ROUTER BIT GUIDE

800-645-5555
www.klingspor.com

KLINGSPOR is pleased to offer one of the finest lines of router bits and accessories available to the industrial market. These bits offer exceptional quality for long-lasting use and clean cuts.

What makes KLINGSPOR bits better than other bits on the market?

1. Thick Carbide for extra sharpenings
2. Highest quality micrograin carbide
3. Made from solid alloy steel
4. Precision ground for proper balance at high RPM's
5. High hook and relief angles for better chip ejection
6. Superior edge quality

All of these components add up to the best bits you can buy anywhere.

PRODUCT GUARANTEE

All KLINGSPOR bits are warranted to be free from defects in workmanship or materials. Warranty is void if tools are altered in any way. Always read and follow owner's safety manual of all power machinery before using bits. Always use eye protection while using this or any carbide cutting product. **WARNING**: Re-grinding of this product will produce dust of potentially hazardous ingredients.

WARNING: KLINGSPOR products can expose you to chemicals including lead and/or cobalt, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to http://www.P65Warnings.ca.gov.

WARNING: Drilling, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a mask or other safeguards for personal protection. For more information go to http://www.P65Warnings.ca.gov.

TERMS AND CONDITIONS

TERMS: Minimum $100.00 order. Net 30 days from date of invoice. Invoices not paid within terms will be considered delinquent, and any orders will be placed on hold until delinquent invoices are paid.
DELIVERY: Single order shipments to one destination totaling $300.00 or more will be shipped F.O.B. destination via carrier of our choice, continental U.S. only. Orders under $300.00 will be shipped F.O.B. KLINGSPOR Distribution Point, continental U.S. only.
ALASKA & HAWAII SHIPMENTS: Shipments to Alaska or Hawaii will be prepaid only to the point of embarkation within the continental U.S., provided above conditions are met. NOTE: KLINGSPOR ABRASIVES cannot be held accountable for delays once an order is released to a carrier.
QUANTITY VARIANCE: Because of the nature of the manufacturing process, a ±10% variance will be allowed by the buyer to the manufacturer.
PRICING: All prices in this catalog are subject to correction and change without notice. All computer invoice extensions have been calculated utilizing two decimal places; therefore, there is the possibility that variations, however minor, may occur due to rounding, and shall be allowed by the buyer.
RETURN POLICY: Returns of merchandise will be accepted only with prior return authorization. Custom size items cannot be returned. All products authorized for return must be properly packaged and returned freight prepaid and in original packaging in re-sellable condition. We are not responsible for items ordered in error or overstocked; if any exceptions are made, a 20% restocking fee will apply. Material non-refundable after one year.
PRODUCT WARRANTY: KLINGSPOR ABRASIVES, Inc. warrants all products to be free from defects for up to one year. If any KLINGSPOR products are found to be defective, buyer's sole and exclusive remedy will be the replacement of any such products or, at KLINGSPOR's option, the refund of buyer's purchase price for said products. In any event, KLINGSPOR shall not be liable for any consequential damages.

SPIRAL BITS

ADVANTAGES

- Very clean cut
- More cutter in wood means less vibration
- Better plunge-cutting
- Can be used on more machinery (CNC, Table, & hand router)
- Direct chips up or down
- Longer edgewear
- Solid carbide instead of tipped

DISADVANTAGES

- Limited lengths and diameters
- Can be somewhat risky to use as they are less flexible

STRAIGHT BITS

ADVANTAGES

- Wide variety of lengths and diameters
- Less expensive
- Greater ability to resharpen

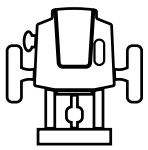
DISADVANTAGE

- Plunge-cutting requires more effort and skill

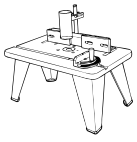
*Pay attention to the special use section throughout the catalog as that will denote specific uses of certain bits and direct replacements.

PREMIUM QUALITY BEST SELLER KLINGSPOR

Watch for this emblem that shows our Best Sellers



ROUTER



ROUTER TABLE

CNC MACHINE

BALLNOSE SPIRAL

The upcut ballnose spiral bit is good for blind holes where you want the chips to be removed up and out of the hole. The "ballnose" is beneficial on CNC milling applications where 3D routing or carving is required, or for routing slots on inside corners with a radius, concave geometry.

- Precision 2D and 3D large scale carving
- Dimensional signage
- 3D millwork
- 2D and 3D contouring, profiling, modeling and pattern making for cabinetry, sign making, furniture making and jewelry mold making
- Compatible with CarveWright™ and CompuCarve woodworking systems
- Perfect for model-makers on large 3D milling profiles in abrasive EPS foam and other materials

PART #	RADIUS	CUT DIAMETER	CUTTING LENGTH	SHANK	OVERALL LENGTH
SC64	1/32"	1/16"	3/4"	1/4"	2-1/2"
SC66	1/16"	1/8"	3/4"	1/4"	2-1/2"
RU1800RN	3/32"	3/16"	3/4"	1/4"	2-1/2"
RU2075RN	1/8"	1/4"	3/4"	1/4"	2-1/2"
RU5125RN	1/4"	1/2"	1-1/4"	1/2"	3"
RUB5Z00RN	1/4"	1/2"	2"	1/2"	4"

** Sets available on page 37*

Point Length

V GROOVE

V Groove bits are available in a variety of angles. They cut deep or shallow "V" grooves. These bits are great for sign making or for adding decorative accents to furniture and plaques. Carbide tipped. Two-wing cutter.

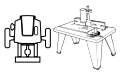
	PART NUMBER	CUTTING DIAMETER	POINT LENGTH	ANGLE	OVERALL LENGTH
			1/4" SHANK		
SC	1500	1/4"	1/8"	90˚	1-1/2"
	1501	3/8"	3/16"	90˚	1-7/8"
	1502	1/2"	1/4"	90˚	1-7/8"
SC	1540	1/4"	7/32"	60˚	1-1/2"
* SC	1541	1/4"	7/32"	60˚	2"
	1550	1/2"	7/16"	60˚	2"
			1/2" SHANK		
	1503	1/2"	1/4"	90˚	2"
	1504	3/4"	3/8"	90˚	2-1/4"
	1506	1"	1/2"	90˚	2-1/4"
	1508	1-1/2"	3/4"	90˚	2-5/8"
	1560	1/2"	7/16"	60˚	2-1/4"
			1/2" SHANK		
	15-238	1-1/4"	1/2"	110˚	2-3/16"
	15-240	1-1/4"	1/4"	130˚	2-3/16"
	15-241	1-1/4"	3/16"	150˚	2-3/16"
	1508-91Q	1-1/2"	3/4"	91˚	2-1/2"

SC - Solid Carbide Not for miter folding.
** #1541 features three flutes for improved veining*

CARVING LINER

Carving Liner is specially designed for producing extra fine vein point for carving or lettering details. Due to the delicate nature of the profile great care should be used when running this bit. Point Length refers to the depth of cut from the corner of the shoulder to the bit tip. Solid carbide. Single fluted.

PART NUMBER	ANGLE	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC50	10.5˚	5/8"	1/4"	2-1/2"



ROUND NOSE

With Bearing Guide *The addition of a shank mounted bearing extends the use of our round nose bits in lettering, veining, or decorative cuts when following a template.*

PART NUMBER	RADIUS	CUTTING DIAMETER	CUTTING LENGTH	BEARING NUMBER
		1/4" SHANK		
1404B	1/4"	1/2"	5/8"	B9
1405B	5/16"	5/8"	3/8"	B6
1406B	3/8"	3/4"	7/16"	B4

O-FLUTE SPIRAL BITS

Up Cut or Down Cut Solid Carbide
- Slow Spiral *Used primarily for routing plastics*

O-flute bits (straight or spiral) are ideal for working with plastics, thin aluminum (ACM), other soft metals, and starboard. The spiral O-flute evacuates shavings much more efficiently than the straight version. RU2074A has a special High polish grind applied for extra life and performance.

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
			SINGLE FLUTE		
RU1581A		1/8"	1/4"	1/4"	2"
RU1601A		1/8"	1/2"	1/4"	2-1/2"
RU1701A		5/32"	5/8"	1/4"	2-1/2"
RU1801A		3/16"	5/8"	1/4"	2-1/2"
RU2074A	RD2074A	1/4"	3/4"	1/4"	2-1/2"
RU2111A		1/4"	1-1/8"	1/4"	3"
RU4111A		3/8"	1-1/8"	3/8"	3"
RU5121A		1/2"	1-1/4"	1/2"	3"
RU5161A		1/2"	1-5/8"	1/2"	3-1/2"
RU5201A		1/2"	2"	1/2"	4"
			DOUBLE FLUTE		
RU2076A	RD2076A	1/4"	3/4"	1/4"	2-1/2"

See Kroma O-Flute and Zirkon Coated bits on the next page

O - FLUTE STRAIGHT BITS

Solid Carbide - One Flute Used primarily for routing plastics

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SA1600	1/8"	3/8"	1/4"	2-1/2"
SA1700	5/32"	1/2"	1/4"	2-1/2"
SA1800	3/16"	1/2"	1/4"	2-1/2"
SA1900	7/32"	5/8"	1/4"	2-1/2"
SA2075	1/4"	3/4"	1/4"	2-1/2"
SA2100	1/4"	1"	1/4"	3-1/2"
SA4100	3/8"	1"	3/8"	3"

LH Rotation available by request.

ZIRKON (ZRN) COATED BITS

Item Numbers:

RU1601-Z	1/8"CD X ½" CL X ¼" SH
RU1801-Z	3/16"CD X 7/8"CL X ¼"SH
RU2074-Z	¼"CD X ¾"CL X ¼"SH

Technical Information:

KLINGSPOR'S new Zirkon (ZrN) coating, added to an already high quality carbide results in an O-Flute bit that cuts cleaner and smoother than an ordinary carbide cutter. This results in faster speeds, higher feed rates, more production and a much longer tool life. The ZrN coating reduces friction and allows the bit to run much cooler, extending the life of the bit far beyond that of a standard carbide bit.

Features:

- Razor sharp cutting edge
- Effortless Chip Removal
- Help prevent chip re-welding
- Extended tool life
- Exceptional cut quality

Competitors:

- Vortex
- Onsrud
- Amana

Applications:

- Aluminum, Aluminum Alloys, Aluminum Composite Materials (ACM), Aluminum Composite Panels (ACP), Alupanel, Brass, Copper, Dibond, Durabond, Gold, Silver and Titanium Composite Material (TCM).

Target Audiences:

- Sign Shops
- Production Shops
- and many more

KROMA O-FLUTE BITS

Item Numbers:

RU1601-K	1/8" CD X ½" CL X ¼" SH
RU1801-K	3/16" CD X 5/8" CL X ¼" SH
RU2074-K	¼" CD X ¾"CL X ¼" SH

Technical Information:

Adding to our KROMA offering , KLINGSPOR introduces our new Kroma O-Flute bits for plastic and composites. With a unique nanocomposite coating, these bits will provide 2-3 times the life of a standard carbide bit. The super hard shield created by the coating reduces friction and as a result there is much less heat in the cutting process. This allows for faster Feed and Speeds, a smoother cut and increased production.

Features:

- Micro-thin ceramic nACo coating means the tool's cutting edge will retain its sharpness.
- Reduced heat, which prevents the burning of both the tool and the material being cut.
- nACo coating provides around 4,500 Vickers for incredible hardness along the cutting edge.
- Increased life of 2-3 times that of an uncoated bit.
- Increased Feed/Speed rates over the competition.

Competitors:

- Vortex
- Onsrud
- Amana

Applications:

- Plastics
- Wood
- Foam

Target Audiences:

- Sign Shops
- Production Shops
- and more

SOLID CARBIDE SPIRALS

STANDARD SPIRAL BITS

Up Cut or Down Cut Solid Carbide - Two Flute

Solid Carbide spiral bits are available in up, down, or up/down configuration, left or right (most will be right), in one, two or three flutes, and in 1/4", 5/16", 3/8", 1/2", 5/8" or 3/4" shank.

Upcut bits are good for blind holes where you want the chips to be removed up and out of the hole. The only problem with this is that same up cut motion can also cause the top surface to splinter up creating a chipped surface. If you were using the same bit on the edge of a piece of wood the bottom edge would be nice and clean because the "up" shearing action of the bit.

With a downcut bit you would have the opposite scenario from an upcut. The top would be clean and the bottom might be slightly splintered. Downcut bits are great for cutting dadoes and grooves. The top edges remain clean during the routing process. A slower feed rate is recommended when using a downcut spiral bit.

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
RU1600	RD1600	1/8"	1/2"	2"
RU1700	RD1700	5/32"	5/8"	2"
RU1800	RD1800	3/16"	3/4"	2-1/2"
RU1900	RD1900	7/32"	3/4"	2-1/2"
RU2075	RD2075	1/4"	3/4"	2-1/2"
RU2100	RD2100	1/4"	1"	2-1/2"
		5/16" SHANK		
RU3100	RD3100	5/16"	1"	2-1/2"
		3/8" SHANK		
RU4075	RD4075	3/8"	3/4"	2-1/2"
RU4100	RD4100	3/8"	1"	2-1/2"
RU4125	RD4125	3/8"	1-1/4"	3"
• HU4125	• HD4125	3/8"	1-1/4"	3"
		1/2" SHANK		
RU4675	RD4675	1/4"	3/4"	3"
RU4700	RD4700	1/4"	1"	3-1/4"
RU4800	RD4800	9/32"	1"	3"
RU4850	RD4850	5/16"	1"	3"
RU4875	RD4875	3/8"	3/4"	3"
RU4900	RD4900	3/8"	1-1/4"	3"
RU4950	RD4950	7/16"	1-1/4"	3"
RU5100	RD5100	1/2"	1"	3"
* RU5125	RD5125	1/2"	1-1/4"	3"
• HU5125	• HD5125	1/2"	1-1/4"	3"
RU5150	RD5150	1/2"	1-1/2"	3-1/2"
* RU5200	RD5200	1/2"	2"	4"
		5/8" SHANK		
RU6150	RD6150	5/8"	1-1/2"	3-1/2"
RU6200	RD6200	5/8"	2"	4"
		3/4" SHANK		
RU7150	RD7150	3/4"	1-1/2"	4"
RU7200	RD7200	3/4"	2"	4"
RU7300	RD7300	3/4"	3"	5"
RU7306	RD7306	3/4"	3"	6"

** Ballnose available - see page 3 • HU/HD = Hard Carbide*

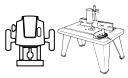
CHIPBREAKER SPIRAL BITS

Up Cut or Down Cut Solid Carbide - Two Flute

Chipbreaker Spiral bits are the same as a standard up or down spiral, but they are designed to break up the chips as the bit cuts the wood.

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
RU5125CB	RD5125CB	1/2"	1-1/4"	3"
RU5150CB	RD5150CB	1/2"	1-1/2"	3-1/2"
RU5200CB	RD5200CB	1/2"	2"	4"

The above items are available from stock with chipbreakers. Chipbreakers can be added to any Spiral Bits by request.



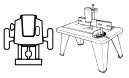
FLUSH TRIM SPIRAL BITS

These spiral bits offer State-of-the-Art results in Flush trimming. Our 1/4" diameter tools are great for small inside corners. Try our 1/8" diameter for extremely sharp corners. The 1/8" bit uses a solid pilot. All others feature a double ball bearing guide. Available in your choice of Up Cut, Down Cut, or an Up/Down Combination. Flush trim spirals are great for following a pattern or template. They have a heavy duty bearing on the end and leave the edge much smoother than the straight bit counterpart due to having a cutting surface in the material at all times.

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
RFT1600	RFTD1600	1/8"	3/8"	2"
RFT2100	RFTD2100	1/4"	1"	3"
		1/2" SHANK		
RFT5125	RFTD5125	1/2"	1-1/4"	3-3/4"
RFT5200	RFTD5200	1/2"	2"	4-3/4"

Uses LC-125 Lock Collar

UDP = Pattern
UDC = Combo top/bottom
UDFT = Flush Trim



FLUSH TRIM UP/DOWN CUT SPIRAL

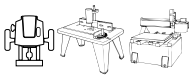
Up/Down Cut (2+2 Compression) Solid Carbide - Two Flute

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
UDFT5152	1/2"	1-1/2"	1/2"	4-1/4"
* UDP9112	7/8"	1-1/8"	1/2"	4"
* UDC9112	7/8"	1-1/8"	1/2"	4"
* UDFT9112	7/8"	1-1/8"	1/2"	4"

** Solid carbide spiral brazed to a steel shank*

SOLID CARBIDE SPIRALS

LEFT HAND SPIRAL BITS



Up Cut or Down Cut Solid Carbide - Two Flute

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
LU1600	LD1600	1/8"	1/2"	2"
LU1800	LD1800	3/16"	3/4"	2"
LU2100	LD2100	1/4"	1"	2-1/2"
		5/16" SHANK		
LU3100	LD3100	5/16"	1"	3"
		3/8" SHANK		
LU4100	LD4100	3/8"	1"	3"
		1/2" SHANK		
LU5125	LD5125	1/2"	1-1/4"	3"
LU5200	LD5200	1/2"	2"	4"
		5/8" SHANK		
LU6200	LD6200	5/8"	2"	4"
		3/4" SHANK		
LU7200	LD7200	3/4"	2"	4"

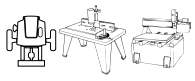
ROUGHING SPIRAL BITS

(Hoggers) Up Cut or Down Cut Solid Carbide - Three Flute

Roughing Spiral bits are the go to for material removal. They are known as the "hoggers". The edges have serrations milled into them to break up the chips into smaller pieces and really move some material fast when cutting.

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
* RU4000H		3/8"	1"	3/8"	2-1/2"
RU4100H	RD4100H	3/8"	1"	3/8"	3"
RU4125H	RD4125H	3/8"	1-1/4"	3/8"	3"
RU5125H	RD5125H	1/2"	1-1/4"	1/2"	3"
RU5162H	RD5162H	1/2"	1-5/8"	1/2"	3-1/2"
RU5218H	RD5218H	1/2"	2-3/16"	1/2"	4"
RU6200H	RD6200H	5/8"	2"	5/8"	4"
RU7200H	RD7200H	3/4"	2"	3/4"	4"
RU7325H	RD7325H	3/4"	3-1/4"	3/4"	6"

For Castle & P-C Pocket Machines.



THREE FLUTE SPIRAL BITS

Up Cut or Down Cut Solid Carbide - Three Flute

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
RU4125T	RD4125T	3/8"	1-1/4"	3/8"	3"
RU5125T	RD5125T	1/2"	1-1/4"	1/2"	3"
RU5200T	RD5200T	1/2"	2"	1/2"	4"
RU7200T	RD7200T	3/4"	2"	3/4"	4"

UP/DOWN CUT SPIRAL BITS

Compression Bits give you the best of both worlds. The part of the spiral bit closest to the tip has a 3/8" upcut and the part closest to the router is downcut. It compresses the chips to the center of the bit.

This is especially good for plywood, laminates, and MDF when you need the top and bottom edges clean. Choosing the right length of bit is important to match the thickness of material you are cutting, so both ends of the bit have room to work.

The "M" denotes that the bit has a mortise cut, which provides a 1/4" upcut before the downcut begins. This allows the cutter to create a shallower groove/dado cut for denser or easily chipped material.

"HC" denotes a super hard Carbide, which provides much longer life when used on laminates and melamine. Speeds & feed rates must be reduced when using these bits due to the brittleness of the harder carbide.

"K" refers to our nano coating technology which increases life and allows for increased feed rates on high production applications.

Up/Down Cut (1+1 Compression) *Solid Carbide - Single Flute*

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
UD2100	1/4"	1"	1/4"	2-1/2"
UD4125	3/8"	1-1/4"	3/8"	3"
UD5150	1/2"	1-1/2"	1/2"	3-1/2"
UD5160	1/2"	1-5/8"	1/2"	3-1/2"

Up/Down Cut (2+2 Compression) *Solid Carbide - Two Flute*

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
UD1602	1/8"	1/2"	1/4"	2-1/2"
UD2102	1/4"	1"	1/4"	2-1/2"
* UD4102M	3/8"	1"	3/8"	2-1/2"
UD4122	3/8"	1-1/4"	3/8"	3"
* UD4122M	3/8"	1-1/4"	3/8"	3"
† UD4122M-K	3/8"	1-1/4"	3/8"	3"
• HC4122M	3/8"	1-1/4"	3/8"	3"
UD5050	3/8"	1/2"	3/8"	3"
UD5122	1/2"	1-1/4"	1/2"	3"
* UD5122M	1/2"	1-1/4"	1/2"	3"
† UD5122M-K	1/2"	1-1/4"	1/2"	3"
• HC5122M	1/2"	1-1/4"	1/2"	3"
UD5152	1/2"	1-1/2"	1/2"	3-1/2"
UD5162	1/2"	1-5/8"	1/2"	3-1/2"
* UD5162M	1/2"	1-5/8"	1/2"	3-1/2"
UD5202	1/2"	2"	1/2"	4"
UD6152	5/8"	1-1/2"	5/8"	4"
UD7152	3/4"	1-1/2"	3/4"	4"
UD7202	3/4"	2"	3/4"	5"

Up/Down Cut (3+3 Compression) *Solid Carbide - Three Flute*

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
* UD4123M	3/8"	1-1/4"	3/8"	3"
UD5123	1/2"	1-1/4"	1/2"	3"
* UD5123M	1/2"	1-1/4"	1/2"	3"
UD5143	1/2"	1-3/8"	1/2"	3-1/2"
UD5163	1/2"	1-5/8"	1/2"	3-1/2"
* UD5163M	1/2"	1-5/8"	1/2"	3-1/2"

**** Mortise Style - These bits have a short 1/4" up-cut end flute. This allows down shear cutting action to the top edge during shallow cuts.***
• Super Hard Carbide versions for use on melamine and for extra life.
† Nano coating for increased feed rates.

SLOW SPIRAL BITS

Up Cut or Down Cut Solid Carbide - Three Flute

Slow Spiral bits have less of a twist than the full spirals, which makes them ideal for use on hardwoods, solid surface, and hard plastics.

