD-SP on page 124. Standard color is brown, but is available in white and black as a special order.

See page 75 for special slotting cutter assembly.

When ordering, specify length - minimum order is 50 feet.



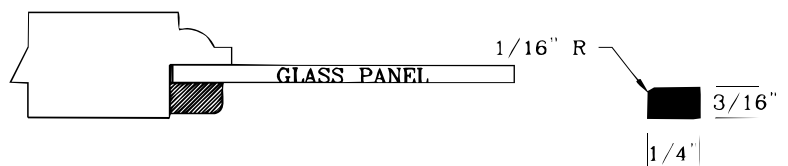
BEFORE INSERTION



#113 NON-GROOVE VINYL GLASS-PANEL RETAINERS

These retainers give a professional appearance to the inside of a door. They are used in conjunction with cutter set #48-GD on page 129. Standard color is brown. They would be held in place by a small brad, nail or staple.

When ordering, specify length - minimum order is 50 feet.



DIAL AND DIGITAL CALIPERS

Tool No.	Type	Type	Reading
4270	Dial	6"	.001
4275	Dial	8"	.001
4280	Disl	12"	
4285	Digital	6"	.0005
4290	Digital	8"	.0005

DIAL CALIPERS

Outside, inside & depth measurements



DIGITAL CALIPERS

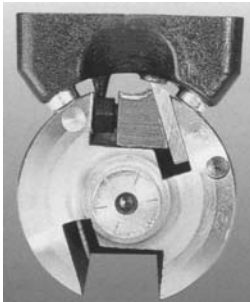
Inch/metric conversion, zero set, automatic power off.



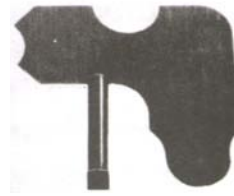
MINI PLANER KNIFE HOLDER (Sold in pairs)

For setting knives on 10" & 12" Planers with 1-7/8", 2" & 2-1/8" diameter cutterheads

Tool No. 4260



RADIUS GAGE SET (In vinyl case)



Each gage has 5 measuring surfaces for concave and convex radius.

Tool No.

4268 (25 pc set 1/64" to 1/2")
4269 (8 pc set 9/16" to 1")

DIAL INDICATOR W/ MAGNETIC BASE

This tool makes machine adjustments simple, easy and precise. You will be able to accurately set planer feed & bed roller to eliminate end snipe. It can be used for making precision table saw adjustments & setting shaper knives.

Tool No. 4265

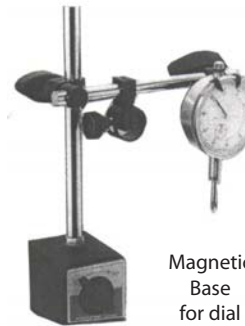
Indexes at
0°-90°-180°-270°
1/4" travel at .001
0-50-0 Dial face
3-1/2" height
4-1/2" OAL

Tool No. 4266

Mounts at any angle
1" travel at .001
Height 9"
0-100 Dial face
Dial face 2-1/4" dia.

Tool No. 4267

Mounts at any angle
1" travel at .001
Height 9"
0-100 Dial face
Dial face 2-1/4" dia.



Magnetic Base for dial Indicators



JOINTER/PLANER KNIFE JIG HOLDER

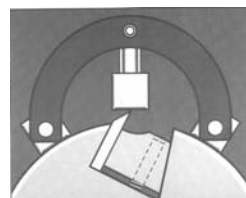
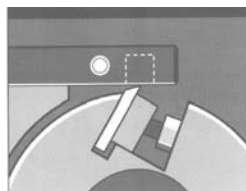
These jigs are designed with magnets to hold the knives in an exact location while you tightened them into the cutter head.. They also can be used to shift the nicked or damaged knives to avoid early removal or replacement.

JOINTER KNIFE

Will handle knives up to 8" long. If 10" or 12" are being set you will need a set of extension bars.

Tool No. Type:
4230-ST HSS Knives
4240-TC Carbide Knives
4250-ST 12" extension bars for steel knives
4250-CT 12" extension bars for carbide knives

The holder attaches itself to the jointer table.



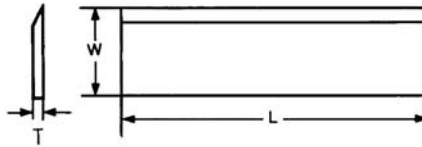
PLANER KNIFE

Tool No. Type:
4200-ST HSS Knives
4210-TC Carbide Knives

Use the following guidelines:
Up to 10" long knife use 1 jig
12 to 20" long knife use 2 jigs
Over 20" long knife use 3 jigs

The holder attaches directly to the head.

HIGH SPEED STEEL KNIVES FOR JOINTERS AND PLANERS



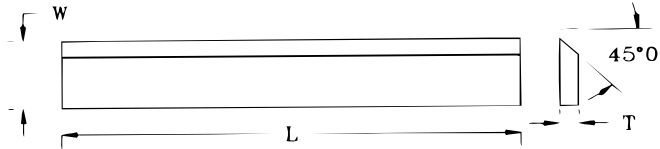
AVAILABLE IN FULL BARS, COMPLETE SETS OR CUT TO SPECIAL LENGTH

COMPLETE SETS

COMPLETE SETS

TOOL NO.	NO. OF KNIVES	SIZE	MACHINE	TOOL NO.	NO. OF KNIVES	SIZE	MACHINE
4106-MOD-01	3	4 X 19/32 X 3/32	Delta, Walker-Turner	5136-03	3	16 X 1-3/4 X 5/32	Newman, Fry & Egan
4106-02	3	4 X 5/8 X 1/8	Delta, Jet, Boice Crane, Atlas	4130-02	4	16 X 1-18 X 1/8	Crecent
4116-00	3	4 X 3/4 X 1/8	Grizzly	4156-01	3	16 X 1-1/2 X 1/8	Porter
4120-01	3	4 X 7/8 X 1/8	Hutchinson	5106-01	3	16 X 1-1/4 X 5/32	Towsley
4106-03	3	4-3/8 X 5/8 X 1/8	Craftsman	5116-01	3	16 X 1-3/8 X 5/32	Moak
4106-MOD-02	3	4-3/8 X 11/16 X 1/8	Craftsman	5126-02	3	16 X 1-1/2 X 5/32	Newman, Vance
4116-01	3	5-1/16 X 3/4 X 1/8	Duro	4146-410mm	4	410mm 16.14 X 1-3/8 X 1/8	SCMI
4106-MOD-03	4	6 X 5/8 X 1/16	Crecent	5106-02	3	16-1/4 X 1-1/4 X 5/32	Powermatic
4106-04	3	6 X 5/8 X 1/8	Delta, Jet, Boice Crane, Woodtek	4136-05	4	17 X 1-1/4 X 1/8	Powermatic
4106-05	4	6 X 5/8 X 1/8	Boice Crane	4120-09	3	18 X 7/8 X 1/8	Crecent
4116-02	3	6 X 3/4 X 1/8	Powermatic, Crecent, Atlas	5101-02	3	18 X 1-1/8 X 5/32	Yatest
4120-02	3	6 X 7/8 X 1/8	Jet, Hutchinson, Hestong	4136-06	3	18 X 1-1/4 X 1/8	Imports
4126-01	3	6 X 1 X 1/8	Oliver, Grizzly	5106-03	3	18-1/4 X 1-1/4 X 5/32	Powermatic
4106-MOD-04	3	6-1/16 X 11/16 X 3/32	Yates, J-Line	5101-03	3	18-1/8 X 1-1/8 X 5/32	Delta
4116-03	3	6-1/16 X 3/4 X 1/8	Walker-Turner	5101-04	4	18-1/8 X 1-1/8 X 5/32	Northfield
4106-MOD-05	3	6-1/8 X 5/8 X 3/32	Delta, Craftsman	4106-01-MOD-14	3	18-1/2 X 11/16 X 1/8	Woodmaster
4106-07	3	6-1/8 X 5/8 X 1/8	Craftsman	4146-500mm	1	500mm 19.69 X 1-3/8 X 1/8	SCMI
4107-MOD-07	3	6-1/8 X 19/32 X 3/32	Delta	4126-08	3	20 X 1 X 1/8	Jet, Most Imports, Buss, Jewel
4116-04	3	6-1/8 X 3/4 X 1/8	Delta, Duro	4126-09	4	20 X 1 X 1/8	Northwood, Parks, Grizzley
4126-02	3	6-1/4 X 1 X 1/8	Oliver	4130-03	4	20 X 1-1/8 X 1/8	Imports, Buss, Crecent, Delta
4120-03	3	6-1/2 X 7/8 X 1/8	Oliver	4136-MOD-06	1	20 X 1-1/4 X 1/8	Woodtek
4126-MOD-02	3	6-1/2 X 1 X 1/8	Oliver	4146-03	4	20-3/16 X 1-3/8 X 1/8	Delta
4106-MOD-06	3	8 X 19/32 X 3/32	Walker-Turner	5106-04	3	20-1/4 X 1-1/4 X 5/32	Powermatic
4106-MOD-07	4	8 X 5/8 X 1/16	Delta, Crecent	4146-MOD-14	3	20-1/2 X 11/16 X 1/8	RBI
4106-08	3	8 X 5/8 X 1/8	Delta, Jet, Boice Crane, Woodtek	4146-MOD-03	1	20-9/16 X 1-3/8 X 1/8	Rockwell
4106-09	4	8 X 5/8 X 1/8	Boice Crane	4146-520mm	4	520mm 20.47 X 1-3/8 X 1/8	SCMI
4116-05	3	8 X 3/4 X 1/8	Powermatic, Pryor	4126-10	4	24 X 1 X 5/32	Dependable
4116-05-4	4	8 X 3/4 X 1/8	Bridgewood	4130-04	4	24 X 1-1/8 X 1/8	Crecent
4126-MOD-03	3	8 x 1 x 1/8	Oliver, Grizzley	4146-04	4	24 X 1-3/8 X 1/8	Buss, Oliver
4120-04	3	8 X 7/8 X 1/8	Powermatic	5106-05	4	24 X 1-1/4 X 5/32	Powermatic, Northfield
4136-01	4	8 X 1-1/4 X 1/8	Northfield	5101-05	3	24 X 1-1/8 X 5/32	Fay & Egan, Yates
4126-03	3	8-1/4 X 1 X 1/8	Oliver	5116-02	3	24 X 1-3/8 X 5/32	Fay & Egan
4106-MOD-08	3	8-1/16 X 5/8 X 3/32	Delta, Yates, J-Line	5126-03	3	24 X 1-1/2 X 5/32	Fay & Egan
4106-MOD-09	3	8-1/16 X 13/16 X 1/8	Delta	4136-07	3	24 X 1-1/4 X 1/8	Various Industrial
4106-MOD-10	2	8-3/8 X 11/16 X 1/8	Foley-Belsaw	4146-630mm	1	630mm 24.8 X 1-3/8 X 1/8	SCMI
4106-10	3	12 X 5/8 X 1/8	Powermatic	5126-04	3	24-1/4 X 1-1/2 X 5/32	American
4116-06	3	12 X 3/4 X 1/8	Craftsman	4130-05	4	24-1/4 X 1-1/8 X 1/8	Crecent
4120-05	3	12 X 7/8 X 1/8	Powermatic, Parks	5106-06	4	24-1/4 X 1-1/4 X 5/32	Powermatic, Newman
4126-04	3	12 X 1 X 1/8	Craftsman	4136-08	4	24-1/4 X 1-1/4 X 1/8	Northfield
4130-00	3	12 X 1-1/4 X 1/8	Jet, Grizzly	4136-09	4	24-5/16 X 1-1/4 X 1/8	Whitney
4136-02	3	12 X 1-1/8 X 1/8	Northfield	4146-MOD-05	4	24-5/16 X 1-3/8 X 1/8	Whitney
4136-03	4	12 X 1-1/4 X 1/8	Northfield	4146-05	4	24-13/16 X 1-3/8 X 1/8	Delta, Rockwell
5126-01	4	12 X 1-1/2 X 5/32	Newman, Fay & Egan, Red	4130-06	3	24-1/2 X 1-1/8 X 1/8	Oliver
4146-01	3	12 X 1-3/8 X 1/8	Powermatic	5106-07	4	24-1/2 X 1-1/4 X 5/32	Oliver
5101-01	3	12-1/16 X 1-1/8 X 5/32	Yates	4130-07	3	24-3/4 X 1-1/8 X 1/8	Jet
4130-01	3	12-1/8 X 1-1/8 X 1/8	Powermatic	4106-MOD-15	3	25 X 11/16 X 1/8	Woodmaster
4106-11	3	12-1/4 X 5/8 X 1/8	Boice Crane	5106-08	4	25 X 1-1/4 X 5/32	Northfield
4116-07	3	12-1/4 X 3/4 X 1/8	Powermatic	4146-640mm	4	640mm 25.2 X 1-3/8 X 1/8	SCMI
4120-06	3	12-1/4 X 7/8 X 1/8	Powermatic, Robland	4146-06	4	26 X 1-3/8 X 1/8	Buss
4126-05	3	12-1/4 X 1 X 1/8	Parks, Boice Crane	4146-07	4	30 X 1-3/8 X 1/8	Buss
4106-12	3	12-1/2 X 5/8 X 1/8	Jet	4136-10	4	30 X 1-1/4 X 1/8	Yates
4116-MOD-07	2	12-1/2 X 3/4 X .070	2 Bevels, Delta	5116-03	4	30 X 1-3/8 X 5/32	Buss
4120-07	3	12-1/2 X 7/8 X 1/8	Powermatic	5126-05	3	30 X 1-1/2 X 5/32	Fay & Egan
4106-MOD-11	2	12-1/2 X 11/16 X 1/8	Foley-Belsaw, Woodmaster, Grizzly	4156-02	3	30 X 1-1/2 X 1/8	Porter
	3			4146-08	4	30-5/16 X 1-3/8 X 1/8	Whitney
4106-MOD-12	3	12-1/2 X 11/16 X 1/8	Foley-Belsaw, Woodmaster	5136-04	4	30-1/8 X 1-3/4 X 5/32	Yates
				4136-11	1	36 X 1-1/4 X 1/8	Industrial Machines
4120-08	4	13 X 7/8 X 1/8	Parks	4146-09	4	36 X 1-3/8 X 1/8	Buss, Whitney
4106-MOD	3	13-1/16 X 5/8 X 1/8	Jet	4136-12	1	36-1/4 X 1-1/4 X 1/8	Industrial Machines
4106-MOD-13	3	13-1/8 X 11/16 X 5/32w/slots	Delta	4146-10	1	36-1/2 X 1-3/8 X 1/8	Industrial Machines
4126-06	3	13-1/8 X 1 X 1/8	Delta, Jet	5106-09	1	36 x 1-1/4 X 5/32	Industrial Machines
5136-01	4	14 X 1-3/4 X 5/32	Newman	5106-10	1	36-1/4 X 1-1/4 X 5/32	Industrial Machines
4126-07	3	15 X 1 X 1/8	Delta, Jet, Grizzley, Most Imports	5116-05	1	36 X 1-3/8 X 5/32	Industrial Machines
				4156-03	4	36-1/4 X 1-1/2 X 1/8	Porter
5136-02	3	15 X 1-3/4 X 5/32	Stetson Ross	5116-06	1	36-1/4 X 1-3/8 X 5/32	Industrial Machines
5146-01	3	15 X 2 X 5/32	Stetson Ross	4146-10	4	36-12 X 1-3/8 X 1/8	Oliver
4146-02	2	15-3/4 X 1-3/8 X 1/8	Jet	5116-04	4	36-5/16 X 1-3/8 X 5/32	Whitney
4126-MOD-07	1	16 X 1 X 1/8	Bridgewood	4156-04	3	40-1/4 X 1-1/2 X 1/8	Porter
4136-MOD-04	4	16 X 1-1/4 X 1/8	Northfield	4130-MOD-01	4	44-5/16 X 1-3/16 X 1/8	Whitney
4136-04	3	16 X 1-1/4 X 1/8	Powermatic, Northfield				

SOLID CARBIDE JOINTER AND PLANER KNIVES

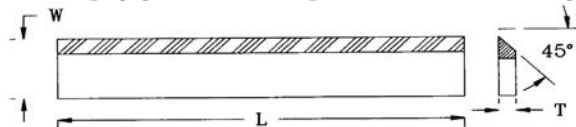


WHEN ORDERING SPECIFY NUMBER OF PIECES REQUIRED. OTHER SIZES ARE AVAILABLE - QUOTE FROM FACTORY

Tool No.	Length	Width	Thickness	Tool No.	Length	Width	Thickness	Tool No.	Length	Width	Thickness
6100	2	5/8	3/32	6110	6	5/8	3/32	6119	12-1/2	3/4	1/8
6101	2	3/4	3/32	6111	6	5/8	1/8	6120	12-1/2	1	1/8
6102	2	5/8	1/8	6112	6	3/4	1/8	6121	12-1/2	1-3/8	1/8
6103	2	3/4	1/8	6112-A	6	1"	1/8	6122	12-1/2	1-1/2	5/32
				6113	6	1-1/4	5/32				
6104	3	5/8	3/32	6114	8	5/8	1/8	6123	13-1/8	11/16	5/32
6105	3	3/4	3/32	6115	8	3/4	1/8	6124	13-1/8	1	1/8
6106	3	5/8	1/8	6115-A	8	1"	1/8	6125	15	1	1/8
6107	3	3/4	1/8	6116	12	3/4	1/8	6126	16	1	1/8
6108	4	5/8	1/8	6117	12	1	1/8	6127	20	1	1/8
6109	4	3/4	1/8	6118*	12-1/2	3/4	.088	6128	20	1-3/8	1/8

*Double sided knife

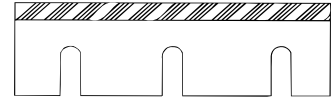
CARBIDE TIPPED JOINTER AND PLANER KNIVES (Sold in 3pc Sets)



Tool No.	Size	Machine	Tool No.	Size	Machine
6050-CT	4 x 19/32 x 3/32	Delta, Walker-Turner	6066-B-CT	16 x 1-1/8 x 1/8	Crescent
6050-A-CT	4 x 5/8 x 1/8	Rockwell, Boice Crane, Atlas	6066-C-CT	16 x 1-1/2 x 1/8	Porter
6051-CT	4-3/8 x 11/16 x 1/8	Craftsman	6066-D-CT	16 x 1-1/4 x 5/32	Powermatic, Townsley
6052-CT	6 x 5/8 x 1/8	Rockwell, Boice Crane	6067-CT	16-13/16 x 30mm x 1/8	SCMI
6052-A-CT	6 x 3/4 x 1/8	Walker, Crescent, Atlas, Powermatic	6068-CT	16-1/4 x 1-1/4 x 5/32	Powermatic
6052-B-CT	6 x 1 x 1/8	Oliver	6069-CT	18 x 1-1/8 x 5/32	Yates
6053-CT	6-1/16 x 11/16 x 3/32	Yates, J-Line	6069-A-CT	18 x 1-1/4 x 5/32	Powermatic
6053-A-CT	6-1/16 x 3/4 x 1/8	Walker-Turner	6070-CT	18-1/8 x 1-1/8 x 5/32	Rockwell
6054-CT	6-1/8 x 5/8 x 3/32	Delta, Craftsman	6071-CT	18-1/4 x 1-1/4 x 5/32	Powermatic
6054-A-CT	6-1/8 x 5/8 x 1/8	Craftsman	6071-A-CT	18-1/4 x 3/4 x 1/8	Crescent
6054-B-CT	6-1/8 x 3/4 x 1/8	Duro	6072-CT	18-3/8 x 1 x 1/8	Oliver
6055-CT	6-1/2 x 7/8 x 1/8	Oliver	6073-CT	18-1/2 x 11/16 x 1/8	Woodmaster
6055-A-CT	6-1/2 x 1 x 1/8	Oliver	6074-CT	20 x 1 x 1/8	Grizzley, Parks, Northwood
6056-CT	8 x 19/32 x 3/32	Walker-Turner	6074-A-CT	20 x 1-1/8 x 1/8	Buss, Crescent, Imports
6056-A-CT	8 x 5/8 x 1/8	Boice Crane, Rockwell	6075-CT	20-1/4 x 1-1/4 x 5/32	Powermatic
6056-B-CT	8 x 3/4 x 1/8	Powermatic, Pryor	6076-CT	20-1/2 x 11/16 x 1/8	RBI
6056-C-CT	8 x 7/8 x 1/8	Powermatic	6076-A-CT	20-1/2 x 30mm x 1/8	SCMI
6056-D-CT	8 x 1 x 1/8	Oliver	6077-CT	20-9/16 x 1-3/8 x 1/8	Rockwell
6056-E-CT	8 x 1-1/4 x 1/8	Northfield	6078-CT	24 x 1-1/8 x 1/8	Crescent
6057-CT	8-1/16 x 5/8 x 3/32	Delta, Yates, J-Line	6078-A-CT	24 x 1-3/8 x 1/8	Buss, Oliver
6058-CT	8-3/8 x 11/16 x 1/8	Belsaw	6078-B-CT	24 x 1-1/4 x 5/32	Powermatic, Northfield
6059-CT	12 x 5/8 x 1/8	Powermatic	6078-C-CT	24 x 1-1/8 x 5/32	Fay & Egan, Yates
6059-A-CT	12 x 3/4 x 1/8	Craftsman	6078-D-CT	24 x 1-3/8 x 5/32	Fay & Egan
6059-B-CT	12 x 7/8 x 1/8	Powermatic, Parks	6078-E-CT	24 x 1-1/2 x 5/32	Fay & Egan
6059-C-CT	12 x 1 x 1/8	Craftsman	6079-CT	24-1/4 x 1-1/2 x 5/32	American
6059-D-CT	12 x 1-1/4 x 1/8	Northfield	6079-A-CT	24-1/4 x 1-1/8 x 1/8	Crescent
6059-E-CT	12 x 1-3/8 x 5/32	Fay & Egan, Newman, Red Fox	6079-B-CT	24-1/4 x 1-1/4 x 5/32	Newman
6059-F-CT	12 x 1-3/8 x 1/8	Powermatic	6079-C-CT	24-1/4 x 1-1/4 x 1/8	Northfield
6060-CT	12-1/4 x 5/8 x 1/8	Boice Crane	6080-CT	24-5/16 x 1-3/8 x 1/8	Whitney
6060-A-CT	12-1/4 x 3/4 x 1/8	Powermatic	6081-CT	24-1/2 x 1-1/8 x 1/8	Oliver
6060-B-CT	12-1/4 x 7/8 x 1/8	Powermatic	6081-A-CT	24-1/2 x 1-1/4 x 5/32	Oliver
6060-C-CT	12-1/4 x 1 x 1/8	Parks, Boice Crane	6082-CT	24-13/16 x 1-3/8 x 1/8	Rockwell, Colladay
6061-CT	12-1/2 x 11/16 x 1/8	Foley-Belsaw	6083-CT	25 x 1-1/4 x 5/32	Northfield
6061-A-CT	12-1/2 x 7/8 x 1/6	Belsaw	6084-CT	25-3/16 x 1-3/8 x 1/8	SCMI
6062-CT	13 x 7/8 x 1/8	Parks	6085-CT	30 x 1-3/8 x 1/8	Buss
6063-CT	13-1/8 x 11/16 x 1/8	Rockwell (with slots)	6085-A-CT	30 x 1-3/8 x 5/32	Buss
6063-A-CT	13-1/8 x 1 x 1/8	Rockwell	6085-B-CT	30 x 1-1/2 x 5/32	Fay & Egan
6064-CT	14 x 1-3/4 x 5/32	Newman	6085-C-CT	30 x 1-1/2 x 1/8	Porter
6065-CT	15 x 1 x 1/8	Imports	6086-CT	30-5/16 x 1-3/8 x 1/8	Whitney
6065-A-CT	15 x 1-3/4 x 5/32	Stetson Ross	6087-CT	36 x 1-3/8 x 1/8	Buss, Whitney
6065-B-CT	15 x 2 x 5/32	Stetson Ross	6088-CT	36-1/4 x 1-1/2 x 1/8	Porter
6066-CT	16 X 1-3/4 X 5/32	Newman, Fay & Egan	6089-CT	36-1/2 x 1-3/8 x 1/8	Oliver
6066-A-CT	16 X 1 X 1/8	Powermatic, Northfield	6090-CT	36-5/16 x 1-3/8 x 5/32	Whitney

(Other sizes are available - quote from factory)

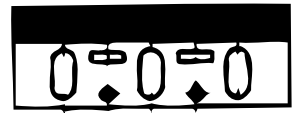
CARBIDE TIPPED KNIVES FOR PORTABLE PLANERS (SOLD IN PAIRS)



Tool No.	Make & Model	Size MM/Inches	Tool No.	Make & Model	Size MM/Inches
4164-HSS	BLACK & DECKER	3-5/32	4185	INCA	10-5/16 x 1 x 3/32
4164-CT	BLACK & DECKER	3-5/32	4186	INCA	10-5/16 x 1 x 1/8
4181	BLACK & DECKER	3-1/4 x 1-1/8 x 1/8	4192	ROCKWELL	4-1/8 x 5/8 x 1/8
4181-HSS	BLACK & DECKER	3-1/4	4193	ROCKWELL	6 x 3/4 x 1/8
4181-CT	BLACK & DECKER	3-1/4	4194	ROCKWELL	12-1/4 x 3/4 x 1/8
4178	AEG HTH 75	76 x 20 x 3	4195	SKIL	3 x 1-1/8 x 1/8
4179	AEG HTH 707	71 x 18 x 3	4195-HSS	SKIL 60506	3-1/32
4180	AEG EH 82 & EH 822	82 x 18 x 3	4195-CT	SKIL 60506	3-1/32
4182	BOSCH P400,0590,1590	75 x 18 x 3	4196	SKIL	3-7/32 x 1-1/8 x 1/8
4183	ELU MFF 40, MFF 80	80 x 27 x 2.9	4196-HSS	SKIL 94,96H,1535,1550	3-1/4
4184	INCA	8-5/8 x 1 x 3/32	4196-CT	SKIL 94,96H,1535,1550	3-1/4
			4197	RYOBI L22L	3 x 1-1/8 x 1/8

HSS & CT PLANER KNIVES FOR HITACHI, MAKITA, RYOBI

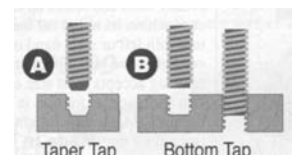
All sold in sets of 2 knives.



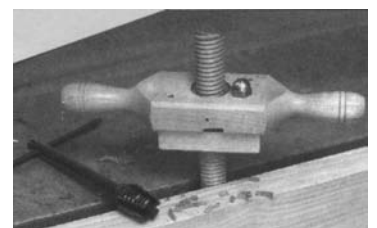
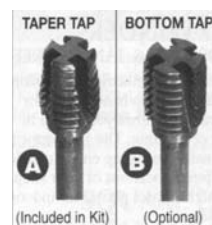
Tool No.	Make & Model	Size	Tool No.	Make & Model	Size
4187-HSS	Makita 1001,1100,1125 1900B,1901B,1923B	3-1/4	4165-HSS	Ryobi L1323	3-7/32
4187-CT	Makita 1001,1100,1125 1900B,1901B,1923B	3-1/4	4165-CT	Ryobi L1323	3-7/32
4188-HSS	Makita 1911B,1912B	4-21/64	4166-HSS	Ryobi L120,L-15	3-5/8
4188-CT	Makita 1911B,1912B	4-21/64	4166-CT	Ryobi L120,L-15	3-5/8
4189-CT	Makita 1800, 1804N	5-3/8	4176-HSS	Ryobi JP-155	6-1/8
4190-HSS	Makita 1805,1805B,1805N	6-1/8	4176-CT	Ryobi JP-155	6-1/8
4172-HSS	Makita 2030N	6-1/8	4177-HSS	Ryobi AP-10	10-23/64
4172-CT	Makita 2030N	6-1/8	4177-CT	Ryobi AP-10	10-23/64
4191-CT	Makita 1866B	6-11/16	4167-HSS	Hitachi FU20,FP20,FP20A	3-7/32
4173-HSS	Makita 2012-DE (Disposable Knife)	12"	4167-CT	Hitachi FU20,FP20,FP20A	3-7/32
4174-HSS	Makita 2030N	12-1/2	4168-HSS	Hitachi F30A	3-5/8
4174-CT	Makita 2030N	12-1/2	4168-CT	Hitachi F30A	3-5/8
4175-HSS	Makita 2040	15-5/8	4169-HSS	Hitachi F50	6-1/8
4175-CT	Makita 2040	15-3/4	4169-CT	Hitachi F50	6-1/8
			4171-HSS	Hitachi F1000	6-5/16
			4170-CT	Hitachi F1000	6-5/16
			4171-HSS	Hitachi F1000A	12-31/64
			4171-CT	Hitachi F1000A	12-31/64
			4172-HSS	Hitachi P100F	12-5/32
			4172-CT	Hitachi P100F	12-5/32

WOOD THREADING KIT

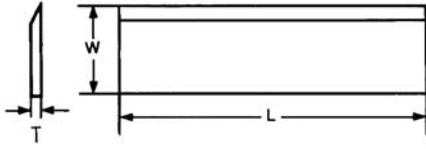
These threading tools allow you to create external and internal threads. Each kit includes a threading die for external threads, a tapered end tap (A) for internal threads plus instructions. Optional bottoming taps (B) can be used after taper tap for cutting threads to the bottom of a blind hole or completely through material.



Tool No.	Description
6180	Complete Threading Kit 1/2" with taper tip
6181	Complete Threading Kit 3/4" with taper tip
6182	Complete Threading Kit 1" with taper tip
6183	Bottom Tap 1/2"
6184	Bottom Tap 3/4"
6185	Bottom Tap 1"

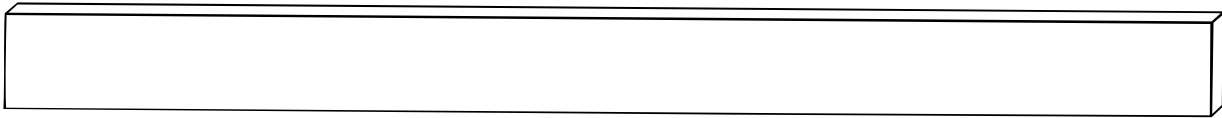


FULL LENGTH BARS OR CUT TO SPECIAL SIZES HIGH SPEED STEEL KNIVES FOR JOINTERS AND PLANERS



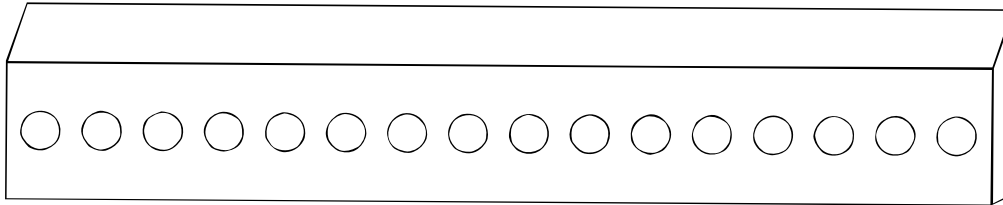
Tool No.	Thickness	Width	Tool No.	Thickness	Width
4106	1/8	5/8	5100	5/32	1"
4116	1/8	3/4	5101	5/32	1-1/8
4120	1/8	7/8	5106	5/32	1-1/5
4126	1/8	1"	5116	5/32	1-3/8
4130	1/8	1-1/8	5126	5/32	1-1/2
4136	1/8	1-1/4	5136	5/32	1-3/4
4146	1/8	1-3/8	5146	5/32	2"
4156	1/8	1-1/2	5156	5/32	2-1/4
			5166	5/32	2-1/2

FULL BARS 31" LONG HIGH SPEED STEEL - SQUARE EDGE SHAPER STEEL 60-62 RW



Tool No.	Width	Thickness	Tool No.	Width	Thickness	Tool No.	Width	Thickness
5800	1"	5/32	5807	1"	3/16	5814	1"	1/4
5801	1-1/4	5/32	5808	1-1/4	3/16	5815	1-1/4	1/4
5802	1-1/2	5/32	5809	1-1/2	3/16	5816	1-1/2	1/4
5803	1-3/4	5/32	5810	1-3/4	3/16	5817	1-3/4	1/4
5804	2"	5/32	5811	2"	3/16	5818	2"	1/4
5805	2-1/4	5/32	5812	2-1/4	3/16	5819	2-1/4	1/4
5806	2-1/2	5/32	5813	2-1/2	3/16	5820	2-1/2	1/4

HIGH SPEED KNIVES FOR WILLIAMS & HUSSEY MOLDER 60-62 RW



FULL BARS - 25" LONG

CUT TO LENGTH (SOLD IN PAIRS)

Tool No.	Width	Thickness
5600	1-3/4	3/16
5601	2"	3/16
5602	2-1/4	1/4
5603	2-1/2	1/4

Length	Thickness & Width				
	3/16 x 1-3/4	3/16 x 2	1/4 x 1-1/2	1/4 x 2-1/4	1/4 x 2-1/2
	Tool No.	Tool No.	Tool No.	Tool No.	Tool No.
1-7/8	5600-1.875	5601-1.875		5602-1.875	5603-1.875
2-7/8	5600-2.875	5601-2.875		5602-2.875	5603-2.875
3-7/8	5600-3.875	5601-3.875		5602-3.875	5603-3.875
4-7/8	5600-4.875	5601-4.875		5602-4.875	5603-4.875
5-7/8	5600-5.875	5601-5.875		5602-5.875	5603-5.875
7"	5600-7.875	5601-7.875	5600-M-7000	5602-7.875	5603-7.875

GROUND TO PATTERN HSS KNIVES AVAILABLE BELSAW, GRIZZLEY, FOLEY, WILLIAMS & HUSSEY
AND WOODMASTER MOULDERS

Available in 1 Knife and 2 Dummies, or in sets of 3 Knives.
Send us your accurate drawing or wood sample and specify type of moulder you will be using.

FULL BARS - 25" LONG

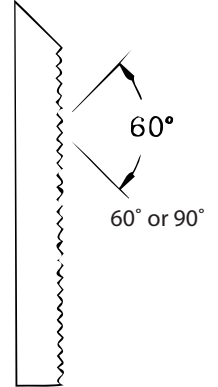
HIGH SPEED CORRUGATED BACK SHAPER STEEL

CORRUGATED BACK SHAPER STEEL COMES IN 2 GRADES: M-2 - 62-64 RW Hardness

XLW - 60-62 RW Hardness

Specify grade you want, M-2 will be furnished unless you specify XLW

M-2 - 62-64 RW					XLW - 60-62 RW				
TOOL NO.	WIDTH	THICKNESS			TOOL NO.	WIDTH	THICKNESS		
		1/4"	5/16"	3/8"			1/4"	5/16"	
5400-M2	1"	X	X		5400-XLW	1"			
5401-M2	1-1/4"	X	X		5401-XLW	1-1/4"			
5402-M2	1-1/2"	X	X		5402-XLW	1-1/2"	X	X	
5403-M2	1-3/4"	X	X		5403-XLW	1-3/4"	X	X	
5404-M2	2"	X	X	X	5404-XLW	2"	X	X	
5405-M2	2-1/4"	X	X	X	5405-XLW	2-1/4"	X	X	
5406-M2	2-1/2"	X	X	X	5406-XLW	2-1/2"	X	X	
5407-M2	2-3/4"		X	X	5407-XLW	2-3/4"		X	
5408-M2	3"		X	X	5408-XLW	3"		X	
5409-M2	3-1/4"		X	X	5409-XLW	3-1/4"			
5410-M2	3-1/2"		X	X	5410-XLW	3-1/2"			



When ordering specify thickness and 60° corrugation will be sent unless 90° is requested.
Most USA built heads come with 90° corrugation. All European heads come with 60° corrugation.

CUT TO LENGTH

1/4" THICK HIGH SPEED CORRUGATED BACK SHAPER STEEL KNIVES

Cut knives come in 3 widths - 2", 2-1/4", 2-1/2" - in M-2 grade.
other sizes available

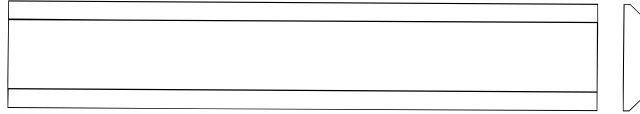
LENGTH	2" WIDE TOOL NO.	2-1/4" WIDE TOOL NO.	2-1/2" WIDE TOOL NO.	LENGTH	2" WIDE TOOL NO.	2-1/4" WIDE TOOL NO.	2-1/2" WIDE TOOL NO.
1"	5404-M2-1/4X1	5405-M2-1/4X1	5406-M2-1/4X1	5"	5404-M2-1/4X5	5405-M2-1/4X5	5406-M2-1/4X5
1-1/4"	5404-M2-1/4X125	5405-M2-1/4X125	5406-M2-1/4X125	5-1/4"	5404-M2-1/4X525	5405-M2-1/4X525	5406-M2-1/4X525
1-1/2"	5404-M2-1/4X150	5405-M2-1/4X150	5406-M2-1/4X150	5-1/2"	5404-M2-1/4X550	5405-M2-1/4X550	5406-M2-1/4X550
1-3/4"	5404-M2-1/4X175	5405-M2-1/4X175	5406-M2-1/4X175	5-3/4"	5404-M2-1/4X575	5405-M2-1/4X575	5406-M2-1/4X575
2"	5404-M2-1/4X2	5405-M2-1/4X2	5406-M2-1/4X2	6"	5404-M2-1/4X6	5405-M2-1/4X6	5406-M2-1/4X6
2-1/4"	5404-M2-1/4X225	5405-M2-1/4X225	5406-M2-1/4X225	6-1/4"	5404-M2-1/4X625	5405-M2-1/4X625	5406-M2-1/4X625
2-1/2"	5404-M2-1/4X250	5405-M2-1/4X250	5406-M2-1/4X250	6-1/2"	5404-M2-1/4X650	5405-M2-1/4X650	5406-M2-1/4X650
2-3/4"	5404-M2-1/4X275	5405-M2-1/4X275	5406-M2-1/4X275	6-3/4"	5404-M2-1/4X675	5405-M2-1/4X675	5406-M2-1/4X675
3"	5404-M2-1/4X3	5405-M2-1/4X3	5406-M2-1/4X3	7"	5404-M2-1/4X7	5405-M2-1/4X7	5406-M2-1/4X7
3-1/4"	5404-M2-1/4X325	5405-M2-1/4X325	5406-M2-1/4X325	7-1/4"	5404-M2-1/4X725	5405-M2-1/4X725	5406-M2-1/4X725
3-1/2"	5404-M2-1/4X350	5405-M2-1/4X350	5406-M2-1/4X350	7-1/2"	5404-M2-1/4X750	5405-M2-1/4X750	5406-M2-1/4X750
3-3/4"	5404-M2-1/4X375	5405-M2-1/4X375	5406-M2-1/4X375	7-3/4"	5404-M2-1/4X775	5405-M2-1/4X775	5406-M2-1/4X775
4"	5404-M2-1/4X4	5405-M2-1/4X4	5406-M2-1/4X4	8"	5404-M2-1/4X8	5405-M2-1/4X8	5406-M2-1/4X8
4-1/4"	5404-M2-1/4X425	5405-M2-1/4X425	5406-M2-1/4X425	8-1/4"	5404-M2-1/4X825	5405-M2-1/4X825	5406-M2-1/4X825
4-1/2"	5404-M2-1/4X450	5405-M2-1/4X450	5406-M2-1/4X450	8-1/2"	5404-M2-1/4X850	5405-M2-1/4X850	5406-M2-1/4X850
4-3/4"	5404-M2-1/4X475	5405-M2-1/4X475	5406-M2-1/4X475	8-3/4"	5404-M2-1/4X875	5405-M2-1/4X875	5406-M2-1/4X875
				9"	5404-M2-1/4X9	5405-M2-1/4X9	5406-M2-1/4X9

5/16" THICK HIGH SPEED CORRUGATED BACK SHAPER STEEL KNIVES

Cut knives come in 3 widths - 2", 2-1/4", 2-1/2" - in M-2 grade.
other sizes available

LENGTH	2" WIDE TOOL NO.	2-1/4" WIDE TOOL NO.	2-1/2" WIDE TOOL NO.	LENGTH	2" WIDE TOOL NO.	2-1/4" WIDE TOOL NO.	2-1/2" WIDE TOOL NO.
1"	5404-M2-5/16X1	5405-M2-5/16X1	5406-M2-5/16X1	5"	5404-M2-5/16X5	5405-M2-5/16X5	5406-M2-5/16X5
1-1/4"	5404-M2-5/16X125	5405-M2-5/16X125	5406-M2-5/16X125	5-1/4"	5404-M2-5/16X525	5405-M2-5/16X525	5406-M2-5/16X525
1-1/2"	5404-M2-5/16X150	5405-M2-5/16X150	5406-M2-5/16X150	5-1/2"	5404-M2-5/16X550	5405-M2-5/16X550	5406-M2-5/16X550
1-3/4"	5404-M2-5/16X175	5405-M2-5/16X175	5406-M2-5/16X175	5-3/4"	5404-M2-5/16X575	5405-M2-5/16X575	5406-M2-5/16X575
2"	5404-M2-5/16X2	5405-M2-5/16X2	5406-M2-5/16X2	6"	5404-M2-5/16X6	5405-M2-5/16X6	5406-M2-5/16X6
2-1/4"	5404-M2-5/16X225	5405-M2-5/16X225	5406-M2-5/16X225	6-1/4"	5404-M2-5/16X625	5405-M2-5/16X625	5406-M2-5/16X625
2-1/2"	5404-M2-5/16X250	5405-M2-5/16X250	5406-M2-5/16X250	6-1/2"	5404-M2-5/16X650	5405-M2-5/16X650	5406-M2-5/16X650
2-3/4"	5404-M2-5/16X275	5405-M2-5/16X275	5406-M2-5/16X275	6-3/4"	5404-M2-5/16X675	5405-M2-5/16X675	5406-M2-5/16X675
3"	5404-M2-5/16X3	5405-M2-5/16X3	5406-M2-5/16X3	7"	5404-M2-5/16X7	5405-M2-5/16X7	5406-M2-5/16X7
3-1/4"	5404-M2-5/16X325	5405-M2-5/16X325	5406-M2-5/16X325	7-1/4"	5404-M2-5/16X725	5405-M2-5/16X725	5406-M2-5/16X725
3-1/2"	5404-M2-5/16X350	5405-M2-5/16X350	5406-M2-5/16X350	7-1/2"	5404-M2-5/16X750	5405-M2-5/16X750	5406-M2-5/16X750
3-3/4"	5404-M2-5/16X375	5405-M2-5/16X375	5406-M2-5/16X375	7-3/4"	5404-M2-5/16X775	5405-M2-5/16X775	5406-M2-5/16X775
4"	5404-M2-5/16X4	5405-M2-5/16X4	5406-M2-5/16X4	8"	5404-M2-5/16X8	5405-M2-5/16X8	5406-M2-5/16X8
4-1/4"	5404-M2-5/16X425	5405-M2-5/16X425	5406-M2-5/16X425	8-1/4"	5404-M2-5/16X825	5405-M2-5/16X825	5406-M2-5/16X825
4-1/2"	5404-M2-5/16X450	5405-M2-5/16X450	5406-M2-5/16X450	8-1/2"	5404-M2-5/16X850	5405-M2-5/16X850	5406-M2-5/16X850
4-3/4"	5404-M2-5/16X475	5405-M2-5/16X475	5406-M2-5/16X475	8-3/4"	5404-M2-5/16X875	5405-M2-5/16X875	5406-M2-5/16X875
				9"	5404-M2-5/16X9	5405-M2-5/16X9	5406-M2-5/16X9

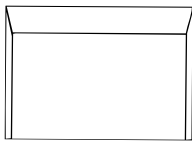
**FULL BARS - 25" LONG - HIGH SPEED BEVELED EDGE SHAPER STEEL
STANDARD BEVEL OR LOCKEDGE BEVEL - 60-62 RW HARDNESS**



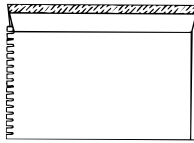
Tool No.		Width	Thickness		
Std.	Lockedge		1/4"	5/16"	3/8"
5578	5578-LE	1/2	x		
5579	5579-LE	3/4	x	x	
5580	5580-LE	1	x	x	x
5581	5581-LE	1-1/4	x	x	x
5582	5582-LE	1-1/2	x	x	x
5583	5583-LE	1-3/4	x	x	x
5584	5584-LE	2	x	x	x
5585	5585-LE	2-1/4	x	x	x

Tool No.		Width	Thickness		
Std.	Lockedge		1/4"	5/16"	3/8"
5586	5586-LE	2-1/2	x	x	x
5587	5587-LE	2-3/4		x	x
5588	5588-LE	3		x	x
5589	5589-LE	3-1/4		x	x
5590	5590-LE	3-1/2		x	x
5591	5591-LE	3-3/4			x
5592	5592-LE	4			x
5593	5593-LE	4-1/4			x
5594	5594-LE	4-1/2			x

**CUT TO LENGTH
HIGH SPEED STEEL BEVELED EDGE
SHAPER KNIFE BLANKS
SEE BELOW
BEVELED EDGE STRAIGHT FACE SHAPER KNIVES
ALL KNIVES SOLD IN PAIRS**



Standard Bevel



Lock-Edge Type

**HIGH SPEED STEEL
1/4" THICK X 2-1/2" LONG**

STANDARD		LOCK-EDGE	
Tool No.	Width	Tool No.	Width
579	3/4	579-LE	3/4
580	1	580-LE	1
581	1-1/4	581-LE	1-1/4
582	1-1/2	582-LE	1-1/2
583	1-3/4	583-LE	1-3/4
584	2	584-LE	2
585	2-1/4	585-LE	2-1/4
586	2-1/2	586-LE	2-1/2
5/16" THICK X 2-1/2" LONG			
587	2-3/4	587-LE	2-3/4
588	3	588-LE	3
588A	3-1/4	588A-LE	3-1/4
588B	3-1/2	588B-LE	3-1/2
3/8" THICK X 2-1/2" LONG			
588C	3-3/4	588C-LE	3-3/4
588D	4	588D-LE	4

**CARBIDE TIPPED
3/8" THICK X 2-1/2" LONG**

STANDARD		LOCK-EDGE	
Tool No.	Width	Tool No.	Width
589	3/4	589-LE	3/4
590	1	590-LE	1
591	1-1/4	591-LE	1-1/4
592	1-1/2	592-LE	1-1/2
593	1-3/4	593-LE	1-3/4
594	2	594-LE	2
595	2-1/4	595-LE	2-1/4
596	2-1/2	596-LE	2-1/2
597	2-3/4	597-LE	2-3/4
598	3	598-LE	3
598-A	3-1/4	598A-LE	3-1/4
598-B	3-1/2	598B-LE	3-1/2
598-C	3-3/4	598C-LE	3-3/4
598-D	4	598D-LE	4

Longer lengths are available - see price list.

Blanks are available for you or your customer to grind.

**GROUND TO PATTERN KNIVES AVAILABLE IN BOTH
CARBIDE TIPPED AND HIGH SPEED STEEL.**

Send us your accurate drawing or wood sample. Inform us of rotation of spindle and which side of material you want to run face up.

QUICK CHANGE SHAPER COLLAR



Collars come complete with allen head screws for permanent set up and off the spindle.

When ordering lockedge type state whether collars are used for clockwise or counter clockwise rotation.

STANDARD

LOCK-EDGE

Tool No.	Dia.	Bore	Tool No.	Dia.	Bore
850	2	1/2	850-LE	2	1/2
851	2	5/8	851-LE	2	5/8
852	2	3/4	852-LE	2	3/4
853	2-1/2	3/4	853-LE	2-1/2	3/4
854	2-1/2	1	854-LE	2-1/2	1
855	3	3/4	855-LE	3	3/4
856	3	1	856-LE	3	1
857	3	1-1/8	857-LE	3	1-1/8
858	3	1-1/4	858-LE	3	1-1/4
859	3-1/2	1	859-LE	3-1/2	1
859A	3-1/2	1-1/8	859A-LE	3-1/2	1-1/8
859B	3-1/2	1-1/4	859B-LE	3-1/2	1-1/4
859C	4	1-1/8	859C-LE	4	1-1/8
859D	4	1-1/4	859D-LE	4	1-1/4

For Replacement Worm Screws - See price list

BALL BEARING QUICK CHANGE

SHAPER COLLARS



Collars come complete with allen head screws for permanent set up and off the spindle. When ordering lockedge type state whether collars are used for clockwise or counter clockwise rotation. When ordering specify width of knives used, so we can send the correct length of screws.

STANDARD

LOCK-EDGE

Tool No.	Dia.	Bore	Tool No.	Dia.	Bore
870	2-1/2	3/4	870-LE	2-1/2	3/4
870A	2-1/2	1	870-A-LE	2-1/2	1
871	3	1	871-LE	3	1
872	3	1-1/8	872-LE	3	1-1/8
873	3	1-1/4	873-LE	3	1-1/4
874	3-1/2	1	874-LE	3-1/2	1
875	3-1/2	1-1/8	875-LE	3-1/2	1-1/8
876	3-1/2	1-1/4	876-LE	3-1/2	1-1/4
877	4	1-1/8	877-LE	4	1-1/8
878	4	1-1/4	878-LE	4	1-1/4

For Replacement Worm Screws - See price list

CORRUGATED CUTTER HEAD - 2 KNIFE

Will accept either 1/4 or 5/16 corrugated back knives. Maximum pattern depth recommended - 3/4.

Tool No.	Diameter	Width	Bore	Cutting Angle
2200	2-3/4"	2"	3/4"	15°
2201	2-3/4"	3"	3/4"	15°
2202	3-1/2"	2"	1"	20°
2203	3-1/2"	3"	1"	20°
2203-A	3-1/2"	4"	1"	20°
2204	4"	2"	1-1/4"	25°
2205	4"	3"	1-1/4"	25°
2206	4"	4"	1-1/4"	25°
2207	4"	5"	1-1/4"	25°
2208	4"	6"	1-1/4"	25°



OTHER TYPES OF CUTTER HEADS AVAILABLE. SEND US SKETCH OR DRAWING FOR QUOTE.

WILLIAMS AND HUSSEY CUTTER HEAD

Holes in knives must be able to accept 3/8" bolt. All heads are 1-1/4" bore. 2 Knives

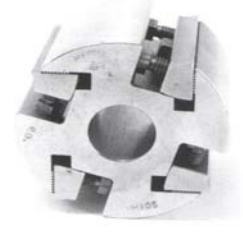


Tool No.	Diameter	Width	Bore
2220	4"	4"	1-1/4"
2221	4"	6"	1-1/4"

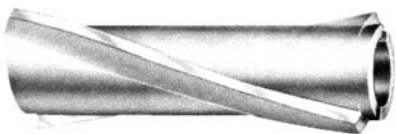
CORRUGATED CUTTER HEAD - 4 Knife - 4" Diameter - 1-1/4" Bore. Available in 16-60° corrugation. Uses both size 1/4 or 5/16 corrugated steel.

Pocket Type

Wedge Type



SPIRAL CARBIDE TIPPED CUTTER FOR PORTABLE PLANER



Tool No.	Diameter	Length	Plane Brand
1305	1-1/8"	2-1/2"	126 Rockwell
1306	1-1/4"	1-27/32"	167A Rockwell
1307	2-3/16"	3"	653 Rockwell

Tool No.	Width	Cutting Angle	Tool No.	Width	Cutting Angle
2210	2"	20°	2215	2"	25°
2211	3"	20°	2216	3"	25°
2212	4"	20°	2217	4"	25°
2213	5"	20°	2218	5"	25°
2214	6"	20°	2219	6"	25°

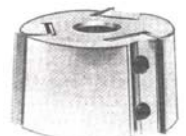
Knives for head are extra..... see page 46.

CUSTOM KNIVES FOR ANY CUTTER HEAD ARE AVAILABLE. SEND US A SKETCH OR SMALL WOOD SAMPLE. SPECIFY WHAT TYPE AND SIZE OF HEAD, WITH CUTTING ANGLE AND WE WILL BE HAPPY TO SEND YOU A QUOTE.

CUTTER HEAD FOR NORFIELD DOOR MACHINES

Both types - Indexable Insert & Solid Carbide Loose Knife

Tool No.	Dia.	No of Knives	Bore	Type
2490	3 1/4"	3	3/4"	Straight
2490-II	3 1/4"	3	3/4"	Straight
2495	3 1/4"	3	3/4"	3° Bevel
2495-II	3 1/4"	3	3/4"	3° Bevel



Knives replacement #II-L50 - see page 53.

INDEXABLE INSERT TOOLING

Dedicated or Multi Profile Style

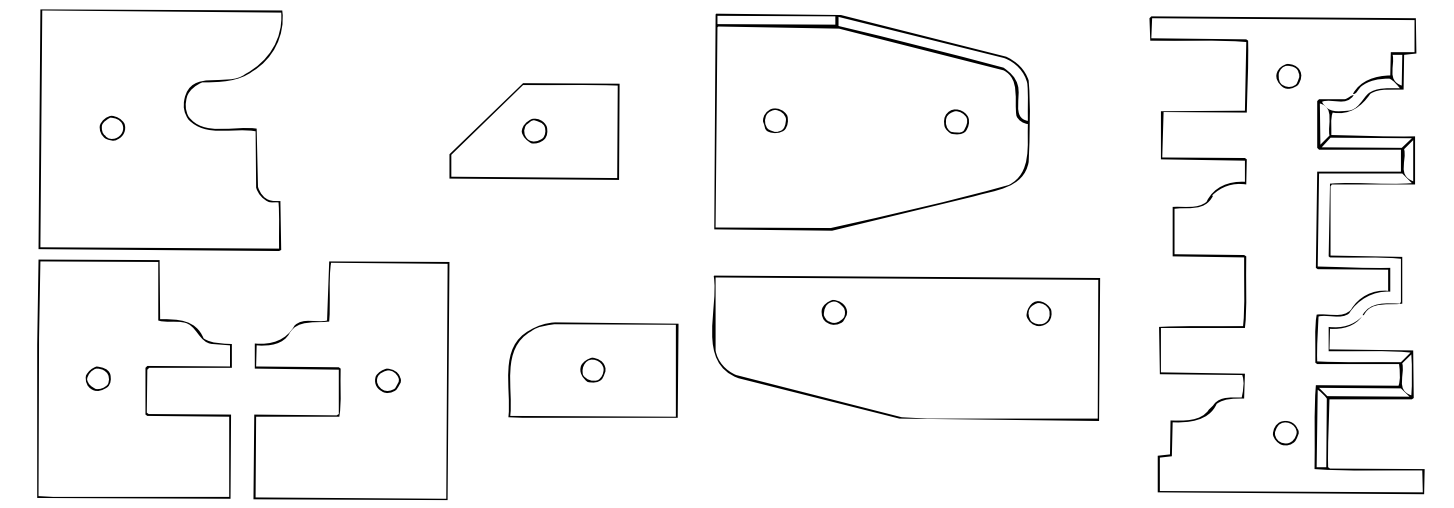
SHAPER CUTTERS

ALL TYPES OF STYLES & PATTERNS AVAILABLE

Concave Radius
Convex Radius
Cope & Stick
Counter Top Radius
Door Casing
Door Edge Profiles
Drawer Lock
Edge Band
Extended Quarter Round

Flooring T & G
Half Round
Lock Miter
Quarter Round
Rabbeting
Raised Panel with or without Back Panel
Reversible - Flip Flop
Reversible Glue Joint
Ship Lap

Shortened Half Rounds
Stacked Tooling
Stair Rail - Hand Rail
Straight Edge
Surface Heads
Tongue & Groove
"V" Paneling
Window Sash



INDEXABLE TYPE ROUTER BITS

see page 72,73,102 & 103.

CUSTOM ROUTER BITS - INDEXABLE OR CARBIDE TIPPED

Are Available

TO QUOTE ON YOUR REQUIREMENTS SEND US THE FOLLOWING:

1. Print of pattern you would like to shape and wood sample, if possible.
2. Diameter or cutter head.
3. Bore size.
4. Rotation of spindle.
5. Material face up or face down
6. RPM
7. Dedicated Style - Means will cut only 1 pattern - has no backing plate
8. Multi Profile Style - Means by changing backing plates you could run other patterns.

INDEXABLE INSERT CUTTER HEADS

All heads are available in straight bore or with ETP hydro-grip sleeves.

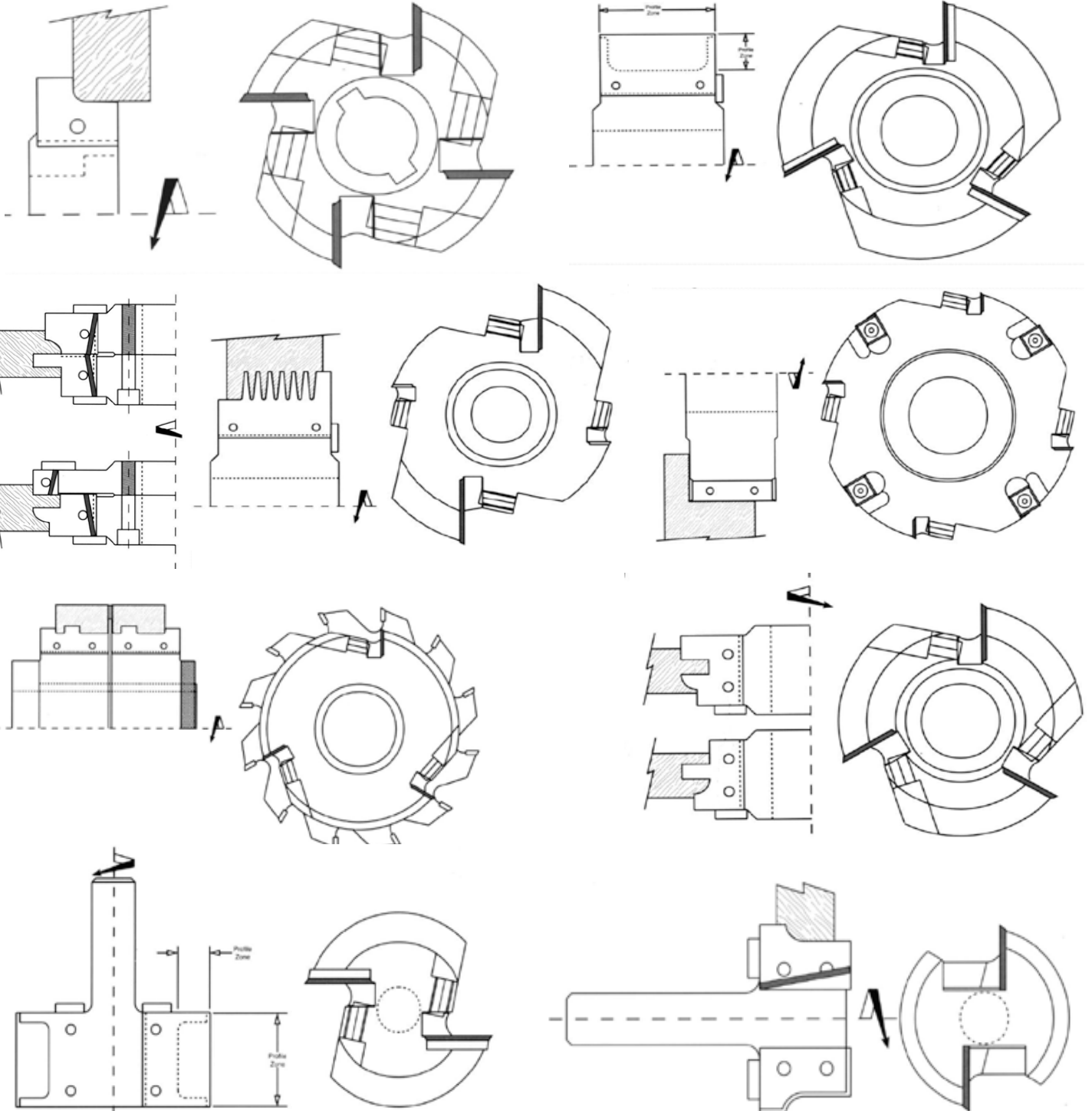
All types of precision indexable insert heads are available. Send your request and we will furnish you a quote.

Chamfering
 Concave Radius
 Convex Radius
 Cope & Stick
 Door Edge Detail
 Double Raised Panel

Edge Trimming
 Finger Joint
 Grooving
 Ground to pattern
 Moulding Heads
 Multi Profile

Partial Raided Panel
 Planning
 Raised Panel
 Rebating
 Stile & Rail
 Window Sash

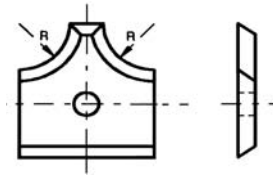
Router Bits
 Universal Heads



GROUND TO PATTERN INSERTS AVAILABLE - SEND YOUR REQUEST.

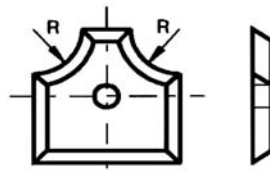
INDEXABLE INSERT REPLACEMENT KNIVES - METRIC

RADIUS REVERSIBLE INSERTS (HOMAG - IMA)



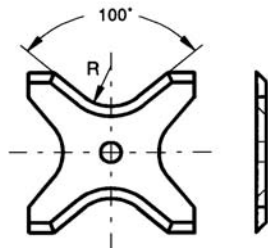
Tool No.	Length	Width	Thickness	Radius
II-L-16-175-2R	16mm	17.5mm	2mm	2mm
II-L-16-175-3R	16mm	17.5mm	2mm	3mm
II-L-16-175-4R	16mm	17.5mm	2mm	4mm
II-L-16-175-5R	16mm	17.5mm	2mm	5mm

RADIUS REVERSIBLE INSERTS (HOLZ-HER)



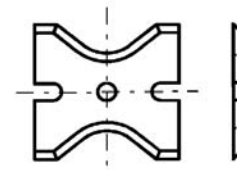
Tool No.	Length	Width	Thickness	Radius
II-L-12-12-2R	12mm	12mm	1.5mm	2mm
II-L-12-12-3R	12mm	12mm	1.5mm	3mm
II-L-12-12-4R	12mm	12mm	1.5mm	4mm

RADIUS REVERSIBLE INSERTS (LEUCO)



Tool No.	Length	Width	Thickness	Radius
II-L-13-16-2R	13mm	16mm	2mm	2
II-L-13-16-3R	13mm	16mm	2mm	3
II-L-13-16-4R	13mm	16mm	2mm	4
II-L-20-21-5R	20mm	21mm	2mm	5
II-L-20-21-6R	20mm	21mm	2mm	6
II-L-20-21-7R	20mm	21mm	2mm	7
II-L-20-21-8R	20mm	21mm	2mm	8
II-L-26-24-9R	26mm	24mm	2mm	9
II-L-26-24-10R	26mm	24mm	2mm	10
II-L-26-24-11R	26mm	24mm	2mm	11
II-L-26-24-12R	26mm	24mm	2mm	12
II-L-26-24-13R	26mm	24mm	2mm	13
II-L-30-25-13R	30mm	25mm	2mm	13
II-L-30-25-14R	30mm	25mm	2mm	14
II-L-30-25-15R	30mm	25mm	2mm	15
II-L-30-25-16R	30mm	25mm	2mm	16
II-L-30-25-17R	30mm	25mm	2mm	17

RADIUS REVERSIBLE INSERTS (HOWEMA)



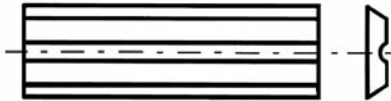
Tool No.	Length	Width	Thickness	Radius
II-L-13-14-2R	13mm	14mm	1.5mm	2
II-L-13-14-3R	13mm	14mm	1.5mm	3
II-L-13-14-4R	13mm	14mm	1.5mm	4
II-L-20-16-5R	20mm	16mm	2mm	5
II-L-20-16-6R	20mm	16mm	2mm	6
II-L-20-16-7R	20mm	16mm	2mm	7
II-L-20-16-8R	20mm	16mm	2mm	8
II-L-20-17.5-2R	20mm	17.5mm	2mm	2
II-L-20-17.5-3R	20mm	17.5mm	2mm	3
II-L-20-17.5-4R	20mm	17.5mm	2mm	4
II-L-20-17.5-5R	20mm	17.5mm	2mm	5
II-L-20-17.5-6R	20mm	17.5mm	2mm	6
II-L-20-17.5-7R	20mm	17.5mm	2mm	7
II-L-20-17.5-8R	20mm	17.5mm	2mm	8
II-L-26-18-9R	26mm	18mm	2mm	9
II-L-26-18-10R	26mm	18mm	2mm	10
II-L-26-18-11R	26mm	18mm	2mm	11
II-L-26-18-12R	26mm	18mm	2mm	12
II-L-30-20-13R	30mm	20mm	2mm	13
II-L-30-20-14R	30mm	20mm	2mm	14
II-L-30-20-15R	30mm	20mm	2mm	15
II-L-30-20-16R	30mm	20mm	2mm	16
II-L-40-28-17R	40mm	28mm	2mm	17
II-L-40-28-18R	40mm	28mm	2mm	18
II-L-40-28-19R	40mm	28mm	2mm	19
II-L-40-28-20R	40mm	28mm	2mm	20

**NORDIC SAW & TOOL
CAN MEET ALL YOUR
TOOL SHARPENING AND
REPAIR NEEDS. PLEASE
CALL US FOR INFORMA-
TION. WE CAN ALSO
SHARPEN ALL YOUR IN-
SERT KNIVES**

WHEN ORDERING - SPECIFY GRADE - SEE PAGE 54 FOR GRADES AVAILABLE

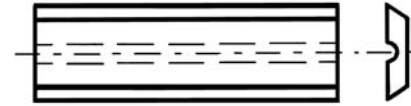
INDEXABLE INSERT REPLACEMENT KNIVES - METRIC

BACK-GROOVE INSERTS (2-SIDED)



Tool No.	Length	Width	Thickness
IIBG-L-12	12mm	5.5mm	1.1mm
IIBG-L-20	20mm	5.5mm	1.1mm
IIBG-L-30	30mm	5.5mm	1.1mm
IIBG-L-40	40mm	5.5mm	1.1mm
IIBG-L-50	50mm	5.5mm	1.1mm

FACE-GROOVE INSERTS (2-SIDED)



Tool No.	Length	Width	Thickness
IIFG-L-12	12mm	5.5mm	1.1mm
IIFG-L-20	20mm	5.5mm	1.1mm
IIFG-L-30	30mm	5.5mm	1.1mm
IIFG-L-35	35mm	5.5mm	1.1mm
IIFG-L-40	40mm	5.5mm	1.1mm
IIFG-L-45	45mm	5.5mm	1.1mm
IIFG-L-50	50mm	5.5mm	1.1mm
IIFG-L-60	60mm	5.5mm	1.1mm

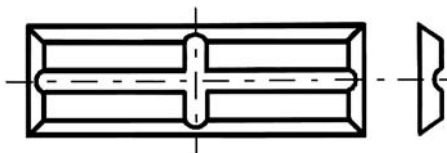
BACK-GROOVE INSERTS (4-SIDED)



Tool No.	Length	Width	Thickness
IIBG-L-12-4S	12mm	5.5mm	1.1mm
IIBG-L-20-4S	20mm	5.5mm	1.1mm
IIBG-L-30-4S	30mm	5.5mm	1.1mm
IIBG-L-40-4S	40mm	5.5mm	1.1mm
IIBG-L-50-4S	50mm	5.5mm	1.1mm

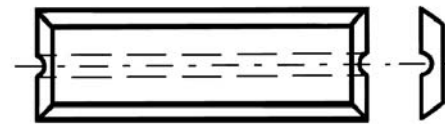
Tool No.	Length	Width	Thickness
IIFG-L-19.7-8	19.7mm	8mm	1.5mm
IIFG-L-20-8	20 mm	8mm	1.5mm
IIFG-L-30-8	30 mm	8mm	1.5mm
IIFG-L-40-8	40 mm	8mm	1.5mm
IIFG-L-50-8	50 mm	8mm	1.5mm
IIFG-L-60-8	60 mm	8mm	1.5mm

BACK-GROOVE INSERTS (CROSS-GROOVE) 4-SIDED INSERTS



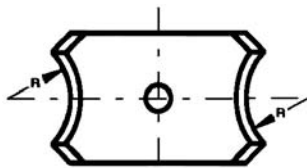
Tool No.	Length	Width	Thickness
IIBG-CG-L-20-41-4S	20mm	4.1mm	1.1mm
IIBG-CG-L-20-4S	20mm	5.5mm	1.1mm
IIBG-CG-L-30-4S	30mm	5.5mm	1.1mm
IIBG-CG-L-40-4S	40mm	5.5mm	1.1mm
IIBG-CG-L-50-4S	50mm	5.5mm	1.1mm

FACE-GROOVE INSERTS (4-SIDED)



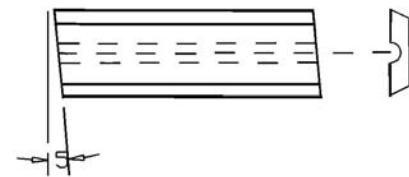
Tool No.	Length	Width	Thickness
IIFG-L-20-4S	20mm	5.5mm	1.1mm
IIFG-L-30-4S	30mm	5.5mm	1.1mm
IIFG-L-40-4S	40mm	5.5mm	1.1mm
IIFG-L-50-4S	50mm	5.5mm	1.1mm

SCRAPER INSERTS



Tool No.	Length	Width	Thickness	Radius
II-L-20-12-2R	20mm	12mm	1.5mm	2mm
II-L-20-12-3R	20mm	12mm	1.5mm	3mm
II-L-20-12-4R	20mm	12mm	1.5mm	4mm
II-L-20-12-5R	20mm	12mm	1.5mm	5mm

FACE-GROOVE INSERTS (5° ANGLE)



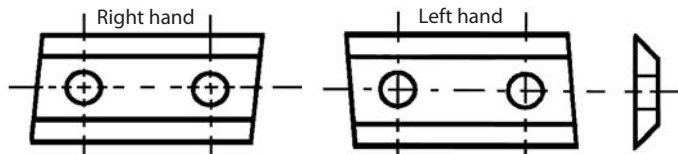
Tool No.	Length	Width	Thickness
IIFG-L-19	19.8mm	5.5mm	1.1mm
IIFG-L-30	20 mm	12 mm	1.5mm
IIFG-L-30	30 mm	12 mm	1.5mm
IIFG-L-39	39.8mm	5.5mm	1.1mm
IIFG-L-49	49.8mm	5.5mm	1.1mm
IIFG-L-50	50mm	12mm	1.5mm

Other types and sizes are available. Send us your drawing, sketch or sample and we will quote on them.

WHEN ORDERING - SPECIFY GRADE - SEE PAGE 54 FOR GRADES AVAILABLE

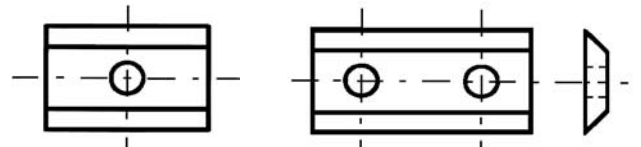
INDEXABLE INSERT REPLACEMENT KNIVES - METRIC

SKEW SIDE INSERTS (5° ANGLE)



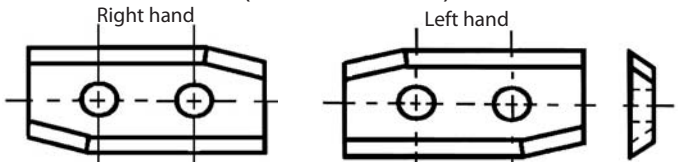
Tool No.	Length	Width	Thickness	Type
IIV-L-20-RH	20mm	12mm	1.5mm	RH
IIV-L-20-LH	20mm	12mm	1.5mm	LH
IIV-L-30-RH	30mm	12mm	1.5mm	RH
IIV-L-30-LH	30mm	12mm	1.5mm	LH
IIV-L-50-RH	50mm	12mm	1.5mm	RH
IIV-L-50-LH	50mm	12mm	1.5mm	LH

TWO-SIDED STRAIGHT INSERTS



Tool No.	Length	Width	Thickness
II-L-7.5	7.5mm	12mm	1.5mm
II-L-9.6	9.6mm	12mm	1.5mm
II-L-10	10mm	12mm	1.5mm
II-L-11	11mm	12mm	1.5mm
II-L-13	13mm	12mm	1.5mm
II-L-15	15mm	12mm	1.5mm
II-L-15.7	15.7mm	12mm	1.5mm
II-L-17	17mm	12mm	1.5mm
II-L-18	18mm	12mm	1.5mm
II-L-19	19mm	12mm	1.5mm
II-L-20	20mm	12mm	1.5mm
II-L-25	25mm	12mm	1.5mm
II-L-30	30mm	12mm	1.5mm
II-L-40	40mm	12mm	1.5mm
II-L-50	50mm	12mm	1.5mm
II-L-50-MOD 1..7	50mm	12mm	1.7mm
II-L-60	60mm	12mm	1.5mm
II-L-80	80mm	13mm	2.2mm
II-L-100	100mm	13mm	2.2mm
II-L-120	120mm	13mm	2.2mm

BEVEL INSERTS 15° ANGLE (HOLZ-HER TYPE)



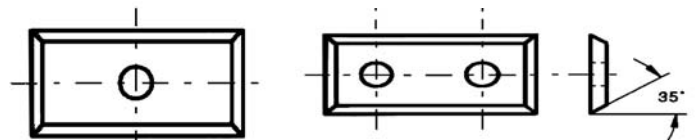
Tool No.	Length	Width	Thickness	Type
IIC-L-30-RH	30mm	12mm	1.5mm	RH
IIC-L-30-LH	30mm	12mm	1.5mm	LH
IIC-L-50-RH	50mm	12mm	1.5mm	RH
IIC-L-50-LH	50mm	12mm	1.5mm	LH

LAMELLO INSERTS

Tool No.	Length	Width	Thickness
II-L-14-LAM	14mm	14mm	2mm
II-L-18-LAM	18mm	18mm	1.95mm
II-L-18-LAM-HD	18mm	18mm	2.45mm
II-L-18-LAM-XHD	18mm	18mm	2.95mm



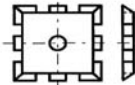
4-SIDED STRAIGHT INSERTS



Tool No.	Length	Width	Thickness
II-L-10.5-4S	10.5mm	10.5mm	1.5mm
II-L-12-4S	12mm	12mm	1.5mm
II-L-13-4S	13mm	13mm	2.5mm
II-L-14-4S-1.2	14mm	14mm	1.2mm (HOLZER)
II-L-14-4S-HOL	14mm	14mm	2mm
II-L-14-4S-2	14mm	14mm	2mm
II-L-14-3	14.3mm	14.3mm	2.5mm
II-L-17-4S	17mm	17mm	2.0mm
II-L-19-4S	19mm	19mm	2.0mm
II-L-20-4S	20mm	12mm	1.5mm
II-L-30-4S	30mm	12mm	1.5mm
II-L-50-4S	50mm	12mm	1.5mm

4-SIDED CHIP-BREAKER

Tool No.	Length	Width	Thickness
II-L-15-CB	15mm	15mm	2mm
II-L-15-CB-HD	15mm	15mm	2.5mm



CIRCULAR INSERT (HOWEMA STYLE)

Tool No.	Diameter	Thickness
II-L-11-CIR	11mm	4mm



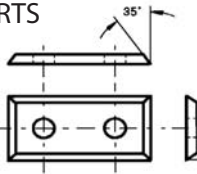
TRIANGLE SPUR INSERT

Tool No.	Length	Height	Thickness
II-L-19-TRI	22mm	19mm	2mm

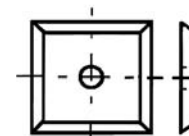


ROUTER BIT 4-SIDED INSERTS

Tool No.	Length	Width	Thickness
II-L-30-9-4S	30mm	9mm	1.5mm
II-L-50-9-4S	50mm	9mm	1.5mm



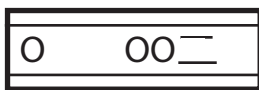
4-SIDED STRAIGHT INSERTS WITH COUNTERSUNK CENTER HOLE



Tool No.	Length	Width	Thickness
II-L-13.4-4S	13.4mm	13.4mm	1.5mm
II-L-13.6-4S	13.6mm	13.6mm	2.0mm
II-L-14.1-H-4S	14mm	14mm	1.2mm (HOLZER)*
II-L-14.1-4S	14mm	14mm	1.2mm
II-L-14.2-4S	14mm	14mm	2.0mm
II-L-14.3-4S	14.3mm	14.3mm	2.5mm

*Has a countersink on the beveled side.

OPPOLD STYLE (w/elongated hole)



Tool No.	Length	Width	Thickness
II-L-44.5 OPPOLD	44.5mm	15mm	1.5mm

WHEN ORDERING - SPECIFY GRADE - SEE PAGE 54 FOR GRADES AVAILABLE

RECOMMENDATIONS FOR USING DIFFERENT GRADES OF CARBIDE ON INDEXABLE INSERT TOOLS

1	2	3	4	5	6	7 Comments
Materials	Standard Carbide Grade	Percentage of longer life compared to standard TiK 05/C4 Carbide Grade %	Recommendation	Best finish produced	Resistance to Breakage	Price remarks: Blanks and knives in standard grade TiK 05/C4 are the lowest in price. Micron-(M) and Submicron Grades (SM) are more expensive but the costs are much more than offset by the longer lifetime and better cutting results.
MDF	TiK 05/C4	TiK 01 SM +150% to +300% TiK 030 SM + 30% to + 50%	1. TiK 01 SM 2. TiK 05 3. TiK 030 SM	TiK 01 SM	1. TiK 030 SM 2. TiK 05 3. TiK 01 SM	Before using diamond it is always recommended to test TiK 01 SM which has an outstanding lifetime in MDF.
Particle Board	TiK 05/C4	TiK 01 SM +50% to +200% TiK 030 SM +50% to +100%	1. TiK 01 SM 2. TiK 05 3. TiK 030 SM	TiK 030 SM	1. TiK 030 SM 2. TiK 05 3. TiK 01 SM	Normally TiK 01 SM works by far best. Depending on the melamine or middle layer TiK 05 or TiK 030 SM may have better results because of the higher breakage resistance.
Glued-up Wood	TiK 05/C4	TiK 030 SM +100% to +250%	1. TiK 030 SM 2. TiK 05 3. TiK 01 SM	TiK 030 SM	1. TiK 030 SM 2. TiK 05	TiK 030 SM has proven as outstanding in most tests. In some cases also TiK 01 SM gave good results. A test including TiK is also recommended.
Hardwood	TiK 05/C4	TiK 030 SM +120% to +250% TiK 050 M + 50% to +150% TIGRALIT + 0% to + 50%	1. TiK 030 SM 2. TiK 050 M 3. TIGRALIT 4. TiK 05	TIGRALIT	1. TIGRALIT 2. TiK 050 M 3. TiK 030 SM 4. TiK 05	Since the natural woods are so different a test is always recommended. If the surface quality of the worked materials is sufficient TiK 030 SM is highly recommended. In difficult cases TIGRALIT should work perfectly.
Softwood	TiK 05/C4	TiK 030 SM up to +300% TiK 050 M +100% to +150% TIGRALIT + 50% to +100%	1. TIGRALIT 2. TiK 030 SM 3. TiK 050 M	TIGRALIT	1. TIGRALIT 2. TiK 050 M 3. TiK 030 SM 4. TiK 05	TiK 030 SM, TiK 050 M and TIGRALIT should be used in softwood with 45° clearance angle of the knife but only in tools with a hook angle of 25° - 32°. TIGRALIT can also be used with 50° clearance angle (30° - 35° hook angle).

General remarks:

All percentages, statements and recommendations are based on average test results. Since natural and man made wood materials differ from part to part in their properties, there may also be differences in some test results. For this reason it is strongly recommended that the different grades in column 6 should be tested to find the best T.C. for the specific application as well as the best price/performance ratio. The necessity of tests can also be derived from the different rankings of the grades in life time, breakage resistance and surface quality of the worked material. The priority of these points is always set by the customer.

WHEN ORDERING INSERTS - PLEASE SPECIFY GRADE IF NO GRADE IS SPECIFIED THE STANDARD TIK 05/C4 WILL BE SENT

Mirror finish is available on some straight types & sizes. This finish will be shipped when it becomes available from our carbide supplier.

NORDIC SAW & TOOL CAN MEET ALL YOUR TOOL SHARPENING AND REPAIR NEEDS. PLEASE CALL US FOR INFORMATION. WE CAN ALSO SHARPEN ALL YOUR INSERT KNIVES.

We introduce the superior cutting edge for solid wood only.

NORDIC - ALLOY

N-ALLOY^(TANTUNG)

- N-ALLOY: is a superior cast alloy cutting tool material composed principally of chromium, tungsten, columbium, and carbon in cobalt matrix.
- N-ALLOY: is unique being neither high-speed-steel nor carbide, but combines both characteristics ideally.
- N-ALLOY: is tough, absorbs shock and impact and retains its cutting hardness at red heat temperature.
- N-ALLOY: maintains a fine cutting edge like high-speed-steel and lasts as long as carbide.
- N-ALLOY: as a cutting edge is excellent for most solid hard and soft wood cutting.
- N-ALLOY: is not to be used on any glue-bonded materials, such as chipboard, fiberboard, hardboard, Kortron, Melamine, M.D.F. or plywood.
- N-ALLOY: gives longer wear between sharpenings as it can be honed.
- N-ALLOY: is sharpened with aluminum oxide or borazon wheels only.
- N-ALLOY: holds a cutting edge longer, cuts smoother, is especially effective for cross grain cutting and feeds with less operator fatigue.
- N-ALLOY: is available on all styles of shaper cutters and specially designed router bits.

When ordering, add N-Alloy to catalog number.

ABRASIVE RESISTANT CARBIDE

(ARC)

- ARC: is a special abrasive resistant carbide that is engineered and designed exclusively to cut all the newer products of glue-bonded materials. Some of these materials are chipboard, fiberboard, hardboard, Kortron, Melamine and M.D.F.
- ARC: will withstand the heat build-up and the abrasive action of the epoxy and resin glue, while the standard carbide dulls too fast and results in much higher sharpening & maintenance cost.
- ARC: gives approximately 300% more life between sharpenings than the standard grade of carbide; some operations are getting even greater results.
- ARC: is available on all types of saw blades, shaper cutters and specially designed router bits.
- ARC: comes in standard 1/8" thickness, but also is available in the money-saving 3/16" and 1/4" thickness.

When ordering, add ARC to catalog number.

CARBIDE TIPPED MASONRY DRILL BITS



FAST SPIRAL - 4" O.A.L.

TOOL NO.	DIA.	SHANK.
9061-FS-MD	3/16	5/32
9063-FS-MD	7/32	5/32
9065-FS-MD	1/4	1/4
9067-FS-MD	9/32	1/4
9069-FS-MD	5/16	1/4
9073-FS-MD	3/8	1/4
9077-FS-MD	7/16	1/4

FAST SPIRAL - 6" O.A.L.