UP CUT PART #	DOWN CUT PART #	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
RU4100S	RD4100S	3/8"	1"	3/8"	2-1/2"
RU5100S	RD5100S	1/2"	1"	1/2"	3"
RU5150S	RD5150S	1/2"	1-1/2"	1/2"	3-1/2"

SOLID CARBIDE

SOLID CARBIDE STRAIGHT BITS

Solid Carbide straight bits (pg 4) are popular simply due to price. The cutter doesn't stay sharp as long as the spiral versions.

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
		SINGLE FLUTE		
SC062	1/16"	3/16"	1/4"	1-1/2"
SC01	1/16"	5/16"	1/4"	1-1/2"
SC01A	3/32"	5/16"	1/4"	1-1/2"
SC02	1/8"	3/8"	1/4"	1-1/2"
SC03	5/32"	5/8"	1/4"	1-1/2"
SC04	3/16"	1/2"	1/4"	1-1/2"
SC05	7/32"	3/4"	1/4"	2"
SC06	1/4"	3/4"	1/4"	2"
SC07	1/4"	1"	1/4"	2-1/2"
SC08	1/4"	1"	1/4"	3"
SC17	5/16"	1"	5/16"	2-1/2"
		DOUBLE FLUTE		
SC33	1/8"	1/4"	1/4"	2"
SC09	1/8"	3/8"	1/4"	1-1/2"
SC09A	1/8"	3/8"	1/4"	2"
SC156	5/32"	3/8"	1/4"	1-1/2"
SC10	5/32"	5/8"	1/4"	1-1/2"
SC10A	5/32"	5/8"	1/4"	2"
SC34	3/16"	3/8"	1/4"	2"
SC11	3/16"	1/2"	1/4"	1-1/2"
SC11A	3/16"	1/2"	1/4"	2"
SC12	3/16"	5/8"	1/4"	2"
SC13	7/32"/5.5mm	3/4"	1/4"	2"
SC35	1/4"	1/2"	1/4"	2"
SC14	1/4"	3/4"	1/4"	2"
SC15	1/4"	1"	1/4"	2-1/2"
SC16	1/4"	1"	1/4"	3"
SC18	5/16"	1"	5/16"	2-1/2"
SC19	3/8"	1"	3/8"	2-1/2"
SC19A	3/8"	1-1/4"	3/8"	3"
SC218	7/32"/5.5mm	3/4"	1/2"	2-3/4"
SC235	15/64"/6mm	3/4"	1/2"	2-3/4"
SC20	1/4"	3/4"	1/2"	2-3/4"
SC21	1/4"	1"	1/2"	3"
SC22	5/16"	1"	1/2"	3"
SC23	3/8"	1"	1/2"	3"
SC24	3/8"	1-1/4"	1/2"	3"
SC25	1/2"	1"	1/2"	3"
SC26	1/2"	1-1/4"	1/2"	3"
SC27	1/2"	1-1/2"	1/2"	3-1/2"

> ***Klingspor router bits are made from C2 &C3 premium Micro-Grain carbide. Some of the best in the industry!***

Straight Carbide Tipped bits (left & right hand) are the standard in the woodworking industry and are an economical version of the spirals. They are offered in more sizes and cutting lengths than their spiral counterparts and available in 1/4", 3/8", and 1/2" shanks.

CNC ROUTER BITS

Straight Cut - Carbide Tipped

CNC Tools are designed to meet the severe applications of CNC routing. These tools offer superior performance over standard straight flute bits at the high feed rates commonly found on CNC routers. They also provide an economical alternative to the more expensive spiral bits. For the ultimate in CNC routing, choose from KLINGSPOR's wide selection of Solid Carbide Spiral Bits listed on pages 4 and 5.
*** Use on CNC Routers only.*

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
	1/2" SHANK • DOUBLE FLUTE		
C1067	1/2"	1-1/4"	2-7/8"
C1069	1/2"	1-1/2"	3-1/8"
C1072	1/2"	2"	4-1/8"
	3/4" SHANK • DOUBLE FLUTE		
C7512	3/4"	1-1/4"	3"
C7515	3/4"	1-1/2"	3-1/4"
C7520	3/4"	2"	4"
C7525	3/4"	2-1/2"	4-1/2"

F - Supplied with Carbide Flat Bottom Boring Point
V - Supplied with Carbide Vee Bottom Boring Point

SOLID CARBIDE FIBERGLASS BITS

The Solid Carbide Fiberglass Bit looks a lot like a wood rasp, and that's pretty much what it is. Their material removing capacity is limited relative to other kinds of bits but they are great for finishing cuts. Since the feed rate needs to be a little slower they're gentle on the material and are often used with composites, PC board material, fiberglass, and other layered materials.

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC90	1/4"	3/4"	1/4"	2-1/2"
SC90V	1/4"	3/4"	1/4"	2-1/2"
SC91V	1/4"	1"	1/4"	3"

****Note - order SC90 for flat bottom plunge point***
SC90V & SC91V are supplied with vee plunge point

SOLID CARBIDE

FLUSH & 7° BEVEL TRIM - WITHOUT PILOT

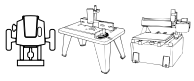
PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC30	3/8"	1/4"	1-1/2"

HOLE & FLUSH TRIM

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC31	3/8"	1/4"	2"

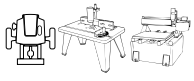
RIP & SLOTTING

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC32	3/8"	1/4"	1-1/2"



FLAT BOTTOM VEINING

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	FLUTES
		1/4" SHANK - DOUBLE FLUTE		
SC33	1/8"	1/4"	2"	2
SC156	5/32"	3/8"	1-1/2"	2
SC34	3/16"	3/8"	2"	2
SC35	1/4"	1/2"	2"	2



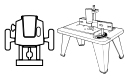
ROUND BOTTOM VEINING

PART NUMBER	RADIUS	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
		1/4" SHANK - DOUBLE FLUTE		
SC39	1/16"	1/8"	1/4"	2"
SC40	3/32"	3/16"	3/8"	2"
SC41	1/8"	1/4"	1/2"	2"

LH Rotation available by request.

Solid Carbide flush / bevel trim bits work well, but do not have the bearing to follow the template. Instead, the solid end follows the template. This can create burning if a lubricant is not used. These are common in laminate countertop applications.

The 7 degree bevel bits allow for minimal filing of the edge once routed. This is a huge benefit for the end user as it saves them time, which is money.

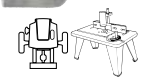


STANDARD FLUSH TRIM - 1/4" CUT LENGTH

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC28B	1/4"	1/4"	1-1/2"
SC28B-BLK	100 Pcs. - Bulk		

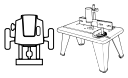
FLUSH TRIM - 3/8" CUT LENGTH

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC28	3/8"	1/4"	1-1/2"
SC28-BLK	100 Pcs. - Bulk		



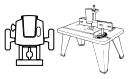
FLUSH TRIM - DOUBLE END

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC28A	1/4"	1/4"	2"



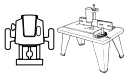
DADO TRIM - SMALL PILOT FOR DADO

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC28C	1/4"	1/4"	1-1/2"
SC28C-BLK	100 Pcs. - Bulk		



7° BEVEL TRIM

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC29	1/4"	1/4"	1-1/2"
SC29-BLK	100 Pcs. - Bulk		



7° BEVEL TRIM - DOUBLE END

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC29A	1/4"	1/4"	2"

CARBIDE TIPPED STRAIGHTS

1/2" SHANK STRAIGHT BITS

PART NUMBER	CUTTING DIA	CUTTING LENGTH	OVERALL LENGTH	SPECIAL USE
		1/2" SHANK • SINGLE FLUTE		
1049	3/8"	1"	2-5/8"	
1050	3/8"	1-1/4"	2-7/8"	
1051	1/2"	3/4"	2-3/8"	Midwest Machine
1052	1/2"	1-1/4"	2-7/8"	
1054	1/2"	1-1/2"	3-1/8"	
1055	1/2"	2"	4-1/8"	
1055A	1/2"	2-1/2"	4-3/8"	
		1/2" SHANK • DOUBLE FLUTE		
1058	**1/4"**	**3/4"**	**2-3/8"**	Incra™
1059	9/32"	3/4"	2-3/8"	
1060	**5/16"**	**1"**	**2-5/8"**	
1061	3/8"	3/4"	2-3/8"	
1062	**3/8"**	**1"**	**2-5/8"**	Incra™
1063	3/8"	1-1/4"	2-7/8"	
1065	7/16"	1-1/4"	2-7/8"	
1065L	7/16"	1-1/4"	3-1/4"	Leigh #150
1065A	**31/64"**	**1"**	**2-5/8"**	Undersize Plywood Dado
1066	**1/2"**	**1"**	**2-5/8"**	
1067	1/2"	1-1/4"	2-7/8"	Leigh #160
1067F	1/2"	1-1/4"	2-7/8"	Carbide Boring Point
1069	**1/2"**	**1-1/2"**	**3-1/8"**	
1070	1/2"	1-1/2"	4-1/8"	
1071	1/2"	2"	3-1/2"	
1072	**1/2"**	**2"**	**4-1/8"**	
1073	**1/2"**	**2-1/2"**	**4-3/8"**	
1073-01	1/2"	2-1/2"	5-1/2"	
1073-03	1/2"	2-1/2"	5-1/2"	Flat on shank
1074	17/32"	1-1/4"	2-7/8"	
1075	9/16"	1-1/4"	3"	
1075A	19/32"	3/4"	2-1/4"	Undersize Plywood Dado
1076	**5/8"**	**1"**	**2-1/2"**	
1077	5/8"	1-1/4"	3"	
1078	5/8"	1-1/2"	3"	
1079	5/8"	2"	4"	
1080	21/32"	1-1/4"	3"	
1082	11/16"	1"	2-1/2"	
1083	11/16"	1-1/4"	3"	
1083A	**23/32"**	**1"**	**2-1/2"**	Undersize Plywood Dado
1302A	3/4"	5/8"	2-1/4"	Mortising
1084	**3/4"**	**1"**	**2-3/4"**	
1085	3/4"	1-1/4"	3"	
1085F	3/4"	1-1/4"	3"	Carbide Boring Point
1086	3/4"	1-1/2"	3-1/4"	
1087	3/4"	2"	3-5/8"	
1088	25/32"	1-1/4"	3"	
1090	13/16"	1-1/4"	3"	
1091	7/8"	1-1/4"	3"	
1092	15/16"	1-1/4"	3"	
1093	**1"**	**1-1/4"**	**3"**	
1093F	1"	1-1/4"	3"	Carbide Boring Point
1094	1"	1-1/2"	3"	
1095	1"	2"	3-3/4"	
1096	1-1/8"	1-1/2"	3"	
1304	1-1/4"	1/2"	2-1/8"	Mortising
1097	1-1/4"	1-1/2"	3"	
1098	1-3/8"	1-1/4"	3"	
1099	1-1/2"	1-1/4"	3"	
1100	1-3/4"	1-1/4"	3"	
1101	2"	1-1/4"	3"	

STRAIGHT CUT CABINET DADO BITS

For Undersized Plywood

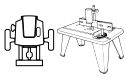
Straight cut cabinet dado bits are ideal for those using undersized plywood. They are also available in spiral geometry.

	PART NUMBER	CUTTING DIAMETER	PLYWOOD SIZE	CUTTING LENGTH	OVERALL LENGTH
			1/4" SHANK • DOUBLE FLUTE		
sc	SC13	7/32"	1/4"/5.5mm	3/4"	2"
	1024A	31/64"	1/2"	3/4"	2-1/4"
	1027A	19/32"	5/8"	3/4"	2-1/4"
	1029A	23/32"	3/4"	3/4"	2-1/8"
			1/2" SHANK • DOUBLE FLUTE		
sc	SC218	7/32"	1/4"/5.5mm	3/4"	2-3/4"
sc	SC235	15/64"	15/64"/6mm	3/4"	2-3/4"
	1065A	31/64"	1/2"	1"	2-5/8"
	1075A	19/32"	5/8"	3/4"	2-1/4"
	1083A	23/32"	3/4"	1"	2-1/2"

sc - Solid Carbide

TEMPLATE BITS

Ball Bearing Guide



Template bits have a top bearing for following a template that is on top of the work. Carbide tipped. Double flute.

	PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING NUMBER
			1/4" SHANK		
*	3000A	1/2"	1/8"	1-3/4"	B9
*	3000	1/2"	1/4"	1-7/8"	B9
	3001	1/2"	1/2"	2"	B9
	3002	1/2"	3/4"	2-1/4"	B9
	3004	1/2"	1"	2-1/2"	B9
*	3006	5/8"	1/4"	1-3/4"	B6
	K41	5/8"	1/2"	2-1/4"	B6
	K43	5/8"	3/4"	2-1/2"	B6
	3008	5/8"	1"	2-1/2"	B6
*	3010	3/4"	1/4"	1-3/4"	B4
	3012	3/4"	3/4"	2-3/8"	B4
	3014	3/4"	1"	2-5/8"	B4
			3/8" SHANK		
	3015	7/8"	1"	2-5/8"	B12
			1/2" SHANK		
	3016	1-1/8"	1"	3"	B11
	3018	1-1/8"	1-1/2"	3-1/2"	B11
	3019	1-1/8"	2"	4"	B11
***	3020	3/4"	1"	2-3/4"	*** B19
***	3021	3/4"	1-1/4"	3"	*** B19
***	3022	3/4"	1-1/2"	3-1/4"	*** B19
	3022A	7/8"	1-1/2"	3-1/2"	B13
***	3023	3/4"	2"	3-5/8"	*** B19

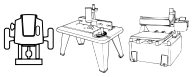
** Dado Clean out bits. Use to Square the bottom of dado cuts made on a table saw.*
**** KLINGSPOR recommends using bits over 3/4" diameter in 1/2" shank whenever possible due to the fragile nature of the B19 bearing.*

CARBIDE TIPPED STRAIGHTS

LEFT HAND - STRAIGHT CUT

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
	1/2" SHANK • DOUBLE FLUTE		
1066LH	1/2"	1"	2-5/8"
1069LH	1/2"	1-1/2"	3-1/8"
1072LH	1/2"	2"	4-1/8"
1085LH	3/4"	1-1/4"	3"
	3/4" SHANK • DOUBLE FLUTE		
1105LH	3/4"	2"	5"

NOTE: Left Hand Spiral Bits also available, See pg. 6



3/8" SHANK STRAIGHT BITS

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	SPECIAL USE
	3/8" SHANK • DOUBLE FLUTE			
1039	3/8"	1"	2-5/8"	
1040	3/8"	1-1/4"	2-7/8"	
1041	3/8"	1-1/4"	3-5/8"	Air Router
1043	1/2"	1"	2-1/2"	
1045	7/8"	1"	2-1/2"	

1/4" SHANK STRAIGHT BITS

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	SPECIAL USE
	1/4" SHANK • SINGLE FLUTE			
	For smaller sizes see solid carbide straight bits on page 6.			
1005	1/4"	1"	2-1/2"	
1007	1/4"	1"	3-1/8"	
1007A	1/4"	1"	3-1/4"	Air Router
	1/4" SHANK • DOUBLE FLUTE			
	For smaller sizes see solid carbide straight bits on page 6.			
1012	1/4"	1/2"	2"	
1013	1/4"	3/4"	2-1/4"	Incra™
1014	1/4"	1"	2-1/2"	
1016	1/4"	1"	3"	
1016-01	1/4"	1"	3-1/4"	Air Router
1018	9/32"	1"	3"	
1019	5/16"	1"	2-1/2"	OmniJig® #43300
1020	5/16"	1"	2-3/4"	Leigh #140
1020x8	5/16"	1"	2-3/4"	Leigh #140-8mm shank
1021	3/8"	3/4"	2-1/4"	
1022	3/8"	1"	2-1/2"	Incra™
1023	3/8"	1-1/4"	2-3/4"	
1023A	13/32"	1"	2-1/2"	
1024	7/16"	1"	2-1/2"	
1024A	31/64"	3/4"	2-1/4"	Undersize Plywood Dado
1025	1/2"	3/4"	2-1/4"	
1026	1/2"	1"	2-1/2"	OmniJig® #43318
1027	9/16"	3/4"	2-1/4"	
1027A	19/32"	3/4"	2-1/4"	Undersize Plywood Dado
1028	5/8"	3/4"	2-1/8"	
1029	11/16"	3/4"	2-1/8"	
1029A	23/32"	3/4"	2-1/8"	Undersize Plywood Dado
1030	3/4"	3/4"	2-1/8"	
1031	3/4"	1"	2-5/8"	
1033	1"	3/4"	2-1/8"	
1303	1-1/4"	1/2"	2-1/8"	Mortising

Our router bit bodies begin as hardened steel blanks.
We don't use cheaper cast materials.

A precision lathe shapes the steel body with the general form of the bit.

Mills are used to cut the flutes into the blank.

A piece of high-quality carbide is brazed into place using a brazing compound that is 50% pure silver.

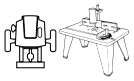
The carbide is precision ground and sharpened, the bearing is added, and each bit is tuned and tested.

STAGGERTOOTH • MORTISE

STAGGERTOOTH BITS

Straight Flute *Staggertooth Bits (straight & up/down) offer good chip deflection, but require a slower feed rate. The up/down version has an up shear on one side and a down shear on the other making them ideal for melamine, plywood, laminates, and solid surface.*

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
	1/2" SHANK		
1203	1/2"	2-1/8"	4"
1205	1/2"	2-5/8"	5-1/2"

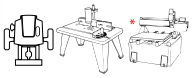


MORTISE BITS

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
	1/4" SHANK		
1300	1/2"	3/4"	2-1/8"
1301	5/8"	3/4"	2-1/8"
1302	3/4"	3/4"	2-1/8"
1303	1-1/4"	1/2"	2-1/8"
	1/2"	***SHANK***	
1302A	3/4"	5/8"	2-1/4"
1304	1-1/4"	1/2"	2-1/8"

The first examples of a Mortise in history date back around 7,000 years.

The mortise and tenon joints are most often used to join materials at right angles and require a tight fit. An accurately sized router bit is an excellent way to ensure a precision mortise.



*with HMA 1/2 only

SCREW TYPE HELIX MORTISE

With Downshear - Cutter Only *Mortise bits are for shallow recesses like in grooving out for a door hinge. They are available in standard and a screw type helix that threads onto an arbor.*

PART NUMBER	CUTTING DIAMETER Fractional	CUTTING DIAMETER Decimal	CUTTING LENGTH	OVERALL LENGTH
13-500	1/2"	.500	5/8"	7/8"
13-515	33/64"	.515	5/8"	7/8"
13-531	17/32"	.531	5/8"	7/8"
13-562	9/16"	.562	5/8"	7/8"
13-625	5/8"	.625	5/8"	7/8"
13-640	41/64"	.640	5/8"	7/8"
13-656	21/32"	.656	5/8"	7/8"
13-687	11/16"	.687	5/8"	7/8"
13-719	23/32"	.719	5/8"	7/8"
13-750	3/4"	.750	5/8"	7/8"
13-765	49/64"	.765	5/8"	7/8"
13-781	25/32"	.781	5/8"	7/8"
13-875	7/8"	.875	5/8"	7/8"
13-1000	1"	1.000	1/2"	1/2"
13-1125	1-1/8"	1.125	1/2"	1/2"
13-1250	1-1/4"	1.250	1/2"	1/2"
* 13-1250A	1-1/4"	1.250	1/2"	1/2"

** 13-1250A supplied with 5/16"-24 threads. All others supplied with 1/4"-28 threads. Special Cutting Diameters Available by Special Order.*

HELIX MORTISE ARBORS

Helix Mortise Arbors are for use with the "screw type helix mortise cutters". They are available in both 1/4" & 1/2" shank and 1/4"-28 and 5/16"-24 threads.

PART NUMBER	SHANK DIAMETER	THREAD	OVERALL LENGTH
HMA-1/4	1/4"	1/4"-28	1-3/4"
* HMA-1/2	1/2"	1/4"-28	1-3/4"
** HMA-1/4A	1/4"	5/16"-24	1-3/4"
*** HMA-1/2A	1/2"	5/16"-24	1-3/4"

*** Fits #13-1250A only*

If you need a square corner on your mortise, use KLINGSPOR's Square Corner Chisel - see page 36.

ROUND NOSE • HALF ROUND

*with 1/2" shank only

BOWL & TRAY BITS

Bowl & Tray bits are used for dishing out and making flat bottomed grooves with curved edges. It is available with a top bearing (on two bits) for following a template. Carbide tipped. Two-wing cutter.

PART NUMBER	RADIUS	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
1370	1/8"	7/16"	5/16"	2-1/8"
1372	1/4"	3/4"	5/8"	2-3/8"
* 1372B	1/4"	3/4"	5/8"	2-3/8"
		1/2" SHANK		
1374	1/4"	3/4"	5/8"	2-3/8"
1376	1/4"	1-1/4"	1/2"	2-1/4"
* 1376B	1/4"	1-1/4"	1/2"	2-1/4"

**** Supplied with Bearing on Shank for Pattern Template Routing.***

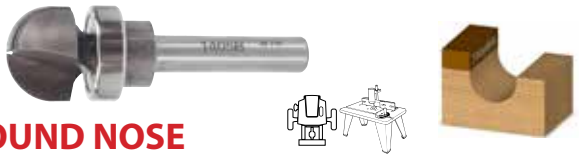
*with 1/2" shank only

ROUND NOSE (CORE BOX)

Round Nose bits make round bottomed grooves. They are very popular for fluting of moldings creating a trough around cutting boards and many other uses. Round nose bits are available standard and some are also available with a bearing. They may be commonly known as a "Core Box Bit" as well. Carbide tipped. Two-wing cutter..

PART NUMBER	RADIUS	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
sc SC39	1/16"	1/8"	1/4"	2"
sc SC40	3/32"	3/16"	3/8"	2"
sc SC41	1/8"	1/4"	1/2"	2"
1403	3/16"	3/8"	1/2"	2"
1404	1/4"	1/2"	5/8"	2-1/4"
1405	5/16"	5/8"	3/8"	2"
1406	3/8"	3/4"	7/16"	2"
		1/2" SHANK		
1407	3/16"	3/8"	1"	2-5/8"
1408	1/4"	1/2"	1-1/4"	2-7/8"
1410	5/16"	5/8"	1-1/4"	2-7/8"
1411	3/8"	3/4"	1-1/4"	2-7/8"
1412	7/16"	7/8"	1-1/4"	2-7/8"
1413	1/2"	1"	1-1/4"	2-7/8"
1414	5/8"	1-1/4"	1-1/4"	3"
1415	3/4"	1-1/2"	1-1/4"	3"
1416	7/8"	1-3/4"	1-1/4"	3"
1417	1"	2"	1-1/4"	3"
		3/4"SHANK		
1420	3/8"	3/4"	2"	4"

sc - Solid Carbide



ROUND NOSE

With Bearing Guide *The addition of a shank mounted bearing extends the use of our round nose bits in lettering, veining, or decorative cuts when following a template.*

PART NUMBER	RADIUS	CUTTING DIAMETER	CUTTING LENGTH	BEARING NUMBER
		1/4" SHANK		
1404B	1/4"	1/2"	5/8"	B9
1405B	5/16"	5/8"	3/8"	B6
1406B	3/8"	3/4"	7/16"	B4

*with 1/2" shank only

HALF ROUND (BULL NOSE)

Half Round bits are used to create complete rounded edge. Also known as a "Bull Nose Bit", they are typically used in a router table or with an edge guide and are available in about any radius (based on thickness of the edge trying to round over). Carbide tipped. Two-wing cutter.

PART NUMBER	"R" RADIUS	"B" OPENING OF CUTTER	"C" CUTTING LENGTH	LARGE DIAMETER
		1/4" SHANK		
1426	1/8"	1/4"	9/16"	7/8"
1427	3/16"	3/8"	7/8"	1"
1428	1/4"	1/2"	1"	1-1/8"
		1/2" SHANK		
1429	3/32"	3/16"	1/2"	3/4"
1430	1/8"	1/4"	9/16"	7/8"
1431	3/16"	3/8"	7/8"	1"
1432	1/4"	1/2"	1"	1-1/8"
1432A	5/16"	5/8"	1"	1-1/4"
1433	3/8"	3/4"	1-1/4"	1-5/8"
1433A	7/16"	7/8"	1-1/2"	1-7/8"
1434	1/2"	1"	1-1/2"	1-15/16"
1434A	9/16"	1-1/8"	1-1/2"	1-15/16"
1435	5/8"	1-1/4"	1-3/4"	2-3/16"
1436	3/4"	1-1/2"	1-7/8"	2-7/16"

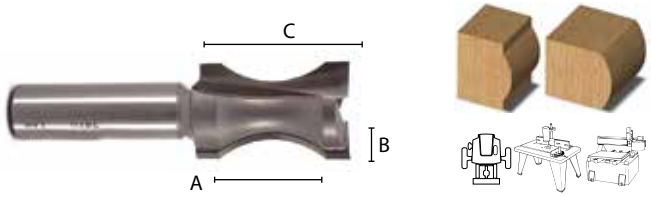
Note- Large Diameter minus "B" opening equals small diameter.

PLUNGE CUT HAND GRIP

Plunge Cut Hand Grip bit is used for plunging into the material and following a template (bearing and lock collar sold separately) to create a soft edge hand grip in drawers and doors. Carbide tipped. Two-wing cutter.

PART NUMBER	"A" BEAD OPENING	"B" BEAD DEPTH	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
1440	7/8"	1/4"	1-3/8"	3-1/2"

Use with B11 Bearing and LC-1/2 lock collar on shank for guide template routing.



OVAL EDGE (HALF BULL NOSE)

Oval Edge is similar to the half round bit, but it doesn't create a full radius. Instead, it creates an oval edge. It can be set up to produce an oval cut top to bottom or a small shoulder at the top and bottom of the work. Carbide tipped. Two-wing cutter.

PART NUMBER	"A" BEAD OPENING	"B" BEAD DEPTH	"C" CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
1470	7/8"	5/32"	1-1/4"	13/16"
1474	1/2"	1/8"	1"	3/4"
1476	3/4"	3/16"	1-1/4"	1"
1478	1"	3/16"	1-1/4"	1"
1480	1-1/2"	1/4"	1-3/4"	1-1/4"

Point Length

V GROOVE

V Groove bits are available in a variety of angles. They cut deep or shallow "V" grooves. These bits are great for sign making or for adding decorative accents to furniture and plaques. Carbide tipped. Two-wing cutter.

	PART NUMBER	CUTTING DIAMETER	POINT LENGTH	ANGLE	OVERALL LENGTH
			1/4" SHANK		
SC	1500	1/4"	1/8"	90°	1-1/2"
	1501	3/8"	3/16"	90°	1-7/8"
	1502	1/2"	1/4"	90°	1-7/8"
SC	1540	1/4"	7/32"	60°	1-1/2"
* SC	1541	1/4"	7/32"	60°	2"
	1550	1/2"	7/16"	60°	2"
			1/2" SHANK		
	1503	1/2"	1/4"	90°	2"
	1504	3/4"	3/8"	90°	2-1/4"
	1506	1"	1/2"	90°	2-1/4"
	1508	1-1/2"	3/4"	90°	2-5/8"
	1560	1/2"	7/16"	60°	2-1/4"
			1/2" SHANK		
	15-238	1-1/4"	1/2"	110°	2-3/16"
	15-240	1-1/4"	1/4"	130°	2-3/16"
	15-241	1-1/4"	3/16"	150°	2-3/16"
	1508-91Q	1-1/2"	3/4"	91°	2-1/2"

SC - Solid Carbide Not for miter folding.
** #1541 features three flutes for improved veining*

Cut Length

POINT CUTTING ROUNDOVER

Decorative Trimming & Lettering *Point Cutting Roundover bits are used to make moldings, fluting, and are popular with sign makers for routing letters. It is similar to a "V" bit but creates a rounded profile on each side instead of a flat "V". Carbide tipped. Two-wing cutter.*

PART NUMBER	RADIUS	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
1570	3/16"	3/8"	3/8"	2"
1572	1/4"	1/2"	1/2"	2"
1574	3/8"	3/4"	5/8"	2"
		1/2" SHANK		
1580	3/8"	3/4"	5/8"	2-1/4"

Point Cutting Roundovers are not guaranteed against breakage.

PANEL BITS - PILOT PLUNGE POINT

Panel Pilot Plunge bit has a drill through point that allows self-starting, and the pilot acts as a guide for template work. This is used heavily in the RV & mobile home industry. Carbide tipped. Two-wing cutter.

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
		SINGLE FLUTE		
1700	1/4"	3/4"	1/4"	2-5/8"
1701	3/8"	1"	3/8"	3-3/8"
1702	1/2"	1-1/4"	1/2"	4"
1702A	1/2"	1-1/4"	1/2"	3-5/8"
		DOUBLE FLUTE		
1704	3/8"	1"	1/4"	3-1/4"
1705	3/8"	1"	3/8"	3"
1706	1/2"	1-1/4"	1/2"	4"

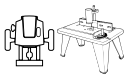
COVE BITS

Cove bits are used to create a convex radius corner. With the bearing riding along the edge the depth can be adjusted to create a custom look. Carbide tipped. Two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	BEARING NUMBER
		1/4" SHANK		
1800A	3/16"	7/8"	1/2"	B3
1800	1/4"	1"	1/2"	B3
1801-	3/8"	1-1/4"	1/2"	B3
1802-	1/2"	1-1/2"	5/8"	B3
		1/2" SHANK		
1803-	1/4"	1"	1/2"	B3
1804-	3/8"	1-1/4"	1/2"	B3
1805-	1/2"	1-1/2"	5/8"	B3
1806	5/8"	1-3/4"	3/4"	B3
1807	3/4"	2"	7/8"	B3
1810	1"	2-1/2"	1"	B3

Bearing Number: B3

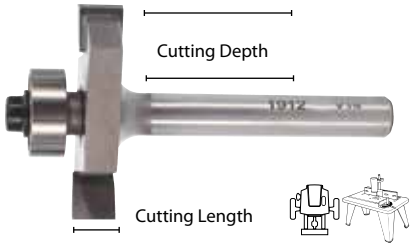
RABBETING



RABBET BITS

Rabbet bits are used to route out the edge of a workpiece. It is used primarily for installing backs of cabinets. It is available individually as well as in a set, both standard and deep. With the set, you simply change the bearing to create the different depth of cuts needed from flush to 1/2". Carbide tipped. Two-wing cutter.

PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	CUTTING DEPTH	BEARING NUMBER
		1/4" SHANK		
1880	7/8"	1/2"	1/4"	B2
1900	1-1/4"	1/2"	3/8"	B3
1951	1-3/8"	1/2"	1/2"	B2
		1/2" SHANK		
1885	7/8"	5/8"	1/4"	B2
1901	1-1/4"	1/2"	3/8"	B3
1954	1-3/8"	1/2"	1/2"	B2
1959	1-7/8"	1"	3/4"	B2



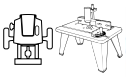
SLOTTING & RABBETING

Slotting & Rabbeting bit performs similarly to the standard rabbeting bit. It has a thinner cutter to allow for a groove in the middle on one piece and a rabbeted edge top and bottom on the mating piece. This allows for the two pieces to be glued and mated together. There are several bearing options to allow for quick change of the depth of cuts. Carbide tipped. Two-wing cutter.

PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	CUTTING DEPTH	OVERALL LENGTH
		1/4" SHANK		
1904	1-1/4"	1/8"	3/8"	2"
*1908	1-1/2"	5/32"	1/2"	1-3/4"
1912	1-1/4"	1/4"	3/8"	2"
1916	1-1/4"	3/8"	3/8"	2"
1920	1-1/2"	1/2"	1/2"	2"
		1/2" SHANK		
1906	1-1/4"	1/8"	3/8"	2"
*1910	1-1/2"	5/32"	1/2"	2"
1914	1-1/4"	1/4"	3/8"	2"
1918	1-1/4"	3/8"	3/8"	2-1/8"
1922	1-1/2"	1/2"	1/2"	2-1/4"
1924	1-1/4"	3/4"	3/8"	2-1/2"

B3 Bearing supplied.
**** Proper Size for Biscuit Joining***
BB501 - Bearing Kit with Wrench (see pg. 35). Increase the versatility of your Rabbeting Bits by simply changing the bearing size to vary your cutting depth. This set allows 1/4", 5/16", 3/8", & 7/16" cutting depth on all 1-1/4" bits or 3/8", 7/16", 1/2", & 9/16" cutting depth on all 1-1/2"bits.

BISCUIT JOINING KIT

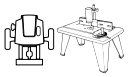


This kit contains our 5/32" Rabbeting Bit with 1/2" B3 bearing for cutting slots to fit #20 Biscuits. Also includes alternate bearings B14 and B15 to cut slots for #0 and #10 Biscuits. Hex Wrench included.

PART NUMBER	DESCRIPTION
1940	1/4" shank kit
1945	1/2" shank kit

MULTI RABBET SET

Change your Rabbet depth by changing the bearing! Set includes all eight bearings to make each of the cuts shown. Hex Wrench included.

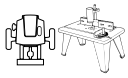


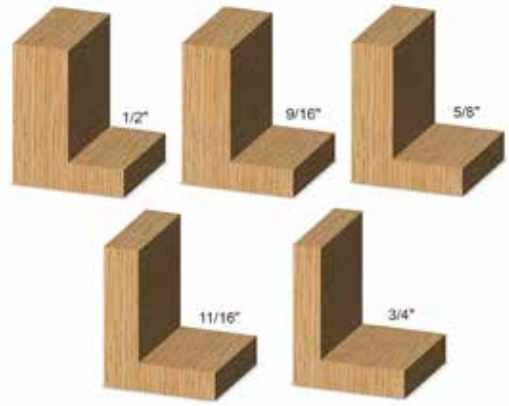
SET NUMBER	LARGE DIAMETER	CUTTING LENGTH	DESCRIPTION
1952	1-3/8"	1/2"	1/4" Shank Set
1955	1-3/8"	1/2"	1/2" Shank Set

Sets are organized and protected in 4" x 4" x 3" Box.

DEEP MULTI RABBET SET

KLINGSPOR's largest Rabbet Bit in a set with five bearings. Makes those extra deep Rabbet cuts as shown. Hex Wrench included.



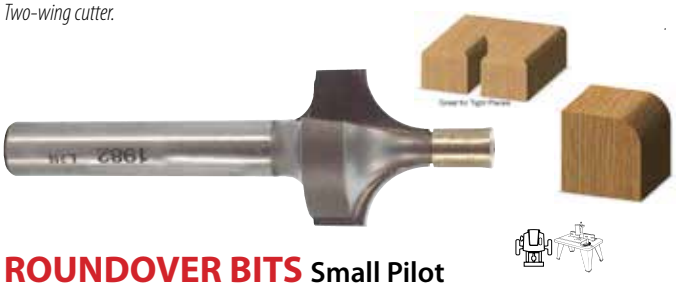


SET NUMBER	LARGE DIAMETER	CUTTING LENGTH	DESCRIPTION
1960	1-7/8"	1"	1/2" Shank Set

Sets are organized and protected in 4" x 4" x 3" Box.

ROUNDOVER

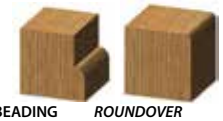
Roundover bits are some of the most common bits found in shops. They are used for things from easing the edge of the work to more elaborate moldings applications. They can also be used for creating a complete bullnose in two passes, or change the bearing and go from a roundover to a beading bit. They are available with or without a bearing, depending on the application and bit. Carbide tipped. Two-wing cutter.



ROUNDOVER BITS Small Pilot

Extra Small Brass Pilot (5/32" dia.) allows these bits to roundover edges on finely detailed workpieces with intricate contours, tight corners, and narrow openings. These bits give professional results without all the tedious hand sanding. Carbide cutting edges far outlast comparable high speed steel bits.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
1978	1/16"	3/8"	7/16"	2"
1980	1/8"	3/8"	7/16"	2"
1982	1/4"	5/8"	1/2"	2-1/8"
1984	3/8"	7/8"	5/8"	2-1/4"



BEADING ROUNDOVER

ROUNDOVER & BEADING

Ball Bearing Guide

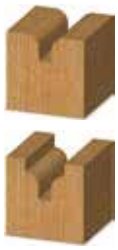
ROUND-OVER PART NUMBER	BEADING PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH
		1/4" SHANK		
2000A	**2100A**	**1/16"**	**5/8"**	**1/2"**
2000B		3/32"	11/16"	1/2"
2000C	**2100C**	**1/8"**	**3/4"**	**1/2"**
2000D	2100D	5/32"	13/16"	1/2"
2000	**2100**	**3/16"**	**7/8"**	**1/2"**
2001	**2101**	**1/4"**	**1"**	**1/2"**
2002	**2102**	**5/16"**	**1-1/8"**	**1/2"**
2003	**2103**	**3/8"**	**1-1/4"**	**5/8"**
2004	**2104**	**1/2"**	**1-1/2"**	**3/4"**
		1/2" SHANK		
2005C	**2105C**	**1/8"**	**3/4"**	**1/2"**
2005	**2105**	**3/16"**	**7/8"**	**1/2"**
2006	**2106**	**1/4"**	**1"**	**1/2"**
2007	**2107**	**5/16"**	**1-1/8"**	**1/2"**
2008	**2108**	**3/8"**	**1-1/4"**	**5/8"**
2008A		**7/16"**	**1-3/8"**	**5/8"**
2009	**2109**	**1/2"**	**1-1/2"**	**3/4"**
2009A		5/8"	1-3/4"	1"
2009B		9/16"	1-5/8"	3/4"
2010	**2110**	**3/4"**	**2"**	**1"**
2011		7/8"	2-1/4"	1-1/8"
2012		1"	2-1/2"	1-5/16"
2014		1-1/4"	3-1/4"	1-3/4"
2015		1-3/8"	3-1/2"	1-3/4"
2016		1-1/2"	3-3/4"	1-7/8"

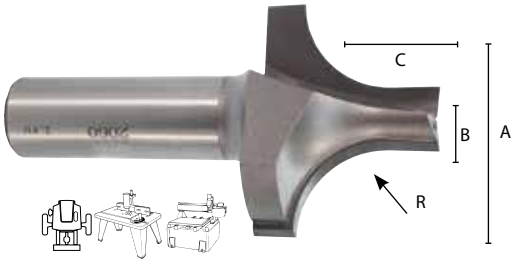
Bearing: Use B3 for Rounding Over
Use B2 for Beading
Use B4 for 2013 thru 2016

MULTI BEADING SETS

For extra deep beading *Roundover and More! Conventional Beading only cuts a shallow 1/16" bead. Expand your capabilities with these versatile sets. Deeper beads create a more pronounced edge on larger pieces. Includes all four bearings and Hex Key Wrench.*

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
2040B	1/4"	1-1/4"	1/2"	2-3/8"
2042B	3/8"	1-1/2"	5/8"	2-1/2"
2044B	1/2"	1-3/4"	3/4"	2-5/8"





PLUNGE ROUNDOVER With Plunge Point

PART NUMBER	"R" RADIUS	"A" LARGE DIAMETER	"B" SMALL DIAMETER	"C" PATTERN LENGTH	OVERALL LENGTH
			1/4" SHANK		
2050	1/8"	3/8"	1/8"	1/4"	1-3/4"
2051	3/16"	5/8"	1/4"	1/8"	1-3/4"
2052	1/4"	3/4"	1/4"	3/8"	1-7/8"
			1/2" SHANK		
2055	1/4"	3/4"	1/4"	1/4"	2"
2056	1/4"	3/4"	1/4"	3/8"	2"
2057	3/8"	1"	1/4"	5/16"	2-1/8"
2058	3/8"	1"	1/4"	9/16"	2-1/4"
2060	1/2"	1-3/8"	3/8"	3/4"	2-1/2"
2062	9/16"	1-5/8"	1/2"	1"	2-3/4"
2064	5/8"	1-3/4"	1/2"	1-5/16"	3"
2066	3/4"	2"	1/2"	1-5/16"	3"

ROUNDOVER & EDGE TRIM (Long Nose)

PART NUMBER	"R" RADIUS	"A" LARGE DIAMETER	"B" SMALL DIAMETER	"C" PATTERN LENGTH	OVERALL LENGTH
			1/2" SHANK		
* 2068	3/16"	1"	1/2"	13/16"	2-5/8"
* 2072	1/4"	1-1/8"	1/2"	13/16"	2-5/8"
* 2076	3/8"	1-3/8"	1/2"	13/16"	2-3/4"

* *Edge Trim for 3/4" stock*

ROMAN OGEE • CHAMFER

DOUBLE ROUND OVER

with Adjustable Cutting Length *Double Roundover bit is as the name implies. It is and adjustable bit that creates a rounded edge on the top and bottom of the work at the same time. The bearing is changeable, to allow the bit to go from a roundover to a beading application. Carbide tipped. Two-wing cutter.*

PART NUMBER	RADIUS	LARGE DIAMETER	OVERALL LENGTH
	1/2" SHANK		
2160	1/8"	1-1/8"	3-3/4"
2162	3/16"	1-1/4"	3-3/4"
2164	1/4"	1-3/8"	3-3/4"

Assemblies Sold with B5 Bearing for flush round over
Use B20 Bearing for 1/16" Bead • Use B27 Bearing for 1/8" Bead
Replacement Cutter Heads: Add RH to Part Number for cutter next to shank, Add LH to Part Number for end cutter. Example: 2160LH

ROMAN OGEE

Roman Ogee bits has a convex curve at the bearing and a concave curve at the top. It is a decorative profile that jazzes up any wood edge. Carbide tipped. Two-wing cutter.

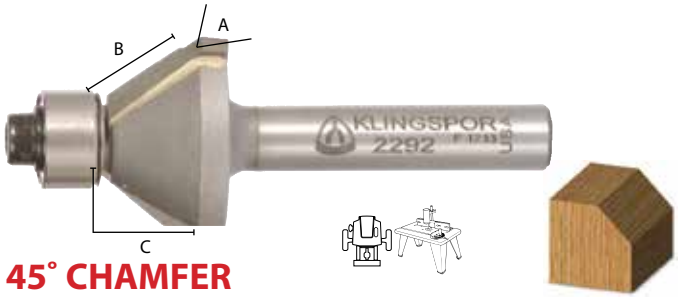
PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
2200	5/32"	1-1/8"	9/16"	2"
2201	1/4"	1-1/2"	11/16"	2-1/4"
		1/2" SHANK		
2202	5/32"	1-1/8"	9/16"	2-1/4"
2203	1/4"	1-1/2"	11/16"	2-3/8"
2210	3/8"	2"	1"	2-3/4"

Bearing Number: B3


PART # 2200/2202


PART # 2201/2203


PART # 2210

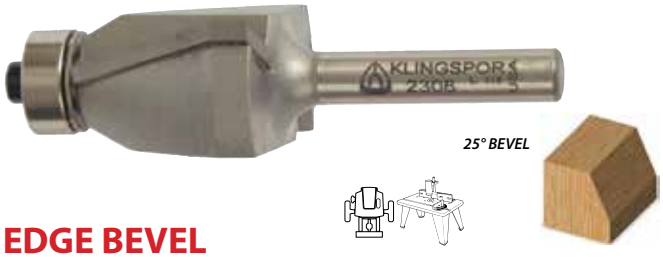


45° CHAMFER

with Adjustable Cutting Length *45° Chamfer & Edge Bevel bits produce a 45° angle on the material and are used as a decorative edge or miter joint to produce uniformly crisp angles. Carbide tipped. Two-wing cutter.*

PART NUMBER	"A" DEGREE OF ANGLE	"B" CUTTING LENGTH	"C" CUTTING HEIGHT	OVERALL LENGTH
		1/4" SHANK		
2292	45°	7/16"	5/16"	1-7/8"
2302	45°	5/8"	7/16"	2"
		1/2" SHANK		
2305	45°	5/8"	7/16"	2-1/4"
2306	45°	1-1/16"	3/4"	2-1/2"
2310	45°	1-1/2"	1-1/16"	3"

Bearing Number: B3 (Use B2 on #2292)
** 2292 has 1" large diameter for use in trim routers.*



EDGE BEVEL

Edge Bevel bits are similar to the chamfer bits, but produce 60°, 30°, 25°, 22-1/2°, 15°, or 7° angles on the material and are used as a decorative edge or miter joint to produce uniformly crisp angles. Carbide tipped. Two-wing cutter.