TOOL NO.	DIA.	SHANK.
9065-6-FS-MD	1/4	1/4
9067-6-FS-MD	9/32	1/4
9069-6-FS-MD	5/16	1/4
9073-6-FS-MD	3/8	1/4
9077-6-FS-MD	7/16	1/4
9081-6-FS-MD	1/2	1/4
9081-A-6-FS-MD	1/2	3/8
9081-B-6-FS-MD	9/16	3/8
9081-C-6-FS-MD	5/8	1/2
9081-D-6-FS-MD	11/16	1/2
9081-E-6-FS-MD	3/4	1/2
9081-F-6-FS-MD	13/16	1/2
9081-G-6-FS-MD	7/8	1/2
9081-H-6-FS-MD	1"	1/2



PERCUSSION SLOW SPIRAL

TOOL NO.	DIA.	CAL	SHANK
9061-PMD	3/16	3"	3/16
9063-PMD	7/32	4"	1/4
9065-PMD	1/4	4"	1/4
9065-6-PMD	1/4	6"	1/4
9067-6-PMD	9/32	6"	1/4
9069-PMD	5/16	4"	1/4
9069-6-PMD	5/16	6"	1/4
9069-12-PMD	5/16	12"	1/4
9073-PMD	3/8	4"	1/4
9073-6-PMD	3/8	6"	1/4
9073-12-PMD	3/8	12"	3/8
9077-PMD	7/16	6"	1/4
9081-A-PMD	1/2	6"	1/4
9081-6-PMD	1/2	6"	3/8
9081-12-PMD	1/2	12"	3/8
9081-B-PMD	9/16	6"	1/2
9081-C-PMD	5/8	6"	1/2
9081-C-12-PMD	5/8	12"	1/2
9081-D-PMD	11/16	6"	1/2
9081-E-PMD	3/4	6"	1/2
9081-E-12-PMD	3/4	12"	1/2
9081-G-PMD	7/8	6"	1/2
9081-H-PMD	1"		1/2



SLOW SPIRAL - DEEP FLUTE - 4' OAL

TOOL NO.	DIA.	SHANK
9057-MD	1/8	1/8
9058-MD	9/64	9/64
9059-MD	5/32	5/32
9060-MD	11/64	11/64
9061-MD	3/16	3/16
9063-MD	7/32	7/32
9065-MD	1/4	1/4
9067-MD	9/32	1/4
9069-MD	5/16	1/4
9073-MD	3/8	1/4
9077-MD	7/16	1/4

SLOW SPIRAL - DEEP FLUTE - 6' OAL

TOOL NO.	DIA.	SHANK
9061-6-MD	3/16	3/16
9065-6-MD	1/4	1/4
9067-6-MD	9/32	1/4
9069-6-MD	5/16	1/4
9073-6-MD	3/8	1/4
9077-6-MD	7/16	1/4
9081-6-MD	1/2	1/4
9081-A-6-MD	1/2	3/8
9081-B-6-MD	9/16	3/8
9081-C-6-MD	5/8	1/2
9081-D-6-MD	11/16	1/2
9081-E-6-MD	3/4	1/2
9081-F-6-MD	13/16	1/2
9081-G-6-MD	7/8	1/2
9081-H-6-MD	1"	1/2
9081-I-6-MD	1-1/8	1/2
9081-J-6-MD	1-3/16	1/2
9081-K-6-MD	1-1/4	1/2
9081-L-6-MD	1-5/16	1/2
9081-M-6-MD	1-3/8	1/2
9081-N-6-MD	1-1/2	1/2

SLOW SPIRAL - DEEP FLUTE -12" OAL

TOOL NO.	DIA.	SHANK.
9061-12-MD	3/16	3/16
9065-12-MD	1/4	1/4
9069-12-MD	5/16	5/16
9073-12-MD	3/8	5/16
9077-12-MD	7/16	7/16
9081-12-MD	1/2	3/8
9081-B-12-MD	9/16	3/8
9081-C-12-MD	5/8	1/2
9081-E-12-MD	3/4	1/2
9081-G-12-MD	7/8	1/2
9081-H-12-MD	1"	1/2
9081-I-12-MD	1-1/8	1/2
9081-J-12-MD	1-3/16	1/2
9081-K-12-MD	1-1/4	1/2
9081-M-12-MD	1-3/8	1/2
9081-N-12-MD	1-1/2	1/2

SLOW SPIRAL - DEEP FLUTE - 18" OAL

TOOL NO.	DIA.	SHANK
9064-18-MD	1/4	1/4
9069-18-MD	5/16	5/16
9073-18-MD	3/8	5/16
9081-18-MD	1/2	3/8
9081-B-18-MD	9/16	3/8
9081-C-18-MD	5/8	1/2
9081-E-18-MD	3/4	1/2
9081-G-18-MD	7/8	1/2
9081-H-18-MD	1"	1/2
9081-I-18-MD	1-1/8	1/2
9081-J-18-MD	1-3/16	1/2
9081-K-18-MD	1-1/4	1/2
9081-M-18-MD	1-3/8	1/2
9081-N-18-MD	1-1/2	1/2

SLOW SPIRAL - 24" LONG

TOOL NO.	DIA.	SHANK
9065-24-MD	1/4	1/4
9069-24-MD	5/16	5/16
9073-24-MD	3/8	5/16
9081-24-MD	1/2	3/8
9081-B-24-MD	9/16	3/8
9081-C-24-MD	5/8	1/2
9081-E-24-MD	3/4	1/2
9081-G-24-MD	7/8	1/2
9081-H-24-MD	1"	1/2
9081-I-24-MD	1-1/8	1/2
9081-J-24-MD	1-3/16	1/2
9081-K-24-MD	1-1/4	1/2
9081-M-24-MD	1-3-8	1/2
9081-N-24-MD	1-1/2	1/2



SPADE DRILL BITS CARBIDE TIPPED OR STEEL 1/4 SHANK X 6" OAL

TOOL # CT	TOOL # STEEL	SIZE
94216	94216-S	1/4
94220	94220-S	5/16
94224	94224-S	3/8
94228	94228-S	7/16
94232	94232-S	1/2
94236	94236-S	9/16
94240	94240-S	5/8
94244	94244-S	11/16
94248	94248-S	3/4
94252	94252-S	13/16
94256	94256-S	7/8
94260	94260-S	15/16
94264	94264-S	1"
94268	94268-S	1-1/8
94272	94272-S	1-1/4
94276	94276-S	1-3/8
94280	94280-S	1-1/2



DRILL STOPS

STEEL DRILL STOPS HAVE TWO ALLEN SET SCREWS TO MOUNT
ON DRILL BIT TO CONTROL ACCURATE DEPTH OF DRILL CUT



Shown above mounted on Taper Drill



Shown above mounted on Straigh Drill

Tool No.	Drill Size	Decimal	OD	Lgth	Tool No.	Drill Size	Decimal	OD	Lgth	Tool No.	Drill Size	Decimal	OD	Lgth
8500		.0624	3/8	1/2	8544	#18	.1695	7/16	1/2	8587	5/16	.3125	5/8	3/4
8501	1/16	.0635	3/8	1/2	8545	11/64	.1719	7/16	1/2	8588	8.0mm	.3150	5/8	3/4
8502	#52	.0670	3/8	1/2	8546	#17	.1730	7/16	1/2	8589	O	.3160	5/8	3/4
8503	#51	.0700	3/8	1/2	8547	#16	.1770	7/16	1/2	8590	P	.3230	3/4	3/4
8504	#50	.0730	3/8	1/2	8548	#15	.1800	7/16	1/2	8591	21/64	.3281	3/4	3/4
8505	#49	.0760	3/8	1/2	8549	#14	.1820	7/16	1/2	8592	Q	.3320	3/4	3/4
8506	#48	.0781	3/8	1/2	8550	#13	.1850	7/16	1/2	8593	R	.3390	3/4	3/4
8507	5-64	.0785	3/8	1/2	8551	3/16	.1875	7/16	1/2	8594	11/32	.3438	3/4	3/4
8508	#47	.0787	3/8	1/2	8552	#12	.1890	1/2	1/2	8595	S	.3480	3/4	3/4
8509	2.0mm	.0810	3/8	1/2	8553	#11	.1910	1/2	1/2	8596	9.0mm	.3543	3/4	3/4
8510	#46	.0820	3/8	1/2	8554	#10	.1935	1/2	1/2	8597	T	.3580	3/4	3/4
8511	#45	.0860	3/8	1/2	8555	#9	.1960	1/2	1/2	8598	23/64	.3594	3/4	3/4
8512	#44	.0890	3/8	1/2	8556	5.0mm	.1968	1/2	1/2	8599	U	.3680	3/4	3/4
8513	#43	.0935	3/8	1/2	8557	#8	.1990	1/2	1/2	8600	3/8	.3750	3/4	3/4
8514	#42	.0937	3/8	1/2	8558	#7	.2010	1/2	1/2	8601	V	.3770	7/8	7/8
8515	3/32	.0960	3/8	1/2	8559	13/64	.2031	1/2	1/2	8602	W	.3860	7/8	7/8
8516	#41	.0980	3/8	1/2	8560	#6	.2040	1/2	1/2	8603	25/64	.3906	7/8	7/8
8517	#40	.0995	3/8	1/2	8561	#5	.2055	1/2	1/2	8604	10.mm	.3937	7/8	7/8
8518	#39	.1015	3/8	1/2	8562	#4	.2090	1/2	1/2	8605	X	.3970	7/8	7/8
8519	#38	.1040	3/8	1/2	8563	#3	.2130	1/2	1/2	8606	Y	.4040	7/8	7/8
8520	#37	.1065	3/8	1/2	8564	7/32	.2188	1/2	1/2	8607	13/32	.4062	7/8	7/8
8521	#36	.1094	3/8	1/2	8565	#2	.2210	1/2	1/2	8608	Z	.4130	7/8	7/8
8522	7/64	.1100	3/8	1/2	8566	#1	.2280	1/2	1/2	8609	27/64	.4219	7/8	7/8
8523	#35	.1110	3/8	1/2	8567	A	.2340	1/2	1/2	8610	11.mm	.4331	7/8	7/8
8524	#34	.1130	3/8	1/2	8568	15/64	.2344	1/2	1/2	8611	7/16	.4375	7/8	7/8
8525	#33	.1160	3/8	1/2	8569	6.0mm	.2362	1/2	1/2	8612	29/64	.4531	7/8	7/8
8526	#32	.1180	3/8	1/2	8570	B	.2380	1/2	1/2	8613	15/32	.4688	7/8	7/8
8527	3.0mm	.1200	3/8	1/2	8571	C	.2420	1/2	1/2	8614	12.mm	.4724	7/8	7/8
8528	#31	.1250	3/8	1/2	8572	D	.2460	1/2	1/2	8615	31/64	.4844	7/8	7/8
8529	1/8	.1285	7/16	1/2	8573	E 1/4	.2500	1/2	1/2	8616	1/2	.5000	7/8	7/8
8530	#30	.1360	7/16	1/2	8574	F	.2570	5/8	5/8	8617	33/64	.5156	1"	1"
8531	#29	.1405	7/16	1/2	8575	G	.2610	5/8	5/8	8618	17/32	.5312	1"	1"
8532	#28	.1406	7/16	1/2	8576	17-64	.2656	5/8	5/8	8619	9/16	.5625	1"	1"
8533	9/64	.1440	7/16	1/2	8577	H	.2660	5/8	5/8	8620	15.mm	.5906	1"	1"
8534	#27	.1470	7/16	1/2	8578	I	.2720	5/8	5/8	8621	19/32	.5938	1"	1"
8535	#26	.1495	7/16	1/2	8579	7.0mm	.2756	5/8	5/8	8622	5/8	.6250	1-1/8	1-1/8
8536	#25	.1520	7/16	1/2	8580	J	.2770	5/8	5/8	8623	11/16	.6875	1-1/8	1-1/8
8537	#24	.1540	7/16	1/2	8581	K	.2810	5/8	5/8	8624	23/32	.7188	1-1/8	1-1/8
8538	#23	.1562	7/16	1/2	8582	9/32	.2812	5/8	5/8	8625	47/64	.7344	1-1/8	1-1/8
8539	5/32	.1570	7/16	1/2	8583	L	.2900	5/8	5/8	8626	3/4	.7500	1-1/4	1-1/4
8540	#22	.1575	7/16	1/2	8584	M	.2950	5/8	5/8	8627	20.mm	.7874	1-1/4	1-1/4
8541	4.0mm	.1590	7/16	1/2	8585	19/64	.2969	5/8	5/8	8628	7/8	.8750	1-3/8	1-3/8
8542	#21	.1610	7/16	1/2	8586	N	.3020	5/8	5/8	8629	1"	1.000	1-1/2	1-1/2
8543	#20	.1660	7/16	1/2										

1/4" HEX DRIVE SHANK ADAPTERS FOR USING STANDARD HSS DRILL BIIT



Tool No.	Fractional. Size	Number Sizes	Metric Sizes.
9053-HDSA	1/16	52-54	1.4-1.6
9054-HDSA	5/64	45-51	1.7-2.0
9055-HDSA	3/32	40-44	2.1-2.4
9056-HDSA	7/64	33-39	2.5-2.8
9057-HDSA	1/8	30-32	2.9-3.2
9058-HDSA	9/64	27-29	3.3-3.6
9059-HDSA	5/32	20-26	3.7-4.0
9060-HDSA	11/64	16-19	4.1-4.4
9061-HDSA	3/16	11-15	4.5-4.8
9062-HDSA	13/64	5-10	4.9-5.2
9063-HDSA	7/32	2-4	5.3-5.6
9064-HDSA	15/64	1-Letter B	5.7-6.0
9065-HDSA	1/4	Letter C-E	6.1-6.4

1/4" HEX DRIVE SHANK DRILL BIIT



Tool No.	Dia	OAL
9053-HDS	1/16	2-1/4
9055-HDS	3/32	2-7/16
9057-HDS	1/8	2-5/8
9059-HDS	5/32	2-13/16
9061-HDS	3/16	3"
9063-HDS	7/32	3-1/8
9065-HDS	1/4	3-3/16

CARBIDE TIPPED SPUR POINT DRILLS



3" TWIST - 1/2" SHANK - 5" OAL

Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
*400-5	1/8	414-5	7/16	427-A-5	27/32
*401-5	5/32	415-5	29/64	428-5	7/8
*402-5	3/16	416-5	15/32	428-A-5	29/32
*403-5	7/32	417-5	1/2	429-5	15/16
404-5	1/4	418-5	17/32	429-A-5	31/32
405-5	17/64	419-5	9/16	430-5	1
406-5	9/32	420-5	19-/32	430-A-5	1-1/32
407-5	19/64	421-5	5/8	431-5	1-1/16
408-5	5/16	422-5	21/32	432-5	1-1/8
409-5	21/64	423-5	11/16	433-5	1-3/16
410-5	11/32	424-5	23/32	434-5	1-1/4
411-5	3/8	425-5	3/4		
412-5	25/64	426-5	25/32		
413-5	13/32	427-5	13/16		

4" TWIST - 1/2" SHANK - 6" OAL

Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
*400	1/8	414	7/16	427-A	27/32
*401	5/32	415	29/64	428	7/8
*402	3/16	416	15/32	428-A	29/32
*402-A	13/64	417	1/2	429	15/16
*403	7/32	417-A	33/64	429-A	31/32
404	1/4	418	17/32	430	1
405	17/64	419	9/16	430-A	1-1/32
406	9/32	420	19-/32	431	1-1/16
407	19/64	421	5/8	432	1-1/8
408	5/16	422	21/32	433	1-3/16
409	21/64	423	11/16	434	1-1/4
410	11/32	424	23/32	434-A	1-5/16
411	3/8	425	3/4	435	1-3/8
412	25/64	426	25/32	435-A	1-7/16
413	13/32	427	13/16	436	1-1/2

6" TWIST 1/2" SHANK - 8" OAL

Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
404-8	1/4	423-8	11/16
408-8	5/16	425-8	3/4
410-8	11/32	427-8	13/16
411-8	3/8	428-8	7/8
413-8	13/32	429-8	15/16
414-8	7/16	430-8	1
417-8	1/2	431-8	1-1/16
419-8	9/16	432-8	1-1/8
421-8	5/8	434-8	1-1/4

*Not available in carbide.

Available in carbon steel Add -S to Tool No.
Some sizes available in HSS Add -HSS to Tool No.
See Price list for sizes

*Not available in carbide.

Available in carbon steel Add -S to Tool No.
Some sizes available in HSS Add -HSS to Tool No.
See Price list for sizes

Available in carbon steel Add -S to Tool No.
Left hand available only in 3/8, 7/16 & 1/2 dia. Add -LH to Tool No. if carbide & if steel Add -S-LH to Tool No.

CARBIDE TIPPED SPUR POINT DRILLS

Shank & cutting diameter same size



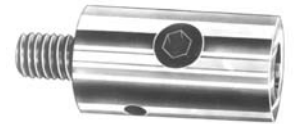
Tool No.	Cutting Dia.	Twist Length	OAL	Tool No.	Cutting Dia.	Twist Length	OAL
9030*	1/8	1-5/8	2-3/4	9035	9/32	2-15/16	4-1/4
9031*	5/32	2	3-1/8	9036	5/16	3-3/16	4-1/2
9032*	3/16	2-5/16	3-1/2	9037	11/32	3-7/16	4-3/4
9033*	7/32	2-1/2	3-3/4	9038	3/8	3-5/8	5
9034	1/4	2-3/4	4	9039	7/16	4-1/16	5-1/2

*Not available in carbide.

Available in HSS Add -HSS to Tool No.

BORING CHUCK #399

Either Right or Left hand



Has 7/16" #14 TPI screw shank with ID to hold bits of the following sizes: 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 3/8, 10mm, 7/16, & 1/2. Specify size when ordering. Right hand furnished unless otherwise specified.

CARBIDE TIPPED & HIGH SPEED STEEL

BRAD-POINT DRILL

For use in Ritter R-25 & R-38 Boring Heads
1/4" Shank x 2-1/2" OAL with flat spot on shank



Tool No.	Cutting Dia.	Type	Tool No.	Cutting Dia.	Type
245-S	5mmRH	HSS	247-S	17/64RH	HSS
245-S-LH	5mmLH	HSS	247-S-LH	17/64LH	HSS
245-CT	5mmRH	CT	247-CT	17/64RH	CT
245-CT-LH	5mmLH	CT	247-CT-LH	17/64LH	CT
246-S	1/4RH	HSS	248-S	9/32RH	HSS
246-S-LH	1/4LH	HSS	248-S-LH	9/32LH	HSS
246-CT	1/4RH	CT	248-CT	9/32RH	CT
246-CT-LH	1/4LH	CT	248-CT-LH	9/32LH	CT

CARBIDE TIPPED SPUR POINT DRILL

1/4" Shank - 3-1/2 Twist - 4-1/2 OAL



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
255	5/16	257	7/16
256	3/8	258	1/2

Available in carbon steel Add -S to Tool No.

DRILL POINT CENTER DRILLS

2-1/4" TWIST - 6" OAL - Carbon Steel



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
230	3/32	235	16/64	240	9/32
231	1/8	236	7/32	241	19/64
232	5/32	237	15/64	242	5/16
233	11/64	238	1/4	243	11/32
234	3/16	239	17/64	244	3/8

Available in HSS Add -HSS to Tool No.

Some sizes available in left hand Add -LH to Tool No. See price list for sizes.
8" OAL with 4" twist available in 3/16, 7/32 & 1/4 Add -8 to Tool No.

BRAD POINT CENTER DRILLS

2-1/4" TWIST - 6" OAL - Carbon Steel



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
221-A	1/8	225	19/64
221	5/32	226	9/32
222	3/16	227	5/16
223	7/32	228	3/8
224	1/4		

Available in HSS Add -HSS to Tool No.

Some sizes available in left hand Add -LH to Tool No. See price list for sizes.
8" OAL with 4" twist available in HSS in 3/16, 7/32 & 1/4 Add -HSS-8 to Tool No.

CARBIDE TIPPED MULTI-SPUR BITS
6" OAL - 1/2" SHANK



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
300	1/2	313	1-5/16	326	2-1/4
301	9/16	314	1-3/8	327	2-3/8
302	5/8	315	1-7/16	328	2-1/2
303	11/16	316	1-1/2	329	2-5/8
304	3/4	317	1-9/16	330	2-3/4
305	13/16	318	1-5/8	331	2-7/8
306	7/8	319	1-11/16	332	3
307	15/16	320	1-3/4	332-A	3-1/8
308	1	321	1-13/16	333*	3-1/4
309	1-1/16	322	1-7/8	334*	3-1/2
310	1-1/8	323	1-15/16	335*	3-3/4
311	1-3/16	324	2	336*	4
312	1-1/4	325	2-1/8		

Available in steel - Add -S to Tool No.
 * Available in both 1/2 & 3/4 shank. For 3/4 shank Add -12 to Tool No.

CARBIDE TIPPED LARGE CUSTOM MULTI-SPUR BITS
6" OAL - 3/4" Min. Shank

Tool No.	Diameter	Tool No.	Diameter
336-4125	4-1/8	336-4875	4-7/8
336-4250	4-1/4	336-5000	5
336-4375	4-3/8	336-5250	5-1/4
336-4500	4-1/2	336-5500	5-1/2
336-4625	4-5/8	336-5750	5-3/4
336-4750	4-3/4	336-6000	6

Other sizes upon request

CARBIDE TIPPED 3 WING PLANETOR DRILLS
6" OAL - 1/2" SHANK with removable Brad Point

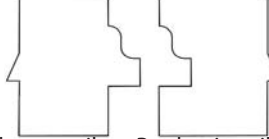


Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
380-PD	1/2	387-PD	1	394-PD	1-7/8
381-PD	9/16	388-PD	1-1/8	395-PD	2
382-PD	5/8	389-PD	1-1/4	396-PD	2-1/8
383-PD	11/16	390-PD	1-3/8	397-PD	2-1/4
384-PD	3/4	391-PD	1-1/2	398-PD	2-1/2
385-PD	13/16	392-PD	1-5/8		
386-PD	7/8	393-PD	1-3/4		

Separate Center Brad Point available - See price list.

DISCONTINUED
SOME SIZES STILL AVAILABLE IN BOTH
STEEL & CARBIDE TIPPED

CARBIDE TIPPED PLANETOR DRILLS - HEAD ONLY
2 Wing with removable center point

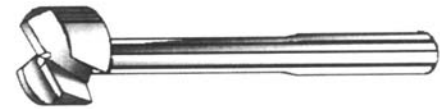


Comes with feed screw pilot - Brad point pilot and shanks available.
See price list. Shanks come in lengths of 3-1/2, 5-1/2, 12, & 18. Shank extensions come in lengths of 6, 12 & 18.

Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Cutting Dia.
8200	1	8212	2	3-1/4
8201	1-1/16	8213	2-1/16	3-3/8
8202	1-1/8	8214	2-1/8	3-1/2
8203	1-3/16	8215	2-1/4	3-5/8
8204	1-1/4	8216	2-3/8	3-3/4
8205	1-5/16	8217	2-1/2	4
8206	1-3/8	8218	2-9/16	4-1/4
8207	1-1/2	8219	2-5/8	4-1/2
8208	1-5/8	8220	2-3/4	4-5/8
8209	1-3/4	8221	2-7/8	4-3/4
8210	1-7/8	8222	3	5
8211	1-15/16	8223	3-1/8	

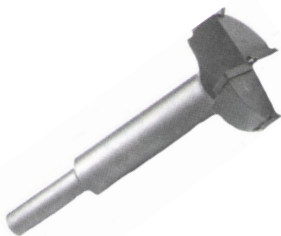
Available in steel - Add -S to Tool No.

FORSTNER DRILL BITS -USA made



Tool No.	Cutting Dia.	Shank Dia.	Overall Length	Tool No.	Cutting Dia.	Shank Dia.	Overall Length
2101	1/4	5/16	5	2128	1-5/16	1/2	5
2102	5/16	5/16	5	2130	1-3/8	1/2	5
2104	3/8	3/8	5	2132	1-7/16	1/2	6-3/4
2105	7/16	1/2	5	2134	1-1/2	1/2	6-3/4
2107	1/2	1/2	5	2136	1-5/8	1/2	6-3/4
2108	9/16	1/2	5	2138	1-3/4	1/2	6-3/4
2111	5/8	1/2	5	2140	1-7/8	1/2	6-3/4
2112	11/16	1/2	5	2142	2	1/2	6-3/4
2114	3/4	1/2	5	2144	2-1/8	1/2	6-3/4
2115	13/16	1/2	5	2145	2-1/4	1/2	6-3/4
2117	7/8	1/2	5	2146	2-3/8	1/2	6-3/4
2118	15/16	1/2	5	2147	2-1/2	1/2	6-3/4
2121	1	1/2	5	2148	2-5/8	1/2	6-3/4
2122	1-1/16	1/2	5	2149	2-3/4	1/2	6-3/4
2124	1-1/8	1/2	5	2150	2-7/8	1/2	6-3/4
2125	1-3/16	1/2	5	2151	3	1/2	6-3/4
2127	1-1/4	1/2	5				

CARBIDE TIPPED 2 WING PLANTER DRILL
W/ 2 Rakers & 2 Spurs - 6" OAL - 1/2" Shank



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
387-PD-2W	1"	392-PD-2W	1-5/8	397-PD-2W	2-1/4
388-PD-2W	1-1/8	393-PD-2W	1-3/4	398-PD-2W	2-1/2
389-PD-2W	1-1/4	394-PD-2W	1-7/8	398-A-PD-2W	2-3/4
390-PD-2W	1-3/8	395-PD-2W	2"	399-PD-2W	3"
391-PD-2W	1-1/2	396-PD-2W	2-1/8		

**CARBIDE TIPPED SPUR POINT DOWEL DRILLS
WITH 7/16"-14 TPI SHANK - 3-1/2" OAL**



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
7250-3.5	1/4	7375-3.5	3/8	7500-3.5	1/2
7281-3.5	9/32	7391-3.5	25/64	7625-3.5	5/8
7312-3.5	5/16	7438-3.5	7/16	7750-3.5	3/4

Available in carbon steel Add -S to Tool No. Some sizes available in HSS Add -HSS to Tool No. See price list for sizes.

**SCREW POINT DOWEL DRILL
WITH 7/16 - 14 TPI SHANK - 4-1/2" OAL**

Available in steel only. Not recommended for power machines



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
7250-S-SP	1/4	7391-S-SP	25/64
7312-S-SP	5/16	7438-S-SP	7/16
7375-S-SP	3/8	7453-S-SP	29/64
		7500-S-SP	1/2

**CARBIDE TIPPED PLUG CUTTERS
1/2" SHANK**



TOOL NO.	DIA.	TOOL NO.	DIA.
381-PC	1/4"	388-PC	7/8"
382-PC	5/16"	388-A-PC	15/16"
383-PC	3/8"	389-PC	1"
384-PC	7/16"	390-PC	1-1/8"
385-PC	1/2"	391-PC	1-1/4"
385-A-PC	9/16"	392-PC	1-3/8"
386-PC	5/8"	393-PC	1-1/2"
386-A-PC	11/16"	394-PC	1-3/4"
387-PC	3/4"	395-PC	2"
387-A-PC	13/16"		

Available in Steel - Add "S" to Tool No.
Custom sizes and large diameter are available.
Tapered plug cutters are available - send specs.

**CARBIDE TIPPED SPUR POINT DOWEL DRILLS
WITH 7/16"-14 TPI SHANK - 4-1/2" OAL**



Tool No.	Cutting Dia.	Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
*7125	1/8	7344	11/32	7516	33/64
*7156	5/32	7375	3/8	7563	9/16
*7188	3/16	7391	25/64	7625	5/8
*7219	7/32	7406	13/32	7688	11/16
7250	1/4	7438	7/16	7750	3/4
7266	17/64	7453	29/64	7875	7/8
7281	9/32	7469	15/32	7-1000	1
7312	5/16	7500	1/2	7-1000-6	1"x6" OAL

*NOT AVAILABLE IN CARBIDE

Available in carbon steel Add -S to Tool No. Some sizes available in HSS Add -HSS to Tool No. See price list for sizes.

HOLLOW MORTISING CHISELS & BITS



STYLE 27-FC

HOLLOW MORTISING CHISEL HOLLOW CHISEL BITS

2- 3/4" Blade x 4-1/4" OAL

TOOL NO.	CHISEL SIZE	SHANK DIA.	MORTISE DEPTH	TOOL NO.	BIT SIZE	SHANK DIA.	SHANK LENGTH	TWIST OAL	OAL
619	1/2"	5/8"	1-7/8"	623	1/4"	3/16"	3-1/4"	4-3/4"	8"
620	1/4"	5/8"	1-7/8"	624	5/16"	1/4"	3-1/4"	4-3/4"	8"
621	5/16"	5/8"	1-7/8"	625	3/8"	19/64"	3-1/4"	4-3/4"	8"
622	3/8"	5/8"	1-7/8"	626	1/2"	19/64"	3-1/4"	4-3/4"	8"

TOOL NO.	CHISEL SIZE	SHANK DIA.	MORTISE DEPTH	TOOL NO.	BIT SIZE	SHANK DIA.	SHANK LENGTH	TWIST OAL	OAL
630	1/4"	5/8"	1-7/8"	640	1/4"	3/16"	5-3/4"	3-1/4"	9"
631	5/16"	5/8"	1-7/8"	641	5/16"	1/4"	5-3/4"	3-1/4"	9"
632	3/8"	5/8"	3-1/4"	642	3/8"	19/64"	3"	6"	9"
634	1/2"	5/8"	3-1/4"	644	1/2"	19/64"	3"	6"	9"
635	5/8"	3/4"	3-1/4"	645	5/8"	1/2"	3"	6"	9"
636	3/4"	1-1/8"	3-1/4"	646	3/4"	1/2"	3"	6"	9"
639	1"	1-1/8"	3-1/4"	649	1"	1/2"	3"	6"	9"

STEEL PLUG CUTTER

This style does not eject the plugs. The plug remains in the board and can be broken out or the board can be sawed to free plug. It chamfers the top of the plug for easy starting. Cutters can be opened for larger or closed for slightly smaller plugs.

STANDARD TYPE



TOOL NO	DIA.	DEPTH	SHANK	TOOL NO	DIA.	DEPTH	SHANK
6050-PC	1/4"	3/8"	1/4"	6058-PC	7/8"	3/4"	1/2"
6051-PC	5/16"	3/8"	1/4"	6059-PC	1"	3/4"	1/2"
6051-PC-MOD-8MM	8MM	3/8"	1/4"	6060-PC	1-1/8"	3/4"	1/2"
6052-PC	3/8"	1/2"	3/8"	6061-PC	1-1/4"	3/4"	1/2"
6053-PC	7/16"	1/2"	3/8"	6062-PC	1-3/8"	3/4"	1/2"
6054-PC	1/2"	1/2"	3/8"	6062-PC-MOD-35MM	35MM	3/4"	1/2"
6055-PC	9/16"	9/16"	3/8"	6063-PC	1-1/2"	3/4"	1/2"
6056-PC	5/8"	5/8"	3/8"	6063-PC-MOD-40MM	40MM	3/4"	1/2"
6057-PC	3/4"	3/4"	1/2"				

*Also comes in a special grade of hardened steel for longer life - Add "X" to Tool No.

CARBIDE TIPPED BEVEL ADJUSTABLE COUNTERSINKS

To be used on the twist of a drill. Fasten on the drill with set screw.. Drill bit not included see page 59.

Tool No.	Large Dia.	Small Dia.	Tool No.	Large Dia.	Small Dia.
437-A	3/8	3/16	443	1/2	7/32
437	1/2	1/8	444	1/2	1/4
438	1/2	9/64	445	5/8	1/4
439	1/2	5/32	446	5/8	5/16
440	1/2	11/64	447	3/4	5/16
441	1/2	3/16	448	3/4	3/8
442	1/2	13/64			



Available in steel bits. When ordering Add -S to Tool No.

CARBIDE TIPPED ADJUSTABLE COUNTERSINKS WITH THREADED SHANK - Shank 7/16" - 14TPI



Center drill is held by set screw. Center drills are not included see page 59.

Tool No.	Large Dia.	Small Dia.	Twist Length	OAL
9275	3/8	3/16	2-1/2	4-1/2
9275-LH	3/8	3/16	2-1/2	4-1/2
9276	1/2	3/16	2-1/2	4-1/2
9276-LH	1/2	3/16	2-1/2	4-1/2
9277	1/2	7/32	2-1/2	4-1/2
9277-LH	1/2	7/32	2-1/2	4-1/2
9278	1/2	1/4	2-1/2	4-1/2
9278-LH	1/2	1/4	2-1/2	4-1/2

Available in steel bits. When ordering Add -S to Tool No. Left Hand steel pilot bits are available see page 59.

CARBIDE TIPPED BEVEL ADJUSTABLE COUNTERSINKS WITH THREADED SHANK - Shank 7/16" - 14TPI



Center drill is held by set screw. Center drills are not included see page 59.

Tool No.	Large Dia.	Small Dia.	Twist Length	OAL
9270	3/8	3/16	2-1/2	4-1/2
9270-LH	3/8	3/16	2-1/2	4-1/2
9271	1/2	3/16	2-1/2	4-1/2
9271-LH	1/2	3/16	2-1/2	4-1/2

Available in steel bits. When ordering Add -S to Tool No. Left Hand steel pilot bits are available see page 59.

STEP DRILL FOR THE HAFELE CONFIRMAT® SINGLE PIECE, THREADED CONNECTOR, STEP SCREW SYSTEM. CARBIDE TIPPED OR HSS



5.4MM TIP
7MM FIRST STEP
10MM SECOND STEP
6-1/16" OVERALL LENGTH

Tool No.	Type
7990	Carbide Tipped
7991	HSS

CARBIDE TIPPED BEVEL ADJUSTABLE COUNTERSINKS - Shank 1/2" x 2"



Center drill is held by set screw. Center drills are not included see page 59.

Tool No.	Large Dia.	Small Dia.	Twist	OAL	Tool No.	Large Dia.	Small Dia.	Twist	OAL
9250	3/8	1/8		4-1/2	9255	1/2	1/8		4-1/2
9251	3/8	5/32		4-1/2	9256	1/2	5/32		4-1/2
9252	3/8	3/16		4-1/2	9257	1/2	3/16		4-1/2
9253	7/16	3/16		4-1/2	9258	1/2	7/32		4-1/2
9254	7/16	7/32		4-1/2	9259	1/2	1/4		4-1/2

Available in steel bits. When ordering Add -S to Tool No.

CARBIDE TIPPED MULTI-SPUR COUNTERSINKS

Fastens on drill or standard multi-spur bit with set screw. Drill bit not included in price. All sizes have 1/2" bore.

Tool No.	Cutting Dia.	Tool No.	Cutting Dia.
340	1	346	1-3/4
341	1-1/8	347	1-7/8
342	1-1/4	348	2
343	1-3/8	349	2-1/8
344	1-1/2	350	2-1/4
345	1-5/8	351	2-1/2

Available in steel - Add -S to Tool No.



CARBIDE TIPPED FACE FRAME BITS

Tool No.	Shank	Cutting Dia.	Drill Size	OAL	Type of Machine
67	.359	3/8	.136	4-1/16	Evans-Ritter, Marcon, Unique
67-SPIRAL	.359	3/8	.136	4-1/16	Evans-Ritter, Marcon, Unique
69-8	3/8	3/8	.136		Facemaker, Portalign, for manual operated face frame machine



PILOT CENTER DRILLS

Tool No.	Diameter	Flute Length	OAL
67-PD (Standard)	.136	3/8	3-3/8
67-PDL (Long flutes)	.136	1-3/4	2-7/8

CASTLE FACE FRAME POCKET DRILLS

Tool No.	Item	Image
70-5M	5MM Solid Carbide Boring Bit	
70-109	7/64 Cobalt boring Bit	
70-109-SC	7/64 Solid Carbide Boring Bit	
70-140	9/64 Cobalt Boring Bit	
70-140-SC	9/64 Solid Carbide Boring Bit	
70-187	3/16 Cobalt Boring Bit	
70-187-SC	3/16 Solid Carbide Boring Bit	
70-140	9/64 Cobalt Boring Bit	
70-RB	3/8 Carbide tipped 2 flute router bit for MDF applications	
70-RM	3/8 Cobalt 4 flute rough mill	

SELF-CENTERING "VIX-BITS"



Tool No.	Size Vix-Bits	Screw Size	Drill Size
7100	3	3 & 4	5/64
7101	5	5 & 6	7/64
7102	9	8, 9, 10	9/64
7103	12	12	11/64
7104	14	14	13/64

CARBIDE TIPPED ADJUSTABLE COUNTERBORE

1/2" & Under x 1-1/2" OAL



5/8" & Larger x 2" OAL



To be used on the twist of a drill. Fasten on the drill with set screw. Drill bit not included see page 59.

Tool No.	Lg Dia.	Sm Dia.	Tool No.	Lg Dia.	Sm Dia.
352-A	3/8	3/16	371	1-1/8	3/8
352	1/2	3/16	371-A	1-1/8	7/16
353	1/2	7/32	372	1-1/8	1/2
354	1/2	1/4	373	1-1/4	5/16
357	5/8	1/4	374	1-1/4	3/8
358	5/8	5/16	374-A	1-1/4	7/16
360	3/4	1/4	375	1-1/4	1/2
361	3/4	5/16	376	1-3/8	1/2
362	7/8	1/4	376-A	1-3/8	3/8
363	7/8	5/16	376-B	1-3/8	7/16
364	7/8	3/8	377-A	1-1/2	3/8
365	7/8	7/16	377-B	1-1/2	7/16
366	1	1/4	377	1-1/2	1/2
367	1	5/16	378	1-1/2	9/16
368	1	3/8	379	1-5/8	1/2
368-A	1	7/16	379-A	1-3/4	1/2
369	1	1/2	379-B	1-7/8	1/2
370	1-1/8	5/16	379-C	2	1/2

Available in steel bits. When ordering Add -S to Tool No.

CARBIDE TIPPED ADJUSTABLE FLAT COUNTERBORE



Twist length is 2-1/2". Shank 1/2" x 2". Overall length is 4-1/2". Center drill is held by set screw. Center drills are not included see page 59.

Tool No.	Lg.Dia.	Sm.Dia.	Tool No.	Lg.Dia.	Sm.Dia.
511	3/8	1/8	530	3/4	3/16
512	3/8	5/32	531	3/4	7/32
513	3/8	3/16	532	3/4	1/4
514	7/16	3/16	533	3/4	9/32
515	7/16	7/32	534	3/4	5/16
516	1/2	1/8	535	3/4	3/8
517	1/2	5/32	535-A	13/16	3/16
518	1/2	11/64	535-B	13/16	1/4
519	1/2	3/16	535-C	13/16	9/32
520	1/2	13/64	535-D	13/16	5/16
521	1/2	7/32	536-A	7/8	3/16
522	1/2	1/4	536	7/8	7/32
523	9/16	3/16	537	7/8	1/4
524	9/16	7/32	538	7/8	5/16
525	9/16	1/4	539	7/8	3/8
525-A	5/8	5/32	540	1	1/4
526-A	5/8	3/16	541	1	5/16
526-B	5/8	7/32	542	1	3/8
527	5/8	1/4	543	1-1/8	1/4
528	5/8	9/32	544	1-1/8	5/16
529	5/8	5/16	545	1-1/8	3/8
529-A	11/16	1/4	546	1-1/4	1/4
529-B	11/16	9/32	547	1-1/4	5/16
529-C	11/16	5/16	548	1-1/4	3/8

Available in steel bits. When ordering Add -S to Tool No.

STEEL & HSS - 4 FLUTE - 82° ANGLE COUNTERSINKS

To be used on the twist of a drill. Fastened on the drill with set screw. Drill bit not included see page 56 & 59.

Tool No.	Lg.Dia.	Sm. Dia.	OAL	Tool No.	Lg.Dia.	Sm.Dia.	OAL	Tool No.	Lg. Dia.	Sm.Dia.	OAL
2520	1/4	5/64	3/4	2537	7/16	5/32	7/8	2555-HSS	5/8	1/4	1-1/16
2521	1/4	3/32	3/4	2538	7/16	11/64	7/8	2556	5/8	17/64	1-1/16
2521-HSS	1/4	3/32	3/4	2539	7/16	3/16	7/8	2557	5/8	9/32	1-1/16
				2540	7/16	13/64	7/8	2557-HSS	5/8	9/32	1-1/16
2522	5/16	7/64	7/8	2540-HSS	7/16	13/64	7/8	2558	5/8	19/64	1-1/16
2522-HSS	5/16	7/64	7/8	2541	7/16	7/32	7/8	2559	5/8	5/16	1-1/16
2523	5/16	1/8	7/8	2542	7/16	1/4	7/8	2559-HSS	5/8	5/16	1-1/16
2524	5/16	9/64	7/8								
2525-CKS	5/16	5/32	7/8	2543	1/2	1/8	7/8	2560	3/4	3/16	1-1/8
2526	5/16	11/64	7/8	2544	1/2	9/64	7/8	2561	3/4	7/32	1-1/8
2527	5/16	3/16	7/8	2545	1/2	5/32	7/8	2562	3/4	1/4	1-1/8
				2545-HSS	1/2	5/32	7/8	2562-HSS	3/4	1/4	1-1/8
2528	3/8	3/32	7/8					2563	3/4	5/16	1-1/8
2529	3/8	7/64	7/8	2546	1/2	11/64	7/8	2563-HSS	3/4	5/16	1-1/8
2530	3/8	1/8	7/8	2547	1/2	3/16	7/8	2564	3/4	21/64	1-1/8
2530-HSS	3/8	1/8	7/8	2547-HSS	1/2	3/16	7/8	2565	3/4	3/8	1-1/4
				2548	1/2	13/64	7/8	2565-HSS	3/4	3/8	1-1/4
2531	3/8	9/64	7/8	2548-HSS	1/2	13/64	7/8				
2531-HSS	3/8	9/64	7/8	2549	1/2	7/32	7/8	2566	7/8	1/4	1-1/4
2532	3/8	5/32	7/8	2549-HSS	1/2	7/32	7/8	2567	7/8	5/16	1-1/4
2532-HSS	3/8	5/32	7/8	2550	1/2	15/64	7/8	2567-HSS	7/8	5/16	1-1/4
2533	3/8	11/64	7/8	2551	1/2	1/4	7/8	2568	7/8	3/8	1-1/4
2533-HSS	3/8	11/64	7/8	2551-HSS	1/2	1/4	7/8	2568-HSS	7/8	3/8	1-1/4
2534	3/8	3/16	7/8					2569	7/8	7/16	1-3/8
2534-HSS	3/8	3/16	7/8	2552	5/8	5/32	1-1/16	2569-HSS	7/8	7/16	1-3/8
2535	3/8	13/64	7/8	2553	5/8	3/16	1-1/16				
2535-HSS	3/8	13/64	7/8	2553-HSS	5/8	3/16	1-1/16	2570	1	1/4	1-3/8
2536	3/8	7/32	7/8	2554	5/8	7/32	1-1/16	2571	1	3/8	1-3/8
2536-HSS	3/8	7/32	7/8	2555	5/8	1/4	1-1/16	2872	1	1/2	1-1/2
								2572-HSS	1	1/2	1-1/2

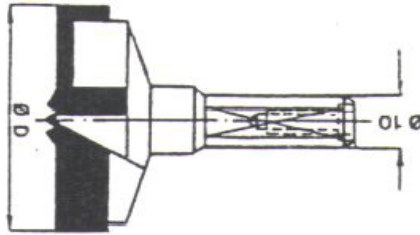


HSS types are also available (not stocked) in 60°, 90°, 100° and 120° angle. To order add degree of angle to Tool No. Example #2530-HSS-90

METRIC TOOLING

LARGE DIAMETER - METRIC CARBIDE TIPPED BORING BITS

10MM shank
2 straight raker teeth and 2 spur teeth



57MM O.A.L.

R-Hand Tool.No.	L-Hand Tool No.	Dia. MM	R-Hand Tool No.	L-Hand Tool No.	Dia. MM
8015	8015-LH	15	8027	8027-LH	27
8016	8016-LH	16	8028	8028-LH	28
8018	8018-LH	18	8030	8030-LH	30
8019	8019-LH	19	8032	8032-LH	32
8020	8020-LH	20	8034	8034-LH	34
8022	8022-LH	22	8035	8035-LH	35
8022-M	8022-M-LH	7/8	8036	8036-LH	36
8024	8024-LH	24	8038	8038-LH	38
8025	8025-LH	25	8040	8040-LH	40
8026	8026-LH	26			

90MM O.A.L.

Right hand only except 35MM

Tool No..	Dia. MM	Tool No..	Dia.. MM
8015-90	15	8028-90	28
8016-M-90	5/8	8030-90	30
8016-90	16	8032-90	32
8018-90	18	8034-90	34
8019-90	3/4	8035-90	35
8020-90	20	8035-90-LH	35
8022-90	22	8036-90	36
8024-90	24	8038-90	38
8025-90	25	8040-90	40
8026-90	26		

70MM O.A.L.

R-Hand Tool.No.	L-Hand Tool No.	Dia. MM	R-Hand Tool No.	L-Hand Tool No	Dia. MM
8014-70	8014-70-LH	9/16	8025-70	8025-70-LH	25
8015-70	8015-70-LH	15	8026-70	8026-70-LH	26
8016-70	8016-70-LH	16	8030-70	8030-70-LH	30
8018-70	8018-70-LH	18	8035-70	8035-70-LH	35
8019-70	8019-70-LH	19	8040-70	8040-70-LH	40
8020-70	8020-70-LH	20	8044-70	8044-70-LH	44
			8045-70	8045-70-LH	45

57MM O.A.L.

3 Straight raker teeth and 3 spur teeth
best for hardwoods

R-Hand Tool.No.	L-Hand Tool No.	Dia. MM
8025-3	8025-3-LH	25
8030-3	8030-3-LH	30
8035-3	8035-3-LH	35
8040-3	8040-3-LH	40

SMALL DIAMETER SOLID CARBIDE BITS "V" POINT

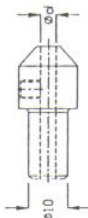


Available in both Right & Left hand.
These bits must be used in the adapters below

R-Hand Tool No..	L-Hand Tool No.	Dia. MM	Flute Lenth	O.A.L. MM
8060	8060-LH	2.0	16MM	55
8061	8061-LH	2.4	18MM	55
8062	8062-LH	2.5	18MM	55
8063	8063-LH	2.8	18MM	55
8064	8064-LH	3.0	18MM	55
8065	8065-LH	3.2	18MM	55
8066	8066-LH	3.5	20MM	55
8067	8067-LH	4.0	20MM	55
8068	8068-LH	4.5	20MM	55

SOLID CARBIDE BIT ADAPTER 10MM shank - 35MM O.A.L.

Tool No.	Drill Bit Size	Tool No.	Drill Bit Size
8050-AD	2.0	8055-AD	3.2
8051-AD	2.4	8056-AD	3.5
8052-AD	2.5	8057-AD	4.0
8053-AD	2.8	8058-AD	4.5
8054-AD	3.0		



Other sizes in inches available upon request.

SOLID CARBIDE METRIC BORING BITS (for use in Castle Boring Machine)

Tool No..	Size	O.A.L.
8102-CM	5MM	33MM
8102-CM-TH	Tool Holder	



Norfield LATCH BORING BITS



Tool No..	Size	Length	Price
NOR-LBB-875	7/8"	6-1/4"	\$ 124.50
NOR-LBB-875-1F	7/8" 1 flat	6-1/4"	124.50
NOR-LBB-875-TS	7/8"	5-7/8"	124.50
NOR-LBB-937	15/16"	6-1/4"	124.50
NOR-LBB-937-1F	15/16" 1 flat	6-1/4"	124.50
NOR-LBB-937-TS	15/16"***	5-7/8"	124.50
NOR-LBB-1000	1"	6-1/4"	124.50
NOR-LBB-1000-1F	1" 1 flat	6-1/4"	124.50
NOR-LBB-1000-TS	1"***	5-7/8"	124.50
NOR-LBB-1000-3F	1" 3 flats	6-1/4"	142.50

** Threaded shanks

METRIC TOOLING

METRIC CARBIDE TIPPED BRAD POINT SPUR DRILLS SMALL DIAMETER

10MM shank with adjusting screw and flat with set screw



57MM O.A.L.

R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Dia. Inch	Depth of Cut
8100	8100-LH	4MM	.157	27MM
8100-187	8100-187-LH	3/16	.187	27MM
8102	8102-LH	5MM	.197	27MM
8102-205	8102-205-LH	5.2MM	.205	27MM
8102-220	8102-220-LH	7/32	.220	27MM
8104	8104-LH	6MM	.236	27MM
8105	8105-LH	1/4	.250	27MM
8104-256	8104-256-LH	6.5MM	.256	27MM
8106	8106-LH	7MM	.276	27MM
8106-281	8106-281-LH	9/32	.281	27MM
8106-295	8106-295-LH	7.5MM	.295	27MM
8107	8107-LH	8MM	.315	27MM
8107-323	8107-323-LH	8.2MM	.323	27MM
8109	8109-LH	9MM	.354	27MM
8109-375	8109-375-LH	3/8	.375	27MM
8110	8110-LH	10MM	.394	27MM
8111	8111-LH	11MM	.433	27MM
8112	8112-LH	12MM	.472	27MM
8112-500	8112-500-LH	1/2	.500	27MM
8113	8113-LH	13MM	.512	27MM
8114	8114-LH	14MM	.551	27MM
8115	8115-LH	15MM	.591	27MM

70MM O.A.L.

R-Hand Tool No..	L-Hand Tool No..	Cutting MM	Dia. Inch	Depth of Cut
8100-B	8100-B-LH	4MM	.157	35MM
8100-187-B	8100-187-B-LH	3/16	.187	35MM
8102-B	8102-B-LH	5MM	.197	35MM
8102-205-B	8102-205-B-LH	5.2MM	.205	35MM
8102-220-B	8102-220-B-LH	7/32	.220	35MM
8104-B	8104-B-LH	6MM	.236	35MM
8105-B	8105-B-LH	1/4	.250	35MM
8104-256-B	8104-256-B-LH	6.5MM	.256	35MM
8104-264-B	8104-264-B-LH	6.7MM	.264	35MM
8106-B	8106-B-LH	7MM	.276	35MM
8106-281-B	8106-281-B-LH	9/32	.281	35MM
8106-295-B	8106-295-B-LH	7.5MM	.295	35MM
8107-B	8107-B-LH	8MM	.315	35MM
8107-323-B	8107-323-B-LH	8.2MM	.323	35MM
8109-B	8109-B-LH	9MM	.354	35MM
8109-375-B	8109-375-B-LH	3/8	.375	35MM
8110-B	8110-B-LH	10MM	.394	35MM
8110-410-B	8110-410-B-LH	10.4MM	.410	35MM
8111-B	8111-B-LH	11MM	.433	35MM
8111-438-B	8111-438-B-LH	11.5MM	7/16	35MM
8112-B	8112-B-LH	12MM	.472	35MM
8112-500-B	8112-500-B-LH	1/2	.500	35MM
8113-B	8113-B-LH	13MM	.512	35MM
8114-B	8114-B-LH	14MM	.551	35MM
8115-B	8115-B-LH	15MM	.591	35MM
8116-B	8116-B-LH	16MM	.630	35MM
8117-B	8117-B-LH	17MM	.670	35MM

77MM O.A.L.

R-Hand Tool No..	L-Hand Tool No..	Cutting MM	Dia. Inch	Depth of Cut
8100-77	8100-77-LH	4MM	.157	45MM
8102-77	8102-77-LH	5MM	.197	45MM
8104-77	8104-77-LH	6MM	.236	45MM
8106-77	8106-77-LH	7MM	.276	45MM
8107-77	8107-77-LH	8MM	.315	45MM
8109-77	8109-77-LH	9MM	.354	45MM
8110-77	8110-77-LH	10MM	.394	45MM
8112-77	8112-77-LH	12MM	.472	45MM

METRIC CARBIDE TIPPED V - POINT DRILLS

10MM shank with adjusting screw and flat with set screw



58MM O.A.L.

R-Hand Tool No.	L-Hand Tool No..	Cutting MM	Dia. Inch	Depth of Cut
8100-H-TP	8100-H-TP-LH	4MM	.157	27MM
8102-H-TP	8102-H-TP-LH	5MM	.197	27MM
8104-H-TP	8104-H-TP-LH	6MM	.236	27MM
8105-H-TP	8105-H-TP-LH	1/4	.250	27MM
8104-256-H-TP	8104-256-H-TP-LH	6.5MM	.256	27MM
8106-H-TP	8106-H-TP-LH	7MM	.276	27MM
8107-H-TP	8107-H-TP-LH	8MM	.315	27MM
8109-H-TP	8109-H-TP-LH	9MM	.354	27MM
8110-H-TP	8110-H-TP-LH	10MM	.394	27MM
8111-H-HP	8111-H-TP-LH	11MM	.433	27MM
8111.1-H-TP	8111.1-H-TP-LH	11.1MM	.437	27MM
8112-H-TP	8112-H-TP-LH	12MM	.472	27MM
8113-H-TP	8113-H-TP-LH	13MM	.512	27MM
8114-H-TP	8114-H-TP-LH	14MM	.551	27MM
8115-H-TP	8115-H-TP-LH	15MM	.591	27MM
8116-H-TP	8116-H-TP-LH	16MM	.630	27MM

70MM O.A.L.

R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Dia. Inch	Depth of Cut
8100-G-TP	8100-G-TP-LH	4MM	.157	35MM
8100-187-G-TP	8100-187-G-TP-LH	3/16	.187	35MM
8102-G-TP	8102-G-TP-LH	5MM	.197	35MM
8102-220-G-TP	8102-220-G-TP-LH	7/32	.220	35MM
8104-G-TP	8104-G-TP-LH	6MM	.236	35MM
8105-G-TP	8105-G-TP-LH	1/4	.250	35MM
8104-256-G-TP	8104-256-G-TP-LH	6.5MM	.256	35MM
8106-G-TP	8106-G-TP-LH	7MM	.276	35MM
8107-G-TP	8107-G-TP-LH	8MM	.315	35MM
8109-G-TP	8109-G-TP-LH	9MM	.354	35MM
8109-375-G-TP	8109-375-G-TP-LH	3/8	.375	35MM
8110-G-TP	8110-G-TP-LH	10MM	.394	35MM
8111-G-TP	8111-G-TP-LH	11MM	.433	35MM
8111-438-G-TP	8111-438-G-TP-LH	11.5MM	7/16	35MM
8112-G-TP	8112-G-TP-LH	12MM	.472	35MM
8112-500-G-TP	8112-500-G-TP-LH	1/2	.500	35MM
8113-G-TP	8113-G-TP-LH	13MM	.512	35MM
8114-G-TP	8114-G-TP-LH	14MM	.551	35MM
8115-G-TP	8115-G-TP-LH	15MM	.591	35MM
8116-G-TP	8116-G-TP-LH	16MM	.630	35MM

77MM O.A.L.

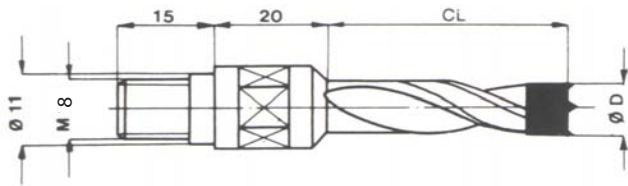
R-Hand Tool No..	L-Hand Tool No.	Cutting MM	Dia. Inch	Depth of Cut
8100-J-TP	8100-J-TP-LH	4MM	.157	45MM
8102-J-TP	8102-J-TP-LH	5MM	.197	45MM
8104-J-TP	8104-J-TP-LH	6MM	.236	45MM
8107-J-TP	8107-J-TP-LH	8MM	.315	45MM
8109-J-TP	8109-J-TP-LH	9MM	.354	45MM
8110-J-TP	8110-J-TP-LH	10MM	.394	45MM

SPECIAL CUSTOM SIZES ARE AVAILABLE
Send request with specifications.

Diameter Depth of Cut
Shank Size Brad or V-Point
Overall length RH or LH

8MM and 10MM threaded shank Brad Point see next page.

METRIC TOOLING



METRIC CARBIDE TIPPED BRAD POINT SPUR DRILL
8mm threaded shank
80MM A.O.L.

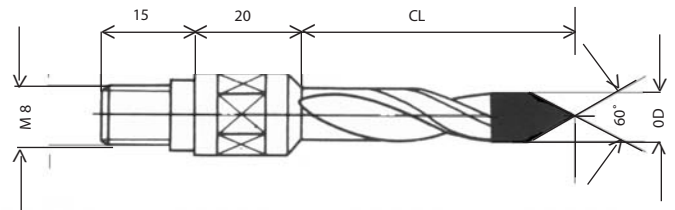
R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Diameter Inch	Depth of Cut MM
9320-8	9320-8-LH	5mm	.197	43mm
9321-8	9321-8-LH	6mm	.236	43mm
9321-A-8	9321-A-8-LH	7mm	.276	43mm
9322-8	9322-8-LH	8mm	.315	43mm
9322-A-8	9322-A-8-LH	9mm	.354	43mm
9323-8	9323-8-LH	10mm	.394	43mm
9324-8	9324-8-LH	12mm	.472	43mm

67MM A.O.L.

R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Diameter Inch	Depth of Cut MM
9325-8	9325-8-LH	5mm	.197	43mm
9326-8	9326-8-LH	6mm	.236	43mm
9327-8	9327-8-LH	7mm	.276	43mm
9328-8	9328-8-LH	8mm	.315	43mm
9329-8	9329-8-LH	9mm	.354	43mm
9330-8	9330-8-LH	10mm	.394	43mm

55.5MM A.O.L.

R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Diameter Inch	Depth of Cut MM
9331-8	9331-8-LH	5mm	.197	43mm
9332-8	9332-8-LH	6mm	.236	43mm
9333-8	9333-8-LH	7mm	.276	43mm
9334-8	9334-8-LH	8mm	.315	43mm
9335-8	9335-8-LH	9mm	.354	43mm
9336-8	9336-8-LH	10mm	.394	43mm



METRIC CARBIDE TIPPED V-POINT DRILL
8mm threaded shank
57MM A.O.L.

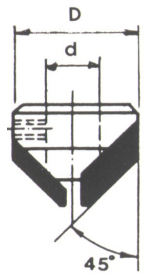
R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Diameter Inch	Depth of Cut MM
9340-8	9340-8-LH	5mm	.197	43mm
9341-8	9341-8-LH	7mm	.276	43mm
9342-8	9342-8-LH	8mm	.315	43mm

70MM A.O.L.

R-Hand Tool No.	L-Hand Tool No.	Cutting MM	Diameter Inch	Depth of Cut MM
9345-8	9345-8-LH	5mm	.197	43mm
9346-8	9346-8-LH	8mm	.315	43mm

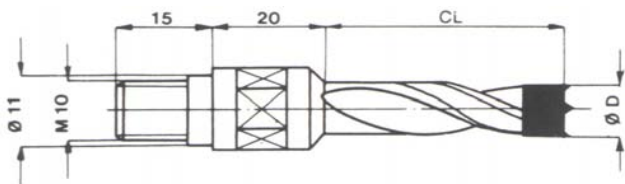
METRIC CARBIDE TIPPED BEVEL
ADJUSTABLE 90° COUNTERSINKS
To be used on a twist of a drill

R-Hand Tool No.	L-Hand Tool No.	Drill Fits	Dia. MM	OAL
9350	9350-LH	5	15	12.7MM
9351	9351-LH	6	16	12.7MM
9352	9352-LH	1/4	16	14MM
9352-A	9352-A-LH	7	16	14.5MM
9353	9353-LH	8	16	14.5MM
9354	9354-LH	9	18	16.5MM
9355	9355-LH	10	18	17MM
9356	9356-LH	11	20	17MM
9357	9357-LH	12	20	18.5MM
9358	9358-LH	5-10	20	18.5MM
*9362	*9362-LH	11-12	20	17MM
*9363	*9363-LH		22	17MM



* To be used on the shank of a drill.

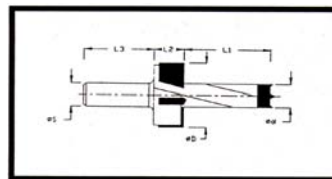
METRIC CARBIDE TIPPED BRAD POINT
SPUR DRILL
10mm threaded shank



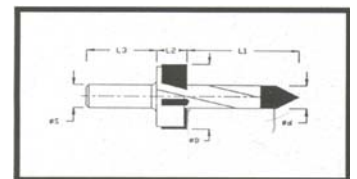
TOOL NO	TOOL NO.			
9320	9320-LH	5mm	43mm	80mm
9321	9321-LH	6mm	43mm	80mm
9322	9322-LH	8mm	43mm	80mm
9323	9323-LH	10mm	43mm	80mm
9324	9324-LH	12mm	43mm	80mm

1 pc. Counterbore / Countersink bit with Brad Point or V-Point drill - Not stock - Special order.

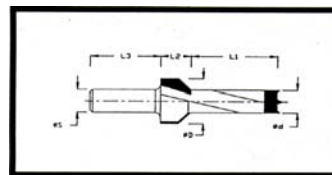
BRAD POINT COUNTERBORE



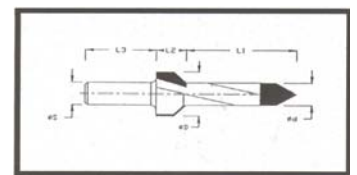
"V" POINT COUNTERBORE



BRAD POINT COUNTERSINK



"V" POINT COUNTERSINK

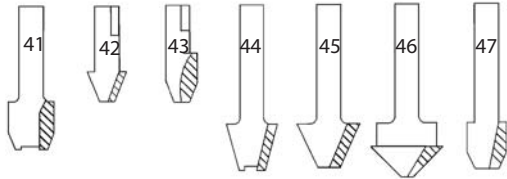


When ordering specify:

1. Small Diameter
2. Small Diameter cutting length
3. Large Diameter
4. RH or LH rotation

**CARBIDE TIPPED PORTABLE TOOL
LAMINATE TRIM BITS**

Tool No	Cut	Dia.	Flute Length	Shank	O.A.L.
41	Flush & 22° Bevel	15/32	1/2	1/4	1-1/2
42	22° Bevel	7/16	9/32	1/4	15/16
43	Flush & 22° Bevel	25/64	1/2	1/4	15/16
44	15° Bevel	17/32	1/2	1/4	2
44-8	15° Bevel	17/32	1/2	1/2	2
45	25° Bevel	21/32	1/2	1/4	2
45-8	25° Bevel	21/32	1/2	1/2	2
46	45° Bevel	3/4	5/16	1/4	1-7/8
46-8	45° Bevel	3/4	5/16	1/2	1-7/8
47	Flush & 25° Bevel	13/32	1/2	1/4	1-5/8



SOLID CARBIDE VEINING BIT 1 FLUTE - 1/4" SHANK

Tool No.	Cutting dia..	O.A.L.	
	(ROUND BOTTOM)		
1	1/8	1-1/2	1, 2, 3
2	3/16	1-1/2	
3	1/4	1-1/2	
	(90° V BOTTOM)		
4	1/4	1-1/2	4
	(FLAT BOTTOM)		
5	1/8	1-1/2	5, 6, 7
6	3/16	1-1/2	
7	1/4	1-1/2	
	(FLAT BOTTOM With Corner Chamfered)		
8	1/8	1-1/2	8, 9
9	3/16	1-1/2	

SOLID CARBIDE LAMINATE TRIM BITS 1/4" SHANK

Tool No.	Dia.	Flute Length	Shank	O.A.L.	15	15-GD	15-DE	16	16-DE
FLUSH TYPE									
15-250	1/4	B 1/4	C 1/4	1-1/2					
15-375	1/4	3/8	1/4	1-5/8					
15-GD	1/4	1/4	1/4	1-9/16					
15-GD-375	1/4	3/8	1/4	1-9/16					
15-DE	1/4	1/4	1/4	2					
7° BEVEL									
16	1/4	1/4	1/4	1-5/8					
16-DE	1/4	1/4	1/4	2					
COMB-FLUSH 7°									
15-16-DE	1/4	1/4	1/4	2					
COMB-FLUSH 7°									
17	1/4	3/8	1/4	1-5/8					
HOLE-FLUSH CUT									
18	1/4	1/4	1/4	2					
RIP-SLOT									
19	1/4	3/8	1/4	1-1/2					

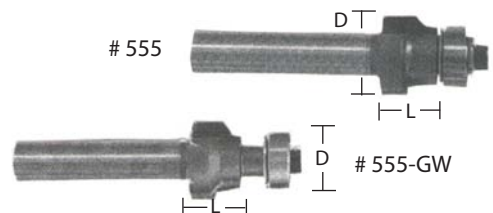
CARBIDE TIPPED LAMA TRIM™ BITS

NEW DESIGN FILING BITS - ELIMINATES HAND FILING ON BOTH VERTICAL AND HORIZONTAL LAMINATED MICA

These bits are designed for both post form laminate .025 - .038 and standard horizontal laminate .040 - .052. Select the bit for the correct thickness. By replacing the ball bearing you can trim both types of mica with the same bit.

NOTE: To get the maximum results from a Lama Trim™ Bit we recommend the following. First, you need a good fixed base router so that the bit will be perpendicular to the base at all times, otherwise the cut will be inconsistent as the base changes position with the material being cut. Second, flush cut the mica overhang with a flush trim bit rather than the Lama Trim™ Bit. The flush trim bit is less expensive and will guarantee your Lama Trim™ Bit with the maximum linear footage possible. If you wish to eliminate the flush cut operation, make a second pass with the Lama Trim™ Bit for additional smoothness and accuracy.

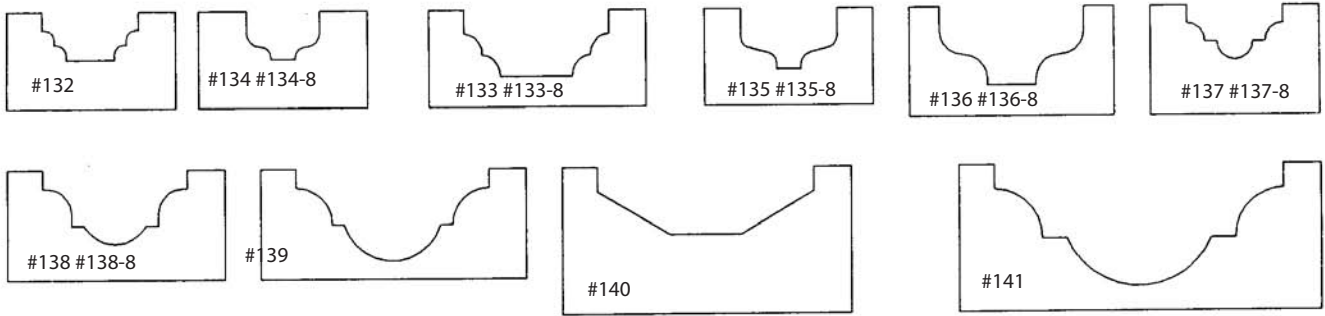
Tool No.	Cutting Dia.	Flute Length	Shank	OAL	Mica Thickness	Repl Ball Brg.
555	1/2	3/8	1/4	2	.040 - .052	81-368
555-T	1/2	3/8	1/4	2	.025 - .038	81
Also available in glue well for information - see Page ____.						
555-GW	1/2	3/8	1/4	2	.040 - .052	81-368
555-T-GW	1/2	3/8	1/4	2	.025 - .038	81



The Lama-Trim bits must be set up in router that Flute "A" (the angle closest too bearing) hits the Laminate first.

CARBIDE TIPPED DETAIL VEINING BITS - 2 FLUTES

Tool No.	Diameter	Height	O.A.L.	Shank	Tool No.	Diameter	Height	O.A.L.	Shank
132	1/2	3/8	2	1/4	136-8	3/4	1/2	2-3/4	1/2
133	3/4	7/16	2-1/16	1/4	137	1/2	1/2	2	1/4
133-8	3/4	7/16	2-11/16	1/2	137-8	1/2	1/2	2-3/4	1/2
134	3/8	5/16	1-7/8	1/4	138	3/4	5/8	2-1/8	1/4
134-8	3/8	5/16	2-3/4	1/2	138-8	3/4	5/8	2-3/4	1/2
135	1/2	3/8	2	1/4	139	1	5/8	2-3/4	1/2
135-8	1/2	3/8	2-3/4	1/2	140	1-1/8	1/2	2-1/4	1/2
136	3/4	1/2	2	1/4	141	1-1/2	3/4	3	1/2



CARBIDE TIPPED FAKE CENTER RAISED PANEL BITS

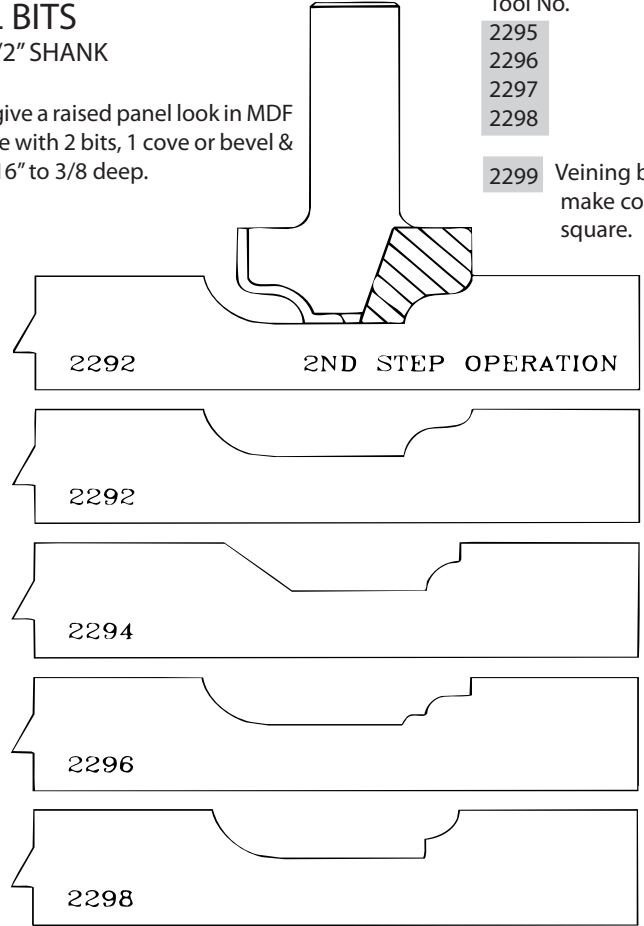
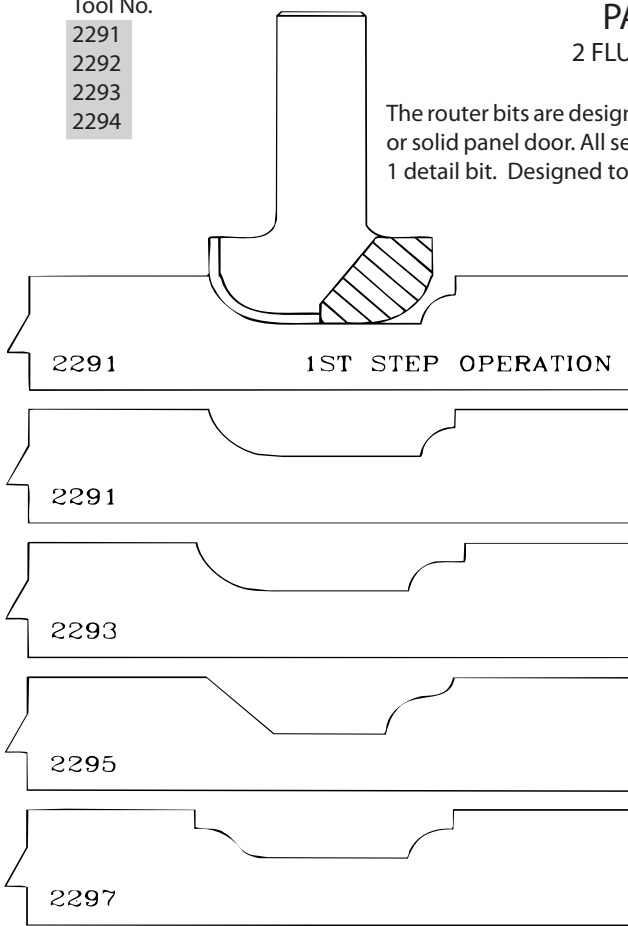
2 FLUTE - 1/2" SHANK

The router bits are designed to give a raised panel look in MDF or solid panel door. All sets come with 2 bits, 1 cove or bevel & 1 detail bit. Designed to cut 5/16" to 3/8" deep.

Tool No.
2291
2292
2293
2294

Tool No.
2295
2296
2297
2298

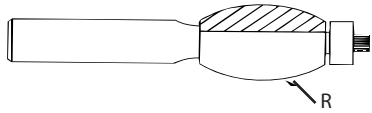
2299 Veining bit to make corner square.



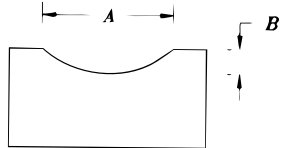
For best results use the large cove bit and make a roughing cut approx. 1/16" - 3/32" from the finished depth. Come back as a second operation and make a final cut. Then use the other detail bit and the 1/8" veining bit to make a square corner.

If running exclusively MDF, for long life you should use ARC (Abrasive Resistance Carbide) see page 55 and Add -ARC to Tool No. Bits for Ritter Door Machine require an extra long shank - Add -RDM to Tool No.

**CARBIDE TIPPED CONVEX RADIUS
PARTIAL HALF ROUND ROUTER BIT
2 FLUTE WITH BALL BEARING GUIDE -1/2" SHANK**

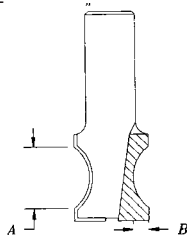


TOOL NO.	LARGE DIA.	RADIUS	A CUT OPENING	B DEPTH OF CUT	CARBIDE HEIGHT	OVERALL LENGTH
8831	3/4	3/16	3/8	1/8	3/8	2-5/8
8832	3/4	5/16	1/2	1/8	1/2	2-3/4
8834	7/8	15/32	3/4	3/16	3/4	3
8836	7/8	3/4	1	3/16	1	3-1/4
8839	1	1-1/4	1-1/2	1/4	1-1/2	3-3/4



**CARBIDE TIPPED CONCAVE RADIUS
PARTIAL HALF ROUND ROUTER BIT
2 FLUTE - 1/2" SHANK**

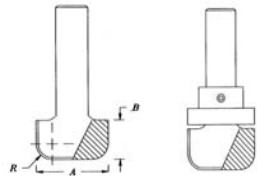
TOOL NO.	A CUT OPENING	B CUTTING DEPTH	OVERALL LENGTH
8821	3/8	1/8	2-1/8
8822	1/2	1/8	2-1/4
8823	5/8	5/32	2-1/4
8824	3/4	3/16	2-1/2
8825	7/8	3/16	2-5/8
8826	1	3/16	2-3/4
8829	1-1/2	1/4	3-1/4



CARBIDE TIPPED BOWL BIT 2 FLUTES

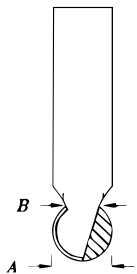
TOOL NO.	A CUTTING DIA.	B CUTTING LENGTH	C SHANK DIA.	R RADIUS	OVERALL LENGTH
8816	7/16	1/2	1/4	1/8	2-1/8
8817	3/4	5/8	1/4	1/4	2-3/8
8817-BB	3/4	5/8	1/4	1/4	2-3/8
8818	3/4	5/8	1/2	1/4	2-3/8
8818-BB	3/4	5/8	1/2	1/4	2-3/8
8819	1-1/4	5/8	1/2	1/4	2-3/8
8819-BB	1-1/4	5/8	1/2	1/4	2-3/8

-BB means Ball Bearing is included with bit



**CARBIDE TIPPED BALL ROUTER BITS
2 FLUTE - 1/2" SHANK**

TOOL NO.	A LARGE DIA.	B MINOR DIA.	RADIUS	OVERALL LENGTH
8841	3/8	7/32	3/16	2
8842	1/2	1/4	1/4	2-1/4
8843	5/8	9/32	5/16	2-3/8
8844	3/4	5/16	3/8	2-1/2
8845	7/8	5/16	7/16	2-5/8
8846	1	11/32	1/2	2-3/4
8847	1-1/8	13/32	9/16	2-7/8
8848	1-1/4	7/16	5/8	3

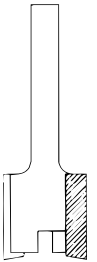


CARBIDE TIPPED HINGE BUTT MORTISING BIT 2 FLUTES

TOOL NO.	CUTTING DIA.	FLUTE LENGTH	SHANK DIA.
21	1/2	5/8	1/4
22	5/8	5/8	1/4
23	3/4	3/4	1/4
*24	1-1/4	3/4	1/4-28 TPI
*24-B	1-1/4	3/4	5/16-24 TPI

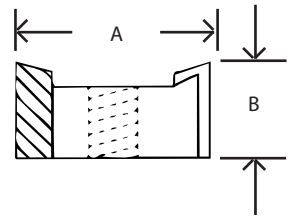
*No Shank included

1/4" Shank for No. 24 Add -4 to Tool No.
1/4" Shank for No. 24-B Add -4 to Tool No.
1/2" Shank for No. 24 Add -8 to Tool No.
1/2" Shank for No. 24-B Add -8 to Tool No.



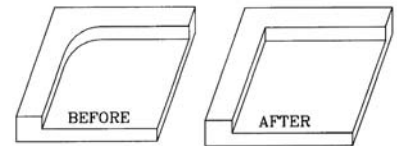
**CARBIDE TIPPED LOCK MORTISING CUTTERS FOR PORTER
CABLE LOCK ORTISER #513**

TOOL NO.	A DIAMETER	B FLUTE LENGTH	With special 1/4-28 threads
493	3/4	1/2	
494	13/16	1/2	
495	7/8	1/2	
496	15/16	1/2	
497	1	1/2	
498	1-1/8	9/16	
499	1-1/4	5/8	

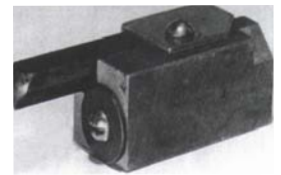


SQUARE CORNER CHISEL

A solid steel tool designed to make round corners into square ones. Put in corner & 1 hit with hammer makes square corner.



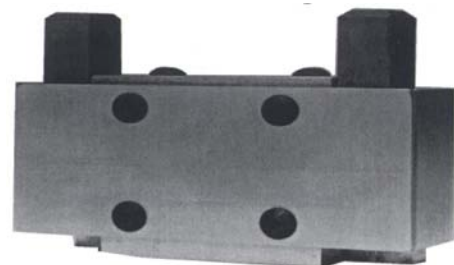
TOOL NO.	CORNER RADIUS
114-250	1/4
114-625	5/8



**DOUBLE CORNER SQUARE CHISEL FOR
BOTH 1/4 X 5/8 RADIUS HINGE MACHINE**

Tool No.	Hinge Size
114-DC-3.5	3-1/2
114-DC-4	4"
114-DC-4-1/2	4-1/2

114-CO Replacement Chisels



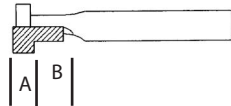
Chisel "both" corners at once for square corner hinge application.

**CARBIDE TIPPED AND SOLID CARBIDE
PICTURE HANGING HOOK (KEYHOLE)ROUTER BIT**

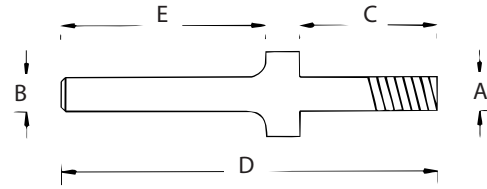
Tool No.	Cutting Dia.	Small Dia..	A Flute Length	B Flute Length
573	3/8	3/16	3/16	3/8
573-8	3/8	3/16	3/16	5/16
574	1/2	1/4	3/16	5/16
574-8	1/2	1/4	3/16	5/16
575	7/16	11/32	1/8	5/16
* 575-SC	3/8	7/32	3/16	5/16
* 575-SC-MOD	3/8	7/32	3/32	5/16
** 575-SC-SO	3/8	7/32	3/32	5/16

* Solid Carbide
** Solid Carbide comes with no shank

1/4" shank for above bit #291
1/2" shank for above bit #292



**ROUTER BIT SHANKS
with nut and spacer**



Tool No.	B Shank Dia.	A Arbor Dia.	C Arbor Length	D Overall Length	E Shank Length
276	1/2	1/2	1	2-3/4	1-1/2
277	1/2	1/2	1-1/2	3-1/4	1-1/2
278	1/2	1/2	2	3-3/4	1-1/2
279	1/2	1/2	2-1/2	4-1/4	1-1/2
280	1/4	1/4	7/8	2-3/8	1-1/4
281	1/4	1/4	1	2-1/4	1-1/8
282	1/4	1/4	1-1/4	2-3/4	1-1/2
283	1/4	5/16	11/16	2-1/8	1
284	1/4	5/16	7/8	2-3/8	1-1/4
285	3/8	5/16	7/8	2-3/8	1-1/4
286	1/2	1/4	1	2-1/2	1-1/2
287	1/2	1/4	1-1/4	2-3/4	1-1/2
288	1/2	5/16	11/16	2	1-3/8
289	1/2	5/16	7/8	2-3/8	1-1/2
290	1/2	5/16	1-1/2	3	1-1/2

DOOR LITE BITS

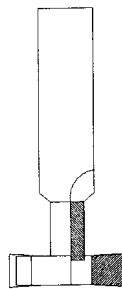
Manufactured with regular High Speed Steel or with Titanium coating. Available with or without flat on shank - 1 flute. Designed for special Door Lite Machines at 2000 or 2500 RPM.



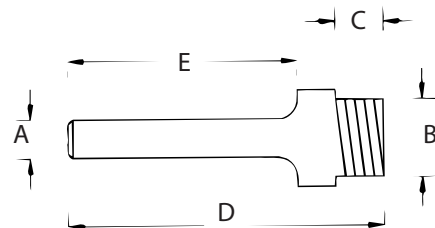
Tool No.	Dia	Type	Shank	O.A.L..
995-F	1/2	HSS w/flat	1/2	5-1/2
995	1/2	HSS w/out flat	1/2	5-1/2
995-TC_F	1/2	TIT-Coated w/flat	1/2	5-1/2
995-TC	1/2	TIT-Coated w/out flat	1/2	5-1/2

**SLAT-WALL GROOVE SYSTEM
CARBIDE TIPPED "T" SLOT ROUTER BITS**

Tool No.	Large Cut. Dia	Small Cut. Dia.	Slotter Kerf	Shank Dia.
107	1-1/16	3/8	5/16	1/2
118	1-1/16	21/64	1/4	3/8
119	1-1/8	3/8	23/64	3/8
122	1-1/8	1/2	3/8	1/2
123	1-3/16	3/8	1/4	1/2
120	1-3/8	1/2	3/8	1/2



**ROUTER BIT SHANKS
Screw in Type**



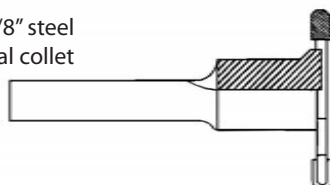
Tool No.	B Shank Dia.	A Arbor Dia.	C Arbor Length	D Overall Length	E Shank Length	Thread Size
291	1/4	1/4	1/4	1-7/8	1-3/8	1/4-28
291-6	3/8	1/4	1/4	1-7/8	1-3/8	1/4-28
292-S	1/2	1/4	1/4	1-1/2	1-1/4	1/4-28
292	1/2	1/4	1/4	2-3/8	2-1/8	1/4-28
292-L	1/2	1/4	1/4	3-1/4	3	1/4-28
292-BB	1/2	1/4	1/2	2-3/8	1-7/8	1/4-28
292-12	3/4	1/4	1/4	2-3/8	2-1/8	1/4-28
293	1/4	5/16	1/4	1-3/4	1-3/8	5/16-24
294	1/2	5/16	1/4	1-3/4	1-1/2	5/16-24

Allows you to install ball bearing on shank end.

**CARBIDE TIPPED AMEROCK HINGE TYPE
ROUTER BIT**

Tool No.	Large Cut. Dia.	Small Cut. Dia.	Slotter Kerf	O.A.L.	Shank Dia.
101	1-1/8	3/8	5/32	1-3/4	1/4
102	1-1/8	3/8	5/32	2	3/8
103	1-1/8	3/8	5/32	2	1/2
104	1-5/8	3/8	5/32	1-3/4	1/4
105	1-5/8	3/8	5/32	2	3/8
106		3/8	5/32		1/2*

*Tool No. 106 will come with a 3/8" steel shank and a 1/2" fiber collet. Metal collet is available see page 71.



Left Hand

295-LH	1/4	1/4	1/4	1-3/4	1-1/2	1/4-28-LH
296-LH	3/8	1/4	1/4	1-3/4	1-1/2	1/4-28-LH
297-LH	1/2	1/4	1/4	1-1/2	1-1/4	1/4-28-LH
298-LH	1/2	1/4	1/4	2-3/8	2-1/8	1/4-28-LH

KNURLED SHANKS ARE NO LONGER AVAILABLE

ROUTER BITS - REPLACEMENT AND MISCELLANEOUS PARTS

SHANK SEE PAGE 52

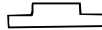
THIN SPACERS (STEEL)

Used on bit assemblies that require cutter adjustments.

TOOL NO.	OD	ID	THICKNESS
8160	5/8	5/16	.002
8161-A	5/8	5/16	.0035
8161	5/8	5/16	.004
8162	5/8	5/16	.020
8163-A	5/8	5/16	.025
8163	5/8	5/16	.040
8164	5/8	5/16	.118
8165	5/8	5/16	.142
8166	5/8	5/16	.236

DUST SLINGER, 1-SIDE RECESSED (STEEL)

TOOL NO.	OD	ID
8154-A	7/16	3/16



ALLEN HEAD SCREWS

Specify for what tool when ordering.

Example: #660-AHS

DUST SLINGERS, DOUBLE RECESS (STEEL)

These thin spacers are used between the ball bearing and the router bit to inhibit dust.

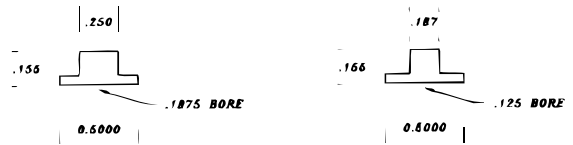
TOOL NO.	OD	ID
8150	3/8	1/8
8151-A	7/16	3/16
8151	1/2	3/16
8152	5/8	1/4
8153	16mm	5mm
8154	3/4	3/16



HIGH HAT STEEL BUSHING

Used for attaching 2 different sized BB to one size shaft.

TOOL NO.	OD	ID
70-32	3/16	1/8
70-43	1/4	3/16



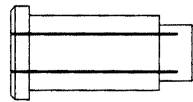
ROUTER BIT FIBRE COLLET ADAPTERS

TOOL NO.	ID	OD	O.A.L.
60	1/8	1/4	1
61	3/16	1/4	1
62	1/4	3/8	1
63	1/4	1/2	1
64	5/16	1/2	1
65	3/8	1/2	1-1/2
66	1/2	3/4	1-1/2



ROUTER BIT METAL COLLET ADAPTERS

TOOL NO.	ID	OD	O.A.L.
63-M	1/4	1/2	1-1/4
64-M	5/16	1/2	1-1/4
65-M	3/8	1/2	1-1/4



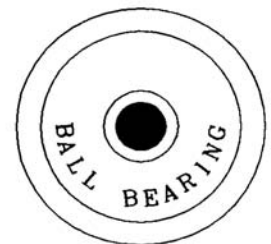
FLAT WASHERS (STEEL)

Used between ball bearing and screw or nut. Sometimes used between 2 cutters.

TOOL NO.	OD	ID
8170	1/4	3/32
8171	5/16	1/8
8172	3/8	3/16
8173	1/2	5/16

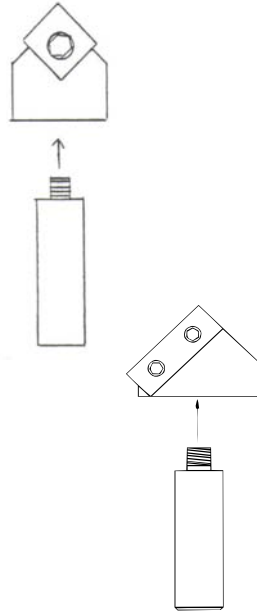
BALL BEARING GUIDES - REGULAR - DELRIN SLEEVED - STEEL SLEEVED

TOOL NO.	OD	ID	TOOL NO.	OD	DEGREE	ID	TOOL NO.	OD	ID
71	14mm	7mm	82-1.932	1-9/32		3/16	87	15/16	5/16
72	3/4	3/16	82-24	1-1/2		3/16	88	1/2	1/4
73	3/4	1/2	83	1/2		1/8	88-10-DEL	5/8	1/4
74	7/8	3/8	84	5/8		1/4	88-12-DEL	3/4	1/4
75	5/8	3/16	84-12	3/4		1/4	88-14-DEL	7/8	1/4
75-MOD	16mm	5mm	84-12-DEL	3/4		1/4	88-16-DEL	1"	1/4
76	3/8	1/4	84-1205-DEL	3/4	5°	1/4	88-18-DEL	1-1/8	1/4
77	5/8	5/16	84-1210-DEL	3/4	10°	1/4	89	1/2	5/16
77-1400-DEL	7/8	5/16	84-1405-DEL	7/8	5°	1/4	880	1-1/8	1/2
78	3/4	5/16	84-14	7/8		1/4	880-16	1"	1/2
79	1/4	1/8	84-1410-DEL	7/8	10°	1/4	880-20	1-1/4	1/2
80	3/8	3/16	84-1505-DEL	15/16	5°	1/4	880-22	1-3/8	1/2
80-8-DEL	1/2	3/16	84-16	1"		1/4	880-24	1-1/2	1/2
81	3/8	1/8	84-1605-DEL	1"	5°	1/4	880-24-DEL	1-1/2	1/2
81-8-DEL	1/2	3/16	84-1605R-DEL	1w/RAD	5°	1/4	880-32	2	1/2
81-.368	.368	1/8	84-1610-DEL	1"	10°	1-4			
82	1/2	3/16	84-1630-DEL	1"	30°	1/4			
82-S	45/64	3/16	85	3/4		1/4			
82-10-DEL	5/8	3/16	85-MOD	19mm		6mm			
82-12	3/4	3/16	85-14	7/8		1/4			
82-12-DEL	3/4	3/16	85-16	1"		1/4			
82-13	13/16	3/16	85-20	1-1/4		1/4			
82-14	7/8	3/16	85-24	1-1/2		1/4			
82-14-DEL	7/8	3/16	86	7/8		5/16			
82-16	1"	3/16	86-18	1-1/8		5/16			
82-16-DEL	1"	3/16	86-1-1/8-DEL	1-1/8		5/16			
82-18	1-1/8	3/16	86-1-1/4-DEL	1-1/4		5/16			
82-18-DEL	1-1/8	3/16	86-22	1-3/8		5/16			
82-1.732	1-7/32	3/16	86-1-3/8-DEL	1.382		5/16			
82-20	1-1/4	3/16	86-1-9/64-DEL	1.137		5/16			
			86-20	1-1/4		5/16			



INDEXABLE INSERT "V" GROOVE ROUTER BIT
From 60° to 150° included angle. 2 Flute except 60° bit.
(Screw on body - Order shank separately)

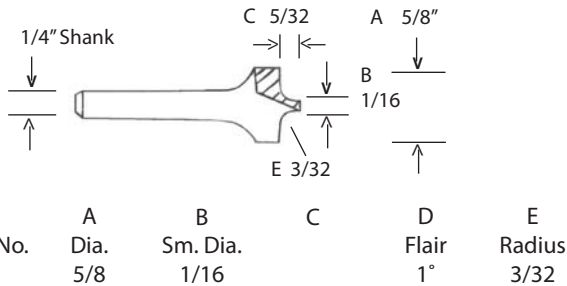
Tool No.	Included Angle	Length of Insert
94-1F-60-D-II*	60°	15MM
94-90-D-II	90°	15MM
94-100-D-II	100°	15MM
94-110-D-II	110°	15MM
94-120-D-II	120°	15MM
94-130-D-II	130°	15MM
94-140-D-II	140°	15MM
94-150-D-II	150°	15MM
99-90-D-II	90°	30MM
99-100-D-II	100°	30MM
99-110-D-II	110°	30MM
99-120-D-II	120°	30MM
99-130-D-II	130°	30MM
99-140-D-II	140°	30MM
99-150-D-II	150°	30MM



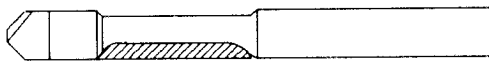
Tool No.	Replacement Inserts
94-60-II-L15	*For 60° & 15MM
94-II-L15	For 90° & 120° & 15MM
99-II-L30	For all 30MM

For ordering bit complete with shank Add -4 for 1/4" shank #291
Add -8 for 1/2" shank #292

CARBIDE TIPPED WOOD CARVING BIT-1/4" SHANK



COMBINATION PANEL BITS



Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.
<u>1 FLUTE-HIGH SPEED STEEL</u>				
251	1/4	3/4	1/4	2-3/8
251-SP	1/4 Spiral	3/4	1/4	2-3/8
252	5/16	3/4	1/4	2-1/2
253	3/8	3/4	3/8	2-1/2
253-SP	3/8 spiral	3/4	3/8	2-1/2
254	1/2	1	1/2	3-1/2
<u>1 FLUTE-CARBIDE TIPPED</u>				
261	1/4	3/4	1/4	2-1/4
263	3/8	1	3/8	3
264	1/2	1-1/4	1/2	3-3/4
265	1/2	2	1/2	4-1/2
<u>2 FLUTE-CARBIDE TIPPED</u>				
271	3/8	1	1/4	3
273	3/8	1	3/8	3
274	1/2	1-1/4	1/2	3-3/4
275	1/2	2	1/2	4-1/2

CARBIDE TIPPED "V" GROOVE BITS
90° ANGLE - 2 FLUTE



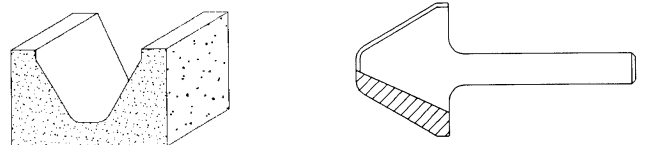
Tool No.	Cutting Dia.	Cutting Length	Shank Dia.	Tool No.	Cutting Dia.	Cutting Length	Shank Dia.
90	1/4	1/4	1/4	94-4	3/4	5/8	1/4
91-4	3/8	1/2	1/4	94-8	3/4	5/8	1/2
91-8	3/8	1/2	1/2	95-4	1	3/4	1/4
92-4	1/2	1/2	1/4	95-8	1	3/4	1/2
92-8	1/2	1/2	1/2	96	1-1/4	1	1/2
93-4	5/8	5/8	1/4	97	1-1/2	1	1/2
93-8	5/8	5/8	1/2	98	1-3/4	1-1/4	1/2
				99	2	1-1/4	1/2

Solid carbide - 1 Flute see page 67.

LARGE DIAMETER - "V" GROOVE BIT
1/2 SHANK - 2 FLUTE

Tool No.	Cutting Dia.	Flute Length	Tool No.	Cutting Dia.	Flute Length
99-2.125	2-1/8	1-3/8	99-2.625	2-5/8	1-5/8
99-2.250	2-1/4	1-3/8	99-2.750	2-3/4	1-5/8
99-2.375	2-3/8	1-1/2	99-2.875	2-7/8	1-3/4
99-2.500	2-1/2	1-1/2	99-3.000	3	1-3/4

CARBIDE TIPPED MODIFIED 60° ANGLE WITH FLAT BOTTOM



Tool No.	Angle	Cutting Dia.	Cutting Length	BB	Shank Dia.
614	60°	1	3/4		1/4
614-BB	60°	1	3/4	84-16-DEL	1/4
615	60°	1-1/8	3/4		1/2
615-BB	60°	1-1/8	3/4	880	1/2

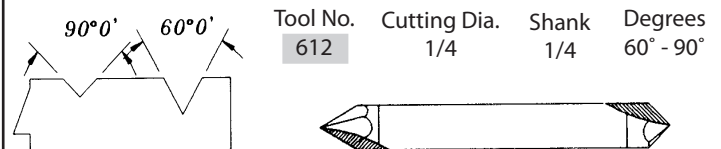
Ball bearing can be installed on the shank for template routing.
614 & 614-BB have 1/4 flat w/small radius in corners
615 & 615-BB have 3/8 flat w/small radius in corners.

CARBIDE TIPPED "V" GROOVE BITS
FOR CARVING WOOD SIGN LETTERING
45° & 60° INCLUDED ANGLE - 2 FLUTE

Tool No.	Angle	Cutting Dia.	Cutting Length	Shank Dia.
610	60	1/2	7/16	1/4
610-45	45	1/2	5/8	1/4
611	60	1/2	7/16	1/2
611-45	45	1/2	5/8	1/2



SOLID CARBIDE DOUBLE END BIT WITH 60° & 90°
FOR SIGN LETTERING



INDEXABLE CARBIDE INSERT TYPE

Patent #5154214

REVERSE HELIX DESIGN-12MM FLUTE LENGTH - 1/4-28 Threads

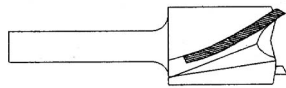
Tool No.	Cutting Diameter	Tool No.	Cutting Diameter
6500-II*	1/2	6745-II	3/4 -.005
6515-II**	1/2 +.015	6750-II	3/4
6531-II*	17/32	6755-II	3/4 +.005
		6765-II	3/4 +.015
6625-II	5/8	6781-II	25/32
6630-II	5/8 +.005	6785-II	3/4 +.035
6640-II	5/8 +.015		
		6312-II	13/16
6656-II	21/32	6827-II	1-3/16+.015
6688-II	11/16		
6702-II	11/16 +.015	6-1000-II	1
		6-1062-II	1-1/16
6718-II	23/32	6-1125-II	1-1/8
6735-II	47/64	6-1250-II	1-1/4
		6-1500-II	1-1/2



* Requires gauge to set insert - #6500-GH
 ** Requires gauge to set insert - #6515-GH
 Use a 4 sided throw away solid carbide insert - #II-L12-4S See page 53.
 Fits on standard screw in shank. See page 70
 For more Indexable Insert Router bits see page 72,102 & 103.

CARBIDE TIPPED HIGH SHEAR DADOING BIT FOR PAPER FACED MATERIAL 2 FLUTES - 1/4" SHANK

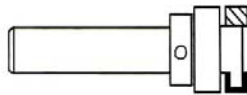
Tool No.	Cutting Diameter	Flute Length	O.A.L.
11	1/2	5/16	2
12	9/16	5/16	2



CARBIDE TIPPED DADO CLEAN-OUT BIT 1/4" Shank Patent #269,348

Designed to give constant 100% accuracy in the depth of cut, since the base of the router rides on the surface of the material. The edge of the ball bearing rides on the shoulder of the Dado or Rabbet, as the cutter relieves the variations in the cut.