PART NUMBER	"A" DEGREE OF ANGLE	"B" CUTTING LENGTH	"C" CUTTING HEIGHT	OVERALL LENGTH
		1/4" SHANK		
* 2298	7°	3/8"	1/2"	2-1/8"
2300	15°	1/2"	1/2"	2"
* 2300A	15°	1/4"	1/4"	2"
2301	25°	9/16"	1/2"	2"
[1] 2308	30°	7/8"	3/4"	2-3/4"
		1/2" SHANK		
[3] 2325	15°	1"	15/16"	2-3/4"
[2] 2307	22 1/2°	15/16"	7/8"	2-3/4"
[1] 2309	30°	7/8"	3/4"	2-3/4"
2318	60°	9/16"	1/2"	2-1/2"

Bearing Number: B3
** Used on Laminate Trim*
[1] Used for six sided boxes
[2] Used for eight sided boxes
[3] Used for twelve sided boxes

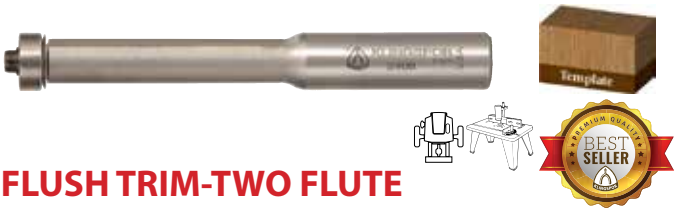

15° BEVEL


22 1/2° BEVEL


30° BEVEL

FLUSH TRIM

- *Flush Trim bits are designed to be used to trim flush laminate work or template work. The bearing follows the template and the cutter trims the workpiece. These bits have the bearing on the bottom end (away from the shank) of the bit. Carbide tipped unless specified otherwise.*
- *Two flute flush trim bits provide a good general purpose option that will give both quick cuts and nice finishes.*
- *Three flute bits offer an extremely smooth finish with three cutters doing the work.*
- *Flush Trim downshear bits will leave the top of the work surface a little cleaner due to the slight angle cutting action (shear).*
- *Flush Trim downshear two flute version offers two flutes for an even better finish cut with a down shear action.*
- *Flush Trim V-Groove bits are ideal for flushing the workpiece to a template and simultaneously cutting a subtle "V" shape groove where two pieces butt together. This aids in hiding the seam and adds a decorative accent.*
- *Overhang Trim Bits are similar to a conventional flush trim bit, but the bearing is oversized providing a 1/16" or 1/8" overhang between the edge of the cutting surface and template. Carbide tipped. Double flute.*
- *Combination Flush Trim bits allow the template to be placed on top of or below the workpiece. This is a combination straight router bit with properly sized ball bearing guides on both the end of the cutter and the shank. This is ideal for heavy duty flush trimming operations such as laminating tables and counter tops. It also works well for table based pattern routing as well. Carbide tipped. Double flute.*



FLUSH TRIM-TWO FLUTE

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING NUMBER
		1/4" SHANK		
2400	3/8"	1"	2-5/8"	B1
2401	3/8"	1/2"	2-1/8"	B1
2402	1/2"	1"	2-5/8"	B3
2403	1/2"	1/2"	2-1/8"	B3
		1/2" SHANK		
2404A	3/8"	1"	3-1/8"	B1
2405	1/2"	1"	3-1/4"	B3
2406	1/2"	1/2"	2-3/4"	B3
2407	1/2"	1-1/2"	3-5/8"	B3
2408	1/2"	2"	4"	B3
2410	3/4"	1-1/4"	3-1/4"	B4
2415	7/8"	1-1/2"	3-1/2"	B21
		1/2" SHANK - DOUBLE BEARING		
2457	1/2"	1-1/2"	3-7/8"	Two B3
2458	1/2"	2"	4-1/4"	Two B3

FLUSH TRIM V-GROOVE

Part Number	Cutting Diameter	Cutting Length	Shank Diameter	Overall Length	Bearing Number
2425	1/2"	1"	1/4"	2-5/8"	B3
2426	1/2"	1"	1/2"	3-1/4"	B3

OVERHANG TRIM BIT

PART NUMBER	OVERHANG	CUTTING DIAMETER	CUTTING LENGTH	BEARING NUMBER
		1/4" SHANK		
2468	1/16"	3/8"	1/2"	B3
2470	1/8"	3/8"	1/2"	B7

FLUSH TRIM - THREE FLUTE

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING NUMBER
		1/4" SHANK		
2500	1/2"	1"	2-5/8"	B3
2501	1/2"	1/2"	2-1/8"	B3
		1/2" SHANK		
2502	1/2"	1"	3-1/4"	B3
2504	1/2"	1-1/2"	3-5/8"	B3
2505	1/2"	2"	4"	B3
		1/2" SHANK - DOUBLE BEARING		
2554	1/2"	1-1/2"	3-7/8"	Two B3
2555	1/2"	2"	4-1/4"	Two B3

DOWNSHEAR FLUSH TRIM

Two Flute

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING NUMBER
		1/4" SHANK		
2602	1/2"	1"	2-5/8"	B3
2560	3/4"	5/8"	2-1/8"	B4
		1/2" SHANK		
2605	1/2"	1"	3-1/4"	B3
2570	3/4"	1"	3"	B4
2580	3/4"	2"	4"	B4

COMBINATION FLUSH TRIM

with Top and Bottom Bearings

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING NUMBER
		1/4" SHANK		
2702	1/2"	1"	2-5/8"	B3 & B9
		1/2" SHANK		
2715	7/8"	1-1/2"	3-1/2"	B13 & B21

Try our solid carbide flush trim spiral bits on page 5.

LAMINATE TRIM

LAMINATE TRIM BITS

Two Flute - Ball Bearing *Laminate Trim bits are flush trim bits, but designed for thinner stock like laminates and veneers. They offer a flush, 7°, 15°, and 25° angle. The bevel bits are ideal for trimming the laminate flush while also easing the top edge for faster filing. Carbide tipped. Double flute.*

PART NUMBER	BEVEL DEGREE	LARGE DIAMETER	CUT LENGTH	BEARING NUMBER
		1/4" SHANK		
2401	Flush	3/8"	1/2"	B1
2298	7°	9/16"	7/16"	B3
2300A	15°	5/8"	1/4"	B3
2301	25°	1"	9/16"	B3

STANDARD FLUSH TRIM SOLID CARBIDE

Standard Flush Trim bits are an economical solid carbide flush trim that does not use a bearing, but instead has a smooth portion milled into the solid carbide, which rides along the edge being trimmed to. They offer extended life and minimal vibration.

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC28B	1/4"	1/4"	1-1/2"

7° BEVEL TRIM SOLID CARBIDE

7° Bevel Trim bits are identical to the standard flush bits, but offer a 7° bevel, which slightly eases the top edge of laminate to reduce filing.

PART NUMBER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
SC29	1/4"	1/4"	1-1/2"

See our complete line of solid carbide trimmers on pages 8.

TRIM-N-FILE

This is the ideal router bit for all plastic laminate work. The "Trim-N-File" router bit does multiple operations at once. 1) It will trim the laminate overhang flush to the edge with a slight bevel, while 2) simultaneously creating a slight radius along the top edge. 3) All this is accomplished by following the heavy duty ball bearing, which slightly protrudes past the cutter to make it all work. By simply adjusting the depth of cut on the router to best match the laminate thickness, a perfectly flush edge is achieved and the top edge is smooth. This means that the operator won't have to come back and file the edge flush and top rounded like with traditional flush trim bits, so he is saving both time and money.

PART NUMBER	RADIUS	BEVEL DEGREE	LARGE DIAMETER	CUT LENGTH	BEARING
			1/4" SHANK		
2630	1/16"	2°	1-1/16"	5/16"	B3
* 2631	1/16"	2°	1-1/16"	5/16"	B3SQ

** Square bearing*

LAMINATE TRIMMERS

Here's a Square Deal! A quality KLINGSPOR Trim Bit with the exclusive Euro Square Bearing. How does it work? The square bearing stops spinning as soon as it touches the workpiece. Then the side of the square simply slides along the workpiece edge. Compare this to a regular bearing that rolls along the edge - building up more glue and residue with every revolution. Plus, the square is made fron non-stick Teflon®, so it wipes clean easily and it won't mark your workpiece. If you cut laminates, you need to try this bit.

Square Bearing Laminate Trimmer bits offer a unique solution to the problem of glue build up during the laminate flush trimming process. Between the square bearing and the cutter is a wider than normal trough (gap), which allows the excess glue to be evacuated much easier than a traditional flush trim. Carbide tipped. Double flute.

PART # 2640

PART # B3SQ

PART # 2660

PART # B8SQ

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERAL LENGTH	BEARING NUMBER
		1/4" SHANK		
2640	1/2"	1/4"	1-5/8"	B3SQ
2650	3/4"	5/8"	2-1/4"	B8SQ
		1/2" SHANK		
2660	3/4"	5/8"	2-1/4"	B8SQ

These bits are designed with a slight taper on the cutting diameter. This allows up or down adjustment to achieve an exact blend - even after resharpening.

SOLID SURFACE BITS

ROUND OVER

With Non-Marring Bearing *Round Over with non-marring bearing is ideal for creating a perfect radius on the top of a solid surface edge. It is supplied with a special non-marring nylon sleeve bearing to eliminate burn marks along the edge. Carbide tipped. Two-wing cutter.*

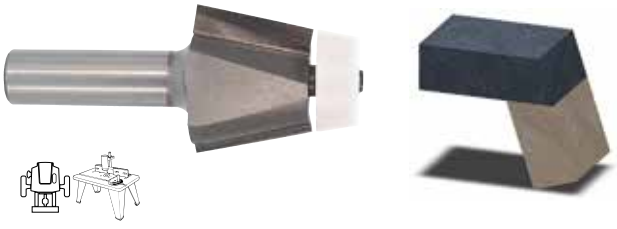
PART NUMBER	MATERIAL THICKNESS	RADIUS	OVERALL LENGTH	BEARING NUMBER
		1/2" SHANK		
2006N	1/2"	1/4"	2-1/4"	B3S
2009N	1"	1/2"	2-1/2"	B3S
2010N	1-1/2"	3/4"	2-3/4"	B3S

Supplied With Non-Marring Nylon Sleeved Bearing (Part #B3S).

ROUNDING UNDER

Rounding Under bits with non-marring bearing is ideal for creating a perfect radius on the bottom of a solid surface edge. It is supplied with a special non-marring nylon sleeve bearing to eliminate burn marks along the edge. Carbide tipped. Two-wing cutter.

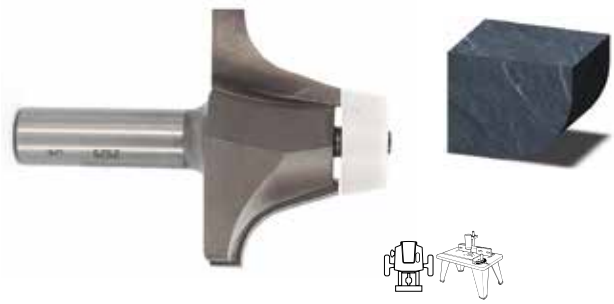
PART NUMBER	MATERIAL THICKNESS	RADIUS	OVERALL LENGTH	BEARING NUMBER
		1/2" SHANK		
2030	1/2"	1/4"	2-3/4"	B5
2034	1"	1/2"	3"	B5
2036	1-1/2"	3/4"	3-3/8"	B5



BEVEL UNDERMOUNT BOWL

Bevel Undermount Bowl bits with non-marring bearing is ideal for creating a perfect bevel angle for undermount sinks that require a bevel on the edge of a solid surface edge mating to the sink. It is supplied with a special non-marring nylon sleeve bearing to eliminate burn marks along the edge and sink. Carbide tipped. Two-wing cutter.

PART NUMBER	MATERIAL THICKNESS	RADIUS	OVERALL LENGTH	BEARING NUMBER
		1/2" SHANK		
2944	1/2-3/4"	12°	3"	BB300
2944-13	1/2-3/4"	13°	3"	BB300



ROUNDING OVER UNDERMOUNT

Rounding Over Undermount bits with non-marring bearing is ideal for creating a perfect radius and precise angle (depending on undermount sink manufacturer specifications) on the top of a solid surface edge. It is supplied with a special non-marring nylon sleeve bearing to eliminate burn marks along the edge and sink. Carbide tipped. Two-wing cutter.

PART NUMBER	MATERIAL THICKNESS	RADIUS	OVERALL LENGTH	BEARING NUMBER
		1/2" SHANK		
2929	1/2"	18°	3"	BB300
2910	1/2"	10°	3"	BB300
2915	1/2"	15°	3"	BB315
2918	1/2"	18°	3"	BB318

OVERHANG BOWL TRIM

Overhang Bowl Trim bits with non-marring bearing is ideal for creating a perfect bevel angle for undermount sinks that require a bevel on the edge of a solid surface edge mating to the sink. It is supplied with a special non-marring nylon sleeve bearing to eliminate burn marks along the edge and sink. Carbide tipped. Two-wing cutter.

PART NUMBER	MATERIAL THICKNESS	DIAMETER	OVERALL LENGTH	BEARING NUMBER
		1/2" SHANK		
2945	1/2-3/4"	3/4"	2-7/8"	BB300

"Solid Surface was first introduced in 1967 under the name Corian. Since the expiration of the original patent, several other manufacturers have entered the market with their own branded products. It is composed of a combination of alumina trihydrate (ATH), acrylic, epoxy or polyester resins, and pigments."

TEMPLATE BITS

Ball Bearing Guide *Template Bits with ball bearing guide are similar to a flush trim in that they will trim the workpiece flush, but the bearing is on the top (near the shank) of the cutter instead of the bottom. KLINGSPOR template bits use replaceable bearings and lock collars. Carbide tipped. Two-wing cutter.*

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING NUMBER
		1/4" SHANK		
* 3000A	1/2"	1/8"	1-3/4"	B9
* 3000	1/2"	1/4"	1-7/8"	B9
3001	1/2"	1/2"	2"	B9
3002	1/2"	3/4"	2-1/4"	B9
3004	1/2"	1"	2-1/2"	B9
* 3006	5/8"	1/4"	1-3/4"	B6
K41	5/8"	1/2"	2-1/4"	B6
K43	5/8"	3/4"	2-1/2"	B6
3008	5/8"	1"	2-1/2"	B6
* 3010	3/4"	1/4"	1-3/4"	B4
3012	3/4"	3/4"	2-3/8"	B4
3014	3/4"	1"	2-5/8"	B4
		3/8" SHANK		
3015	7/8"	1" 2-5/8"	B12	
		1/2" SHANK		
3016	1-1/8"	1"	3"	B11
3018	1-1/8"	1-1/2"	3-1/2"	B11
3019	1-1/8"	2"	4"	B11
*** 3020	3/4"	1"	2-3/4"	*** B19
*** 3021	3/4"	1-1/4"	3"	*** B19
*** 3022	3/4"	1-1/2"	3-1/4"	*** B19
3022A	**7/8"**	**1-1/2"**	**3-1/2"**	**B13**
*** **3023**	**3/4"**	**2"**	**3-5/8"**	*** **B19**

** Dado Clean out bits. Use to Square the bottom of dado cuts made on a table saw.*
**** KLINGSPOR recommends using bits over 3/4" diameter in 1/2" shank whenever possible due to the fragile nature of the B19 bearing.*

TEMPLATE BITS

With Oversize Bearings *Template bits with over size bearings are similar to a template bit in that they have a bearing on the top of the cutter but instead of trimming flush, they offset the cut. These are made to replace bits and work with specific router jigs. KLINGSPOR template bits use replaceable bearings and lock collars. Carbide tipped. Two-wing cutter.*

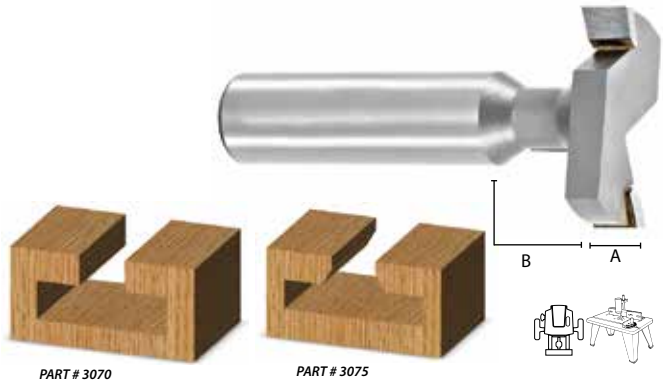
PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH	BEARING DIAMETER	BEARING NUMBER
		1/4" SHANK			
[1] 3025	5/16"	3/4"	2-3/4"	1/2"	B9
[2] 3027	1/2"	1/4"	1-7/8"	5/8"	B6
[3] 3028	1/2"	1/4"	1-7/8"	3/4"	B4
[1,4] 3032	9/16"	3/4"	2-1/4"	5/8"	B6

[1] For Porter-Cable Morten®, Mortise & Tenon Jig, and Omnijig® templates
[2] Porter-Cable Hinge Butt Mortise Bit
[3] For Hinge-Mate® II Template
[4] Keller Box Joint Bit

KEYHOLE BITS

Keyhole bits are used to create a small keyhole slot on the back of picture frames, plaques, signs, etc. Simply plunge the bit and make a groove in the proper direction to allow for a screw or nail to hold the workpiece on the wall. Carbide tipped.

PART NUMBER	LARGE DIAMETER	SMALL DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3050	3/8"	3/16"	7/16"	1-1/2"
3052	1/2"	5/16"	7/16"	1-1/2"
		1/2" SHANK		
3051	3/8"	3/16"	7/16"	2-1/8"
3053	1/2"	5/16"	7/16"	2-1/8"



T-SLOT CUTTER

T-Slot Cutter "Slatwall" bits create a T-slot in wood for making jigs and fixtures in the shop. This allows a bolt to slide the length of the slot for easy adjustment of the jig. Carbide tipped.

PART NUMBER	LARGE DIAMETER	SMALL DIAMETER	"A" LENGTH	"B" LENGTH	OVERALL LENGTH
		1/2" SHANK			
3070	1-1/16"	3/8"	5/16"	1/2"	2-3/8"
3075	1-3/16"	3/8"	1/4"	3/8"	2-3/8"

SLOT & UNDERCUT BITS

Used to cut all types of slots and grooves. Also used to undercut decorative patterns or large letters to give them a bold appearance. This can even be used by hardwood flooring contactors to replace boards in existing floors. They have a replaceable bearing and collar. Carbide tipped.

PART NUMBER	LARGE DIAMETER	"A" LENGTH	"B" DEPTH	OVERALL LENGTH
		1/4" SHANK		
3094	3/4"	1/8"	1/4"	1-7/8"
*3094B	3/4"	1/8"	1/8"	1-7/8"
3098	1"	1/4"	3/8"	2"
* 3098B	1"	1/4"	1/4"	2"
3110	1-1/2"	1/4"	5/8"	2"
* 3110B	1-1/2"	1/4"	1/2"	2"

** B denotes Bearing (B9) guide on shank.*

EDGE PROFILES

COVE & BEAD

Cove & Bead bits as the name implies, creates a decorative cove at the top, small step, then a bead (convex shape) at the bottom. Carbide tipped two-wing cutter

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3209	5/32"	1-1/8"	1/2"	2"
3210	1/4"	1-5/16"	5/8"	2-1/8"
		1/2" SHANK		
3211	5/32"	1-1/8"	1/2"	2-1/4"
3212	1/4"	1-5/16"	5/8"	2-3/8"

Bearing Number: B3

OGEE FILLET

Ogee Fillet bits create an attractive small step (fillet) at the top then an ogee (convex then concave) at the bottom. Carbide tipped two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3214	3/16"	1-3/8"	5/8"	2-1/8"
		1/2" SHANK		
3216	3/16"	1-3/8"	5/8"	2-1/2"
3218	1/4"	1-5/8"	3/4"	2-5/8"

Bearing Number: B3

OGEE

Ogee bits produce a simple cove at the top and a convex (bead) at the bottom of the workpiece. Carbide tipped two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3220	5/32"	1-1/8"	1/2"	2"
3224	1/4"	1-1/2"	5/8"	2-1/8"
		1/2" SHANK		
3222	5/32"	1-1/8"	1/2"	2-1/4"
3226	1/4"	1-1/2"	5/8"	2-3/8"
3228	9/64"&5/16"	1-5/8"	5/8"	2-1/2"

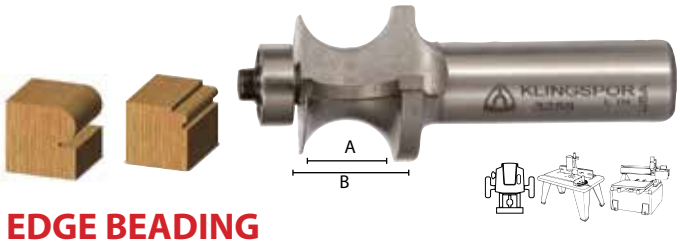
Bearing Number: B3

CLASSICAL PATTERN

Classical Pattern bits form a step down from the top, which transitions into a bead and step out. Then the cutter produces a cove at the bottom of the cut. This is a popular bit used to mill moldings. Carbide tipped two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3230	5/32"	1-1/4"	1/2"	2-1/8"
3234	3/16"	1-1/2"	5/8"	2-1/4"
		1/2" SHANK		
3232	5/32"	1-1/4"	1/2"	2-3/8"
3236	3/16"	1-1/2"	5/8"	2-1/2"

Bearing Number: B3



EDGE BEADING

Edge Beading bits offers three types of cuts using the same bit, depending upon the set up. You can create an edge, or corner bead with or without a fillet (step) at the top, or a full corner bead by making one pass with the bearing along the edge and another pass with the bearing along the top. Carbide tipped Two-wing cutter.

PART NUMBER	LARGE DIAMETER	"A" BEAD DIAMETER	"B" CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3240	7/8"	1/8"	9/16"	2"
3244	7/8"	1/4"	9/16"	2"
3248	1"	5/16"	5/8"	2-1/4"
3252	1-1/16"	3/8"	3/4"	2-1/4"
3256	1-1/16"	1/2"	3/4"	2-1/4"
		1/2" SHANK		
3242	7/8"	1/8"	9/16"	2-1/4"
3246	7/8"	1/4"	9/16"	2-1/4"
3250	1"	5/16"	5/8"	2-1/4"
3254	1-1/16"	3/8"	3/4"	2-1/2"
3258	1-1/16"	1/2"	3/4"	2-1/2"
3260	1-3/8"	5/8"	1"	2-5/8"
3262	1-1/2"	3/4"	1-1/8"	3"

Bearing Number: B3

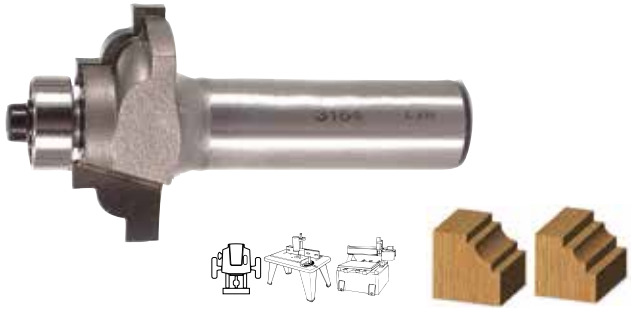
FRENCH TRADITIC

French Traditional bits produces a simple accent profile that starts with a small concave radius at the top then is steps down to a larger bead at the bottom. It is a classic French Traditional profile for table tops, drawer fronts, panel edges, moldings, and trim. Carbide tipped Two-wing cutter.

PART NUMBER	"R1" RADIUS	"R2" RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
			1/2" SHANK		
3272	3/16"	5/16"	1-1/2"	5/8"	2-1/2"

Bearing Number: B3

EDGE PROFILES

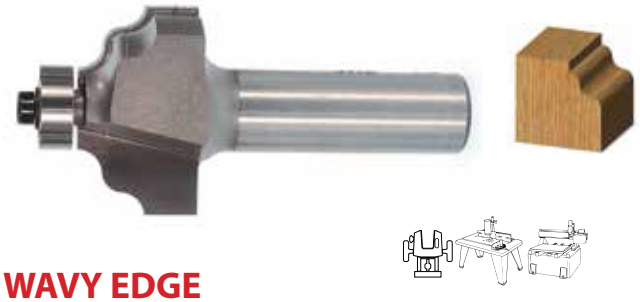


CLASSICAL COVE

Classical Cove bits create a decorative step & cove design along the edge of a workpiece. Carbide tipped. Two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3164	5/32"	1-1/4"	1/2"	2-1/4"
3166	1/4"	1-3/8"	3/4"	2-1/2"

Bearing Number: B3



WAVY EDGE

Wavy Edge bits create a decorative step, wavy convex & concave edge design on the workpiece. Carbide tipped. Two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3172	1/8"	1-1/4"	3/4"	2-1/2"

Bearing Number: B3

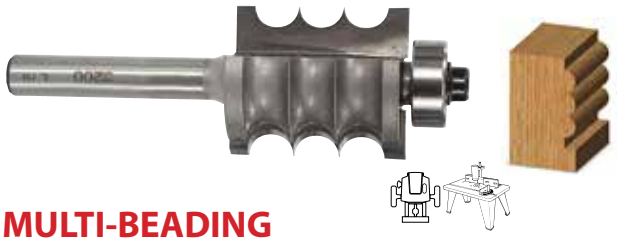
> ***Sanding the edge profiles created by these bits can be tricky and time-consuming. Klingspor has several options to make this process quicker and easier. Ask your Factory Sales Rep about our contour sanding options.***

FULL BEAD

Full Bead bits offer an ideal way to accent different projects, from adding beads to furniture legs, railings, moldings or even post beams. KLINGSPOR's full bead router bits also offer two separate bearings which make it very easy to use on template work. Carbide tipped. Two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3190	1/8"	7/8"	5/16"	2-1/8"
3192	3/16"	1"	1/2"	2-3/8"
3194	1/4"	1-1/8"	5/8"	2-1/2"

Bearing Number: One B6 & One B7

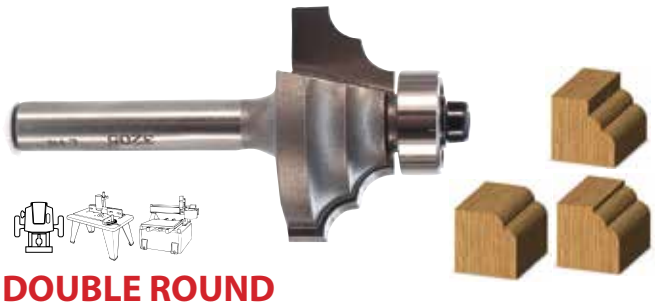


MULTI-BEADING

Multi-Beading bits are great for making multiple beads in one pass in moldings, furniture parts, columns, etc. Carbide tipped. Two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3200	1/8"	7/8"	1"	2-1/2"
		1/2" SHANK		
3202	1/8"	7/8"	1"	2-3/4"

Bearing Number: B3



DOUBLE ROUND

Double Round bits create a decorative double round over along the edge of the workpiece. This produces a nice door edge, molding, furniture profile and more. Carbide tipped two-wing cutter.

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3205	5/32"	1-1/8"	1/2"	2"
		1/2" SHANK		
3207	5/32"	1-1/8"	1/2"	2-1/4"
3208	7/32"	1-3/8"	5/8"	2-1/2"

Bearing Number: B3

EDGE PROFILES

THUMBNAIL TABLE EDGE

Thumbnail Table Edge bits are used as a decorative edge for tables or large panels or as part of a handrail profile (3294). Carbide tipped two-wing cutter.

PART NUMBER	PROFILE WIDTH	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3290	7/16"	1-3/8"	3/8"	1-7/8"
		1/2" SHANK		
3292	7/16"	1-3/8"	3/8"	2"
3294	1"	2-1/2"	3/4"	2-1/2"

Bearing Number: B3

TRADITIONAL TABLE EDGE

Traditional Table Edge bits are another popular choice edges on larger panels, tables and more. It produces a soft cove and bead. Carbide tipped two-wing cutter.

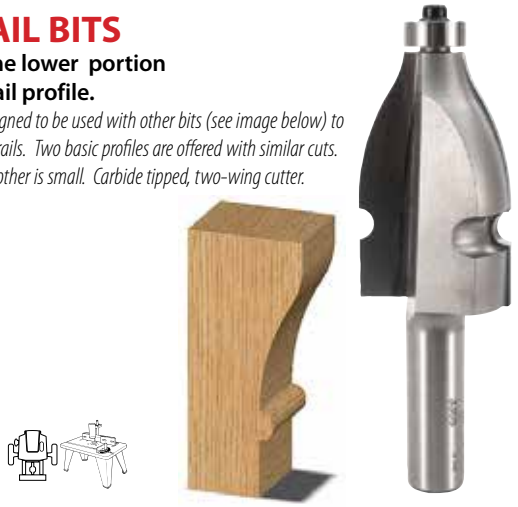
PART NUMBER	PROFILE WIDTH	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3228	9/16"	1-5/8"	5/8"	2-1/2"
3296	1"	2-1/2"	3/4"	2-1/2"

Bearing Number: B3

HANDRAIL BITS

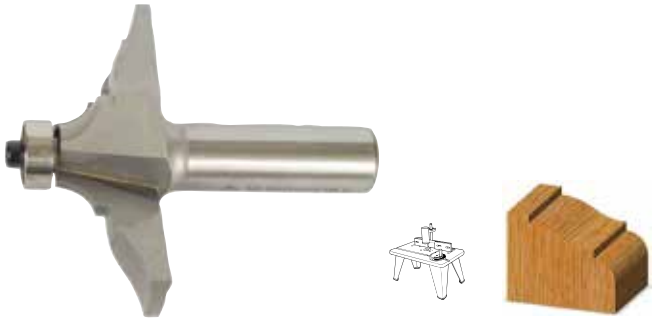
Used to cut the lower portion of the handrail profile.

Handrail bits are designed to be used with other bits (see image below) to create wooden handrails. Two basic profiles are offered with similar cuts. One is large and the other is small. Carbide tipped, two-wing cutter.



PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	BEAD DIAMETER	OVERALL LENGTH
		1/2" SHANK		
3305	1-1/4"	2"	1/4"	3-7/8"

Bearing Number: B3



CLASSICAL OGEE TABLE EDGE

Classical Ogee Table Edge bit is used as a profile option for tables or large a workpiece or in conjunction with a handrail bit to create custom handrail tops. Carbide tipped two-wing cutter.

PART NUMBER	PROFILE WIDTH	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3298	1"	2-1/2"	3/4"	2-1/2"

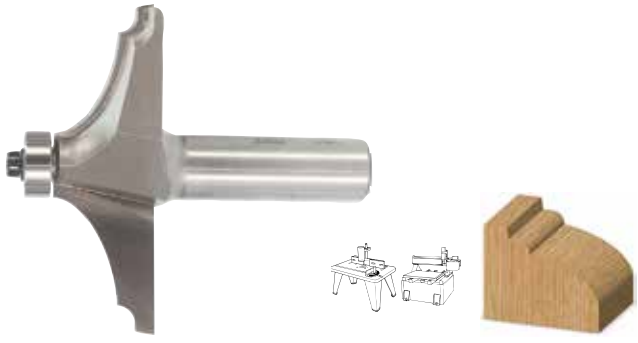
Bearing Number: B3

FRENCH BAROQUE TABLE EDGE

French Baroque Table Edge bit is a large symmetrical profile that produces a cove at the top and bottom and a bead in the middle. It can be used alone or with other bits to create stunning and eye-catching moldings and project edges. Carbide tipped, two-wing cutter.

PART NUMBER	PROFILE WIDTH	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3300	7/8"	2-1/4"	3/4"	2-1/2"

Bearing Number: B3



THUMBNAIL & BEAD TABLE EDGE

Thumbnail & Bead Table Edge bit is a thumbnail profile with a small, simple bead at the top, which adds a nice accent to any large panel or table top. Carbide tipped, two-flute cutter.

PART NUMBER	PROFILE WIDTH	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3302	1"	2-1/2"	3/4"	2-1/2"

Bearing Number: B3

GLUE JOINTS

Locking Drawer Glue Joint bits (3346, 3347, 3350, &3352) are the perfect tool for making drawers from wood. One bit does it all. After the proper height is set, it is just a matter of running the drawer front with the outside face up, flat on the table. The side pieces are machined vertically, their inside faces against the fence and cutter. Carbide tipped, two-wing cutter.

LOCKING DRAWER GLUE JOINTS

DRAWER FRONT
ONE TOOL MAKES BOTH CUTS

PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
3346	3/4"	1/2"	1/4"	1-7/8"
3347	1"	1/2"	1/2"	2-1/8"

LOCKING DRAWER GLUE JOINTS

ONE TOOL MAKES BOTH CUTS

DRAWER FRONT

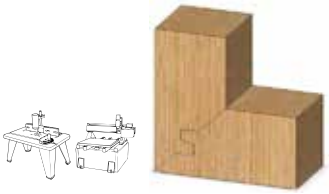
PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
3352	1"	1"	1/2"	2-3/8"

ONE TOOL MAKES BOTH CUTS

STANDARD GLUE JOINT

Standard Glue Joint bit provides lots of glue surface to join boards together. One cutter makes both cuts, so no need to make two set-ups. Board "A" runs face down and board "B" face up. A test piece may be required to fine tune the set up. Carbide tipped two wing cutter.

PART NUMBER	MATERIAL THICKNESS	LARGE DIAMETER	SHANK DIAMETER	OVERALL LENGTH
3354	1/2" - 1-1/4"	1-1/2"	1/2"	2-3/4"



\KES BOTH CUTS

45° LOCK MITER

45° Lock Miter bits deliver double the glue surface of a traditional 45° miter. It creates both the miter and a joint lock at the same time, which prevents movement when clamping pressure is applied. Board "A" is ran horizontally, while board "B" is ran vertically. Carbide tipped, two-wing cutter.

PART NUMBER	MATERIAL THICKNESS	LARGE DIAMETER	SHANK DIAMETER	OVERALL LENGTH
3360	1/2" - 1-1/4"	3-1/8"	1/2"	2-7/8"
3362	1/2"- 3/4"	2"	1/2"	2-3/8"

Note: 3362 is recommended for stock thickness 1/2 - 3/4"

WEDGE TONGUE & GROOVE

Wedge Tongue & Groove bits are the ideal bits for joining two boards together where strength and alignment are important. This set is for joints that are glued along the length. The wedge shape of the tongue increases the glue surface - adding to the strength of the joint. This set should only be used in a router table. Carbide tipped, two-wing cutter

PART NUMBER	MATERIAL THICKNESS	LARGE DIAMETER	SHANK DIAMETER	OVERALL LENGTH
		1/2" SHANK		
3370	5/8" - 1-1/4"	1-1/4"	1-1/4"	2-7/8"

**** Order 3370 for Two Piece Set.***
**** Order 3370A or 3370B for individual cutters.***

3373A 3373B

STRAIGHT TONGUE & GROOVE

Ball Bearing Guide

Straight Tongue & Groove bits are the ideal bits for joining two boards together where strength and alignment are important. This set makes the Tongue and Groove joint in its simplest form. Both sides of the joint are straight and square. Each side is formed with its own bit. This set works best when used in a router table with the fence in line with the bearing. Carbide tipped, two-wing cutter

PART NUMBER	MATERIAL THICKNESS	LARGE DIAMETER	SHANK DIAMETER	OVERALL LENGTH
		1/2" SHANK		
3373	1/2" - 1-1/4"	1-1/4"	1-1/4"	3-1/8"

**** Order 3373 for two piece set***
**** Order 3373A or 3373B for individual cutters.***
Bearing Number: B7

GLUE JOINTS

VEE PANEL TONGUE & GROOVE Ball Bearing Guide

Vee Panel TongueStraight Tongue & Groove bits are the ideal bits for joining two boards together where strength and alignment are important. This set makes the Tongue and Groove joint in its simplest form. Both sides of the joint are straight and square. Each side is formed with its own bit. This set works best when used in a router table with the fence in line with the bearing. Carbide tipped, two-wing cutter & Groove bits this set makes a tongue and groove joint with a decorative V groove along the length of the joint. It is typically used in tongue and groove paneling or ceilings. This set should only be used in a router table with the fence in line with the bearing. Carbide tipped, two-wing cutter

PART NUMBER	MATERIAL THICKNESS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3374	5/8-1"*	1-5/8"	1"	2-3/4"

Order 3374 for two piece set.
Order 3374A or 3374B for individual cutters.

*** Material over 1" thick requires a second cut on the tongue profile to waste away excess stock.***

ONE TOOL MAKES BOTH CUTS

TONGUE & GROOVE ASSEMBLY

Tongue & Groove Assembly bit is the most economical way to make tongue and groove joints. The single bit is used to make both sides of the joint, simply by adjusting the height of the bit to change from tongue to groove. Carbide tipped.

PART NUMBER	MATERIAL THICKNESS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3375	1/2" - 13/16"	1-5/8"	9/32"	B5

Replacement Parts: ***Groover - 6628***
Arbor - A260

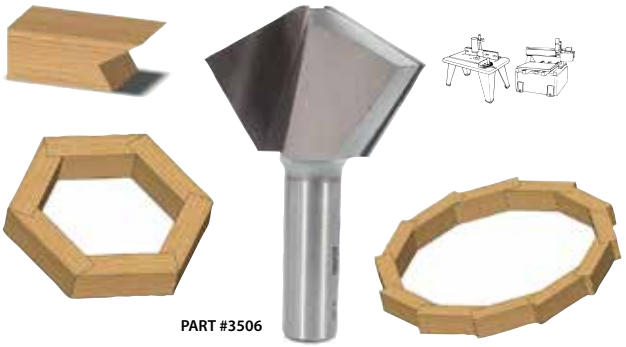
EDGE BANDING SET

This bit set will allow the customer to make their own hardwood edge banding for plywood, particle board, or MDF stock. It enables them to make their own hardwood edge banding match the rest of the project instead of having to buy a thin veneer edge tape to be glued on. It's designed for stock up to 3/4" thick, which is standard sheet good thickness, and features carbide tips and 1/2" shank. The advantage of this is a stronger edge than that of the thin veneer tape. It can be routed with a profile or left square depending on the application. Adding hardwood banding to veneered plywood shelves and table tops.

- *One bit will put a "V" shaped, concave profile in the plywood.*
- *While the other bit forms a perfect match in hardwood.*
- *Top and bottom of the banding can be trimmed flush using the router or hand plane.*
- *For use on stock that is less than 13/16" in thickness.*

3401 Plywood Cutter • 3402 Edge Band Cutter

PART NUMBER	CUTTER LENGTH	MATERIAL THICKNESS
	1/2" SHANK	
3400	13/16"	3/4"



PART #3506

MULTI SIDE BITS

A great way to join up many multi-side projects (planters, columns, barrels, etc.). Very straightforward, this joint requires routing a notch in only one edge of each stave (side). Notching also improves ease of assembly and total glue area. All bits are 1/2" shank and are designed for use in a router table with a fence guide.

PART NUMBER	NUMBER OF SIDES	STOCK (MAXIMUM)	LARGE DIAMETER
		1/2" SHANK	
3506	6 or 12	7/8"	1-7/8"
3508	8	7/8"	1-3/4"

On six and eight sided objects, the exterior side is cut face up on a router table. Twelve and sixteen sided objects are cut face down. The same bit (#3506) is used for six sided and twelve sided objects.

Either Flush or Ribbed (outside corners protruding) construction is possible. Ribbed construction is recommended with 12 and 16 sides because the interior leg of the notch will be very small when made flush. Outside corners on ribbed construction can be cut or sanded down for flush appearance if desired.

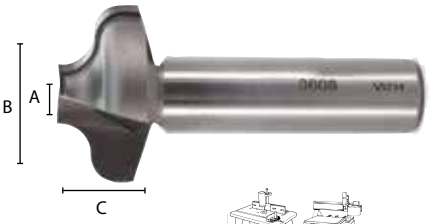
Location of the inside corner of the notch (i.e.- vertical bit adjustment) is important for final finish appearance. The outside leg of the notch (closest to the exterior) should be the same length as the stock thickness for flush construction. This will put the inside corner of the notch in the center of the stave on six sided flush projects. The inside corner will be below center (furtherest from exterior side) on all others. Allow extra stock to experiment and set corner height as desired. Move notch towards exterior side (raise the bit) to increase rib size (amount of outside corner protruding). Move notch away from exterior side (lower the bit) to decrease amount of rib. Note: Bit adjustment is reversed on twelve and sixteen sides since those staves are cut face down.

"Couple these router bits with Klingspor's Glue Line Ripping saw blade to make all of your glue joint projects a breeze."

GROOVE PROFILES

Small Grooving Bits are commonly used for decorative designs in cabinet doors or for detail veining in furniture. Round Nose Bits (pg. 9) and V-Groove Bits (pg. 10) are often used in the same manner. The Larger Grooving Bits are great for a raised panel effect in doors and for adding a bold accent to furniture or large workpieces. These bits also make nice edge profiles with the aid of a router table and fence.

These bits are ideal for adding bearings to the shank for following templates. Select a bearing from page 37 with the same inside diameter as your shank size. Outside diameter should be the same size or larger than the large diameter of your router bit. Secure bearings with a lock collar. Use Lock Collar #LC-1/4 for 1/4" shanks or LC-1/2 for 1/2" shanks.



PLUNGE OGEE

PART NUMBER	RADIUS	"A" SMALL DIAMETER	"B" LARGE DIAMETER	"C" CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK			
2051	3/16"	1/4"	5/8"	3/8"	1-3/4"
3602	3/32"	1/8"	1/2"	1/4"	1-3/4"
		1/2" SHANK			
3606	3/16"	3/16"	7/8"	1/2"	2"
3608	3/16"	3/8"	1-1/8"	1/2"	2-1/4"

CLASSICAL ROUND BOTTOM

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
3735	3/16"	7/8"	1/2"	2-1/8"
3740	3/16"	1-1/8"	1/2"	2-1/8"
3750	7/32"	1-3/8"	9/16"	2-1/2"

SHOWN WITH B17 BEARING

CLASSICAL FLAT BOTTOM

PART NUMBER	RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK		
3770	7/64"	3/4"	3/8"	2"
		1/2" SHANK		
3780	13/64"	1-3/8"	9/16"	2-1/2"

Did you know that Klingspor has a full line of 10" and 12" high-quality industrial-grade saw blades?

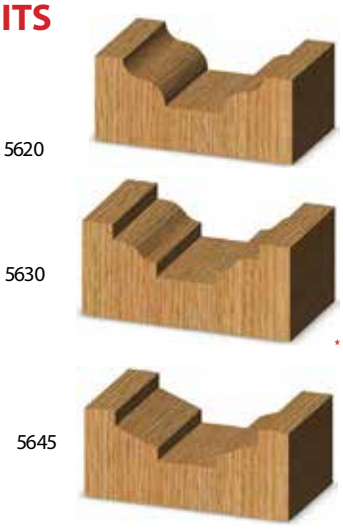
Our lineup includes:

- *Ripping*
- *Glue Line Ripping*
- *Combination*
- *General Purpose*
- *General Purpose Cutoff*
- *Adjustable Scoring Set*
- *Double-Sided Melamine*
- *Fine Trim & Crosscut*
- *Heavy Duty Miter/ Double Miter*
- *Solid Surface Cutting*
- *Plastic Cutting*
- *Non-Ferrous Thin Wall (Under ¼" thick)*
- *Non-Ferrous Thick Wall (1/4" and a thicker)*

MDF DOORS

The Tooling on this page is designed to give the illusion of raised panel door construction in MDF and solid panel doors. These bits, when used individually, produce a nice simple raised panel effect in one pass. Or use one of the "Panel" bits in conjunction with one of the "Stile" bits to create a more authentic raised panel reveal. Many different combinations are possible. See Bottom of Page. Although designed for production routing on solid door machines and CNC routers, the addition of a bearing to the shank will allow the hobbyist to cut his pattern by following an edge guide. The guide can be four strips clamped around the perimeter of the door. The top strip may be curved for an arched pattern. Follow the guide and rout both profiles. There's no need to move the guide for the second cut. A larger bearing on the panel bit takes care of the offset. Use Bearing #B16 for the Stile bits and Bearing #B24 for the Panel bits. Secure the bearings to the shank with a #LC-1/2 Lock Collar (see pg. 36). When making the second cut, match the depth setting of the first cut to obtain a pattern with a flat bottom - Or vary the depth to add an extra distinctive "step" in the bottom of your reveal. Complete the door by adding a door edge pattern (see Pg. 29) around the outside edge.