Tool No.	Diameter
25	1/2
26	5/8
27	3/4



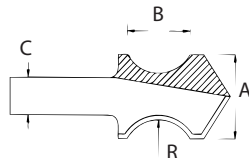
Replacement Ball Bearings - See price list

CARBIDE TIPPED PLUNGE TYPE HAND GRIP CUT-OUT BIT 2 FLUTE - 1/2" SHANK

Tool No.	A Cutting Diameter	B Cutting Length	C Shank Diameter	R Radius
8840	1-1/8	7/8	1/2	1/2

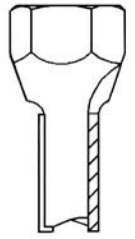
Ball Bearing can be installed on the shank for template routing.

Add -880 to Tool No.



Tool No.	Cutting Diameter	Tool No.	Cutting Diameter
6140	1/8 +.015	6265	1/4 +.015
6156	5/32	*6265-SC	1/4 +.015
6170	11/64	6281	9/32
6202	3/16 +.015	6295	1/4 +.045
6227	3/16 +.039	6327	5/16 +.015
6236	6MM	6390	3/8
6250	1/4	6394	3/8 +.015
		6375	10 MM
		6406	3/8 +.030

*Solid Carbide
 For 1/4" shank add -4 to Tool No.
 For 1/2" shank add -8 to Tool No.



REVERSE HELIX DESIGN - 5/8" FLUTE LENGTH 1/4-28 Threads

For 1/4" shank add -4 to Tool No.
 For 1/2" shank add -8 to Tool No.

Tool No.	Cutting Diameter	Tool No.	Cutting Diameter	Tool No.	Cutting Diameter
6437	7/16	6640	5/8 +.015	6890	7/8 +.015
6453	7/16 +.015	6656	21/32	6906	7/8 +.015
6469	7/16 +.015	6688	11/16	6937	29/32
6500	15/32	6702	11/16 +.015	6969	15/16
6505	1/2	6718	23/32	6-1000	31/32
6515	1/2 +.005	6735	47/64	6-1015	1
6531	1/2 +.015	6750	3/4	6-1030	1 +.015
6540	17/32	6765	3/4 +.015	6-1062	1 +.030
6551	1/2 +.040	6781	25/32	6-1125	1-1/16
6563	14 MM	6785	3/4 +.035	6-1187	1-1/8
6578	9/16	6812	13/16	6-1250	1-3/16
6595	9/16 +.015	6827	13/16 +.015	6-1312	1-1/4
6625	19/32	6843	27/32	6-1375	1-5/16
6630	5/8	6875	7/8	6-1500	1-3/8
	5/8 +.005			6-1530	1-1/2

1-1/2 +.030

Some sizes available in left hand - see price list.
 See page 70 for separate shank.

EXTREME ANGLE HELIX DESIGN

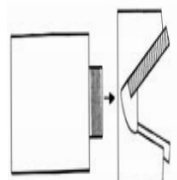
Use for routing paper faced material and very thin vinyl coated material with no chipping or peeling. Uses standard screw in shank. See page 70.

Tool No.	Cutting Diameter
6505-EX	1/2 +.005
6515-EX	1/2 +.015
6531-EX	17/32
6625-EX	5/8
6640-EX	5/8 +.015
6656-EX	21/32
6750-EX	3/4
6765-EX	3/4 +.015

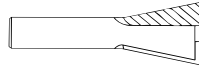


CARBIDE TIPPED LOCK MORTISING CUTTERS FOR OLD STANLEY MACHINE

Tool No.	Cutting Diameter	Flute Length	With special 12-32 threads
13	1/2	5/8	
14	1/2	5/8	
148	5/8	5/8	
149	15/16	1/2	
150	1	1/2	
	1-1/4	1/2	



**CARBIDE TIPPED DOVETAIL BITS
2 FLUTE**



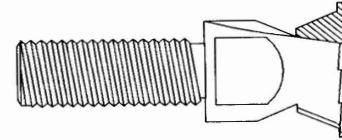
Tool No.	Cutting Dia.	Degree	Cutting Length	Shank Dia.	Overall Length
34-4	5/8	7°	7/8	1/4	2-3/8
34	5/8	7°	7/8	1/2	2-5/8
35-4	3/4	7°	7/8	1/4	2-3/8
35	3/4	7°	7/8	1/2	2-5/8
36	7/8	7°	7/8	1/2	2-7/16
28-7.5-4	1/4	7-1/2°	5/16	1/4	2-1/2
28-7.5-8	1/4	7-1/2°	5/16	1/2	2-9/16
28-8°-LDJ	1/4	8°	1/4	1/4	2-1/4
29-8°-LDJ	5/16	8°	3/8	1/4	2-1/4
30-8°-LDJ	3/8	8°	1/2	1/4	2-3/8
32-A-8°-LDJ	7/16	8°	5/8	1/4	2-3/8
32-8°-LDJ	1/2	8°	13/16	1/4	2-3/4
34A-8°-LDJ	11/16	8°	1	1/2	3
35A-8°-LDJ	13/16	8°	1-1/4	1/2	3-1/4
29-4	5/16	9°	3/8	1/4	2
29-8	5/16	9°	3/8	1/2	2-1/16
30	3/8	9°	3/8	1/4	2
31	3/8	9°	3/8	1/2	2-1/2
32-10	1/2	10°	5/8	1/4	2-1/2
32-10-8	1/2	10°	5/8	1/2	2-5/8
30-14	3/8	14°	3/8	1/4	2
30-14-L	3/8	14°	3/8	1/4	2-3/8
32	1/2	14°	1/2	1/4	2
32-L	1/2	14°	1/2	1/4	2-3/8
33	1/2	14°	1/2	1/2	2-1/2
35-4-14°	3/4	14°	3/4	1/4	2-3/8
34-14	3/4	14°	3/4	1/2	3
37	1	14°	7/8	1/2	2-7/8
38	1-1/4	14°	1-1/16	1/2	2-7/8
32-18°	1/2	18°	3/8	1/4	2-1/4

Some left hand bits available see price list.

**CROSS REFERENCE CHART
FOR ABOVE**

TOOL NO.	LEIGH	OMNLIG	JOINTECH	INCRA
28-7.5-4		43639	1/4"DOVE	DOV 8
28-7.5-8			1/4"DOVE	DOV 8
28-8-LDJ	50			
29-4			5/16" DOVE	DOV 7
29-8			5/16"DOVE	DOV 7
29-8°-LDJ	60			
30-8°-LDJ	70			
30			3/8"DOVE	DOV 5,6 1DD2
31			3/8"DOVE	DOV 5,6 1DD2
30-14-L	110			
32		43705	1/2"DOVE	DOV 1,2,3,4 1DD1
32-A-8°-LDJ	75			
33	128	43750	1/2"DOVE	DOV 1,2,3,4 1DD1
32-18°	80			
32-8°-LDJ	120			
32-L	101			
32-10				
34-4			5/8"DOVE	DOV 10
34	90		5/8"DOVE	DOV 10
34A-8°-LDJ				
35-4-14°	130	43775		
34-14				
35-4		43774	3/4"DOVE	DOV 9
35	100		3/4"DOVE	DOV 9
35A-8°-LDJ				

**CARBIDE TIPPED THREADED SHANK
DOVETAIL BIT**



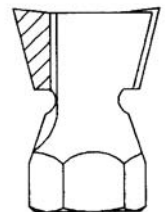
Tool No.	Cutting Dia.	Rotation	Threaded Shank	Machine
9200-DT	1/4	Right	3/8 - 24	Bell
9201-DT	1/4	Left	3/8 - 24	Bell
9202-DT	5/16	Right	3/8 - 24	Bell
9203-DT	5/16	Left	3/8 - 24	Bell
9204-DT	3/8	Right	3/8 - 24	Bell
9205-DT	3/8	Left	3/8 - 24	Bell
9206-DT	1/4	Right	3/8 - 20	Wysong-Miles
9207-DT	1/4	Left	3/8 - 20	Wysong-Miles
9208-DT	5/16	Right	3/8 - 20	Wysong-Miles
9209-DT	5/16	Left	3/8 - 20	Wysong-Miles
9210-DT	3/8	Right	3/8 - 20	Wysong-Miles
9211-DT	3/8	Left	3/8 - 20	Wysong-Miles
9212-DT	1/4	Right	5/16 - 24	Dodds
9213-DT	1/4	Left	5/16 - 24	Dodds
9214-DT	5/16	Right	5/16 - 24	Dodds
9215-DT	5/16	Left	5/16 - 24	Dodds
9216-DT	3/8	Right	5/16 - 24	Dodds
9217-DT	3/8	Left	5/16 - 24	Dodds
9218-DT	1/4	Right	3/8 - 20	Dodds
9219-DT	1/4	Left	3/8 - 20	Dodds
9220-DT	5/16	Right	3/8 - 20	Dodds
9221-DT	5/16	Left	3/8 - 20	Dodds
9222-DT	3/8	Right	3/8 - 20	Dodds
9223-DT	3/8	Left	3/8 - 20	Dodds

**CARBIDE TIPPED DOVETAIL BITS FOR
HER-SAF PANEL ROUTERS**

Comes without shank: For 1/4" shank Add -4 to Tool No.

For 1/2" shank Add -8 to Tool No.

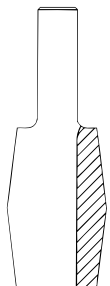
Tool No.	Cutting Dia.	Degree Ea. Side	Flute Lenth
30-HS	3/8	14°	7/16
30-HS-M	7/16	14°	7/16
32-HS	1/2	15°	7/16
34-HS	5/8	16°	7/16
34-HS-14	3/3/4	14°	7/16



Left hand available Add -LH to Tool No.

**CARBIDE TIPPED 14° BUTTERFLY SPLINE
2 FLUTE - 1/2 SHANK**

Tool No.	Spline Size	Cutting Dia.	Cutting Length	OAL
126	3/4 - 1-1/8	3/4	1-1/8	2-5/8
127	3/4 - 2	1-1/4	2	3-3/8



Use this bit in conjunction with our #38 dovetail bit.

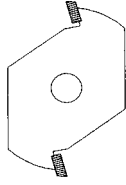
CARBIDE TIPPED SLOTTING OR KERFING CUTTER ONLY

2 WING - 3 WING - 4 WING - 6 WING - 12 WING
ALL 1-7/8" DIAMETER - 5/16" BORE EXCEPT
6 WING - 2: DIAMETER

Will cut 9/16" deep using Std. No. 86 Ball Bearing guide.
Sleeves available for ball bearing for any depth of cut.
Specify when ordering depth of cut required if other than standard.
See price list for separate parts.

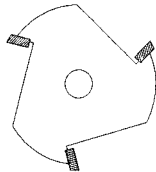
2 WING

Tool No.	Kerf	Tool No.	Kerf
151	1/16	154	1/8
152	5/64	154-M	4MM
153	3/32	163	3/16
		164	1/4



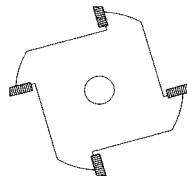
3 WING

Tool No.	Kerf	Tool No.	Kerf
151-3	1/16	154-3	1/8
152-3	5/64	154-M-3	4MM
153-3	3/32	163-3	3/16
		164-3	1/4



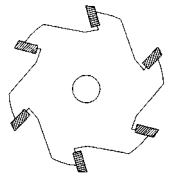
4 WING

Tool No.	Kerf	Tool No.	Kerf
155	1/16	158	1/8
156	5/64	158-M	4MM
157	3/32	165	3/16
		166	1/4



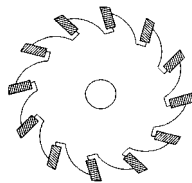
6 WING - 2" DIA

Tool No.	Kerf	Tool No.	Kerf
155-6	1/16	158-6	1/8
156-6	5/64	165-6	3/16
157-6	3/32	166-6	1/4



12 WING

Tool No.	Kerf	Tool No.	Kerf
159	1/16	162	1/8
160	5/64	167	3/16
161	3/32	168	1/4



For complete assembly Add -C to Tool No. Sample - 151-4-C
Add -4 for 1/4 shank. Add -8 for 1/2 shank
See page 70 for shanks.
See page 71 for ball bearings.

BOTTOM FLUSH CUTTING

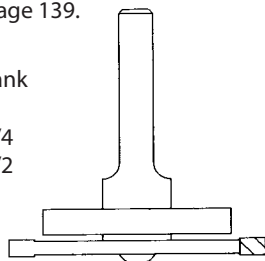
Bottom Flush Cutting can be achieved on any of the Kerfing saws and shanks as shown. They both must be ordered at the same time.

Add to standard Tool No: 1/4" shank **268-BFC-4**
1/2" shank **269-BFC-8**

CARBIDE TIPPED SLOTTING CUTTER & SHANK ASSEMBLY

For slotting #109 Vinyl Panel retainer see page 139.

Tool No.	Dia.	No. of Wings	Depth of Cut	Shank
158-4VG	1-7/8	4	1/4	1/4
158-8VG	1-7/8	4	1/4	1/2

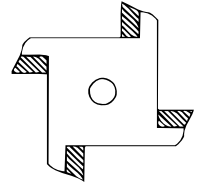


Replacement ball bearing #86-1/38-DEL

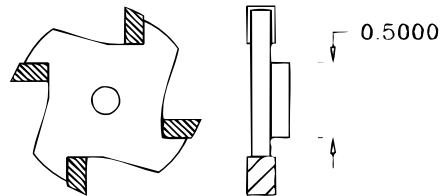
CARBIDE TIPPED DRAWER SLOT CUTTER

4 WING - 6 WING
1-1/4" DIAMETER

Tool No.	Kerf	No of Wings	Bore
165-MOD-1250	3/16	4	5/16
165-6-MOD-1250	3/16	6	5/16
166-MOD-1.250	1/4	4	5/16
166-6-MOD-1250	1/4	6	5/16

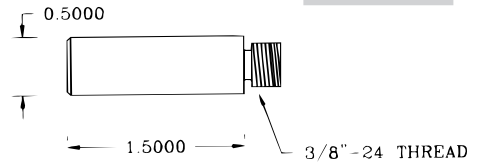


CARBIDE TIPPED DRAWER SLOT CUTTER W/ FLUSH BOTTOM - 4 WING - 6 WING
1-1/4" DIAMETER



Tool No.	Kerf	# Wings	Bore
165-MOD-W/H-1.250	3/16	4	3/8-24 TPI
165-6-MOD-W/H-1.250	3/16	6	3/8-24 TPI
166-MOD-W/H-1.250	1/4	4	3/8-24 TPI
166-6-MOD-W/H-1.250	1/4	6	3/8-24 TPI

1/2" Shank for above cutter Tool No. 294-M-38-24
1/4" Shank for above cutter Tool No. 293-M-38-24

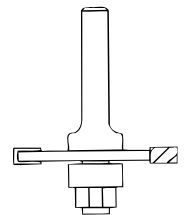


BISCUIT JOINING BIT
2 FLUTE

Comes with 3 ball bearing guides to slot #0, #10 & #20 biscuits.

Tool No.	Shank	Dia.	Kerf	OAL
142	1/4	1-1/2	5/32	2-3/16
143	1/2	1-1/2	5/32	2-3/16

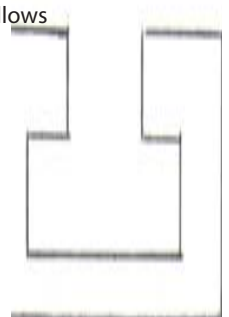
Bearing supplied 1/2" dia. #82
Bearing supplied 3/4" dia. #82-12
Bearing supplied 7/8" dia. #82-14



CARBIDE TIPPED T & G FLOORING BIT
2 FLUTE - 1/4" SHANK

Used for repairing floors where a bottom mounted ball bearing won't allow the bit to get low enough to clean out the groove. Ball Bearing on top allows you to guide off the existing floor.

Tool No.	Cutting Dia.	Kerf	Depth of Cut
121	1"	1/4"	1/4"



Replacement ball bearing #88

**CARBIDE TIPPED CORE BOX BIT
2 FLUTE - STANDARD LENGTH**



Tool No.	Cutting Dia.	Flute Length	Shank	Tool No.	Cutting Dia.	Flute Length	Shank
198*	1/8	1/4	1/4	208-4	3/4	5/8	1/4
198-2F	1/8	1/4	1/4	208-8	3/4	5/8	1/2
199*	3/16	1/4	1/4	209-4	13/16	5/8	1/4
199-2F	3/16	1/4	1/4	209-8	13/16	5/8	1/2
200*	1/4	1/4	1/4	210-4	7/8	5/8	1/4
200-2F	1/4	1/4	1/4	210-8	7/8	5/8	1/2
201-4	5/16	1/4	1/4	211-4	15/16	5/8	1/4
201-8	5/16	1/4	1/2	211-8	15/16	5/8	1/2
202-4	3/8	3/8	1/4	212-4	1	5/8	1/4
202-8	3/8	3/8	1/2	212-8	1	5/8	1/2
203-4	7/16	1/2	1/4	213	1-1/8	1	1/2
203-8	7/16	1/2	1/2	214	1-1/4	1	1/2
204-4	1/2	1/2	1/4	215	1-3/8	1	1/2
204-8	1/2	1/2	1/2	216	1-1/2	1	1/2
205-4	9/16	1/2	1/4	217-M	1-9/16	1	1/2
205-8	9/16	1/2	1/2	217	1-5/8	1-1/4	1/2
206-4	5/8	1/2	1/4	218	1-3/4	1-1/4	1/2
206-8	5/8	1/2	1/2	219-M	1-13/16	1-1/4	1/2
207-4	11/16	5/8	1/4	219	1-7/8	1-1/4	1/2
207-8	11/16	5/8	1/2	220	2	1-1/4	1/2

*Solid Carbide - 1 Flute

**LARGE DIAMETER CORE BOX BITS
1/2 SHANK - 2 FLUTE**

Tool No.	Cutting Dia.	Flute Length	Tool No.	Cutting Dia.	Flute Length
220-2.125	2-1/8	1-1/4	220-2.625	2-5/8	1-1/2
220-2.250	2-1/4	1-1/4	220-2.750	2-3/4	1-5/8
220-2.375	2-3/8	1-3/8	220-2.870	2-7/8	1-3/4
220-2.500	2-1/2	1-1/2	220-3.000	3	1-3/4

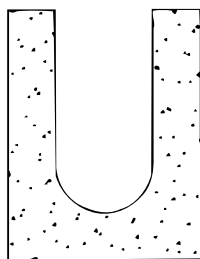
These bits are not guaranteed against breakage due to large diameter. Should be used with caution & run on a soft start - low RPM

**LONG SHANK COVE BITS MADE FOR
BETTERLEY COVING ROUTER**

Tool No.	Cutting Dia.	Radius	Flute Length	Shank	OAL
204-8-MOD-3	1/2	1/4	1/2	1/2	3
208-8-MOD-3	3/4	3/8	5/8	1/2	3
212-8-MOD-3	1	1/2	5/8	1/2	3

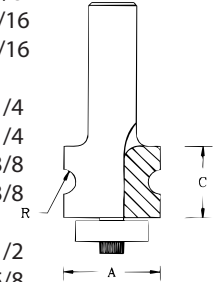
**CARBIDE TIPPED CORE BOX BITS
EXTRA LONG FLUTE LENGTH
2 FLUTE - 1/2" SHANK**

Tool No.	Cutting Dia.	Flute Length
202-8-L	3/8	1
204-8-L	1/2	1-1/4
205-8-L	9/16	1-1/4
206-8-L	5/8	1-1/4
208-8-L	3/4	1-1/4
210-8-L	7/8	1-1/4
212-8-L	1	1-1/4



**CARBIDE TIPPED HALF ROUND ROUTER BIT
WITH BALL BEARING GUIDE - 2 FLUTE**

Tool No.	Opening	C Cutting Length	R Radius	Shank Dia.	Material Thickness
819-BB	5/32	1/2	5/64	1/4	1/8
819-8-BB	5/32	1/2	5/64	1/2	1/8
820-BB	7/32	1/2	7/64	1/4	3/16
820-8-BB	7/32	1/2	7/64	1/2	3/16
821-BB	9/32	3/4	9/64	1/4	1/4
821-8-BB	9/32	3/4	9/64	1/2	1/4
822-BB	13/32	3/4	13/64	1/4	3/8
822-8-BB	13/32	3/4	13/64	1/2	3/8
823-BB	17/32	1	17/64	1/2	1/2
823-8-BB	11/16	1-1/8	11/32	1/2	5/8
824-BB	13/16	1-1/4	13/32	1/2	3/4
825-BB	1-1/16	1-1/2	17/32	1/2	1
826-BB	1-5/16	1-3/4	21/32	1/2	1-1/4
827-BB	1-1/2	1-7/8	25/32	1/2	1-1/2



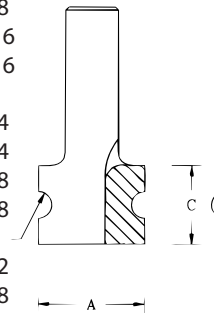
**LARGE DIAMETER HALF ROUND ROUTER BIT
WITH BALL BEARING GUIDE - 2 FLUTE**

Tool No.	Opening	C Cutting Length	R Radius	Shank Dia.	Material Thickness
828-BB	1-3/4	2-1/4	7/8	1/2	1-3/4
829-BB	1-3/4	2-1/2	1"	1/2	2"

These bits are not guaranteed against breakage due to large diameter. Should be used with caution & run on a soft start - low RPM

**CARBIDE TIPPED HALF ROUND ROUTER BIT
WITHOUT BALL BEARING GUIDE - 2 FLUTE**

Tool No.	Opening	C Cutting Length	R Radius	Shank Dia.	Material Thickness
819	5/32	1/2	5/64	1/4	1/8
819-8	5/32	1/2	5/64	1/2	1/8
820	7/32	1/2	7/64	1/4	3/16
820-8	7/32	1/2	7/64	1/2	3/16
821	9/32	3/4	9/64	1/4	1/4
821-8	9/32	3/4	9/64	1/2	1/4
822	13/32	3/4	13/64	1/4	3/8
822-8	13/32	3/4	13/64	1/2	3/8
823	17/32	1	17/64	1/2	1/2
823-8	11/16	1-1/8	11/32	1/2	5/8
824	13/16	1-1/4	13/32	1/2	3/4
825	1-1/16	1-1/2	17/32	1/2	1
826	1-5/16	1-3/4	21/32	1/2	1-1/4
827	1-1/2	1-7/8	25/32	1/2	1-1/2



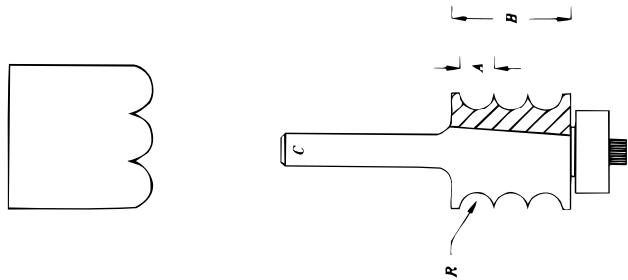
**LARGE DIAMETER HALF ROUND ROUTER BIT
WITH BALL BEARING GUIDE - 2 FLUTE**

Tool No.	Opening	C Cutting Length	R Radius	Shank Dia.	Material Thickness
828	1-3/4	2-1/4	7/8	1/2	1-3/4
829	1-3/4	2-1/2	1"	1/2	2"

These bits are not guaranteed against breakage due to large diameter. Should be used with caution & run on a soft start - low RPM

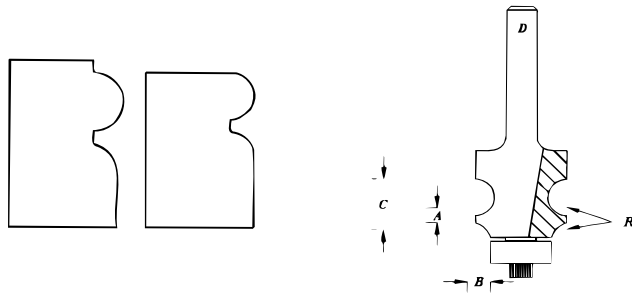
**CARBIDE TIPPED MULTI BEAD ROUTER BIT
2 FLUTE W/ BALL BEARING GUIDE**

Tool No.	R Radius	A Bead Dia.	B Cutting Length	C Shank Dia.	O.A.L.	No. of Beads	Bearing
8802	1/8	1/4	13/16	1/4	2-1/4	2	82
8802-8	1/8	1/4	13/16	1/2	2-1/2	2	82
8879	1/8	1/4	1	1/4	2-1/4	3	75
8880	1/8	1/4	1	1/2	2-7/8	3	75
8859	1/4	3/16	1-1/16	1/4	2-1/2	2+1	82
8859-8	1/4	3/16	1-1/16	1/2	2-3/4	2+1	82
8863	3/16	3/8	1-1/2	1/2	3-3/8	3+RE	82
8864	1/16	1/8	1-1/4	1/4	2-3/4	3+SE	82
8864-8	1/16	1/8	1-1/4	1/2	3	3+SE	82

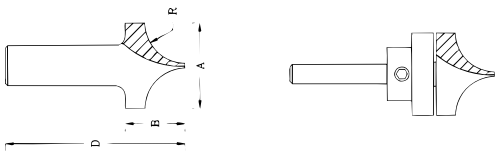


**CARBIDE TIPPED ROUND EDGE BEADING 2 FLUTE W/
BALL BEARING GUIDE - 1/4" SHANK**

Tool No.	R Radius	A Bead Dia.	B Cutting Dia.	C Cutting Length	O.A.L.
8928-SE	1/16	1/8	1/16	7/16	2
8930-SE	1/8	1/4	1/8	9/16	2-1/8
8926-SE	5/32	5/16	5/32	3/4	2-1/4



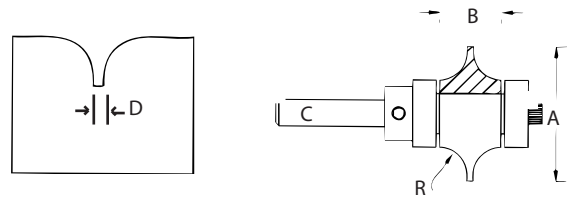
**CARBIDE TIPPED POINT CUTTING PLUNGE
ROUND OVER -2 FLUTE BALL BEARING
AVAILABLE ON SHANK END**



Tool No.	R Radius	A Cutting Dia.	B Flute Length	C Shank Dia.	D OAL
8260	3/16	3/8	3/8	1/4	1-3/4
8260-BB	3/16	1/2	3/8	1/4	1-3/4
8261	1/4	1/2	3/8	1/4	1-3/4
8261-BB	1/4	3/4	3/8	1/4	1-3/4
8262	3/8	3/4	5/8	1/4	1-7/8
8262-BB	3/8	3/4	5/8	1/4	1-7/8
8263	3/8	3/4	5/8	1/2	2-1/8
8263-BB	3/8	1	5/8	1/2	2-1/8
8264	1/2	1	3/4	1/4	2
8264-BB	1/2	1	3/4	1/4	2
8265	1/2	1	3/4	1/2	2-1/4

**CARBIDE TIPPED FULL BEAD ROUTER BIT
REMOVEABLE CUTTER W/ 2 BALL BEARINGS**

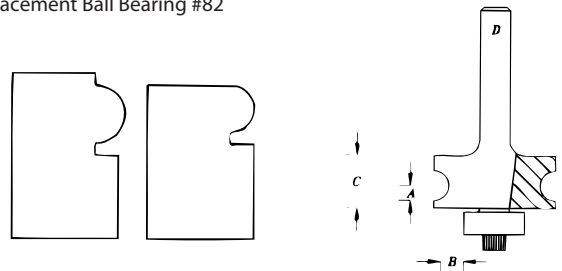
Tool No.	Radius	A Cutting Dia.	B Cutting Length	C Shank Dia.	D Width	O.A.L.	BB
8858	1/81/8	7/8	3/8	1/4	.078	2-1/4	84
8876	3/16	1	1/2	1/4	.078	2/3/8	84
8876-8	3/16	1	1/2	1/2	.078	2-3/8	84
8877	1/4	1-1/8	5/8	1/4	.078	2-1/2	84
8877-8	1/4	1-1/8	5/8	1/2	.078	2-1/2	84
8878-8	3/8	1-3/8	.850	1/2	.093	2-3/4	84



**CARBIDE TIPPED SQUARE EDGE BEADING
2 FLUTE W/ BALL BEARING GUIDE**

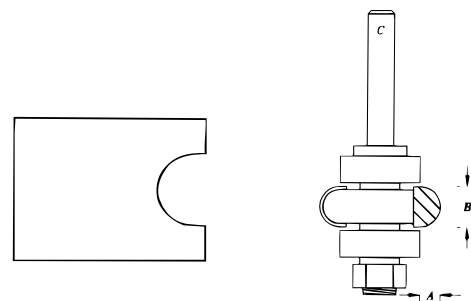
Tool No.	Radius	A Bead Dia.	B Cutting Dia.	C Cutting Length	D Shank Dia.	O.A.L.
8928	1/16	1/8	7/8	9/16	1/4	2-1/4
8929	1/16	1/8	7/8	9/16	1/2	2-1/4
8930	1/8	1/4	7/8	9/16	1/4	2-1/4
8931	1/8	1/4	7/8	9/16	1/2	2-1/4
8926	5/32	5/16	1	5/8	1/4	2-1/4
8927	5/32	5/16	1	5/8	1/2	2-1/4
8932	3/16	3/8	7/8	5/8	1/4	2-1/4
8933	3/16	3/8	7/8	5/8	1/2	2-1/4
8934	1/4	1/2	1	3/4	1/4	2-1/4
8935	1/4	1/2	1	3/4	1/2	2-1/4
8940	5/16	5/8	1-3/8	1	1/2	2-7/8
8941	3/8	3/4	1-1/2	1-3/8	1/2	3

Replacement Ball Bearing #82



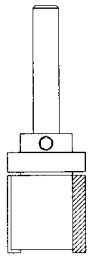
**CARBIDE TIPPED SINGLE GROOVE ROUTER BIT
REMOVEABLE CUTTER W/ 2 BALL BEARINGS**

Tool No.	Radius	A Cutting Dia.	B Cutting Length	C Shank Dia.	O.A.L.	Bearing
8872	1/8	1/8	1/4	1/4	2-1/4	85
8872-8	1/8	1/8	1/4	1/2	2-1/4	85
8873	3/16	3/16	3/8	1/4	2-1/4	85
8873-8	3/16	3/16	3/8	1/2	2-1/4	85



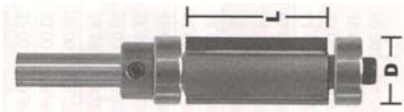
PLUNGE TYPE CARBIDE TIPPED FLUSH TRIM BIT W/BALL BEARING

GUIDE ON SHANK END



Tool No.	Cutting Dia.	Flute Length	Shank Dia.
912-1/2-88	1/2	1/2	1/4
912-3/4-88	1/2	3/4	1/4
912-88	1/2	1	1/4
919-84	5/8	3/4	1/4
924-85	3/4	3/4	1/4
925-85	3/4	1"	1/2
926-85	3/4	1-1/4"	1/2
927-85	3/4	1-1/2"	1/2
927-2-273	3/4	2	1/2
927-2-1/2-273	3/4	2-1/2	1/2
933-1-3/4	1"	1-3/4	1/2
935-880	1-1/8	1-1/4	1/2
935-1-1/2-880	1-1/8	1-1/2	1/2
935-2-880	1-1/8	2	1/2

COMB FLUSH TRIM / PATTERN BIT W/ 2 BB



Tool No.	Cutting Dia.	Flute Length	Shank Dia.	No. of Flutes
506-2BB	1/2	1/2	1/4	2
506-3-2BB	1/2	3/4	1/4	3
503-2BB	1/2	1"	1/4	2
5203-3-2BB	1/2	1"	1/4	3
508-1.25-2BB	3/4	1-1/4	1/2	2

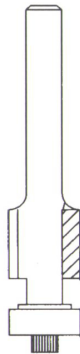
CARBIDE TIPPED GLUEWELL™ FLUSH TRIM BITS

WITH BALL BEARING GUIDE
PATENT NO. 5,352,072

Specially designed glue reservoir eliminates glue build up on ball bearing resulting in a smoother cut and improved production results. Bits last longer than standard flush trim bits. Bearings will not stop and burn the material.

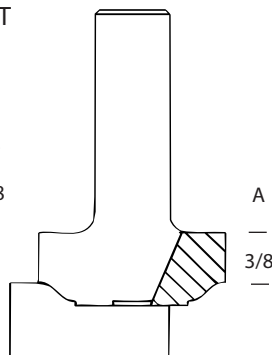
2 - Flute			
Tool No.	Cutting Dia.	Flute Length	Shank Dia.
502-GW	1/2	1	1/2
504-GW	3/8	1/2	1/4
505-GW	1/2	1/2	1/2
506-GW	1/2	1/2	1/4
3 - Flute			
Tool No.	Cutting Dia.	Flute Length	Shank Dia.
505-3-GW	1/2	1/2	1/2
506-3-GW	1/2	1/2	1/4

For 2 ball bearings Add -XBB to Tool No.

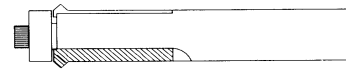


**CARBIDE TIPPED BRICK MOULD BIT
2 FLUTE - 1/2" SHANK**

Tool No.	Dia.	A Height	B Height	OAL
8907	1-1/4	3/8	1/8	2-1/8



**CARBIDE TIPPED FLUSH TRIM "V" GROOVE BIT
WITH BALL BEARING GUIDE - 2 FLUTE**



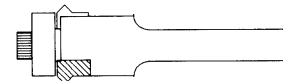
Tool No.	Carbide Dia.	Flute Length	Shank Dia.	V-Depth
502-VT	5/8	1	1/2	1/16
503-VT	5/8	1	1/4	1/16

Also Available in Glue Well design - See page 57 & 58.

502-VT-GW	5/8	1	1/2	1/16
503-VT-GW	5/8	1	1/4	1/16

Replacement ball bearing # 82 - Other "V" depth are available
(See Price List)

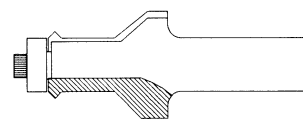
**CARBIDE TIPPED "V" GROOVE BIT WITH BALL
BEARING GUIDE 1/4" SHANK - 2 FLUTES**



Tool No.	Cutting Dia.	V-Width	V-Depth
553	5/8	1/8	1/16

Replacement ball bearing #82

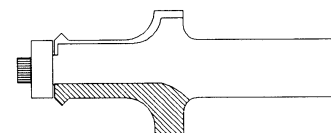
**CARBIDE TIPPED FLUSH TRIM DOUBLE "V" GROOVE
BIT W/ BB GUIDE FOR 13/16" STOCK - 1/2" SHANK**



Tool No.	Large Dia.	Flute Length
552	5/8	1

Replacement ball bearing #82

**CARBIDE TIPPED ROUND OVER BIT WITH "V" GROOVE BIT W/BB
GUIDE FOR 13/16" STOCK - 1/2" SHANK**

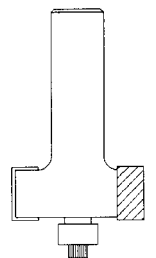


Tool No.	Radius
654-8VT	1/4
658-8VT	3/8

Replacement ball bearing #82

**CARBIDE TIPPED RABBETING BIT
1/2" FLUTE LENGTH - 2 FLUTE**

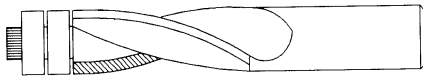
Tool No.	Depth of Cut	Dia.	Repl. BB	Shank Flute	Shank
698	1/4"	1"	82	1/2	1/4
699	1/4"	1"	82	1/2	1/2
700	3/8"	1-1/4	82	1/2	1/4
701	3/8"	1-1/4	82	1/2	1/2
701-3/4-CE	3/8"	1-1/4	82	3/4	1/2
702	7/16"	1-1/4	80	1/2	1/4
703	7/16"	1-1/4	80	1/2	1/2
706	1/2"	1-1/2	82	1/2	1/4
707	1/2"	1-1/2	82	1/2	1/2
707-3/7-CE	1/2"	1-1/2	82	3/4	1/2
708	9/16"	1-1/2	81	1/2	1/4
709	9/16"	1-1/2	81	1/2	1/2
710	5/8"	2"	82-12	1/2	1/4
711	5/8"	2"	82-12	1/2	1/2
712	3/4"	2"	82	1/2	1/2
713	13/16"	2"	81	1/2	1/2
714	7/8"	2-3/4	82-16	1/2	1/2
720	1"	2-3/4	73	1/2	1/2
721	1-1/16"	2-3/4	75	1/2	1/2
722	1-1/8"	2-3/4	82	1/2	1/2



By changing the ball bearing diameter you can adjust the depth of cut. See page 71 for ball bearings.

See indexable insert rabbit bits on page 103.

SPIRAL CARBIDE TIPPED FLUSH TRIMMER WITH BALL BEARING GUIDE



Tool No.	Cutting Dia.	No. of Flutes	Flute Length	Shank
502-SPIRAL	1/2	2	1	1/2
502-1-1/2-SPIR*	1/2	2	1-1/2	1/2
502-1-1/2-SPIR-DN	1/2	2	1-1/2	1/2
503-SPIR	1/2	2	1	1/4

*With 2 ball bearing guides.

Replacement ball bearing #83

Dust slinger between ball bearings Tool No. 8151-A

SOLID CARBIDE TIPPED HEAVY DUTY FLUSH TRIMMER WITH BALL BEARING GUIDE WITH REMOVABLE CUTTER



Tool No.	Tool No.	Dia.	Cut Length.	Shank	OAL
Spiral Up	Spiral Down				
**900-FT-SC-SPIR*	**900-FT-SC-SPIR-DN*	1/8	3/8	1/4	2"
**500-SC-SPIR	**500-SC-SPIR-DN	1/4	1"	1/4	2-1/2"
502-1-1/4-SC-SPIR	502-1-1/4-SC-SPIR-DN	1/2	1-1/4	1/2	3-3/4"
502-2-SC-SPIR	502-2-SC-SPIR-DN	1/2	2"	1/2	4-3/4"

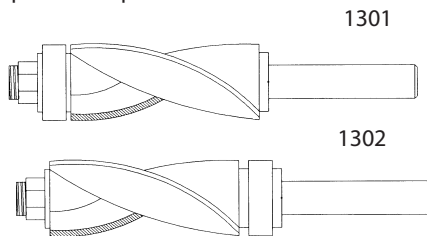
*Brass pilot supplied instead of Ball Bearing.

**These bits are not guaranteed against breakage due to small dia.

SPIRAL CARBIDE TIPPED HEAVY DUTY FLUSH TRIMMER WITH BALL BEARING GUIDE WITH REMOVABLE CUTTER

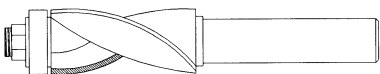
Tool No.	Cutting Dia.	Flute Length	Shank
1301	1-1/8	2-1/2	1/2
Replacement ball bearing #86-1-1/8			
1302	1-1/8	2-1/2	1/2

Replacement ball bearing #880 and is mounted on shank end. Separate parts - See price list.



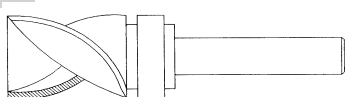
SPIRAL CARBIDE TIPPED HEAVY DUTY FLUSH TRIMMER WITH BALL BEARING GUIDE

Tool No.	Cutting Dia.	Flute Length	Shank
508-1-5/8-SPIR	3/4	1-5/8	1/2
935-1-3/8-SPIR	1-1/8	1-3/8	1/2

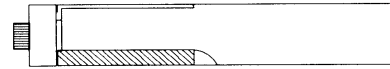


Spiral trimmer with ball bearing on shank end.

Tool No.	Cutting Dia.	Flute Length	Shank
935-SPIRAL-880	1-1/8	1-1/4	1/2
935-5/8SP-880	1-1/8	1-5/8	1/2



CARBIDE TIPPED FLUSH TRIM BITS WITH BALL BEARING GUIDE



2 - Flute				3-Flute			
Tool No.	Cutting Dia.	Flute Length	Shank	Tool No.	Cutting Dia.	Flute Length	Shank Dia.
500-1/2	1/4	1/2	1/4	506-3	1/2	1/2	1/4
500-3/4	1/4	3/4	1/4	505-3	1/2	1/2	1/2
*500	1/4	1	1/4	503-3	1/2	1	1/4
*500-1-1/4	1/4	1-1/4	1/4	502-3	1/2	1	1/2
504	3/8	1/2	1/4	502-1-1/2-3	1/2	1-1/2	
501	3/8	1	1/4	502-2-3	1/2	2	1/2
501-8	3/8	1	1/2	*502-2-1/2-3	1/2	2-1/2	1/2
501-1-1/4	3/8	1-1/4	1/4				
506	1/2	1/2	1/4	Replacement ball bearing: 1/4" cutting dia. use #79			
503	1/2	1	1/4	3/8".....#81			
505	1/2	1/2	1/2	1/2".....#82			
502	1/2	1	1/2	5/8".....#84			
502-1-1/2	1/2	1-1/2	1/2	3/4".....#85			
502-2	1/2	2	1/2	For 2 ball bearings Add -XBB to Tool No.			
*502-2-1/2	1/2	2-1/2	1/2				
*502-3 CE	1/2	3	1/2				
509	5/8	3/4	1/4	*These bits are not guaranteed against breakage due to extreme length. To be used only in very soft material.			
509-1	5/8	1	1/2				
507	3/4	5/8	1/4				
508	3/4	5/8	1/2				
508-1	3/4	1	1/2				
508-2	3/4	2	1/2				

CARBIDE TIPPED SHEAR DOWN FLUSH TRIMMER W/ BB GUIDE - 1/2" SHANK



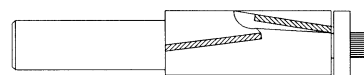
Tool No.	Cutting Dia.	Flute Length
508-1 SD	3/4	1"
508-1-1/2-SD	3/4	1-1/2"
508-2-SD	3/4	2"

SOLID CARBIDE COMPRESSION SPIRAL UP-DOWN FLUSH TRIMMER W/ 2 BB GUIDES



Tool No.	No. of Flutes.	Flute Length	OAL
7903-2BB	2	1-1/4	3-3/4

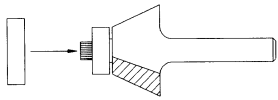
CARBIDE TIPPED FLUSH TRIMMER WITH STAGGERED FLUTES WITH DOWNSHEAR AND UPSHEAR FOR CLEAN CUTS ON BOTH SIDES OF MATERIAL - 1/2" SHANK



Tool No.	Cutting Dia.	Flute Length
577	3/4	1-1/8
578	3/4	1-5/8

Replacement ball bearing #85

**CARBIDE TIPPED BEVEL TRIMMER BITS
WITH 2 BALL BEARING GUIDES
2 FLUTES - 1/4" SHANK**



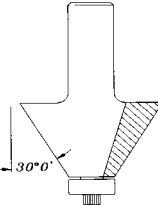
Tool No.	Angle	Flute Length
559	25°	1/2

Small bearing replacement #82
Large bearing replacement #82-S

**CARBIDE TIPPED BEVEL TRIMMER BITS
WITH BALL BEARING GUIDE**

2 - FLUTE

Tool No.	Angle	Flute Length	Bearing Size	Repl. BB	Shank
556	15°	1	1/2	82	1/2
557	22-1/2°	1	1/2	82	1/2
558	30°	1	1/2	82	1/2
560	15°	3/8	3/4	85	1/4
562	25°	3/8	3/4	85	1/4
564	15°	3/8	1/2	82	1/4
566	25°	3/8	1/2	82	1/4
567	45°	1/4	1/2	82	1/4



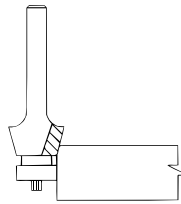
3 - FLUTE

568	7°	3/8	5/8	84	1/4
569	25°	3/8	5/8	84	1/4

**CARBIDE TIPPED GLUE WELL™ BEVEL TRIMMER BITS
WITH BALL BEARING GUIDE - 2 FLUTE**

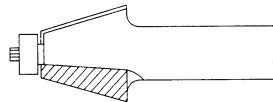
Specially designed glue reservoir eliminates glue build up on ball bearings resulting in a smoother cut and improved production results.

Tool No.	Angle	Flute Length	Shank
564-GW	15°	3/8	1/4
566-GW	25°	3/8	1/4



**PLASTIC SIGN AND LETTERS MFRS.
CARBIDE TIPPED 15° BEVEL TRIMMER**

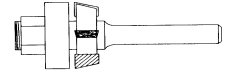
Tool No.	Angle	Carbide	Shank
570	15°	3/4	1/4
572	15°	3/4	1/2



Ball bearing guide is 1/16" smaller than cutting diameter. Bearing replacement #80. For Standard Bevel Trimmers see above.

**CARBIDE TIPPED TRIMMER WITH REMOVEABLE
CUTTER & BALL BEARING GUIDE - 4 WINGS**

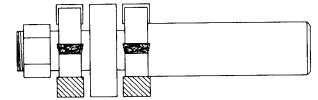
Tool No.	Small Dia.	Angle	Shank
1030	7/8	15°	1/4
1031	7/8	15°	1/2
1032	7/8	25°	1/4
1033	7/8	25°	1/2
1034	7/8	0°	1/4
1035	7/8	0°	1/2



Separate parts: See price list.
Bearing replacement #86

**DOUBLE BEVEL TRIMMER WITH REMOVEABLE
CUTTER & BALL BEARING GUIDE - 4 WINGS**

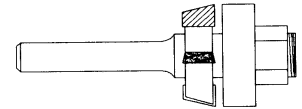
Tool No.	Small Dia.	Angle	Shank
1026	7/8	15°	1/2
1027	7/8	25°	1/2
1028	7/8	45°	1/2
1029	7/8	0°	1/2



Separate parts: See price list.
Bearing replacement #86

**CARBIDE TIPPED 45° MITER JOINT UNDERCUTTER WITH REMOVEABLE
CUTTER & BALL BEARING GUIDE 4 WINGS**

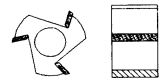
Tool No.	Shank
1094-4	1/4
1094-8	1/2



Separate parts: See price list.
Bearing replacement #87

**CARBIDE TIPPED TRIMMER W/ REMOVEABLE CUTTER -
3 FLUTES**

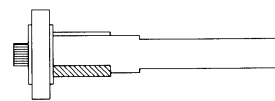
Tool No.	Small Dia.	Angle	Width	Shank Dia.
1260	5/8	0°	3/8	1/4
1260.9	5/8	9°	3/8	1/4
1261	5/8	22°	3/8	1/4



Separate parts: See price list. Bearing replacement #84

**CARBIDE TIPPED LAMINATE OVERHANG TRIM BIT
2 FLUTES - 1/4" SHANK**

Leaves 3/16 for finish cut. Used for rough trimming to eliminate chipping on finish cut.

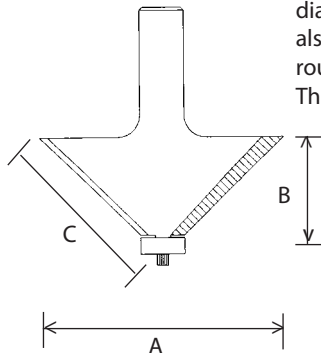


Tool No.	Cutting Dia.	Flute Length
510	3/8	1/2

Replacement ball bearing #85.

CARBIDE TIPPED 45° ANGLE CHAMFER BITS - 2 FLUTE

Tool No.	A Dia.	B Height	C Length	Shank
860	1-1/4	7/16	5/8	1/4
861	1-1/4	7/16	5/8	1/2
Replacement ball bearing #81				
862	2"	13/16	1-5/32	1/2
864	2-1/2	1-1/16	1-1/2	1/2
865	2-3/4	1-1/8	1-5/8	1/2
866	3"	1-1/4	1-3/4	1/2
867	3-1/4	1-3/8	2	1/2
868	3-1/2	1-1/2	2-1/8	1/2



Replacement ball bearing #82

LARGE DIAMETER 45° ANGLE CHAMFER BIT

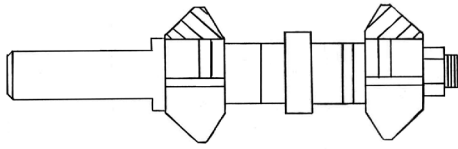
These bits are not guaranteed against breakage due to their large diameter. See minimum size shank they can be made with. They also should be used with caution and run on a soft start-low RPM router.

These large bits should only be used on a CNC machine

Tool No.	A Dia.	B Height	C Length	Shank
868-1.750	4"	1-3/4	2-1/2	1/2
868-2.000	4-1/2	2	2-13/16	1/2
868-2.250	5	2-1/4	3-3/16	3/4
868-2.500	5-1/2	2-1/2	3-1/2	3/4

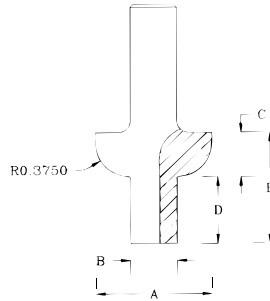
Replacement ball bearing #82

**CARBIDE TIPPED DOUBLE CHAMFER 30° & 45°
REMOVABLE CUTTER W/ BB GUIDE
3W - 1/2" SHANK - 4-1/4" OAL**
(Switch position of cutters for different chamfer angle)



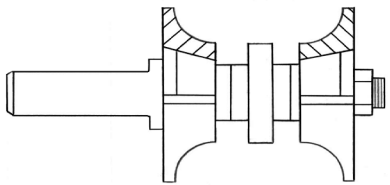
Tool No.	Angle	Dia.	With Bearing	Without Bearing	Cutter Thickness
1256	30°&45°	1-1/4	30°=5/8-1-1/2 45°=3/4-1-5/8	30°=5/16-1-1/2 45°=7/16-1-5/8	9/16

Separate parts: See price list.



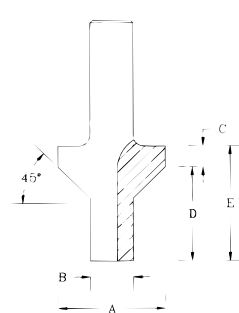
Tool No.	Radius	A Large Cutting Dia.	B Small Cutting Dia.	C Height of Cove	D Straight Flute Length	E Total Flute Length	O.A.L.
837-CR	1/4	1	1/2	1/2	5/8	1-1/8	2-3/4
839-CR	3/8	1-1/4	1/2	1/2	5/8	1-1/8	2-3/4
841-CR	1/2	1-1/2	1/2	1/2	5/8	1-1/8	2-3/4

**CARBIDE TIPPED DOUBLE ROUND OVER WITH
REMOVABLE CUTTER & BALL BEARING GUIDE
3 WING - 1/2" SHANK**



Tool No.	Radius	Cutting Dia	With Bearing	Without Bearing	O.A.L.
1250	1/8	1-1/2	11/16 - 1-1/2	1/4 - 1-1/2	3-1/2
1251	3/16	1-3/4	13/16 - 1-5/8	3/8 - 1-5/8	3-1/2
1252	1/4	1-15/16	15/16 - 1-5/8	1/2 - 1-5/8	3-1/2
1253	3/8	1-55/64	1" - 1-1/4"		

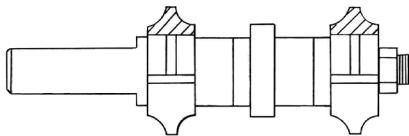
Separate parts: See price list.
Bearing replacement #880-12



**CARBIDE TIPPED BEVEL & ROUTE
1/2" SHANK**

Tool No.	Bevel	A Large Cutting Dia.	B Small Cutting Dia.	C Height of Bevel	D Straight Flute Length	E Total Flute Length	O.A.L.
861-BR	45°	1-1/4	1/2	3/8	5/8	1-1/8	2-3/4

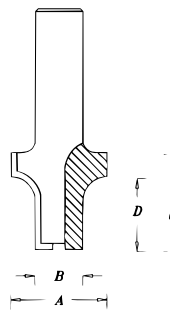
**CARBIDE TIPPED DOUBLE ROUND OVER WITH
REMOVABLE CUTTER & BALL BEARING GUIDE
Two Radius on each cutter 3 W - 1/2" SHANK, 4-1/2" OAL**
(Switch position of cutters for different radius)



Tool No.	Radius	Dia.	With Bearing	Without Bearing	Cutter Thickness
1254	3/16&1/4	1-3/8	3/16R:11/16-1-3/16 1/4"R:13/16-1-9/16	3/8 1/2	9/16 9/16

Separate parts: See price list.

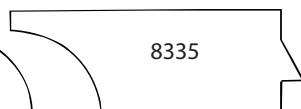
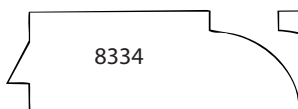
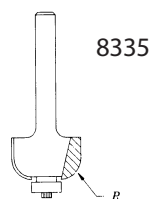
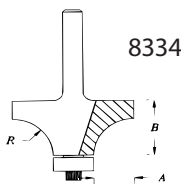
**CARBIDE TIPPED ROUND & ROUTE
1/2" SHANK**



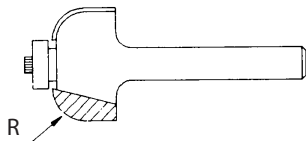
Tool No.	Radius	A Large Cutting Dia.	B Small Cutting Dia.	C Flute Length Overall	D Flute Length From Top of R.	O.A.L.
652-8-RR	3/16	1	1/2	1-3/16	15/16	2-9/16
652-8-LRR	3/16	1	1/2	1-11/16	1-7/16	3-1/16
654-8-RR	1/4	1-1/8	1/2	1-3/16	15/16	2-9/16
654-8-LRR	1/4	1-1/8	1/2	1-11/16	1-7/16	3-1/16
658-8-RR	3/8	1-3/8	1/2	1-3/16	15/16	2-9/16
658-8-LRR	3/8	1-3/8	1/2	1-11/16	1-7/16	3-1/16

**CARBIDE TIPPED DROP LEAF TABLE ROUTER BIT 2 PC.
SET - FOR 3/4" STOCK**

Tool No.	Radius	Shank
8334	1/2	1/4
8335	1/2	1/2



CARBIDE TIPPED COVE BITS - 2 FLUTE



Tool No.	Radius	Height	Shank	Tool No.	Radius	Height	Shank
830	1/16	1/2	1/4	840	1/2	5/8	1/4
831	1/16	1/2	1/2	841	1/2	5/8	1/2
832	1/8	1/2	1/4	842-A	9/16	3/4	1/2
833	1/8	1/2	1/2	842	5/8	3/4	1/2
834	3/16	1/2	1/4	843	3/4	7/8	1/2
835	3/16	1/2	1/2	844	7/8	1	1/2
836	1/4	1/2	1/4	845	1	1-1/8	1/2
837	1/4	1/2	1/2	846	1-1/4	1-3/8	1/2
838	3/8	1/2	1/4	847	1-1/2	1-5/8	1/2
839	3/8	1/2	1/2	848	1-3/4	1-7/8	1/2
				849	2	2-1/8	1/2

Replacement ball bearing #81

LARGE DIAMETER COVE BITS

These bits are not guaranteed against breakage due to their large diameter. See minimum size shank they can be made with. They also should be used with caution and run on a soft start-low RPM router.

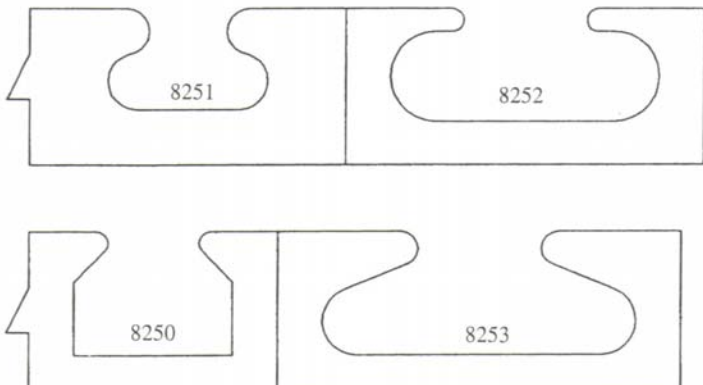
These large bits should only be used on a CNC machine

Tool No.	Radius	Height	Shank
849-2.125	2-1/8	2-1/4	1/2
849-2.250	2-1/4	2-3/8	3/4
849-2.375	2-3/8	2-1/2	3/4
849-2.500	2-1/2	2-5/8	3/4
849-2.625	2-5/8	2-3/4	3/4
849-2.750	2-3/4	2-7/8	1
849-2.875	2-7/8	3	1
849-3.000	3	3-1/8	1

Replacement ball bearing #81

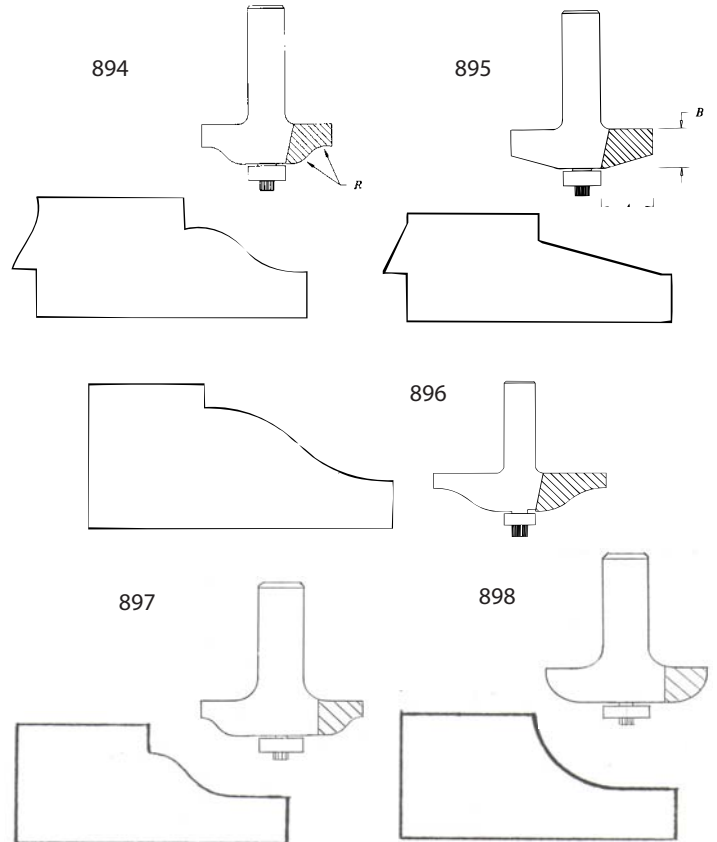
**CARBIDE TIPPED INSET FINGER PULL ROUTER BIT
2 FLUTE - 1/2" SHANK
(Actual Size Shown)**

Tool No.	Large Dia.	Depth of Cut	Min. Dia of Opening	O.A.L.
8250	7/8	11/16	3/4	2-5/16
8251	3/4	9/16	11/16	2-5/16
8252	1-1/2	5/8	7/8	2-5/16
8253	1-3/4	5/8	1	2-5/16



**RAISED PANEL ROUTER BIT
WITH BALL BEARING GUIDE - 2 FLUTE**

Tool No.	Dia.	A Height	B Height	Cutting Depth	Radius	Angle	Shank
894	1-3/4	3/16	1/2	5/8	1/2	-	1/4
894-8	1-3/4	3/16	1/2	5/8	1/2	-	1/2
895	1-5/8	5/16	1/2	9/16	-	25°	1/2
896	2-5/8	3/8	5/8	1-1/16	5/8	-	1/2
897	1-3/4	5/8	7/16	5/8	3/16	-	1/2
898	1-3/4	5/8	7/16	5/8	3/8	-	1/2

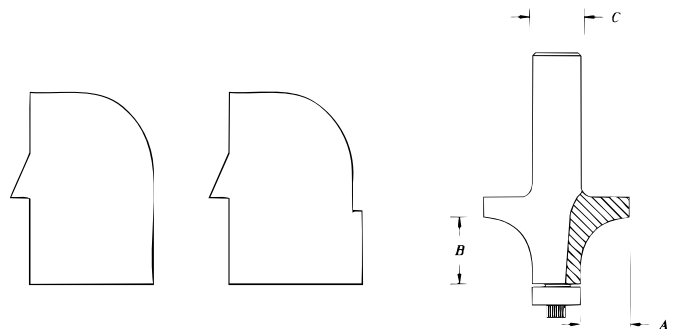


Replacement ball bearing #82

CARBIDE TIPPED ELONGATED ROUND OVER-SHOE MOULDING BIT 2 FLUTE WITH BB GUIDE

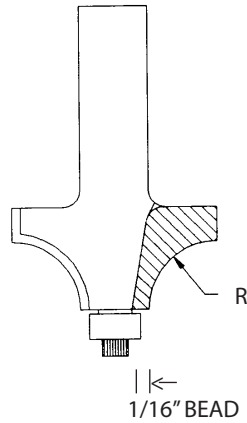
Tool No.	Dia.	A Cutting Dia.	B Cutting Length	C Shank Dia.	Overall Length
8248	1-1/2	1/2	11/16	1/4	2-1/8
8248-8	1-1/2	1/2	11/16	1/2	2-3/8

For fillet in pattern Add -80 to Tool No.



CARBIDE TIPPED BEADING BITS WITH BALL BEARING GUIDE WITH A 1/16" DEEP EDGE BEAD - 2 FLUTE

Tool No.	Radius	Height	Shank
680-A	1/16	1/2	1/4
680-A-8	1/16	1/2	1/2
680	1/8	1/2	1/4
680-8	1/8	1/2	1/2
682	3/16	1/2	1/4
682-8	3/16	1/2	1/2
684	1/4	1/2	1/4
684-8	1/4	1/2	1/2
686	5/16	1/2	1/4
686-8	5/16	1/2	1/2
688	3/8	5/8	1/4
688-8	3/8	5/8	1/2
690	1/2	3/4	1/4
690-8	1/2	3/4	1/2
691-A	9/16	7/8	1/2
691	5/8	1/2	1/2
692	3/4	1	1/2
693	7/8	1-1/8	1/2
694	1	1-1/4	1/2

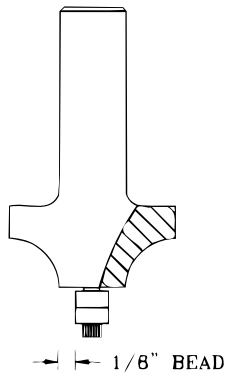


Replacement ball bearing #80

CARBIDE TIPPED BEADING BITS WITH BALL BEARING GUIDE WITH A 1/8" DEEP EDGE BEAD - 2 FLUTE

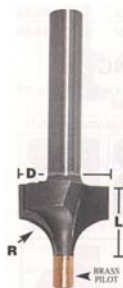
Tool No.	Radius	Height	Shank
680-A-MOD	1/16	1/2	1/4
680-A-8-MOD	1/16	1/2	1/2
680-MOD	1/8	1/2	1/4
680-8-MOD	1/8	1/2	1/2
682-MOD	3/16	1/2	1/4
682-8-MOD	3/16	1/2	1/2
684-MOD	1/4	1/2	1/4
684-8-MOD	1/4	1/2	1/2
686-MOD	5/16	1/2	1/4
686-8-MOD	5/16	1/2	1/2
688-MOD	3/8	5/8	1/4
688-8-MOD	3/8	5/8	1/2
690-MOD	1/2	3/4	1/4
690-8-MOD	1/2	3/4	1/2
691-A-MOD	9/16	7/8	1/2
691-MOD	5/8	1/2	1/2
692-MOD	3/4	1	1/2
693-MOD	7/8	1-1/8	1/2
694-MOD	1	1-1/4	1/2

Router bits have two #79 Ball Bearing guides. Caution should be used as they are such a small diameter, they tend to burn up quite easily.



MINI BRASS PILOT - 5/32 DIA. CARBIDE TIPPED ROUND OVER BITS INSTEAD OF BALL BEARING GUIDE 2 FLUTES - 1/4" SHANK

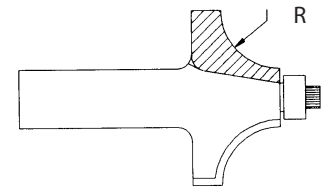
Tool No.	Radius	Height
650-A-BP	1/16	5/16
650-BP	1/8	3/8
654-BP	1/4	1/2
658-BP	3/8	5/8



CARBIDE TIPPED ROUND OVER BITS WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Radius	Height	Shank	Tool No.	Radius	Height	Shank
650-A	1/16	1/2	1/4	660-8	1/2	3/4	1/2
650-A-8	1/16	1/2	1/2	661-A	9/16	7/8	1/2
650	1/8	1/2	1/4	661	5/8	7/8	1/2
650-8	1/8	1/2	1/2	662	3/4	1	1/2
652	3/16	1/2	1/4	663	7/8	1-1/4	1/2
652-8	3/16	1/2	1/2	664	1	1-3/8	1/2
654	1/4	1/2	1/4	665	1-1/8	1-1/2	1/2
654-8	1/4	1/2	1/2	666	1-1/4	1-5/8	1/2
656	5/16	1/2	1/4	667	1-3/8	1-3/4	1/2
656-8	5/16	1/2	1/2	668	1-1/2	1-7/8	1/2
658	3/8	5/8	1/4	669	1-5/8	2	1/2
658-8	3/8	5/8	1/2	670	1-3/4	2-1/8	1/2
660	1/2	3/4	1/4	671	1-7/8	2-1/4	1/2
				672	2	2-3/8	1/2

Replacement ball bearing #82 : 650-A to 663
Replacement ball bearing #85 : 664 to 672..



LARGE DIAMETER ROUND OVER BIT

These bits are not guaranteed against breakage due to their large diameter. See minimum size shank they can be made with. They also should be used with caution and run on a soft start-low RPM router.

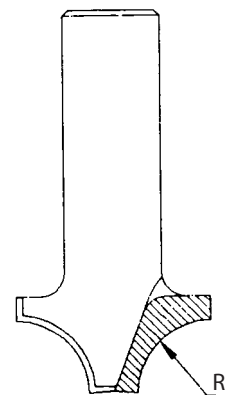
These large bits should only be used on a CNC machine

Tool No.	Radius	Height	Shank
672-2.125	2-1/8	2-1/2	1/2
672-2.250	2-1/4	2-5/8	3/4
672-2.375	2-3/8	2-3/4	3/4
672-2.500	2-1/2	2-7/8	3/4
672-2.625	2-5/8	3	3/4
672-2.750	2-3/4	3-1/8	3/4
672-2.875	2-7/8	3-1/4	3/4
672-3.000	3	3-3/8	3/4

Replacement ball bearing #85

CARBIDE TIPPED PLUNGE CUTTING ROUND OVER BIT 2 FLUTE

Tool No.	Radius	Plunge Dia.	Height	Shank
650-PRO	1/8	1/8	1/8	1/4
650-8-PRO	1/8	1/8	1/8	1/2
652-PRO	3/16	1/8	5/16	1/4
652-8-PRO	3/16	1/8	5/16	1/2
654-PRO	1/4	1/4	3/8	1/4
654-8-PRO	1/4	1/4	3/8	1/2
656-8-PRO	5/16	1/4	7/16	1/2
658-8-PRO	3/8	1/4	1/2	1/2
660-8-PRO	1/2	3/8	3/4	1/2
661-A-PRO	9/16	3/8	1	1/2
661-PRO	5/8	1/2	1	1/2
662-PRO	3/4	1/2	1-1/8	1/2

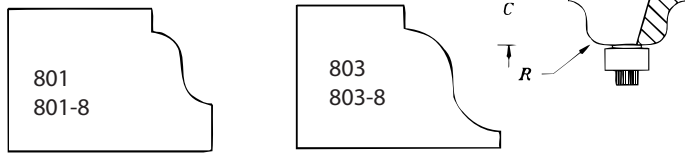


DETAIL ROUTER BITS (shown with wood samples)

CARBIDE TIPPED ROMAN OGEE BIT WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	Radius	Depth	C Height	Shank
801	1	5/32	3/8	15/32	1/4
801-8	1	5/32	3/8	15/32	1/2
803	1-3/8	1/4	1/2	21/32	1/4
803-8	1-3/8	1/4	1/2	21/32	1/2

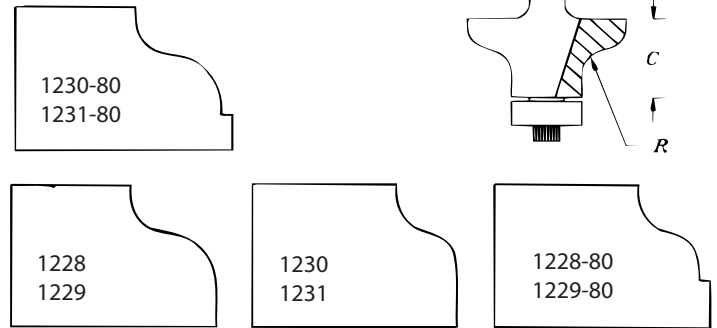
Replacement ball bearing #81.



CARBIDE TIPPED ELONGATED OGEE BIT WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	C Height	Shank
1228	1-1/8	1/2	1/4
1229	1-1/8	1/2	1/2
1230	1-3/8	11/16	1/4
1231	1-3/8	11/16	1/2

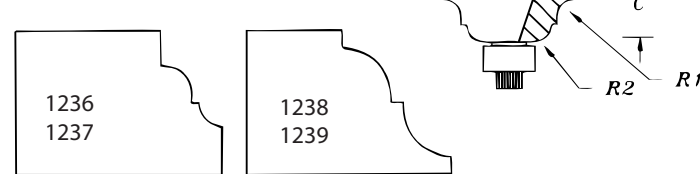
For fillet in pattern use #80 ball bearing. Add -80 to Tool No. Replacement ball bearing #82



CARBIDE TIPPED DOUBLE ROMAN OGEE BITS 2-FLUTE

Tool No.	Dia.	R Radius	C Height	Shank
1236	1	5/32	15/32	1/4
1237	1	5/32	15/32	1/2
1238	1-3/8	1/4	21/32	1/4
1239	1-3/8	1/4	21/32	1/2

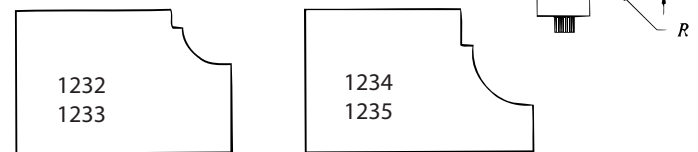
Replacement ball bearing #81.



CARBIDE TIPPED COVE BIT WITH FILLET WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	R Radius	C Height	Shank
1232	1-1/8	1/4	1/2	1/4
1233	1-1/8	1/4	1/2	1/2
1234	1-3/8	3/8	5/8	1/4
1235	1-3/8	3/8	5/8	1/2

Replacement ball bearing #82



OGEE BIT WITH FILLET WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	Depth	C Height	R Radius	Shank
810	1-3/8	5/16	9/16	3/16	1/4
810-8	1-3/8	5/16	9/16	3/16	1/2
812	1-3/8	7/16	13/16	1/4	1/2

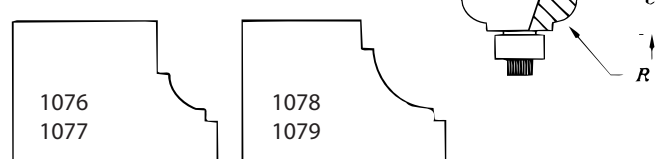
For second fillet in pattern Add -80 to Tool No.
Replacement ball bearing #82



CARBIDE TIPPED DOUBLE FILLET COVE BIT WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	R Radius	C Height	Shank
1076	1-1/8	1/4	1/2	1/4
1077	1-1/8	1/4	1/2	1/2
1078	1-3/8	3/8	5/8	1/4
1079	1-3/8	3/8	5/8	1/2

Replacement ball bearing #82

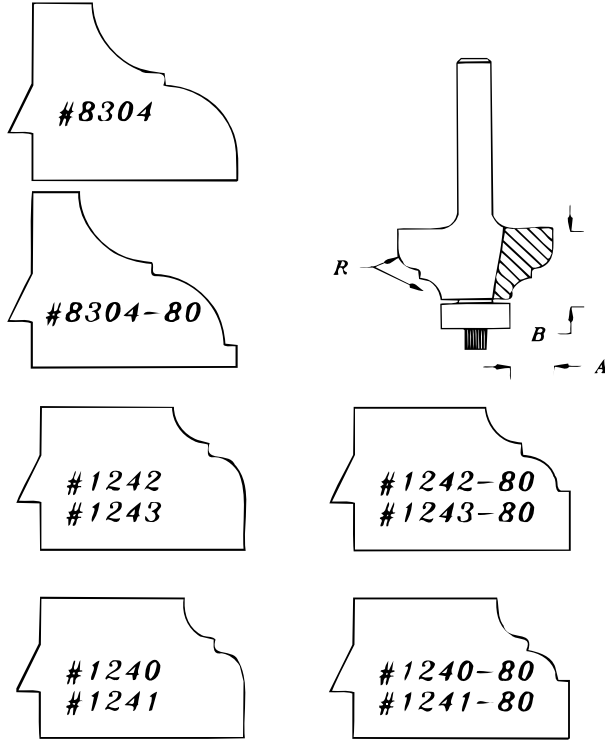


DETAIL ROUTER BITS shown with wood samples

CARBIDE TIPPED COMBINATION COVE - ROUND OVER BIT WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	Radius	Height	Shank	OAL
1240	1-1/8	3/16	1/2	1/4	1-5/8
1241	1-1/8	3/16	1/2	1/2	2
1242	1-3/8	1/4	11/16	1/4	1-3/4
1243	1-3/8	1/4	11/16	1/2	2-1/8
8304	2	3/8	1-1/4	1/2	

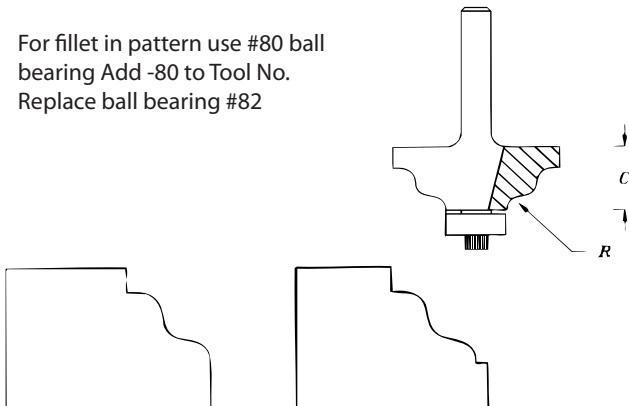
For fillet in pattern, order #80 ball bearing Add -80 to Tool No.
Replacement ball bearing #82



CARBIDE TIPPED WAVY EDGE BITS - 2 FLUTES

Tool No.	Dia.	C Height	Shank
8936	1-1/4	5/8	1/4
8937	1-1/4	5/8	1/2
8936-80	1-1/4	5/8	1/4
8937-80	1-1/4	5/8	1/2

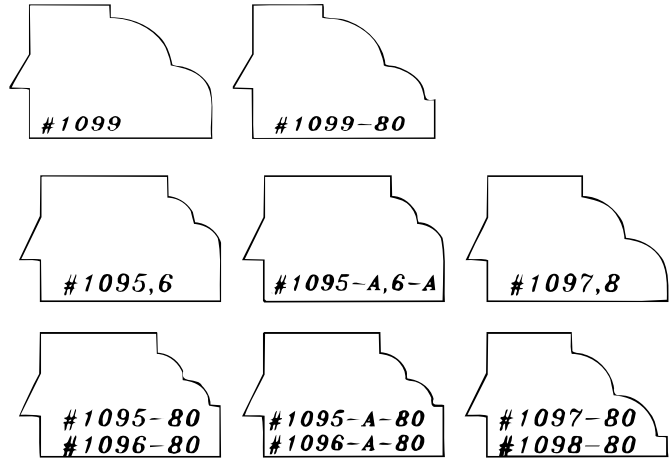
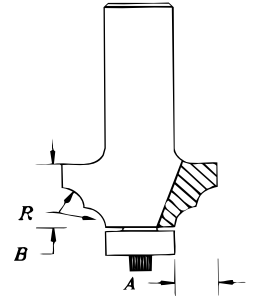
For fillet in pattern use #80 ball bearing Add -80 to Tool No.
Replace ball bearing #82



CARBIDE TIPPED TRADITIONAL FILLET BIT WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Dia.	Height	Radius	Shank
1095	1-1/8	9/16	5/32	1/4
1096	1-1/8	9/16	5/32	1/2
1095-A	1-3/8	11/16	7/32	1/4
1096-A	1-3/8	11/16	7/32	1/2
1097	1-1/2	3/4	1/4	1/4
1098	1-1/2	3/4	1/4	1/2
1099	1-3/4	7/8	3/8	1/2

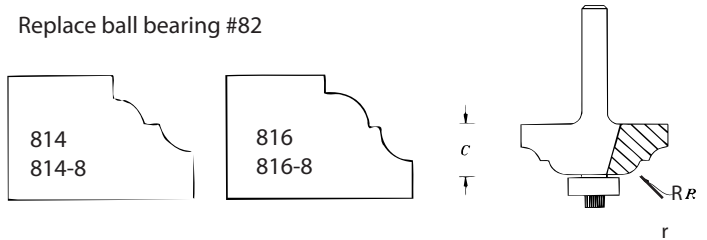
For second fillet in pattern Add -80 to Tool No. Replacement ball bearing #82..



CLASSICAL BIT WITH BALL BEARING GUIDE 2 FLUTE

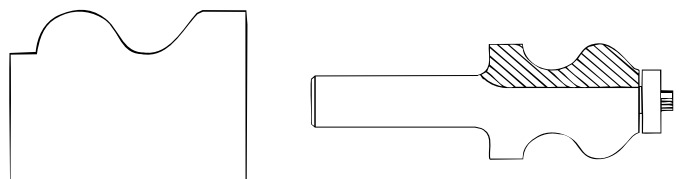
Tool No.	Dia.	Depth	C Height	R Radius	R Radius	Shank
814	1-1/4	1/4	1/2	3/16	3/16	1/4
814-8	1-1/4	1/4	1/2	3/16	3/16	1/2
816	1-1/2	3/8	5/8	1/4	3/16	1/4
816-8	1-1/2	3/8	5/8	1/4	3/16	1/2

Replace ball bearing #82



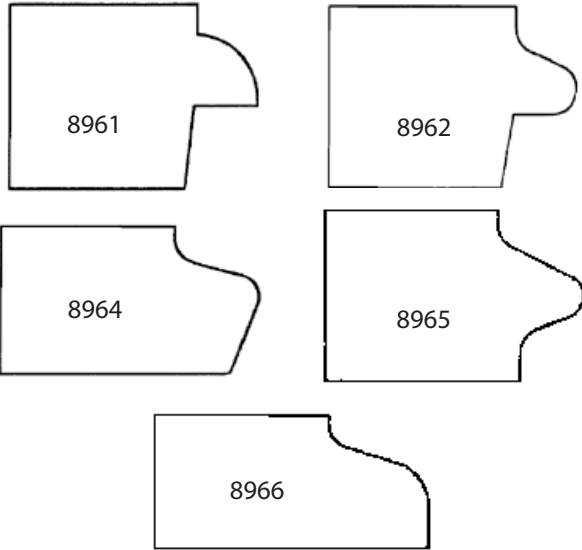
CARBIDE TIPPED OGEE - FOOT MOULDING ROUTER BIT 2 FLUTE W/BB GUIDE - 1/2" SHANK

Tool No.	Cutting Dia.	Flute Length	Radius	OAL
8991	1-1/8	1-1/4	1/4	3-1/8



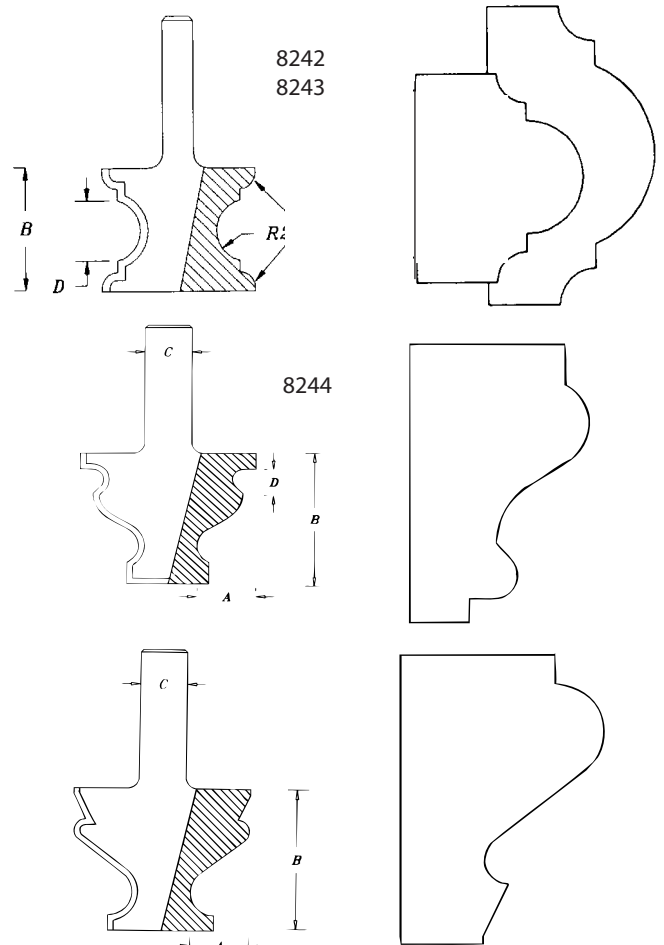
CARBIDE TIPPED DOOR LIDS & FINGER PULL PATTERN

Tool No.	Dia.	A Cutting Depth	B Flute Length	R Raduis	C Shank Dia	O.A.L.
8961	1-1/2	7/16	1-3/16	3/8	1/2	3
8962	1-1/2	1/2	13/16	-	1/2	2-1/4
8964	1-11/32	1/2	7/8	-	1/2	2-3/4
8965	1-7/8	9/16	7/8	-	1/2	2-1/4
8966	1-5/8	9/16	5/8	-	1/2	2-1/2



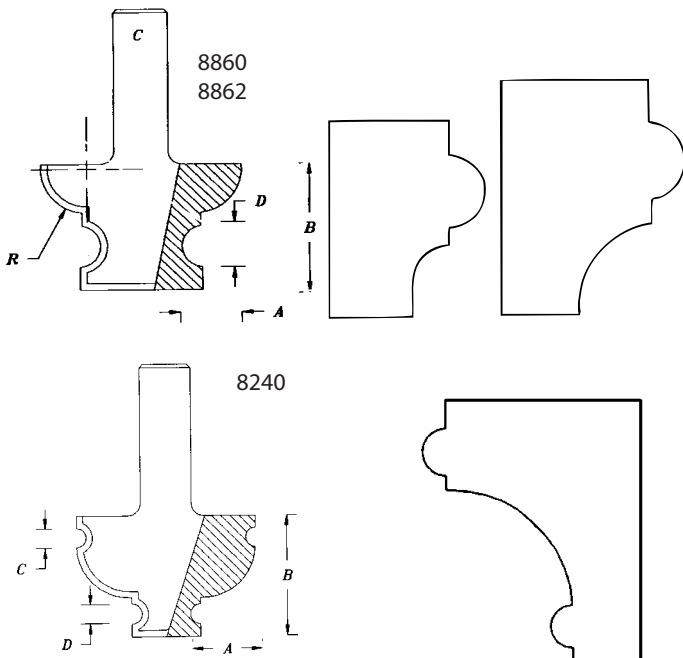
**CARBIDE TIPPED CLASSICAL PATTERN BITS
2 FLUTE - NO BALL BEARING GUIDE**

Tool No.	A Cutting Depth	B Cutting Length	C Shank Dia.	D Bead Dia.	R1 Radius	R2 Radius	O.A.L.
8242	7/8	1-1/4	1/2	9/16	5/32	5/16	2-7/8
8242-A	1-4	1"	1/4		1/8	1/4	3-1/4
8243	1/2	1-5/8	1/2	7/8	3/16	1/2	3-1/8
8244	7/8	1-1/2	1/2	5/16	-	-	3-1/8
8245	5/8	1-1/2	1/2	-	-	-	-



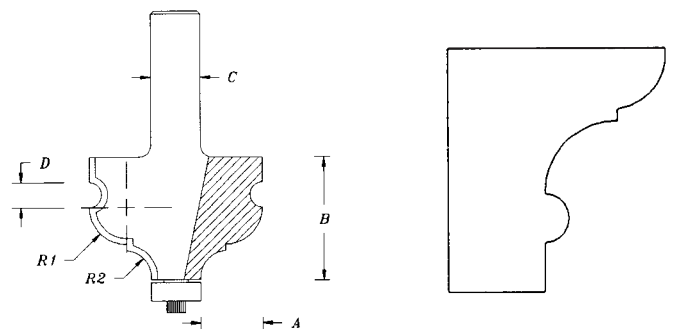
**CARBIDE TIPPED CLASSICAL PATTERN BITS
2 FLUTE- NO BALL BEARING GUIDE**

Tool No.	A Cutting Depth	B Cutting Length	C Shank Dia.	D Bead Dia.	R1 Radius	R2 Radius	O.A.L.
8860	1/4	1	1/2	3/8	3/16	-	2-1/2
8862	5/16	1-1/4	1/2	7/16	1/4	-	2-1/4
8240	5/8	1-7/32	1/2	3/16	-	-	2-7/8
8241	5/16	1	1/4	7/16	1/8	1/4	2-5/16



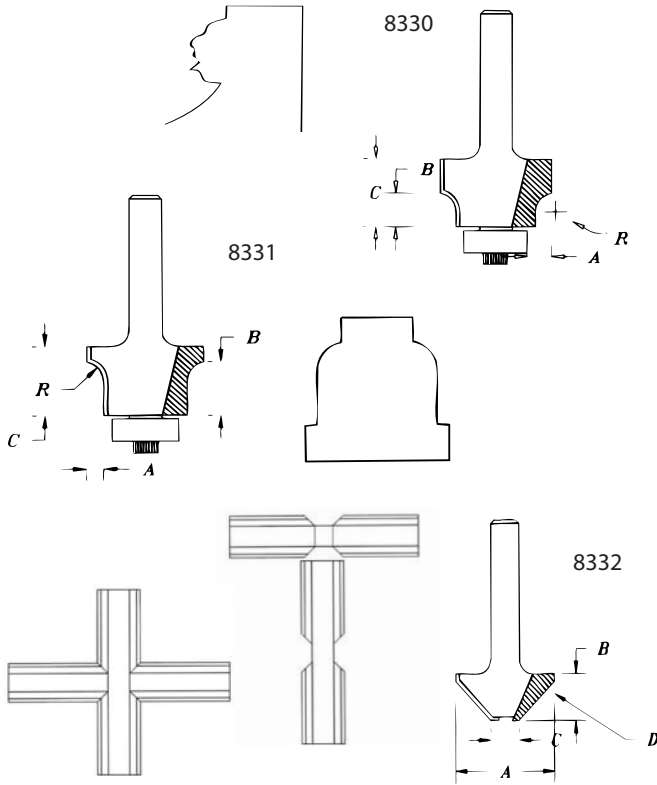
**CARBIDE TIPPED MOULDING BIT
WITH BALL BEARING GUIDE**

Tool No.	A Cutting Depth	B Cutting Length	C Shank Dia.	D Bead Dia.	R1 Radius	R2 Radius	O.A.L.
8256	1-3/4	5/8	1-1/8	1/2	3/8	1/4	3-1/8



**CARBIDE TIPPED MULLION ROUTER BIT
2 FLUTE - 1/4" SHANK**

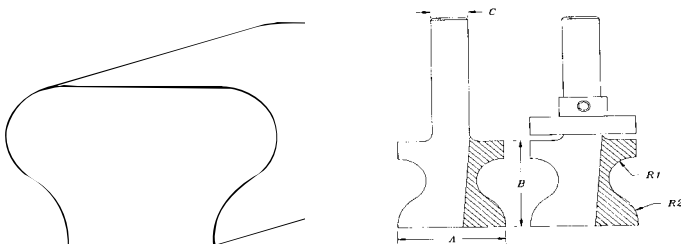
Tool No.	Cutting Dia.	B Height of Detail	A Depth of Cut	C Carbide Height	D Rad./Deg.	Overall Length
8330	7/8	9/32	3/16	9/16	5/32	2-1/4
8331	7/8	7/16	3/16	9/16	3/16	2-1/4
8332	7/8	3/8	7/8	1/4	45°	1-5/8



Step #1: Make roundover/beading cut lengthwise along both top edges of stock.
 Step #2: Turn Stock on side and make "V" groove cut at pre-marked line. Turn stock over and repeat "V" groove cut opposite first "V" groove.
 Step #3: On the top or bottom of stock, make dado cut across the bar, halfway through the thickness of the stock, and centered on the "V" groove cuts. (Note: Making joints must have a dado from the top on one piece and from the bottom on mating piece.)

**CARBIDE TIPPED WINDOW STOOL/SILL BIT
2 FLUTES - WITH OR WITHOUT BB GUIDE**

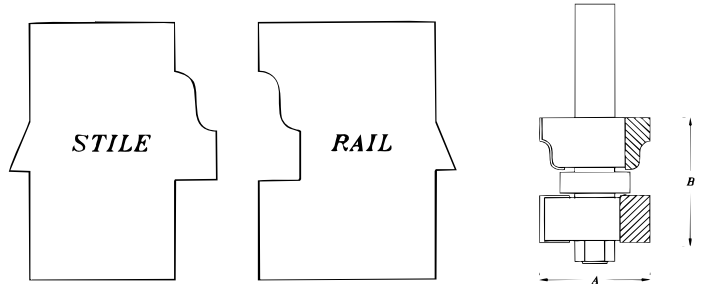
Tool No.	Cutting Dia.	B Cutting Length	C Shank Dia.	R Radius		Overall Length
				1	2	
8318	1-1/4	1	1/2	7/32	3/8	2-7/8
8319	1-7/16	1-3/8	1/2	3/8	1/2	3-3/8
8318-BB	1-1/4	1	1/2	7/32	3/8	2-7/8
8319-BB	1-7/16	1-3/8	1/2	3/8	1/2	3-3/8



**CARBIDE TIPPED ADJUSTABLE AND REVERSIBLE
WINDOW SASH BIT - 2 FLUTE - 1/2" SHANK**

One bit cuts both stile and rail cuts by reversing the cutters. Instructions included.

Tool No.	A Cutting Dia.	B Profile Cutting Length	C Shank Dia.	Overall Length
8894	1-3/8	7/8 to 1-5/8	1/2	3-3/4

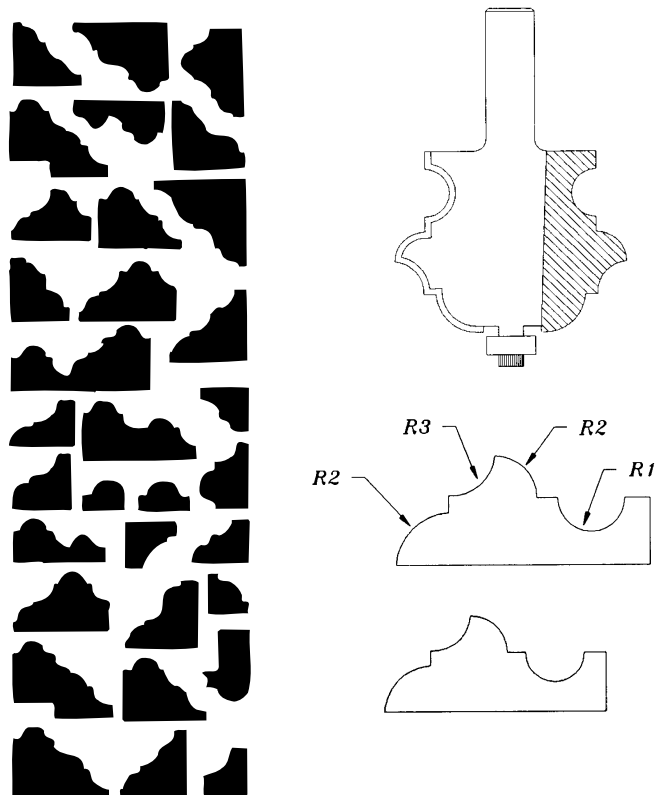


**CARBIDE TIPPED MULTI-FORM ROUTER BIT
-2 FLUTE - 1/2" SHANK**

Use with a router table. Makes over 40 different profile and standard moulding designs. Simply by adjusting the cutter height and the fence position, with two or more passes, the profile possibilities are almost unlimited.

Tool No..	Dia..	Flute Length	R-1	R-2	R-3	O.A.L.
8849	1-3/8	1	1/8	7/32	3/16	2-3/4
8853	2-7/32	1-7/8	1/4	13/32	11/32	3-3/4

Replacement ball bearing #82

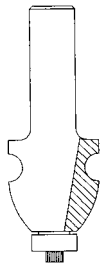


CARBIDE TIPPED SPECIALTY FACE MOULDING CUTTER BIT

2 FLUTE W/ BALL BEARING GUIDE

Wood samples are actual size

Tool No.	A Cutting Dia.	B Cutting Length	C Shank Dia.	D Bead Dia.	O.A.L.	Bearing	Tool No.	A Cutting Dia.	B Cutting Length	C Shank Dia.	D Brad Dia.	O.A.L.	Bearing
8803	7/8	1-1/2	1/2	5/16	3-1/8	82	8815	1-1/4	1-1/2	1/2	1/4	3-1/4	82
8804	3/4	3/4	1/4	1/4	2-1/4	80	8830	1-3/8	1-3/4	1/2	-	3-3/8	82
8805	1-1/16	1-5/8	1/2	1/4	3-5/8	82	8900-FM	1	1	1/2	5/16	2-3/4	82
8807	1	1-3/8	1/2	5/16	3-1/8	82	8902-FM	7/8	1-7/8	1/2	1/4	3-5/8	82
8809	1	1-5/8	1/2	1/4	3-1/2	82	8904-FM	1-3/8	1-7/8	1/2	-	3-1/2	82
8812	1-1/2	1-1/2	1/2	1/4	3-1/4	82	8905-FM	1-5/8	2	1/2	1/4	3-3/4	82
8813	7/8	1	1/4	1/8		82	8906-FM					3-3/4	82



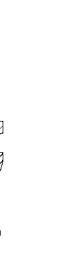
8900-FM



8803



8804



8805



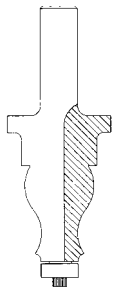
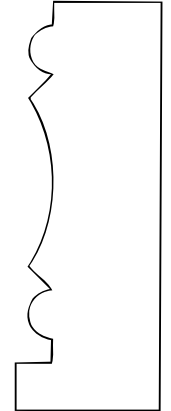
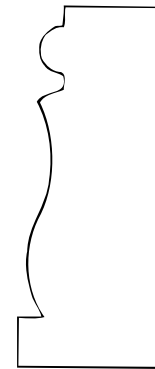
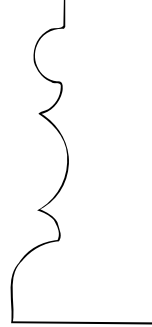
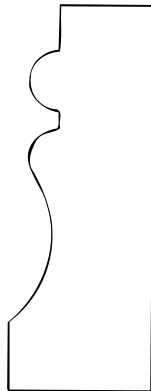
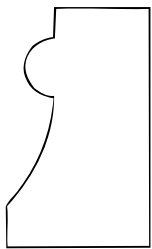
8807



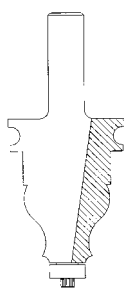
8809



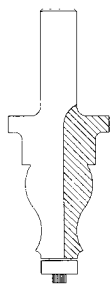
8902-FM



8904-FM



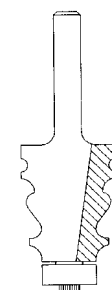
8905-FM



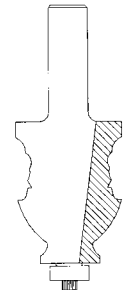
8906-FM



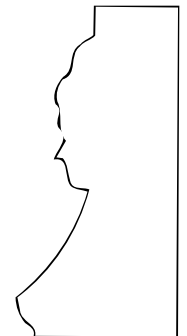
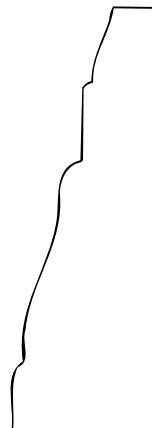
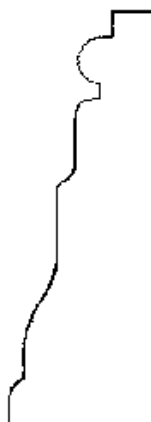
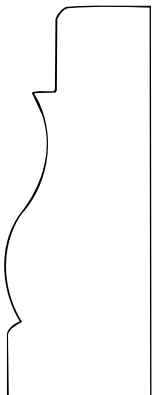
8812



8813/8815

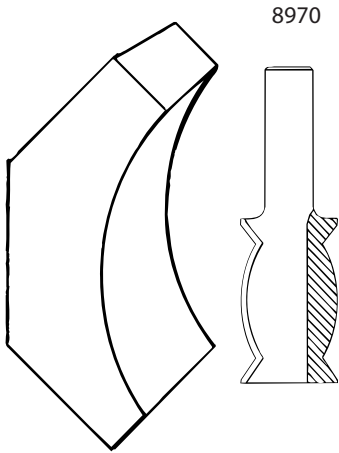


8830



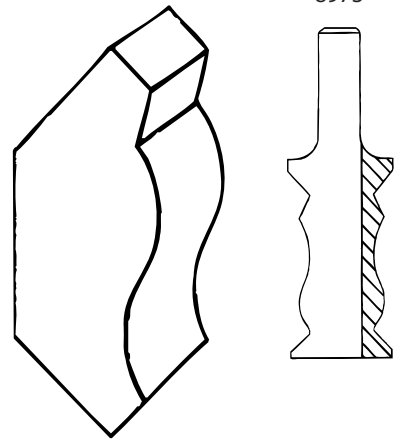
"QUEEN ANN"

**CARBIDE TIPPED CROWN MOULDING BITS
2 FLUTE - 1/2" SHANK**

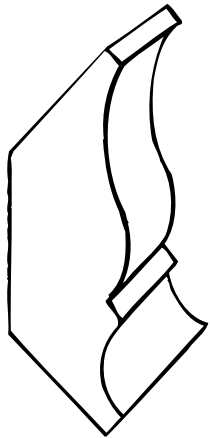


8970

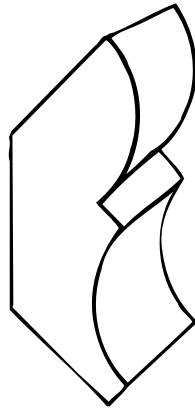
Tool No.	Diameter	Flute Length	OAL
8970-A	1	1-5/8	3-1/4
8970	1-1/4	2-1/4	3-3/4
8971-A	1	1-5/8	3-1/4
8971	1-1/4	2-1/4	3-3/4
8972-A	1	1-5/8	3-1/4
8972	1-1/2	2-1/4	3-3/4



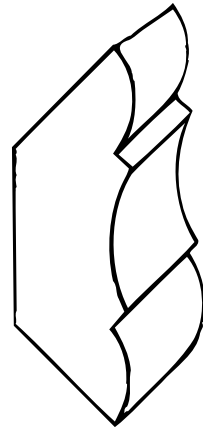
8973



8971

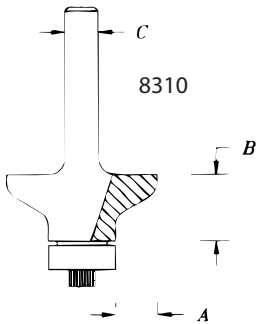


8972



8974

CARBIDE TIPPED SHALLOW FLUSH OVERLAY BITS TO ACCOMMODATE EUROPEAN DOOR HINGES WITH BALL BEARING GUIDES - 2 FLUTE

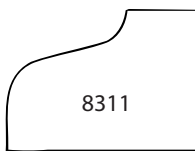


8310

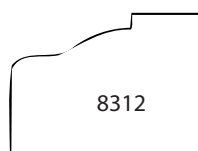
Tool No.	Dia.	A Cutting Depth	B Flute Length	C Shank Dia.	O.A.L.	Tool No.	Dia.	A Cutting Depth	B Flute Length	C Shank Dia.	O.A.L.
8310	1-1/8	5/16	3/8	1/4	2-1/4	8337	1-1/2	1/2	7/16	1/4	2"
8311	1-3/4	5/8	3/8	1/2	2-1/4	8338	1-9/16	17/32	7/16	1/2	2-1/4
8312	1-3/4	5/8	3/8	1/2	2-1/4	8339	1-9/16	17/32	7/16	1/4	2"
8313	1-3/4	5/8	3/8	1/2	2-1/4	8340	1-3/4	5/8	7/16	1/2	2-1/4
8315	1-3/4	5/8	3/8	1/2	2-1/4	8341	1-3/4	5/8	7/16	1/2	2-1/4
8316	1-3/4	5/8	3/8	1/2	2-1/4	8342	1-3/4	5/8	7/16	1/2	2-1/4
8336	1-1/2	1/2	7/16	1/4	2"	8344	1-3/4	5/8	7/16	1/2	2-1/4



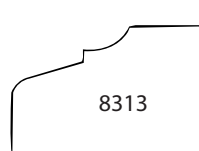
8310



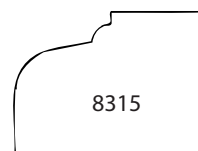
8311



8312



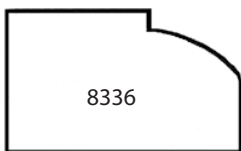
8313



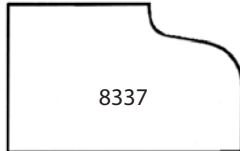
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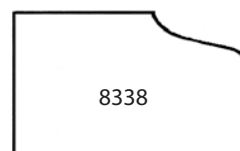
8316



8336



8337



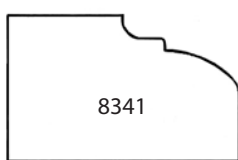
8338



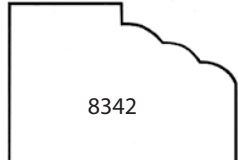
8339



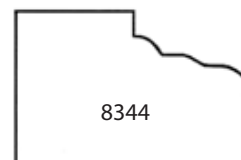
8340



8341



8342



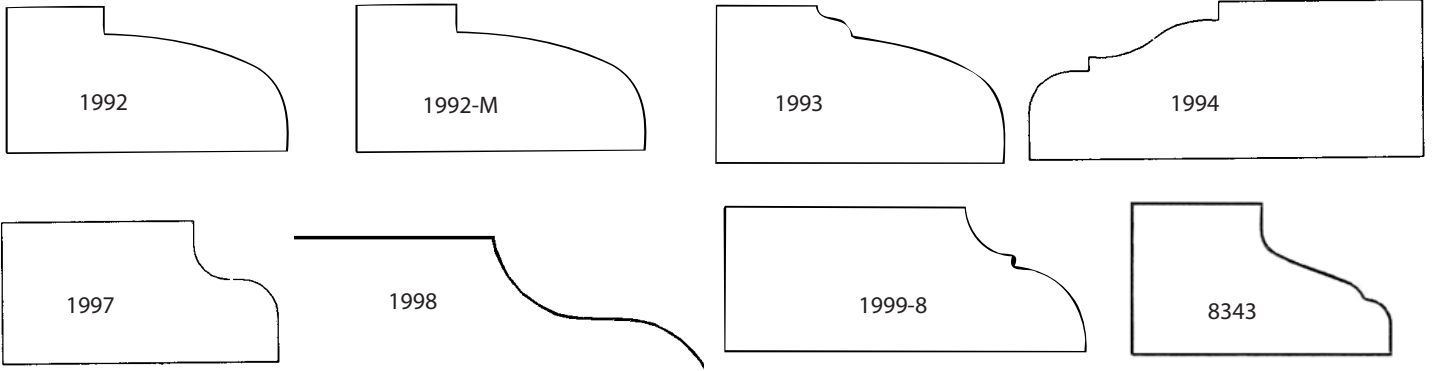
8344

CARBIDE TIPPED TABLE TOP EDGE ROUTER BIT WITH BALL BEARING GUIDE - 2 FLUTE

Also use in combination with Handrail bit to produce a finished handrail

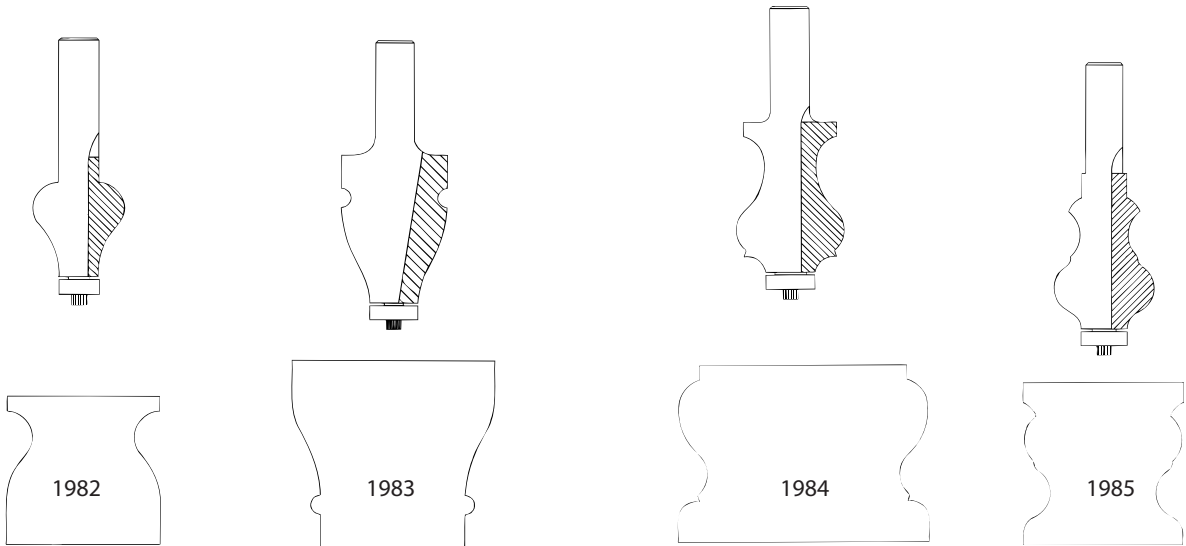
Tool No.	Diameter	Depth of cut	Height	Shank	O.A.L.	Tool No.	Diameter	Depth of cut	Height	Shank	O.A.L.
1992	2-1/2	1	3/4	1/2	2-1/2	1997	1-5/8	7/16	5/8	1/2	2-1/4
1992-M	2-1/2	1	3/4	1/2	2-1/2	1998	2-1/2	1	3/4	1/2	2-1/2
1993	2-1/2	1	3/4	1/2	2-1/2	1999-8	1-1/2	1/2	5/8	1/2	2-3/4
1994	2-7/16	1	3/4	1/2	2-1/2	8343	1-3/4	5/8	5/8	1/2	2-1/4

Replacement ball bearing #82.

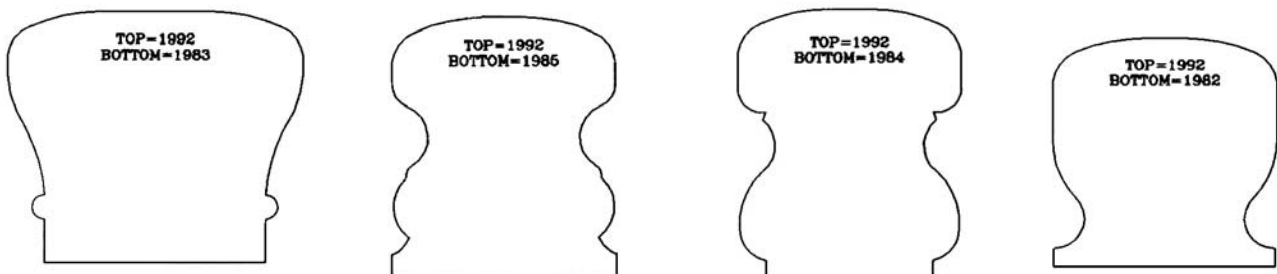


CARBIDE TIPPED HANDRAIL ROUTER BIT WITH BALL BEARING GUIDE - 2 FLUTE - 1/2" SHANK

Tool No.	A Cutting Dia.	Cutting Depth	B Cutting Height	D Bead Dia.	O.A.L.	Bearing Replacement	These bits will cut lower portion of Handrail and choose a tip design from Table Top Edge design router bit.
1982	1-1/4	5/16	1-1/2	-	3	75	
1983	1-1/4	3/8	1-7/8	-	3-3/8	75	
1984	1-3/8	3/8	2	-	3-1/2	75	
1985	1-3/8	3/8	2	1/4	3-7/8	82	



HANDRAIL COMBINATIONS - Sizes shown below approx. 1/2 actual size



FOR CUSTOM STAIR RAILING ROUTER BITS - SEE PAGE 96.

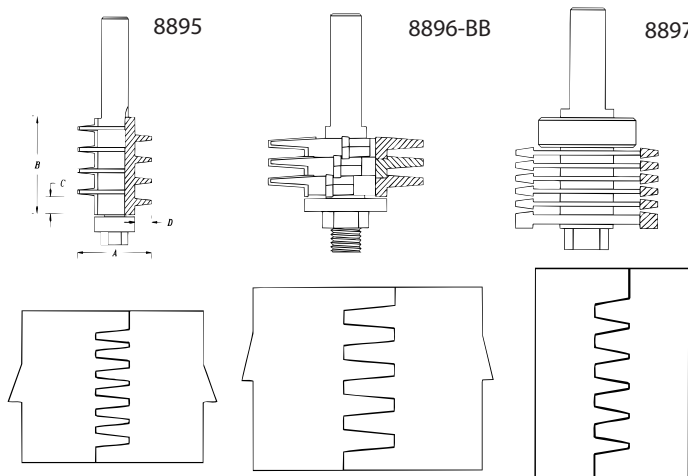
**CARBIDE TIPPED FINGER JOINT
ROUTER BIT -1/2" SHANK**

Tool No.	Type
8895	2 flutes - solid bit with #85 ball bearing guide
8896	3 flutes - removable cutter with no ball bearing guide
8896-CO	guide
8896-BB	extra cutter for taller height
8897	extra cutter for taller height with ball bearing guide
	2 flutes - removable cutter with ball bearing guide

SPECIFICATIONS FOR BITS

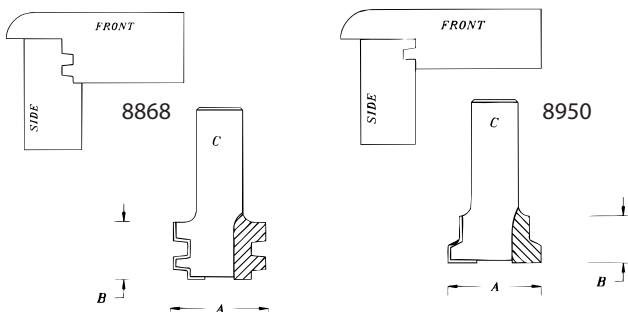
Tool No.	A Cutting Dia.	B Width of Finger	C Depth of Finger	D Height	Bearing Replace.	Overall Length
8895	1-3/8	11/32	11/32	1-1/2	85	3
8896	2-1/2	5/16	1/2	15/16*	-	3-13/16
8896-BB	2-1/2	5/16	1/2	15/16**	880	3-13/16
8897	1-9/16		11/32	1-1/4	-	3-7/8

* A maximum of 2 extra cutters can be added to make it cut 1-1/2" stock.
** A maximum of 1 extra cutter can be added to make it cut 1-1/4" stock.



**CARBIDE TIPPED DRAWER LOCK GLUE JOINT BIT
TWO TYPES- SINGLE LOCK AND DOUBLE LOCK**

Tool No.	Stock Size	A Cutting Dia.	B Flute Length	C Shank Dia.	Overall Length
DOUBLE LOCK					
8868	1/4-5/8	1	5/8	1/4	2
8869	1/4-5/8	1	5/8	1/2	2
8870	5/8-1	1	1	1/4	2-3/8
8871	5/8-1	1	1	1/2	2-3/8
SINGLE LOCK					
8950	1/2-3/4	3/4	1/2	1/4	1-7/8
8951	1/2-3/4	1	1/2	1/2	1-7/8

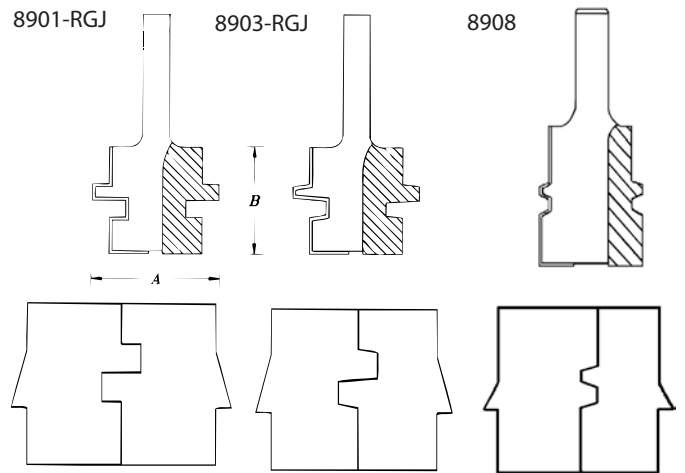


CARBIDE TIPPED REVERSIBLE GLUE JOINT BIT

One bit makes both Tongue & Groove cuts, reverse wood for perfect fit. Router table is recommended. Fence is required. 2 styles available - Straight & Wedge types.

Tool No.	A Cutting Dia.	B Cutting Width	C Shank Dia.	Overall Length
Straight Type				
8901-RGJ	1-3/16	1	1/4	2-3/8
8902-RGJ	1-5/8	1	1/2	3

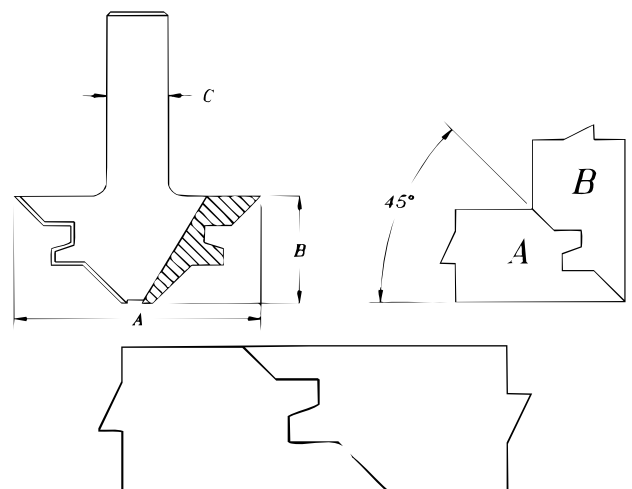
Tool No.	A Cutting Dia.	B Cutting Width	C Shank Dia.	Overall Length
Wedge Type				
8903-RGJ	13/16	1	1/4	2-3/8
8904-RGJ	1-5/8	1	1/2	3
8905-RGJ	1-1/2	1-1/4	1/2	2-3/4
8908	1-1/2	1-5/8	1/2	3-1/4



CARBIDE TIPPED 45° LOCK MITER BIT - 2 FLUTE

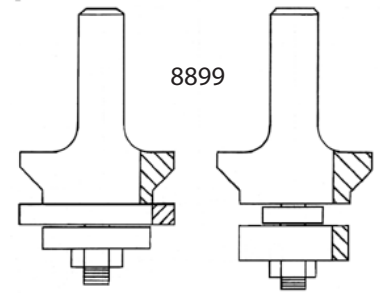
When properly positioned, this cutter set will cut No. A and No. B matching joints without changing the vertical adjustment of the cutter on the router. Must use fence. No. A is run flat on router table. No. B is run on end against the table fence.

Tool No.	For Wood Thick.	A Cutting Dia.	B Cutting Length	C Shank Dia.	Overall Length
8865	1/2-3/4	2	7/8	1/4	1-7/8
8866	1/2-3/4	2	7/8	1/2	1-7/8
8867	1/2-1-1/4	2-3/4	1-1/4	1/2	3



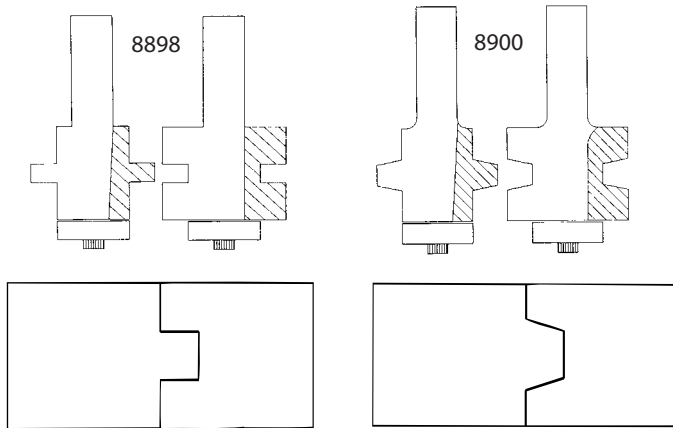
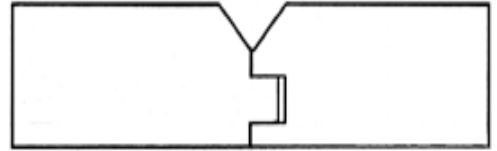
Use the 45° lock miter as a horizontal glue joint fit

CARBIDE TIPPED 2 PIECE SOLID STYLE TONGUE & GROOVE
 With Ball Bearing Guide - 2 Flute - 1/2" Shank



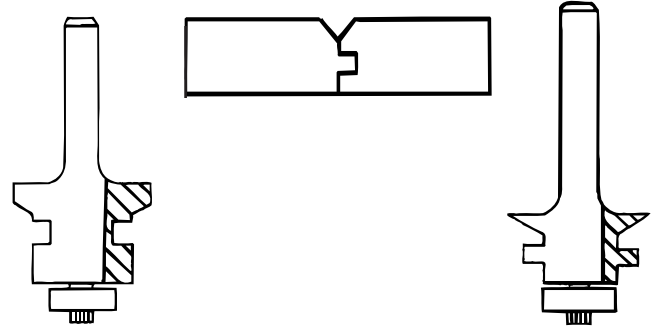
Tool No.	Type	Diameter	Height	Depth of Tongue	Width of Tongue	OAL
8898	Standard	1-1/2	1-1/8	1/4	1/4	2-5/8
8899	"V" Groove	1-1/2	1-1/8	5/16	1/4	2-5/8
8900	Wedge	1-1/2	1-1/8	5/16	1/4	2-5/8

Sold only in 2 piece sets. Replacement ball bearing #86. See page 75 for bit for repairing T&G flooring Tool No. 121.



"V" GROOVE (for 3/8" stock)
T & G FLOORING - 2 Bits

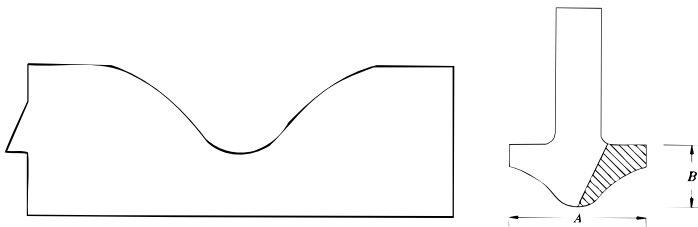
Tool No.	D Large Dia.	C Cutting Depth	L Cutting Length	Shank Dia.
8890	7/8	3/16	3/8	1/4



CARBIDE TIPPED HANDRAIL FOR HANDICAPPED
 Meets Federal Guidelines - Patent pending

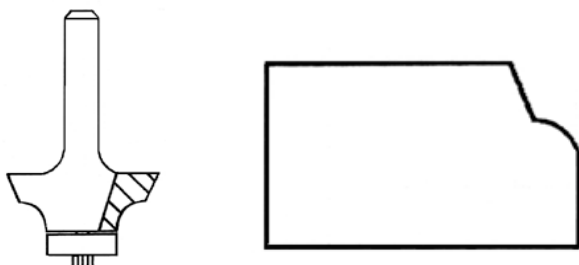
Tool No.	A Cutting Dia.	B Cutting Length	C Shank Dia.	OAL	Depth
1986	1-1/2	3/4	1/2	2-3/8	9/32

Use #662 Round Over bit to finish off top of handrail. S.



ROUND OVER/CHAMFER (PLAQUE) ROUTER BIT
 1/4" SHANK - 2 FLUTE

Tool No	Radius	Angle	Height	Depth	Dia.
637	3/16	22-1/2°	7/16	9/32	11/16



CARBIDE TIPPED ROUTER BIT FOR MAKING
BARLEY TWIST MOULDINGS - 1/2" SHANK

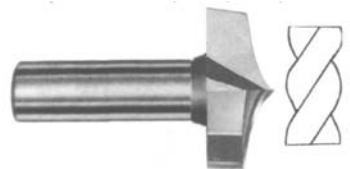
These bits are designed to be used on a Legacy™ ornamental mill toroute Barley Twist moulding design on spindles and columns. Flat mouldings can also be made with this bit. When used with a spiral upcut bit they can create hollow spiral moulding.

Tool No.	Cutting Dia.	R1	R2
9400	1"	1/8	1/2
9401	1-1/2"	3/16	3/4
9402	2"	1/4	1"
9403	3"	3/8	1-1/2"



CARBIDE TIPPED ROUTER BIT FOR MAKING
ROPE MOULDINGS - 1/2" SHANK

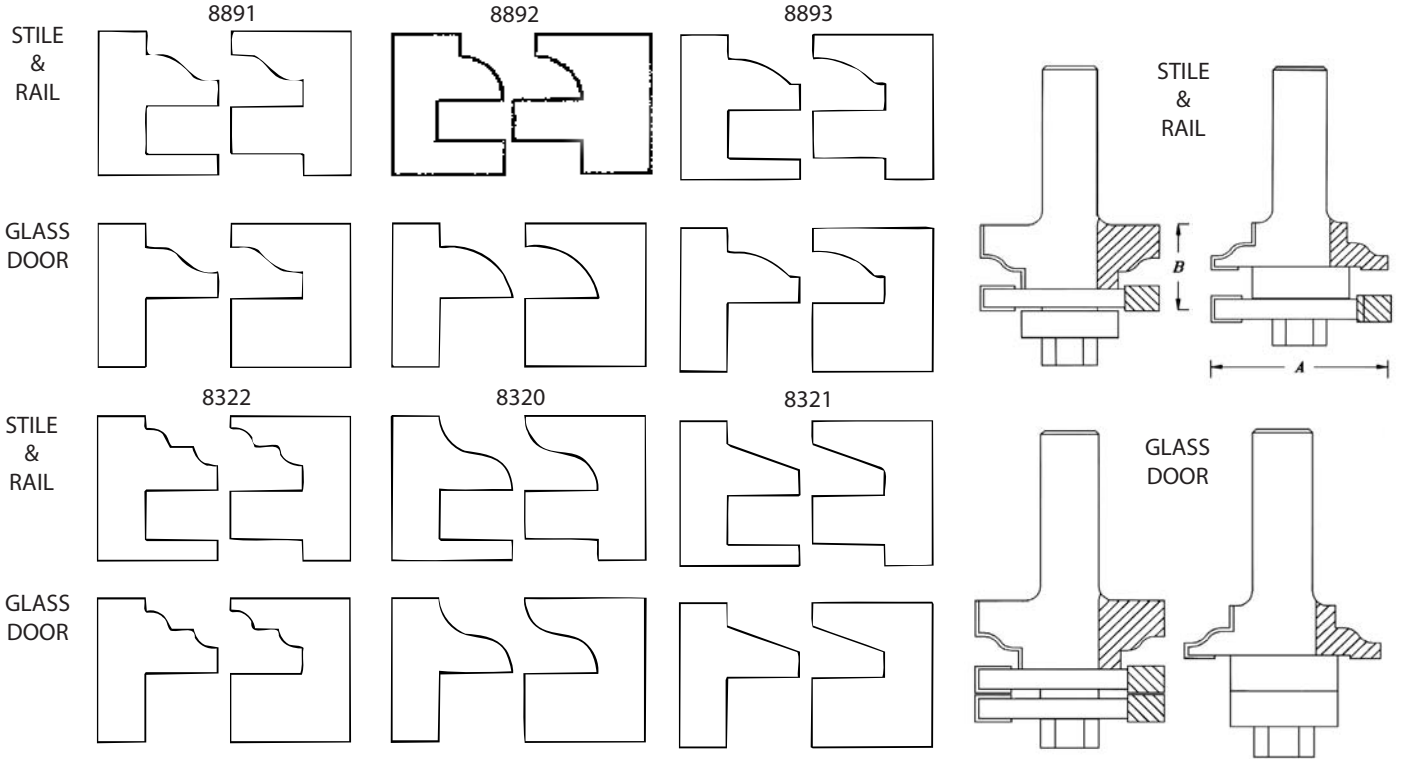
Tool No.	Cutting Dia.	Radius
9410	1"	1-1/16
9411	1-1/2"	1-19/32
9412	2"	2-1/8
9413	2-1/2"	2-21/32
9414	3"	3-3/16



2 BIT STYLE CARBIDE TIPPED ADJUSTABLE 2 PIECE TYPE CUTS BOTH STILE & RAIL AND GLASS DOOR SETS - 2 FLUTE - 1/2" SHANK

REPLACEMENT BALL BEARING #86

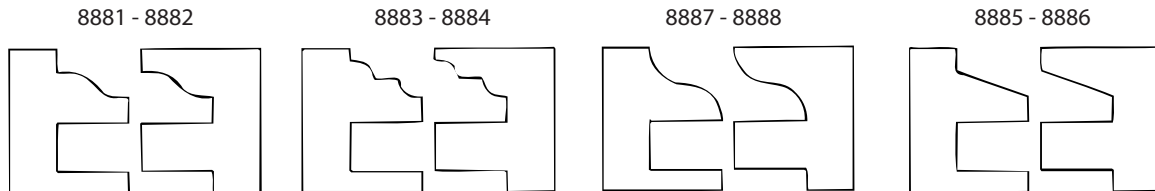
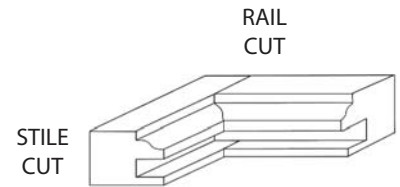
Tool No.	Diameter	Height	OAL	Tool No.	Diameter	Height	OAL	This style allows slot cutter and ball bearings to be removed for replacement or convert to the glass door design. Material thickness 5/8" to 1". Instruction booklet furnished. For best results use in a router table
8320	1-5/8	1	2-7/8	8891	1-5/8	1	2-7/8	
8321	1-5/8	1	2-7/8	8892	1-5/8	1	2-7/8	
8322	1-5/8	1	2-7/8	8893	1-5/8	1	2-7/8	



1 BIT STYLE CARBIDE TIPPED ADJUSTABLE AND REVERSIBLE STILE & RAIL BIT 2 FLUTES WITH BALL BEARING GUIDE

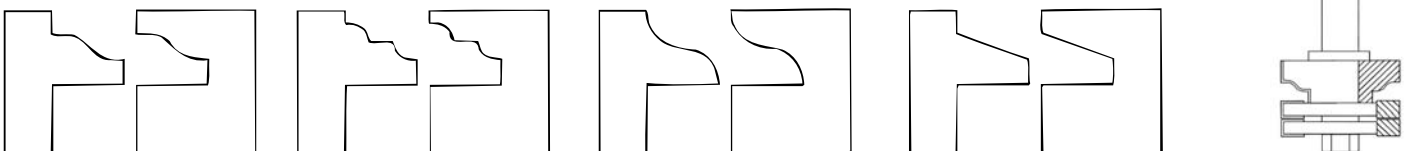
One bit cuts both Stile & Rail by reversing the cutters. Material thickness 5/8" to 1". The material size you choose will have a direct affect on the amount of upper bead profile that will show. Step by step instructions booklet included. For best results use in a router table. See below for options.

Tool No.	Diameter A	Height B	Shank	Tool No.	Diameter A	Height B	Shank
8881	1-5/8	7/8	1/4	8885	1-5/8	7/8	1/4
8882	1-5/8	7/8	1/2	8886	1-5/8	7/8	1/2
8883	1-5/8	7/8	1/4	8887	1-5/8	7/8	1/4
8884	1-5/8	7/8	1/2	8888	1-5/8	7/8	1/2



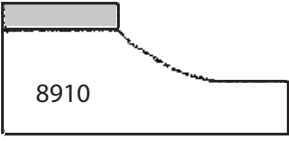
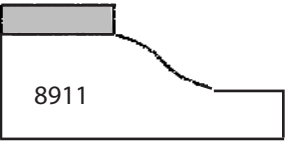
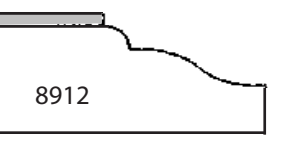
GLASS DOOR OPTIONS AVAILABLE TO WORK WITH ABOVE TOOL NO. 8881 THRU NO. 8888

Order Kit No. 8889 This kit includes one extra slot cutter, spacer and shims. You will be able to shape the glass door pattern from 5/8" to 1" stock.



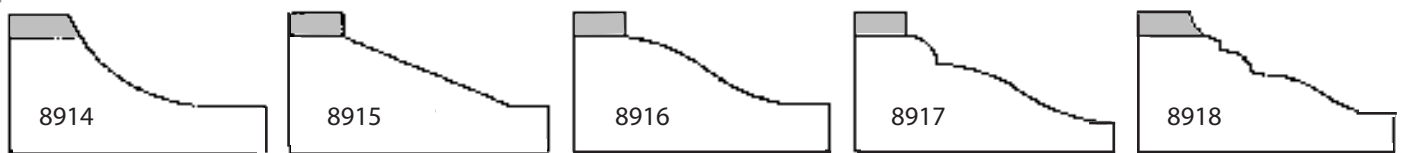
CARBIDE TIPPED RAISED PANEL ROUTER BIT WITH BALL BEARING GUIDE - 2 WING

Shear face design will produce smooth cuts. Arch or Cathedral door patterns can be run, as bits have a ball bearing guide for irregular patterns.

Tool No.	A		Carbide Height	C		Image
	Cutter Dia.	Depth of Cut		Shank Dia.	Shank Dia.	
8910	2	13/16	9/16	1/4		
8911	2	13/16	9/16	1/4		
8912	2	13/16	9/16	1/4		

Bits will cut both 5/8" or 3/4" stock. Wood pattern below show 3/4" stock. Shaded area represents 5/8" stock.

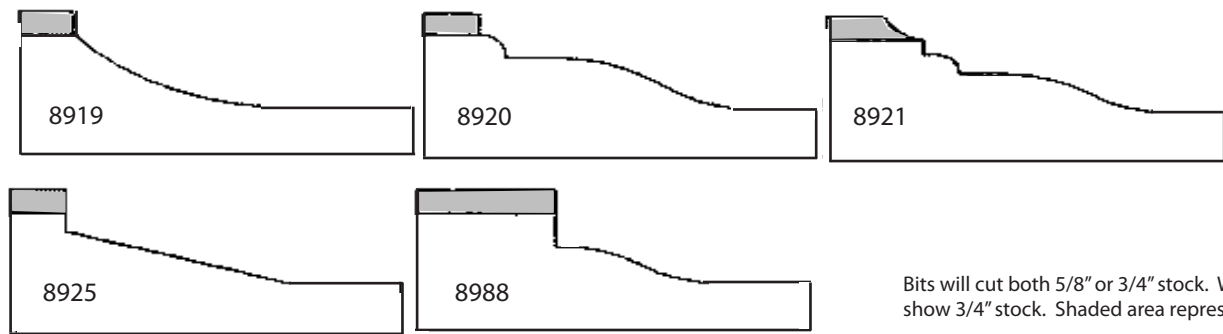
Tool No.	A		Carbide Height	C		Image
	Cutter Dia.	Depth of Cut		Shank Dia.	Shank Dia.	
8914	2-1/2	1	9/16	1/2	For 5/8" and 3/4" Stock Bits will cut both 5/8 or 3/4" stock. Wood pattern below show 3/4" stock. Shaded area represents 5/8" stock.	
8915	2-1/2	1	5/8	1/2		
8916	2-1/2	1	9/16	1/2		
8917	2-1/2	1	5/8	1/2		
8918	2-1/2	1	5/8	1/2		



2 WING AND 3 WING BITS

For 5/8" and 3/4" Stock

Tool No.	A		Depth of Cut	Carbide Height	Shank Dia.	Tool No.	A		Depth of Cut	Carbide Height	Shank Dia.
	Cutter Dia.	Cutter Dia.					Cutter Dia.	Cutter Dia.			
8919-2W	3-1/4				1/2	8925-2W	3-1/4		1-7/16	1/2	1/2
8919-3W		3-3/8	1-7/16	1/2	1/2	8925-3W		3-3/8	1-7/16	1/2	1/2
8920-2W	3-1/4		1-7/16	1/2	1/2	8988-2W	3-1/4		1-7/16	1/2	1/2
8920-3W		3-3/8	1-7/16	1/2	1/2	8988-3W		3-3/8	1-7/16	1/2	1/2
8921-2W	3-1/4		1-7/16	1/2	1/2						
8921-3W		3-3/8	1-7/16	1/2	1/2						

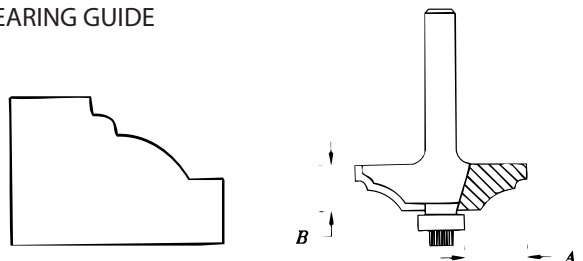


Bits will cut both 5/8" or 3/4" stock. Wood patterns show 3/4" stock. Shaded area represents 5/8" stock.

CARBIDE TIPPED COLONIAL TRIM STOP BIT 2 FLUTE - 1/4" SHANK WITH BALL BEARING GUIDE

Tool No.	Dia.	A		B		C		Replace Bearing
		Cutting Depth	Cutting Length	Shank Dia.	O.A.L.			
8247	1-3/8	1/2	3/8	1/4	2	80		

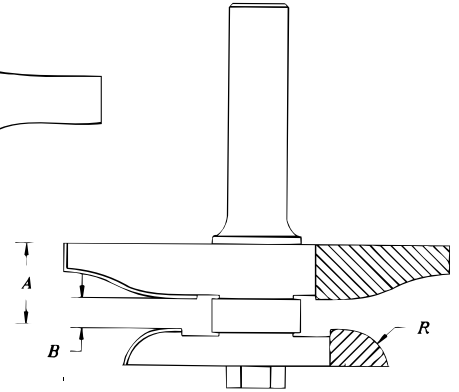
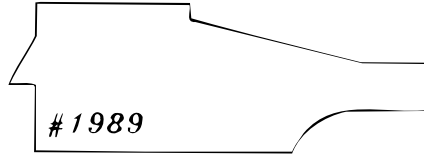
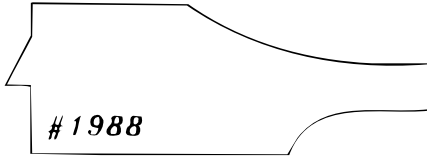
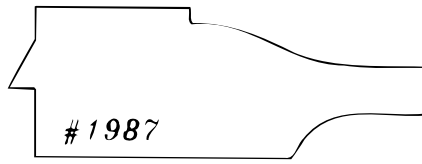
For no fillet in pattern order #72 ball bearing.
Add -72 to Tool No.



See page 95 for Partial-Back Raised Panel Router Bit
See page 95 for Vertical Raised Panel Router Bit

**CARBIDE TIPPED RAISED PANEL WITH PARTIAL BACK RAISED PANEL BIT
WITH BALL BEARING GUIDE FOR 5/8 TO 7/8 STOCK**

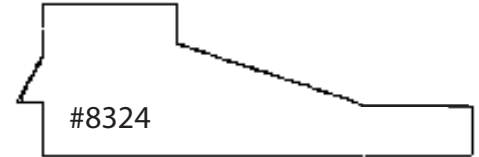
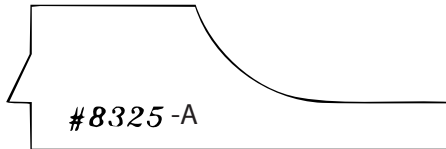
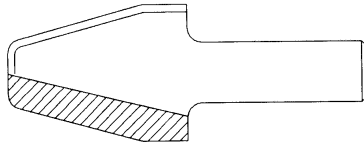
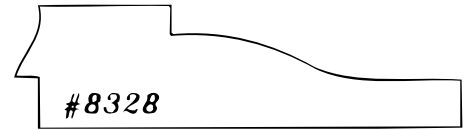
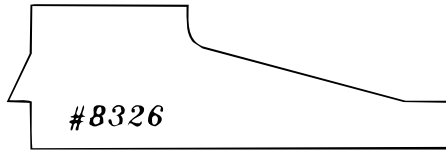
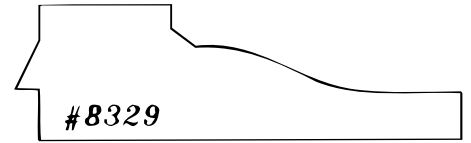
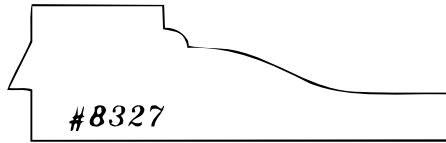
Tool No.	Dia.	Depth of Cut	Carbide Height R.P.	Carbide Height P.R.P.	No. of Flutes	Shank
1987	3	1-1/4	1/2	1/4	2	1/2
1988	3	1-1/4	1/2	1/4	2	1/2
1989	3	1-1/4	1/2	1/4	2	1/2



**CARBIDE TIPPED VERTICAL RAISED PANEL BIT
2 WING - 1/2" SHANK - NO BALL BEARING GUIDE**

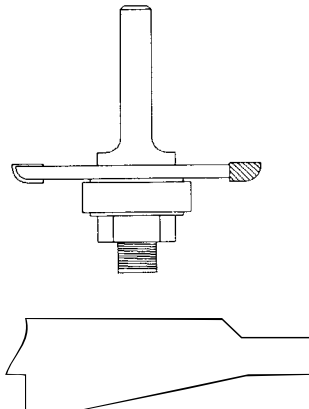
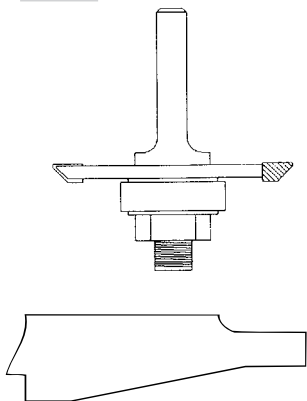
Must be run on router table setup.

Tool No.	Cutting Dia.	Flute Length	O.A.L.
8326	1	1-5/8	3
8327	1	1-5/8	3
8328	1	1-5/8	3
8329	1	1-5/8	3
8325	1	1-5/8	3



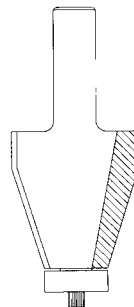
**CARBIDE TIPPED PARTIAL BACK RAISED PANEL
ROUTER BIT WITH BALL BEARING GUIDE - 3 WING**

Tool No.	Pattern	Depth of Cut	Max. Width of Cut	Shank
8945	1/8 R	9/16	5/32	1/4
8946	1/8 R	9/16	5/32	1/2
8947	45°	9/16	5/32	1/4
8948	45°	9/16	5/32	1/2

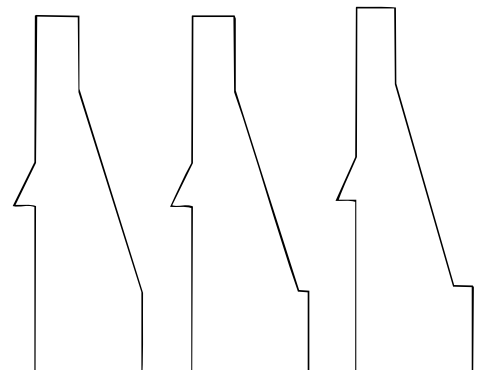


**CARBIDE TIPPED VERTICAL RAISED PANEL BIT
2 FLUTE - 1/2" SHANK**

One bit cuts all 3 patterns. Comes with 3 different sizes of BB to give different offset at top of panel.



Tool No.	Diameter	Flute	O.A.L.
8915-A	1-1/4	1-1/2	3-1/4



**CARBIDE TIPPED CUSTOM STAIR RAILING ROUTER BITS FOR
BOTH FLAT & ROUND TOP TYPE**

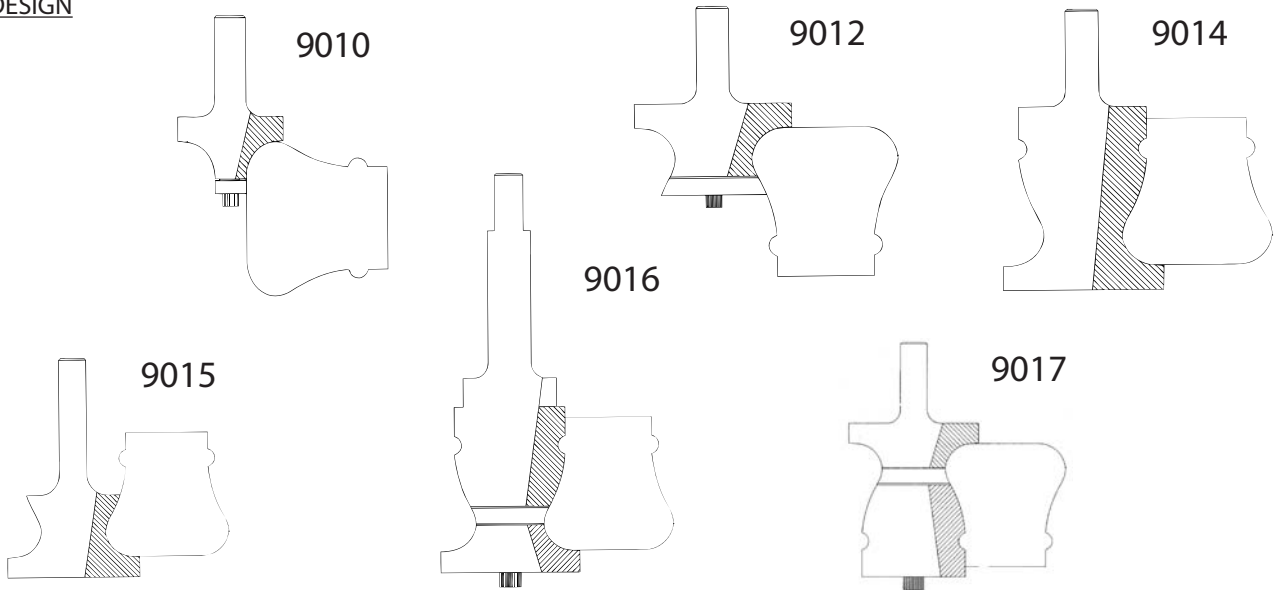
2 FLUTE -1/2" SHANK

(NOT TO SCALE)

Shown below are patterns for 6010 & 6010 flat type. Any pattern of any stair rail can be mfg. Send us a sample or accurate drawing. These bits are not guaranteed against breakage due to large diameter. Should be used with caution and run on a soft start - low RPM router..
Tool No.

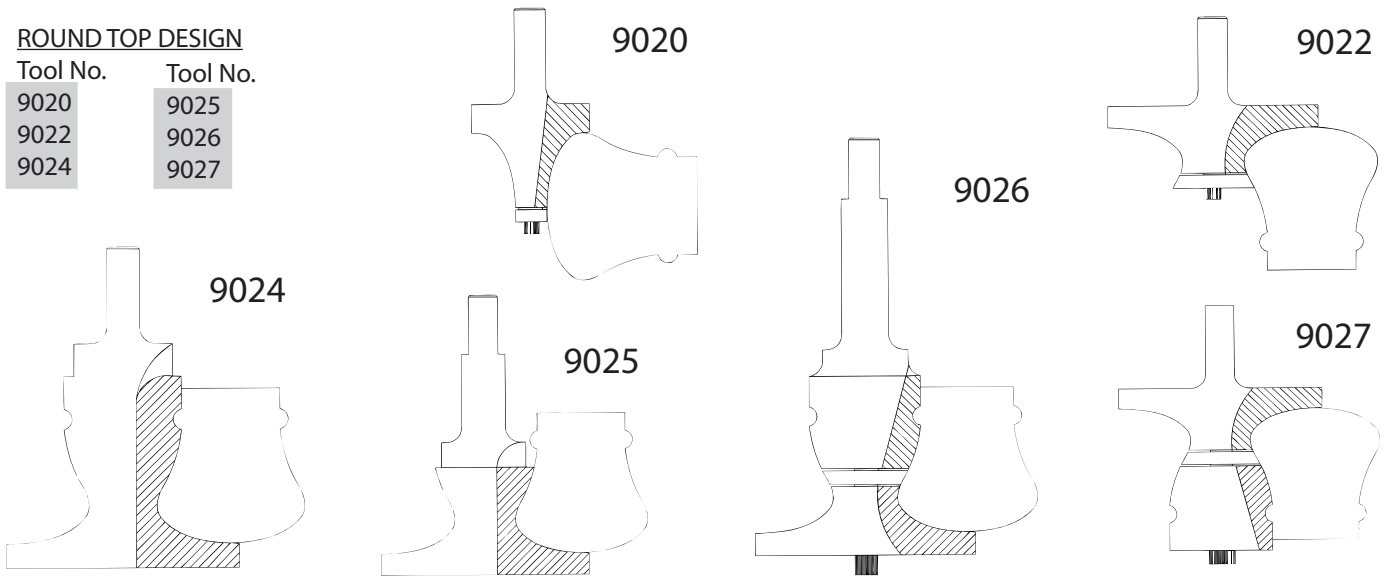
FLAT TOP DESIGN

- 9010
- 9012
- 9014
- 9015
- 9016
- 9017



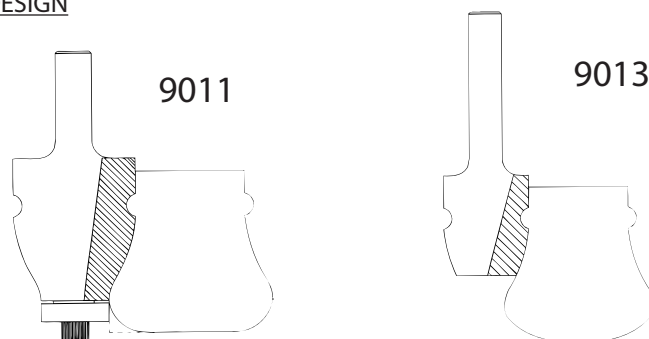
ROUND TOP DESIGN

- | | |
|----------|----------|
| Tool No. | Tool No. |
| 9020 | 9025 |
| 9022 | 9026 |
| 9024 | 9027 |



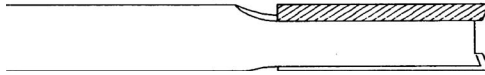
EITHER FLAT OR ROUND TOP DESIGN

- | |
|----------|
| Tool No. |
| 9011 |
| 9013 |



See pages 132 & 133 for shaper cutters & stair railings.

CARBIDE TIPPED STRAIGHT BITS PLUNGE CUTTING - 2 FLUTE



Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
900	1/8	7/16	1/4	2	912	1/2	1	1/4	2-1/8	927	3/4	1-1/2	1/2	3-1/8
901	5/32	7/16	1/4	2	912-6	1/2	1	3/8	2-1/2	927-2	3/4	2	1/2	3-5/8
902	3/16	7/16	1/4	2	913	1/2	1	1/2	2-5/8	927-25	25/32	1-1/4	1/2	2-3/4
903	7/32	7/16	1/4	2	914	1/2	1-1/4	1/2	2-7/8	928	13/16	1-1/4	1/2	2-5/8
904	1/4	1/2	1/4	2	915	1/2	1-1/2	1/2	3-1/8	928-4	13/16	3/4	1/4	2-1/8
905	1/4	3/4	1/4	2	916	1/2	1-1/2	1/2	4-1/4	929	7/8	1-1/4	1/2	2-5/8
906	1/4	1	1/4	2-1/4	917	1/2	2	1/2	4-1/4	929-4	7/8	3/4	1/4	2-1/8
906-8	1/4	1	1/2	2-3/4	917-2-1/2	1/2	2-1/2	1/2	4-3/8	930	15/16	1-1/4	1/2	2-5/8
906-L	1/4	1	1/4	3	917-17	17/32	1-1/4	1/2	2-7/8	930-4	15/16	3/4	1/4	2-1/8
907	9/32	1	1/4	2-1/4	918	9/16	1-1/4	1/2	2-5/8	931	1	1	1/2	2-5/8
908	5/16	1	1/4	2-1/4	918-4	9/16	3/4	1/4	2-1/8	931-4	1	3/4	1/4	2-1/8
908-8	5/16	1	1/2	2-3/4	919	5/8	3/4	1/4	2-1/8	932	1	1-1/4	1/2	2-7/8
909-A	3/8	3/4	1/4	1-3/4	920	5/8	1	1/2	2-5/8	933	1	1-1/2	1/2	3-1/8
909-6	3/8	1	3/8	2-1/2	921	5/8	1-1/4	1/2	2-7/8	934	1-1/16	1-1/4	1/2	2-5/8
909-A-6	3/8	1-1/4	3/8	2-3/4	922	5/8	1-1/2	1/2	3-1/8	935	1-1/8	1-1/4	1/2	2-5/8
909	3/8	1	1/4	2-1/4	922-2	5/8	2	1/2	4	936	1-1/4	1-1/4	1/2	2-7/8
910	3/8	1	1/2	2-3/4	922-2-1/2	5/8	2-1/2	1/2	4-1/2	937	1-3/8	1-1/4	1/2	2-5/8
910-A	3/8	1-1/4	1/2	2-7/8	922-21	21/32	1-1/4	1/2	3	938	1-1/2	1-1/4	1/2	2-7/8
910-A-L	3/8	1-1/4	1/2	3-1/2	923	11/16	1-1/4	1/2	2-5/8	939	1-5/8	1-1/4	1/2	2-5/8
910-L	3/8	1-1/2	1/2	3-1/8	923-4	11/16	3/4	1/4	2-1/8	940	1-3/4	1-1/4	1/2	2-7/8
911	7/16	1	1/4	2-1/8	924	3/4	3/4	1/4	2-1/8	941	1-7/8	1-1/4	1/2	2-5/8
911-8	7/16	1-1/4	1/2	3	925	3/4	1	1/2	2-5/8	942	2	1-1/4	1/2	2-7/8
911-A-8	15/32	1-1/4	1/2	3	926	3/4	1-1/4	1/2	2-7/8					

CARBIDE TIPPED STRAIGHT BITS PLUNGE CUTTING - 1 FLUTE

Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
900-SF	1/8	7/16	1/4	2	905-SF	1/4	3/4	1/4	2	914-SF	1/2	1-1/4	1/2	2-7/8
902-SF	3/16	7/16	1/4	2	906-SF	1/4	1	1/4	2-1/4	915-SF	1/2	1-1/2	1/2	3-1/8
904-SF	1/4	1/2	1/4	2	909-SF	3/8	1	1/4	2-1/4	917-SF	1/2	2	1/2	4-1/4
					910-SF	3/8	1	1/2	2-3/4					

CARBIDE TIPPED LEFT HAND STRAIGHT BITS - 2 FLUTE

Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
900-LH	1/8	7/16	1/4	2	906-LH	1/4	1	1/4	2-1/4	914-LH	1/2	1-1/4	1/2	2-7/8
901-LH	5/32	7/16	1/4	2	908-8-LH	5/16	1	5/16	2-3/4	915-LH	1/2	1-1/2	1/2	3-1/2
902-LH	3/16	7/16	1/4	2	909-LH	3/8	1	1/4	2-1/4	917-LH	1/2	2	1/2	4-1/4
903-LH	7/32	7/16	1/4	2	910-LH	3/8	1	1/2	2-3/4	919-LH	5/8	3/4	1/4	2-1/8
904-LH	1/4	1/2	1/4	2	912-LH	1/2	1	1/4	2-1/8	924-LH	3/4	3/4	1/4	2-1/8
905-8-LH	1/4	3/4	1/2	2-1/2	913-LH	1/2	1	1/2	2-5/8					

CARBIDE TIPPED STRAIGHT METRIC BITS - 2 FLUTE

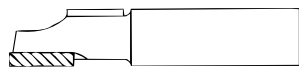
Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
970	10MM	3/4	1/4	2-1/8	973-8	12MM	1-1/4	1/2	2-7/8	977	16MM	3/4	1/4	2
970-8	10MM	3/4	1/2	2-1/2	975	14MM	3/4	1/4	2-1/2	977-8	16MM	1-1/4	1/2	2-7/8
971	10.3MM	3/4	1/4	2-1/8	975-8	14MM	3/4	1/2	2-5/8	979	18MM	3/4	1/4	2
973	12MM	3/4	1/4	2						979-8	18MM	1-1/4	1/2	2-7/8

CARBIDE TIPPED ALUMINUM CUTTING ROUTER BITS - 2 FLUTE



Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
906-AL	1/4	1	1/4	2-1/4
909-AL	3/8	1	1/4	2-1/4
912-AL	1/2	1	1/4	2-1/8
913-AL	1/2	1	1/2	2-5/8
915-AL	1/2	1-1/2	1/2	3-1/8
917-AL	1/2	2	1/2	4-1/4

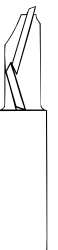
CARBIDE TIPPED STAGGER TOOTH ROUTER BIT



Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
989	1/4	1	1/4	2-1/4
990	3/8	1-1/2	1/2	3
991	1/2	1-1/2	1/2	3-1/4
992	1/2	2	1/2	4
993	5/8	2	1/2	4-1/2

CARBIDE TIPPED STAGGER FLUTE ROUTER BIT

WITH DOWNSHEAR & UPSHEAR FOR CLEAN CUTS ON BOTH SIDES OF MATERIAL



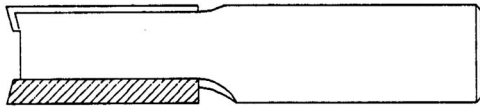
Tool No.	Cutting Dia.	Flute Length	Shank Dia.
50	1/2	1	1/2
51	1/2	1-3/4	1/2
52	5/8	1	1/2
53	3/4	1	1/2
54-A	3/4	1-1/8	3/4
54	3/4	1-7/8	3/4

For more Stagger Tooth Bits, see Page 97 & 98.

SOLID CARBIDE STRAIGHT BIT PLUNGE CUTTING

1 FLUTE					2 FLUTE					2 FLUTE				
Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank Dia.	O.A.L.
899-1-SC	1/16	5/16	1/4	1-1/2	900-A-SC	3/32	3/8	1/4	1-1/2	908-5-SC	5/16	1	5/16	2-1/2
900-A-1-SC	3/32	3/8	1/4	1-1/2	900-SC	1/8	3/8	1/4	1-1/2	908-8-SC	5/16	1	1/2	3
900-1-SC	1/8	3/8	1/4	1-1/2	901-SC	5/32	5/8	1/4	1-1/2	909-6-SC	3/8	1	3/8	2-1/2
901-1-SC	5/32	5/8	1/4	1-1/2	902-SC	3/16	1/2	1/4	1-1/2	910-SC	3/8	1	1/2	3
902-1-SC	3/16	1/2	1/4	1-1/2	903-SC	7/32	3/4	1/4	2	910-A-SC	3/8	1-1/4	1/2	3-1/4
903-1-SC	7/32	3/4	1/4	2	905-SC	1/4	3/4	1/4	2	913-SC	1/2	1	1/2	3
905-1-SC	1/4	3/4	1/4	2	906-SC	1/4	1	1/4	2-1/2	914-SC	1/2	1-1/4	1/2	3
906-1-SC	1/4	1	1/4	2-1/2	906-L-SC	1/4	1	1/4	3	915-SC	1/2	1-1/2	1/2	3-1/2
906-L-1-SC	1/4	1	1/4	3										
908-5-1-SC	5/16	1	5/16	2-1/2										

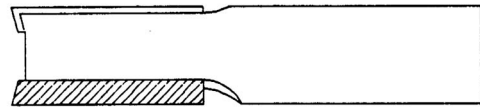
CARBIDE TIPPED ROUTER BIT 2 FLUTE - 3/4" SHANK



Tool No.	Diameter	Flute Length	OAL
926-12	3/4	1-1/4	3-1/4
927-12	3/4	1-1/2	3-1/2
927-2-12	3/4	2	4
927-2-12-LH	3/4	2	4
927-2-12-BP	3/4	2	4
927-2-12-L	3/4	2	4-1/2
927-2-12-LH-L	3/4	2	5
927-2-1/4-12	3/4	2-1/4	4-1/2
927-2-1/4-12-L	3/4	2-1/4	5
927-2-1/2-12	3/4	2-1/2	4-1/2
927-2-1/2-12-L	3/4	2-1/2	5
927-2-1/2-12-LH-L	3/4	2-1/2	5
927-2-3/4-12-L	3/4	2-3/4	6

BP -Boring point for plunge cutting
L - Extra long OAL
LH - Left hand

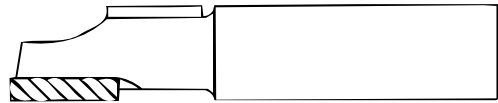
CARBIDE TIPPED ROUTER BIT 2 FLUTE - 5/8" SHANK



Tool No.	Diameter	Flute Length	OAL
921-10	5/8	1-1/4	3
922-2-10	5/8	2	3-5/8
926-10	3/4	1-1/4	2-7/8
927-2-10	3/4	2	3-5/8
927-3-10	3/4	3	4-5/8

Boring point and left hand are available as an option. Contact factory for quote.

CARBIDE TIPPED STAGGER TOOTH 5/8 & 3/4" SHANK



Tool No.	Diameter	Flute Length	Shank	OAL
993-10-MOD-2.5	5/8	2-1/2	5/8	4-1/2
993-12	3/4	2	3/4	4
996-12	1	2	3/4	4

DIAMOND TIPPED STRAIGHT ROUTER BIT WITH PLUNGE TIP

These bits have both up shear and down shear to provide clean, chip-free cuts on top and bottom of laminate.

Tool No.	Cutting Dia.	Flute Length	Shank	OAL	Tool No.	Cutting Dia.	Flute Length	Shank	OAL
913-DIA	1/2	1"	1/2	3"	920-12-DIA	3/4	1"	3/4	3"
914-DIA	1/2	1-1/4	1/2	3-1/4	926-12-DIA	3/4	1-1/4	3/4	3-1/4
920-10-DIA	5/8	1"	5/8	3"	927-12-DIA	3/4	1-5/8	3/4	3-1/2

CNC - ROUTER BITS

We specialize in manufacturing custom router bits for your CNC router. Call or fax us your sketch or print and we will promptly call or fax you a quote with a fast delivery schedule. No minimum quantity required whether it is 1 pc or 100 pcs.

SOLID CARBIDE SPIRAL ROUTER BIT - 2 FLUTE

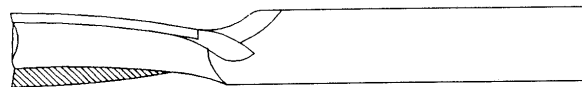
Standard comes with up spiral, pulls chips out of work. Down spiral drives chips below the work.

Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.
900-SC-SPIR	1/8	1/2	1/4	2
900-SC-SPIR-DN	1/8	1/2	1/4	2
901-SC-SPIR	5/32	1/2	1/4	2
901-SC-SPIR-DN	5/32	1/2	1/4	2
902-SC-SPIR	3/16	3/4	1/4	2
902-SC-SPIR-DN	3/16	3/4	1/4	2
903-SC-SPIR	7/32	3/4	1/4	2
903-SC-SPIR-DN	7/32	3/4	1/4	2
905-SC-SPIR	1/4	3/4	1/4	2
905-SC-SPIR-DN	1/4	3/4	1/4	2
905-L-SC-SPIR	1/4	3/4	1/4	2-1/2
905-L-SC-SPIR-DN	1/4	3/4	1/4	2-1/2
906-SC-SPIR	1/4	1	1/4	2-1/2
906-SC-SPIR-DN	1/4	1	1/4	2-1/2
906-L-SC-SPIR	1/4	1	1/4	3
906-L-SC-SPIR-DN	1/4	1	1/4	3
906-8-SC-SPIR	1/4	1	1/2	3
906-8-SC-SPIR-DN	1/4	1	1/2	3
907-8-SC-SPIR	9/32	1	1/2	3
907-8-SC-SPIR-DN	9/32	1	1/2	3
908-5-SC-SPIR	5/16	3/4	5/16	2-1/2
908-5-SC-SPIR-DN	5/16	3/4	5/16	2-1/2
908-8-SC-SPIR	5/16	1	1/2	3
908-8-SC-SPIR-DN	5/16	1	1/2	3



Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.
910-6-SC-SPIR	3/8	1	3/8	3
910-6-SC-SPIR-DN	3/8	1	3/8	3
910-A-6-SC-SPIR	3/8	1-1/4	3/8	3
910-A-6-SC-SPIR-DN	3/8	1-1/4	3/8	3
910-SC-SPIR	3/8	1	1/2	3
910-SC-SPIR-DN	3/8	1	1/2	3
910-A-SC-SPIR	3/8	1-1/4	1/2	3
910-A-SC-SPIR-DN	3/8	1-1/4	1/2	3
911-SC-SPIR	7/16	1-1/4	1/2	3
911-SC-SPIR-DN	7/16	1-1/4	1/2	3
914-SC-SPIR	1/2	1-1/4	1/2	3
914-SC-SPIR-DN	1/2	1-1/4	1/2	3
915-SC-SPIR	1/2	1-1/2	1/2	3-1/2
915-SC-SPIR-DN	1/2	1-1/2	1/2	3-1/2
917-SC-SPIR	1/2	2	1/2	4
917-SC-SPIR-DN	1/2	2	1/2	4
918-SC-SPIR	9/16	1-1/4	1/2	3
918-SC-SPIR-DN	9/16	1-1/4	1/2	3

CARBIDE TIPPED SPIRAL ROUTER BITS - 2 FLUTE



Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.	
910-6-SPIR	3/8	1	3/8	2-1/4	917-SPIR*	1/2	2	1/2	3-7/8	
910-SPIR	3/8	1	1/2	2-3/4	917-SPIR-DN*	1/2	2	1/2	3-7/8	
912-SPIR	1/2	1	1/4	2-1/4	922-SPIR	5/8	1-1/2	1/2	2-7/8	
914-SPIR	1/2	1-1/4	1/2	3-7/8	927-SPIR	3/4	1-1/2	1/2	2-7/8	
915-6-SPIR	1/2	1-1/2	3/8	2-3/4	933-SPIR	1	1-1/2	1/2	2-7/8	
915-SPIR	1/2	1-1/2	1/2	3-1/4	935-SPIR	1-1/8	1-1/4	1/2	3	
915-SPIR-DN	1/2	1-1/2	1/2	3-1/4	935-L-SPIR	1-1/8	1-5/8	1/2	3-3/8	
<u>3/4" SHANK</u>										
						927-12-SPIR	3/4	1-3/8	3/4	4

*Not guaranteed against breakage due to extreme

EXTRA LONG CARBIDE TIPPED STRAIGHT BITS -PLUNGE CUTTING - 2 FLUTE

Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.	Tool No.	Cutting Dia.	Flute Length	Shank	O.A.L.
906-1-4	1/4	1	1/4	4	909-6-2-5	3/8	2	3/8	5
906-1-1/4-4	1/4	1-1/4	1/4	4	917-2-5-1/2	1/2	2	1/2	5-1/2
906-1-1/2-4	1/4	1-1/2	1/4	4	917-2-1/2-5-1/2	1/2	2-1/2	1/2	5-1/2
909-6-1-5	3/8	1	3/8	5	917-3-5-1/2	1/2	3	1/2	5-1/2
909-6-1-1/2-5	3/8	1-1/2	3/8	5					

These bits are not guaranteed against breakage due to extreme length. To be used only in very soft material.

See pages 98 & 100 for 1/2, 5/8 & 3/4 shank, right & left hand rotation, spiral up & spiral down for CNC machine.

INDEXABLE INSERT ROUTER BITS 1/2, 3/4 SHANK - SEE PAGE 102 & 103.

CNC OPERATION - SOLID CARBIDE - CARBIDE TIPPED ROUTER BITS

CNC ROUTER BIT SECTION

SOLID CARBIDE

SOLID CARBIDE SPIRAL ROUTER BITS, SPIRAL UP & SPIRAL DOWN.
LEFT HAND ROTATION AVAILABLE
2 FLUTES - 1/2, 5/8 & 3/4 SHANK



Tool No.	Cutting	Flute	Shank	OAL
	Dia.	Length		
914-SC-SPIR	1/2	1-1/4	1/2	3
914-SC-LH-SPIR	1/2	1-1/4	1/2	3
914-SC-SPIR-DN	1/2	1-1/4	1/2	3
914-SC-LH-SPIR-DN	1/2	1-1/4	1/2	3
915-SC-SPIR	1/2	1-1/2	1/2	3-1/2
915-SC-LH-SPIR	1/2	1-1/2	1/2	3-1/2
915-SC-SPIR-DN	1/2	1-1/2	1/2	3-1/2
915-SC-LH-SPIR-DN	1/2	1-1/2	1/2	3-1/2
917-SC-SPIR	1/2	2	1/2	4
917-SC-LH-SPIR	1/2	2	1/2	4
917-SC-SPIR-DN	1/2	2	1/2	4
917-SC-LH-SPIR-DN	1/2	2	1/2	4
922-10-SC-SPIR	5/8	1-1/2	5/8	4
922-10-SC-LH-SPIR	5/8	1-1/2	5/8	4
922-10-SC-SPIR-DN	5/8	1-1/2	5/8	4
922-10-SC-LH-SPIR-DN	5/8	1-1/2	5/8	4
922-2-10-SC-SPIR	5/8	2	5/8	4
922-2-10-SC-LH-SPIR	5/8	2	5/8	4
922-2-10-SC-SPIR-DN	5/8	2	5/8	4
922-2-10-SC-LH-SPIR-DN	5/8	2	5/8	4
927-12-SC-SPIR	3/4	1-1/2	3/4	4
927-12-SC-LH-SPIR	3/4	1-1/2	3/4	4
927-12-SC-SPIR-DN	3/4	1-1/2	3/4	4
927-12-SC-LH-SPIR-DN	3/4	1-1/2	3/4	4
927-2-12-SC-SPIR	3/4	2	3/4	4
927-2-12-SC-LH-SPIR	3/4	2	3/4	4
927-2-12-SC-SPIR-DN	3/4	2	3/4	4
927-2-12-SC-LH-SPIR-DN	3/4	2	3/4	4

Standard comes with up spiral, pulls chips out of work. Down spiral drives chips below the work.
Chip breaker design available - Add -CB to Tool No.

SOLID CARBIDE - SPIRAL UP - SPIRAL DOWN
UPCUT - DOWNCUT - NO CHIP CUT - RH CUT
SOME LH ROTATION



Top flute spiral down cut to prevent chipping on top side of material and bottom flute spiral up cut to prevent chipping on bottom

Tool No.	Cutting	Flute	Shank	OAL
	Dia.	Length		
7900	1/4	1	1/4	2-1/2
7901	3/8	1-1/4	3/8	2-1/2
7901-LH	3/8	1-1/4	3/8	2-1/2
7903	1/2	1-1/4	1/2	3
7903-LH	1/2	1-1/4	1/2	3
7905	1/2	1-1/2	1/2	3
7905-LH	1/2	1-1/2	1/2	3-1/2
7907	5/8	1-1/2	1/2	3-1/2
7909	5/8	2	5/8	4
7911	3/4	1-1/2	3/4	4
7913	3/4	2	3/4	4
7913-LH	3/4	2	3/4	4
<u>2 + 2 FLUTES</u>				
7902	3/8	1-1/4	3/8	3
7904	1/2	1-1/4	1/2	3
7906	1/2	1-5/8	1/2	3-1/2
7908	5/8	1-1/2	5/8	4
7910	5/8	2	5/8	4
7912	3/4	1-1/2	3/4	4
7914	3/4	2	3/4	4

CAUTION: THIS TOOL MAY LEAVE A LINE BETWEEN UPCUT AND DOWNCUT SECTION.

SOLID CARBIDE SPIRAL ROUTER BITS, SPIRAL UP & SPIRAL DOWN
3 FLUTES - 1/2, 5/8 & 3/4 SHANK

Tool No.	Cutting	Flute	Shank	OAL	Tool No.	Cutting	Flute	Shank	OAL
	Dia.	Length				Dia.	Length		
908-8-3-SC-SPIR	5/16	1	1/2	3	917-3-SC-SPIR	1/2	2	1/2	4
908-8-3-SC-SPIR-DN	5/16	1	1/2	3	917-3-SC-SPIR-DN	1/2	2	1/2	4
910-A-3-SC-SPIR	3/8	1-1/4	1/2	3	922-2-3-10-SC-SPIR	5/8	2	5/8	4
910-A-3-SC-SPIR-DN	3/8	1-1/4	1/2	3	922-2-3-10-SC-SPIR-DN	5/8	2	5/8	4
914-3-SC-SPIR	1/2	1-1/4	1/2	3	927-2-3-12-SC-SPIR	3/4	2	3/4	4
914-3-SC-SPIR-DN	1/2	1-1/4	1/2	3	927-2-3-12-SC-SPIR-DN	3/4	2	3/4	4
915-3-SC-SPIR	1/2	1-1/2	1/2	3-1/2					
915-3-SC-SPIR-DN	1/2	1-1/2	1/2	3-1/2					

Chip breaker design available - Add -CB to Tool No.

UNIVERSAL CENTERING PIN

To find the exact center point of your router or drill press. Pin has a double end for 1/4" and 1/2" routers. This pin is NOT to be run in tool; it is a positioning device only. Made of brass.

Tool No.	Length.
10	2"
11	3-1/4"



HIGH SPEED STEEL ROUTER BIT BLANK (Grind your own)

TOOL NO.	DIAMETER	SHANK	CUTTING EDGE	O.A.L.
927-B	3/4	1/2	1-1/2	3
933-B	1	1/2	1-1/2	3
936-B	1-1/4	1/2	1-1/2	3
938-B	1-1/2	1/2	1-1/2	3
940-B	1-3/4	1/2	1-1/2	3
942-B	2	1/2	1-1/2	3
942-2.25-B	2-1/4	1/2	1-1/2	3
942-2.50-B	2-1/2	1/2	1-1/2	3
942-2.75-B	2-3/4	1/2	1-1/2	3
942-3.00-B	3	1/2	1-1/2	3



CARBIDE TIPPED PLUNGE TYPE ALLEN SCREWS

Will replace your standard allen screw that holds the ball bearing on with a carbide tipped drill point allen screw designed for plunge cutting.

Tool No.	Diameter	Screw Size
490	3/8	#5-40 TPI
491	1/2	#5-40 TPI
492	3/4	#10-32 TPI



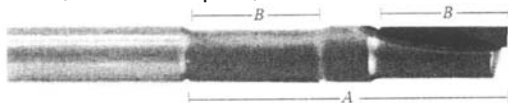
SOLID CARBIDE DIAMOND CUT ROUTER BITS FOR FIBERGLASS AND PHENOLIC MATERIALS



Tool No.	Diameter	Flute	Shank	O.A.L.
600	1/8	1/2	1/8	1-1/2
600-L	1/8	3/4	1/8	1-1/2
601	3/16	5/8	3/16	2
601-L	3/16	3/4	3/16	2
602	1/4	3/4	1/4	2
602-L	1/4	1-1/4	1/4	2-1/2
603	5/16	1	5/16	2-1/2
603-L	5/16	1-1/4	5/16	2-1/2
604	3/8	1	3/8	2-1/2
604-L	3/8	1-1/4	3/8	2-1/2
605	1/2	1	1/2	2-1/2
605-L	1/2	1-1/2	1/2	3

Burr type, End mill type, 135° drill type. See price list.

CARBIDE TIPPED STAGGER TOOTH PANEL BIT (With center pilot) - 1/2" shank

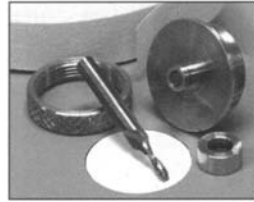


Tool No.	Dia.	A Cutting Depth	B Flute Length	O.A.L.
992-CP	1/2	2-5/8	1-1/16	4"

For more Stagger Bits, see Page 97 & 98..

INLAY ROUTER KIT

Tool No. 9009
9009-DFT- 3/4" X 08 ft long
Double face tape

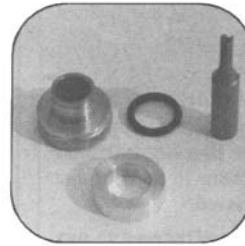


Kit includes 1/8" spiral solid carbide router bit with sheer down with 1/2" flute length, a universal templates guide with nut and snap on brass collar. Fits any router that accepts a standard 1-3/16" two piece template guide bushing. (Porter Cable - Black & Decker)

Make your pattern out of 1/4" thick material. Secure pattern to the material you wish to inlay with double-face tape. Install special bushing and template guide on your router base. Using spiral bit, follow pattern to produce the "female cut". Now cut out the stock within your pattern. Take off removal collar and follow your pattern again. this time cutting out the matching "male" inlay piece from your material. (Instructions included)

SOLID SURFACE INLAY KIT

Tool No.	Diameter	Lgth of Cut
9005-K	1/4"	3/4"
9005-BO	1/4" bit only	1-1/4"
9006-K	1/2"	
9006-BO	1/2" bit only	
9007	Template for Bosch router	

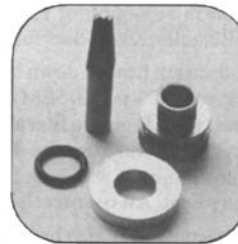


This kit makes perfect inlays in solid surface materials. Make a template of 1/2" material of the inlay you want to produce. Place the template on the material you want to be cut. Then, with a special collar installed on the template guide provided, you rout around the inside of your pattern, throwing the inside away. Move your template to another piece of material, remove the collar from the template guide and rout inside the template again, this time saving the inside cut. That inside cut drops into the first cut producing a perfect match.

This inlay kit comes with either a 1/4" dia. router bit x 3/4" depth of cut or a 1/2" dia. x 1-1/4" depth of cut. One 2-pc 1-3/16" template guide that fits most routers, and a special collar to go on the template guide. (Order template for Bosch router separately)

SOLID SURFACE REPAIR KIT

Tool No. 9008-K
9008-BO (bit only)



This kit is very similar to the Inlay Kit. The big difference is that the router bit has a 10" taper to it so that the repair piece you produce can't fall thru the countertop. A Template is needed but the procedure is just a little different. the template is first attached to the countertop needing the repair. Then, with a special collar installed on the template guide provided, you rout around the inside of the template throwing the inside away. Next you move the template to the material you will make the repair from, this time flipping the template upside down before routing. This needs to be done since the repair will need to be turned over to fit into the repair spot. The kit comes with everything

INDEXABLE INSERT ROUTER BITS

This type of tooling never requires sharpening and therefore, tool diameter remains constant for extreme accuracy and repeatability. Fully sharpened multiple cutting edges which are rotated to expose new edges, are replaced when they become dull or chipped.

STRAIGHT BITS 1 & 2 FLUTES - 1/2" & 3/4" SHANKS



INDEXABLE INSERT STRAIGHT ROUTER BIT - PLUNGE TYPE 1/2 SHANK - 1 FLUTE

TORX KEY INCLUDED - 2 CUTTING EDGES PER KNIFE

Tool No.	Cutting Dia.	Cutting Length	Overall Length	Replacement Carbide Insert
914-II-SF	1/2(12.7MM)	1-3/16(30MM)	3-1/4	II-L30-MOD-9-4S
921-II-SF	5/8(16MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
922-2-II-SF	5/8(16MM)	1-5/16(50MM)	4-1/8	II-L50-MOD-4S
926-II-SF	3/4(19MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
927-2-II-SF	3/4(19MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S
929-II-SF	7/8(22.2MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
929-2-II-SF	7/8(22.2MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S

Replacement parts see price list. Replacement TORX Screw #N-67117

INDEXABLE INSERT STRAIGHT ROUTER BIT -NON PLUNGE TYPE 1/2 SHANK - 2 FLUTE

TORX KEY INCLUDED - 2 CUTTING EDGES PER KNIFE

Tool No.	Cutting Dia.	Cutting Length	Overall Length	Replacement Carbide Insert
921-II	5/8(16MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-9-4S
922-2-II	5/8(16MM)	1-15/16(50MM)	4-1/8	II-L30-MOD-9-4S (2)
926-II	3/4(19MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
927-2-II	3/4(19MM)	1-15/16(50MM)	4-1/8	II-L30-MOD-4S (2)
929-II	7/8(19MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
929-2-II	7/8(22.2MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S (2)

Note: 50MM cutting edge is achieved using two 30MM staggered knives. Replacement parts see price list. Replacement TORX Screw #N-67115

INDEXABLE INSERT PLUNGE TYPE ROUTER BITS 1 FLUTE - 3/4 SHANK - TORX KEY INCLUDED 2 CUTTING EDGES PER KNIFE

Tool No.	Cutting Dia.	Cutting Length	Overall Length	Replacement Carbide Insert
914-SF-12-II	1/2(12.7MM)	1-3/16(30MM)	3-1/4	II-L30-MOD-9-4S
921-SF-12-II	5/8(16MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
922-2-SF-12-II	5/8(16MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S
926-SF-12-II	3/4(19MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
927-2-SF-12-II	3/4(19MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S
929-SF-12-II	7/8(22.2MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
929-2-SF-12-II	7/8(22.2MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S

Replacement TORX Screw #N-67117

INDEXABLE INSERT PLUNGE TYPE ROUTER BITS 2 FLUTE - 3/4 SHANK - TORX KEY INCLUDED 2 CUTTING EDGES PER KNIFE

Tool No.	Cutting Dia.	Cutting Length	Overall Length	Replacement Carbide Insert
921-12-II	5/8(16MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-9-4S
922-2-12-II	5/8(16MM)	1-15/16(50MM)	4-1/8	II-L30-MOD-9-4S (2)
926-12-II	3/4(19MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
927-2-12-II	3/4(19MM)	1-15/16(50MM)	4-1/8	II-L30-MOD-4S (2)
929-12-II	7/8(22.2MM)	1-3/16(30MM)	3-3/8	II-L30-MOD-4S
929-2-12-II	7/8(22.2MM)	1-15/16(50MM)	4-1/8	II-L50-MOD-4S (2)

Note: 50MM cutting edge is achieved using two 30MM staggered knives. Replacement parts see price list. Replacement TORX Screw #N-67115

BEVEL TRIM BITS WITH BB GUIDE 1/4" SHANK 2 FLUTE TORX KEY INCLUDED



Tool No.	Description	Dia.	Carbide Height	Bearing Replace.	OAL	Replacement Carbide Insert
564-II	15° Bevel Trim	13/16	7/16	84	2-1/4	II-L-12
566-II	25° Bevel Trim	31/32	7/16	84	2-1/4	II-L-12
566-30-II	30° Bevel Trim	1	7/16	84	2-1/4	II-L-12
567-II	45° Bevel Trim	1-1/16	7/16	88	2-1/4	II-L-12

Replacement parts see price list. Replacement TORX Screw #N-67115
All bevel trim bits have four cutting edges per knife.

SPLIT FLUSH TRIMMING BIT WITH BALL BEARING IN BETWEEN TOP AND BOTTOM CUTTING EDGES

Tool No.	Cutting Dia.	Flute Length	Shank Dia.	No. of Flutes	OAL	Replacement Carbide Insert
992-II	1/2	3/4+3/4	1/2	1 + 1	3-7/8	IIGF-20
*992-II-PP	1/2	3/4+3/4	1/2	1 + 1	3-7/8	IIGF-20

*With plunge point.
Bearing replacement #89

FLUSH TRIM BITS WITH BB GUIDE - 1 FLUTE



Tool No.	Cutting Dia.	Flute Length	Shank Dia.	OAL	Replacement Carbide Insert
501-1-II	3/8	1	1/4	2-5/8	IIGF-25
504-1-II	3/8	1/2	1/4	2-1/8	IIGF-12
503-1-II	1/2	1	1/4	2-5/8	IIGF-25
504-1-1/2-1-II	1/2	1-1/2	1/4	2-1/8	IIGF-40
502-1-II	1/2	1	1/2	2-3/4	IIGF-25
502-1-1/2-II	1/2	1-1/2	1/2	3-5/8	IIGF-40
502-2-II	1/2	2	1/2	4-1/4	IIGF-50

3/8" bearing replacement #80
1/2" bearing replacement #89
All flush trim bits have 2 cutting edges per knife

FLUSH TRIM BITS WITH BALL BEARING GUIDE - 2 FLUTE

Tool No.	Cutting Dia.	Flute Length	Shank Dia.	OAL	Replacement Carbide Insert
507-II	3/4	15/32	1/4	2-1/8	IIL-12
508-4-II	3/4	1-1/8	1/4	2-3/4	IIL-30
508-1-II	3/4	1-1/8	1/2	3-1/4	IIL-30

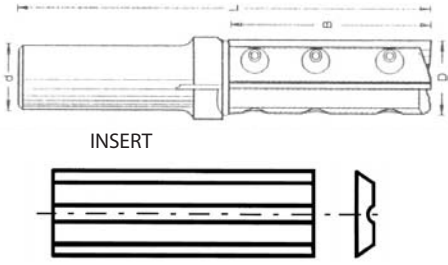
Replacement ball bearing #85-MOD Replacement TORX Screw #N-67115

FOR CNC STRAIGHT INSERT BITS 1, 2 & 3 FLUTES, SEE PAGE 103.