"STILE" PROFILE BITS

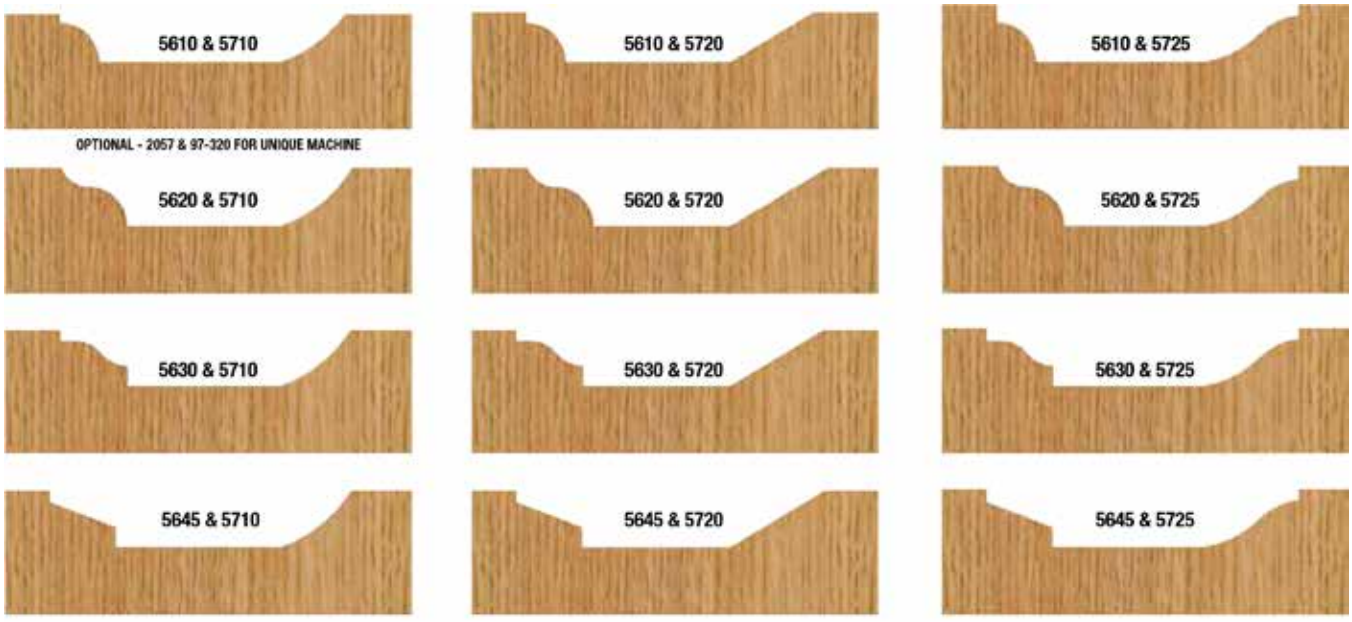


* with bearing only

"PANEL" PROFILE BITS

PART NUMBER	STYLE	LARGE DIAMETER	OVERALL LENGTH	PART NUMBER	STYLE	LARGE DIAMETER	OVERALL LENGTH
	1/2" SHANK				***1/2" SHANK***		
5610	Bead	7/8"	2-1/2"	5710	Cove	1-1/2"	2-1/2"
5620	Traditional	1-1/4"	2-1/2"	5720	Straight	1-1/2"	2-1/2"
5630	Ogee	1-1/4"	2-1/2"	5725	Ogee	1-1/2"	2-1/2"
5645	Straight	1-1/4"	2-1/2"				

STILE & PANEL COMBINATION PROFILES



STILE & RAIL

STILE RAIL

5740 - ROUND

5742 - OGEE

MINIATURE STILE & RAIL

These miniature Stile and Rail sets work just like their full size counterparts (see below). They feature a reduced pattern and a reduced tongue and groove (5/32" x 1/4") suitable for smaller projects. Works with 7/16" to 3/4" thick stock.

SET NUMBER	PATTERN	REVEAL WIDTH	LARGE DIAMETER	STOCK SIZE
		1/2" SHANK		
5740	Round	3/16"	1-1/8"	7/16"-3/4"
5742	Ogee	1/4"	1-1/8"	7/16"-3/4"

For Individual Bits: *Add A to Part Number for Stile Cutter.*
Add B to Part Number for Rail Cutter.
Example: 5740A - Round Stile Cutter

Replacement Parts:
Stile Groover - 5740AG
Rail Groover - 5740BG
Bearing - B27

MATCHED SETS

STILE RAIL

6001 - ROUND

6002 - OGEE

6003 - BEAD

6004 - STRAIGHT

6005 - TRADITIONAL

6006 - CLASSICAL

FULL SIZE STILE & RAIL

Make full size Stile and Rail joints on your router table. The interlocking design plus the raised panel groove are both cut in one pass. Ball bearing guides control the cutting depth and also allow use on rounded, arched, or special shaped doors. With these two piece sets, simply switch router bits to change from cutting stiles to cutting rails. Ideal for stock from 5/8" to 7/8" thick.

SET NUMBER	PATTERN	REVEAL WIDTH	CUTTING LENGTH	LARGE DIAMETER
		1/2" SHANK		
6001	Round	1/4"	1"	1-5/8"
6002	Ogee	3/8"	7/8"	1-5/8"
6003	Bead	3/8"	7/8"	1-5/8"
6004	Straight	3/8"	7/8"	1-5/8"
6005	Traditional	3/8"	7/8"	1-5/8"
6006	Classical	3/8"	7/8"	1-5/8"

For Individual Bits: *Add A to Part Number for Stile Cutter.*
Add B to Part Number for Rail Cutter.
Example: 6001A - Round Stile Cutter

Replacement Parts:
Groover - 6625
Bearing - B5

PLYWOOD PANEL STILE & RAIL

This set-up is for cabinet door construction with undersized 1/4" plywood panels. (Actual panel thickness of 7/32" or 5.5 mm). KLINGSPOR's conversion kit #6000X converts the regular full size Stile and Rail Bits to the narrower groove required for these plywood panels. This kit gives you the flexibility to do either plywood panels or raised panels. Plus, it can be used on any KLINGSPOR full size Stile and Rail bits that you may already own.

Our two most popular Stile and Rail sets are also available ready to use just for plywood panel construction. Order Part Number 6001X for round pattern or Part Number 6002X for ogee pattern. 1/2" Shank only.

NOTE: Add #6625 to make top portion thicker

SHAKER STYLE STILE & RAIL

5990
DESCRIPTION: 7/32" Groove for undersized plywood

5991
DESCRIPTION: 6 mm Groove

5992
DESCRIPTION: 1/4" Groove

RAISED PANEL

MINIATURE RAISED PANEL BITS

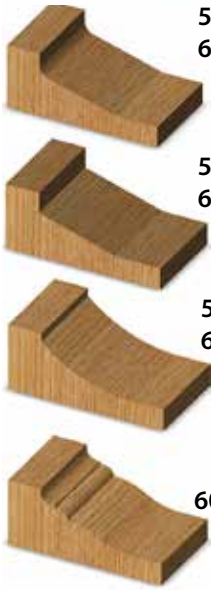
1-3/4" Diameter - 1/2" Shank
Ball Bearing Guide

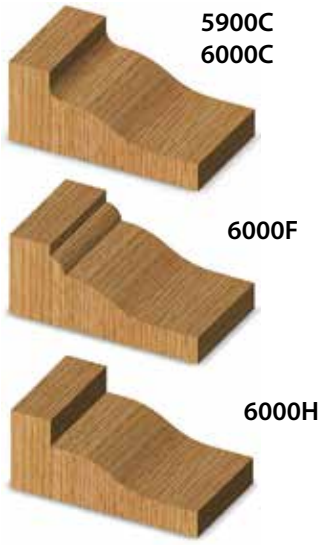
These raised panel bits offer a reduced pattern ideal for smaller projects. Available in your choice of cove or ogee profile shown below. To work with the miniature stile and rail bits, set bit depth to leave a 5/32" thick tongue. Leaves only a 3/8" panel reveal after assembly! Now you can use raised panel construction for small doors, chests, jewelry boxes, etc.

MEDIUM RAISED PANEL BITS

2-1/2" Diameter - 1/2" Shank Ball Bearing Guide

These bits cut a 1" wide pattern and are often used for general edge profiles in addition to raised panels. They can be used with the miniature or the full size stile and rail bits. See our great selection of profiles available at left.





LARGE RAISED PANEL BITS

5900 Series - 2 wing - 3-1/4" Diameter
6000 Series - 3 wing - 3-3/8" Diameter
1/2" Shank - Ball Bearing Guide

LARGE RAISED PANEL BITS with BACK CUTTER

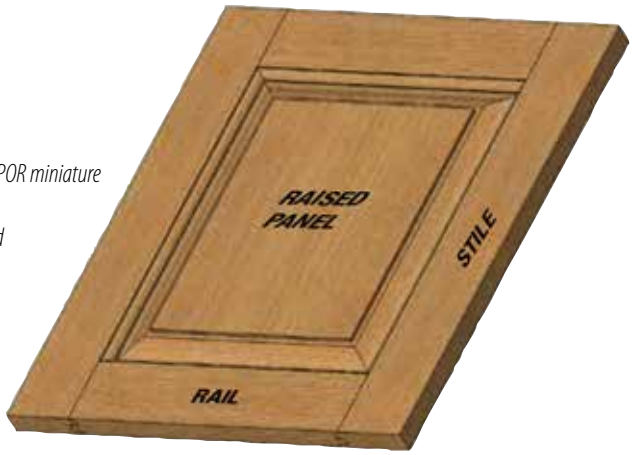
2 wing (2+2) - 3-1/4" Diameter
1/2" Shank - Ball Bearing Guide

This Panel Bit with Back Cutter allows you to cut the Front Reveal and the optional Back Cut at the same time - and guarantees a 1/4" tongue in the process.

CABINET DOORS

RAISED PANEL DOOR CONSTRUCTION

Choose stock size as appropriate for your project. For example, 3/4" x 2" stile & rails and 5/8" thick panels (without optional back cut) are common for cabinet doors. Use your stock size and door size to calculate the following:



- *Stile length = Door height*
- *Rail length = Door width - width of both stiles + Interlock*
- *Panel height = Door height - width of both rails + Interlock - Expansion*
- *Panel width = Rail length - Expansion*
- *Interlock = 3/4" (3/8" per side) on KLINGSPOR full size Stile & Rail bits or 1/2" (1/4" per side) for KLINGSPOR miniature Stile & Rail.*
- *Expansion: Generally 1/8" on cabinet doors. Can vary with door size, green condition of wood, anticipated exposure to high humidity, and species of wood.*
- *Use the Stile bit to cut the entire length of the inside edge on both the stiles and the rails.*
- *Use the Rail bit to make the matching cross grain end cuts on the rails only.*
- *Use the Raised Panel bit to cut all four sides of each raised panel face down on the router table. Set Raised Panel bit height for proper tongue thickness. Tongue should be 1/4" for the full size Stile & Rail bits or 5/32" for the miniature ones. Allow extra stock if you plan to use the optional back cutter.*
- *Use the Standard Glue Joint (page 24) or biscuits for added strength when gluing up larger panels.*
- *Cut all components and test fit. Then glue up and reassemble. Glue only the stile and rail joints. The panel should be allowed to "float" to allow for expansion and contraction. You may choose to use anti-rattle snakes to prevent the panel from rattling. Make your own by running a 1/8" bead of 100% silicone caulk on wax paper. Allow to dry. Cut into pieces about 3/4" long. Insert in each groove at every corner while assembling. Check the door for squareness immediately after gluing up. It may also be helpful to pre-stain the raised panel because part of the concealed portion of the tongue may become visible later due to contraction. Complete the door by adding a door edge pattern (page 31) around the outside edge.*

RAISED PANEL BACK CUTTER

This bit offers a safe and economical way to make that optional backside cut on raised panels. It is suitable for use with any of our Raised Panel Bits on page 29. 1-3/4" large diameter with 1/2 shank. ***Order part #5850.***

STILE & RAIL GLASS DOORS

Make the Stile & Rail cuts for glass doors using KLINGSPOR's full size Stile & Rail Sets on page 28. No extra components are required. All that's needed is to stagger the cutting edges and "stack" both groovers on the Stile bit. Use both bearings (no groover) on the Rail bit. See Drawing. Now make your cuts just like in normal door construction -

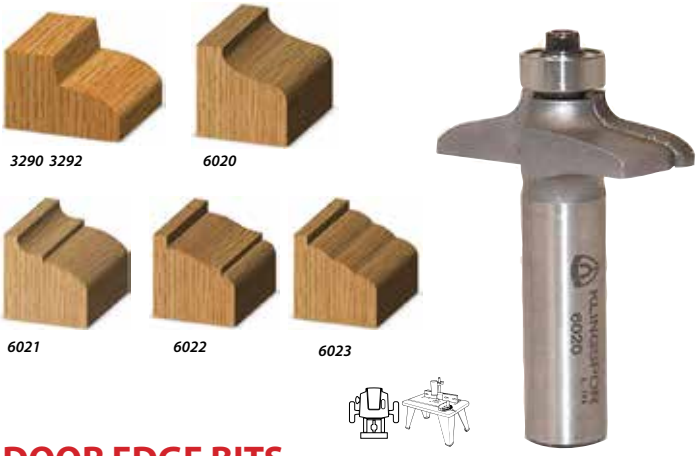
Cut the inside edges of all four pieces with the Stile Bit. Trim the ends of the Rails with the Rail bit. Assemble door and insert glass pane. Use clips or corner trim mold on the back side to hold the pane in place.

DOOR & DRAWER EDGE

DOOR EDGE BITS Complete Edge

Door Edge Bits with the complete edge offer three options to choose from. The recessed profile creates an overhang to lip over the cabinet side or face frame. The finger pull produces a lip to grip the door from the back side for easier opening when no hardware will be used. The reversible, as the name implies, allows for a complete reversible finger pull to be milled on both sides of the door.

PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	STYLE
		1/2" SHANK	
6015	1-1/2"	7/8"	Finger Pull
6016	1-5/8"	15/16"	Reversible

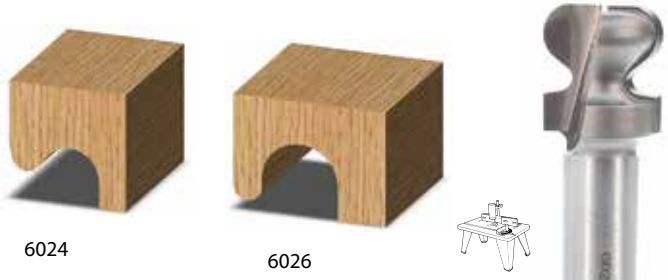


DOOR EDGE BITS

Front Face Edge Ball Bearing Guide

These bits cut a decorative profile along the front face of the door edge while leaving most of the edge straight. Their shallow design works well with concealed European style cup hinges. Many of our other edge profile bits also make great door edges. (Deeper profiles may not be compatible with European style cup hinges).

PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/4" SHANK	
3290	1-3/8"	3/8"	1-7/8"
		1/2" SHANK	
3292	1-3/8"	3/8"	2"
6020	1-9/16"	3/8"	2-1/4"
6021	1-3/4"	3/8"	2-1/4"
6022	1-3/4"	3/8"	2-1/4"
6023	1-3/4"	3/8"	2-1/4"



DRAWER PULL - EUROPEAN STYLE

Drawer Pull – European style bits are a deeper style finger pull milled into the drawer front where hardware will not be installed.

PART NUMBER	LARGE RADIUS	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK		
6024	3/16"	3/4"	7/8"	2-3/8"
6026	1/4"	1-1/2"	13/16"	2-3/8"

DRAWER EDGE FINGER PULL

Produces a nice smooth finger grip primarily used on the bottom edge of drawer fronts. Also used as a finger pull on cabinet doors where no edge pattern is needed on the front face.

PART NUMBER	LARGE DIAMETER	CUTTING LENGTH	OVERALL LENGTH
		1/2" SHANK	
6032	1-1/4"	3/4"	2-1/2"

Bearing Number: B3

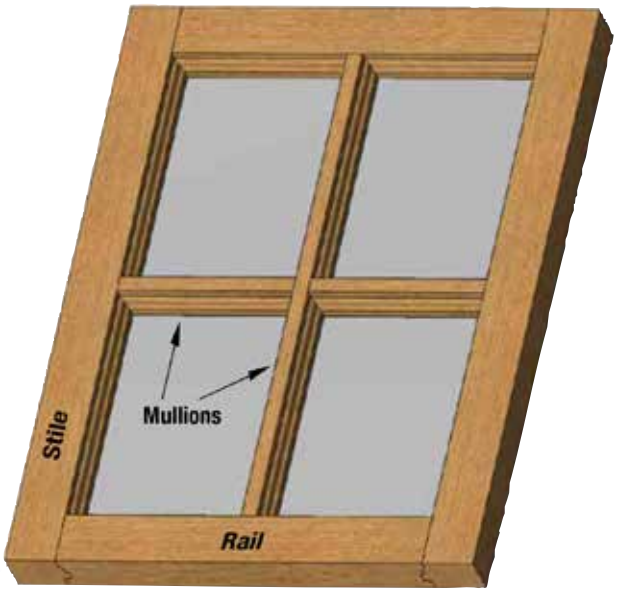
WINDOW SILL EDGE/ FINGER PULL

Originally designed to cut the front edge of window sills, this bit has also become popular for making a rounded finger edge on both drawers and door edges.Use with a router fence or add a shank mounted bearing for following a straight edge or template.

PART NUMBER	RADIUS	LARGE DIAMETER	PROFILE LENGTH	OVERALL LENGTH
		1/2" SHANK		
6045	7/32"	1-1/4"	13/16"	2-7/8"
6046	3/8"	1-7/16"	1-1/8"	3-3/8"

Use Bearing (B16 for #6045, B18 for #6046) and Lock Collar (LC-1/2) on Shank for Template Work.

WINDOW SASH • DOVETAIL SETS

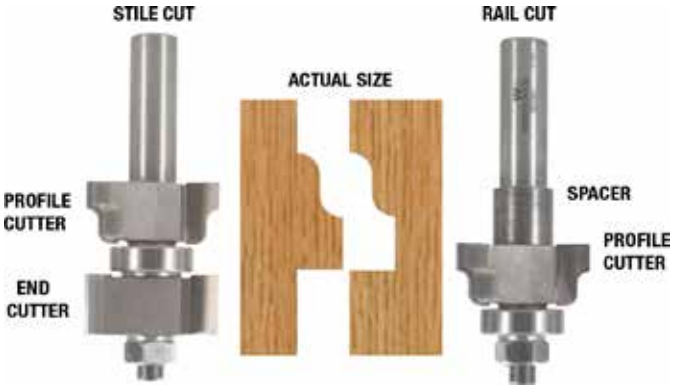


INCRA DOVETAIL SETS

Top Quality Dovetailing Sets for use with the popular Incra System. Choose the #D101 Set (1/4" Shank) for the smaller Dovetails (1/4", 3/8", 1/2", 17/32"). Take the #605 Set (1/2" Shank) for the heavier 3/8", 1/2", 5/8", & 3/4" Dovetail bits. Both Sets also include the 1/4" and 3/8" Box Joint Bits.

PART#	DESCRIPTION
D101	6 Piece Incra Set - 1/4" Shank
605	6 Piece Incra Set - 1/2" Shank

All bits available individually. See next page.



WINDOW SASH

This is the only bit you need to make a complete window sash. The bearing guide controls the pattern depth and also allows you to make arched or curved windows and glass doors.

This assembly with the straight end cutter cuts the inside edges on both the stiles and rails. Convert the assembly to make the mating end cut by exchanging the straight cutter for the spacer (see drawing. The spacer can be installed between the profile cutter and the shank if additional reach across the workpiece is needed.) Now make the mating end cuts on the rails. This bit can also be used to cut both the decorative edges and the mating end cuts required to make your own window mullions (crosspieces).

PART NUMBER	CUTTING DIAMETER	CUTTING LENGTH	OVERALL LENGTH
6050	1-3/8"	7/8" - 1-5/8"	3-5/8"

Replacement Parts: Profile Cutter: 6050H
Arbor: A380 *Straight Cutter: 6050G*
Bearing Number: B5 *Spacer: 6050SP*

LEIGH DOVETAIL SETS

Upgrade to KLINGSPOR Quality Bits for your Leigh Jig. The smaller bits are supplied in the recommended 8mm Shanks (1/2" Adapter Collet is included). The largest sizes come in 1/2" shanks. Improved Performance Guaranteed.

PART#	DESCRIPTION
D108	7 Piece Leigh Set. Includes D8-437x8, D8-687, D14-51x8, D18-50x8, 1020x8,1067, and 6400x8 Adapter.
D116	6 Piece Leigh Set for #D1600 16" Jig. All bits 8mm Shank. 6400x8 Adapter Collet to 1/2" is included. Complete with the following bits: 1020x8, D8-375x8, D8-500x8, D14-51x8, D18-50x8 .

All bits available individually. See next page.

DOVETAIL BITS

Premium Quality Dovetail Bits to meet all your Dovetailing Needs

Dovetail bits are popular for both their decorative and very functional joint. Made using a combination of a dovetail and a straight bit, these bits work well with many jigs manufactured on the market. Some bits are noted specifically to replace certain manufacturer's bits. These create a modern version of the hand cut dovetail used for centuries.

They are available in several angles from 7° to 18° and some sizes are made of solid carbide.