FOR INDEXABLE INSERT REPLACEMENTS SEE PAGES 52 & 53.

INDEXABLE INSERT ROUTER BIT FOR CNC 1, 2, & 3 FLUTE

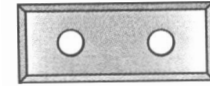
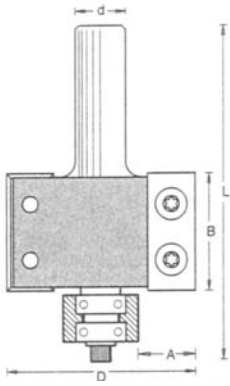
This new design will allow you high speed cuts with a super clean finish. Inserts are set in channels for greater strength. Inserts all have 2 cutting edges. 1 flute design will plunge cut; 2 & 3 will not plunge - need to ramp out.



Tool No.	Cutting Dia	No. of Flutes	Flute Length	Shank	O.A.L.	Replcement Carbide Inserts
910-1-CNC II	3/8	1	20MM	1/2	2-7/8	IIFG-L-20
913-1-CNC-II	1/2	1	30MM	1/2	3-1/8	IIFG-L-30
913 CNC II	1/2	2	30MM	1/2	3-1/8	IIFG-L-30
920-12--CNC II	5/8	2	30MM	3/4	3-1/4	IIFG-L-30
922-2-12-CNC II	5/8	2	50MM	3/4	4"	IIFG-L-50
925-12 CNC II	3/4	2	30MM	3/4	3-1/4"	IIFG-L-30
927-2-12-CNC II	3/4	2	50MM	3/4	4"	IIFG-L-50
925-3-12-CNC II	3/4	3	30MM	3/4	3-1/4"	IIFG-L-30
927-3-11-CNC II	3/4	3	50MM	3/4	4"	IIFG-L-50
925-3-10-CNC II	3/4	3	30MM	5/8	3-1/4"	IIFG-L-30
927-3-10-CNC II	3/4	3	50MM	5/8	4"	IIFG-L-50

INDEXABLE INSERT WIDE (30MM) RABBET ROUTER BIT

Purchase additional collars that will allow you to cut from 1/16 depth to 3/4" depth of rabbets. Uses 30MM Std. inserts - 1/2" shank.

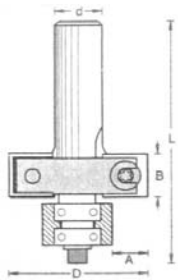


Tool No.	Diameter	Depth	O.A.L.
724	2"	5/8 x 3/4	3-3/8

Extra Collars Tool No.	Collar Dia.	Rabbet Depth	Extra Collars Tool No.	Collar Dia.	Rabbet Depth
724-0200	2"	Flush	724-0118	1-1/8	7/16
724-0178	1-7/8	1/16	724-0116	1-1/16	12MM
724-0134	1-3/4	1/8	724-0100	1"	1/2
724-0158	1-5/8	3/16	724-0078	7/8	9/16
724-1732	1-17/32	6MM	724-1316	13/16	15MM
724-0150	1-1/2	14	724-0034	3/4	5/8
724-1375	1-3/8	5/16	724-0058	5/8	11/16
724-1932	1-9/32	9MM	724-0916	9/16	18MM
724-0125	1-1/4	3/8	724-0012	1/2	3/4

INDEXABLE INSERT WIDE (12MM) RABBET ROUTER BIT

Purchase additional collars that will allow you to cut from 1/16 depth to 15/32" depth of rabbets. Uses 12MM Std. inserts - 1/2" shank.



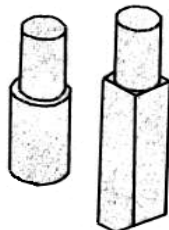
Tool No.	Diameter	Depth	O.A.L.
725	2"	5/8 x 3/4	3-3/8

Extra Collars Tool No.	Collar Dia.	Rabbet Depth	Extra Collars Tool No.	Collar Dia.	Rabbet Depth
725-0150	1-1/2	Flush	724-0100	1"	1/4
725-1375	1-3/8	9/16	724-0078	7/8	5/16
725-1932	1-9/32	7/64	724-1316	13/16	11/32
725-0125	1-1/4	1/8	724-0034	3/4	3/8
725-0118	1-1/8	3*16	724-0058	5/8	7/16
725-0116	1-1/16	7/32	724-0916	9/16	15/32

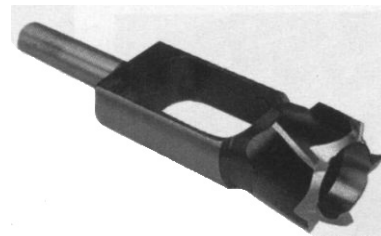
CARBIDE TIPPED TENON CUTTERS

1/2" Shank - 5-1/2" OAL - makes 3" Long tenon

Tool No.	Dia.
6080	3/8"
6081	1/2"
6082	5/8"
6083	3/4"
6084	1"



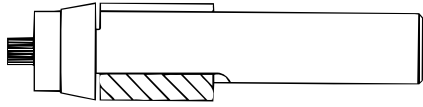
Use in a drill press, lathe, or horizontal boring machine.



Available in steel - Add -S to Tool No.
Other sizes are available

SOLID SURFACE ROUTER BITS

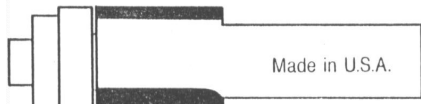
CARBIDE TIPPED OVERHANG COUNTER TRIM BITS WITH DELRIN® BALL BEARING GUIDE - 1/2" SHANK - 2 FLUTE



Tool No.	Cutting Dia.	Flute Length	Top Thickness	Replacement Ball Bearing
9192-DBB-5	3/4	1	1/2 & 3/4	84-1405-DEL
9192-DBB-5R	3/4	1	1/2 & 3/4	84-1605-R-DEL
9192-DBB-10	3/4	1	1/2 & 3/4	84-1405-DEL
9193-DBB-5	3/4	1-1/4	1	84-1405-DEL
9193-DBB-5R	3/4	1-1/4	1	84-1998-R-DEL
9193-DBB-10	3/4	1-1/4	1	84-1405-DEL
9194-DBB-5	3/4	1-1/2	1-1/4	84-1405-DEL
9194-DBB-5R	3/4	1-1/2	1-1/4	84-1605-R-DEL
9194-DBB-10	3/4	1-1/2	1-1/4	84-1405-DEL
9195-DBB-5	3/4	1-3/4	1-1/2	84-1405-DEL
9195-DBB-5R	3/4	1-3/4	1-1/2	84-1605-R-DEL
9195-DBB-10	3/4	1-3/4	1-1/2	84-1405-DEL

5 is for Fountainhead, Avonite bowls & sinks, 5R is for Corian Bowl #874-S, 10 is for Corian bowls & sinks

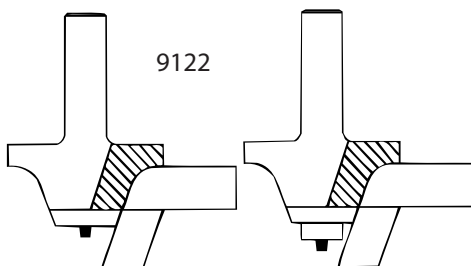
CARBIDE TIPPED FLUSH TRIMMER WITH DELRIN® BALL BEARING GUIDE OR WITH REGULAR BALL BEARING 1/2" SHANK - 2 FLUTE



Tool No.	Cutting Dia.	Flute Length	Top Thickness	Replacement Ball Bearing
9196	3/4	1	1/2 & 3/4	85
9196-DBB	3/4	1	1/2 & 3/4	84-DEL
9197	3/4	1-1/4	1	85
9197-DBB	3/4	1-1/4	1	84-DEL
9198	3/4	1-1/2	1-1/4	85
9198-DBB	3/4	1-1/2	1-1/4	84-DEL
9199	3/4	1-3/4	1-1/2	85
9199-DBB	3/4	1-3/4	1-1/2	84-DEL

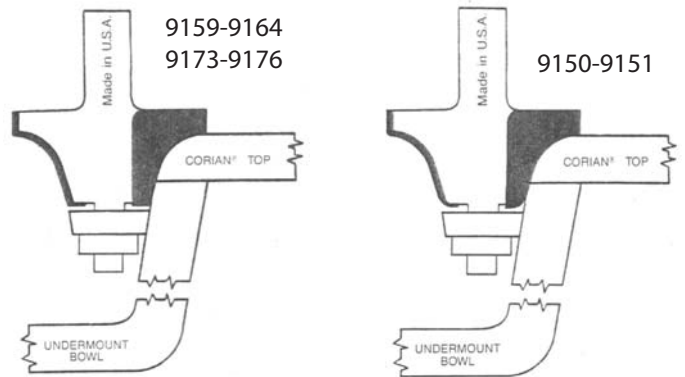
CARBIDE TIPPED ROUNDING OVER BIT FOR UNDERMOUNT AVONITE® BOWLS W/ DELRIN® BB GUIDE - 2 FLUTE - 1/2" SHANK

Tool No.	Style	Material Thickness	BB Replacement	Type of Bowl or Sink
9122	1/2R Flared	1/2 & 3/4	84-1630-DEL	Salerno
9123	3/8R Flared	1/2	84-1405-DEL	Avonite®
9124	1/2R Flared	1/2	84-1405-DEL	Avonite®
9125	1/2R Flared	3/4	84-1405-DEL	Avonite®
9126	3/4R Flared	3/4	84-1405-DEL	Avonite®



CARBIDE TIPPED BEVELED UNDERMOUNT BOWL BITS WITH DELRIN® BUSHED BALL BEARING GUIDE 1/2 SHANK - 2 FLUTE

Tool No.	Style	Material Thickness	BB Replacement	For Corian® Sinks
9131	10° Bevel	1/2 & 3/4	84-1605R-DEL	874-S
9132	10° Bevel	1	84-1605R-DEL	874-S
9133	10° Bevel	1-1/2	84-1605R-DEL	874-S
9134	12° Bevel	1/2 & 3/4	84-1610-DEL	802, 809, 871
9135	12° Bevel	1	84-1610-DEL	802, 809, 871
9136	12° Bevel	1-1/2	84-1410-DEL	802, 809, 871
9137	18° Bevel	1/2 & 3/4	84-1610-DEL	810
9138	18° Bevel	1	84-1610-DEL	810
9139	18° Bevel	1-1/2	84-1410-DEL	810
9173	3/8"R.Round Over	1/2	84-1605R-DEL	874-S
9174	1/2"R.Round Over	1/2	84-1605R-DEL	874-S
9175-RO	1/2"R.Round Over	3/4	84-1605R-DEL	874-S
9176	3/4"R.Round Over	3/4	84-1605R-DEL	874-S
9159	3/8"R. Flared	1/2	84-1410-DEL	802, 809, 810, 871
9160	1/2"R. Flared	1/2	84-1410-DEL	802, 809, 810, 871
9161	1/2"R. Flared	3/4	84-1410-DEL	802, 809, 810, 871
9162	1/2"R. Flared	1	84-1410-DEL	802, 809, 810, 871
9163	1/2"R. Flared	1-1/4	84-1210-DEL	802, 809, 810, 871
9164	1/2"R. Flared	1-1/2	84-1210-DEL	802, 809, 810, 871
9150	Roman Ogee	1/2	84-1410-DEL	802, 809, 810, 871
9151	Roman Ogee	3/4	84-1410-DEL	802, 809, 810, 871



SOLID CARBIDE - SPIRAL UP - SPIRAL DOWN
UPCUT - DOWNCUT - NO CHIP CUT - RH CUT
SOME LH ROTATION

Top flute spiral down cut to prevent chipping on top side of material and bottom flute spiral up cut to prevent chipping on bottom side.

CARBIDE ROUTER BITS TO CUT SOLID SURFACING MATERIAL

AVIAN®
AVONITE®

CERATA®
CORIAN®

DURALLURE®
GIBRALTER®

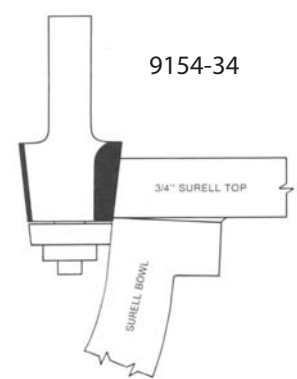
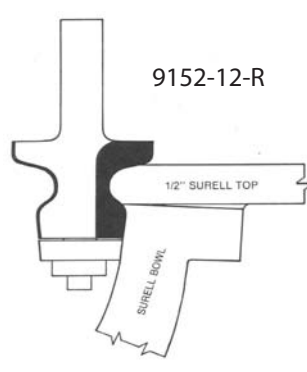
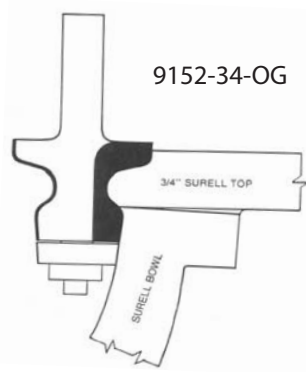
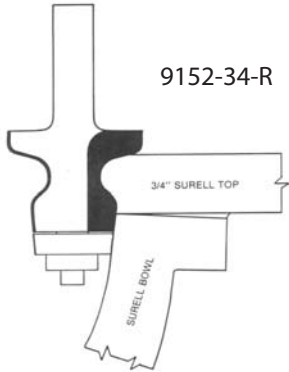
INOVA®
KORMAN®

NUVEL®
SURRELL®

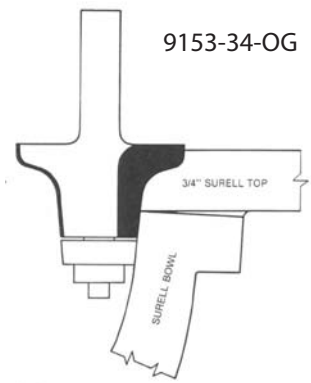
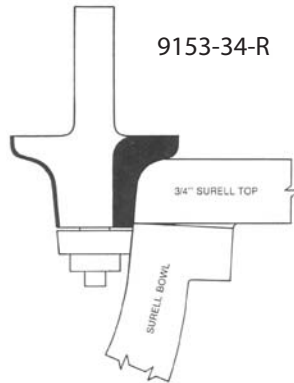
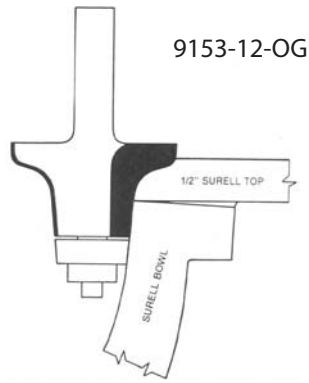
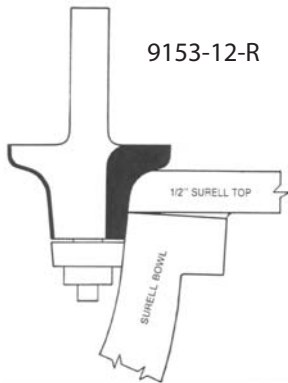
SWANSTONE®
TRANSOLID®

CARBIDE TIPPED ROUTER BIT FOR SURELL® UNDERMOUNT BOWLS & SINKS W/ DELRIN® BB GUIDE - 2 FLUTE - 1/2" SHANK

Tool No.	Style	Material Thickness	BB Replacement
9152	Bull Nose	1/2 & 3/4	84-1505-DEL
9153	3/8 R Round Over	1/2 & 3/4	84-1505-DEL
9154	8° Bevel	1/2 & 3/4	84-1605-DEL



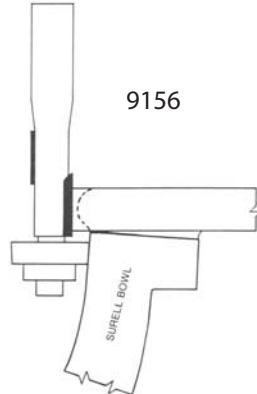
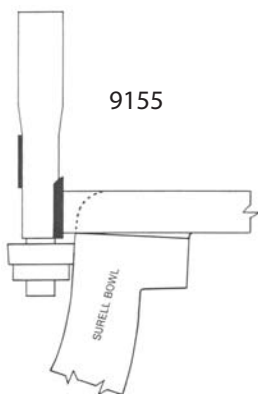
Tool #9152 will cut all patterns of 9152-34-R, 9152-34-OG & 9152-12-R



Tool #9153 will cut all patterns of 9153-12-R, 9153-12-OG, 9153-34-R & 9153-34-OG.

CARBIDE TIPPED OVERHANG TRIM BITS TO ROUGH CUT OUT SURELL® BOWLS & SINKS W/ DELRIN® BUSHED BB GUIDE - 2 FLUTE - 1/2" SHANK

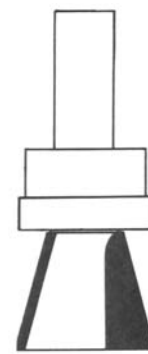
Tool No.	Cutting Dia.	Flute Length	Overhang	Ball Bearing Replacement	Type of Finished cut
9155	1/2	1-1/2	1/8	84-1205-DEL	Round Over
9156	1/2	1-1/2	7/32	84-1505-DEL	Bull Nose



CARBIDE TIPPED TOP MOUNT ROUTER BIT 2 FLUTE - 1/2" SHANK

For sink and vanity bowls with steel ball bearing guide

Tool No.	Type
9146	For Countertops
9147	For Bowls Replacement ball bearing #880



9146

9147

SOLID SURFACE ROUTER BITS

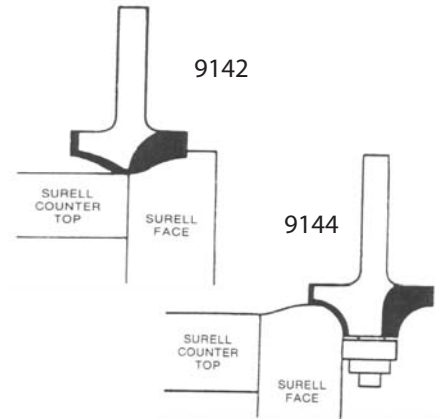
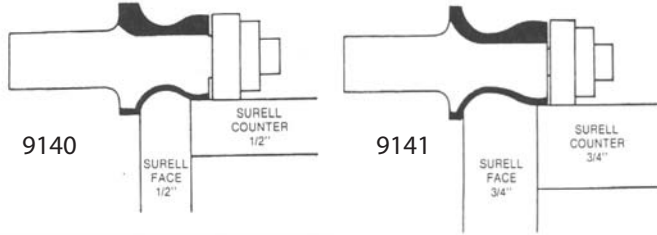
CARBIDE TIPPED COUNTERTOP BIT FOR NO-DRIP DESIGN WITH STEEL OR DELRIN® BUSHED BALL BEARING GUIDE

2 FLUTE - For 1/2 or 3/4 thick material

Tool No.	Shank	Material Thickness
9140	1/2	1/2
9140-DBB	1/2	1/2
9141	1/2	3/4
9141-DBB	1/2	3/4

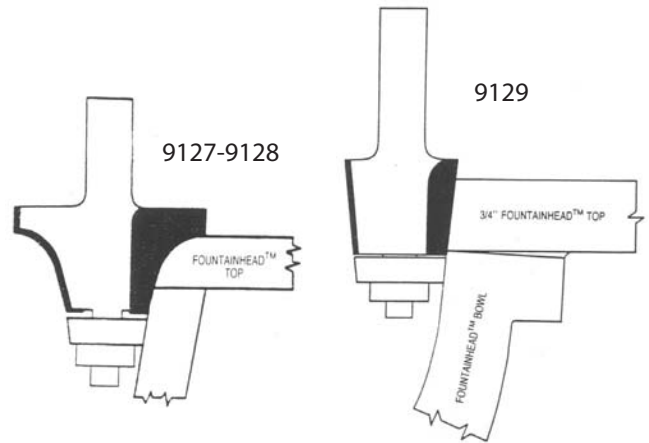
2 Bits required to achieve desired design

Tool No.	Shank
9142	1/4
9143	1/2
9144	1/4
9144-DBB	1/4
9145	1/2
9145-DBB	1/2

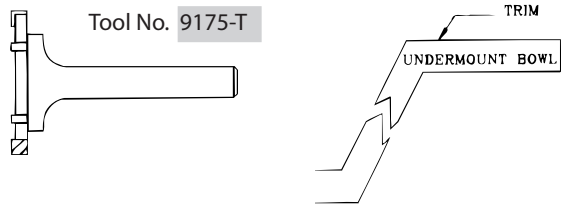


CARBIDE TIPPED ROUTER BITS FOR FOUNTAINHEAD® UNDERMOUNT BOWLS & SINKS W/ DELRIN® BB GUIDE - 2 FLUTE - 1/2" SHANK

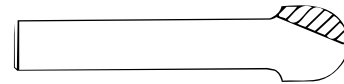
Tool No.	Style	Material Thickness	BB Replacement
9127	3/4R w/Flare	1/2	84-1405-DEL
9128	3/4R w/Flare	3/4	84-1405-DEL
9129	1/2" Bevel	1/2 & 3/4	84-1605-DEL



CARBIDE TIPPED UNDERMOUNT BOWL & COUNTER TOP TRIMMER - 1/2" SHANK - 6 WING



LONG SHANK COVE BITS MADE FOR BETTERLY COVING ROUTER



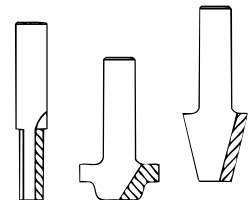
CARBIDE TIPPED BULL NOSE ROUTER BIT SETS WITH STEEL OR DELRIN® BUSHED BALL BEARING GUIDE 2 FLUTE - 1/2" SHANK

Tool No.	Radius	BB Repl.	Style
For 3/4" thick Corian®			
9179	3/8	880	Under Round Over
9171	3/8	82	Top Round Over
For 1" thick Corian®			
9180	1/2	880	Under Round Over
9181	1/2	82	Top Round Over
9181-DBB	1/2	80-DEL	Top Round Over
For 1-1/2" thick Corian®			
9182	3/4	880	Under Round Over
9183	3/4	82	Top Round Over
9183-DBB	3/4	80-DEL	Top Round Over

Tool No.	Cutting Dia.	Radius	Flute Length	Shank	OAL
204-8-MOD-3	1/2	1/4	1/2	1/2	3
208-8-MOD-3	3/4	3/8	5/8	1/2	3
212-8-MOD-3	1	1/2	5/8	1/2	3

CARBIDE TIPPED TOP MOUNT ROUTER BIT FOR BOWL & SINK APPLICATIONS - 1/2" SHANK

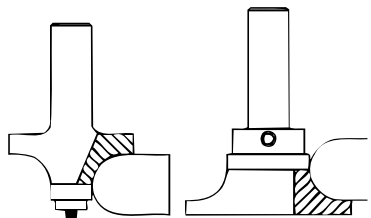
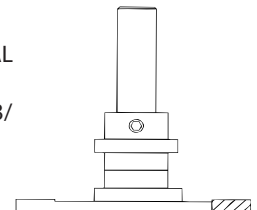
Tool No.	Type
9185	Router bit, 3/8" dia., 1 Flute
9186	Ogee detail, 2 Flute
9187	15° bevel, 2 Flute
9188	Porter cable 30mm template guide
9189	guide



CARBIDE TIPPED PARTING CUTTER WITH 1/2" SHANK & BB GUIDE - 4 WING

Tool No.	Dia.	Kerf	Depth of cut	BB Repl.	OAL
9165	3	3/16	15/16	880	3-3/4

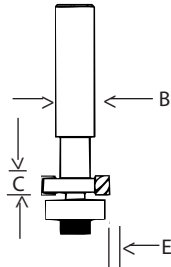
Used in replacing damaged or old undermount bowls..



SOLID SURFACE ROUTER BITS

CARBIDE TIPPED FACE INLAY BIT 7/8" DIAMETER - 2 FLUTES - 1/2" SHANK

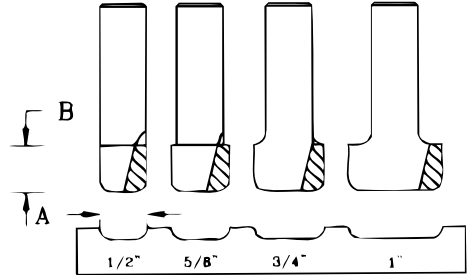
Tool No.	C Kerf	E Depth	Tool No.	C Kerf	E Depth
9200	1/8	1/16	9209	1/2	1/16
9201	1/8	1/8	9210	1/2	1/8
9202	1/8	3/16	9211	1/2	3/16
9203	1/4	1/16	9212	.520	1/16
9204	1/4	1/8	9213	.520	1/8
9205	1/4	3/16	9214	.520	3/16
9206	3/8	1/16	9215	3/4	1/16
9207	3/8	1/8	9216	3/4	1/8
9208	3/8	3/6	9217	3/4	3/16



Replacement Bearings: When depth is 1/8 - Use #84
When depth is 1/16 - Use #85 When depth is 3/16 - Use #88

CARBIDE TIPPED DRAINBOARD BITS 1/2 SHANK - 2 FLUTE

Tool No.	Dia.	Flute	Radius
9118	1/2	1/2	1/8
9119	5/8	1/2	1/8
9120	3/4	1/2	1/8
9121	1	1/2	1/8



CARBIDE TIPPED SEAMING BITS 1/2" SHANK - 2 FLUTE

Carbide has 1/4" flat on top of cutting edge and then a very small taper so tool joints up tight..

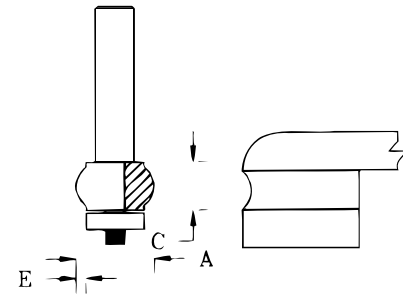
Tool No.	Flute Length	Flat Area	Degree of Taper	OAL
9166	1	1/4	1/2°	2-5/8
9167	1-1/4	1/4	1/2°	2-7/8
9168	1-1/2	1/4	1/2°	3-1/8



CARBIDE TIPPED EDGE FACE COVE BIT

1/2 Shank w/Steel or Delrin® bushed Ball Bearing Guide

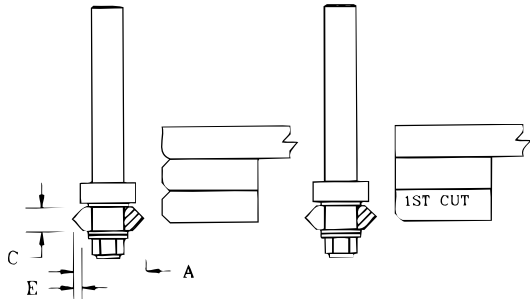
Tool No.	A Dia.	C Height	E Depth	BB Replacement
9177	1	5/8	1/8	85
9177-DEL	1	5/8	1/8	84-12-DEL



CARBIDE TIPPED EDGE FACE "V" GROOVE BIT

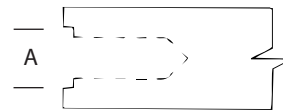
1/2 Shank w/Steel or Delrin® bushed Ball Bearing Guide

Tool No.	A Dia.	C Height	E Depth	BB Replacement
9178	1-1/8	3/8	1/8	86
9178-DEL	1-1/8	3/8	1/8	77-1400-DEL



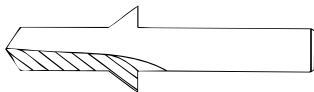
CARBIDE TIPPED COUNTERBORE DRILL BIT FOR BORING HOLES TO ACCEPT COMPRESSION DOWELS

Tool No.	A Dia. of Counterbore	Depth of Drill	Shank	OAL
9149	1/2	3/4	3/8	3-1/4



CARBIDE TIPPED OVERFLOW HOLE BIT (DRILL & COUNTERSINK VANITY BOWLS)

Tool No.	Hole	Shank	OAL
9148	3/8	3/8	2-1/2



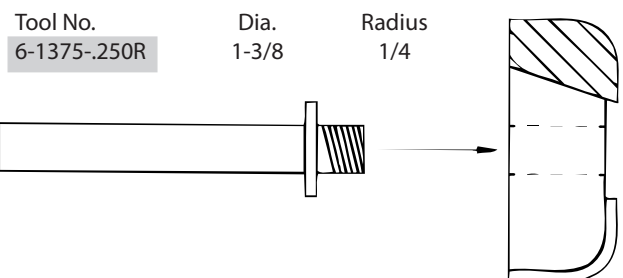
CARBIDE TIPPED ROUTER BITS FOR TRU-MATCH® EDGE JOINING SYSTEM - 1/2" SHANK - 2 FLUTE

Tool No.	Diameter	Flute Length	OAL
922-1-3/4-WE-TM	5/8	1-3/4	3-3/4



CARBIDE TIPPED COVE BIT WITH REMOVEABLE 1/4" SHANK

To run on offset Laminate trimmer to make 1/4" radius in corner of back splash.

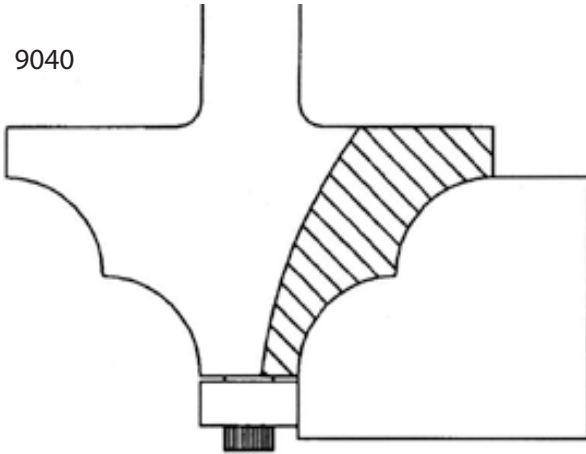


SOLID SURFACE EDGE SHAPING BITS

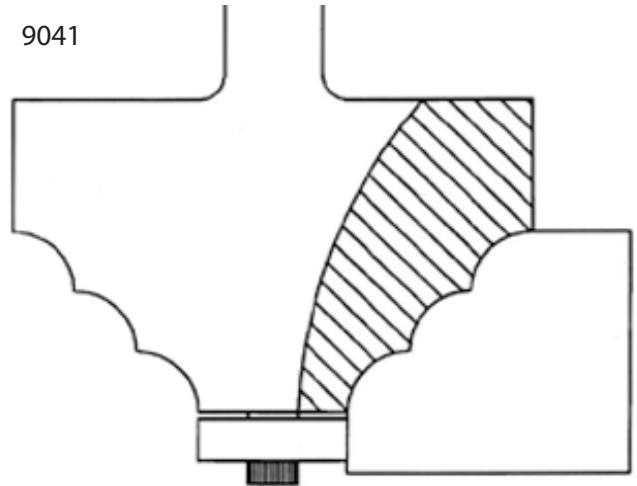
These bits are not guaranteed against breakage due to their large diameter. They also should be used with caution and run on a soft start - low RPM router at speeds not to exceed 12,000 RPM for optimum results.

Tool No.	Large Dia.	Cutting Length	Tool No.	Large Dia.	Cutting Length	Tool No.	Large Dia.	Cutting Length
9040	2-1/2	1-1/4	9601	3"	1-1/8	9616	2-1/2	7/8
9041	2-5/8	1-5/8	9602	2-5/8	1"	9617	2-1/2	1-3/16
9042	1-5/8	2	9603	2-3/4	1-1/4	9618	1-11/16	3/4
9043	2-1/2	1-1/2	9604	3"	1-3/8	9619	2-1/4	1-3/8
9044	2-3/4	1-5/16	9605	2-1/2	1-1/8	9620	1-1/2	2"
9045	3	1-9/16	9606	2-1/4	1-1/4	9621	1-1/2	2"
9046	3	1-1/8	9607	2-3/4	1-1/2	9622	1-3/8	3/4
9047	2-3/4	1-9/16	9608	2-1/2	1-1/4	9623	1-3/4	3/4
9048	2-1/2	1-1/8	9609	2-3/4	1-5/8	9624	1-3/4	1-1/4
9049	2-1/4	1-1/4	9610	1-1/2	2"	9625	2"	1-1/8
			9611	2-1/2	1-1/2	9626	1-3/4	1/2
			9612	3"	1-1/8	9627	2-1/4	1"
			9613	2-1/2	1-3/4	9628	1-3/4	1-1/4
			9614	3"	1-1/8	9629	1-1/2	3/4
			9615	3-1/8	1"	9630	2-1/2	1-1/4
						9631	2"	7/8

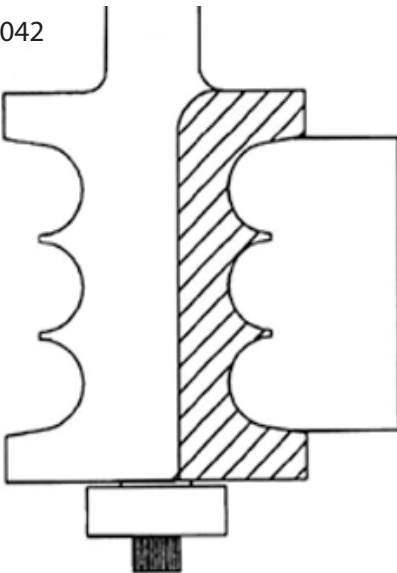
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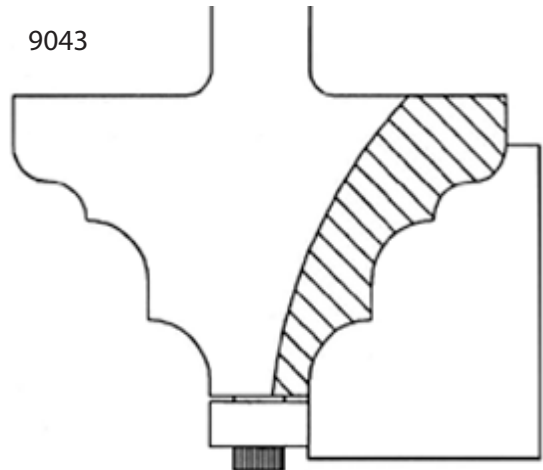
9041



9042



9043

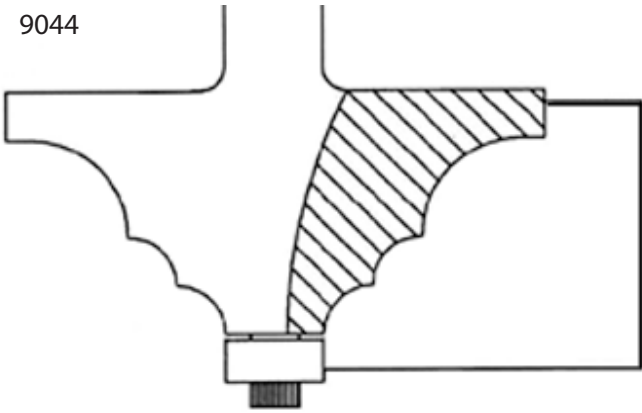


(SAMPLES SHOWN ACTUAL SIZE)

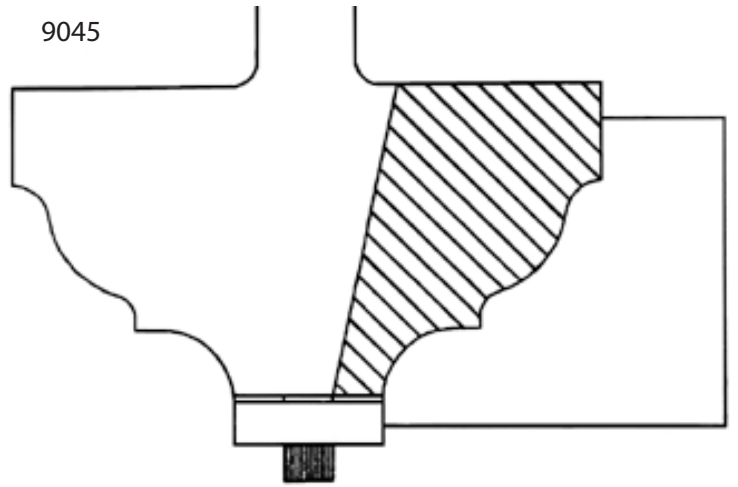
SOLID SURFACE EDGE SHAPING BITS

(SAMPLES SHOWN ACTUAL SIZ

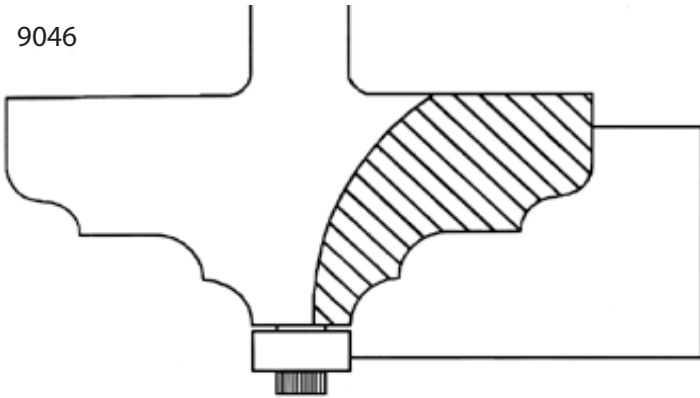
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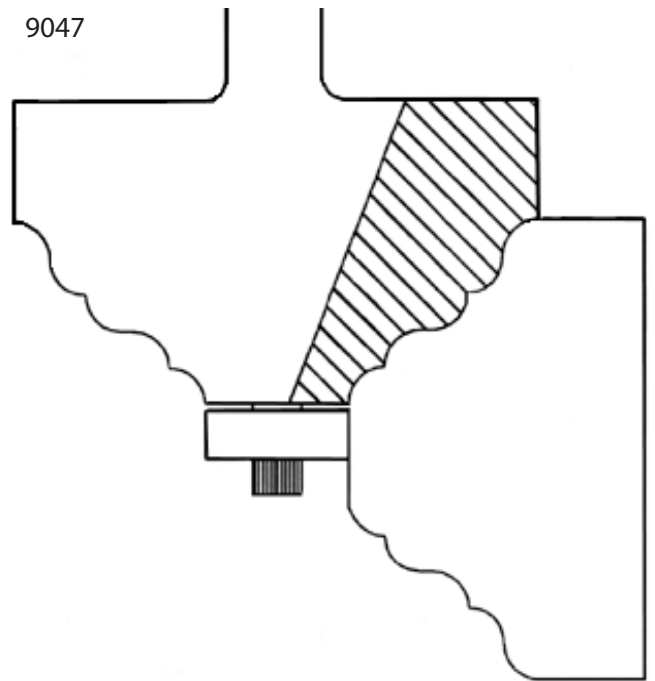
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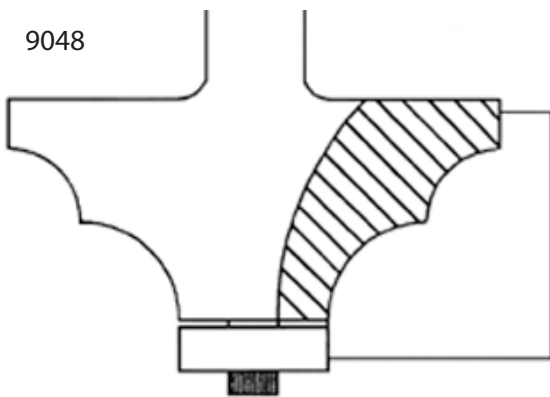
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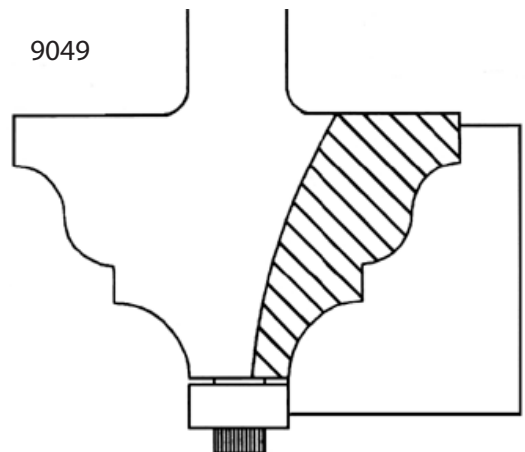
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9048

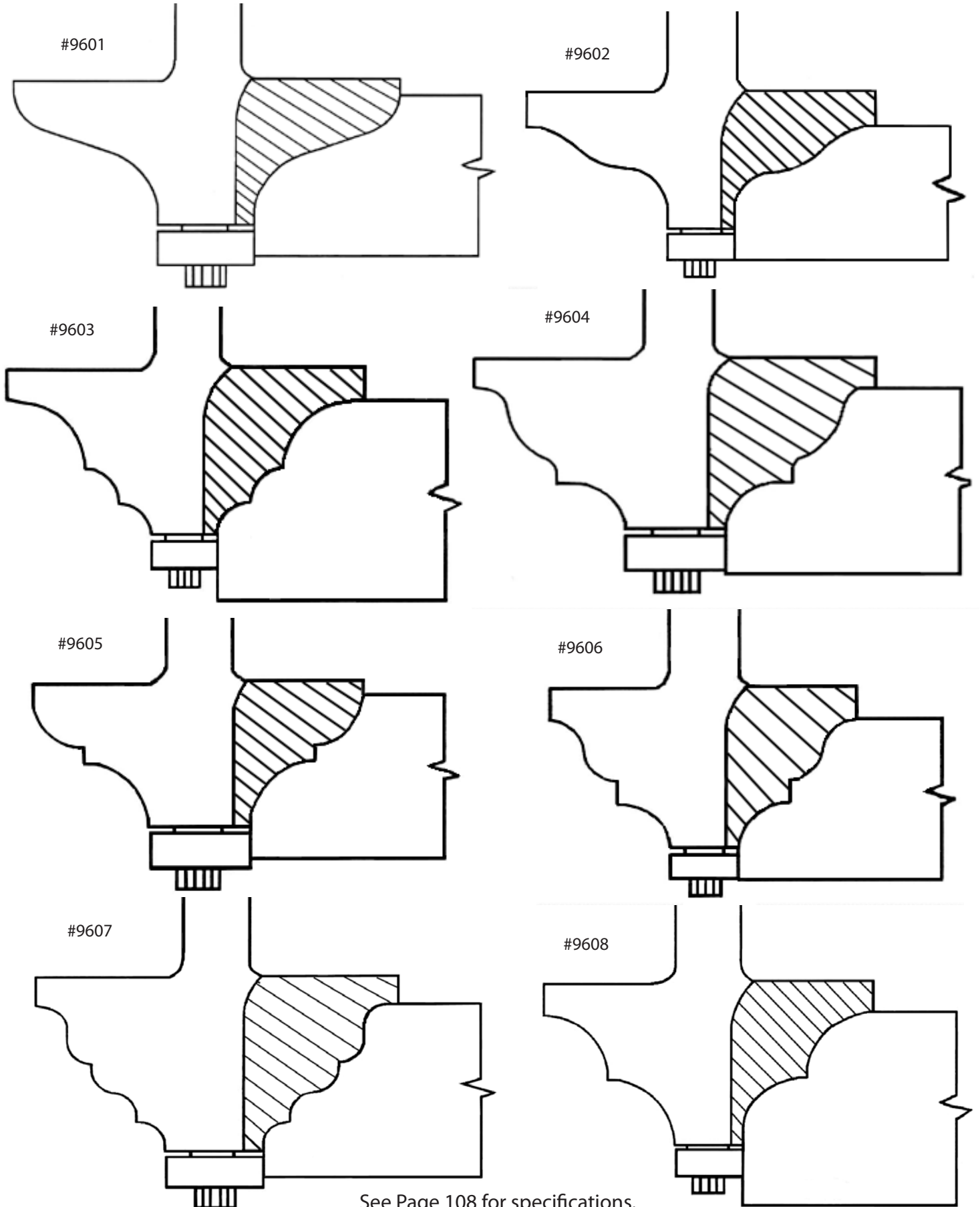


9049



See Page 108 for specifications.

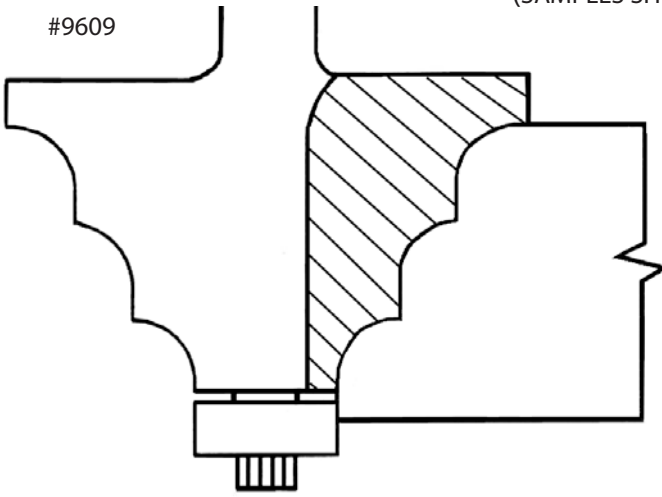
SOLID SURFACE EDGE SHAPING BIT
(SAMPLES SHOWN ACTUAL SIZE)



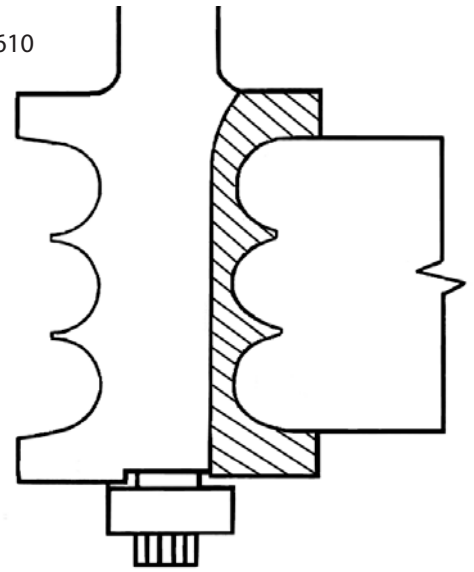
See Page 108 for specifications.

SOLID SURFACE EDGE SHAPING BIT
(SAMPLES SHOWN ACTUAL SIZE)

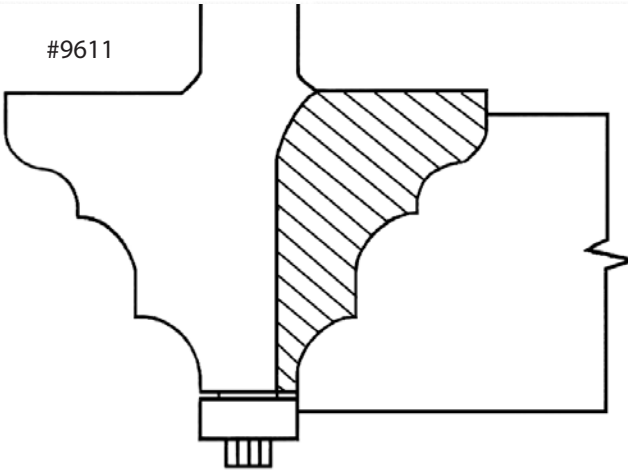
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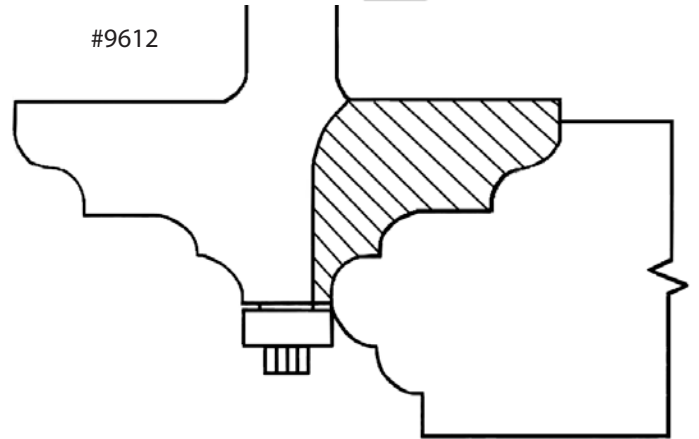
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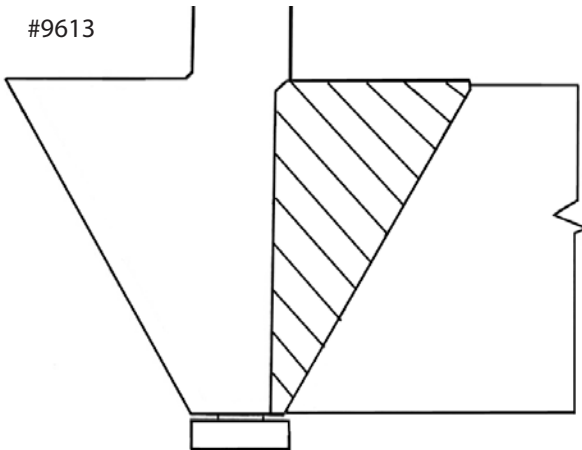
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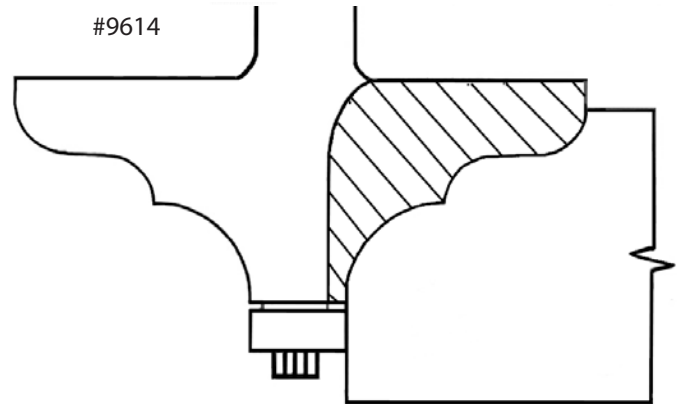
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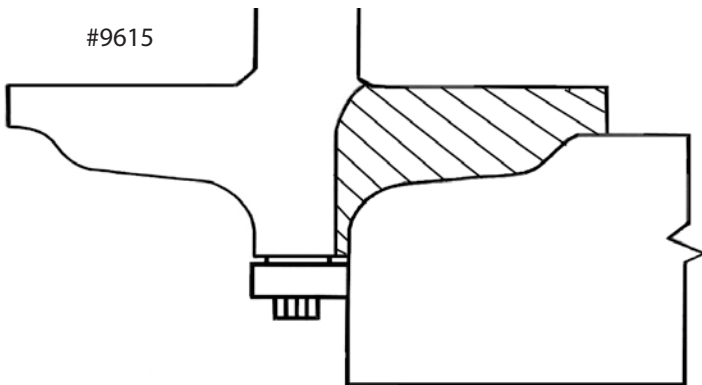
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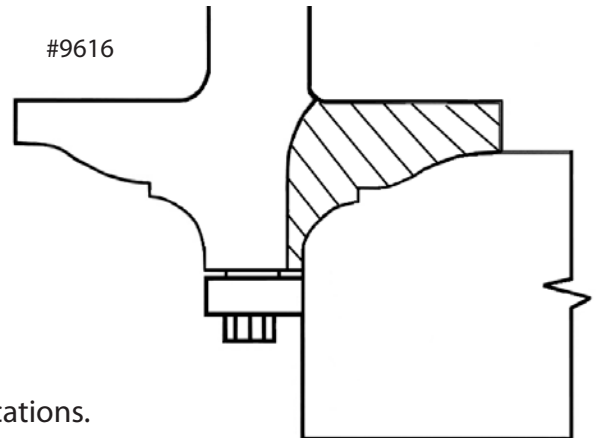
#9614



#9615



#9616



See Page 108 for specifications.

SOLID SURFACE EDGE SHAPING BIT
(SAMPLES SHOWN ACTUAL SIZE)

#9617

#9618

#9619

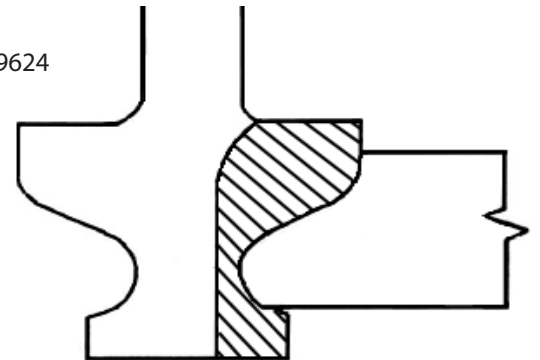
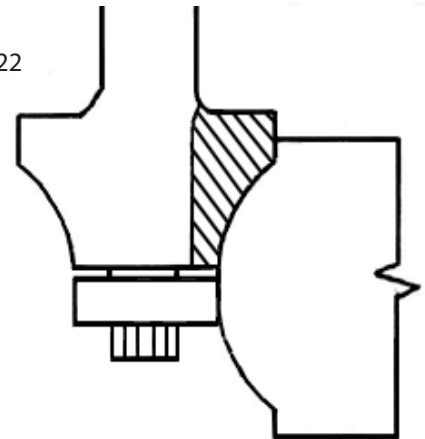
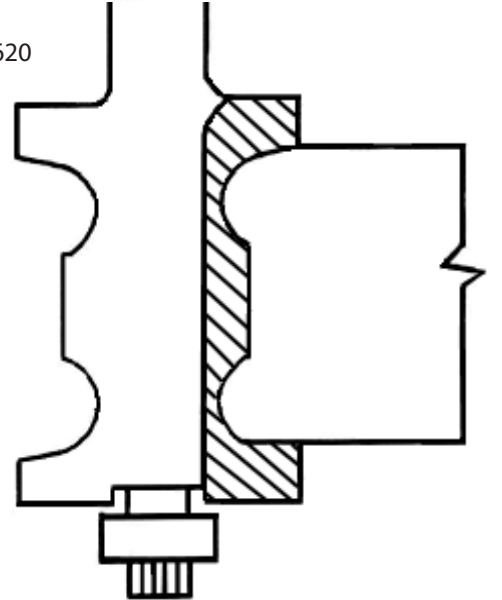
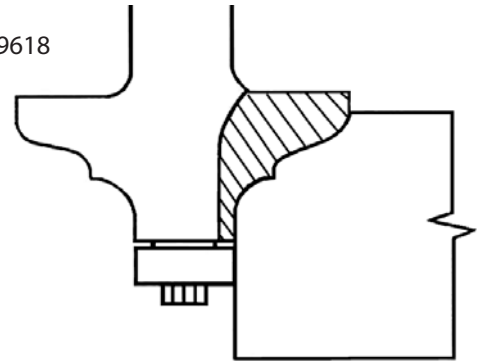
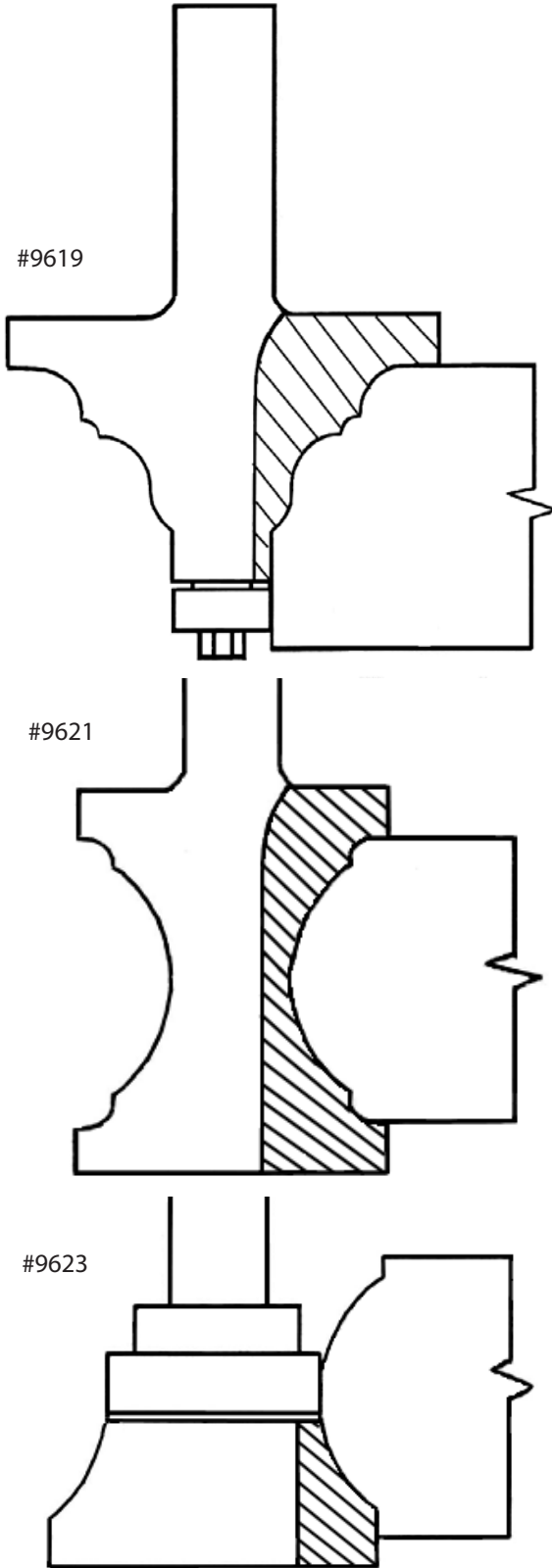
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#9621

#9622

#9623

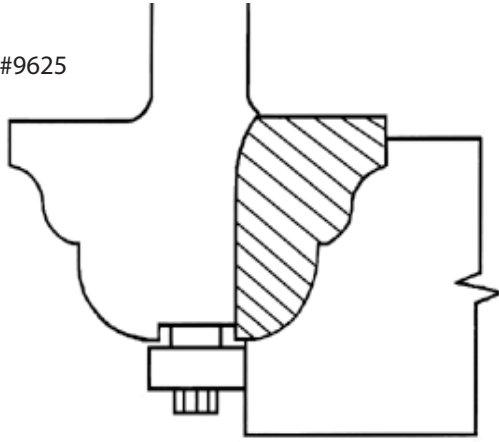
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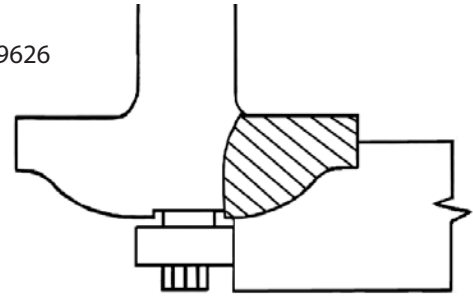
See Page 108 for specifications.

SOLID SURFACE EDGE SHAPING BIT
(SAMPLES SHOWN ACTUAL SIZE)

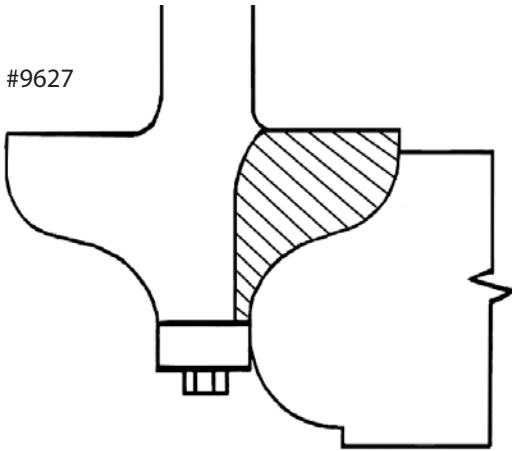
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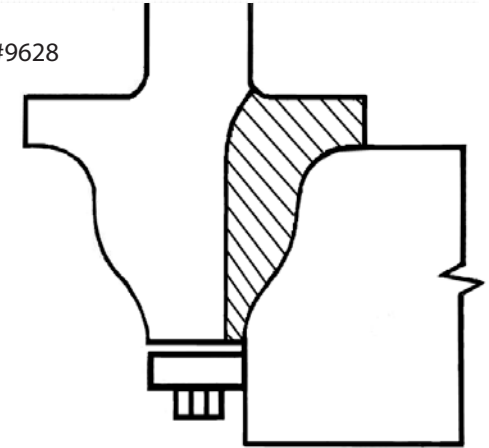
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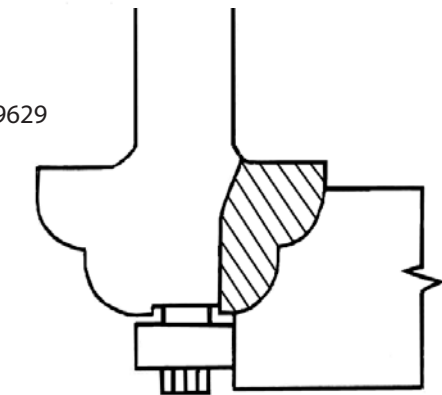
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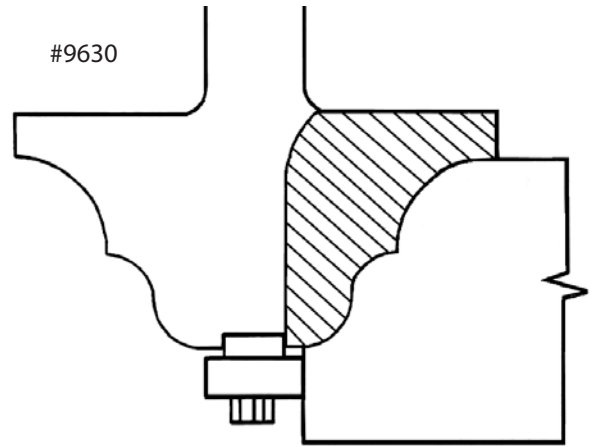
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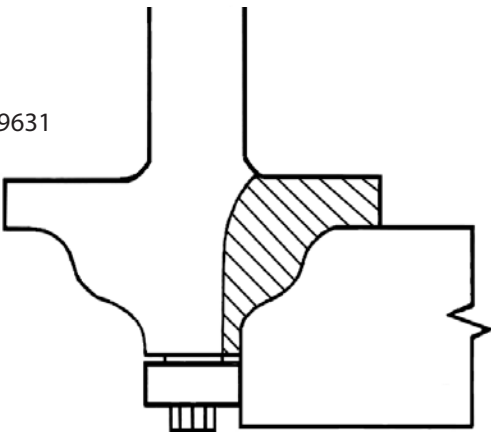
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#9630

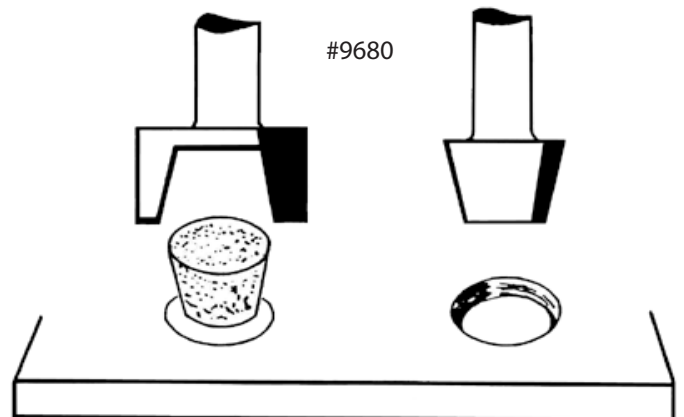


#9631



See Page 108 for specifications.

SOLID SURFACE Plug Cutter Set
For Solid Surface Repair - 1-3/4 Cutting Diameter
1/2" Shank, Carbide Tipped



ROSETTE CUTTER - BITS, INLAY OR BUTTON TYPE (HIGH SPEED STEEL OR CARBIDE TIPPED)

Hex Shank - 1/2" x 1-1/2" supplied - Round Shank available if requested.

MUST BE RUN ON HEAVY DUTY DRILL PRESS OR MILLING MACHINE. Recommended RPM: Hardwood 1800 - Soft Wood 3600.

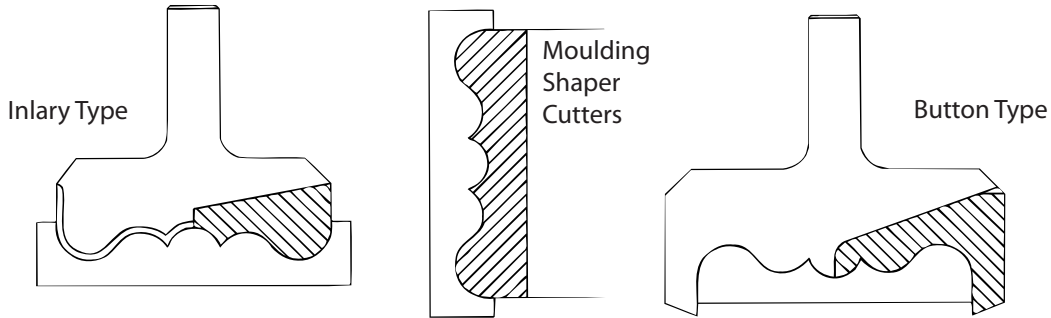
Inlay Type: Made without spurs for finished cuts in inlay type work.

Button Type: Made with spurs to cut rosette free from stock or depth of cut is enough to allow sawing back of material to release button.

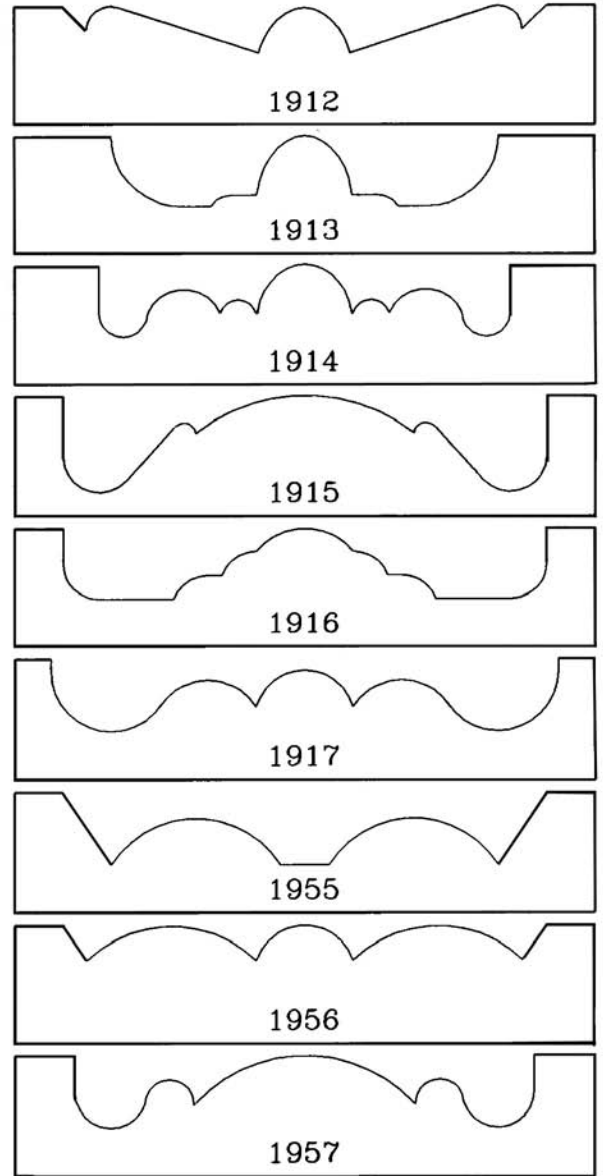
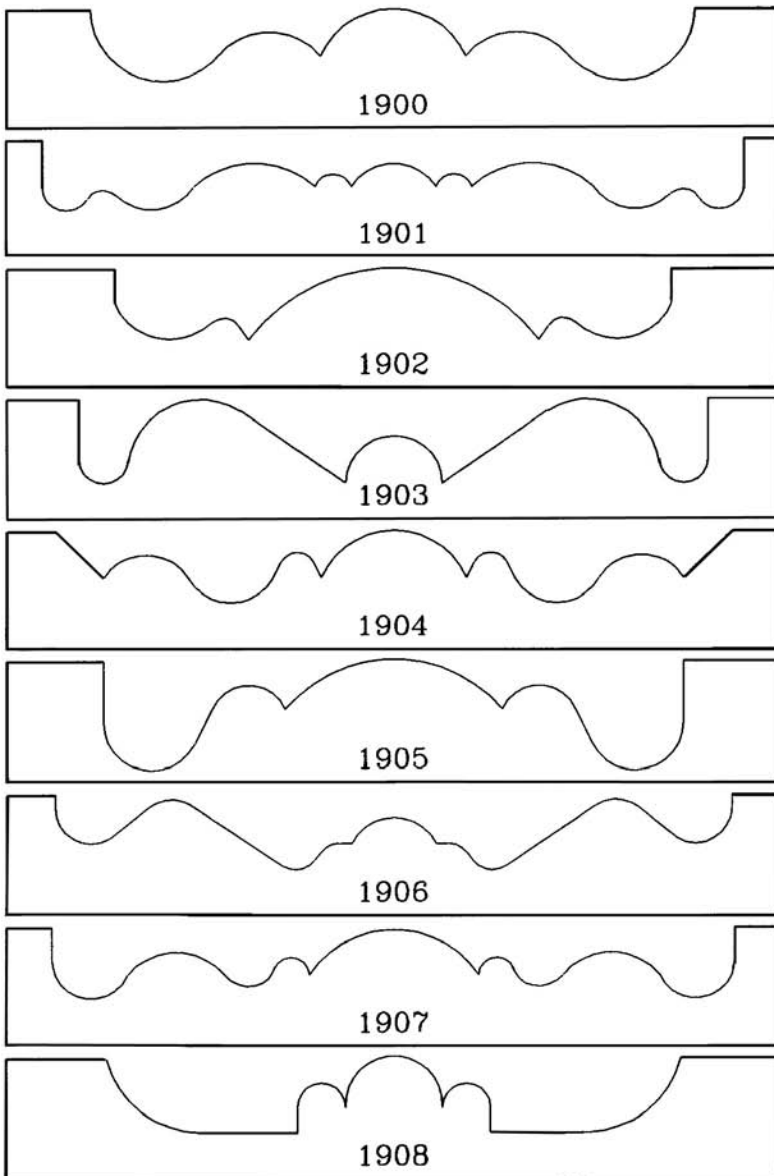
Available in Steel - Add -S to Tool No.

MOULDING SHAPER CUTTERS AVAILABLE: Any rosette cutter pattern can also be supplied in a 2, 3 or 4 wing shaper cutter to cut linear moulding.

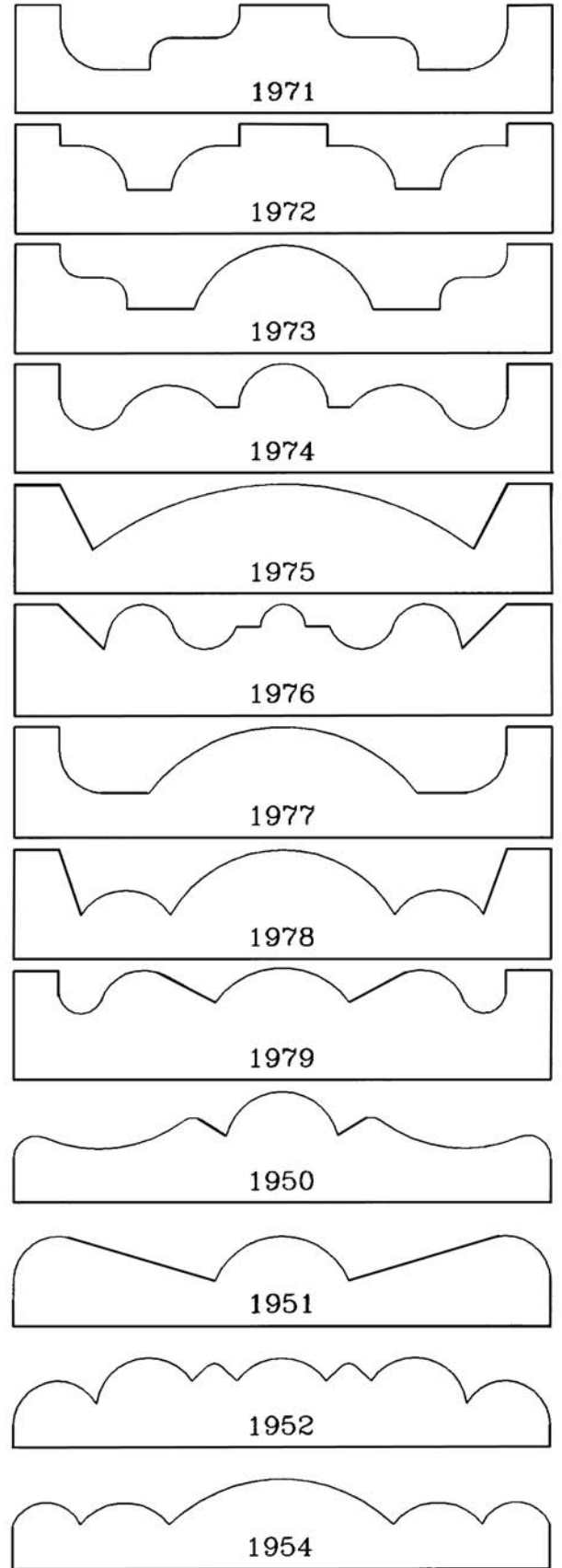
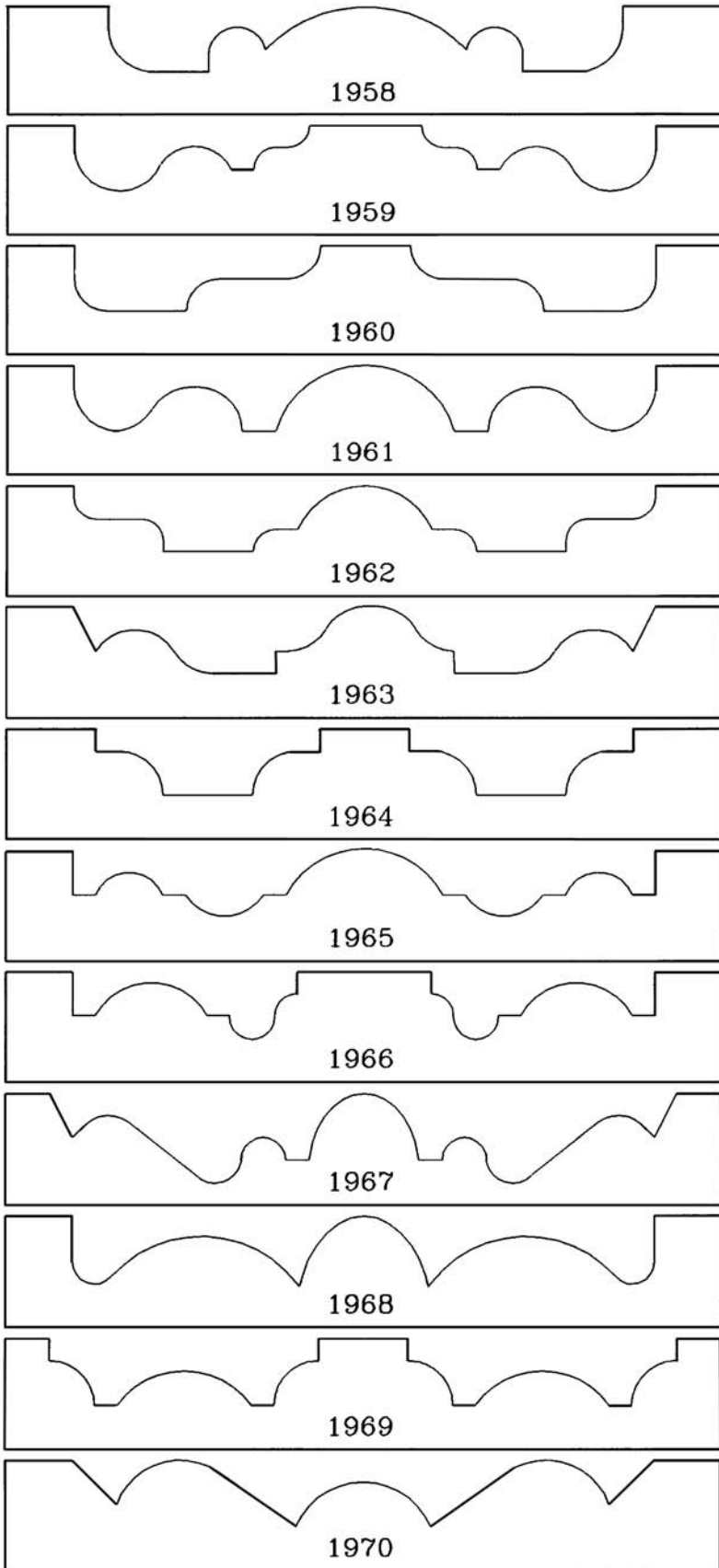
Add -SC to Tool No. and specify the number of wings and arbor hole size.



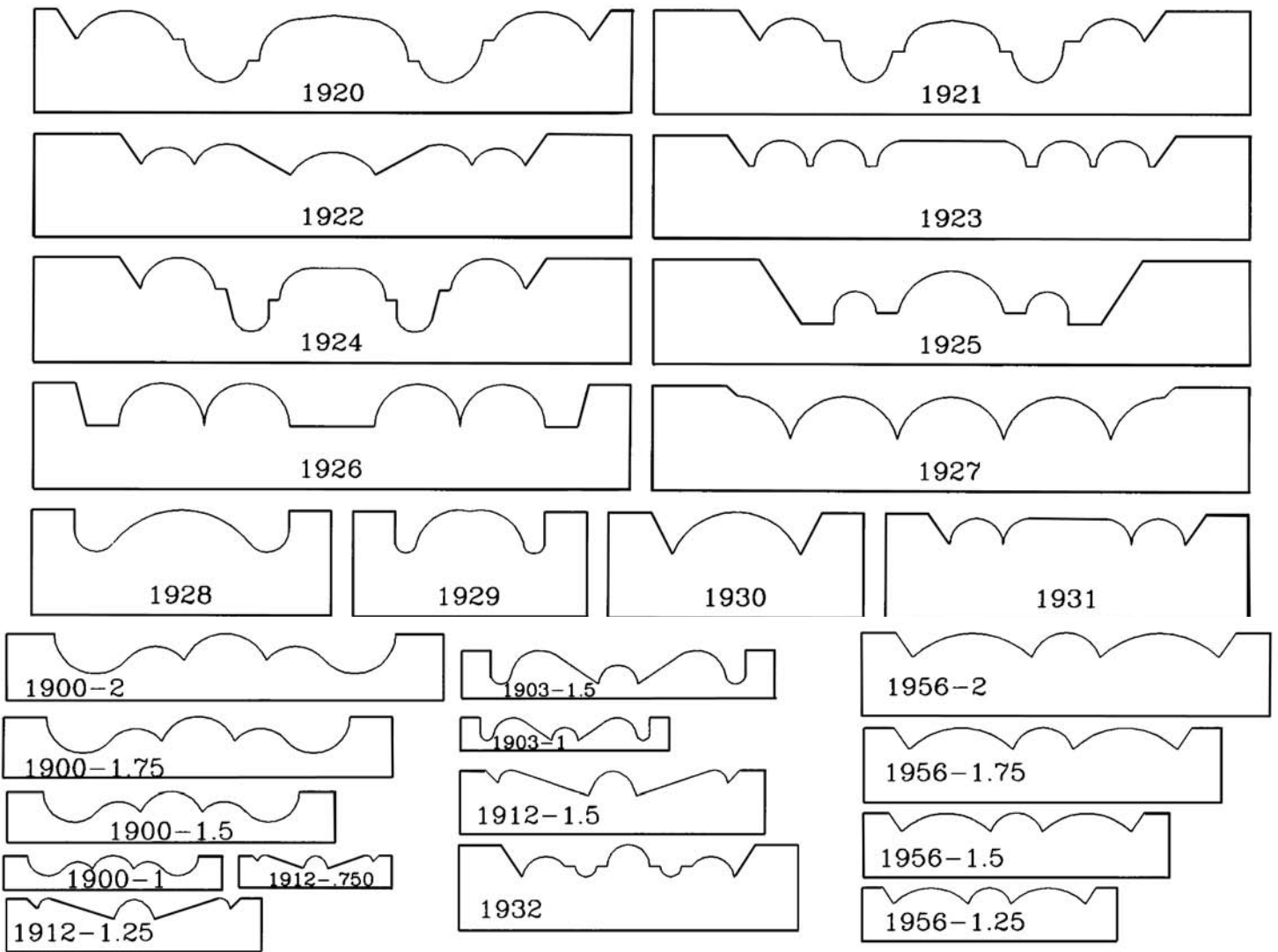
Other designs are available. Send us a sample or accurate drawing, we will be happy to give you a quote or manufacture it.



ROSETTE CUTTER BITS (Cont.)



ROSETTE CUTTER BITS Cont'd



PROFESSIONAL MULTIPROFILE ROSETTE CUTTER HEAD WITH SHANK

This 2 wing head uses 16-60° HSS corrugated steel. Cutter head only - no knives included. Four (4) standard detail knives available or grind your own. F or custom send us your drawing and we can quote it for you.

Tool No.	Head's Dia.	Shank	Max. RPM
1937	2-7/8	1/2	8000
1938	2-7/8	3/4	8000
1939	2-7/8	#2-MT	8000
1940	3-1/2	1/2	8000
1942	3-1/2	3/4	8000
1943	3-1/2	#2-MT	8000
1944	4-3/4	3/4	3000
1945	4-3/4	#2-MT	3000

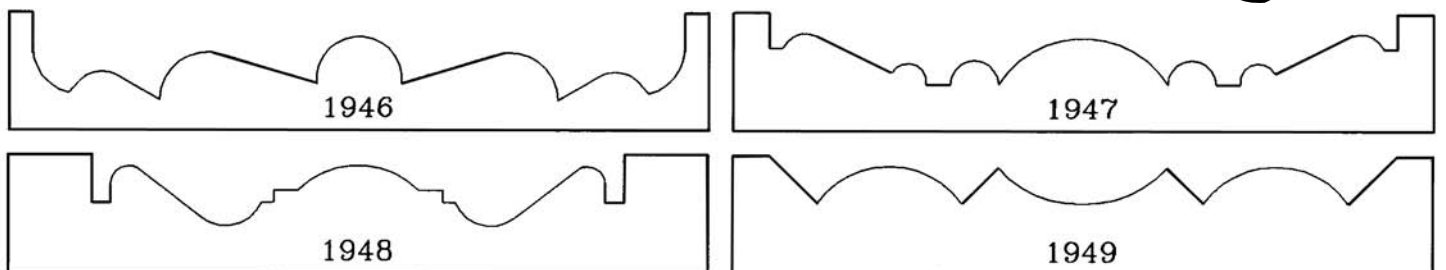
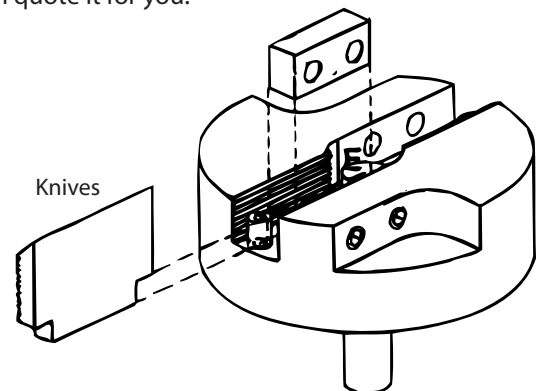
Knives sold in pairs.

DETAIL KNIVES

Tool No.	Dia. of Rosette
1946	3-3/8
1947	2-3/4
1948	3-1/4
1949	3-1/4

BLANK KNIVES

Tool No.	Length
1934	1-7/16
1935	1-3/4
1936	2-1/8



INEXPENSIVE ROSETTE CUTTER HEADS & KNIVES

IMPORT

A single 1/8" thick HSS knife ground on both sides - 12 patterns only - 3" max. diameter available. Cutter head comes with 3 shanks.

HSS KNIFE

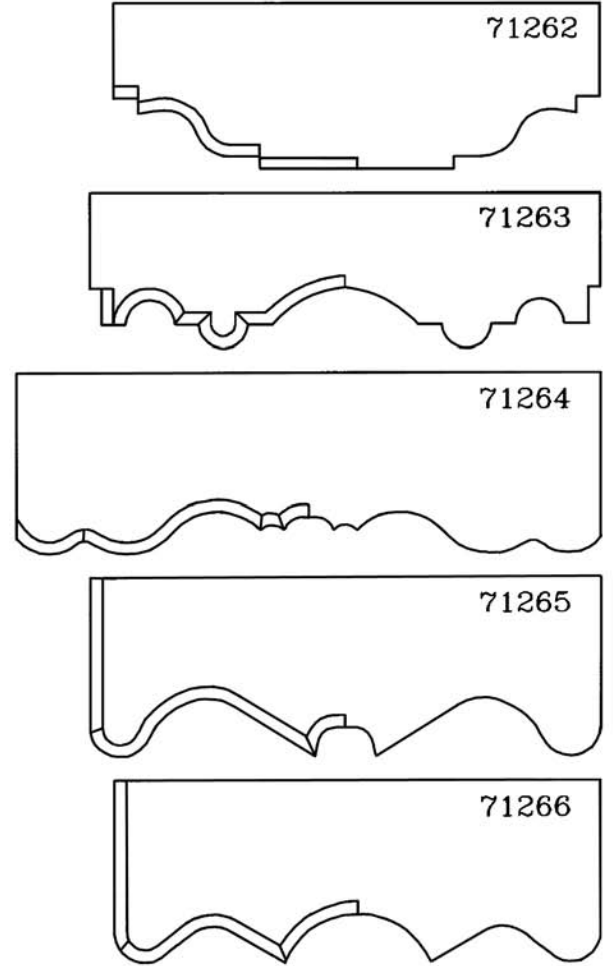
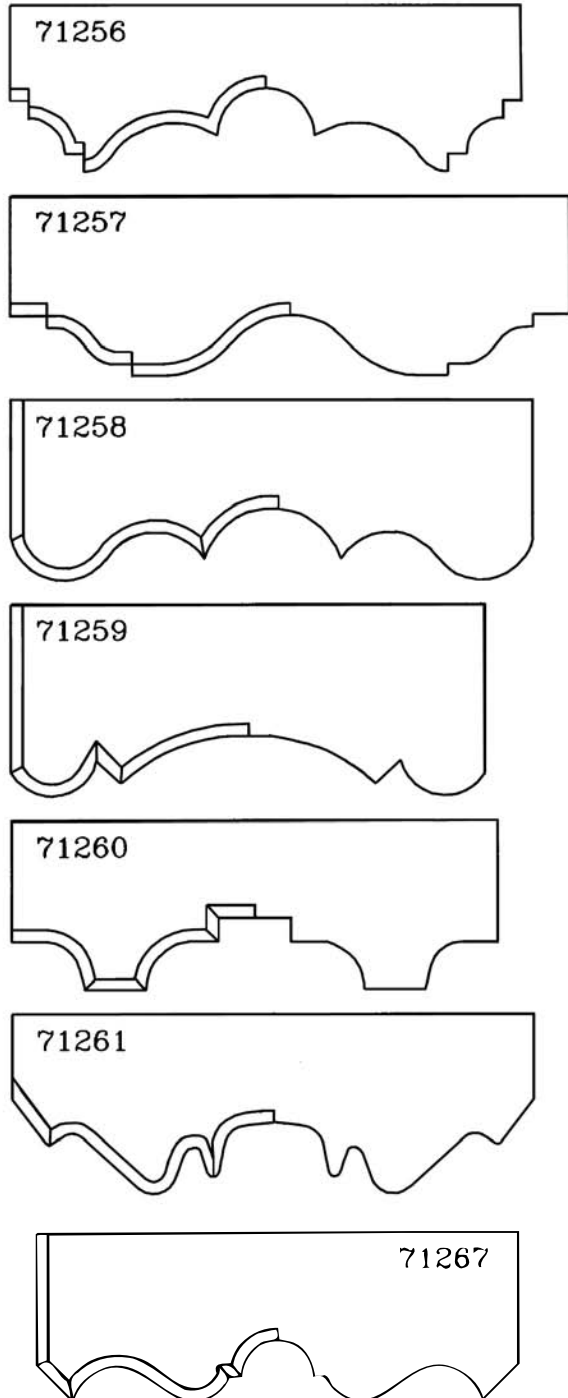
HSS KNIFE

Tool No.	Shank
71250	1/2" Hex
71251	MT#2
71252	MT#3

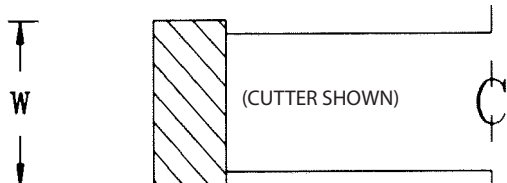
Tool No.	Width
71256	2-5/8
71257	2-7/8
71258	2-11/16
71259	2-7/16
71260	2-11/16
71261	3

Tool No.	Width
71262	2-1/2
71263	2-5/8
71264	3
71265	2-5/8
71266	2-1/2
71267	2-1/2

Knives shown only for detail.

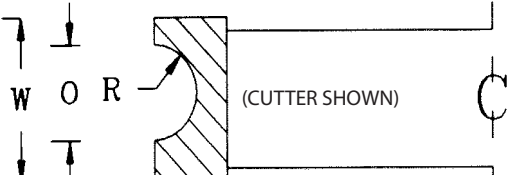


CARBIDE TIPPED STRAIGHT EDGE SHAPER CUTTERS



TOOL NO.	WIDTH	TOOL NO.	WIDTH	TOOL NO.	WIDTH	TOOL NO.	WIDTH
1440-125	1/8	1441	3/8	1446	1	1452	2-1/2
1440-220	5.6MM	1442	1/2	1447	1-1/4	1453	3
1440-316	3/16	1443	5/8	1448	1-1/2	1454	3-1/4
1440	1/4	1444	3/4	1449	1-3/4	1455	3-1/2
1440-516	5/16	1445	7/8	1450	2	1456	3-3/4
				1451	2-1/4	1457	4

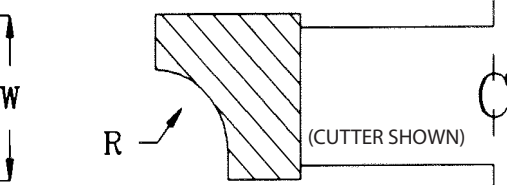
CARBIDE TIPPED CONCAVE RADIUS SHAPER CUTTERS



Cutters with radius larger than 2" must be run on 1-1/4 spindle or larger.