*with 1/2" shank only

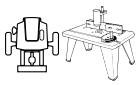
	PART NUMBER	LARGE DIAMETER	DEPTH OF CUT	SHANK DIAMETER	OVERALL LENGTH	CROSS REFERENCE
			7° ANGLE			
	D7-531	17/32"	3/4"	1/2"	2-1/2"	P•C #43776PC
	D7-622	5/8"	7/8"	1/4"	2-3/8"	
	D7-625	5/8"	7/8"	1/2"	2-5/8"	Incra™
	D7-750	3/4"	7/8"	1/2"	2-5/8"	Incra™
*	D7-875	7/8"	7/8"	1/2"	2-1/2"	Stair Tread
			7 1/2° ANGLE			
sc	D75-25	1/4"	5/16"	1/4"	2-1/2"	Incra™/OmniJig® 43639
			8° ANGLE			
sc	D8-250	1/4"	1/4"	1/4"	2-1/2"	Leigh #50
sc	D8-250x8	1/4"	1/4"	8mm	2-1/2"	Leigh #50-8mm shank
	D8-375	3/8"	1/2"	1/4"	2-3/8"	Leigh #70
	D8-375x8	3/8"	1/2"	8mm	2-3/8"	Leigh #70-8mm shank
	D8-437	7/16"	5/8"	1/4"	2-3/8"	Leigh #75
	D8-437x8	7/16"	5/8"	8mm	2-3/8"	Leigh #75-8mm shank
	D8-500	1/2"	13/16"	1/4"	2-3/4"	Leigh #80
	D8-500x8	1/2"	13/16"	8mm	2-3/4"	Leigh #80-8mm shank
	D8-687	11/16"	1"	1/2"	3"	Leigh #90
	D8-812	13/16"	1-1/4"	1/2"	3-1/4"	Leigh # 100
			9° ANGLE			
*	D9-375	3/8"	3/8"	1/2"	2"	
*	D9-376	3/8"	3/8"	1/2"	2-1/2"	Incra™
*	D9-390	.390	3/8"	1/2"	2"	
			10° ANGLE			
	D10-50	1/2"	5/8"	1/4"	2-1/2"	Incra™/Leigh #101
	D10-50x8	1/2"	5/8"	8mm	2-1/2"	Leigh #101-8mm shank
	D10-55	1/2"	5/8"	1/2"	2-5/8"	Incra™
			14° ANGLE			
	D14-375	3/8"	3/8"	1/4"	2"	
	D14-50	1/2"	1/2"	1/4"	2"	Incra™/OmniJig® #43705
	D14-51	1/2"	1/2"	1/4"	2-3/8"	Leigh #120
	D14-51x8	1/2"	1/2"	8mm	2-3/8"	Leigh #120-8mm shank
*	D14-55	1/2"	1/2"	1/2"	2-1/2"	Incra™/OmniJig® #43750
	D14-531	17/32"	1/2"	1/4"	2"	Incra™
	D14-72	3/4"	3/4"	1/4"	2-3/8"	
	D14-75	3/4"	3/4"	1/2"	3"	OmniJig® #43774
	D14-100	1"	7/8"	1/2"	2-1/2"	
			18° ANGLE			
	D18-50	1/2"	3/8"	1/4"	2-1/4"	Leigh #128
	D18-50x8	1/2"	3/8"	8mm	2-1/4"	Leigh #128-8mm shank
			STRAIGHT BITS			
	1020	5/16"	1"	1/4"	2-3/4"	Leigh #140
	1020x8	5/16"	1"	8mm	2-3/4"	Leigh #140-8mm shank
	1064A	13/32"	1"	1/2"	2-1/2"	P•C #43743PC
	1065L	7/16"	1-1/4"	1/2"	3-1/4"	Leigh #150
	1067	1/2"	1-1/4"	1/2"	2-7/8"	Leigh #160

**Also Stocked in Left Hand. Add LH to Part Number. SC - Solid Carbide All bits designated Incra™ are also compatible with the JoinTech™ system*

KELLER DOVETAIL BITS

KLINGSPOR Abrasives, Inc. offers precision router bits to match Keller's unique dovetailing system. All tools listed below are supplied with the required ball bearings.

	PART NUMBER	KELLER NUMBER	LARGE DIAMETER	CUTTING LENGTH	SHANK DIAMETER	OVERALL LENGTH
			7° ANGLE DOVETAIL			
	K31	1631	11/32"	3/8"	1/4"	2-1/4"
	K33	1633	7/16"	3/4"	1/4"	2-5/8"
	K35	2435	5/8"	1"	3/8"	2-5/8"
			STRAIGHT BITS			
	K41	1641	5/8"	1/2"	1/4"	2-1/4"
	K43	1643/2443	5/8"	3/4"	1/4"	2-1/2"
	3015	2445	7/8"	1"	3/8"	2-5/8"
*	3032	1642	9/16"	3/4"	1/4"	2-1/4"



*Box Joint Bit

SPOILBOARD •SLOTTING

CNC SPOILBOARD SURFACING

CNC Spoilboard Surfacing bits are used to remove material from the scrap board so that the actual work piece can be milled on the CNC table without movement. Cutting applications include spoilboard, planing and rabbeting large surface areas in MDF, Balsa Core, hardwood, softwood and many other man-made materials. These spoil-board bits were engineered to produce a high quality cut, maximum cutting efficiency, faster material removal process and long tool life.

The industrial router bit features insert knives (three to four per bit) with four cutting edges that allow users to flip the knife over when one side becomes dull and is available in 1/2" and 3/4" shank size.

Choose straight cut for particle board and MDF surfacing or up-shear cut for balsa core material.

PART NUMBER	CUT DIAMETER	CUTTING LENGTH	SHANK SIZE	# OF WINGS
6220	2"	1/2"	1/2"	4

This bit does not have replaceable carbide tips

LARGE CNC

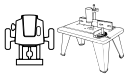
PARTLARGE NUMBER	SHANK DIAMETER	SIZE	# OF WINGS
STRAIGHT CUT			
SB25-2	2-1/2"	1/2"	2
SB40-2	4"	3/4"	2
SB40-3	4"	3/4"	3
UP SHEAR CUT			
SBU25-2	2-1/2"	1/2"	2
SBU40-3	4"	3/4"	3

CARBIDE INSERTS

INDEXABLE - 4 CUTTING EDGES

PART NUMBER	DESCRIPTION	SIZE
SB-Insert	10 Pc. Insert Pak	14 mm x 14mm x 2mm
SB Screw	Replacement Insert Screw	M5x7
SB Wrench	Insert Wrench	T-15 Torx

SLOTTING CUTTERS



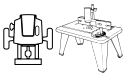
1-7/8"Cutting Diameter - 5/16" Bore

Slotting Cutters are designed to make slots (grooves) along the edges of boards and are far superior to straight bits for doing so. They are designed to be used with slotting cutter arbors and are available in a 3-wing or 4-wing design. Carbide tipped.

PART NUMBER		KERF	
3 wing	4 wing	Decimal	Fractional
6700A	6700B	.062	1/16"
6701A		.070	---
6702A		.080	---
6703A	6703B	.094	3/32"
6704A		.100	---
6704C		.110	7/64"
6705A	6705B	.125	1/8"
6708A		.156	5/32"
6709A		.187	3/16"
6709C		.218	7/32"
6710A	6710B	.250	1/4"
6712A		.281	9/32"

Special Sizes Available Upon Request

SLOTTING CUTTER ARBORS



Includes B5 Bearing for 1/2" depth of cut.

Slotting Cutter Arbors with B5 bearing are for use with the slotting cutters.

With the B5 bearing and slot cutter installed, the combo will achieve a 1/2" depth of cut.

PART NUMBER	SHANK SIZE	OVERALL LENGTH
A200B	1/4"	2-3/8"
A205B	3/8"	2-3/8"
A210B	1/2"	2-3/8"
A220B	1/2"	4"

Note - A220B has an extra long shank for extended reach.
All include B5 Bearing for 1/2" depth of cut.
Use B20 Bearing for 9/16" depth of cut.
Use B25 Bearing for 3/8" depth of cut.
Use B26 Bearing for 1/4" depth of cut.
Use B27 Bearing for 5/8" depth of cut.

DRAWER SLOT CUTTERS

(Jemco Machines)

Drawer Slot Cutters are for use with and replacements for drawer slot cutter arbors and Jemco Machines and come with 4 or 6 Carbide tipped wings.

PART NUMBER	CUTTING DIAMETER	BORE	KERF	NO. FLUTES
6801	1-1/4"	3/8"-24thd	3/16"	6
6805	1-1/4"	3/8"-24thd	1/4"	6

DRAWER SLOT CUTTER ARBORS

PART NUMBER	SHANK DIAMETER	OVERALL LENGTH	THREAD
6890	1/4"	2"	3/8"-24
6892	1/2"	2"	3/8"-24

STEEL ROUTER COLLETS Reducer Bushings

Steel Router Collets are reducer bushings for common 3/4" or 1/2" router collets that allow for decreasing bit size to 3/8", 5/16", 8mm, or 1/4".

PART NUMBER	I.D.	O.D.	OVERALL LENGTH
6400	1/4"	1/2"	1-1/4"
6400x8	8mm	1/2"	1-1/4"
6401	5/16"	1/2"	1-1/4"
6402	3/8"	1/2"	1-1/4"
6403	1/4"	3/4"	1-1/4"
6404	5/16"	3/4"	1-1/4"
6405	3/8"	3/4"	1-1/4"
6406	1/2"	3/4"	1-1/4"

10 mm Shank - Import

DOWEL DRILLS Carbide Tipped & Solid Carbide

Dowel Drills (brad point & V point) are made for production use in line boring, hinge boring, and dowel drilling machines. They are available in solid carbide, carbide tipped, and in left or right hand configurations. Available with a "brad point" style tip or a thru hole V-point.

BRAD POINT (RH + LH)

CUTTING DIAMETER	57MM OAL PART #	70MM OAL PART #
Inch	10 MM Shank - Inch Sizes	
3/16"	DB187-57 (LH)	DB187-70 (LH)
7/32"	DB218-57 (LH)	DB218-70 (LH)
1/4"	DB250-57 (LH)	DB250-70 (LH)
3/8"		DB375-70 (LH)
7/16"		DB437-70 (LH)
1/2"		DB500-70 (LH)
MM	10 MM Shank - Metric Sizes	
*3	DB3-57 (LH) SC	DB3-70 (LH) SC
4	DB4-57 (LH) (SC)	DB4-70 (LH) (SC)
5	DB5-57 (LH) (SC)	DB5-70 (LH) (SC)
6	DB6-57 (LH) (SC)	DB6-70 (LH) (SC)
7	DB7-57 (LH)	DB7-70 (LH)
8	DB8-57 (LH) (SC)	DB8-70 (LH) (SC)
9	DB9-57 (LH)	DB9-70 (LH)
10	DB10-57 (LH)	DB10-70 (LH)
11	DB11-57 (LH)	DB11-70 (LH)
12	DB12-57 (LH)	DB12-70 (LH)
13	DB13-57 (LH)	DB13-70 (LH)
14	DB14-57 (LH)	DB14-70 (LH)
15	DB15-57 (LH)	DB15-70 (LH)
16	DB16-57 (LH)	DB16-70 (LH)

RH and LH rotation. Include LH suffix for left hand rotation.
Supplied with flat on shank.
Include SC suffix for optional Solid Carbide as available.
**3 mm available in Solid Carbide only.*

THRU HOLE V-POINT (RH + LH)

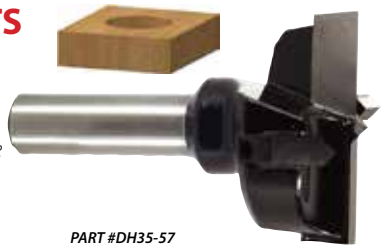
CUTTING DIAMETER	57MM OAL PART #	70MM OAL PART #
Inch	10 MM Shank - Inch Sizes	
3/16"		DT187-70 (LH)
7/32"		DT218-70 (LH)
1/4"	DT250-57 (LH)	DT250-70 (LH)
3/8"		DT375-70 (LH)
7/16"		DT437-70 (LH)
1/2"		DT500-70 (LH)
MM	10 MM Shank - Metric Sizes	
*3	DT3-57 (LH) SC	DT3-70 (LH) SC
4	DT4-57 (LH) (SC)	DT4-70 (LH) (SC)
5	DT5-57 (LH) (SC)	DT5-70 (LH) (SC)
6	DT6-57 (LH) (SC)	DT6-70 (LH) (SC)
7	DT7-57 (LH)	DT7-70 (LH)
8	DT8-57 (LH) (SC)	DT8-70 (LH) (SC)
9	DT9-57 (LH)	DT9-70 (LH)
10	DT10-57 (LH)	DT10-70 (LH)
11	DT11-57 (LH)	DT11-70 (LH)
12	DT12-57 (LH)	DT12-70 (LH)
13	DT13-57 (LH)	DT13-70 (LH)
14	DT14-57 (LH)	DT14-70 (LH)
15	DT15-57 (LH)	DT15-70 (LH)

RH and LH rotation. Include LH suffix for left hand rotation.
Supplied with flat on shank.
Include SC suffix for optional Solid Carbide as available.
**3 mm available in Solid Carbide only.*

HINGE BORING BITS

Carbide Tipped 10 mm Shank - Import

Hinge Boring Bits are used with hinge boring machines bore specific hinge cup sizes. Carbide Tipped



PART #DH35-57

CUTTING DIAMETER	57MM OAL PART #	70MM OAL PART #
MM	10 MM Shank	
15	DH 15-57 (LH)	DH 15-70 (LH)
20	DH 20-57 (LH)	DH 20-70 (LH)
25	DH 25-57 (LH)	DH 25-70 (LH)
30	DH 30-57 (LH)	DH 30-70 (LH)
35	DH 35-57 (LH)	DH 35-70 (LH)

RH and LH rotation. Include LH suffix for left hand rotation. Supplied with flat on shank.

BORING BITS

KLINGSPOR's Carbide Tipped Boring Bits feature a centering point and two carbide spurs to eliminate tear out. The 2-1/8" diameter bit is used mostly for door knob holes. The 35mm diameter bit is widely used for European style cabinet door hinges.

PART NUMBER	CUTTING DIAMETER	SHANK DIAMETER	OVERALL LENGTH
8122125	2-1/8"	1/2"	6-1/8"
6140	35mm	3/8"	2-3/8"

*** Use only in drill press or boring machine. NOT for use in routers.*

FACE FRAME COUNTERBORES

Carbide Tipped *Face Frame Counterbores are KLINGSPOR's answer to the "cheap" pocket hole bit replacements. These are designed to work with industry standard machines have replaceable pilots and counterbores. See notes below.*

PART NUMBER	COUNTER DIAMETER	BORE DIAMETER	PILOT LENGTH TYPE	OVERALL LENGTH
		3/8" SHANK		
FF301	3/8"	.136 4"	Standard	4"
FF301SP	3/8"	.136 4"	Spiral Flute	4"
FF302	3/8"	.136 6"	Long	6"
FF303	Replacement .136 Pilot Fishtail Drill Bit (HSS)			
FF304	Replacement Set Screw		Uses 5/64 Hex Key	

			Castle Machines/Porter-Cable	
	CM-DB		9/64"	Pilot
	CM-RU	3/8"		Pocket
*	RU4000H	3/8"		Pocket

*Standard Type fits Unique, Norfield, Evans, Ritter, and Marcon face frame boring machines. Long Version is for use on drill press. * Super High Quality*

DOWEL DRILLS • BORING BITS

DOOR-LITE BIT

DOOR-LITE BIT

Single Flute - Up/Down • Designed for Metal Clad Doors

DOOR-LITE BIT

(Coated High Speed Steel Single Flute Up/Down Cut)

PART#	CED	CEL	SHANK DIA	OAL
HC 5250	1/2"	2-1/2"	1/2"	5-1/2"
HCF 5250	With Flat on Shank			

DOOR-LITE BIT - WOOD & FIBERGLASS DOORS

(Solid Carbide Compression)

PART#	CED	CEL	SHANK DIA	OAL
UD5222	1/2"	2-1/4"	1/2"	5-1/2"

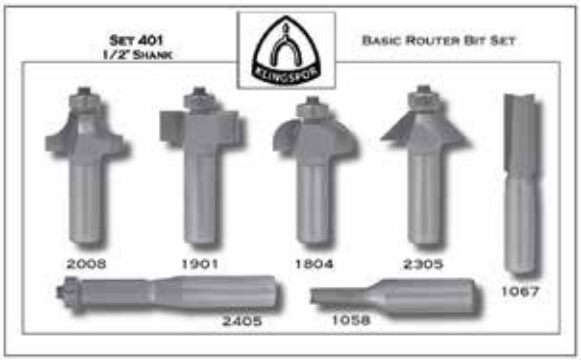
THE SECRET

Traditional downcut spiral door bits on the market "BLOW OUT" material on the bottom side of the door after the bit dulls. KLINGSPOR's Up/Down Door-Lite bit continues to perform after dulling because the material is "pulled" up instead of being pushed down. The bits are made with high grade American tool steel and precision ground on state of the art CNC grinders.

ASTOUNDING RESULTS

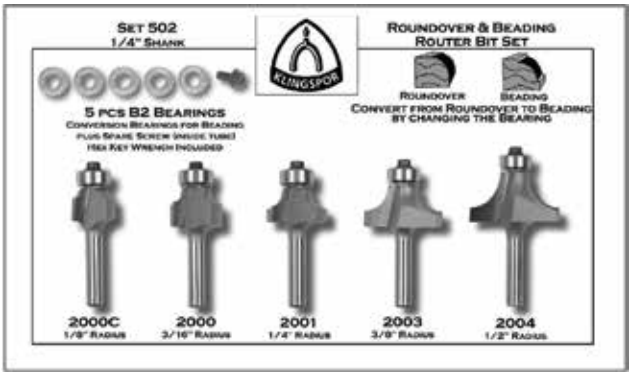
Tests were conducted of the KLINGSPOR Up/Down Door-Lite Bit against traditional downcut spiral door bits. Test cuts were performed on a CNC door cutting machine routing steel clad exterior doors. The traditional bit cut an average of 12,000 inches per bit, whereas the KLINGSPOR Door-Lite bit cut an amazing 22,000 inches! ** Ideal operating specifications: 3,500 rpm @ 400 ipm*

ROUTER BIT SETS



Set 401 - BASIC 7 Pc. Bit Set - 1/2" Shank
Set 402 - BASIC 7 Pc. Bit Set - 1/4" Shank

This is the set pictured on the back cover. It's made up of only the most popular woodworking bits. Includes our 1/4" Straight, 1/2" Straight, R3/8 Roundover, 3/8" x 1/2" Rabbet, R3/8 Cove, 45° Chamfer, and 1/2" Flush Trim.

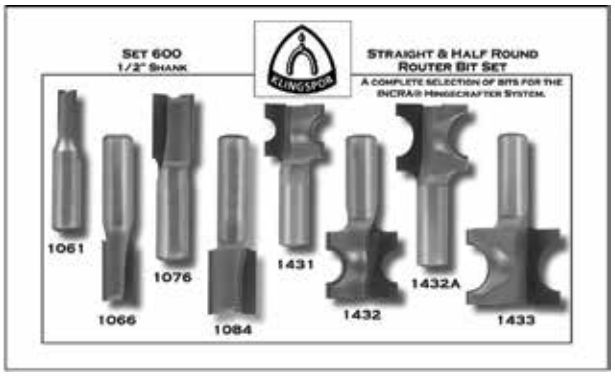


Set 502 - ROUNDOVER & BEADING - 1/4" Shank

Easily round off all your square edges with lightweight 1/4" capacity Hand Routers. Keep the whole range of sizes (R1/8, R3/16, R1/4, R3/8, R1/2) neatly organized and right at your fingertips. As with the 1/2" shank set, this kit comes fully equipped to extend its usage by converting to Beading - i.e., Roundover with a decorative step.

Set 470 - 3 PC. UNDERSIZED PLYWOOD DADO ROUTER BIT SET - 1/2" SHANK

These 3 "go-to" router bits are sized to exactly match today's nominal plywood thicknesses. Make everything fit just right while saving over buying bits separately!

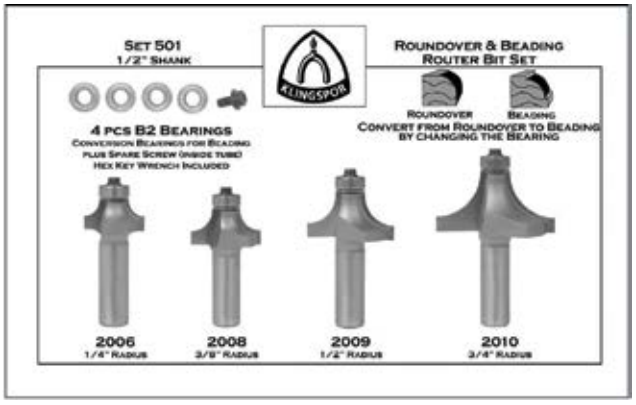


Set 600 - STRAIGHT & HALF ROUND COMBO - 1/2" Shank

A nice collection of Straight Bits and Half Rounds grouped together in one protective case. This set includes:

- 3/8 Straight
- 3/8 Half Round
- 5/8 Straight
- 5/8 Half Round
- 1/2 Straight
- 1/2 Half Round
- 3/4 Straight
- 3/4 Half Round

This handy group covers the full assortment of bits needed for the INCRA® HingeCrafter. KLINGSPOR Industrial Quality.



Set 501 - ROUNDOVER & BEADING - 1/2"

Shank Roundovers are by far the most used Edge forming bits in woodworking. This set offers the most common Radii (R1/4, R3/8, R1/2) in 1/2" shanks, plus a hefty 3/4" Radius workhorse. Extra bearings and wrench are included to convert each bit from Rounding over to Beading - i.e., Roundover with a decorative step.

Set 703 - 3 PIECE BALLNOSE

Includes:

SC66, RU1800RN, RU2075RN

Set 705 - 5 PIECE CNC STARTER SET

Includes:

SC64, SC66, RU2075,1502, 1550

Also See Our Dovetail Sets on Page 32.

ACCESSORIES

9500 - SOLID BRASS INLAY KIT

KLINGSPOR's brass inlay kit allows you to make perfect fitting inlays for decoration or repairs. Simply cut your template from 1/4" thick material and trace it with your router to cut both the cavity in your workpiece and the matching inlay to be inserted. Instructions are included. Our kit includes a special centering pin to insure exact alignment with router spindle. Also includes a 1/8" Solid Carbide Spiral Router Bit (Part# RD1600).

PART #9750

9750 - EXTENSION ADAPTER

For CNC Carving Machines

Used for light routing and veining on CNC carving machines. Allows deeper reach. Adapter is 1/2" shank. Accepts 1/4" shank bits only. Order Part #9750.