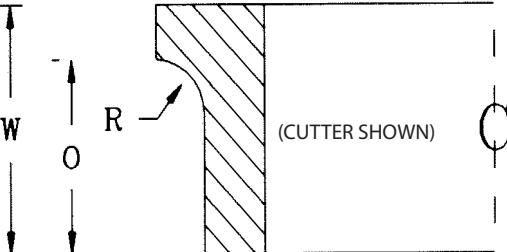
TOOL NO.	WIDTH	OPENING	RADIUS	TOOL NO.	WIDTH	OPENING	RADIUS
1420	1/2	1/4	1/8	1429	2-1/2	2	1
1421	5/8	3/8	3/16	1429-1-1/4	3	2-1/2	1-1/4
1422	3/4	1/2	1/4	1429-1-1/2	3-1/2	3	1-1/2
1423	7/8	5/8	5/16	1429-1-3/4	4	3-1/2	1-3/4
1424	1	3/4	3/8	1429-2	4-1/2	4	2
1425	1-1/4	7/8	7/16	1429-2-1/4	5-1/4	4-1/2	2-1/4
1426	1-3/8	1	1/2	1429-2-1/2	5-3/4	5	2-1/2
1427	1-5/8	1-1/4	5/8	1429-2-3/4	6-1/4	5-1/2	2-3/4
1428	2	1-1/2	3/4	1429-3	6-3/4	6	3

CARBIDE TIPPED QUARTER ROUND CONCAVE RADIUS SHAPER CUTTERS



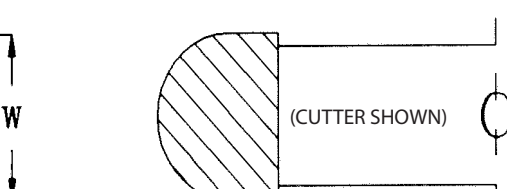
TOOL NO.	WIDTH	RADIUS	TOOL NO.	WIDTH	RADIUS
1430	3/8	1/8	1439	1-3/8	1
1431	1/2	3/16	1439-1-1/4	1-5/8	1-1/4
1432	1/2	1/4	1439-1-1/2	2	1-1/2
1433	5/8	5/16	1439-1-3/4	2-1/4	1-3/4
1434	5/8	3/8	1439-2	2-1/2	2
1435	3/4	7/16	1439-2-1/4	2-3/4	2-1/4
1436	7/8	1/2	1439-2-1/2	3	2-1/2
1437	1	5/8	1439-2-3/4	3-1/4	2-3/4
1438	1-1/8	3/4	1439-3	3-1/2	3

CARBIDE TIPPED EXTENDED QUARTER ROUND



TOOL NO.	WIDTH	OPENING	RADIUS	TOOL NO.	WIDTH	OPENING	RADIUS
1460	1-1/8	7/8	1/8	1466	1-3/8	1-1/8	1/2
1461	1-1/8	7/8	3/16	1467	1-3/8	1-1/8	5/8
1462	1-1/8	7/8	1/4	1468	1-7/8	1-5/8	3/4
1463	1-1/8	7/8	5/16	1469	2	1-5/8	1
1464	1-3/8	1-1/8	3/8	1470	2-1/2	2-1/8	1-1/4
1465	1-3/8	1-1/8	7/16	1471	2-5/8	2-1/8	1-1/2

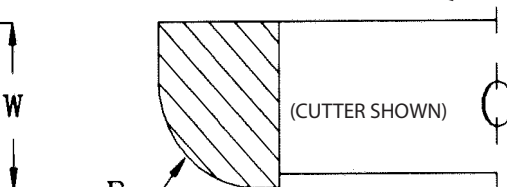
CARBIDE TIPPED CONVEX RADIUS SHAPER CUTTERS



Cutters with radius larger than 2" must be run on 1-1/4 spindle or larger.

TOOL NO.	WIDTH	RADIUS	TOOL NO.	WIDTH	RADIUS
1400	1/4	1/8	1409	2	1
1401	3/8	3/16	1409-1-1/4	2-1/2	1-1/4
1402	1/2	1/4	1409-1-1/2	3	1-1/2
1403	5/8	5/16	1409-1-3/4	3-1/2	1-3/4
1404	3/4	3/8	1409-2	4	2
1405	7/8	7/16	1409-2-1/4	4-1/2	2-1/4
1406	1	1/2	1409-2-1/2	5	2-1/2
1407	1-1/4	5/8	1409-2-3/4	5-1/2	2-3/4
1408	1-1/2	3/4	1409-3	6	3

CARBIDE TIPPED QUARTER ROUND CONVEX RADIUS SHAPER CUTTERS

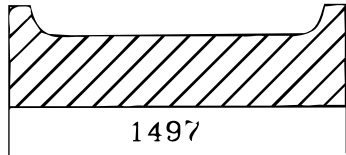
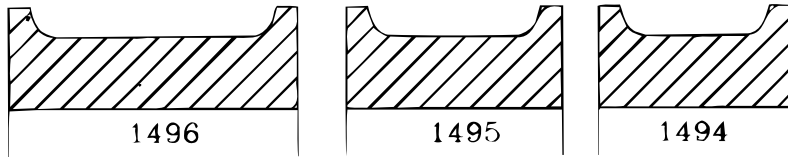
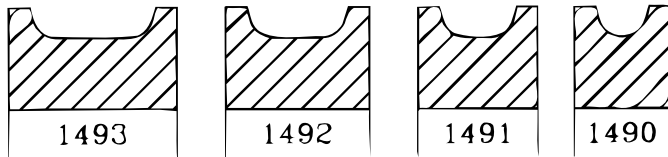


TOOL NO.	WIDTH	RADIUS	TOOL NO.	WIDTH	RADIUS
1410	3/8	1/8	1419	1-1/4	1
1411	3/8	3/16	1419-1-1/4	1-1/2	1-1/4
1412	1/2	1/4	1419-1-1/2	1-3/4	1-1/2
1413	5/8	5/16	1419-1-3/4	2	1-3/4
1414	5/8	3/8	1419-2	2-1/4	2
1415	3/4	7/16	1419-2-1/4	2-3/4	2-1/4
1416	3/4	1/2	1419-2-1/2	3	2-1/2
1417	7/8	5/8	1419-2-3/4	3-1/4	2-3/4
1418	1	3/4	1419-3	3-1/2	3

Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DOUBLE EASING SHAPER CUTTER

(CUTTER SHOWN)

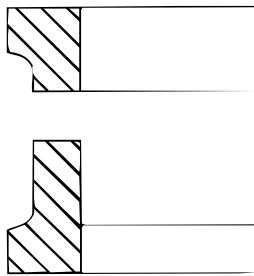


Tool No.	Max. Width	Tool No.	Max. Width
1490	1/4	1494	3/4
1491	3/8	1495	1
1492	1/2	1496	1-1/4
1493	5/8	1497	1-1/2

Corners will have 1/8" radius flared .015 to allow for oversized material. Other radius available.

CARBIDE ADJUSTABLE DOUBLE-EASING SHAPER CUTTER

(CUTTER SHOWN)

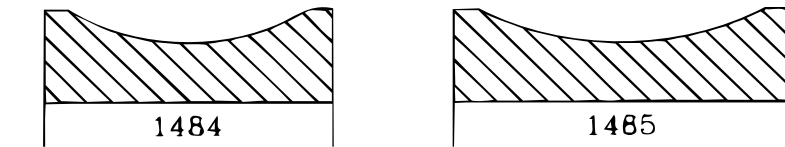
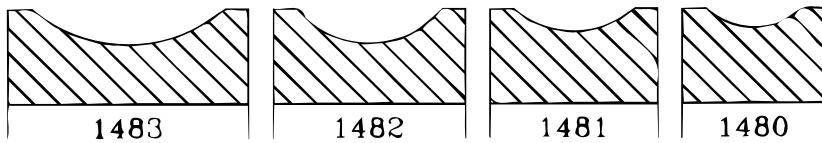


Tool No.	Material Width		Radius
	Minimum	Maximum	
1475	1/4	5/8	1/8
1476	1/2	1	1/8
1477	3/4	1-1/2	1/8
1478	1	2	1/8

These cutters are recessed and will mesh together to close down to shape the minimum thickness. Spacers must be added between cutters to adjust to shape the maximum thickness. For spacers see page 148. Other radius are available.

CARBIDE TIPPED SHORTENED HALF ROUNDS

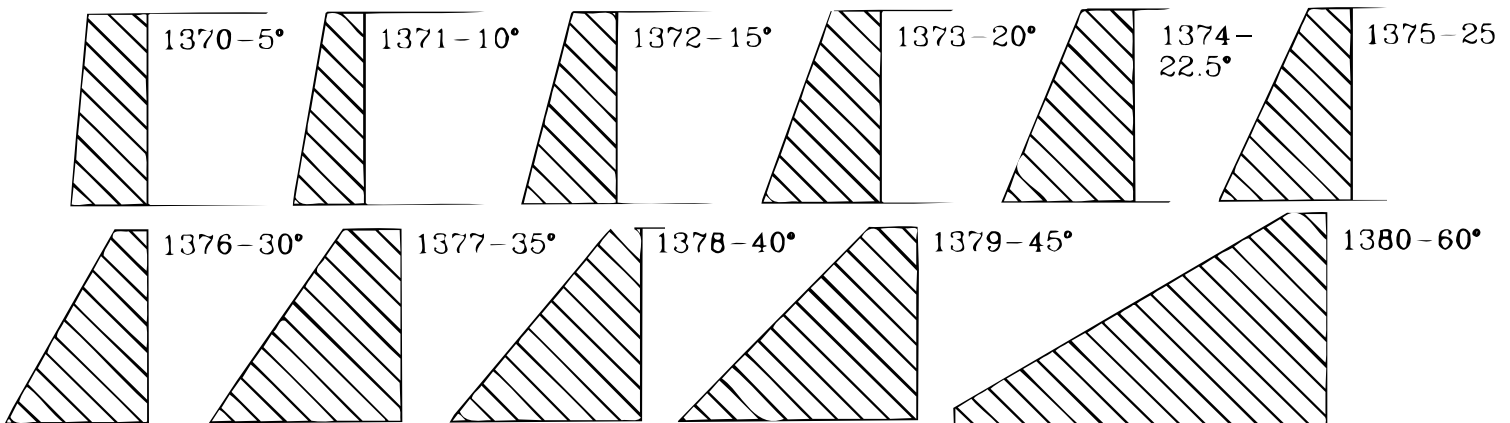
(CUTTER SHOWN)



Tool No.	Width	Opening
1480	3/4	1/2
1481	7/8	5/8
1482	1	3/4
1483	1-1/4	1
1484	1-1/2	1-1/4
1485	1-3/4	1-1/2

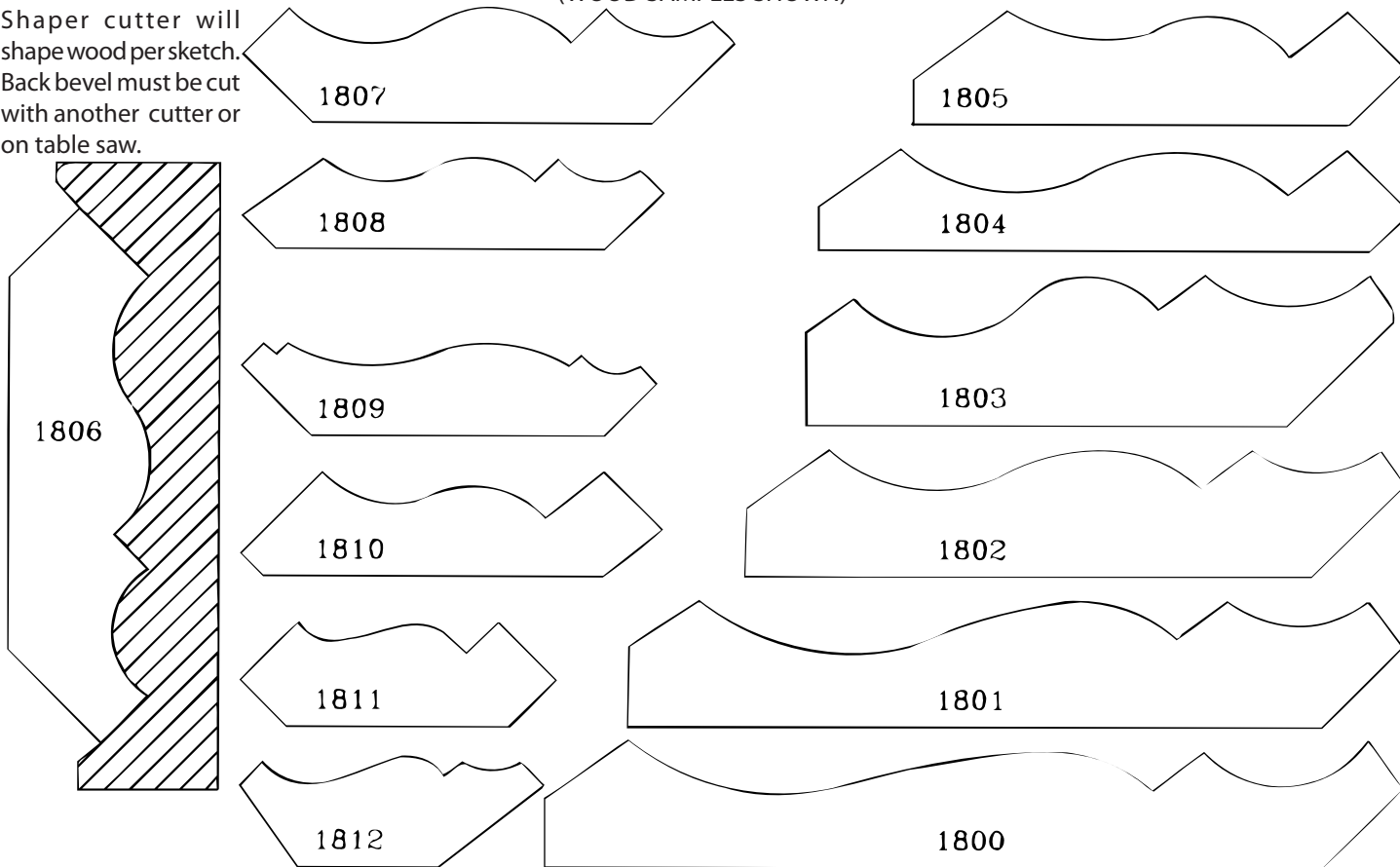
CARBIDE TIPPED ANGLE-BEVEL SHAPER CUTTER

Cutter shown at 1" wide - other widths are available. See price list. When ordering wider width add -(whatever length you want). Example: 1-1/2" would be #1370-1-1/2-5°



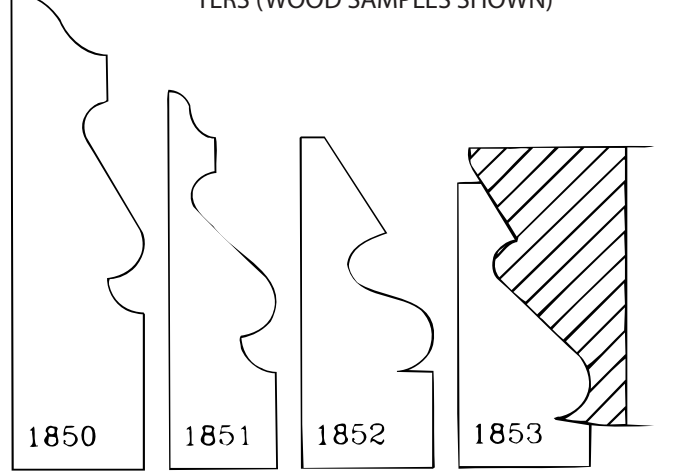
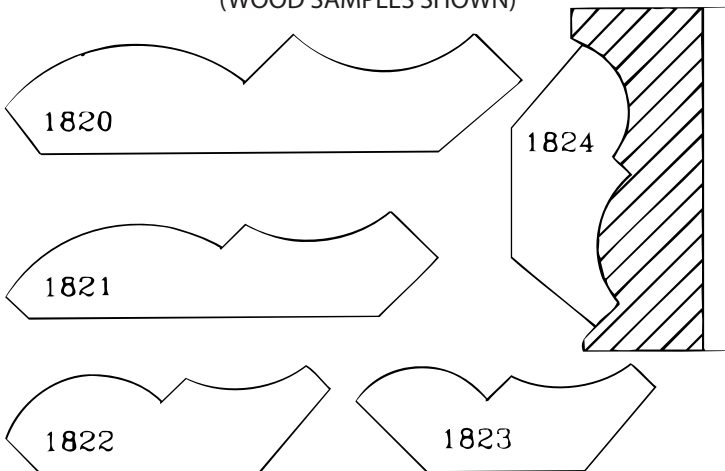
CARBIDE TIPPED CROWN MOULDING SHAPER CUTTERS
(WOOD SAMPLES SHOWN)

Shaper cutter will shape wood per sketch. Back bevel must be cut with another cutter or on table saw.

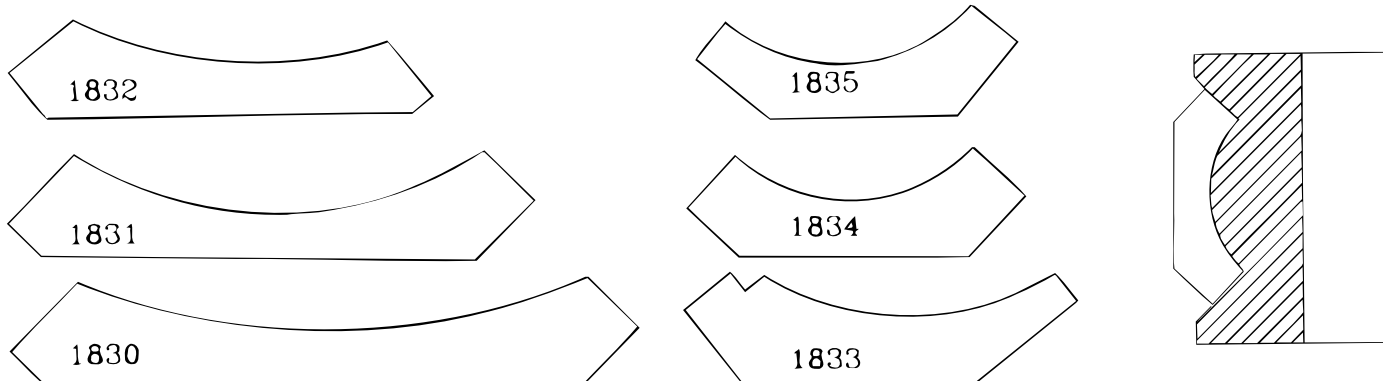


CARBIDE TIPPED BED MOULDING SHAPER CUTTERS
(WOOD SAMPLES SHOWN)

CARBIDE TIPPED SINGLE PANEL MOULDING SHAPER CUTTERS
(WOOD SAMPLES SHOWN)



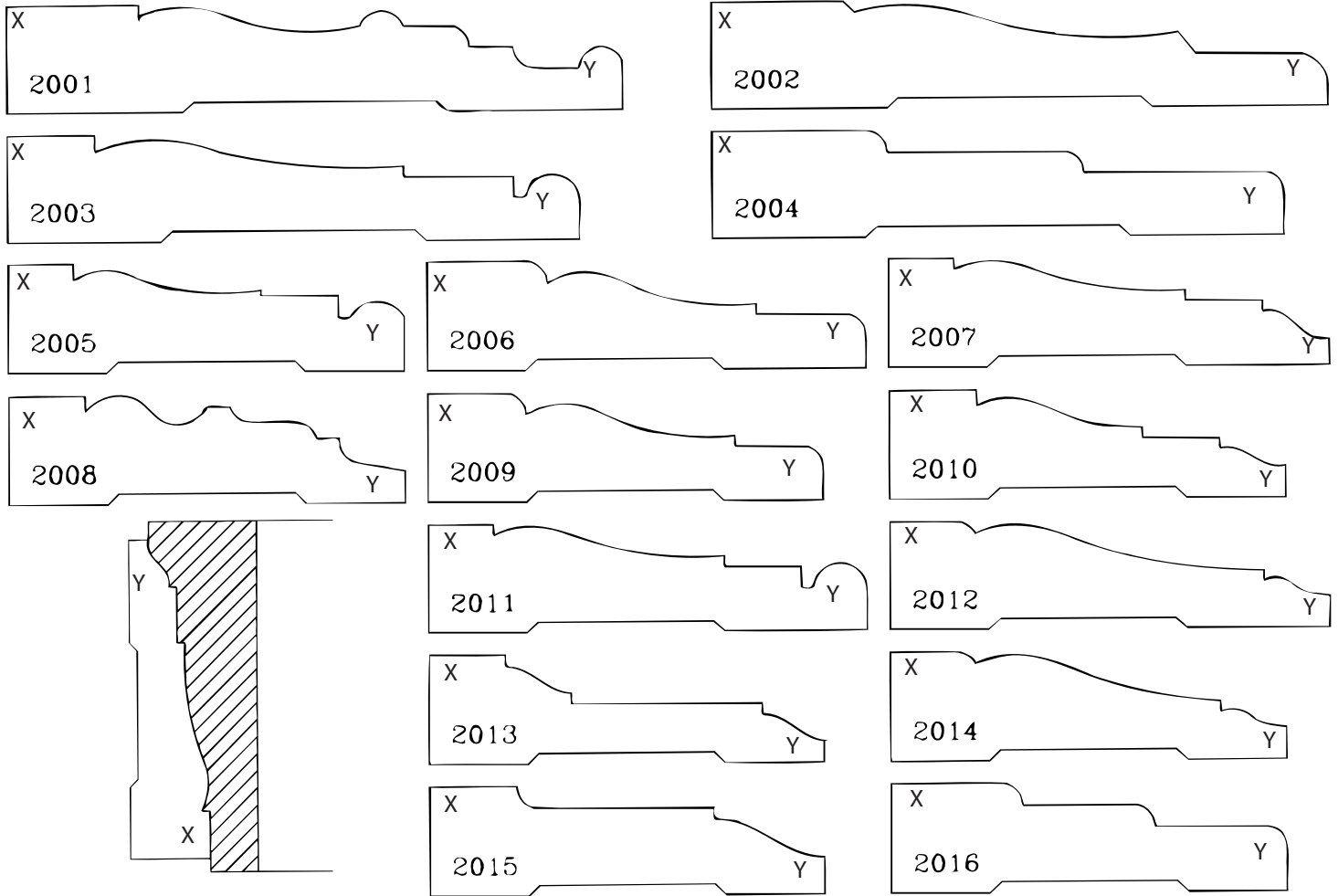
CARBIDE TIPPED COVE MOULDING SHAPER CUTTERS (WOOD SAMPLES SHOWN)



Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

**CARBIDE TIPPED CASING SHAPER CUTTERS
(WOOD SAMPLE SHOWN)**

Material will be run through shaper standing up. Bottom of wood will not be cleaned up. "X" part of casing will not be cleaned up or shaped. "Y" part of casing will not be cleaned up or shaped.



OPTIONS AVAILABLE

"A" OPTION: Ease corner and clean up "X" area.

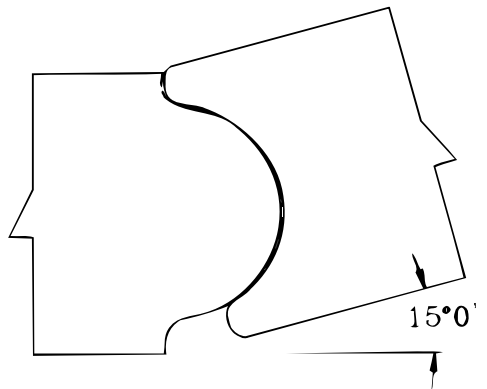
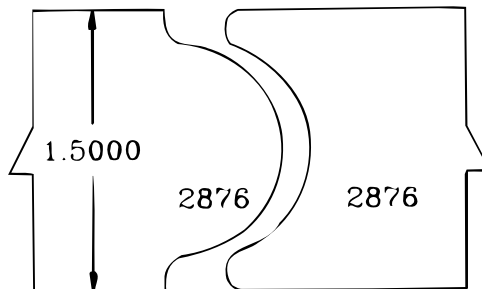
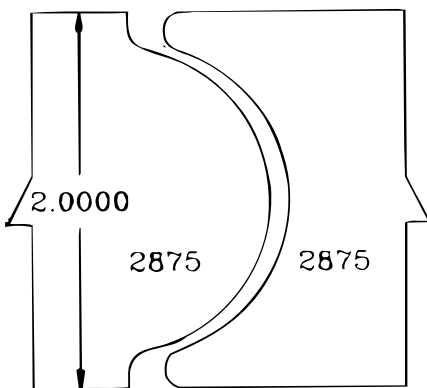
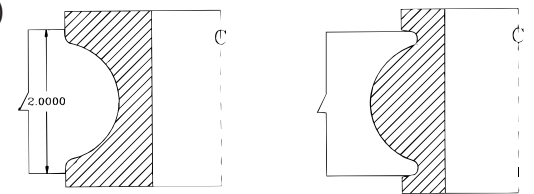
"B" OPTION: Clean up "X" area only. No eased corner.

"C" OPTION: Ease corner and clean up "X" & "Y" areas.

"D" OPTION: Clean up "Y" area only.

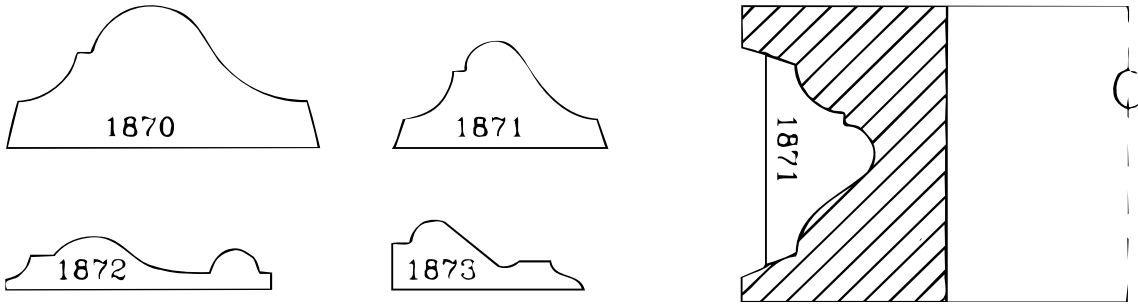
**CARBIDE TIPPED BALL AND SOCKET JOINT SHAPER CUTTER SET
(WOOD SAMPLE SHOWN)**

This type of joint is used in the Hot Tub and Tank Industry where you require a tight fit. It is adjustable from a parallel line to a maximum 15° obtuse angle. Set consists of 2 cutters.

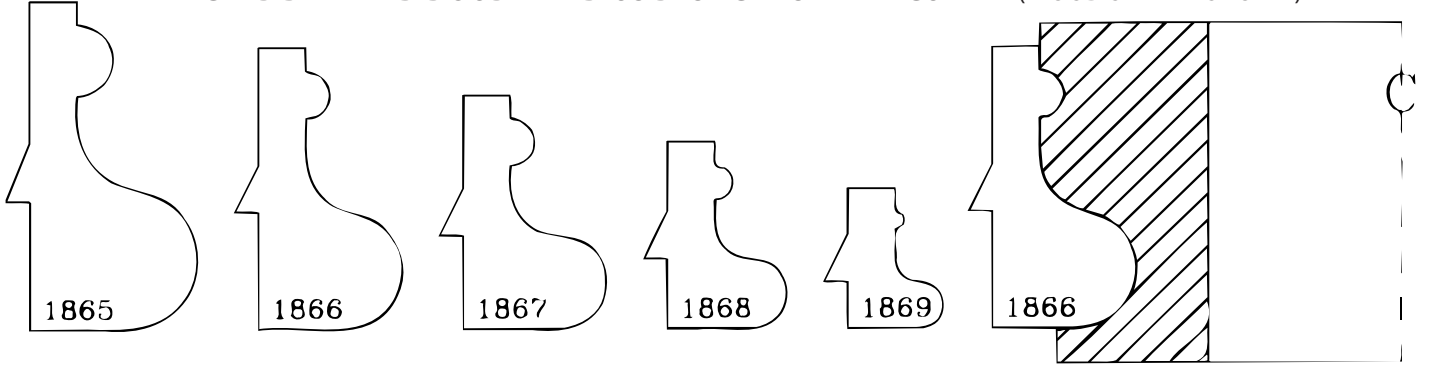


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

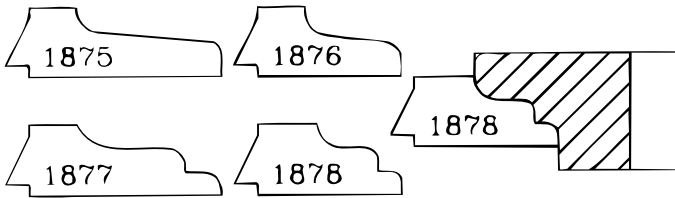
CARBIDE TIPPED PANEL MOULDING SHAPER CUTTERS (WOOD SAMPLE SHOWN)



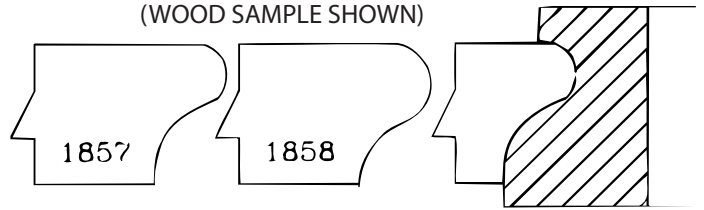
CARBIDE TIPPED DOUBLE RADIUS BASE CAP SHAPER CUTTER (WOOD SAMPLE SHOWN)



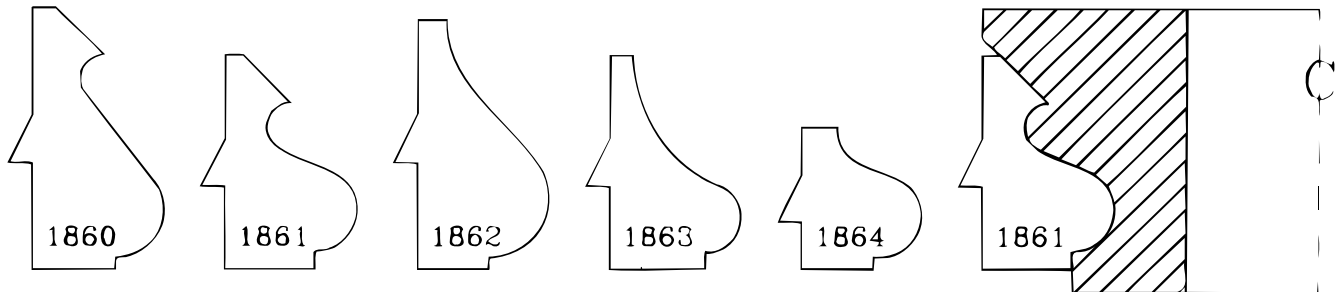
CARBIDE TIPPED CABINET CEILING MOULDING CUTTERS (WOOD SAMPLE SHOWN)



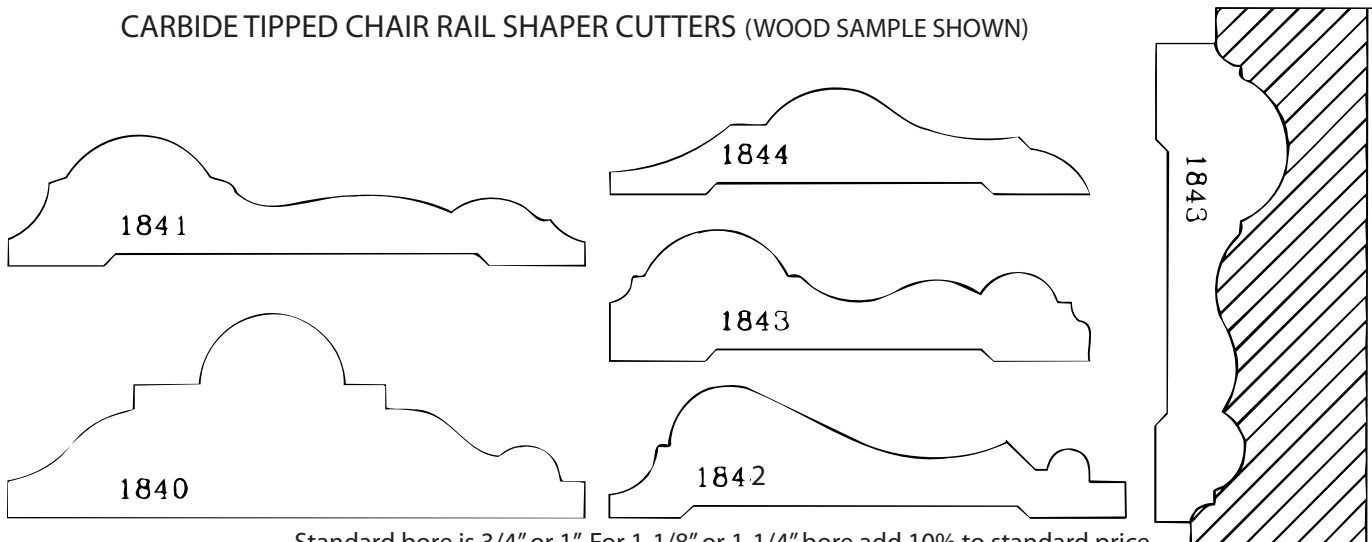
CARBIDE TIPPED WINDOW STOOL CUTTERS (WOOD SAMPLE SHOWN)



CARBIDE TIPPED BASE CAP SHAPER CUTTERS (WOOD SAMPLE SHOWN)



CARBIDE TIPPED CHAIR RAIL SHAPER CUTTERS (WOOD SAMPLE SHOWN)

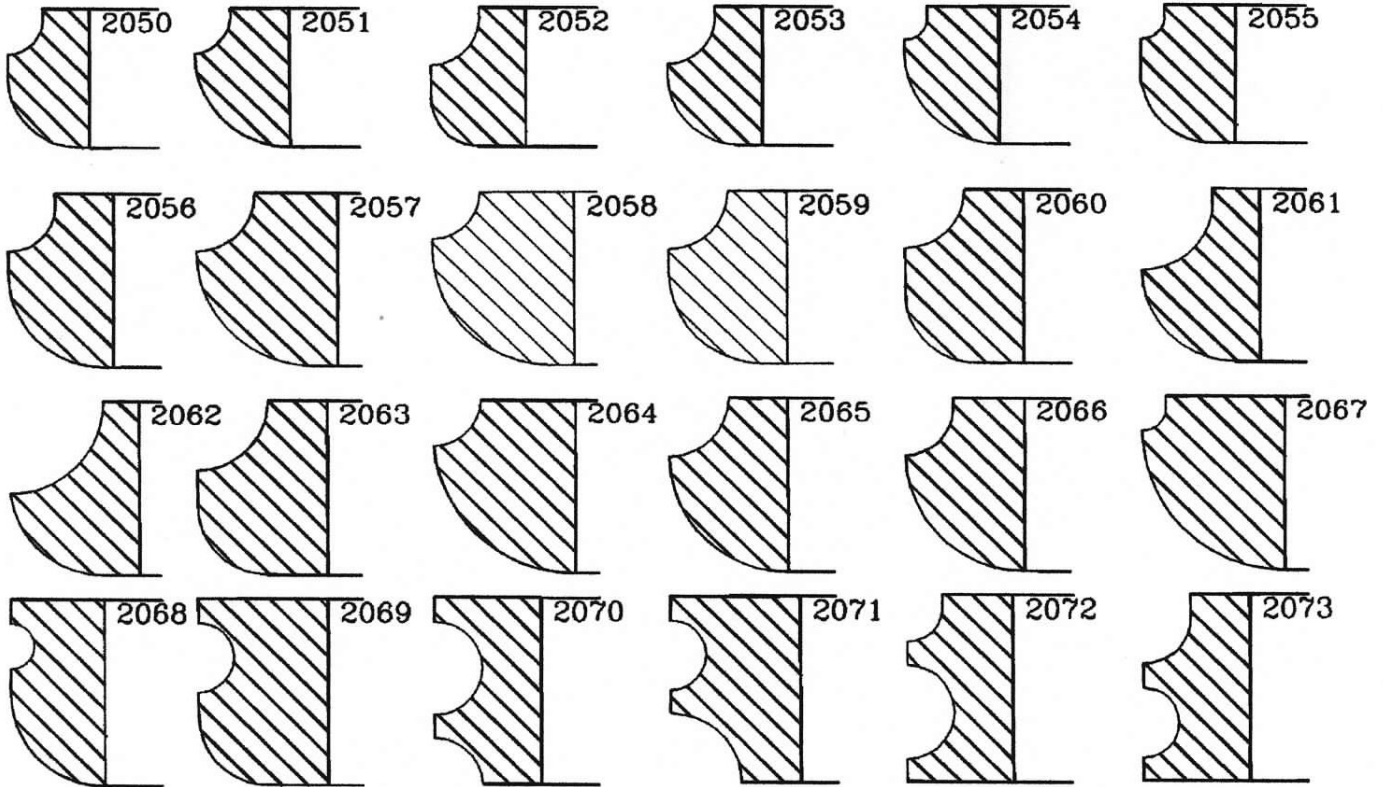


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

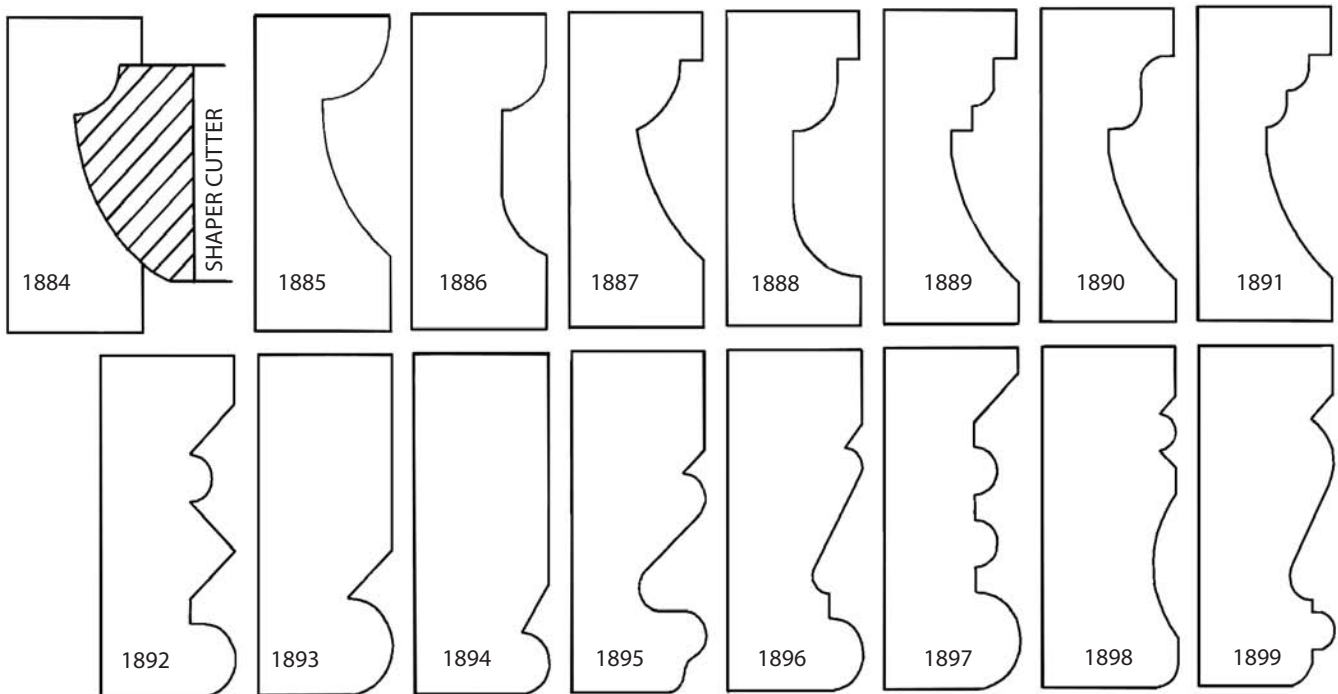
CARBIDE TIPPED COMB. RADIUS SHAPER CUTTERS (CUTTER SHOWN)

A shaper cutter you can choose that will have two sizes or types of radius that allows you to purchase one cutter for two operations.

TOOL NO.	RADIUS TOP-BOTTOM	TOOL NO.	RADIUS TOP-BOTTOM	TOOL NO.	RADIUS TOP-BOTTOM	TOOL NO.	RADIUS TOP-BOTTOM
2050	3/16-3/8	2056	1/4-1/2	2062	1/2-1/2	2068	1/8-1/2
2051	3/16-1/2	2057	5/16-5/8	2063	3/8-3/8	2069	3/16-3/8
2052	1/4-1/4	2058	1/4-5/8	2064	1/4-3/4	2070	1/4-1/8
2053	1/4-3/8	2059	5/16-1/2	2065	5/16-5/8	2071	3/16-3/8
2054	1/8-1/2	2060	5/16-3/8	2066	1/4-5/8	2072	3/16-1/4
2055	1/8-3/8	2061	3/8-1/2	2067	1/8-3/4	2073	1/4-3/16



CARBIDE TIPPED VERTICAL RUN RAISED PANEL SHAPER CUTTER

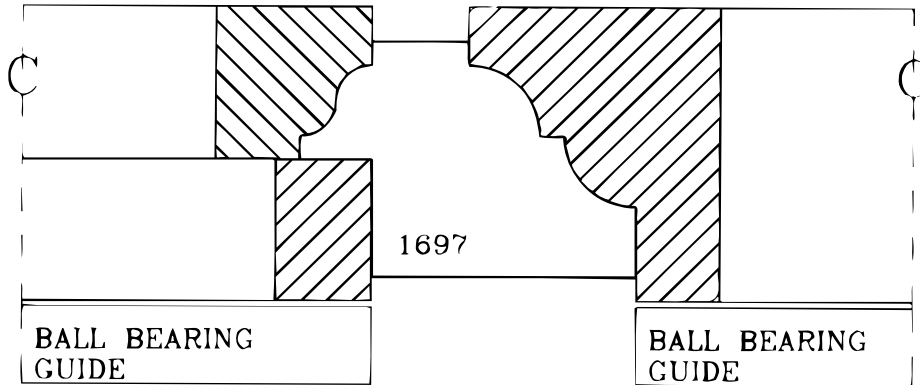


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

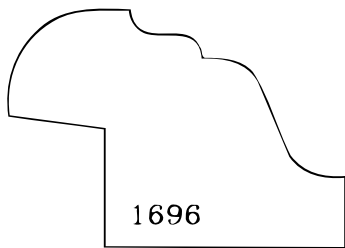
CARBIDE TIPPED CURVED INSET DOOR MOULDING CUTTER SETS

(WOOD SAMPLES SHOWN)

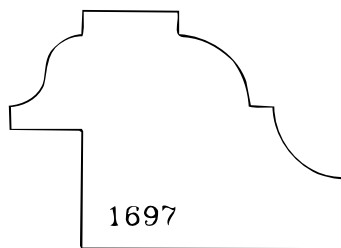
This style of moulding is usually applied to a passage door for decorative purposes. This moulding must be mounted on a template board, and run with a ball-bearing guide, and the moulding must be held down securely with some type of clamping fixture. It is also available for a curved inset glass application. Extreme care must be taken when shaping these narrow pieces. Send your sample or drawing if pattern below doesn't meet your specifications.



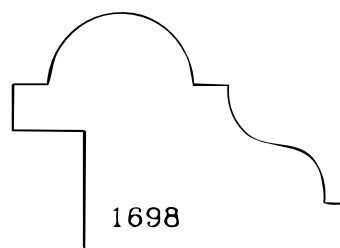
Standard set consists of 3 cutters and 2 ball bearing guides. Insert glass set #1699 consists of 4 cutters and 2 ball bearing guides.



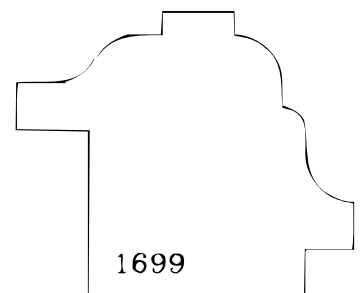
1696



1697

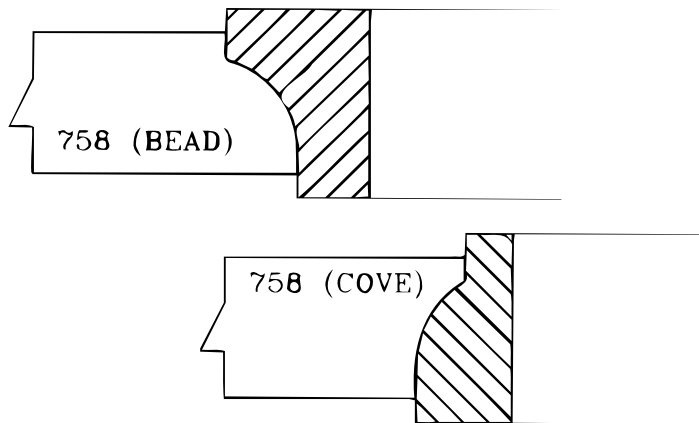


1698

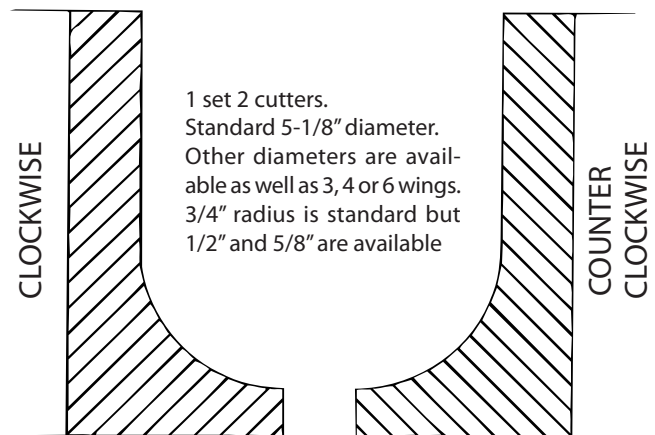


1699







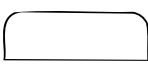
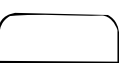
#758 CARBIDE TIPPED MATCHED DROP LEAF TABLE SET (1 SET 2 CUTTERS)

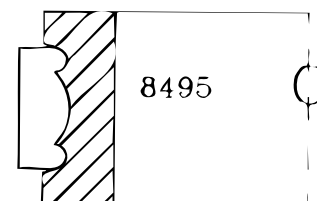


#704 CARBIDE TIPPED COUNTERTOP RADIUS CUTTERS



CARBIDE TIPPED SHELF EDGE / SCREEN MOULDING SHAPER CUTTERS

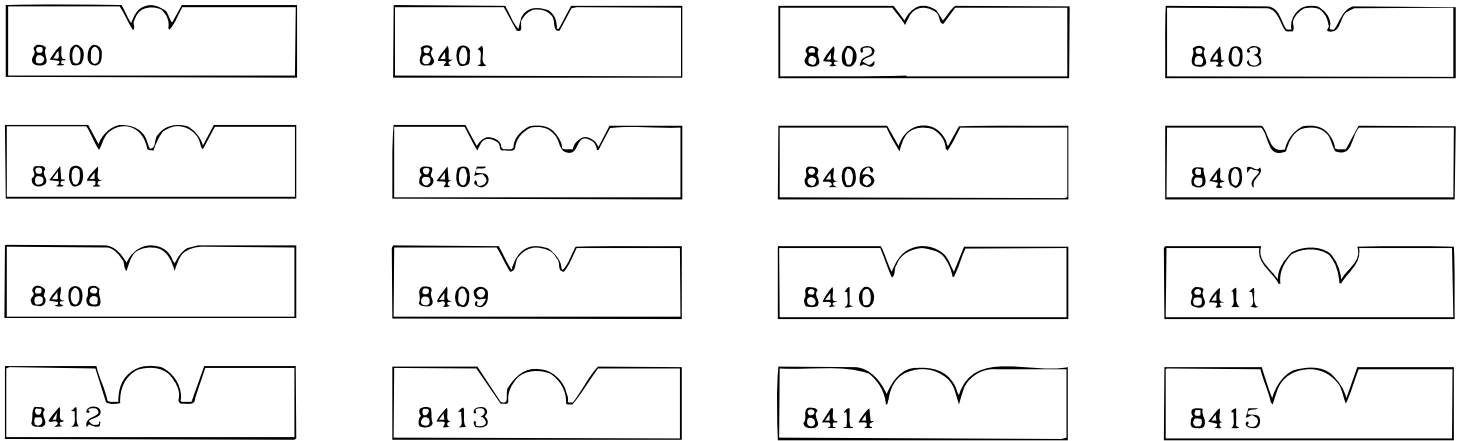
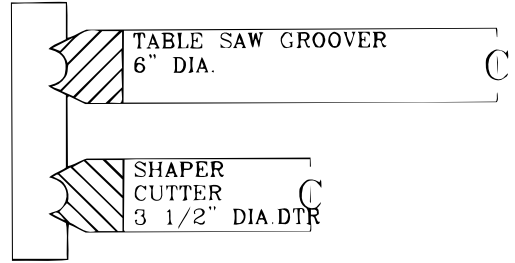
- | 3/4" WIDE STOCK | 5/8" WIDE STOCK |
|--|--|
| 8490  | 8494  |
| 8491  | 8495  |
| 8492  | 8496  |
| 8493  | 8497  |



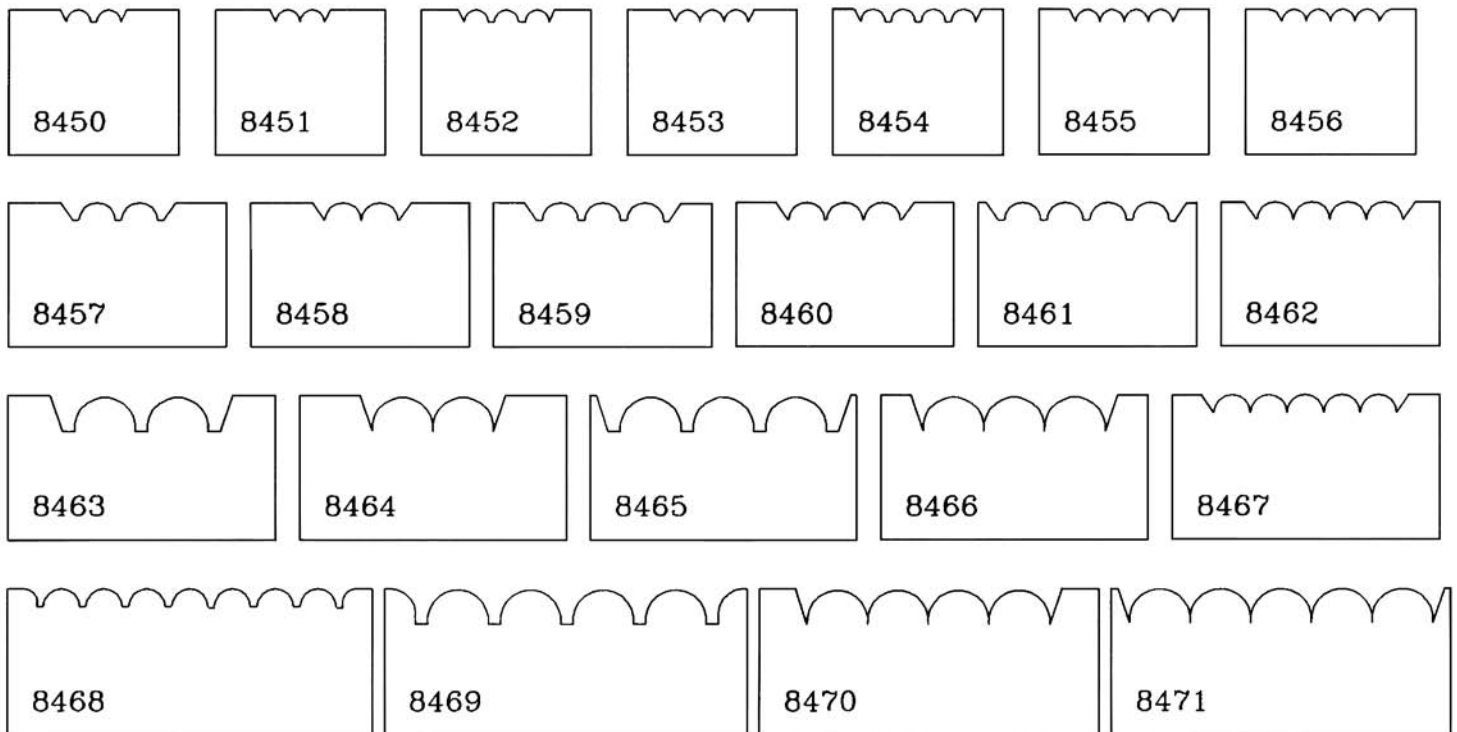
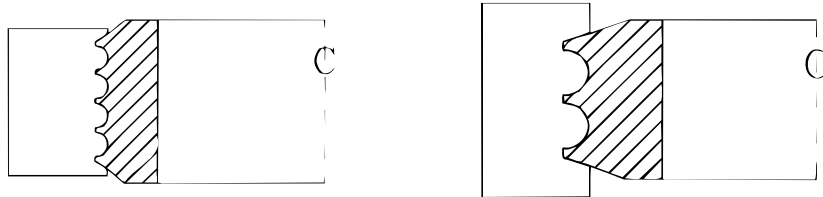
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED WAINSCOT "V" GROOVE SHAPER CUTTER (WOOD SAMPLES SHOWN)

Can be run on a shaper cutter or a table saw. If to be run on a table with a 6" Dia. Add -6 to tool number.

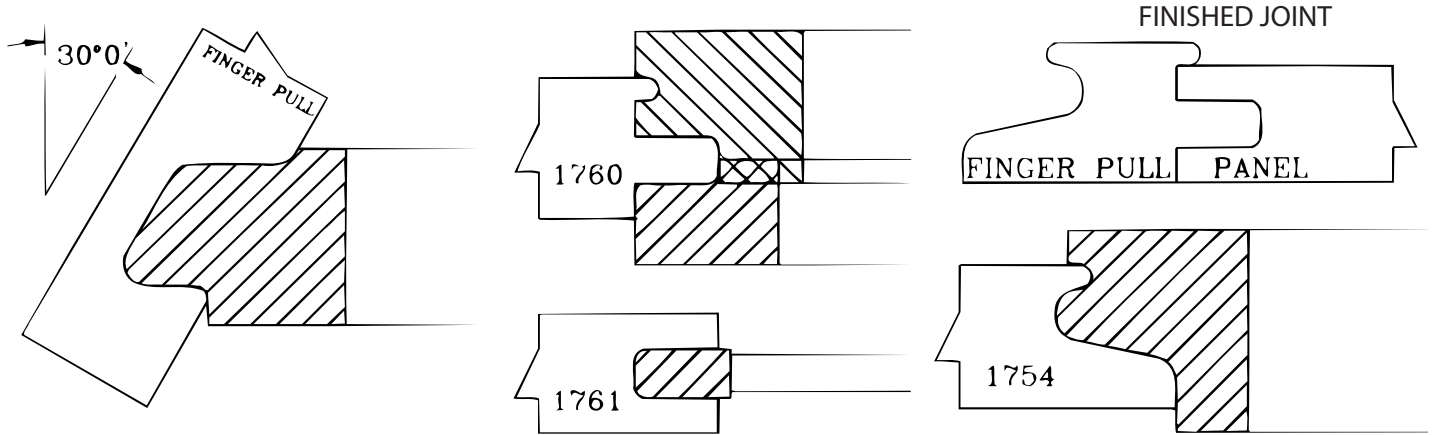


CARBIDE TIPPED MULTI BEAD SHAPER CUTTER (WOOD SAMPLES SHOWN)

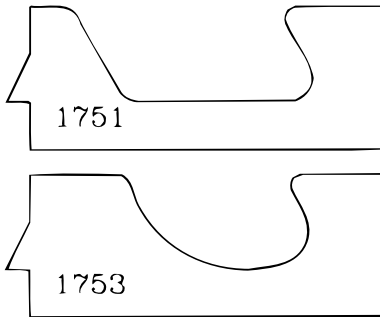
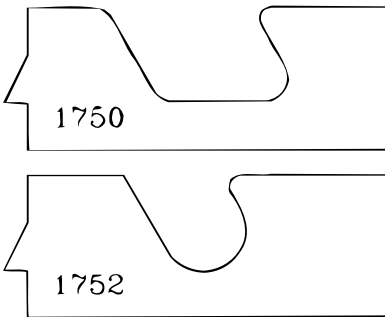


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

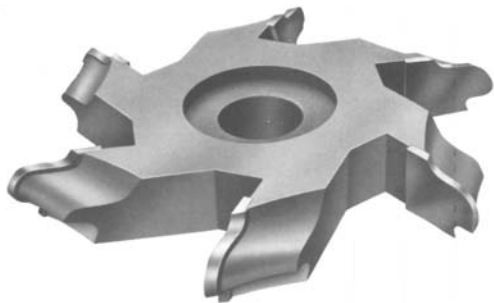
CARBIDE TIPPED EUROPEAN STYLE CONTINUOUS FINGER-PULL AND SPECIAL TONGUE AND GROOVE CUTTER SET (WOOD SAMPLES SHOWN)



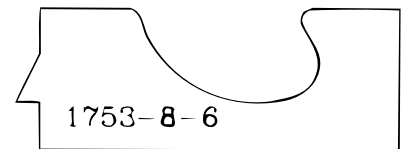
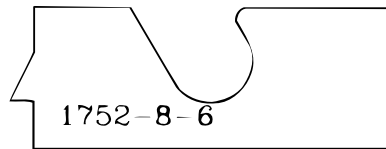
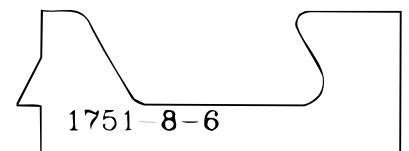
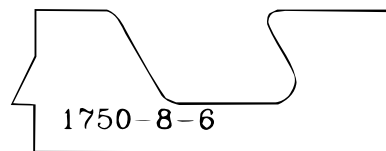
TO SHAPE THESE PATTERNS WOOD MUST BE RUN THROUGH SHAPER AT 30° ANGLE



THE STYLE BELOW TO BE RUN ON TILTING ARBOR TABLE SAW, 8" DIA. WITH 6 TEETH



TILT ARBOR ON TABLE SAW TO GET DESIRED CUT

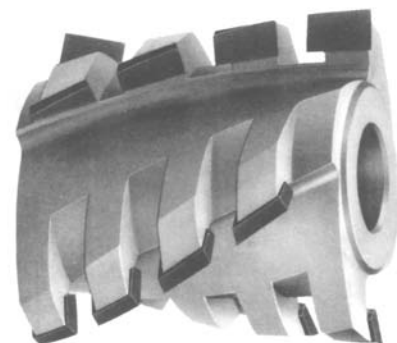


Send us your pattern or sketch and we will quote on

CARBIDE TIPPED PROFILE SHAPER HEAD

STRAIGHT - STAGGERED TOOTH					
TOOL NO.	DIA.	NO. OF WINGS	NO. OF TEETH	CUTTING LENGTH	BORE
9803	2-1/2	4	16	6	1"
9804	4	4	16	4	1-1/4
9805	4	4	16	5	1-1/4
9806	4	4	16	6	1-1/4

SPIRAL - STAGGERED TOOTH					
TOOL NO.	DIA.	NO. OF WINGS	NO. OF TEETH	CUTTING LENGTH	BORE
9810	4	4	16	4	1-1/4
9811	4	4	16	5	1-1/4
9812	4	4	16	6	1-1/4



CARBIDE TIPPED LOCK MITER SET

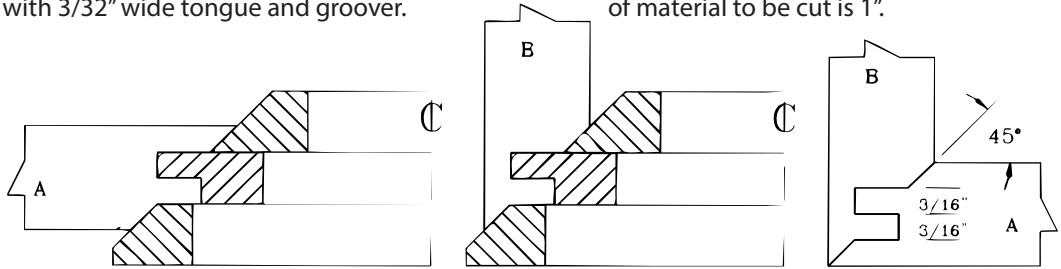
Tool No. 747 as shown up to 1" material.

Tool No. 748 for 1/2" material with 1/8" wide tongue and groove.

Tool No. 749 for 3/8" material with 3/32" wide tongue and groove.

No. A is run flat on shaper table. No. B is run one end against the shaper fence. Maximum width of material to be cut is 1".

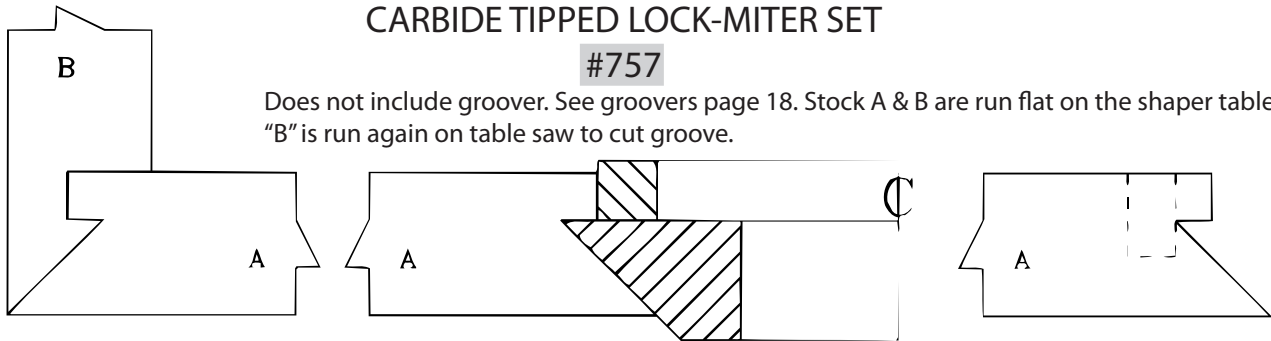
When properly positioned, this cutter set will cut No. A and No. B matching joints without changing the vertical adjustment of the cutter on the shaper.



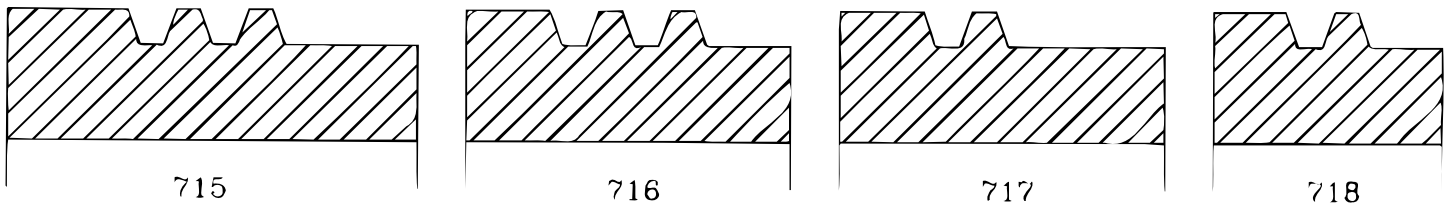
CARBIDE TIPPED LOCK-MITER SET

#757

Does not include groove. See groovers page 18. Stock A & B are run flat on the shaper table. Part "B" is run again on table saw to cut groove.



CARBIDE TIPPED REVERSIBLE GLUE JOINT CUTTERS (CUTTER SHOWN)

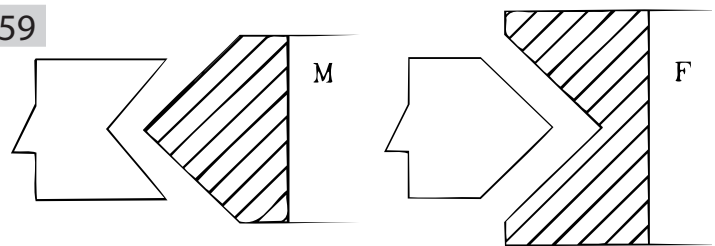


CARBIDE TIPPED EDGE BAND SHAPER CUTTER SET

#759

Each set consist of 2 cutters.
Style M and F.
Separate cutters are available.
See price list.

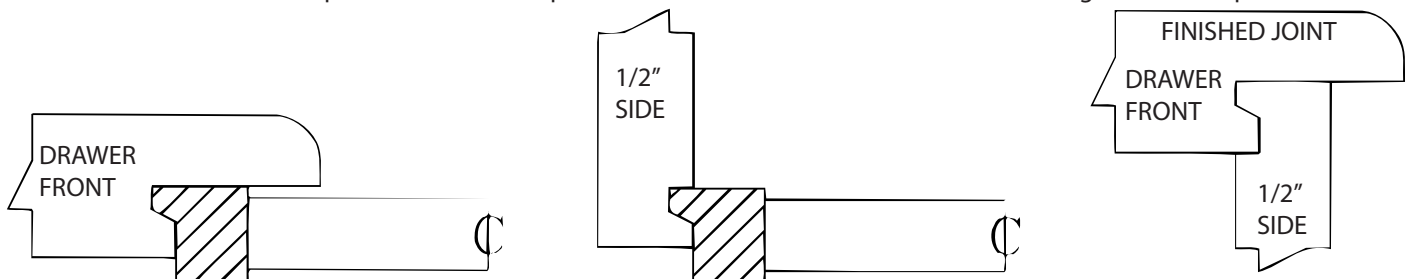
3/4" - 7/8" THICK
MATERIAL



CARBIDE TIPPED DRAWER LOCK CUTTER

#705

Run drawer face flat on the shaper table over the top of the cutter and run the drawer side on end against the shaper fence.



STANDARD DIAMETERS

1/2" bore - 3-1/2 diameter
3/4" bore - 3-1/2 diameter
1" bore - 4" diameter
1-1/8" bore - 4" diameter
1-1/4" bore - 4" diameter
Other diameters are available.

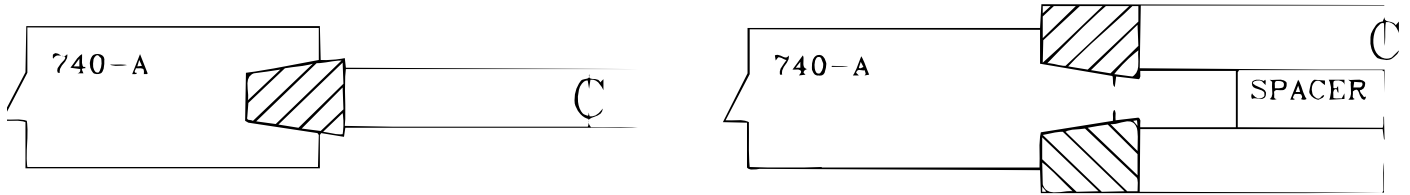
Standard diameters are for use with drawers using 1/2" thick drawer sides. For 3/4" drawer side material add 1/2" to standard diameter. If 1/2" side mounted drawers slides are used add 1" diameter.

CARBIDE TIPPED WEDGE TONGUE AND GROOVE CUTTER

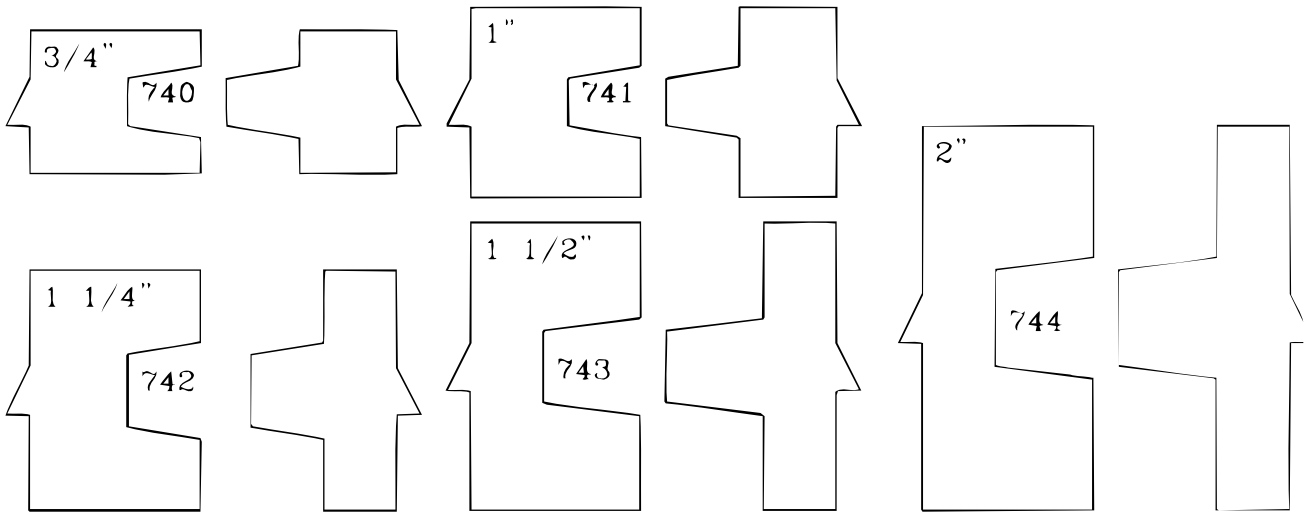
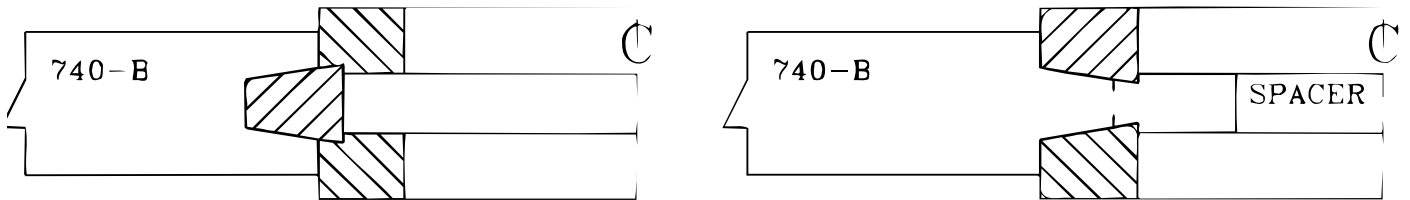
(WOOD SAMPLE SHOWN)

When Ordering State:

SET "A": Consists of 3 cutters and 1 spacer. 1 cutter to cut groove only, and 2 cutters and 1 spacer to cut tongue.



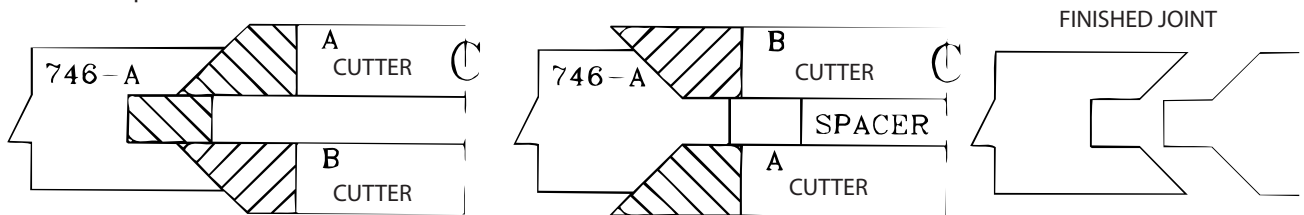
SET "B": Consists of 5 cutters and 1 spacer. 2 cutters to cut groove and trim material and 3 cutters and 1 spacer to cut tongue.



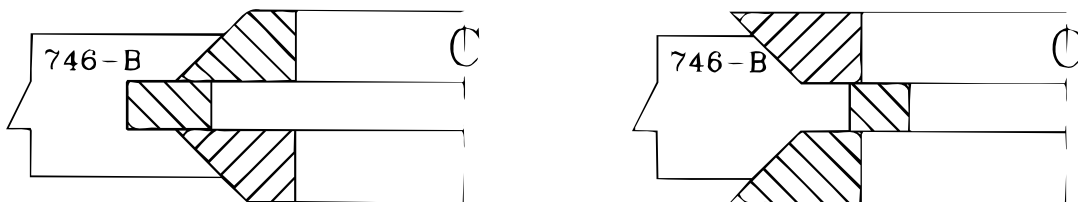
#746 CARBIDE TIPPED MALE AND FEMALE EDGE BAND SHAPER CUTTER SET

(WOOD SAMPLE SHOWN)

Set "A": consists of 3 cutters and 1 spacer. One 1/4" wide cutter and two 3/8" wide cutters to cut female cut and the same two 3/8" wide cutters with spacer to make male cut.



Set "B": Consists of six cutters; three cutters to make female cut and three cutters to make male cut.

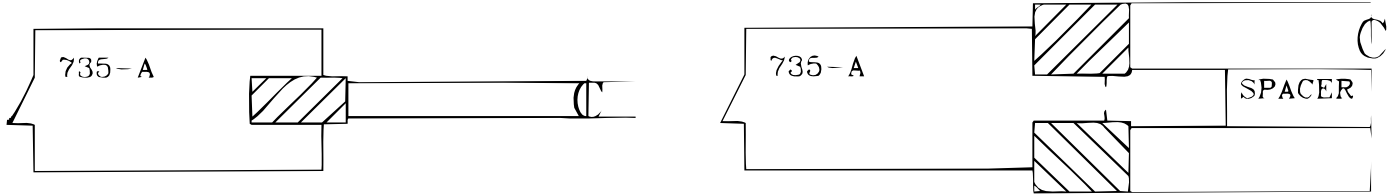


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

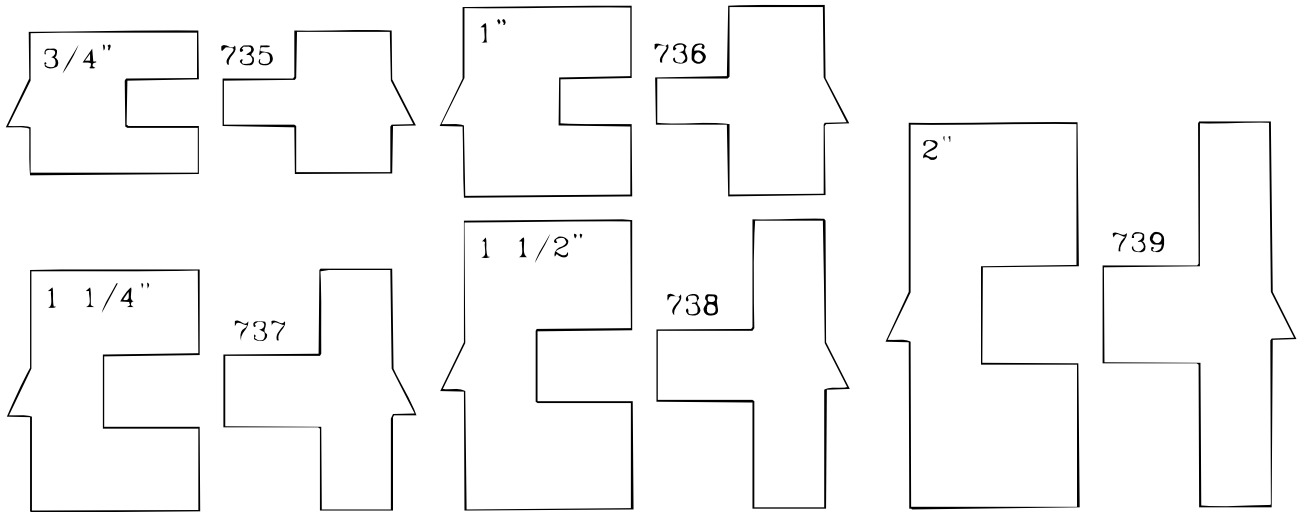
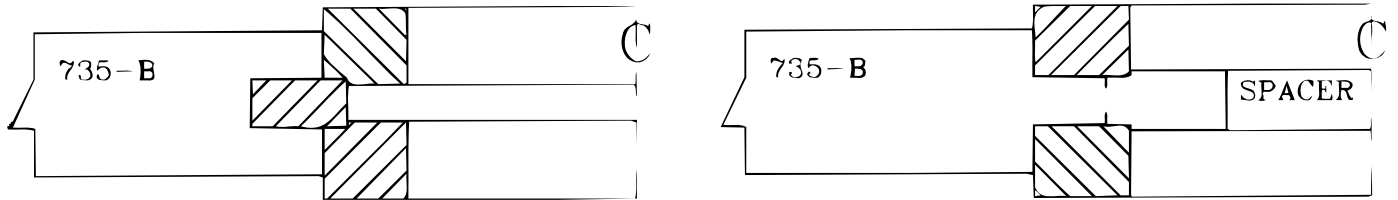
CARBIDE TIPPED TONGUE AND GROOVER CUTTER (WOOD SAMPLE SHOWN)

WHEN ORDERING STATE:

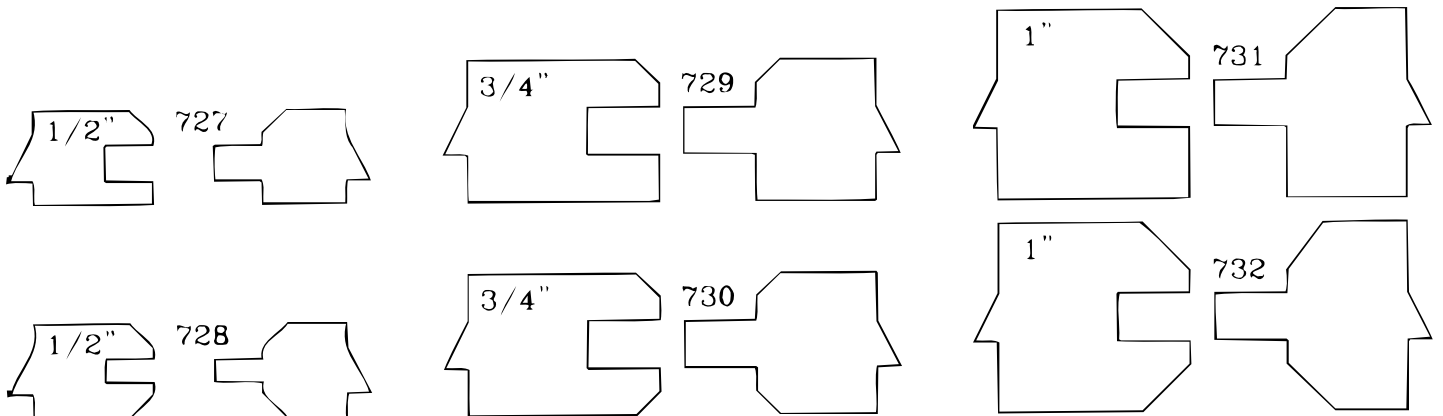
Set A - Consists of 3 cutters and 1 spacer. 1 cutter to cut groove only, and 2 cutters and 1 spacer to cut tongue.



Set B - Consists of 5 cutters and 1 spacer. 3 cutters to cut groove and trim material and 2 cutters and 1 spacer to cut tongue.
For Shaker Style Door see Page _____.



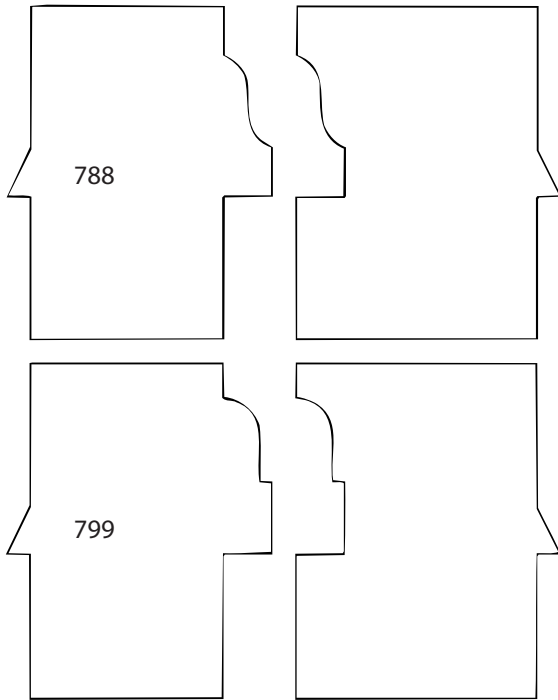
CARBIDE TIPPED "V" PANELING CUTTERS (WOOD SAMPLE SHOWN)



Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED WINDOW SASH CUTTERS

Actual Size of Wood Sash Shown

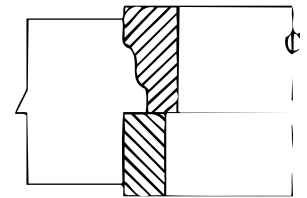
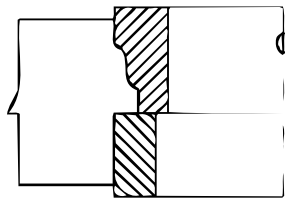


Tool No. 788 Set consists of 4 cutters, each 1/2 set consists of 2 cutters.
 Tool No. 788-A Set consists of 3 cutters - See sketch on side.

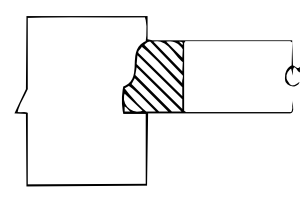
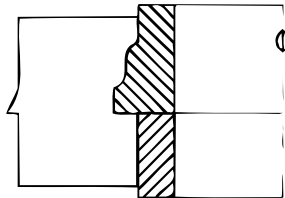
Tool No. 789 Set consists of 4 cutters, each 1/2 set consists of 2 cutters.
 Tool No. 789-A Set consists of 3 cutters - See sketch on side.

Set A - 3 cutters
 Depth of coping cut will be determined by operator and fence adjustment.

Regular Set - 4 Cutters



50% of Actual Size



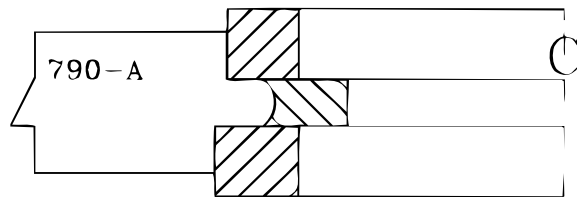
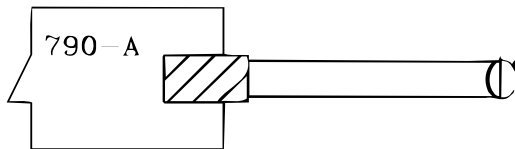
Other designs and patterns are available.
 Send us sample or accurate drawing.

CARBIDE TIPPED HARDWOOD FLOORING CUTTER SETS

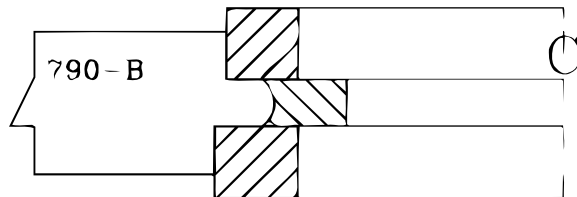
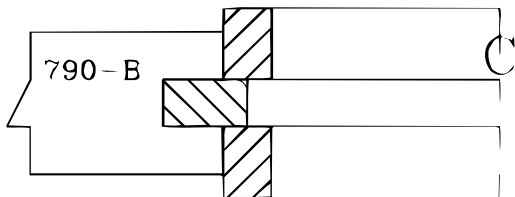
FOR 3/4" - 7/8" STOCK (WOOD SAMPLES SHOWN)

All sets are designed to have a 1/16" space on back side. Tongue & groove is a loose fit, max. 1/64" gap.

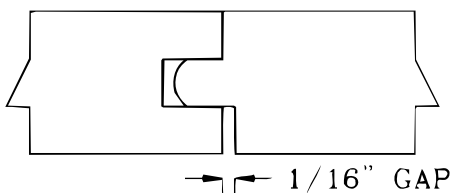
Set "A" consists of 4 cutters - 1 cutter to cut groove and 3 cutters to cut tongue.



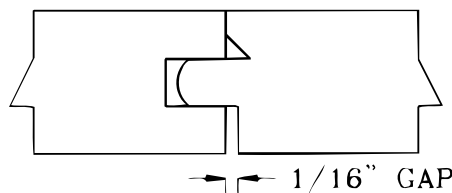
Set "B" consists of 6 cutters - 3 cutters to cut groove and 3 cutters to cut tongue.



Finished Joint #790



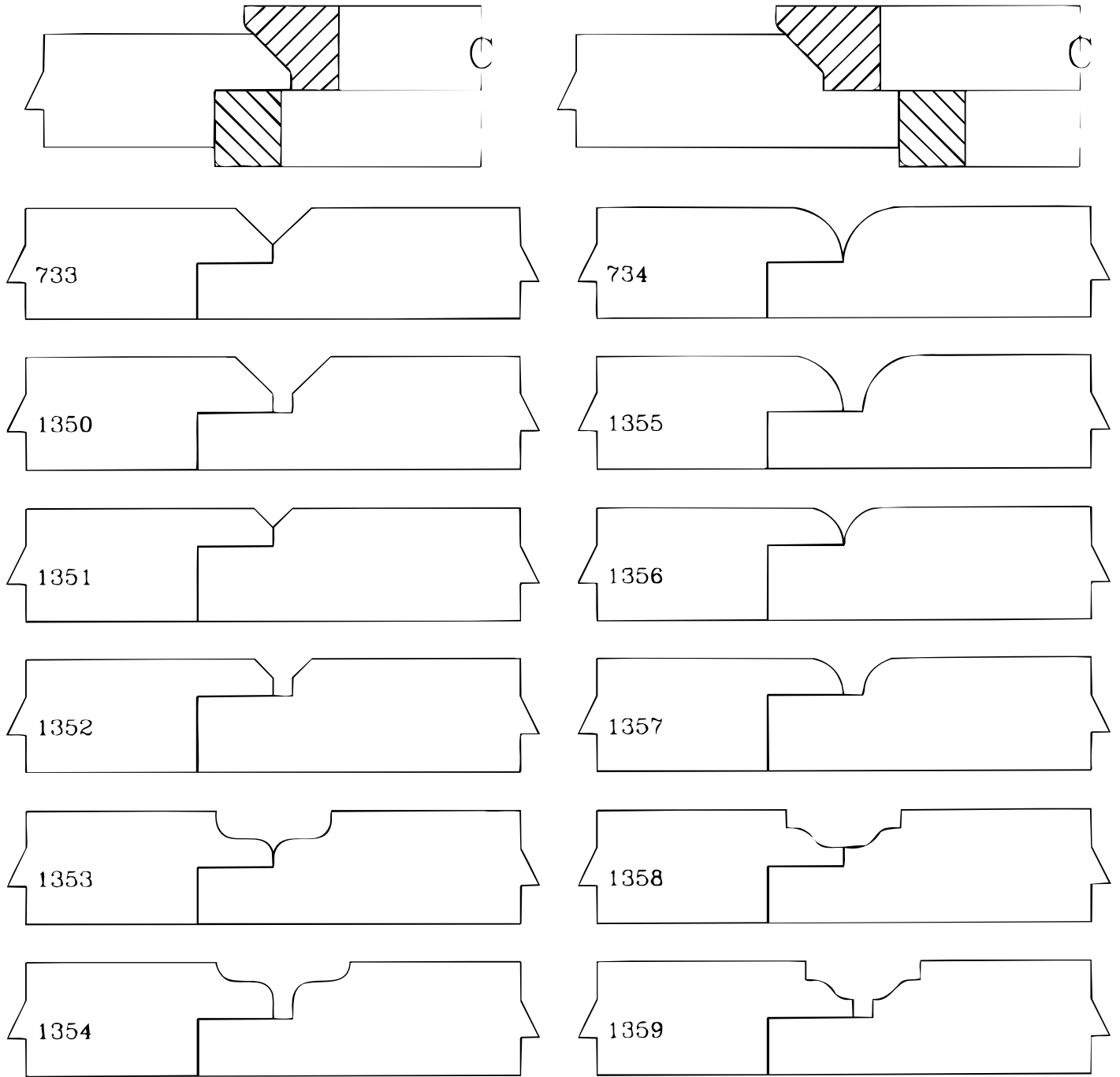
Finished Joint #791 with nail cavity



Tool No.	No. of Cutters
790-A	4
790-B	6
791-A	4
791-B	6

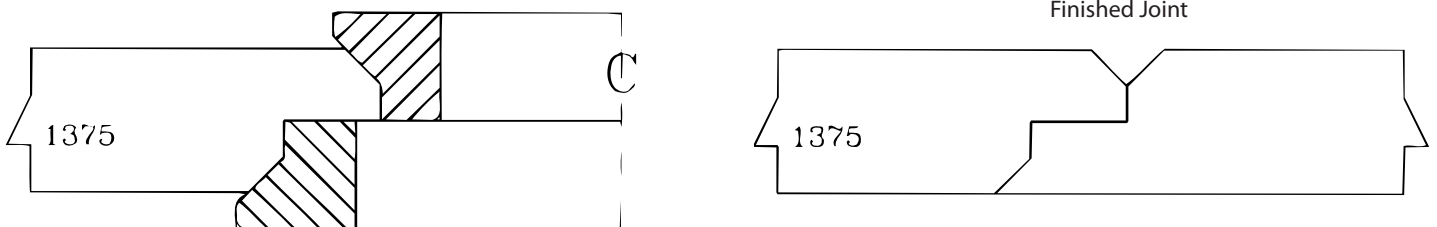
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED "SHIPLAP" SHAPER CUTTER (WOOD SAMPLES SHOWN)
 Each set consists of 4 cutters. Each 1/2 set consists of 2 cutters that are pinned together.



CARBIDE TIPPED DOUBLE SIDED "V" LAP SHAPER CUTTER FOR 3/4" STOCK
TOOL NO. 1375

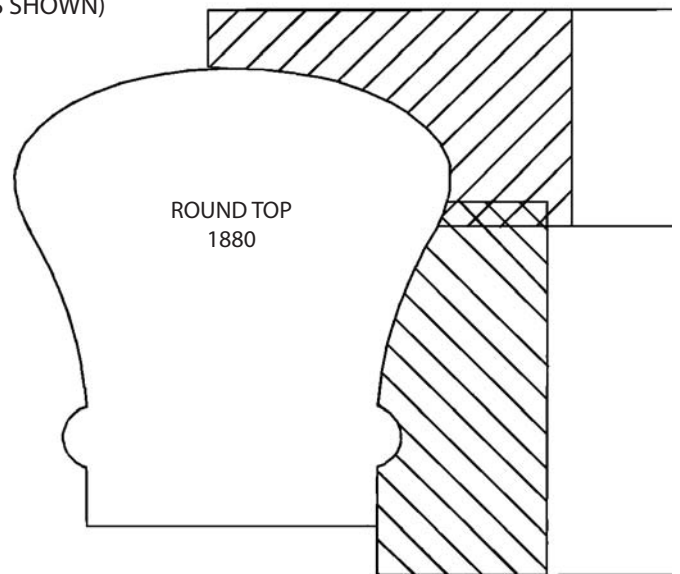
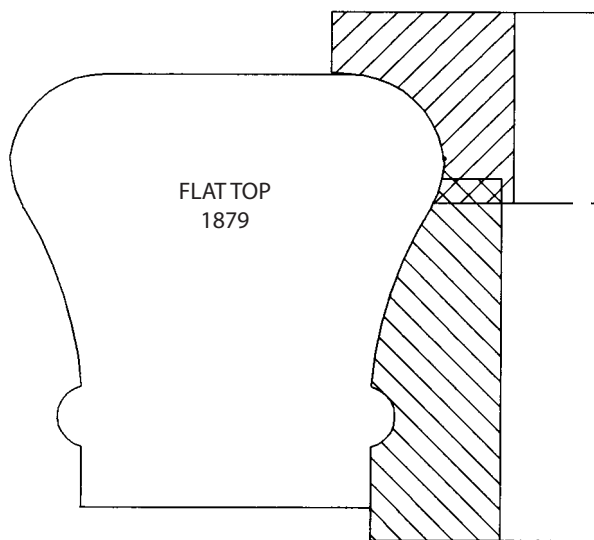
The wood is made with 1 set of 2 cutters. All the material is run through the shaper the same way. Then flipping over one piece you get a perfect fitting joint.



Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

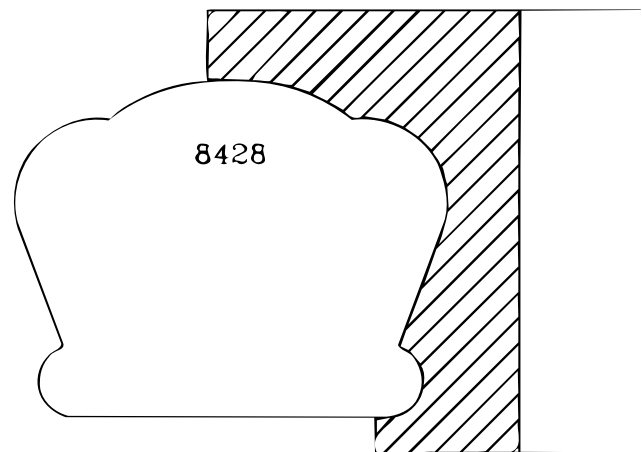
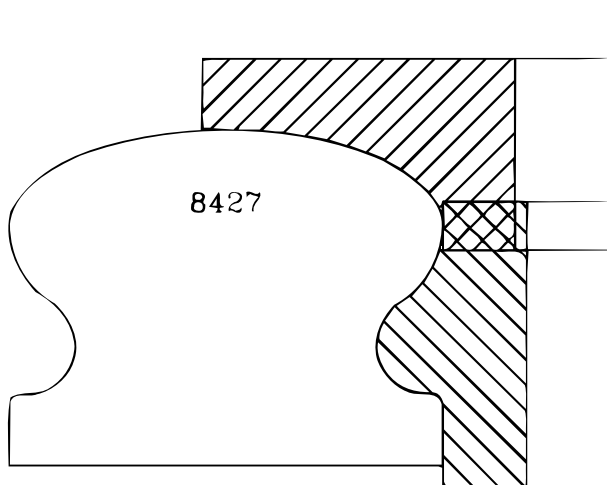
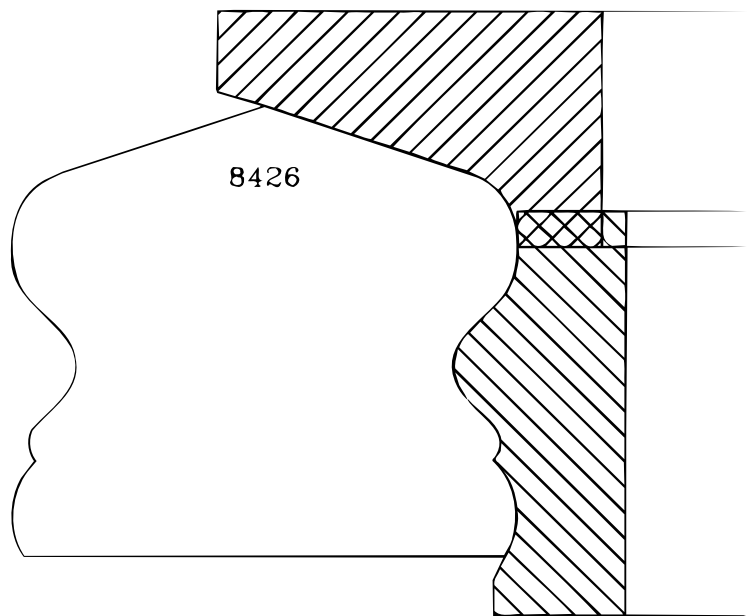
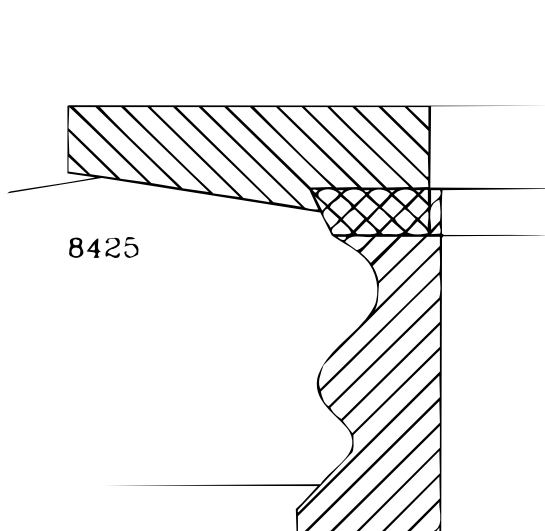
CARBIDE TIPPED HAND RAIL SHAPER CUTTERS

(WOOD SAMPLES SHOWN)



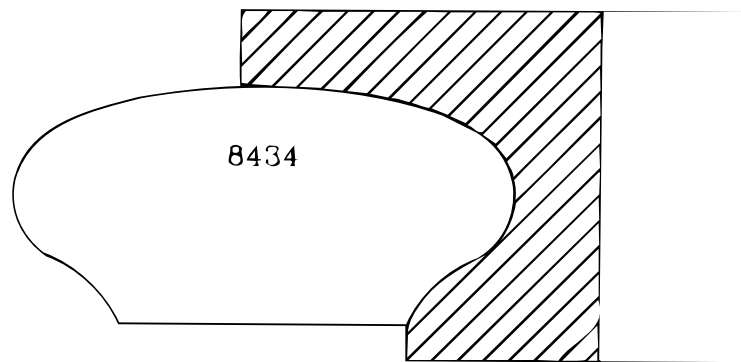
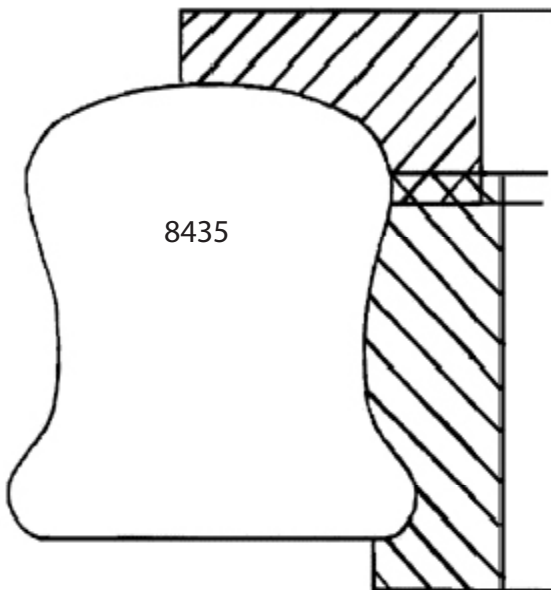
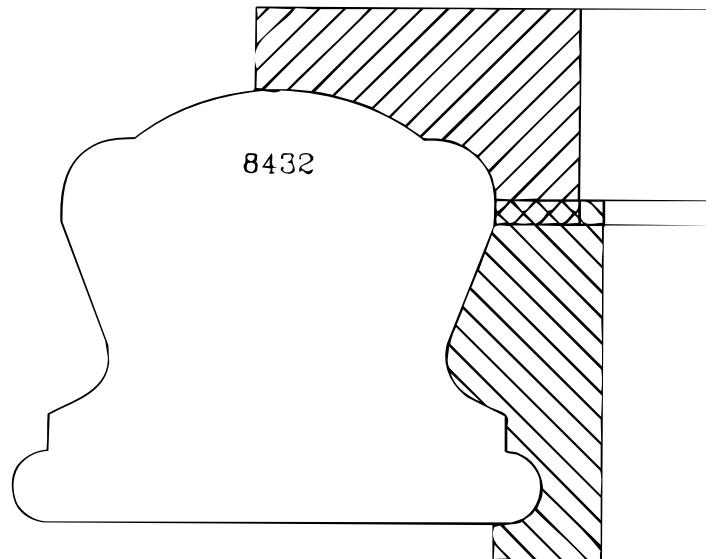
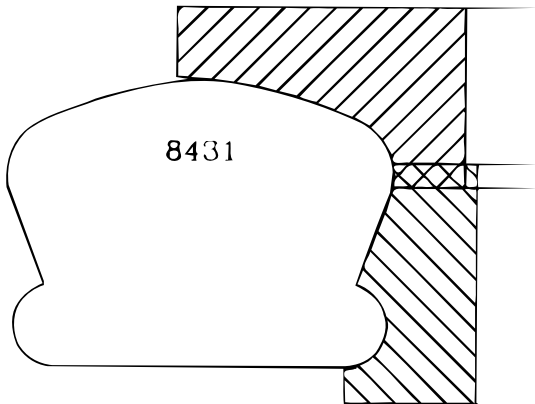
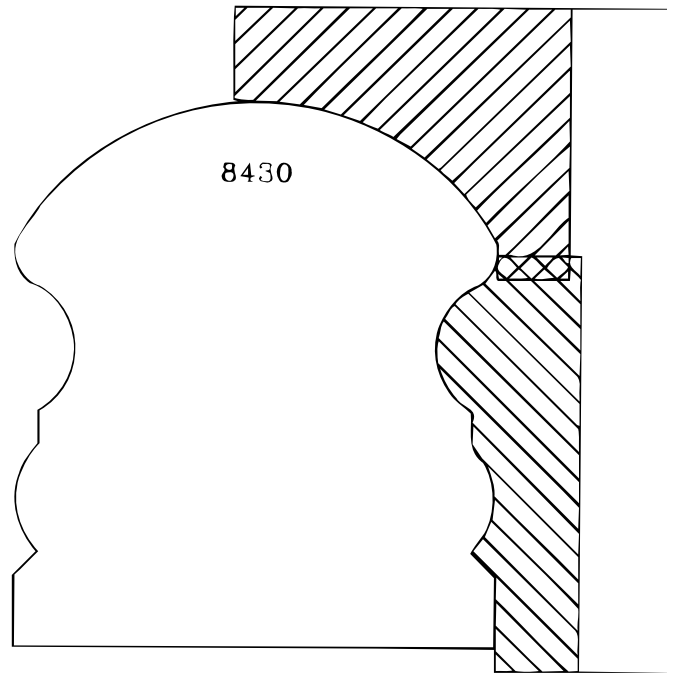
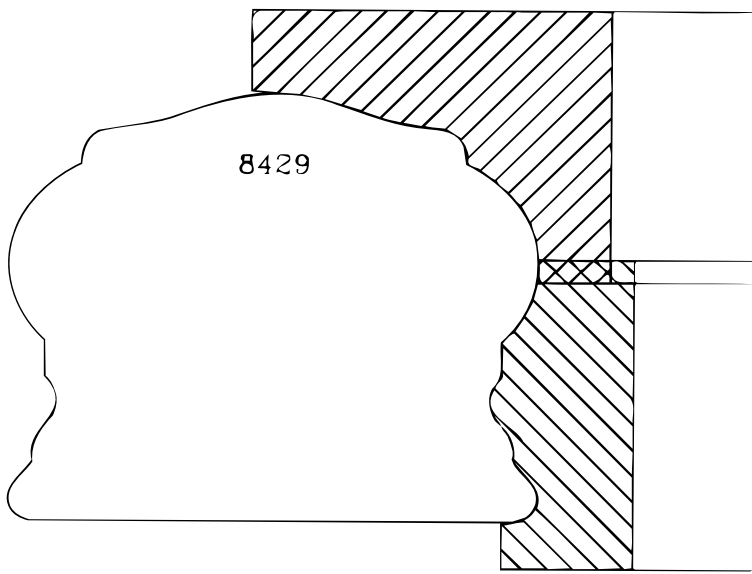
CARBIDE TIPPED ROUTER BITS TO MAKE STAIR PARTS ARE AVAILABLE FOR #1879 & #1880
RAIL RISERS, TURNOUTS, VOLUTES - See page 96.

Other router bits for other pattern are also available on special request.



Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

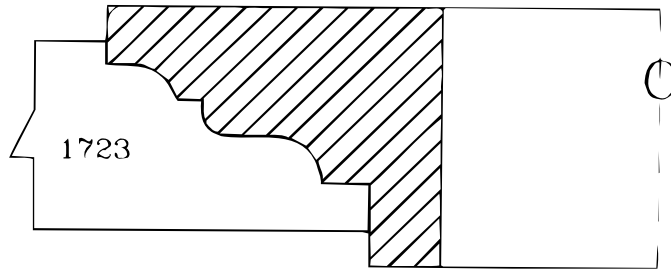
CARBIDE TIPPED HAND RAIL SHAPER CUTTERS (Cont.)
(WOOD SAMPLE SHOWN)



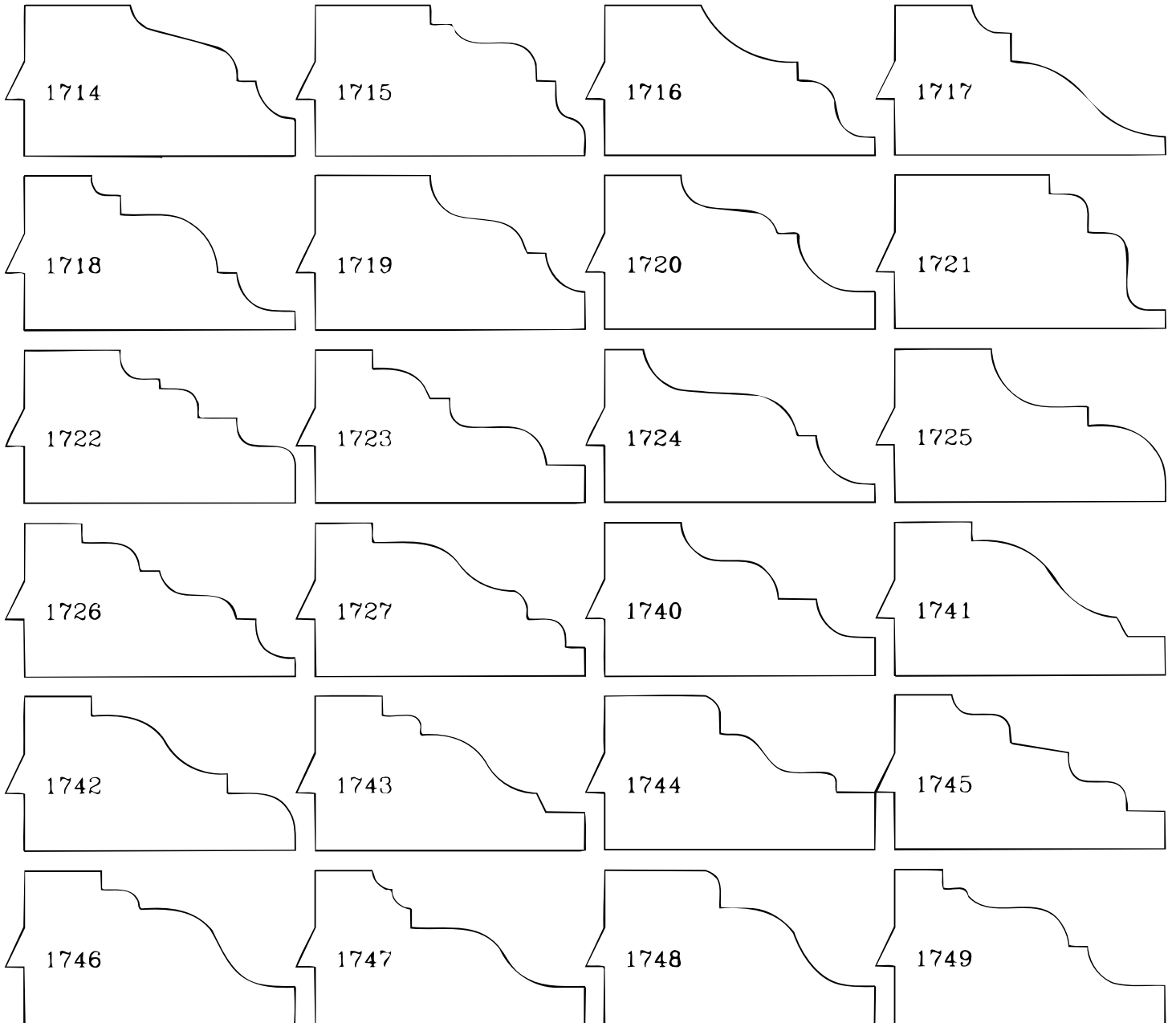
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DETAIL SHAPER CUTTERS

FOR 1" STOCK
(WOOD SAMPLES SHOWN)



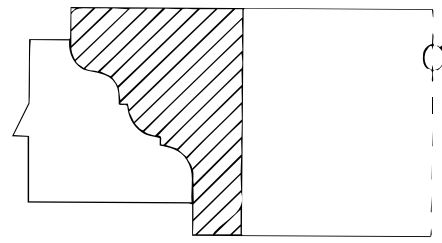
1" MATERIAL



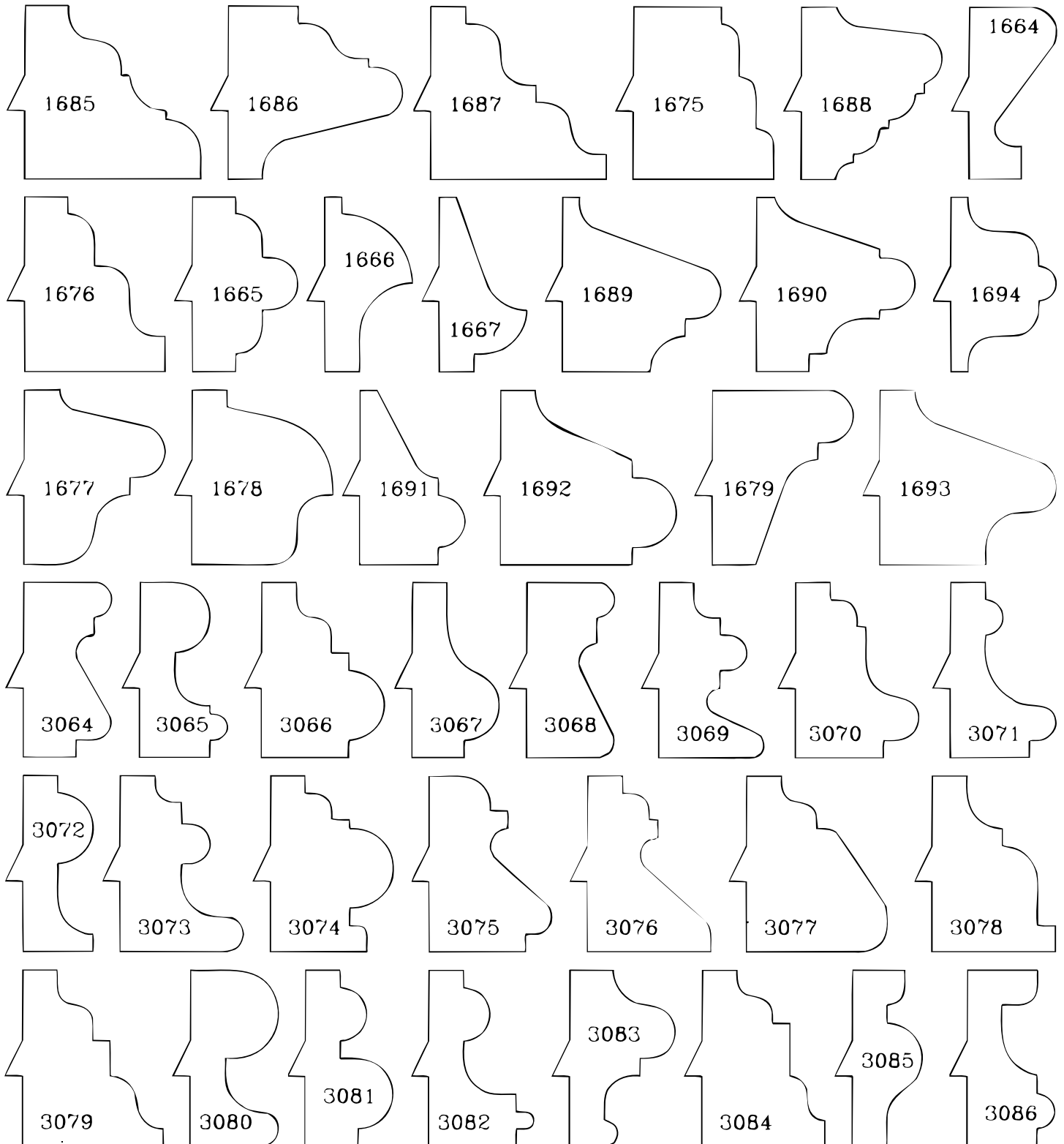
Standard bore is 3/4" or 1". For 1-1/8" to 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DETAIL SHAPER CUTTER

FOR 1-1/4" STOCK
(WOOD SAMPLE SHOWN)



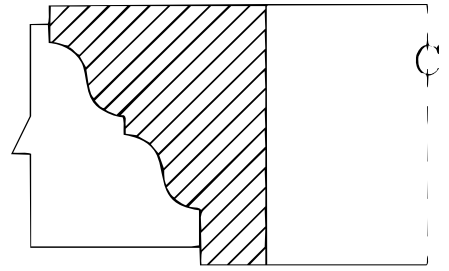
1-1/4" MATERIAL



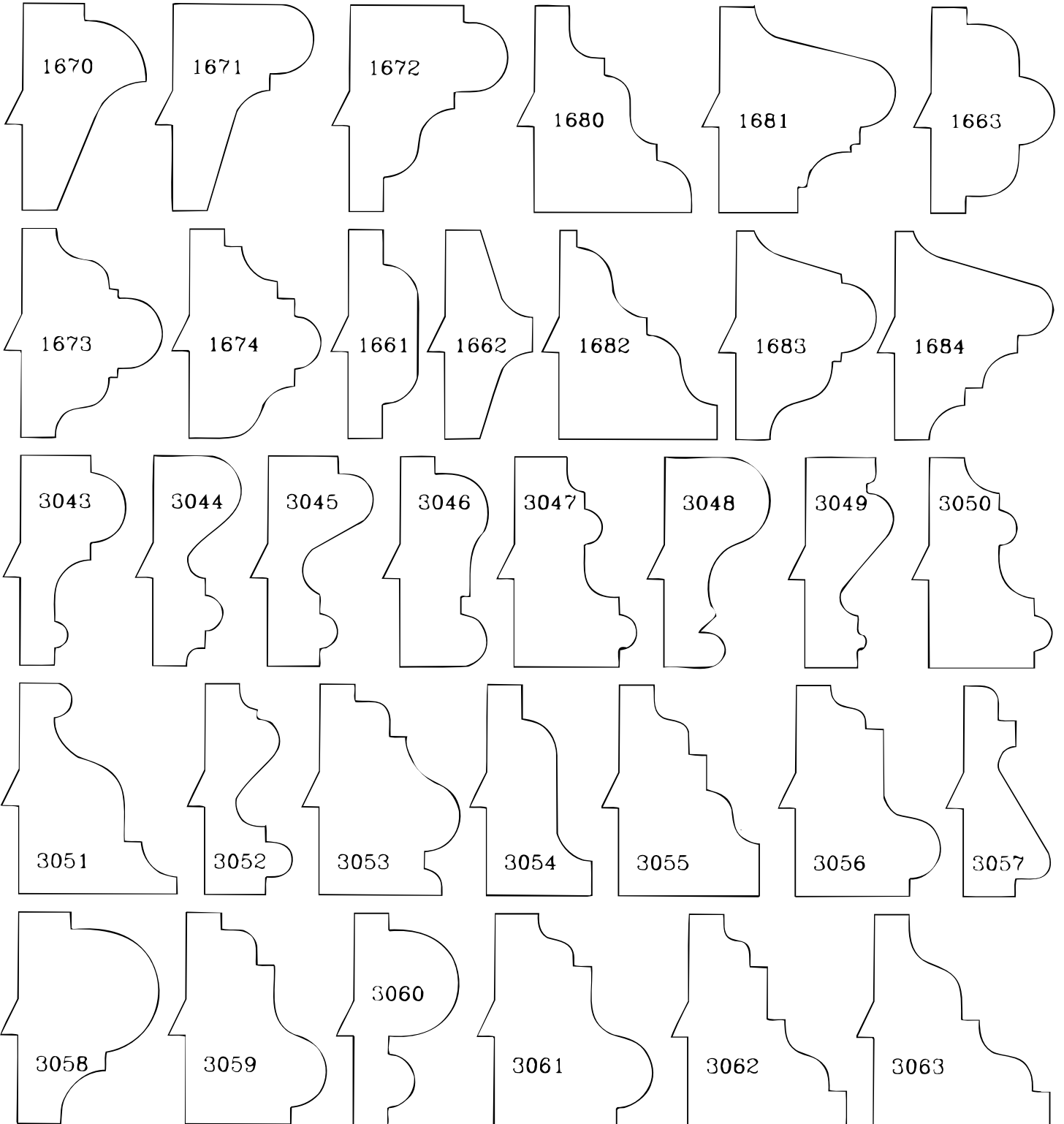
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DETAIL SHAPER CUTTERS

FOR 1-1/2" STOCK
(WOOD SAMPLE SHOWN)



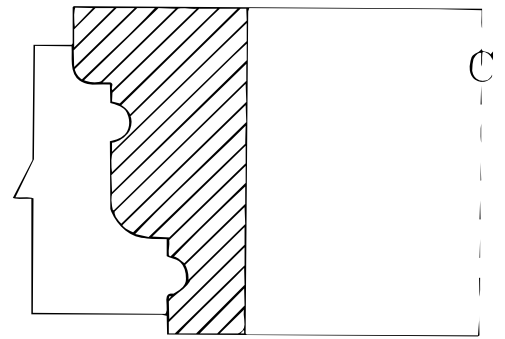
1-1/2" MATERIAL



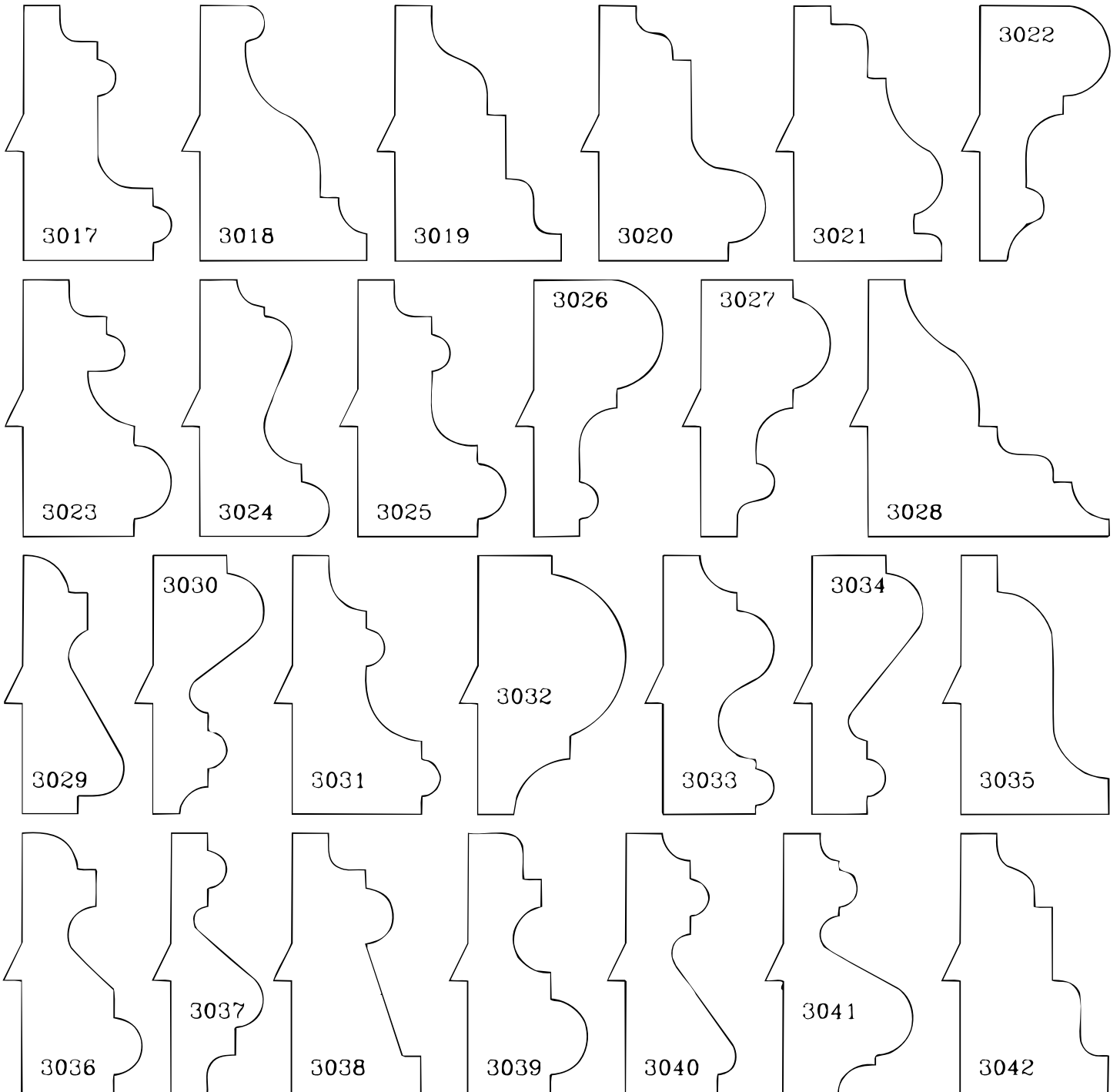
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DETAIL SHAPER CUTTERS

FOR 1-3/4" STOCK
(WOOD SAMPLE SHOWN)



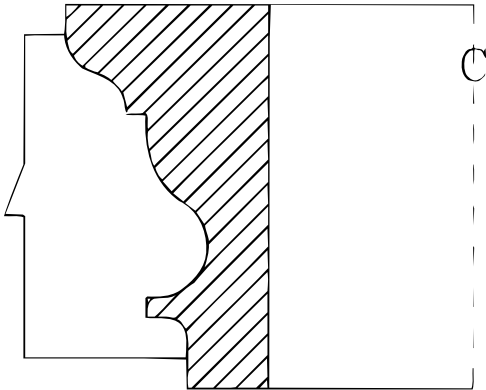
1-3/4" MATERIAL



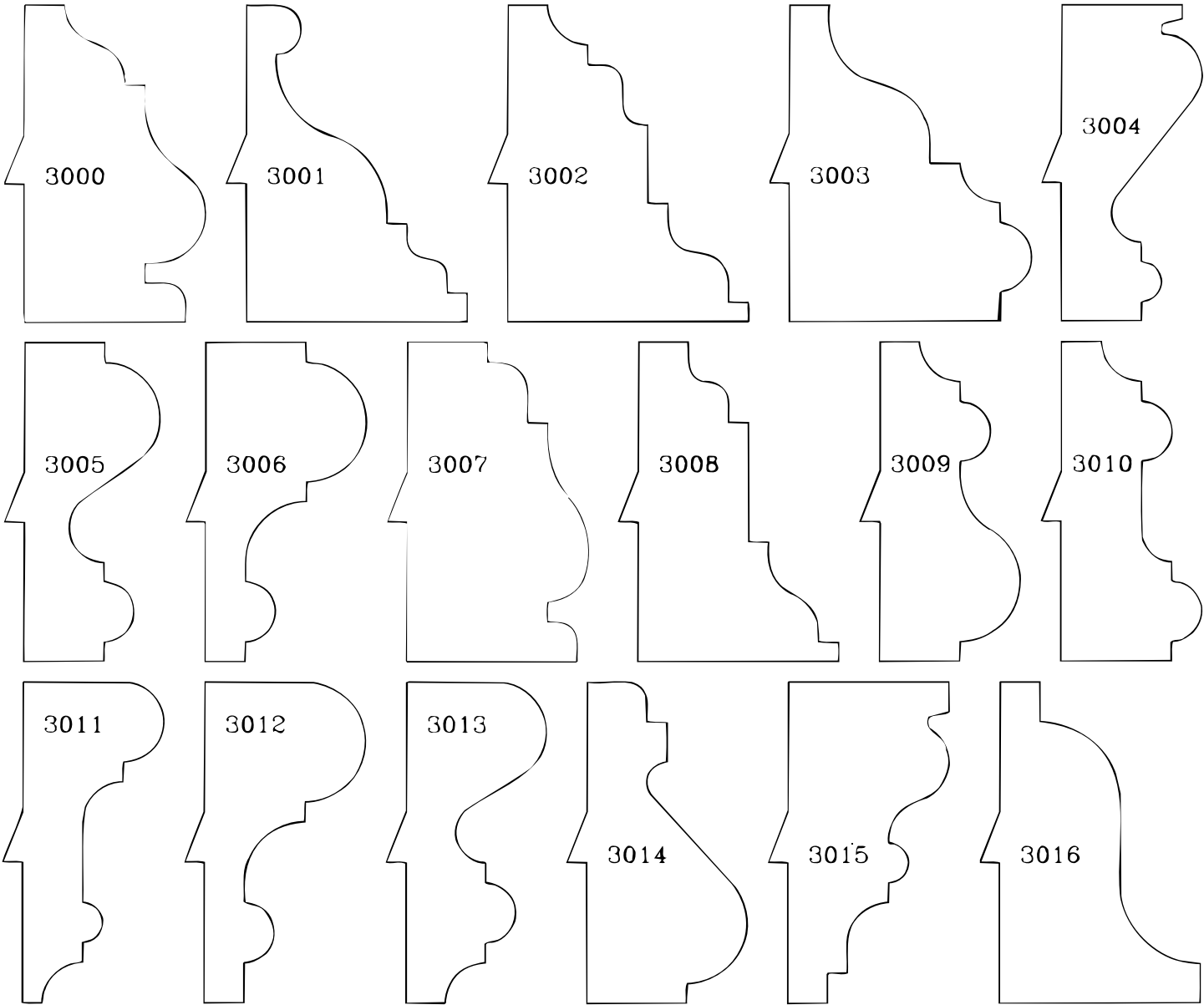
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DETAIL SHAPER CUTTER

FOR 2" STOCK
(WOOD SAMPLE SHOWN)



2" MATERIAL



Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED FINGER JOINTING SHAPER CUTTERS

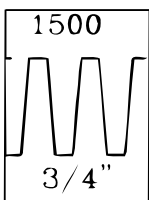
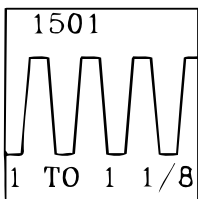
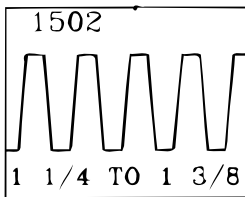
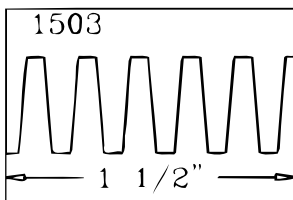
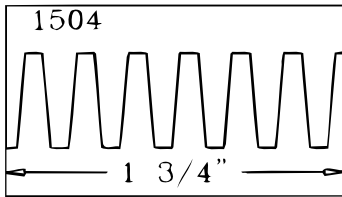
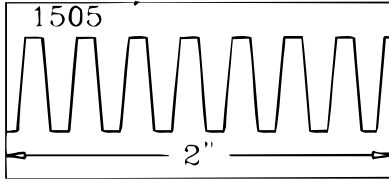
NOT STOCKED MADE TO ORDER
(WOOD SAMPLES SHOWN)

Standard Diameter - 4" - Number of wings: 2,3 & 4.

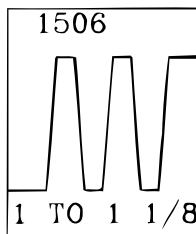
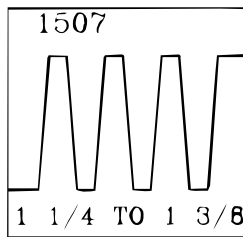
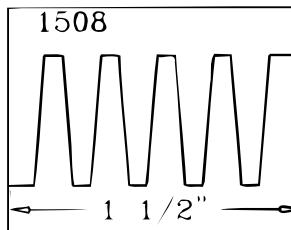
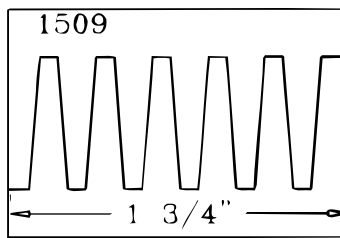
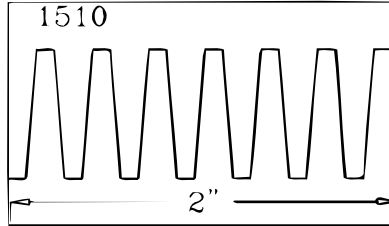
Thickness of stock to be joined 3/4" to 2".

Three (3) lengths of fingers available: 1/2", 11/16" & 1".

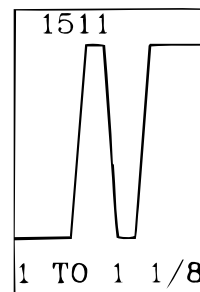
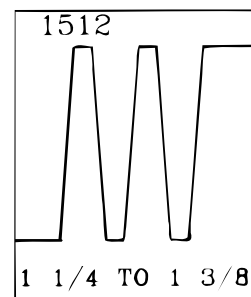
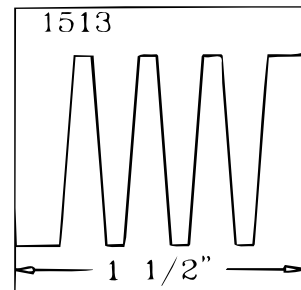
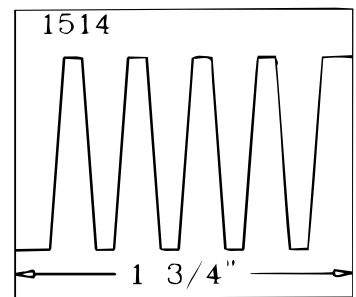
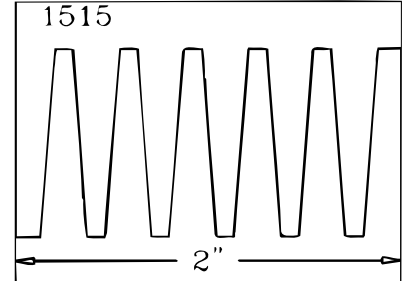
1/2" Long Joint



11/16" Long Joint



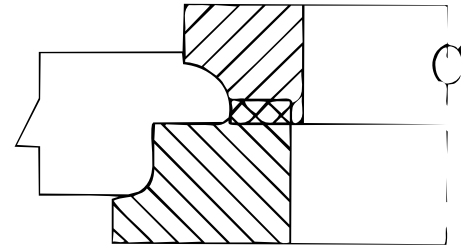
1" Long Joint



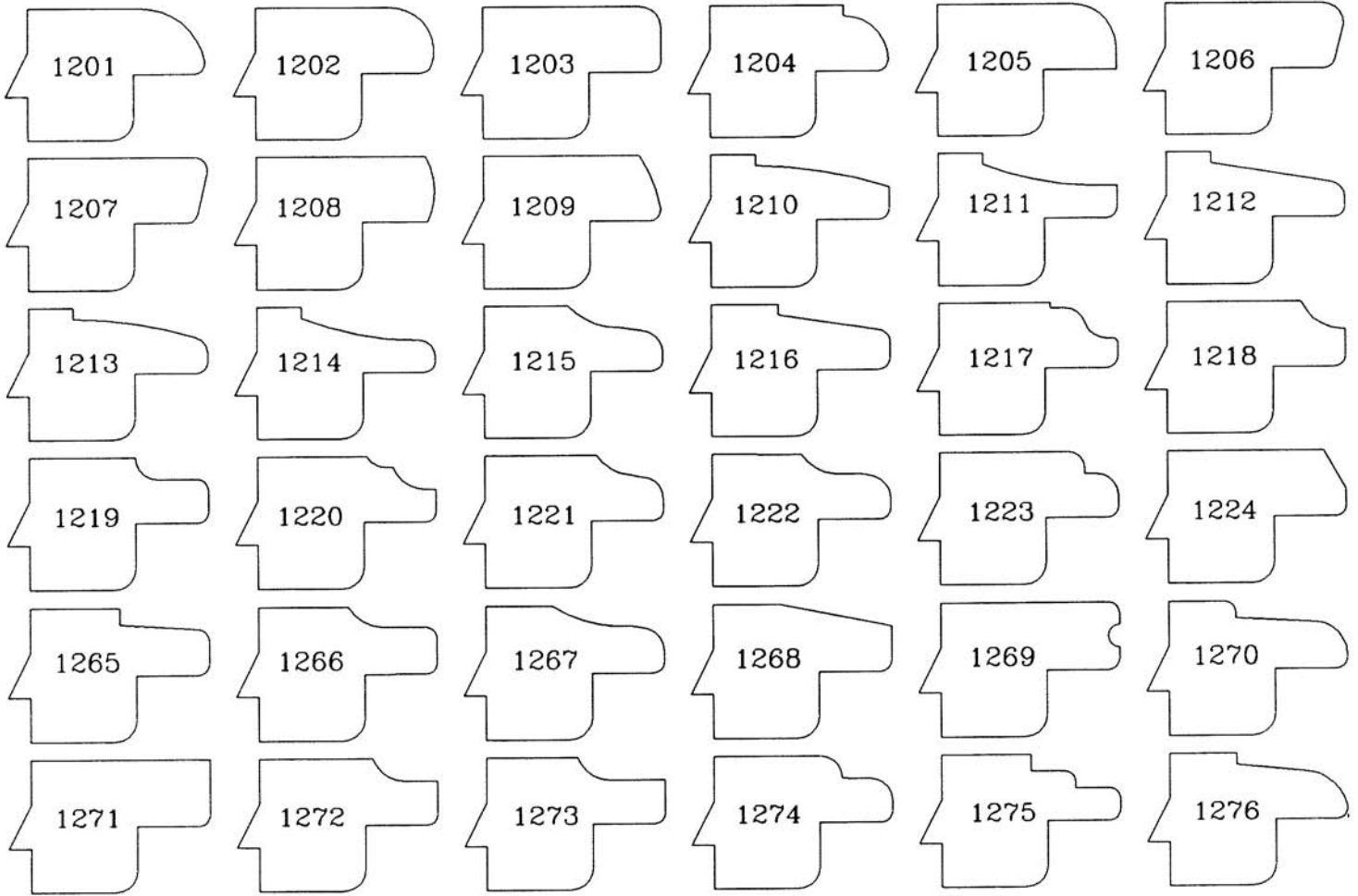
Other Sizes Available

CARBIDE TIPPED CABINET DOOR SHAPER CUTTER FOR 3/4" STOCK (WOOD SAMPLES SHOWN)

Options available for finger-pull, flush overlay, 30° back-bevel. See page 147. Standard 2 piece cutter sets. Standard bore 3/4" or 1". For 1-1/8" or 1-1/4" add 10% to standard price.



3/8" LIP TYPE



CARBIDE TIPPED NO CHIP DRAWER SIDE CUTTER

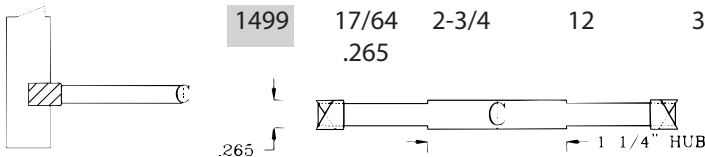
Use this shaper cutter for no chipping or tearing when grooving or slotting Melamine or cutting across the grain of solid wood or plywood. Designed with a total of 12 teeth; 8 teeth have a 30° face angle and a 30° top angle with a negative rake angle so it cuts clean and 4 raker teeth with a positive hook angle and square grind at .020 low.

FOR HAMMER MULTI-TRIPLEX MACHINE

Tool No.	Width	Dia.	No. of Teeth	Bore
1499	17/64 .265	2-3/4	12	3/4

FOR STANDARD SHAPER

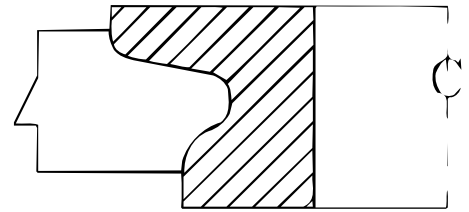
Tool No.	Width	Dia.	No. of Teeth	Bore
1486	1/8	4	12	Specify
1487	3/16	4	12	Specify
1488	.220(5.2mm)	4	12	Specify
1489	1/4	4	12	Specify



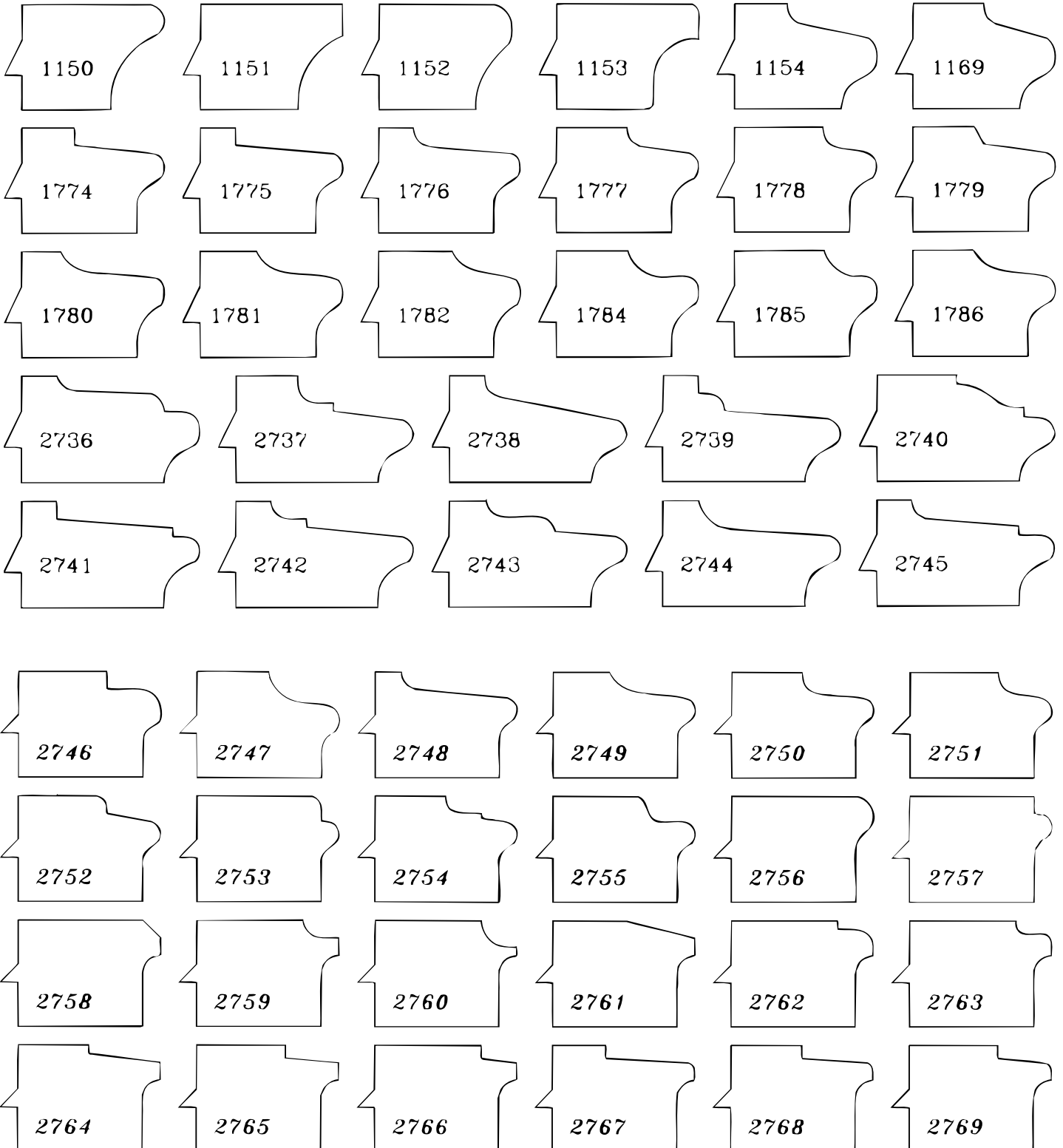
Can be manufactured in a large diameter for use on a table saw. See Page 18.

CARBIDE TIPPED CABINET DOOR SHAPER CUTTER FOR 3/4" STOCK (WOOD SAMPLES SHOWN)

Options available for flush overlay type, euro-finger pull, 30° back-bevel and 3/8" lip. See page 147. Standard 1 piece cutter heads.



FINGER PULL TYPE

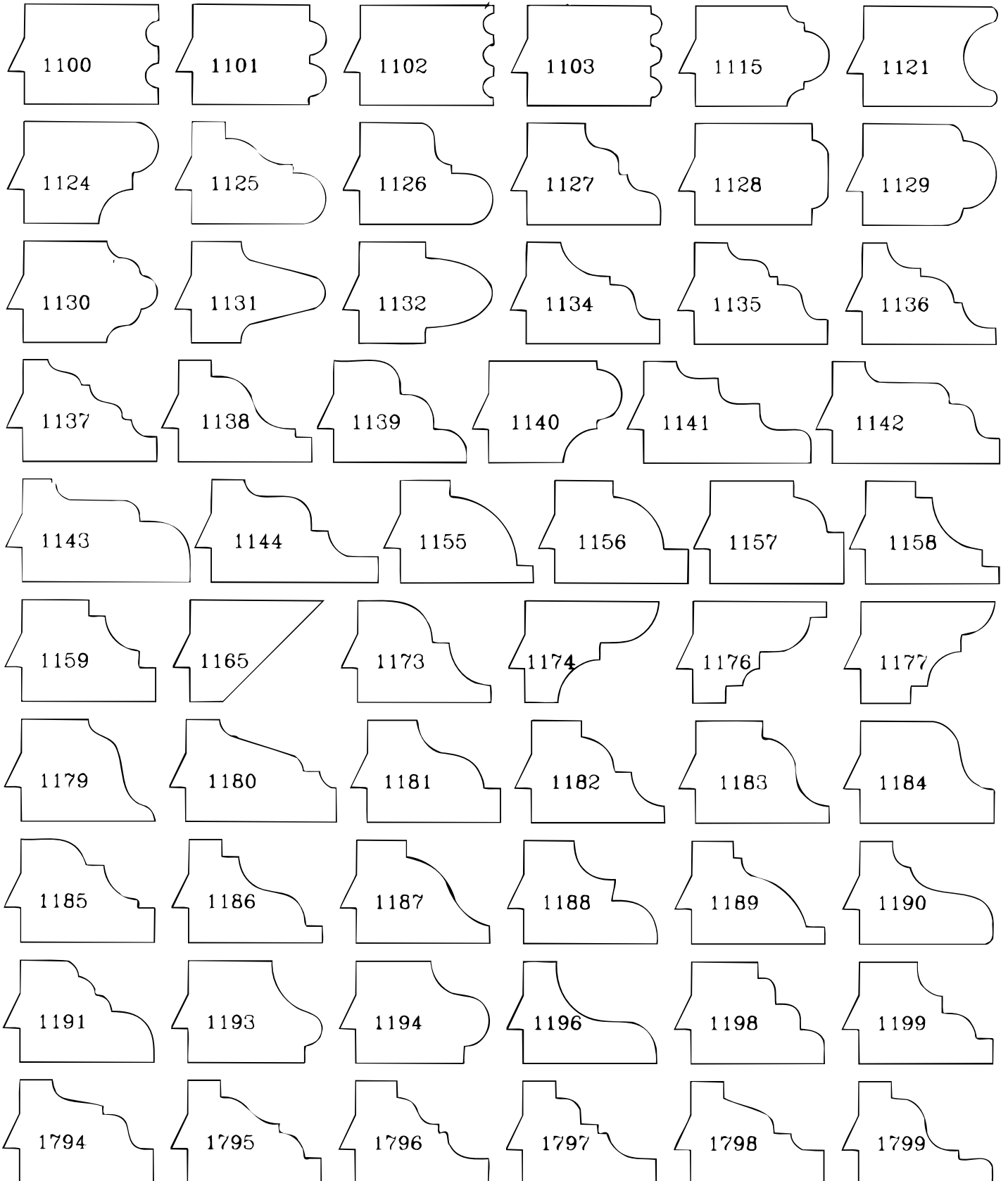
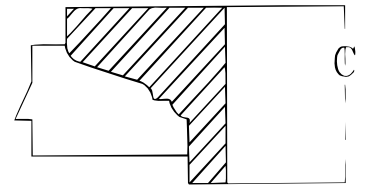


Standard bore 3/4" or 1". For 1-18" or 1-1/4" bore add 10% to standard price.

Bottom eased edge available. See options on Page 147

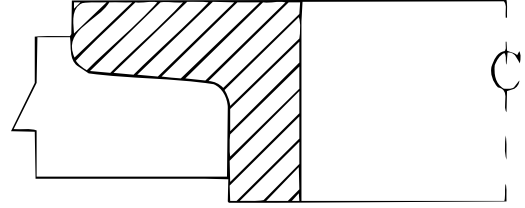
CARBIDE TIPPED DETAIL SHAPER CUTTERS FOR 3/4" STOCK (WOOD SAMPLES SHOWN)

Standard 1 piece cutter heads.
 Standard bore is 3/4" or 1".
 For 1-1/8" or 1-1/4" bore add 10% to standard price.

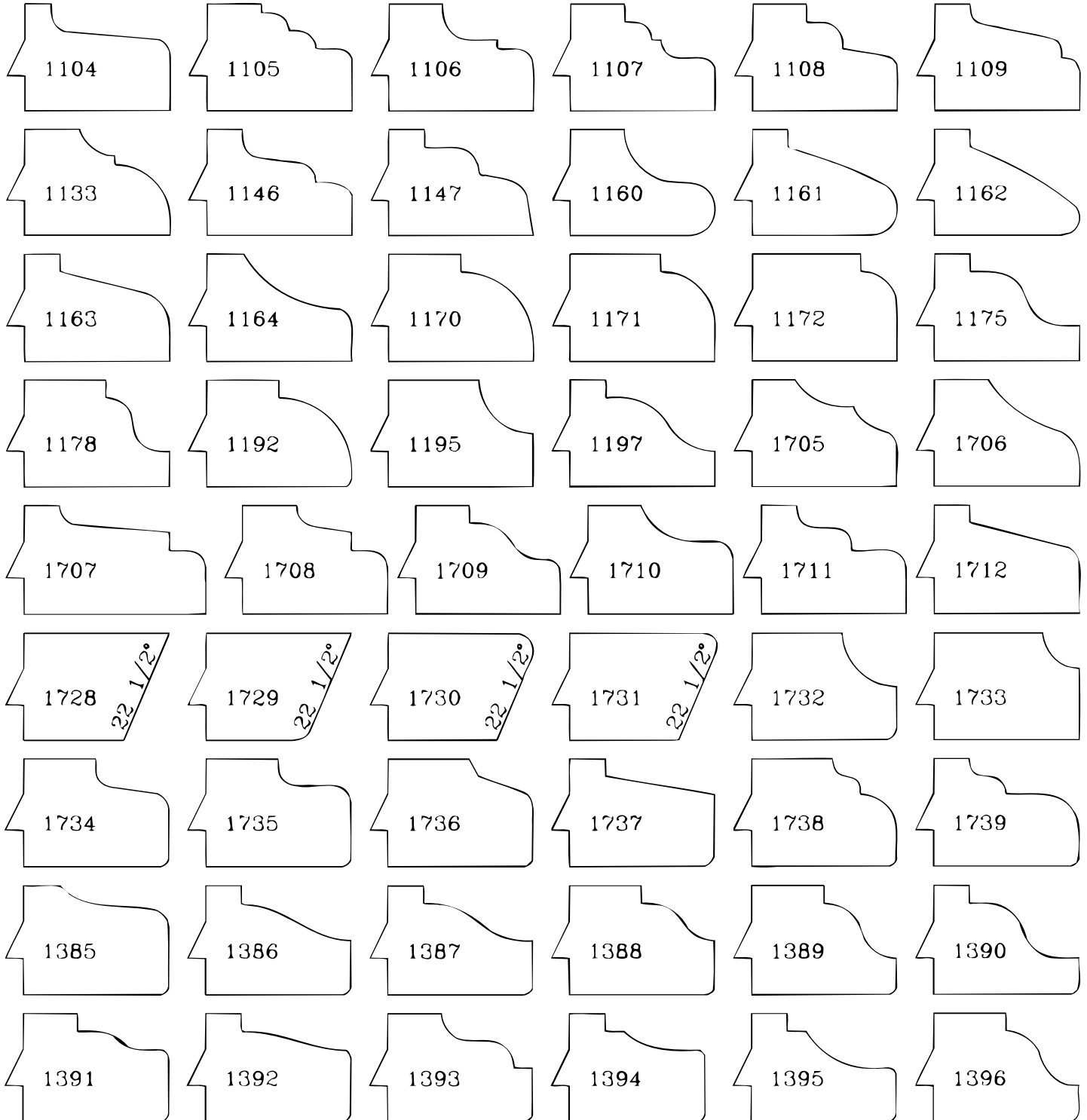


CARBIDE TIPPED CABINET DOOR SHAPER CUTTER FOR 3/4" STOCK (WOOD SAMPLES SHOWN)

Options available for finger-pull, 30° back-bevel and 3/8" lip.
See page 147. Standard 1 piece cutter heads. For more detail
see pages 142 & 144.



FLUSH OVERLAY TYPE



Standard bore 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED DETAIL SHAPER CUTTERS FOR 3/4" STOCK (Cont.)

(WOOD SAMPLES SHOWN)

For more details see page 142 & 143.



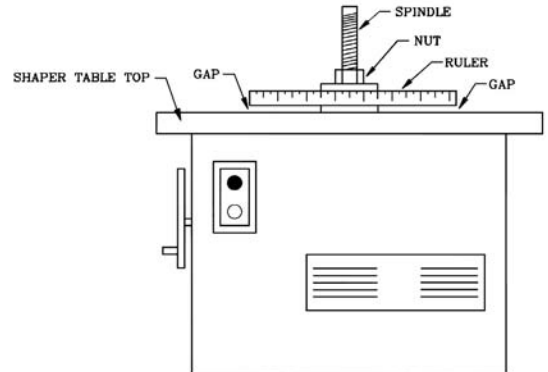
STILE & RAIL CUTTERS

PROPER ALIGNMENT MEANS A PROPER FIT

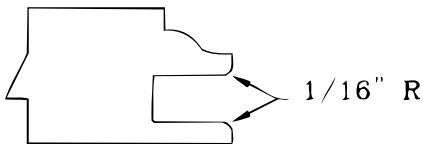
To get a proper fit of any Stile & Rail cutter set you must make sure your shaper spindle is at 90° angle to the shaper table. If the spindle is not exactly at 90°, it will cause fitting problems. All our Stile & Rail sets have been tested for proper fit in our plant prior to shipping.

5 steps to check shaper spindle alignment:

1. Disconnect the power source to the machine. Remove cutter head from the spindle and fence from the shaper table top.
2. Raise the spindle high enough to allow you to clamp a steel straight edge approx. 12" to 24" long (framing square blade or tri-square blade) between the shaper collars on the spindle.
3. Lower the spindle until the straight edge is just short of touching the shaper table.
4. Turn the spindle by hand only and watch the gap between the bottom of the straight edge and the shaper table top, or use some feeler gauges. If this gap is not uniform you will need to shim the spindle cartridge to correct the mis-alignment.
5. Double check procedure on item 4 after correcting alignment to be certain that spindle is 90° off the shaper cutter table top.



OPTIONS AVAILABLE ON ALL STILE & RAIL SHAPER CUTTERS



"A" Option: Eased edge at start of tongue and groove. Has less chance to chip.

"B" Option: Adding two extra cutters you can cut both above stile and rail doors as well as glass panel design.

"C" Option: All tongue and grooves are shown 1/4". Specify if you desire a different width and or depth.

"D" Option: Two piece center cutter in sticking set, so you can adjust width of groove plus .020 minus .040.

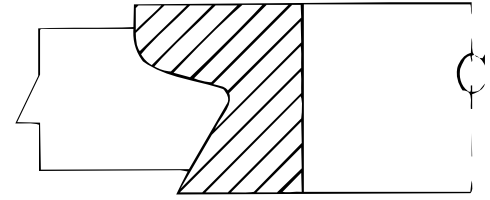
"SD" Option: Shaker Door Option - by adding two extra cutters, you can cut both above standard Stile and Rail doors and Shaker doors as well.

For Arch, Cathedral and Eyebrow type door a ball bearing guide is required.
See page 158.

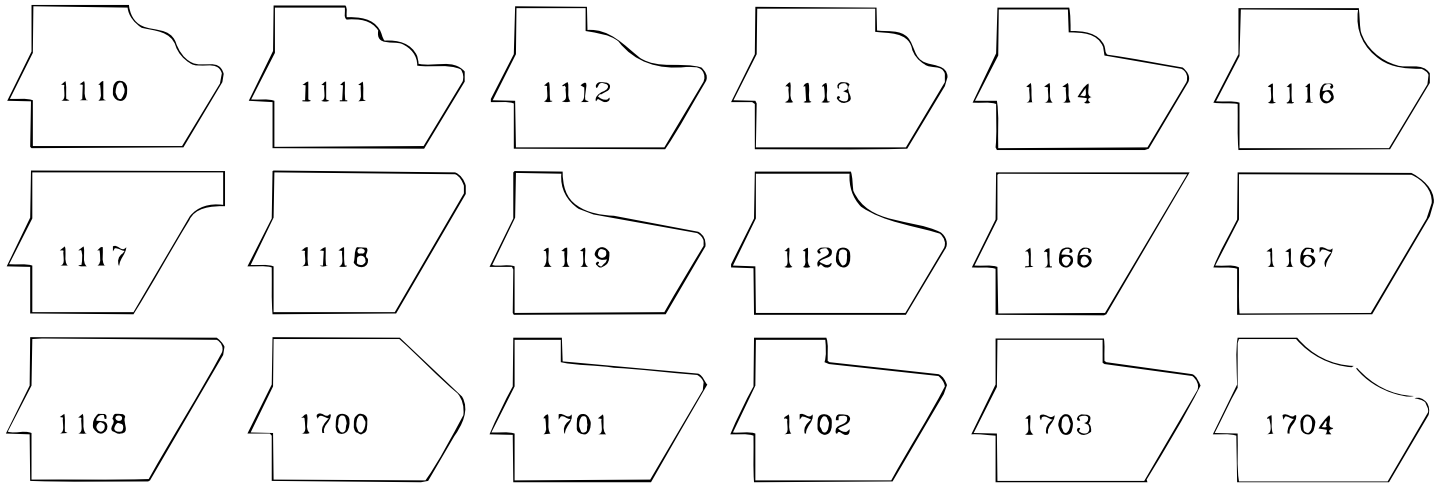
When ordering standard width of tongue and groove is 1/4". If you are using 5.2mm imported plywood you will need tongue and groove to be 7/32". If 7/32" is required add -7/32 to Tool No. Standard bore is 3/4" or 1". For 1-1/8 or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED CABINET DOOR SHAPER CUTTER FOR 3/4" STOCK
(WOOD SAMPLES SHOWN)

Options available for finger-pull, flush overlay and 3/8" lip.
See page 147. Standard 1 piece cutter heads.

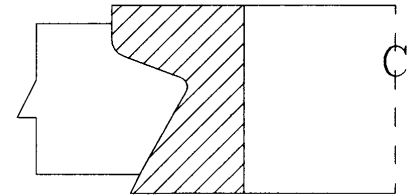


30° BACK-BEVEL TYPE

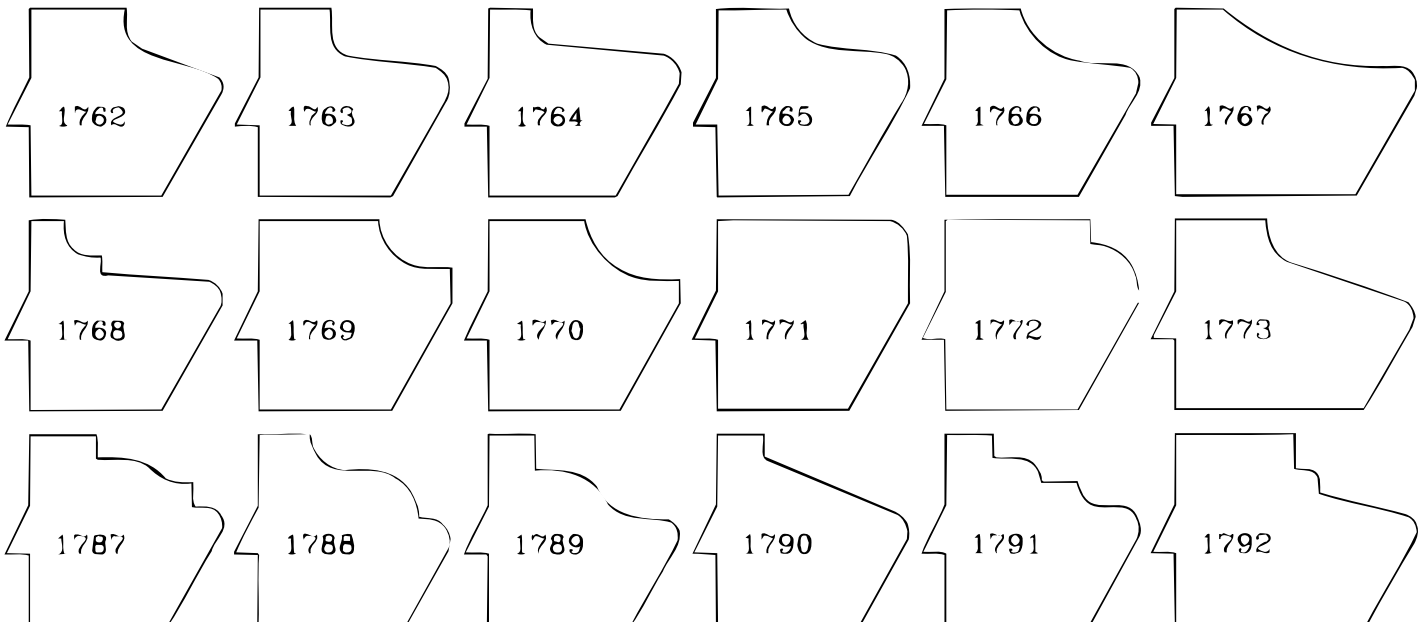


CARBIDE TIPPED CABINET DOOR SHAPER CUTTER FOR 1-1/16" STOCK
(WOOD SAMPLES SHOWN)

Options available for finger-pull, flush overlay and 3/8" lip.
See page 147. Standard 1 piece cutter heads.



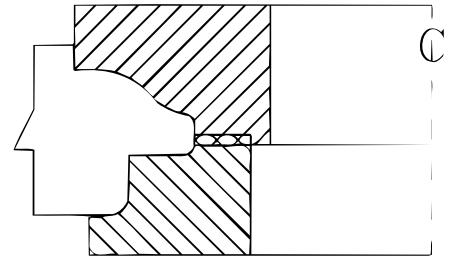
30° BACK-BEVEL TYPE



Standard bore 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

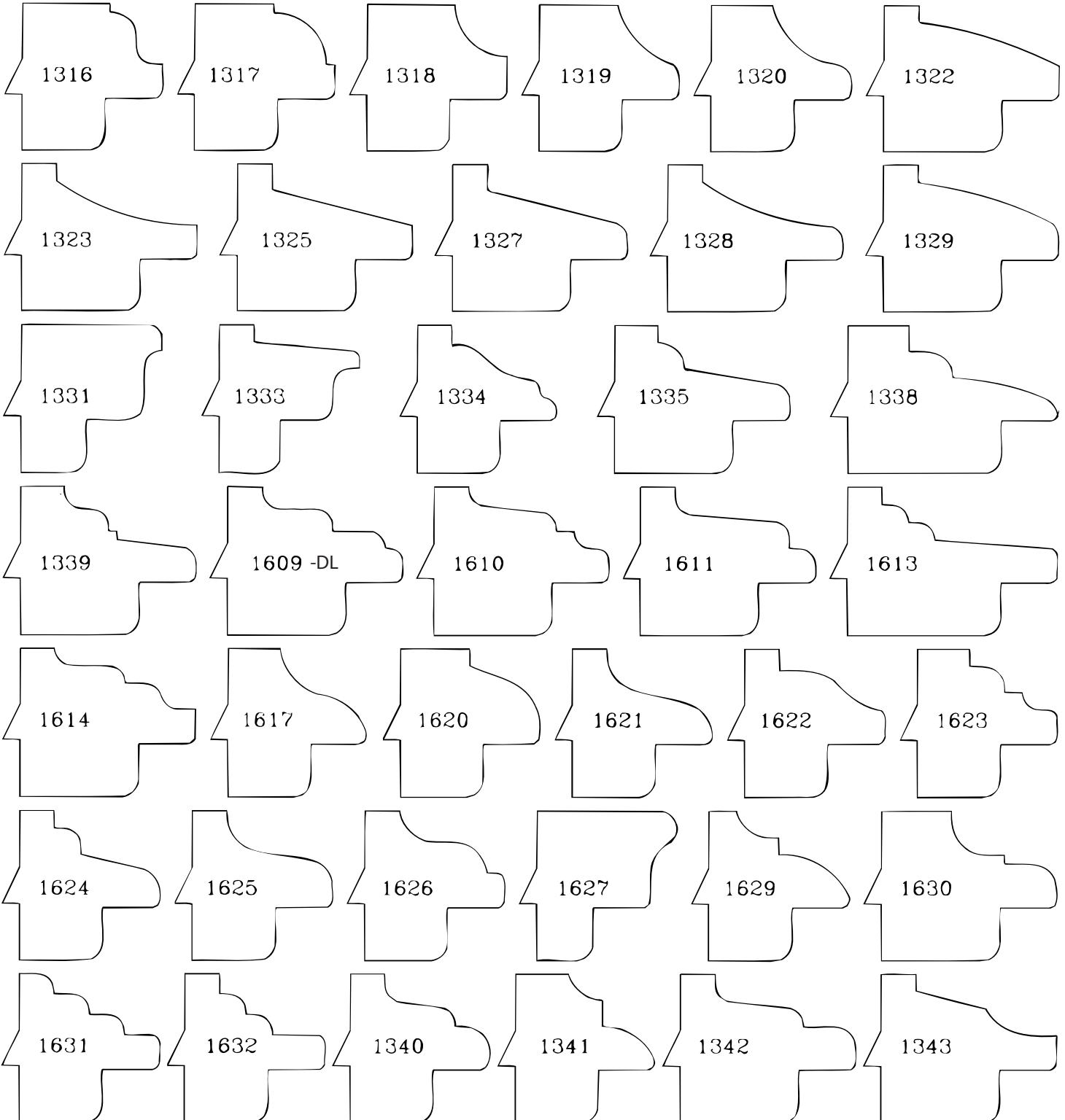
CARBIDE TIPPED CABINET DOOR SHAPER CUTTER

FOR 1-1/16" STOCK
(WOOD SAMPLE SHOWN)



Standard 2 piece shaper cutter set. Options available for finger-pull, flush overlay & 30° back-bevel. See page 147

3/8" LIP TYPE



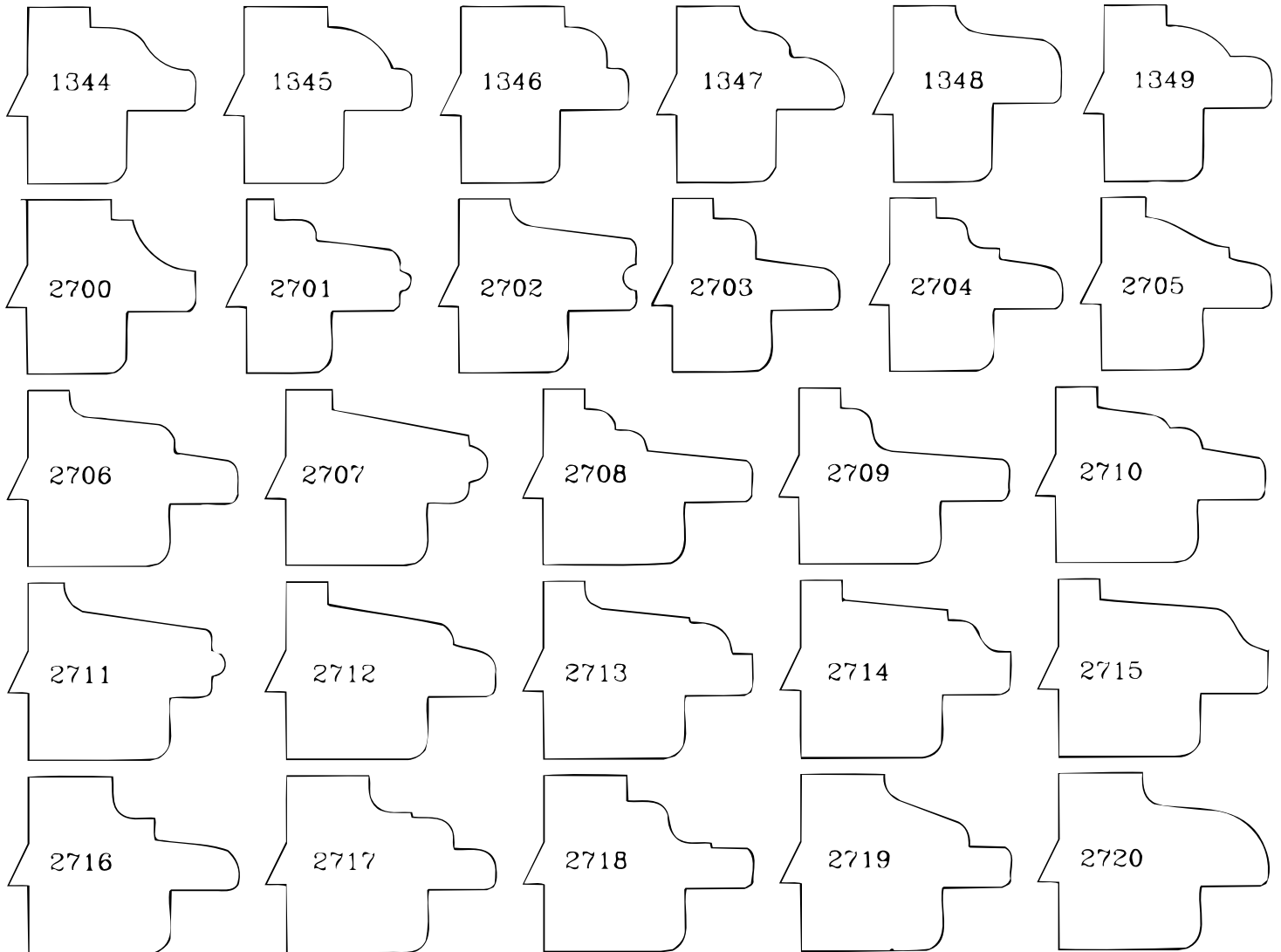
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price

CARBIDE TIPPED CABINET DOOR SHAPER CUTTER (CONT.)

FOR 1-1/16" STOCK
(WOOD SAMPLES SHOWN)

Options available for finger-pull, flush overlay and 30° back-bevel. For more details see page 147.

3/8" LIP TYPE

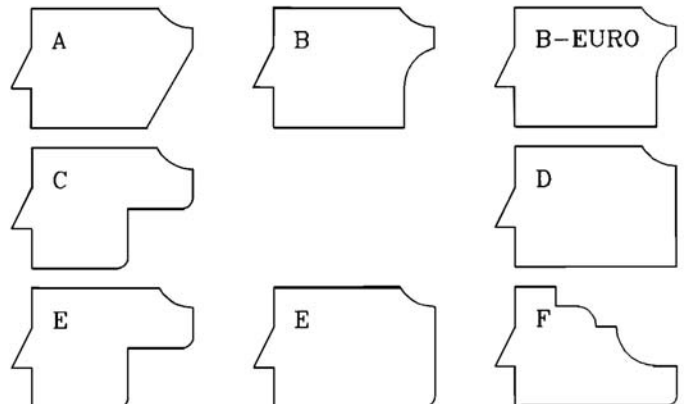


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

OPTIONS AVAILABLE

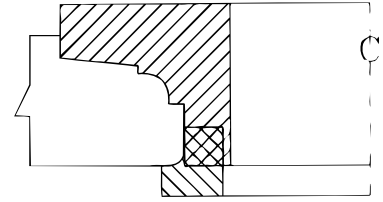
THESE CAN BE BUILT INTO ALL TYPES OF DOOR LIP AND RAISED PANEL DOOR LIP SHAPER CUTTERS.

- Option "A" -For cutting 30° back bevel pattern.
- Option "B" -For cutting 3/16" deep finger pull pattern.
- Option "B-Euro" -For cutting 1/8" deep finger pulls when using European Hinges.
- Option "C" -For cutting standard 3/8" lip.
- Option "D" -For cutting flush overlay pattern.
- Option "E" -For cutting both standard 3/8" lip and flush overlay by adding a spacer between the cutters.
- Option "F" -For easing bottom of material with 1/16" R

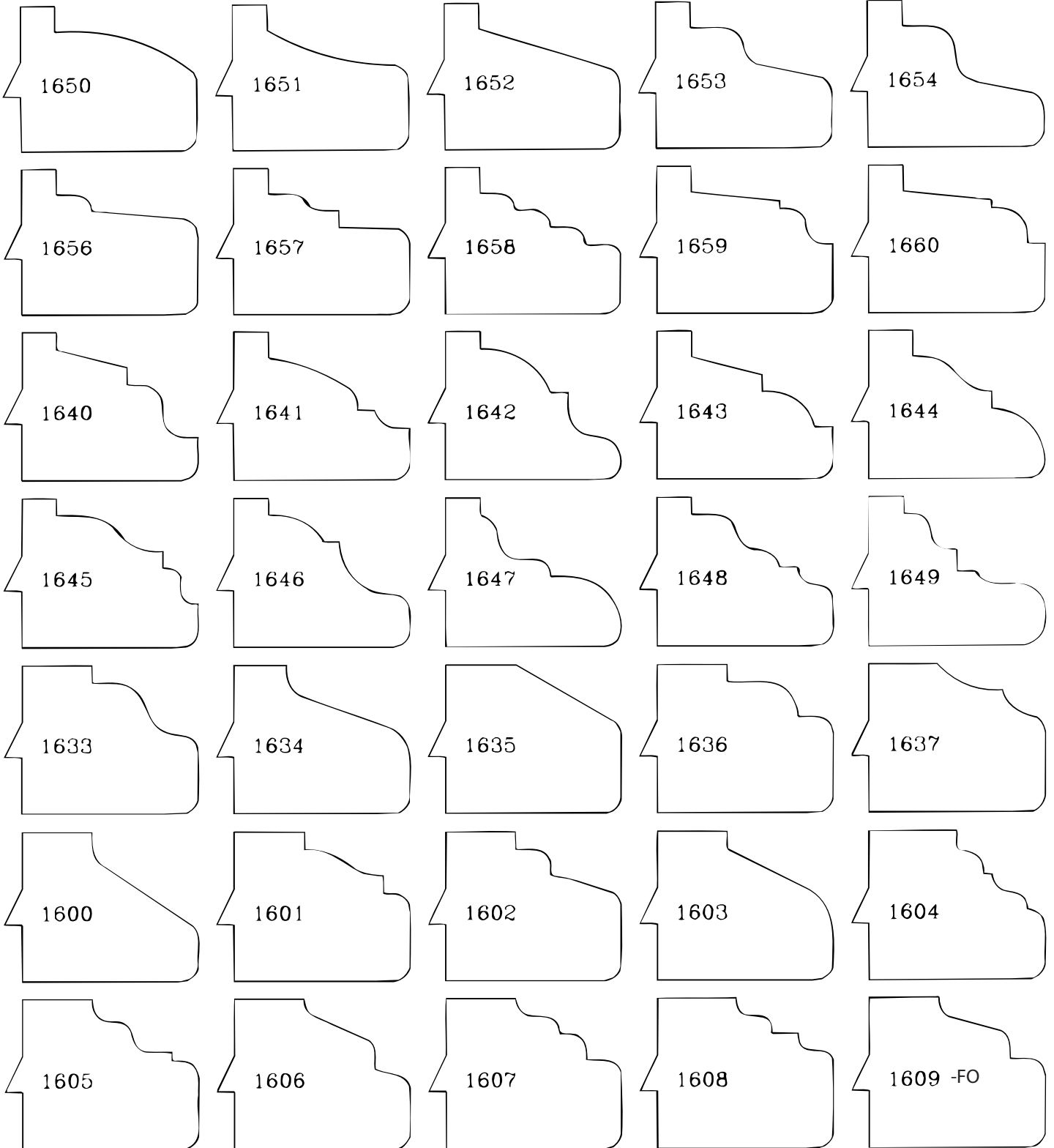


CARBIDE TIPPED DOOR SHAPER CUTTER FOR 1-1/16" STOCK
(WOOD SAMPLES SHOWN)

Options available for finger-pull, 30° back-bevel and 3/8" lip.
See page 147. Standard 2 piece cutter sets.



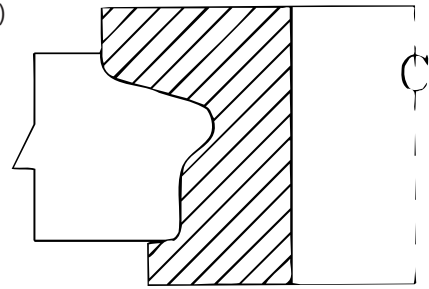
FLUSH OVERLAY TYPE



Standard bore 3/4" or 1". For 1-1/8" or 1-1/4 bore add 10% to standard price.

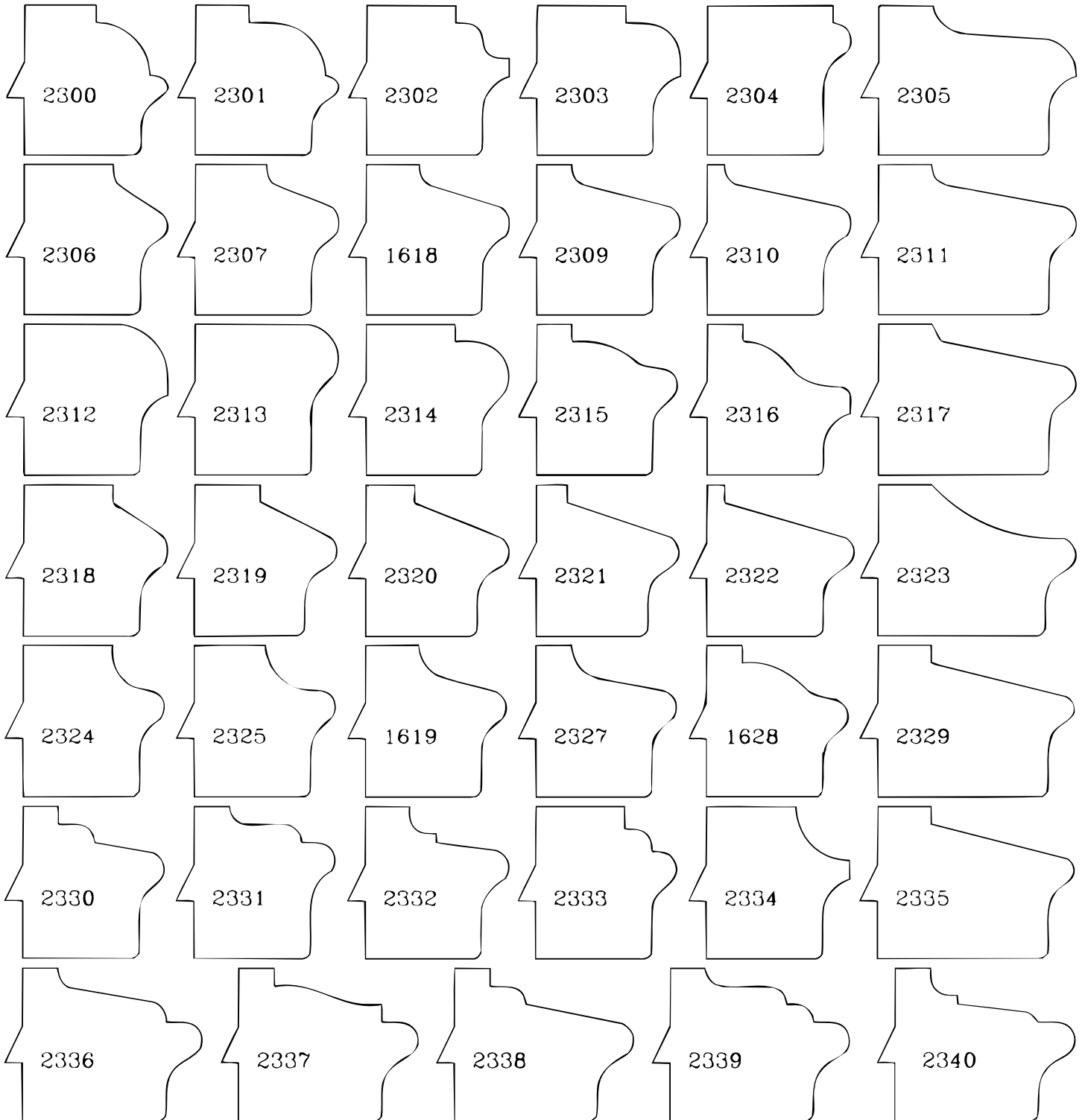
CARBIDE TIPPED CABINET DOOR SHAPER CUTTER FOR 1-1/16" STOCK

(WOOD SAMPLES SHOWN)



Options available for flush overlay, 3/8" lip and 30° back-bevel. See page 147.
Standard 1 piece cutter head.

FINGER-PULL TYPE



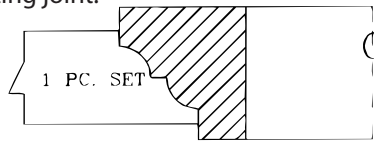
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED MATCHED REVERSIBLE DETAIL SHAPER CUTTERS

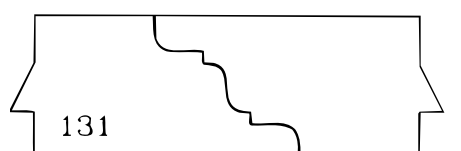
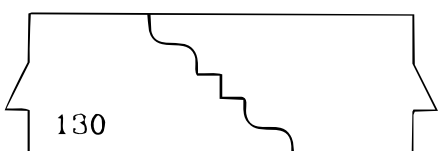
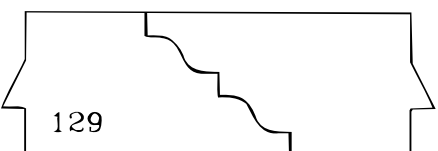
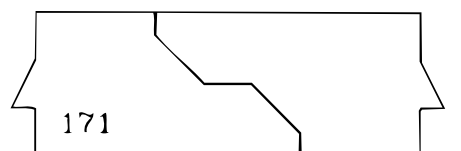
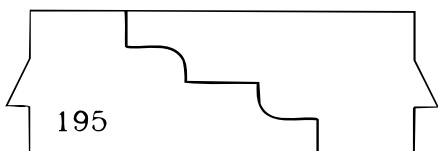
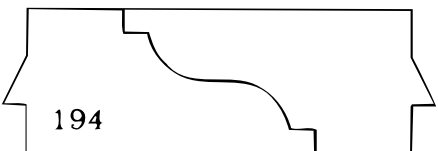
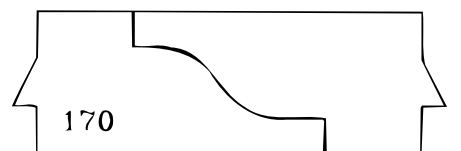
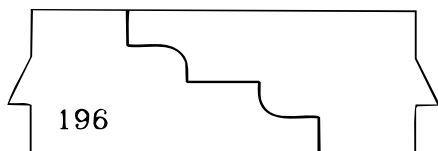
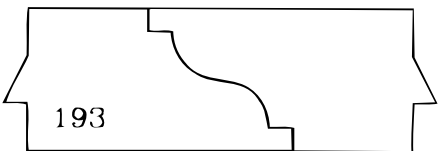
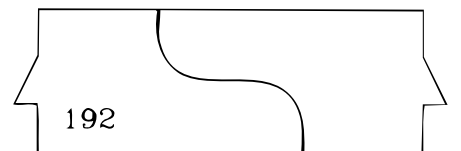
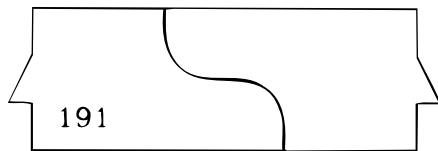
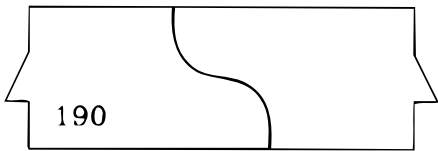
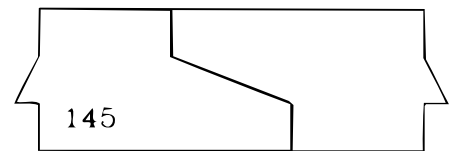
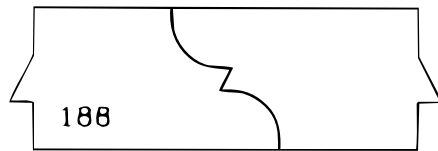
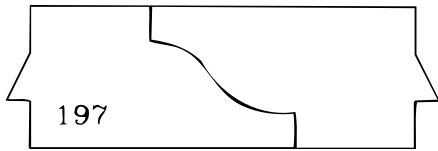
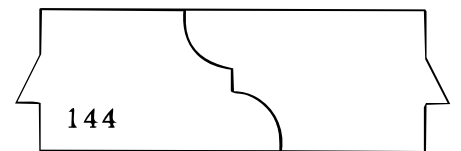
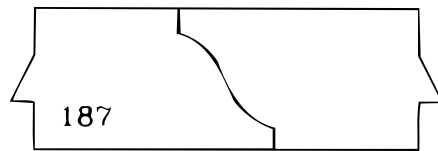
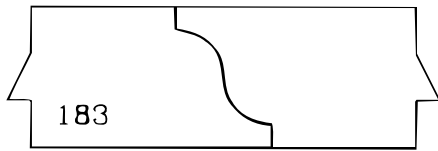
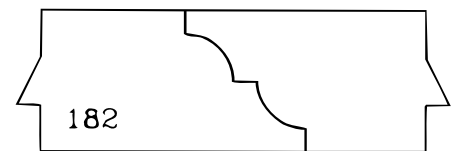
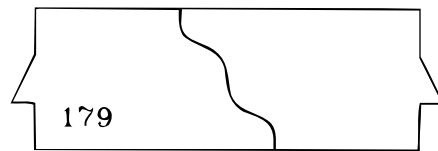
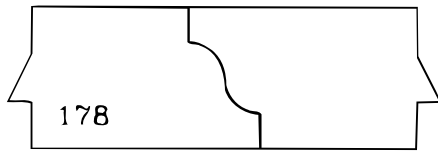
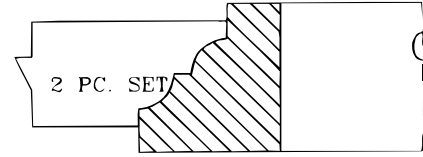
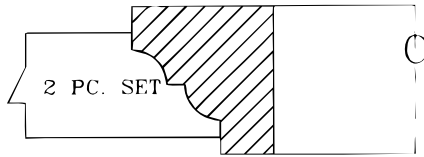
(Wood Sample Shown) FOR 3/4" STOCK

The following patterns are all made with one reversible or flip-flop cutter. All the material is run through the shaper the same way, then flipping over one piece you get a perfect fitting joint.

For 2 pc set see below.



These shaper cutters can be purchased as a 2 piece set - one cutter for Stile and one cutter for Rails add -2SR to tool number.



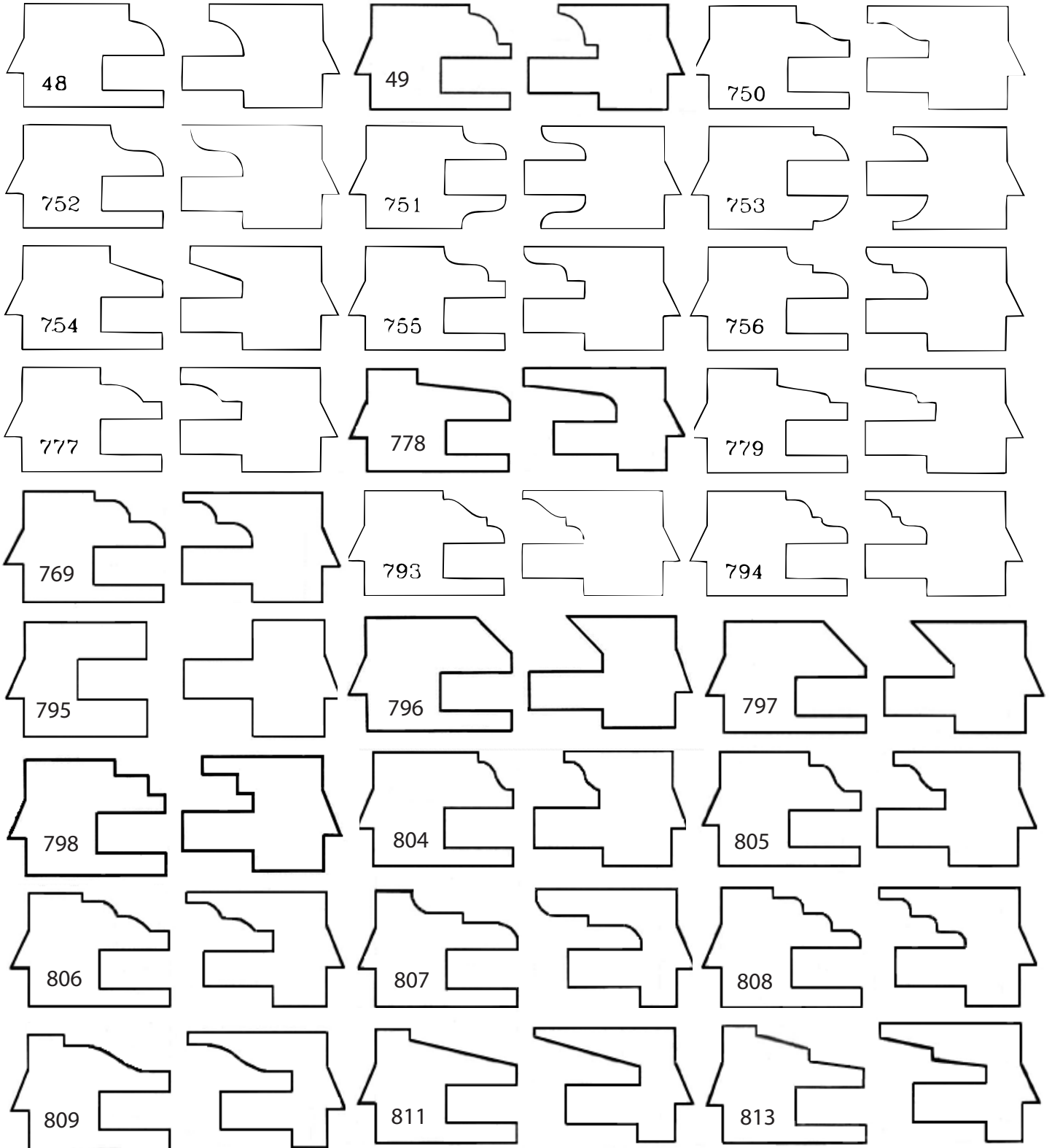
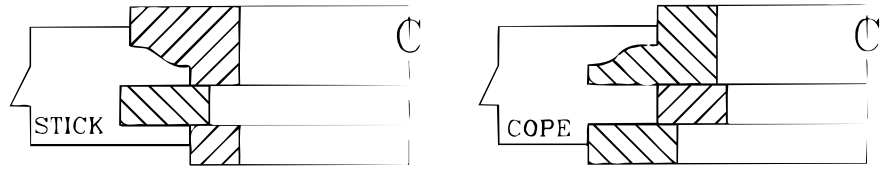
Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

For arch type cuts, a ball bearing is required. See page 158.

CARBIDE TIPPED STILE & RAIL SHAPER CUTTERS SETS
 MALE & FEMALE (WOOD SAMPLES SHOWN)

Each set consists of 6 cutters. Each 1/2 set consists of 3 cutters that are pinned together. Coping set is recessed to allow for adjustment by using thin spacers between the cutters, on single detail pattern only.

3/4" - 7/8" THICK MATERIAL

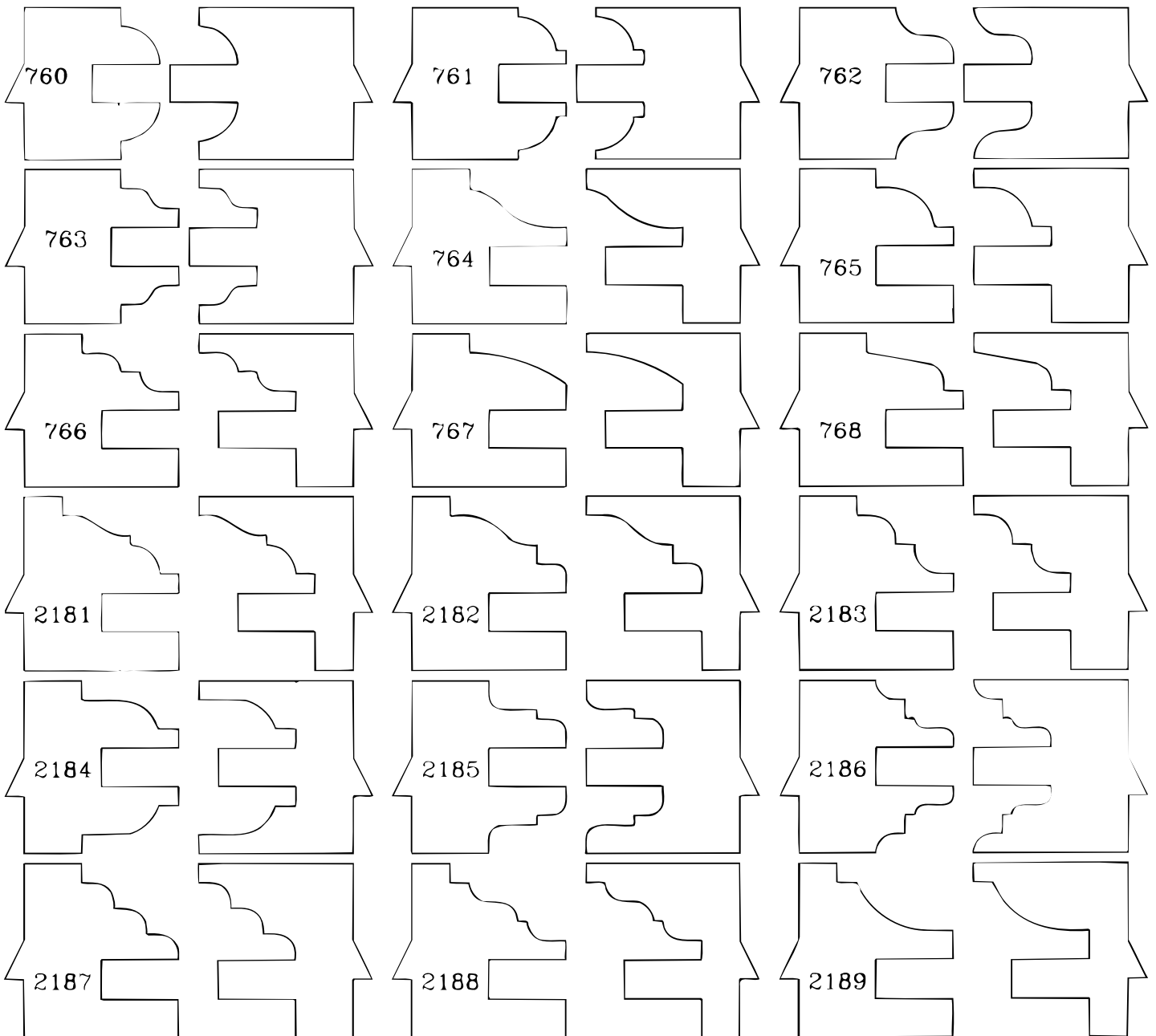
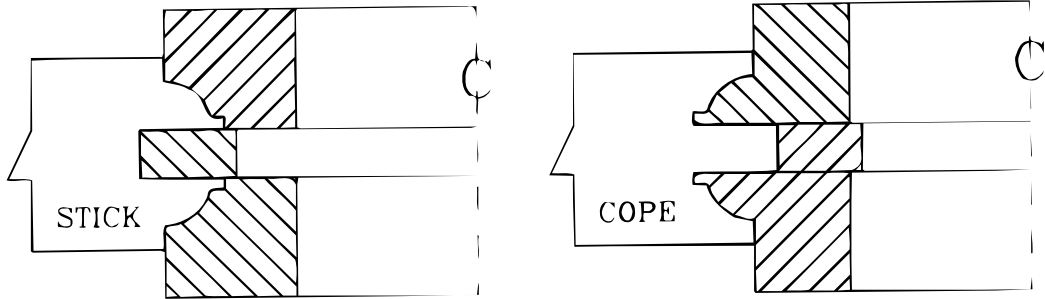


SPACE BALLS - See page 40 - PROPER ALIGNMENT / PROPER FIT - See page 144
 OPTIONS - See page 144. Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED STILE & RAIL SHAPER CUTTER SETS

MALE & FEMALE (WOOD SAMPLES SHOWN)

Each set consists of 6 cutters. Each 1/2 set consists of 3 cutters that are pinned together. Coping set is recessed to allow for adjustment by using thin spacers between the cutters, on single detail pattern only 1" - 1-1/8" THICK MATERIAL



SPACE BALLS - See page 40- PROPER ALIGNMENT / PROPER FIT - See page 144

OPTIONS -See page 144

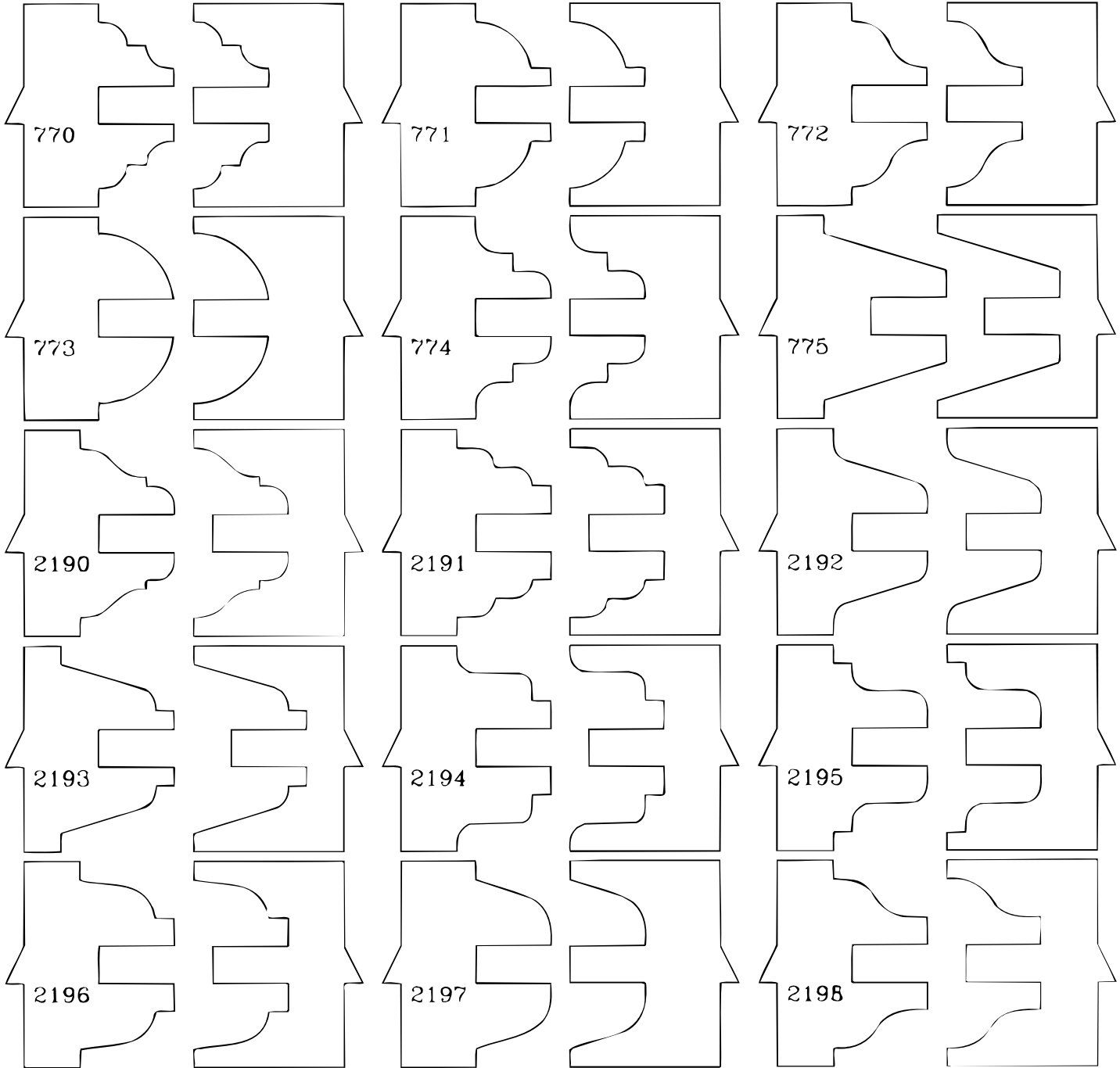
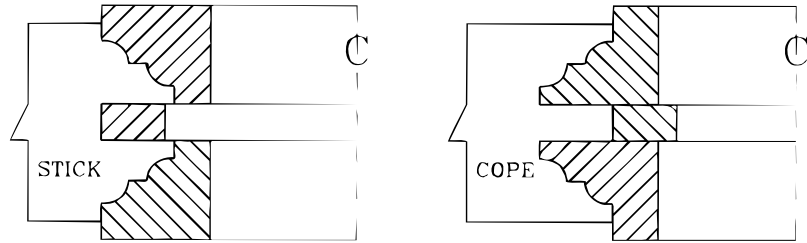
Standard bore is 3/4" or 1" . For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED STILE & RAIL SHAPER CUTTER SETS

MALE & FEMALE (WOOD SAMPLES SHOWN)

Each set consists of 6 cutters. Each 1/2 set consists of 3 cutters that are pinned together.

1-3/8" THICK MATERIAL



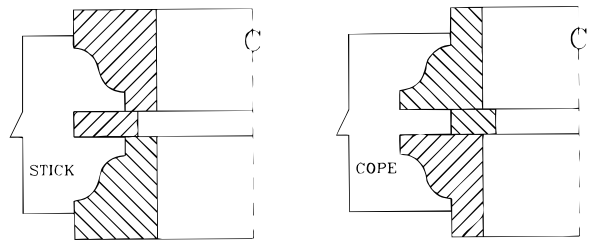
SPACE BALLS - See page 40- PROPER ALIGNMENT / PROPER FIT - See page 144

OPTIONS - See page 144

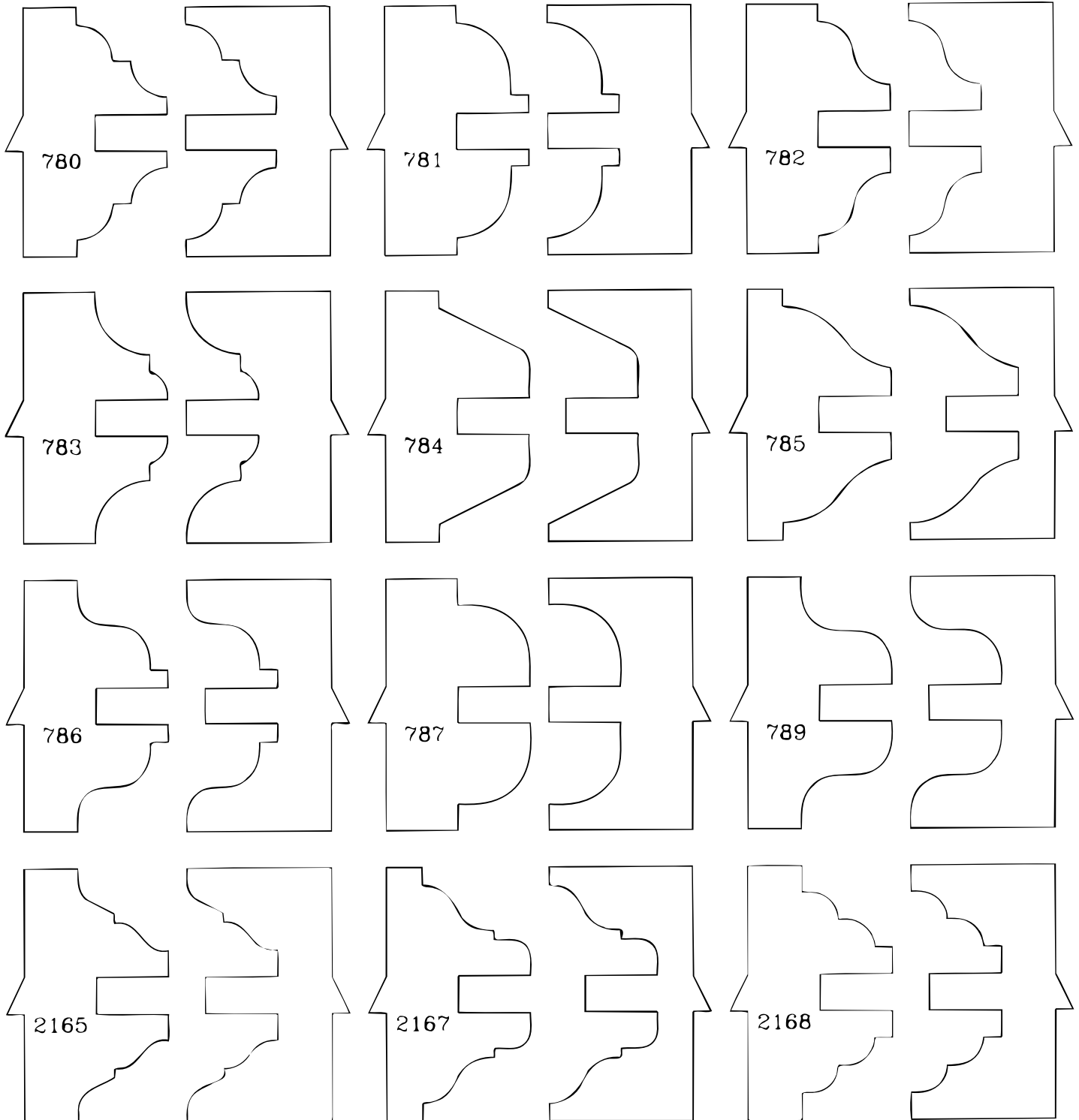
Standard bore 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED STILE & RAIL SHAPER CUTTER SETS WITH 1/4" PANEL INSERT
 MALE & FEMALE (WOOD SAMPLES SHOWN)

Each set consists of 6 cutters. Each 1/2 set consists of 3 cutters that are pinned together.



1-3/4" THICK MATERIAL



SPACE BALLS - See page 40 - PROPER ALIGNMENT / PROPER FIT - See page 144

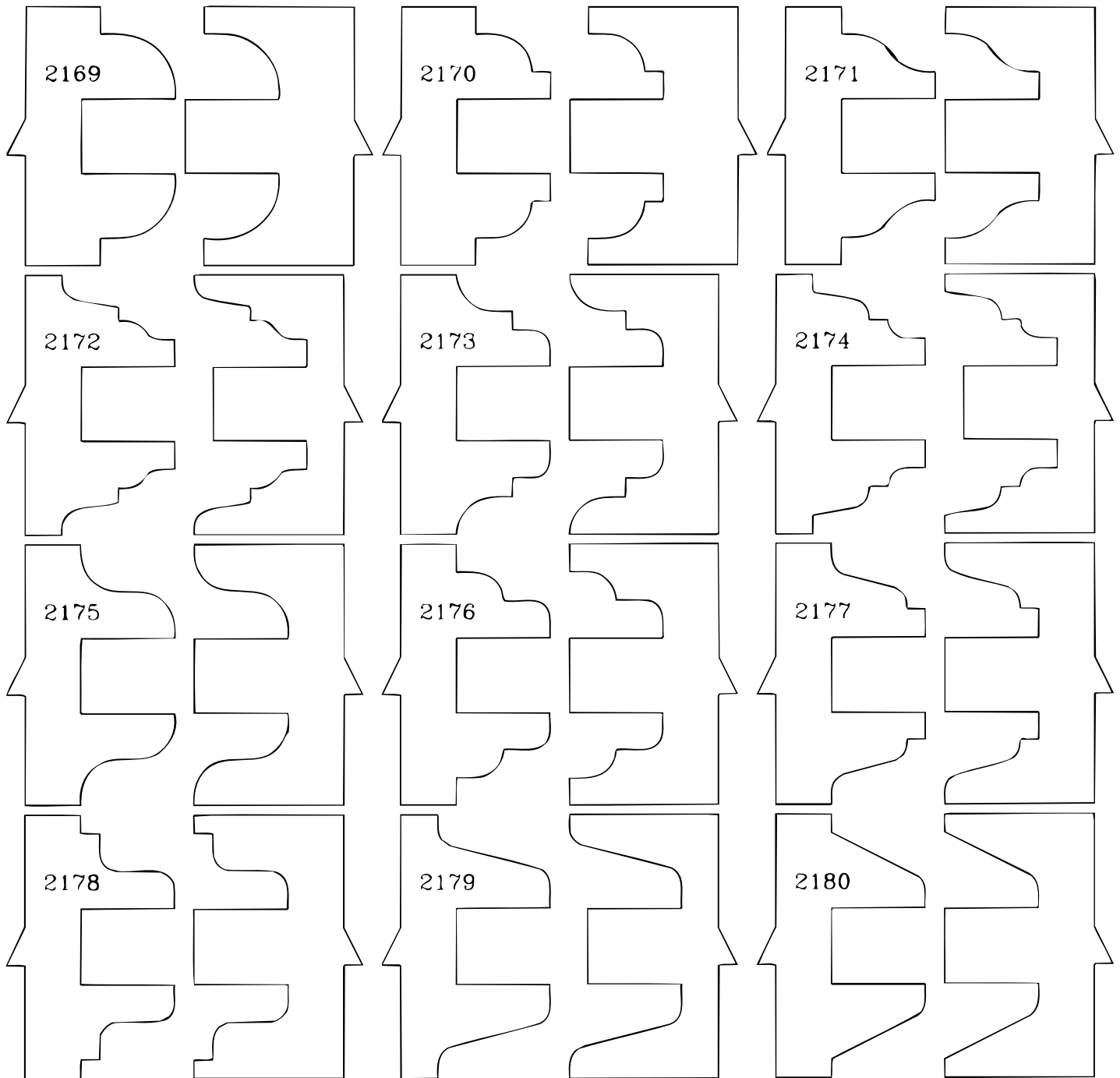
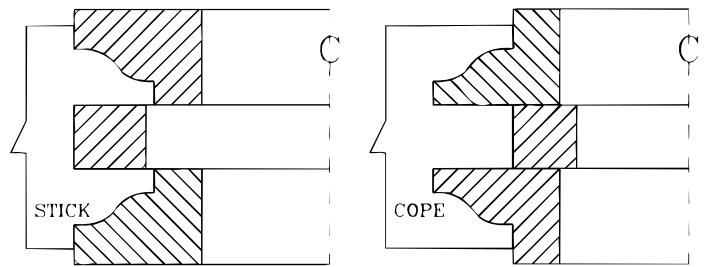
OPTIONS - See page 144

Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED STILE & RAIL SHAPER CUTTER SETS WITH 1/2" PANEL INSERT
 MALE & FEMALE (WOOD SAMPLES SHOWN)

Each set consists of 6 cutters. Each 1/2 set consists of 3 cutters that are pinned together.

1-3/4" THICK MATERIAL



SPACE BALLS - See page 40 - PROPER ALIGNMENT / PROPER FIT - See page 144

OPTIONS - See page 144

Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED STILE & RAIL SHAPER CUTTER SETS FOR GLASS PANELS

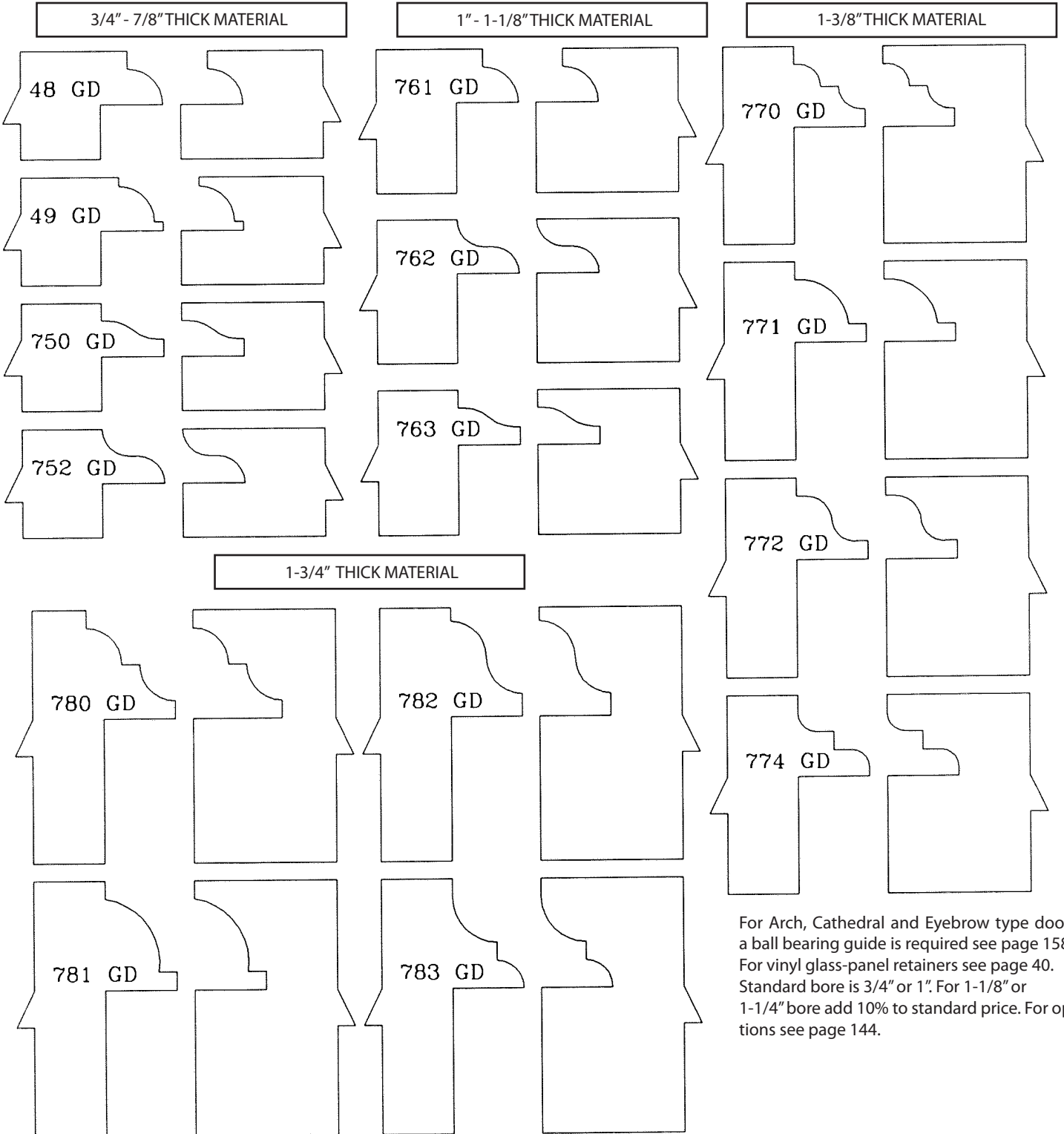
(Male & Female) (WOOD SAMPLES SHOWN) Standard set consists of 4 cutters.

ALL STILE & RAIL PATTERNS ON PAGES 151,152,153,154 & 155 for 3/4, 7/8,1", 1-1/8, 1-3/8 & 1-3/4 thick stock are available in the glass panel design for making glass panel doors and passage doors. When ordering add -GD to tool number. If you desire to make both stile & rail patterns and glass panel patterns see page 144 Shown here are just a few patterns for your information only.

3/4" deep rabbets are available for double panel insulated glass and wide edge bands for stained glass add -DR to tool number. Standard rabbets are as follows: 3/4 & 7/8 -7/16 length

1" & 1-1/8 -7/16 & 1/2

1-3/8 & 1-3/4 -1/2"



For Arch, Cathedral and Eyebrow type doors a ball bearing guide is required see page 158
 For vinyl glass-panel retainers see page 40.
 Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price. For options see page 144.

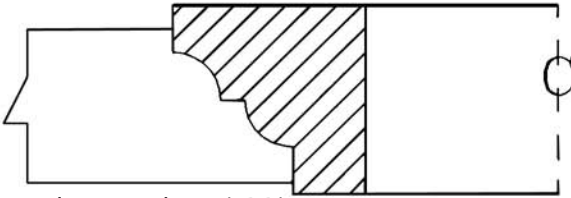
INFORMATION ON SHAPER CUTTER ROTATION ALL CUTTING EDGES COMING TOWARD YOU

Specify when ordering, counter clockwise (CCW) or clockwise (CW) rotation of spindle, as well as material face up (MFU) or material face down (MFD) - see sample below:

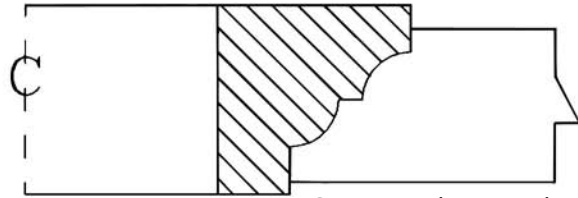
On detail shaper cutters specify large diameter up (LDU) or large diameter down (LDD) when on the shaper spindle.

DETAIL SHAPER CUTTER

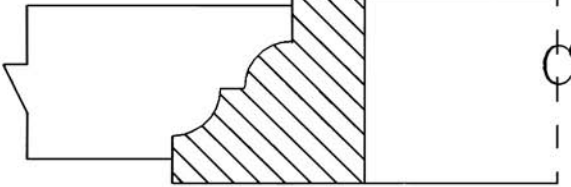
CCW- Large diameter up (LDU)



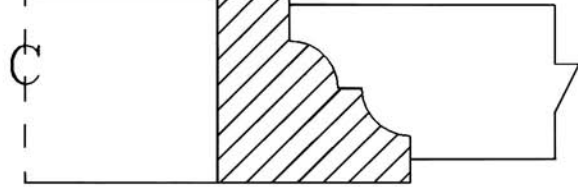
CW- Large diameter up (LDU)



CCW- Large diameter down (LDD)

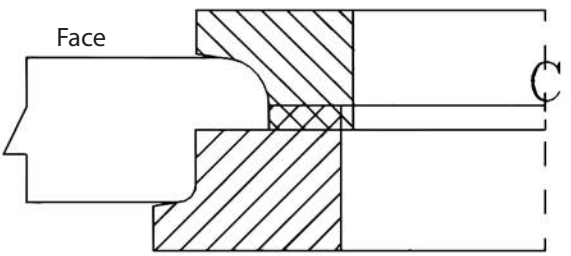


CW- Large diameter down (LDD)



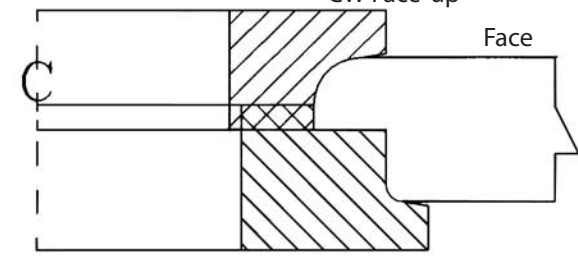
On cabinet door or raised panel shaper cutters specify the face of the door or panel, whether it runs through the shaper face up or face down. The face of the door is that part of the door or panel that is seen on the outside of the cabinet.

CCW Face-up



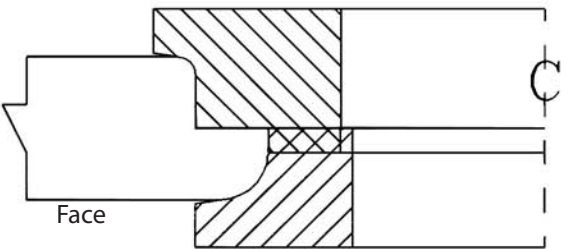
CABINET DOOR SHAPER CUTTER

CW Face-up



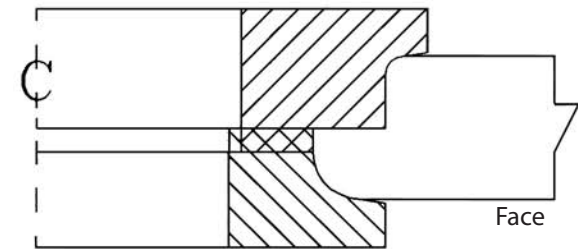
Face

CCW Face-down



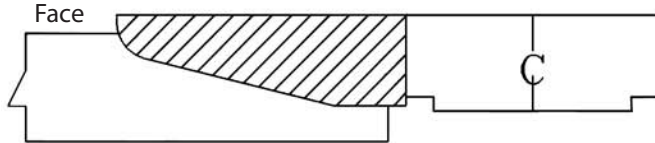
Face

CW Face-down

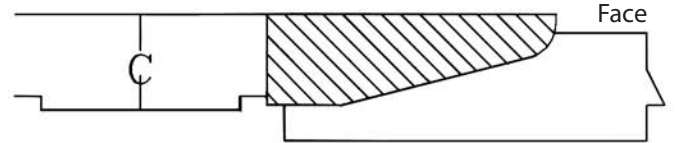


RAISED PANEL SHAPER CUTTER

CCW Face-up

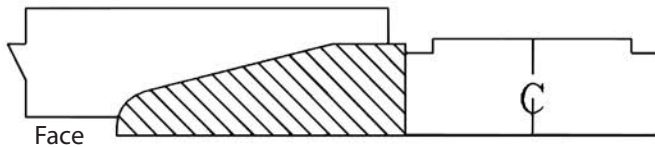


CW Face-up



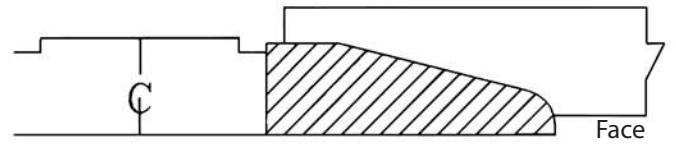
Face

CCW Face-down



Face

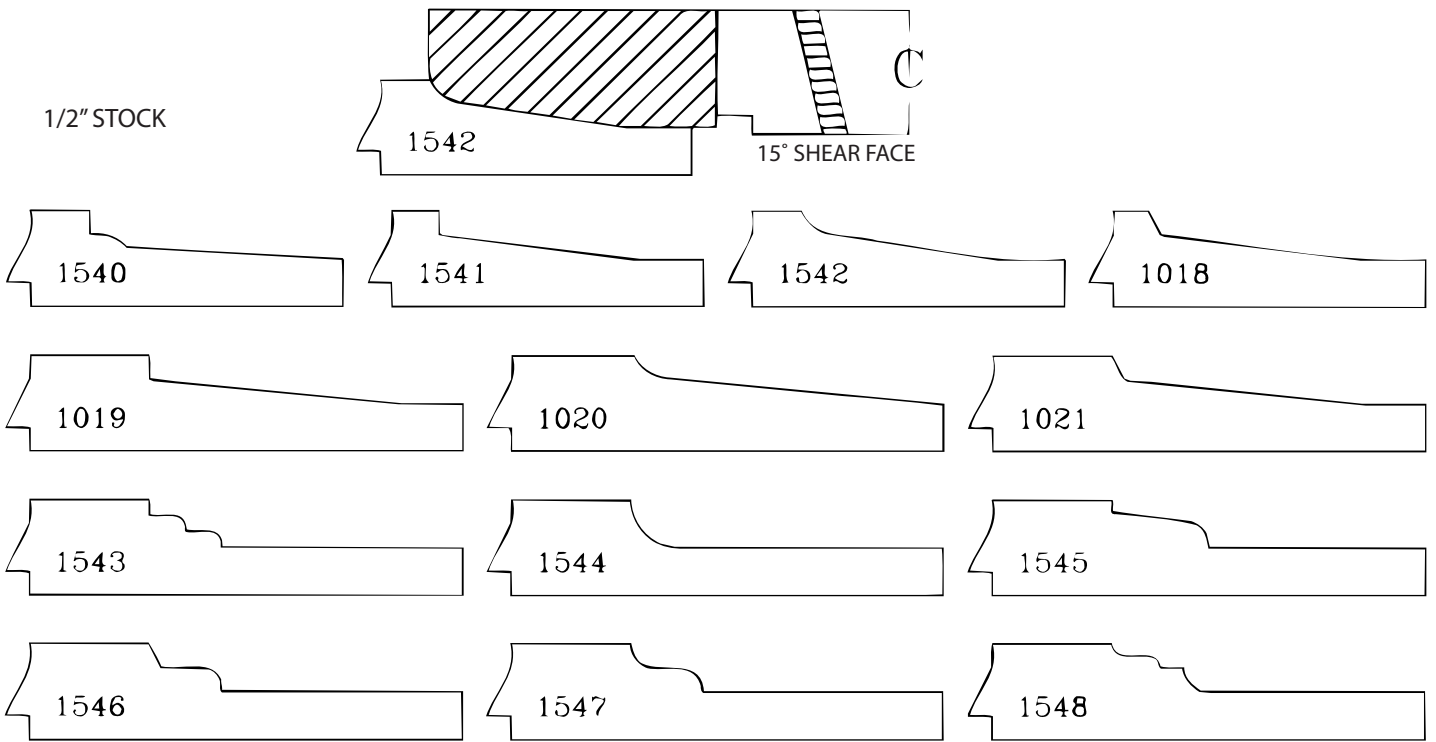
CW Face-down



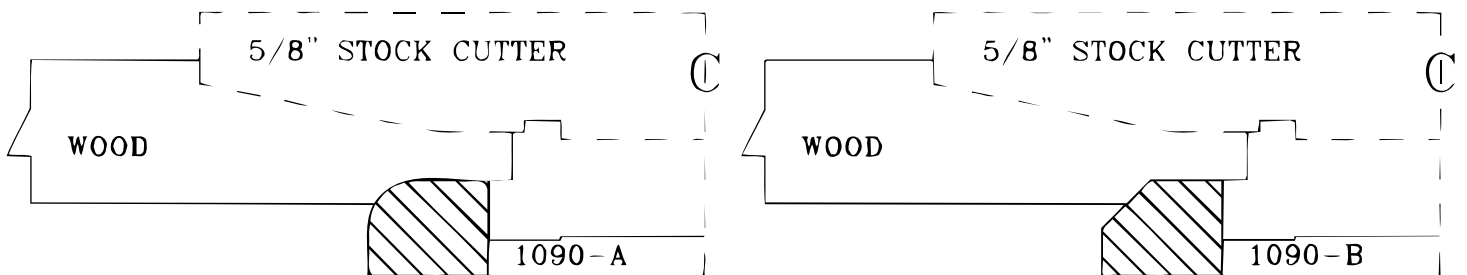
CARBIDE TIPPED RAISED PANEL SHAPER CUTTERS FOR 1/2" STOCK

(WOOD SAMPLE SHOWN)

For Arch, Cathedral and Eyebrow type doors, a ball bearing guide is required. See page 158. Cutters do not cut the end of the panels. By raising or lowering the shaper spindle you can increase or decrease the thickness of the tongue. All panel cutters have 15° shear face.

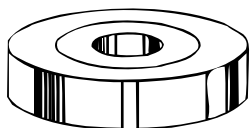


CARBIDE TIPPED PARTIAL-BACK RAISED PANEL SHAPER CUTTER (FOR 3/4" STOCK)



These two patterns will work with all raised panel shaper cutters shown on page 159. These are designed with 15° face angle for cleaner cuts. If you are using 3/4" material, order the raised panel cutter for 5/8" stock and using the cutter above they together will make the correct design on 3/4" material. If you are using 5/8" material, order the raised panel cutters for 1/2" stock and using the cutter above they together will make the correct design on 5/8" material. Cutters come with standard steel spacer to cut 1/4" thick tongue. If ball bearing guide is requested, add -BB to Tool No.

BALL BEARING RUB COLLAR USED WITH CUTTERS TO CUT IRREGULAR PATTERNS



Tool No.	Bore	Diameter	Thickness	Tool No.	Bore	Diameter	Thickness
880*	1/2	1-1/8 only	5/16	886*	1	2" only	1/2
881	1/2	over 1-1/8	5/16	887	1	over 2"	1/2
882*	5/8	1-3/8 only	13/32	888*	1-1/8	2-1/8 only	1/2
883	5/8	over 1-3/8	13/32	889	1-1/8	over 2-1/8	1/2
884*	3/4	1-5/8 only;	7/16	890*	1-1/4	2-1/4 only	1/2
885	3/4	over 1-5/8	7/16	891	1-1/4	over 2-1/4	1/2

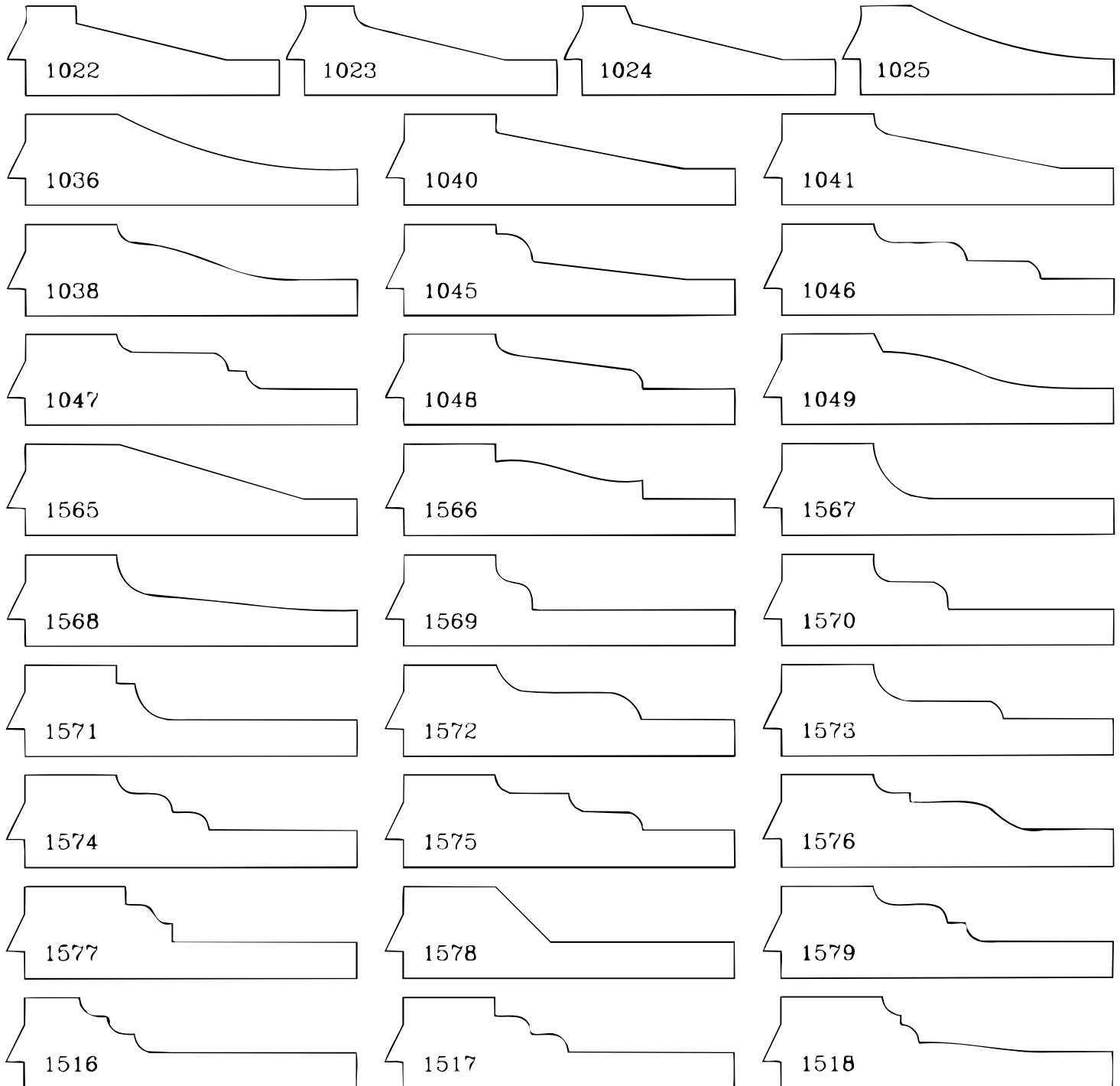
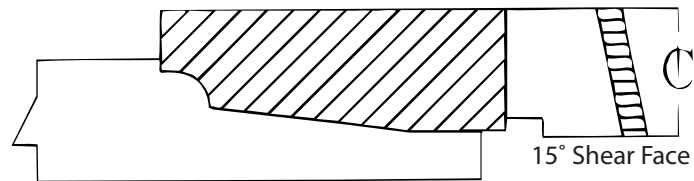
*Exact size of ball bearing. Will not have a sleeve on it. Metric ball bearing rub collar available. Please specify exact diameter of ball bearing rub collar. Comes with 1/16" spacer that goes between cutter and bearing.

Ball bearing O.D. diameters that are three times the size of the bore will have a surcharge. See price list.

CARBIDE TIPPED RAISED PANEL SHAPER CUTTERS FOR 5/8" STOCK (WOOD SAMPLES SHOWN)

For Arch, Cathedral and Eyebrow type doors, a ball bearing guide is required see page 158. Cutters do not cut the end of the panels. By raising or lowering the shaper spindle, you can increase the thickness of the tongue. All panel cutters have 15° shear face.

FOR 5/8" STOCK

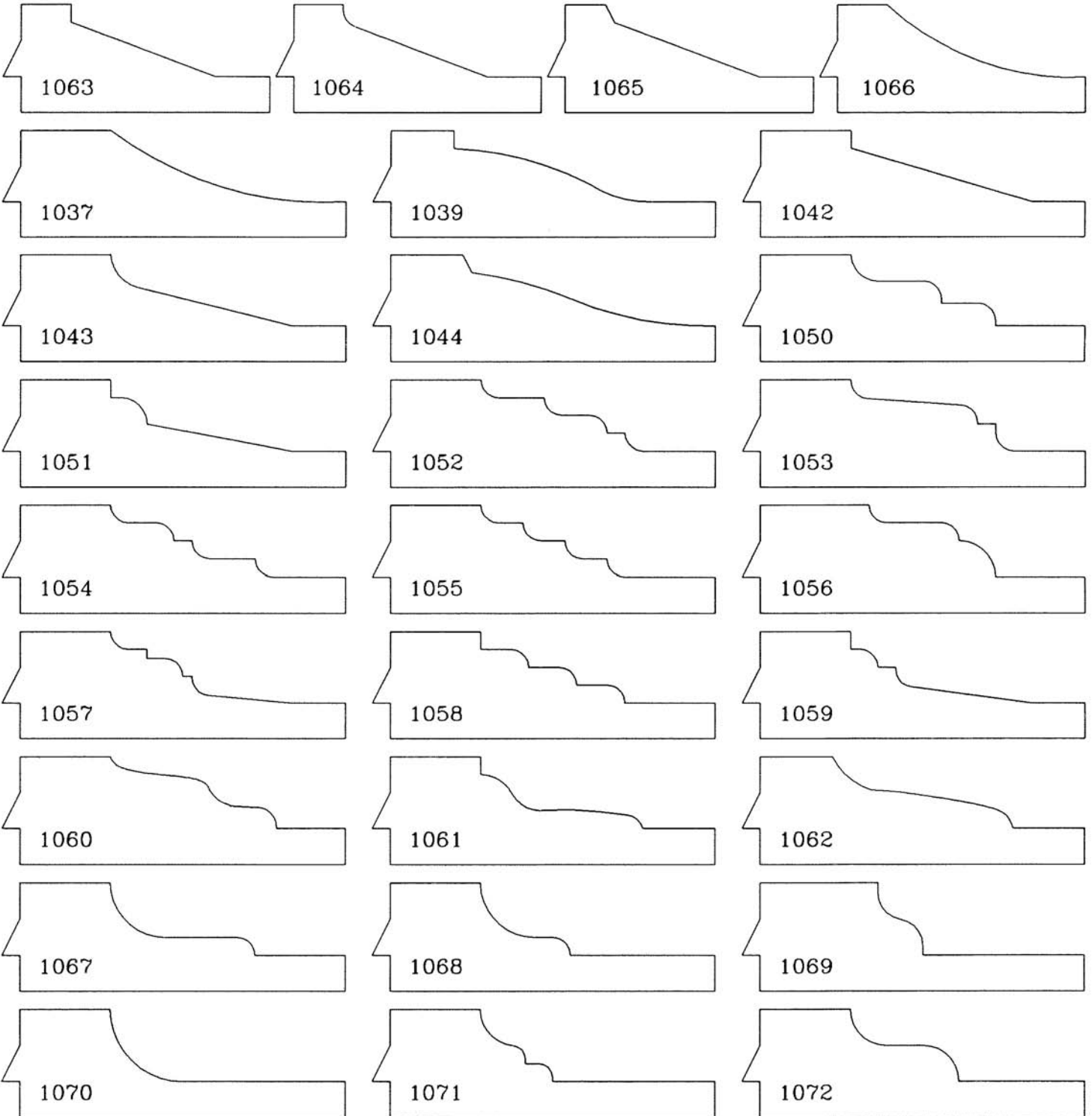
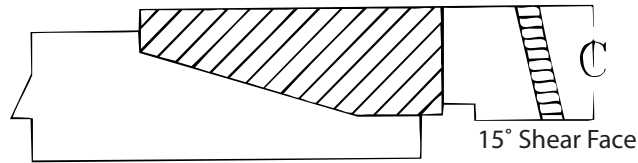


Standard bore 3/4" or 1". For 1-18" or 1-1/4" bore add 10% to standard price. Space Balls see page ____.

CARBIDE TIPPED RAISED PANEL SHAPER CUTTERS FOR 3/4" STOCK (WOOD SAMPLES SHOWN)

For Arch, Cathedral and Eyebrow type doors, a ball bearing guide is required see page 158. Cutters do not cut the end of the panels. By raising or lowering the shaper spindle, you can increase the thickness of the tongue. All panel cutters have 15° shear face.

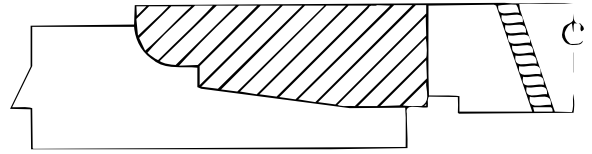
FOR 3/4" STOCK



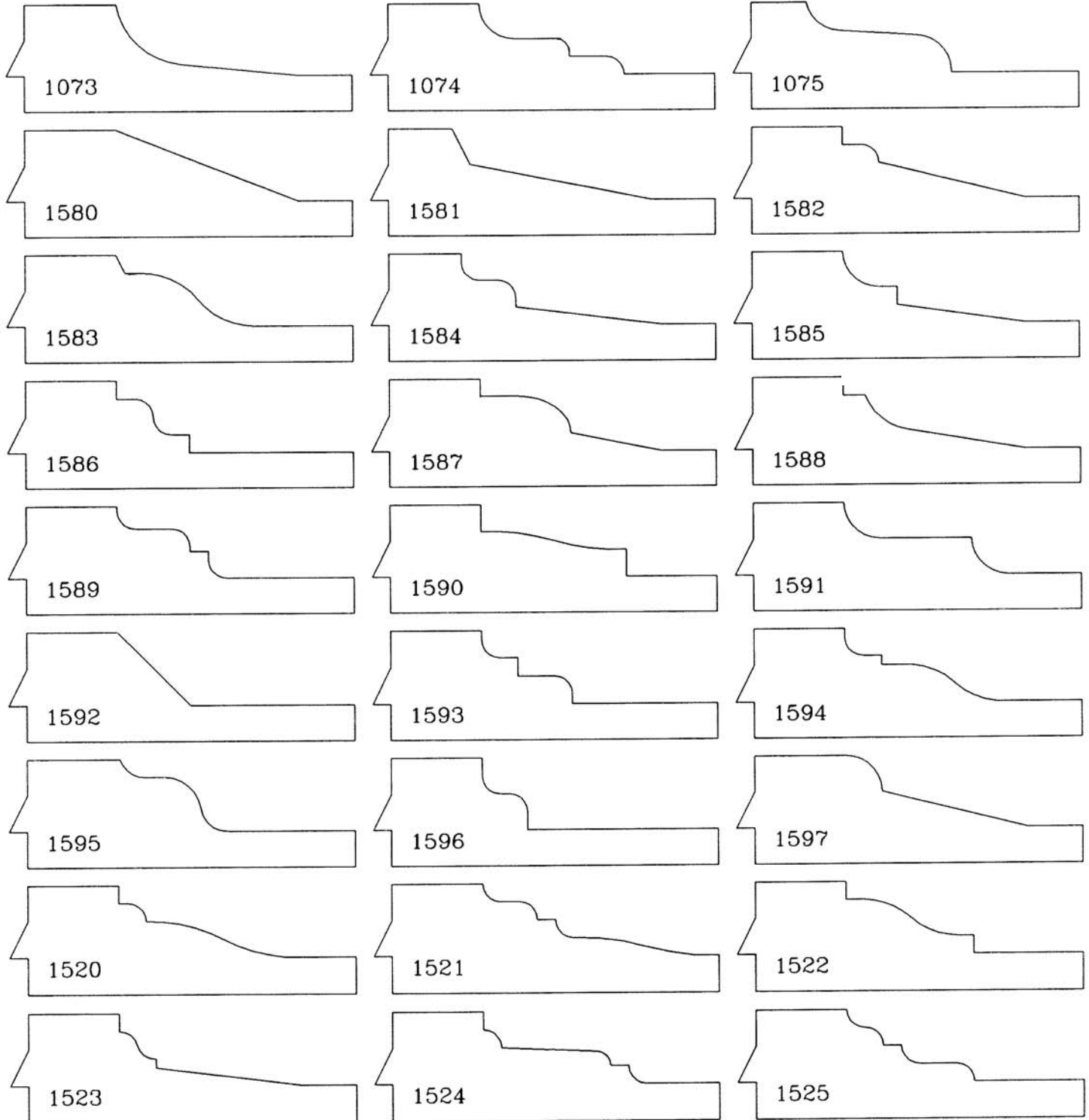
Standard bore 3/4" or 1". For 1-18" or 1-1/4" bore add 10% to standard price. Space Balls see page 40.

CARBIDE TIPPED RAISED PANEL SHAPER CUTTERS FOR 3/4" STOCK cont.
(WOOD SAMPLE SHOWN)

For Arch, Cathedral and Eyebrow type doors, a ball bearing guide is required see page 158. Cutters do not cut the end of the panels. By raising or lowering the shaper spindle you can increase or decrease the thickness of the tongue. All panel cutters have 15° shear face.



FOR 3/4" STOCK



Space Balls see page 40. Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED FULL DOUBLE RAISED PANEL SHAPER CUTTERS

(WOOD SAMPLE SHOWN)

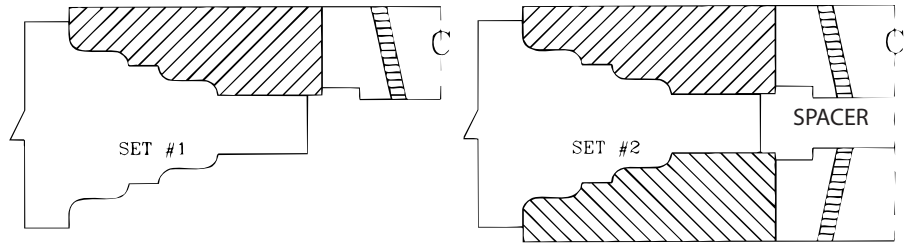
Set "1" consists of using one cutter only and run stock through shaper twice.

Set "2" consists of using two cutters and spacer with only one pass through shaper.

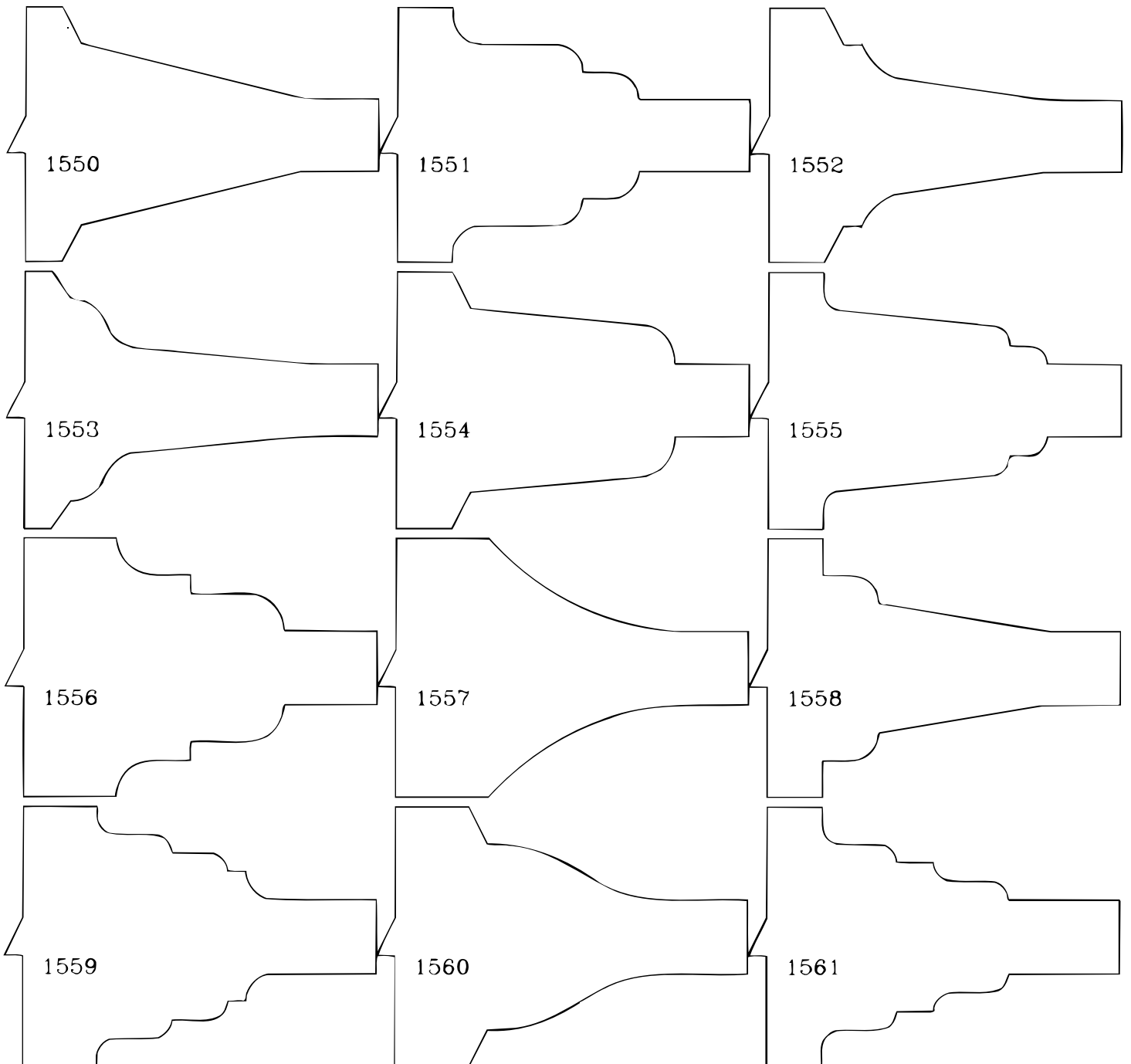
Comes with standard steel spacer to cut 1/2" thick tongue. If ball bearing is requested add -BB to Tool No.

All panel cutters have 15° shear face.

For 1-3/8" stock: comes with 1/4" spacer and will reduce pattern detail 1/16" per each side.
When ordering add -1-3/8 to Tool No.



1-3/4" STOCK



Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

CARBIDE TIPPED FULL DOUBLE RAISED PANEL SHAPER CUTTERS (CONT.)

(WOOD SAMPLES SHOWN)

Set "1" consists of using one cutter only and run stock through shaper twice.

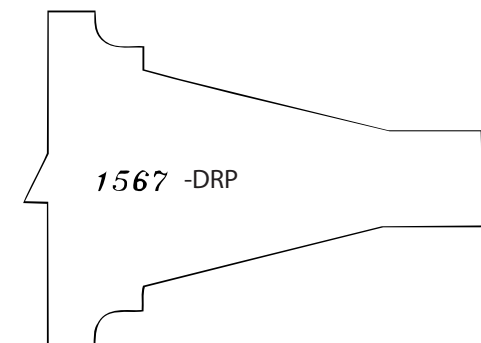
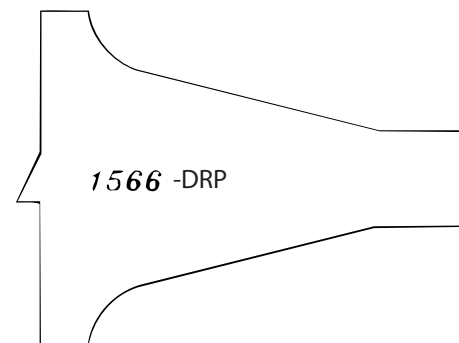
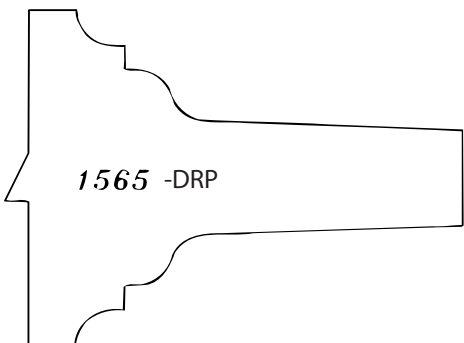
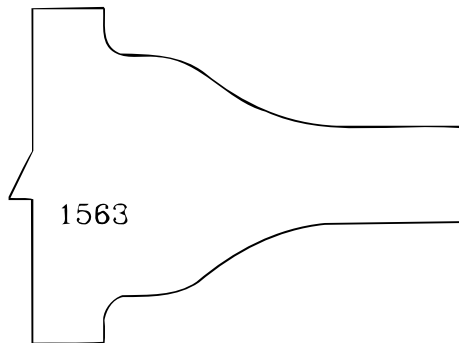
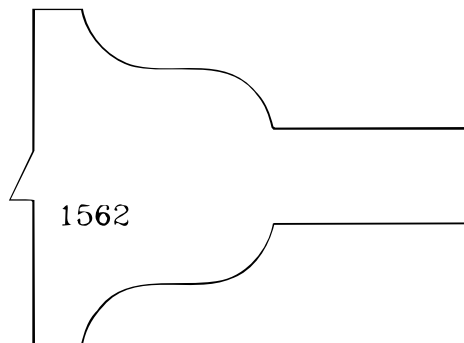
Set "2" consists of using two cutters and spacer with only one pass through shaper.

Comes with standard steel spacer to cut 1/2" thick tongue. If ball bearing guide is requested add -BB to Tool No.

All panel cutters have 15° shear face.

For 1-3/8" stock: comes with 1/4" spacer and will reduce pattern detail 1/16" per each side. When ordering add -1-3/8" to Tool No.

1-3/4" STOCK

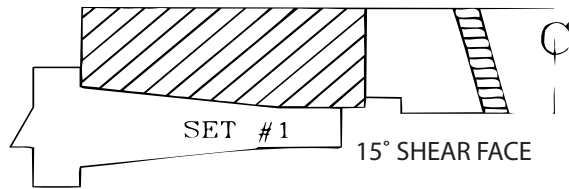


Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

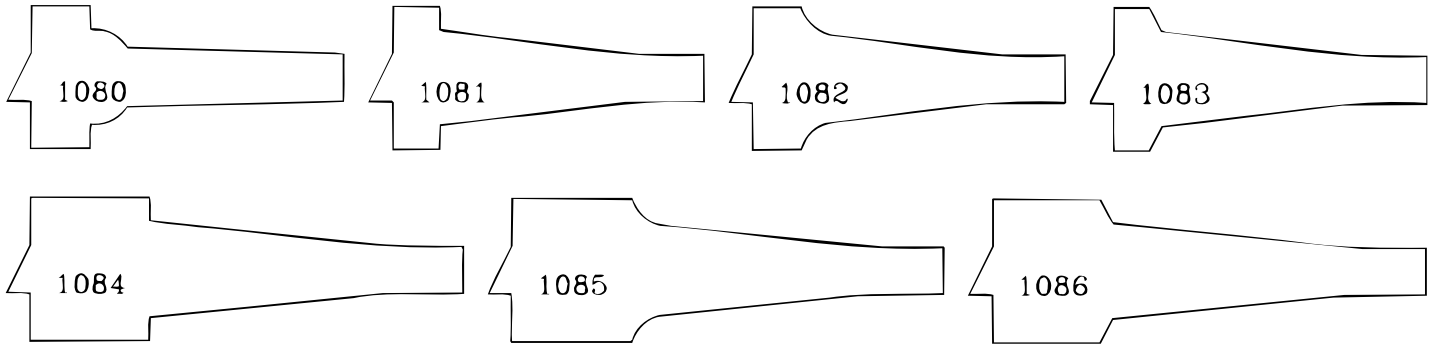
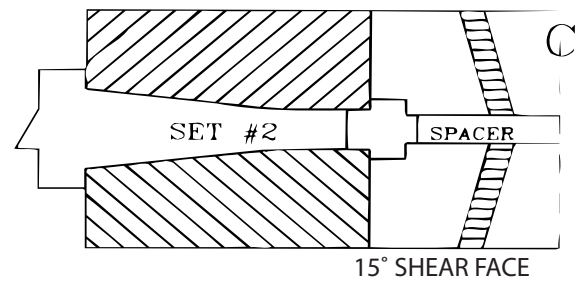
CARBIDE TIPPED FULL DOUBLE RAISED PANEL SHAPER CUTTERS FOR 3/4" STOCK

(WOOD SAMPLE SHOWN)

Set "1" consists of using one cutter only and run stock through shaper twice. Set "2" consists of using two cutters and spacer with only one pass through shaper. Comes with standard steel spacer to cut 1/4" thick tongue. If ball bearing guide is requested add -BB to Tool No. All panel cutters have 15° shear face.

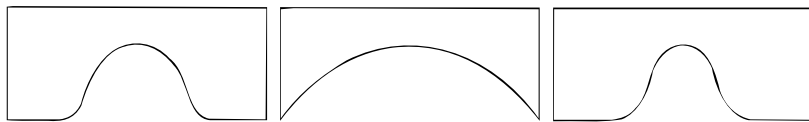


3/4" STOCK

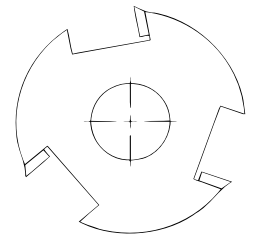
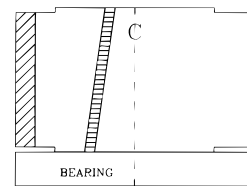


Space Balls see page 40 . Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

ARCH, CATHEDRAL, EYEBROW DOORS: CUT OUT PATTERN WITH SPECIAL SHAPER CUTTER



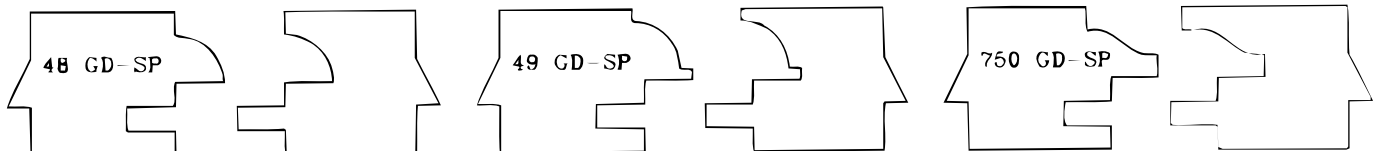
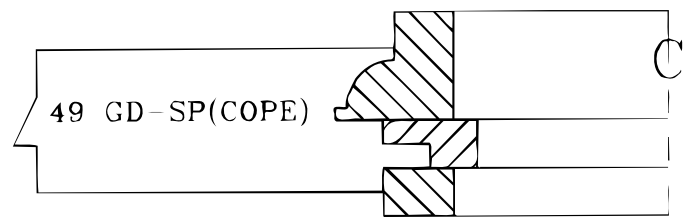
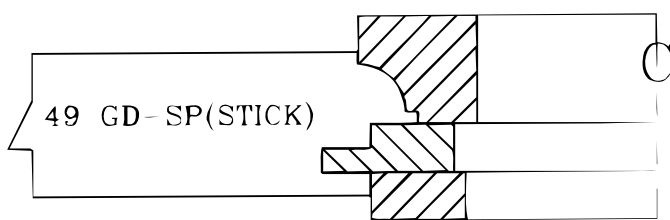
It is no longer necessary to pre-cut the arch, eyebrow or cathedral door pattern on bandsaws. These specially engineered and designed shaper cutters, tipped with "N-ALLOY" will save you many dollars in labor. They have either two or three shear faced wings, and come with one or two ball bearing guides.



Tool No.	Dia.	No. of wings		Tool No.	Dia.	No. of wing	
2470-A-2	2-1/2"	2	-up to 1" bore w/1 BB Guide	2471-A-2	3"	2	1-1/8 to 1-1/4 bore w/ 1 BB Guide
2470-A-3	2-1/2"	3	-up to 1" bore w/1 BB Guide	2471-A-3	3"	3	1-1/8 to 1-1/4 bore w/ 1 BB Guide
2470-B-2	2-1/2"	2	-up to 1" bore w/ 2 BB Guide	2471-B-2	3"	2	1-1/8 to 1-1/4 bore w/ 2 BB Guide
2470-B-3	2-1/2"	3	-up to 1" bore w/ 2 BB Guide	2471-B-3	3"	3	1-1/8 to 1-1/4 bore w/ 2 BB Guide

CARBIDE TIPPED STILE & RAIL SHAPER CUTTER SETS FOR CLOCKMAKERS MALE & FEMALE (WOOD SAMPLES SHOWN)

Each set consists of 6 cutters. Each 1/2 set consists of 3 cutters that are pinned together.



For Arch, Cathedral and Eyebrow type door a ball bearing guide is required. See page 131. For vinyl glass-panel retainers see page 40. For options see page 144. Standard bore is 3/4" or 1". For 1-1/8" or 1-1/4" bore add 10% to standard price.

SAW BLADES

Over 70 styles of Saw Blades, Dado Sets and Groovers consisting of over 10,000 different sizes and types.

SHAPER CUTTERS

Over 1,600 different patterns and designs with five bore sizes. We manufacture thousands of special custom designs. Send us your requirements.

ROUTER BITS

Over 1,500 standard router bits and accessories to choose from. We will manufacture your custom router bits at reasonable prices with fast delivery.

DRILLS - COUNTERSINKS

Over 1,000 items in varying sizes. (Metric and Inch sizes).

MISCELLANEOUS ITEMS

Hundreds of items that will cut labor and speed up produc-

A PARTIAL LIST OF ITEMS WE MANUFACTURE

Acoustical Tile Blades	Crab Blades	Moon Rover Machine Blades
Almond Slicing & Dicing Blades	Dairy Rubber Matt Slotting & Cutting Blades	Mushroom Blades
Amish Spoke Wheel Cutters	Dance Floor Blades & Cutters	Oil Filter Blades
Apiary Blades	Dewaxing Cutters	Onion Slicer Blades
Apple Crushing Blades	Diamond Core Blanks	Organ Blades
Armature Slotting Blades	Drum Blades	Pasta Blades
Arrow Archer Blades	Duck Game Calls	Pear Crushing Blades
Artichoke Blades & Knives	Electrical Reel Blades & Cutters	Pencil Cutting Blades
Asparagus Knives - All sizes (Tool Steel & Stainless Steel)	Eyeglass Blades & Cutters	Photo Trimmer Blades
Atomic Reactor Blades	Fiberglass Cutting Blades	Piano Blades
Bagel Blades - Circular Type	Film Slitting Blades	Plastic Slitting Blades
Battery Blades	Fishing Lure Blades	Plastic Water Jug Cutters
Bee Box Blades & Cutters	Garlic Slicing Blades	Poultry Feet Blades (Hock Lock Blades)
Boeing Aircraft Saw Blades	Gas Filter Blades	Rose Trimming Blades
Book Binding Blades & Cutters	Gas Pipe Blades	Sheetrock Blades
Box Spring Mattress Cutters	Gizzard Blades	Slot Car Racing Blades
Brake Trim Blades	Guitar Blades	Solar Panel Blades
Bread Knives - Circular	Gunitite Wear Plates	Spacecraft Blades
Brush Chipper Knives	Gunny Sake Blades	Spaghetti Blades
Cardboard Box Container Blades & Cutters	Hay Blades	Stereo Speaker Cutters
Carpet Blades & Knives	Honeycomb Blades.	Sugar Cane Blades
Carrot Blades	Ice Blades & Knives	Sun Glasses Blades & Cutters
Carving Blades	Insulation Cutting Blades	Sweet Potato Blades
Celery Blades	Lasagna Blades & Knives	Tomato Blades
Chile Pepper Blades	Light Fixture Blades	Tree Stump Removal Cutters
Cloth Blades & Cutters	Lockheed Aircraft Saw Blades	Turkey Game Calls
Commutor Slotting Blades	Meat Blades - Circular & Bandsaw	Uniplane Cutters
Concrete Core Blanks	Meat Grinding Blades	Vegetable Slicing Blades
Corn Chopping Knives	Metal Roofing Sealers	Water Pipe Blades & Cutters
Cotton Cloth Blades	Military Personnel Carrier Blades & Cutters	Wood Lathe Cutters
Cow Matt Blades		Wood Spindle Cutters

ARE YOU LOOKING FOR A SPECIAL CUTTING TOOL AND YOU CAN'T FIND IT.

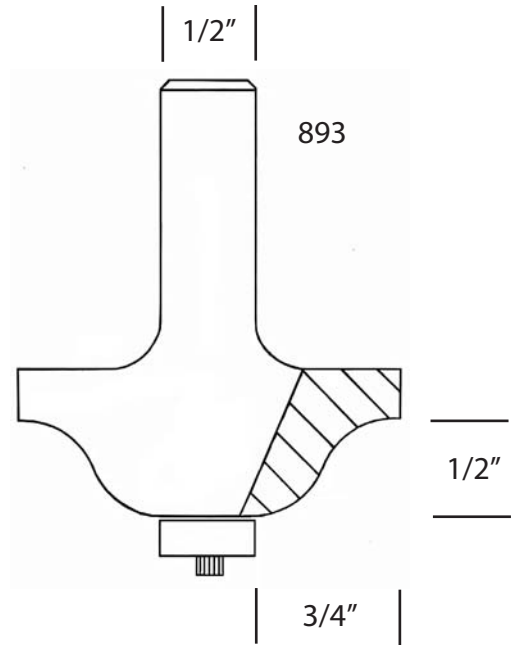
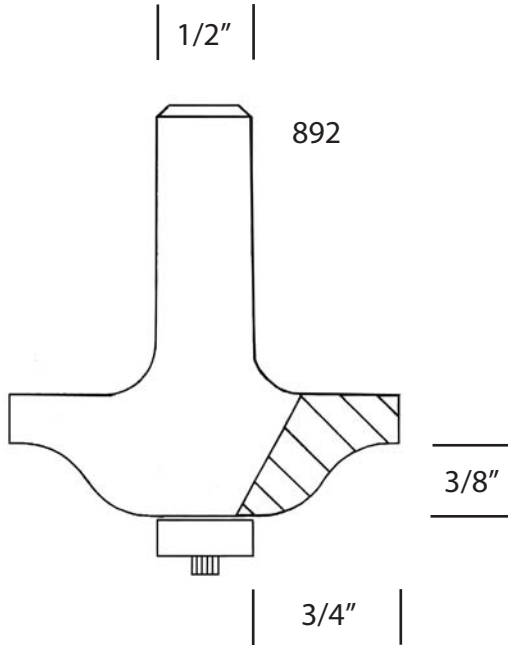
CONTACT US AT NORDIC SAW & TOOL MFG., INC.

IF WE CAN'T LOCATE IT, WE WILL QUOTE ON MANUFACTURING IT FOR YOU.

LOOK FOR US ON THE INTERNET : www.nordicsaw.com Email: nordicsaw@nordicsaw.com

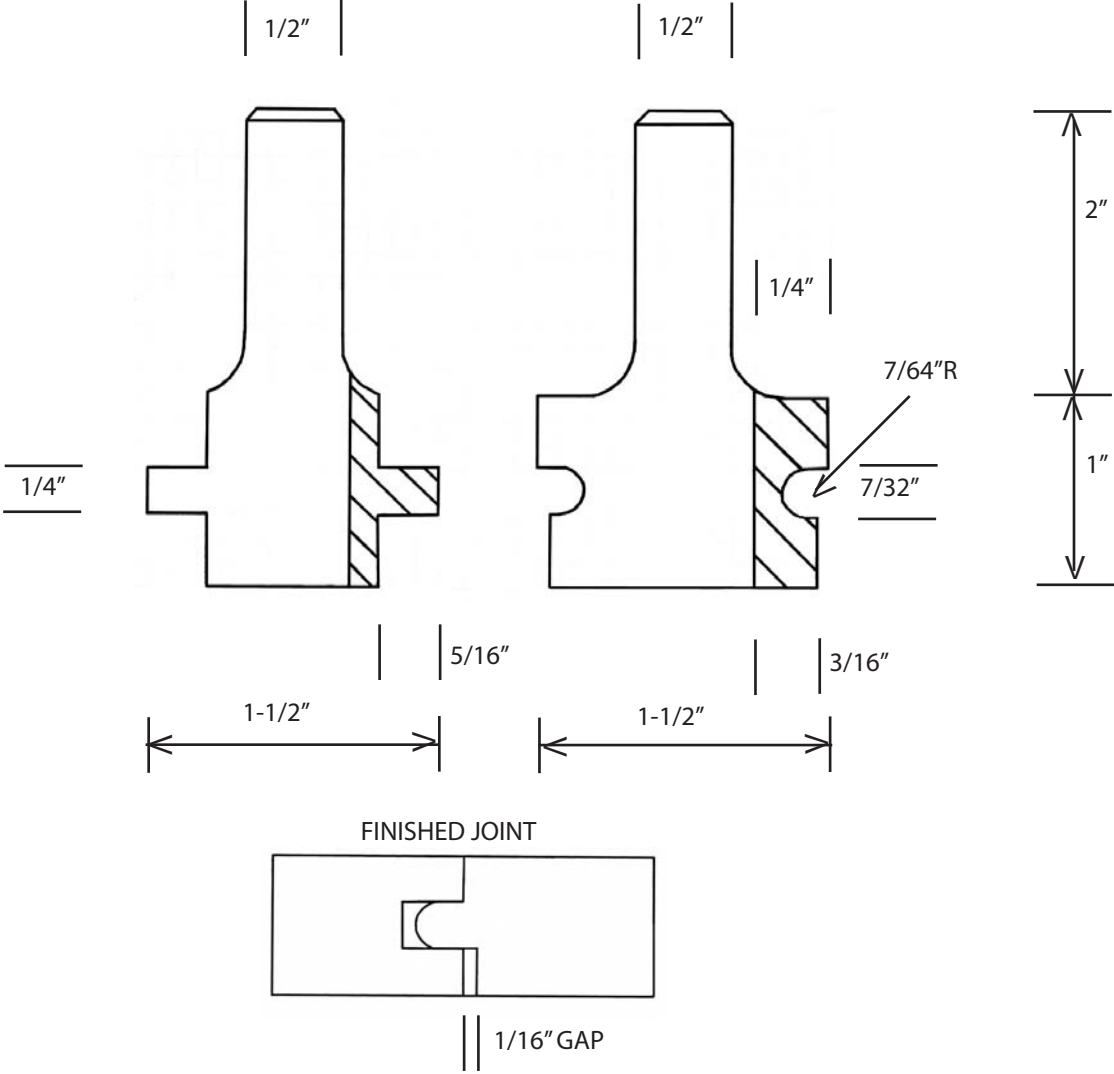
OGEE RAISED PANEL ROUTER BIT
 1/2 SHANK - 2 FLUTE

TOOL NO.	DIA.	RADIUS	CUTTING DEPTH	CUTTING HEIGHT	PRICE
892	2"	3/8	3/4	3/8	149.50
893	2"	3/8	3/4	1/2	155.00



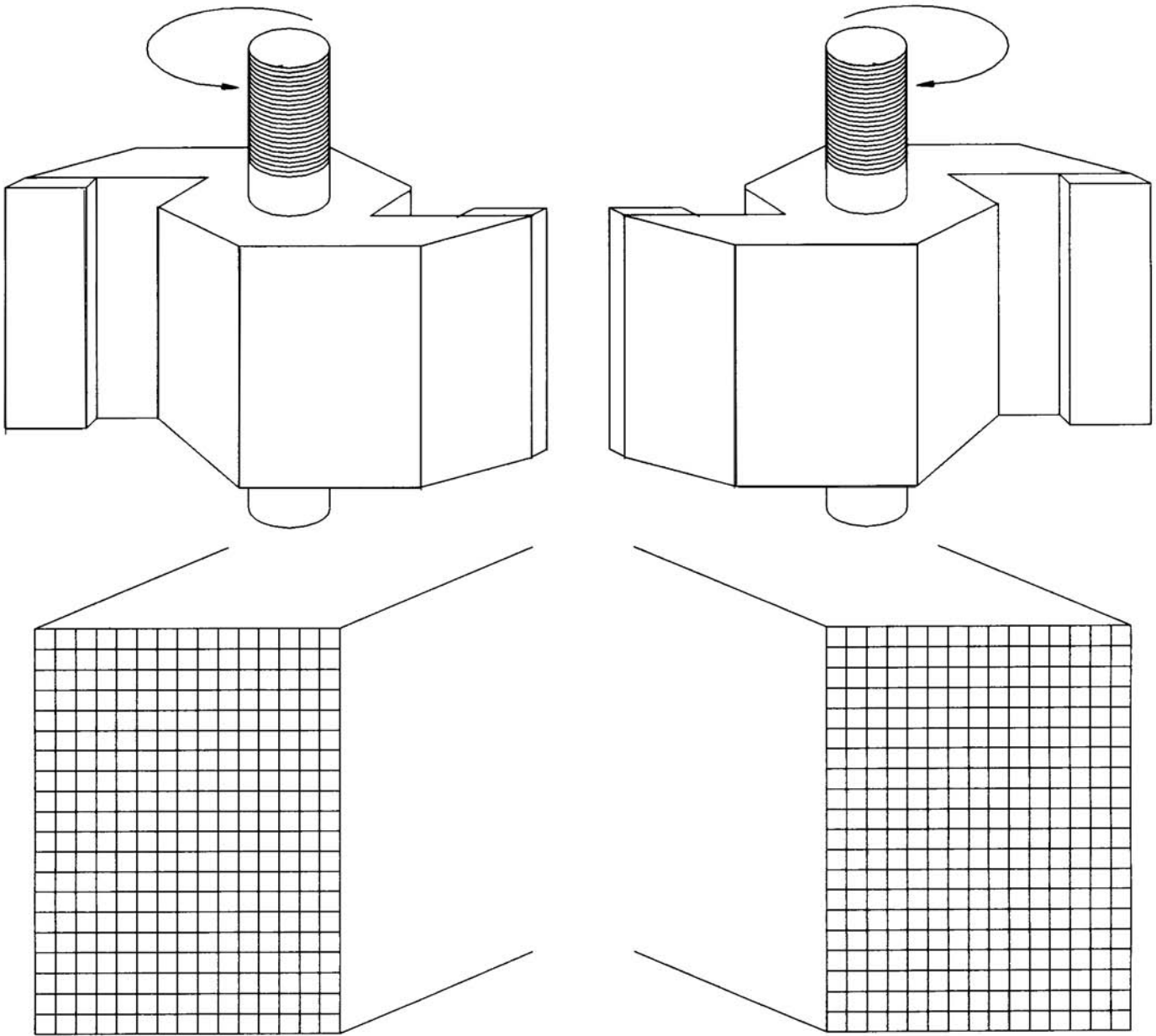
CARBIDE TIPPED - 2 PC - HARDWOOD FLOOR BITS
W/NO BALL BEARING GUIDE

TOOL NO.	DIA.	HEIGHT	PRICE
791	1-1/2	1"	225.00



DESIGN YOUR SPECIAL CUTTER

Draw the exact pattern that you need. The cross section pad is 1/8" grids. If your drawing is not to scale, then add dimensions. Send in wood samples if you have one.



Specifications required when ordering.

Diameter _____ Number of wings _____ Arbor Hole _____

Cutting with _____, Cross _____, and/or end _____ Grain. Shear face required _____

Spindle RPM _____ Spindle HP _____ Power Feed Yes _____ No _____

Clockwise rotation _____ Counter Clockwise rotation _____

Using existing ball bearing guide _____ If so diameter of BB guide _____

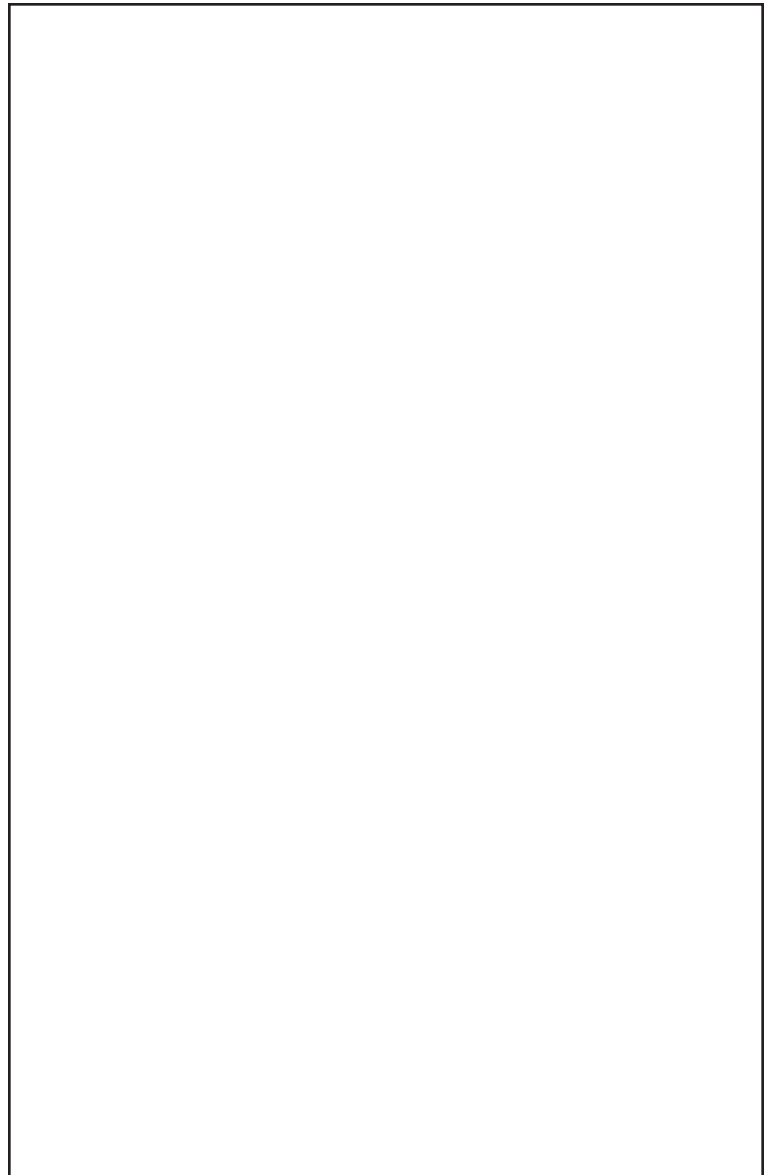
New ball bearing guide required _____ BB on top _____ or bottom _____ of cutter.

Material(s) to be cut _____ Table Opening _____

WE SPECIALIZE IN SOLVING CUTTING PROBLEMS
WE TAKE PRIDE IN DOING THE IMPOSSIBLE

CALL US FOR:

Circular Saw Blades
CNC Tooling
Dado Sets
Drill Bits
Groovers
Hole Saws - C.T. & HSS
Indexable Cutter Heads
Jointer - Planer Knives
Metric Tooling
Planer & Shaper Steel
Production Jigs
Rosette Cutters
Router Bits
Shaper Cutters
Saw & Shaper Mandrels



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