BRASS SET-UP GAUGE BLOCKS

Our Square Gauge Blocks are a quick way to make many easy, accurate set-ups. A great way to make exact depth movements on plunge routers. On table routers, they're perfect for setting distances from the fence to the cutter, or for checking the bit height above the table. Supplied in 1/8", 3/16", 1/4", 3/8", and 1/2" squares. Blocks can be "stacked" to cover a wider range of sizes. A very helpful tool!

PART#	DESCRIPTION
9800	5 pc. Set - 2-1/2" Long
9810	5 pc. Set - 4" Long

HEX KEY WRENCHES

PART NUMBER	SIZE	APPLICATION
HK-1/16	1/16"	Bearing Lock Collars
HK-5/64	5/64"	1/8" I.D. Bearings (3-48 Screw)
HK-3/32 *	3/32"	3/16" I.D. Bearings (5-40 Screw)
HK-5/32	5/32"	1/4" I.D. Bearings (10-32 Screw)

** Standard Size for Most Bits*

QUICK CHANGE CHUCKS

Swap router bits quickly and easily. Cam-lock design clamps and loosens with a partial turn using a hex key wrench. Much simpler than the original two wrench method. Holds 1/2" shank bits. Order #6400 Router Collet for 1/4" shanks. Replace the factory collet with a Quick Change.

PART NUMBER	DESCRIPTION
9710	All 1/2" Bosch
9720	Dewalt 625/Elu 1/2"/Fein/Festool/Freud

9600 - SQUARE CORNER CHISEL

Use this tool to square up the round corners left behind when routing hinge mortises. Hold unit in mortise corner and strike with hammer. Our chisel features a sharp 3/8" square hardened steel cutting blade.

9600B Replacement Blade

9510 - BASE PLATE REDUCERS - SOLID BRASS

These solid brass inserts fit into your router base plate to reduce the gap around the router bit. Not only is this safer, but it also reduces tearout and helps support smaller workpieces. Supplied in a set with openings of 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", and 1", plus retaining nut. Openings are slightly oversize for tool clearance. Fits any router with a standard 1-3/16" diameter recessed hole for template guides.

SPARE PARTS LISTING

Flat Washers - 10 pc. pack

PART NUMBER	INSIDE DIAMETER	OUTSIDE DIAMETER	THICKNESS
31250W	5/16"	1/2"	1/16"

Replacement Parts By Tool Number

Replacement Bearing sizes are listed in the catalog with each tool. Most tools with bearing pilots on the end require only the 54025S Screw. Exceptions:

34825S Screw:	2400,2401,2404A
103238S Screw	2013-2016, 2410, 2415, 2560, 2570, 2575, 2580, 2715, 2900-2908, 3390
1032N Nut	RFT5125, RFTD5125, RFT5200 RFTD5200, UDFT5152

Socket Head Cap Screws - 10 pc. pack

PART NUMBER	THREAD SIZE	THREAD LENGTH	HEX KEY SIZE
34825S	3-48	1/4"	5/64"
54025S	5-40	1/4"	3/32"
103238S	10-32	3/8"	5/32"

Add BLK to part number for 100 pcs.

Hex Nuts - 10 pc. pack

PART NUMBER	THREAD SIZE	THREAD LENGTH	HEX KEY SIZE
1032N	10-32	1/4"	3/8"
31224N	5/16-24	1/4"	1/2"

ACCESSORIES

ARBORS

Arbor Length

PART NUMBER	SHANK DIAMETER	ARBOR DIAMETER	ARBOR LENGTH	OVERALL LENGTH
A200	1/4"	5/16"	7/8"	2-3/8"
A205	3/8"	5/16"	7/8"	2-1/2"
A210	1/2"	5/16"	7/8"	2-5/8"
A220	1/2"	5/16"	7/8"	4"
A250	1/4"	5/16"	1-3/16"	2-3/4"
A260	1/2"	5/16"	1-3/16"	2-7/8"
A300	1/4"	5/16"	1-7/16"	3"
A310	1/2"	5/16"	1-7/16"	3-3/16"
A375	1/2"	5/16"	1-3/4"	3-3/8"

Arbors include nut and washer.

W300 - SHIM WASHER KIT

Use these shim washers to fine adjust the spacing on any arbor or assembly with a 5/16" diameter arbor (Slot Cutters, Stile & Rail, Window Sash, Tongue & Groove). Washers are 5/16" I.D. x 1/2" O.D. Includes three each of the following thicknesses: .004, .006, .008, .010, .012.

BEARING LOCK COLLARS

Retaining Collars used when bearings are added to the shanks of router bits for following templates.

PART NUMBER	SHANK DIAMETER	OUTSIDE DIAMETER
LC-1/4	1/4"	7/16"
LC-1/2	1/2"	11/16"

Uses part # HK-1/16 Hex Key Wrench
#LCS-Replacement Set Screw for Lock Collars

BALL BEARINGS

PART NUMBER	OUTSIDE DIAMETER	INSIDE DIAMETER	APPLICATION
B1A	1/4"	1/8"	
B1	3/8"	1/8"	
B2	3/8"	3/16"	
B3	1/2"	3/16"	Standard
B3-BLK	1/2"	3/16"	100 pcs. bulk
B3S	1/2"	3/16"	Non-Mar Nylon Sleeve
B3SQ	1/2"	3/16"	Euro-Square (Pg. 15)
B3T	1/2"	3/16"	Tefl on® Shields
B3U	.490"	3/16"	for resharps (undersize)
B4	3/4"	1/4"	
B5	7/8"	5/16"	
B6	5/8"	1/4"	
B7	5/8"	3/16"	
B8	3/4"	3/16"	
B8SQ	3/4"	3/16"	Euro-Square (Pg. 15)
B9	1/2"	1/4"	
B9U	.490"	1/4"	for resharps (undersize)
B11	1-1/8"	1/2"	
B12	7/8"	3/8"	
B13	7/8"	1/2"	
B14	11/16"	3/16"	
B15	13/16"	3/16"	
B16	1-1/4"	1/2"	
B17	1-3/8"	1/2"	
B18	1-1/2"	1/2"	
B19	3/4"	1/2"	
B20	3/4"	5/16"	
B21	7/8"	1/4"	
B24	1-7/8"	1/2"	
B25	1-1/8"	5/16"	
B26	1-3/8"	5/16"	
B27	5/8"	5/16"	
B28	7/8"	3/16"	
B29	1"	3/16"	
B33	9/16"	3/16"	
BB300	7/8" x 10°	3/16"	Non-Mar Nylon Sleeve
1955T	1/2"	3/16"	Sleeve for B11
BB315	7/8" X 15°	3/16"	
BB318	7/8" X 18°	3/16"	

BB501 - 5 PIECE BEARING CONVERSION KIT

Use this kit to vary the horizontal cutting depth of router bits with bearing pilots.
Great for stepping in to finish depth by controlled increments.
Contains B2 (3/8"), B3 (1/2"), B7 (5/8"), B8 (3/4") Bearings and 3/32" Hex Key Wrench

BB600 - GENERAL BEARING REPAIR KIT

This handy kit inludes spare bearings, screws, and wrench to replace bearings on most bits. Includes five B3 (1/2 x 3/16) and two B2 (3/8 x 3/16) bearings, ten 54025S Screws, and a 3/32 Hex Key Wrench.

BB701 - ACCESSORY KIT

Great for replacement bearings and screws - Plus this generous bearing assortment allows you to vary your cutting depths and change your profiles. Also contains lock collars and bearings for adding bearing guides to the shanks of your standard bits for following templates.

Contains: 12 bearings - four B3 (1/2 x 3/16), one each of B2 (3/8 x 3/16), B7 (5/8 x 3/16), B8 (3/4 x 3/16), B9 (1/2x 1/4), B6 (5/8 x 1/4), B4 (3/4 x 1/4), B5 (7/8 x 5/16) and B11 (1 1/8 x 1/2); two each 1/4" lock collars (LC-1/4) and 1/2" lock collars (LC-1/2); one each 1/16, 5/64, 3/32 and 5/32 Hex Key wrenches; plus ten 54025S bearing screws.

Cutting Diameter	Max RPM	Recommended
Up to 1/4"	24,000	18,000 - 21,000
5/16" to 1"	21,000	18,000
1" to 2-1/4"	18,000	16,000
2-1/4" to 2-3/4"	16,000	14,000
3" to 3-3/4"	12,000	10,000

Chip Load

Tool Dia. Upcut	2 flute	3 flute
1/8" to 3/16"	.004 to .006	
7/32" to 5/16"	.007 to .009	
3/8" to 1/2"	.008 to .012	.006 to .010
5/8" to 3/4"	.010 to .014	.008 to .012

Down Cut

Tool Dia.	2 flute	3 flute
1/8" to 3/16"	.003 to .005	
7/32" to 5/16"	.006 to .008	
3/8" to 1/2"	.007 to .011	.006 to .010
5/8" to 3/4"	.010 to .014	.008 to .012

Compression	2+2	3+3
1/4"	.012 to .015	
3/8" to 1/2"	.016 to .022	.013 to .018
3/4"	.022 to .025	

for 1+1 compression reduce chip load by 25%

Carbide Tipped and Solid Carbide Straight Flute Tools

1/4" to 5/16"	.003 to .004	
3/8" to 1/2"	.006 to .009	
3/4" to 1"	.008 to .011	
-1/8" to 2"	.012 to .015	

Chip Load, RPM, & Feed Rates:

Actual feed rates will vary depending on machine horsepower, spindle quality, material being milled, rigidity of the clamps / hold down, etc. Faster rpm's will result in a cleaner cut, but will contribute to quicker wear due to heat and friction. Select the slowest RPM possible for each cutter. Start at a slower feed rate and rpm than the maximum and work up until the combination of desired production and cut is accomplished. The following information is to be used as a recommended starting point only when setting up for your application. Adjustments may still be required to achieve your desired needs based on material being milled. This information does not guarantee specific results and tool or material damage may still occur.

How to figure feed rate

First, find the recommended speed range for your particular bit. Then, find the ideal chip load by locating the proper bit and flute combination in the chart.

To figure out the required feed rate, use the following formula: Feed Rate (inch per minute – ipm) = RPM x # of flutes x Chip load.

Example:

If you want the feed rate for a 1/2" 2 flute compression bit do the following:

18,000 X 2 x .020 = 720ipm feed rate

- ***Feed rates are for depth of cut = cut diameter***
- ***If depth of cut is 2x cut diameter reduce chipload 25%***
- ***Not recommended for 3x diameter at one pass***

If you can run with less rpm and get a satisfactory cut, run less.

ROUTER BIT GLOSSARY

A) **Axis** – This refers to the path a CNC will travel (typically X, Y, Z). X and Y refer to the side-to-side and front-to-back cuts and Z refers to up and down (depth of cut). This is crucial in a CNC, as it determines all the directions that cuts are made.

B) **Ball Nose** – A spiral bit with a rounded nose that is used primarily for carving or rounding corners. (See page 3)

Bearing (ball bearing, pilot bearing) – A sleeve, containing ball bearings, that rides along the edge of the workpiece, or the template, guiding the cutting edges along the templated path. (See page 39)

Bead – A convex (outward curve) profile used in moldings. This is similar to a round-over, but with small "steps" above or below the profile. (See the graphics on page 15)

Bevel – A sloping or angling of the edge of the workpiece. (See page 16)

Bottom Bearing – With the shank end pointing upward, the bearing will be at the bottom of the flutes or cutting edges. (Example: Flush Trim bits on page 17)

Braze – The method used to attach the carbide tips to the bit body. Brazing is the joining of two closely fitting pieces of like or different metals using a high-strength compound. KLINGSPOR bits have a much better brazing process than our competitors. It consists of 50% silver & 50% Cobalt & Tungsten (no cheap fillers in the metal mixtures). This is a very high-strength ratio of brazing materials.

C) **Carbide** – A mixture of metals & powders heated and mixed together to create a very hard, dense metal compound. The hardness of the carbide allows it to be honed and sharpened to very accurate shapes and contours while maintaining a long-lasting cutting edge.

(carbide-tipped bits) a machined steel body with carbide pieces brazed onto specific areas that make up the cutting portion of a router bit.

(solid carbide bits) A bit formed (milled) entirely of high-quality carbide.

Carving Liner - A solid carbide bit that produces an extra fine vein for detail carving or lettering. (page 3)

Chamfer – A symmetrical angle cut at the edge or corner of the work piece, most commonly at 45°. (Page 16)

Chip Breaker – An edge design that helps to break up the chips into smaller pieces for more efficient evacuation from the cut path. (See page 5)

Chip load – the thickness of a chip (waste), which is formed during the machining of material. The chip load is important because the proper size chip will carry away heat, promoting long tool life. Speed and feed rate are crucial factors. (See page 40)

Climb Cut – A climb cut refers to cutting the workpiece in the opposite direction from the standard in small increments. This is done when using wild-grained wood that is easily splintered. Typically, a router bit is designed to efficiently and safely cut counter-clockwise along the outside edge and clockwise on an inside edge. Imagine a mirror frame. There is an outside portion and an inside portion (where the mirror is).

CNC (computer numeric control) – A computer-controlled cutting or routing mechanism that can be programmed to follow a strict cutting path, whether it be cutting pieces to a specified dimension or carving intricate designs on the surface of a piece. CNC routers use a large variety of router bits to perform various operations.

Collet – A metal band or collar that the router bit's shank is mounted into on the spindle of a router or CNC router. Standard sizes are 1/4", 3/8", 1/2", 5/8", & 3/4". Metric sizes include 8mm, 10mm, and some others, but are not usually found in the U.S. (See page 34)

Compression or Up/Down Spiral– Spiral bits that combine down shear and up shear angles for an excellent surface finish on both top and bottom surfaces. It "compresses" the top and bottom of the material towards the middle. Because of the dual direction of the cut, the chips are forced into the middle of the bit which provides a clean cut on the top and bottom edges of the workpiece. Normal compression bits have a 3/8" up-cut, while mortise compression bits have a 1/4" up-cut for making shallow first passes. (See page 6)

Cope & Stick – This refers to rail & stile bits that make the frame of a cabinet door. One bit makes the end of the rails (top and bottom pieces) and the other makes the inside of the rails and stiles (sides). The profiles are mirror images of each other, so they fit perfectly when mated together.

Cove – A concave cut (an inward curve) made on the edge of the workpiece. (See page 13)

Cut Diameter (CD) or Cut Edge Diameter (CED) – the diameter of the cutting portion of the bit when it has made a complete circle.

Cut Length (CL) or Cutter Edge Length (CEL) – The length of the cutting portion of the bit from top to bottom.

D) **Dado** – A groove cut into the face of a board into which another board is inserted and fastened. (Page 9)

Diameter (D) – The measurement referencing the size from one side to the other (imaginary line straight across).

Dovetail - A bit that is tapered at specific degrees (7, 8, 9, 10, 14, etc.) to create attractive and structurally functional joints on wood. Typically used on drawers or boxes.

Down cut (down shear) – The bit has a downward cutting action, pushing the chips "down" and away from the router motor, leaving a clean cut on the top edge. This configuration provides downward pressure during the cut and aids in holding down the material being cut.

E) **Edge Banding** – A finished edge that is installed on the raw edge of a plywood panel that makes the plywood look more like a solid wood edge.

F) **Feed Rate** – The distance, in inches, or sometimes meters, per minute, that the bit will travel while cutting the workpiece.

Figuring Feed Rate – To calculate the feed rate, multiply the recommended RPM by the number of flutes, and then multiply that product by the recommended chip load.

Feed Rate = RPM X # of flutes X chip load

Finger Joint – A strong joining configuration where numerous "fingers" interlock with each other creating a strong structural joint.

Flush Trim – Straight cutting bits that include a pilot bearing on the end for trimming the workpiece flush to a predetermined edge.

Flute – a single cutting edge on a router bit. A router bit may have one or more flutes.

Single Flute – Use this configuration for faster feed rates in softer materials. The single flute cutter typically has more room for the chip ejection process to take place. However, feed rates and the hardness of the material you can cut, are limited by the single cutting edge. Plastics and non-ferrous metals are prime candidates for single-edge cutters.

Double & Triple Flute – These bits provide better finishes in some of the harder materials. Double-flute bits provide a smoother cutting action due to a smaller chip being produced. Triple-flute bits will give an even smoother performance as the chip size is decreased even more. These bits will leave a smoother cut edge on the workpiece but feed rates will decrease, proportional to the chip size.

G) **Gullet** - The cutout area in the body of the bit in front of each flute, that allows for chip removal.

H) **Helix Angle or Hook Angle** – The angle of the cutting edge of the flute.

Hinge-Boring Machine – A machine that uses both a hinge boring bit to bore the cup portion of the hinge in a door, but also dowel drills to bore the pilot holes for the hinge screws. BLUM is one of the most common brands of line/hinge boring machines.

K) **Kroma coating** – A nano-ceramic coating that, when applied to the carbide, increases the hardness of the cutting edge, and increases the bit's lubricity, causing it to run cooler and with less friction. This increases the life of the bit to 2-3 times the life of an uncoated bit. The Kroma coating alternates between a blue and purple color. When using o-flute bits, the Kroma coating is more suited to plastics and composites. But will cut non-ferrous metals and composites, as well. When used on a compression bit, it is a longer-lasting alternative to solid carbide bits.

L) **Laminate** – Sometimes called plastic laminate, this countertop covering is made from chemically treated compressed layers of paper and finished with a durable resin top coat in numerous colors and patterns. This material is sometimes incorrectly called "Formica", which is actually a brand name for the Formica company, who manufactures plastic laminate countertop covering.

Line-Boring Machine – A machine that bores holes in a straight line for adjustable shelving in the side panel of a cabinet. This is done before the cabinet is assembled and involves multiple router bits in a line. Machines range from 5 bits to upward of 27 bits. There will always be odd numbers of bits and the machine will require both right and left-hand turning bits.

Lock Collar – A collar with a set screw that holds a bearing in place on the shank of the router bit.

M) **Miter** – An angle cut on the end of a workpiece that is usually joined with another piece with a matching angle.

MDF – Medium Density Fiberboard. Used extensively in cabinet construction. This man-made wood product is made of medium-sized wood fibers. It works great for parts that will require a painted surface.

ROUTER BIT GLOSSARY

Mortise – A hole or recessed area that is made to receive a corresponding tenon or fixture, whether it be a wood tenon (see Tenon below) or a hinge plate.

N) **Non-Ferrous metal** - Softer metals that contain no iron. Examples: Aluminum, copper, brass, bronze, titanium, magnesium, zinc, and zirconium.

O) **O-Flute** - The gullets of the O flute bit are designed to "roll" the shavings into a ball for easy removal. The purpose of this property is to compact the shavings and make them easier to throw clear of the bit in composite materials like plastics or non-ferrous metals.

Ogee – An "S" shaped profile involving concave and convex shapes in combination on the edge of the workpiece. One common version is the Roman Ogee.

Onion Skin - This is a term given by CNC users to describe cutting material in layers (passes). This specifically references leaving a thin layer of material for the final pass to ensure all parts don't move on the table until the bulk of dimensional cutting is complete.

Oval - A rounded and slightly elongated outline or shape like that of an egg.

Overall Length (OAL) – The overall length of a router bit from end to end.

P) **Panel** – The center portion (panel) of a cabinet door. They can be raised-panel or flat-panel. The raised-panel variety requires the use of router bits or shaper bits to cut the raised-panel profile. The flat-panel variety is usually made from a thin piece of plywood or MDF and can vary in thickness (7/32", 6mm, or 1/4" most common).

Pattern Bit (top bearing bit) - Similar to a flush trim, but the bearing is on the top side of the cutting edges rather than the bottom, like the flush-trim bit.

Plunge – A downward cutting motion of the bit as it plunges into the thickness of the material to begin its cut path. It will also plunge deeper into the material as it changes its "Z axis" (See Axis) during the execution of the pre-programmed tool path.

Pocket Hole Bit – A pocket hole is a hole drilled at usually a 15-degree angle for the purpose of joining two pieces of material together. Some of the machines involved use an all-in-one bit that pre-drills and counter-sinks at the same time. Others require a pre-drill bat and a counter-sink bit separately.

Profile bit - A bit with a shape cut into it, which creates a specific design or profile.

R) **Rabbet** – An "L" shaped notch made along the edge of a workpiece (not a groove, which is U-shaped), usually to a specific depth, to allow a mating piece to sit flush or below the surface. This is seen primarily in cabinetry where the back meets the sides.

Radius – While the diameter of a circle runs from one side to the other and cuts through the center of the circle, the radius begins at the center of the circle and runs to the outside edge.

Raised Panel – The panel of a cabinet door that varies in thickness, creating a raised area toward the center, giving the door a richer, more stylish look. Raised panel bits mill the edges of the thicker panes down in thickness so that they can be inserted into the grooves in the stiles and rails.

Roughing Spiral – A roughing spiral, also known as a hogger, is used for removing a lot of material in the shortest amount of time. This is a process known as hogging out material. NOTE: This bit is strictly for material removal and will not leave a clean cut at the top edge of the workpiece.

Round nose (core box) – End cutting bits that plunge and produce decorative, fluted (U-shaped) grooves.

Round Nose (with bearing guide) - The addition of a shank-mounted bearing adapts this version of Klingspor's round-nose router bit to follow a template.

Round Over or Round Over – A bit used to round over (or simply "round") the edge of the workpiece. The bit's radius can be as small as 1/16" or as large as 2".

Router bits – The cutting tool, either solid carbide or carbide tipped, that mounts into a router or CNC to create grooves, profiles, etc.

S) **Shaker Stile & Rail set** – The Shaker style of the stile and rail sets (see Stile & Rail for definition) leaves a square edge at the inside of the door frame where it meets the panel, rather than a coved, beaded, or ogee edge of modern-day door construction. This "square" edge can be either square (90 degrees) or slightly angled.

Shank – The portion of the router bit that is inserted into the collet. This part of the bit will have no cutting edges.

Shank diameter(SH) – The measurement of the cylindrical part of the bit that is mounted into the collet. Some of the most standard shank diameters are 1/4", 3/8", and 1/2", although 5/16", 5/8", and 3/4" shank bits can be found in the market as well.

Shear Angle – The angle at which the cutter "shears" or slices through the wood.

Slot Cutter – This is similar to a rabbet, but instead of just an "L" shaped notch, a slot cutter can make a "U" shaped groove as well. A slot cutter can cut rabbets, but a rabbet bit cannot cut slots. A slot cutter can be adjusted to make a tongue and groove as well (see tongue and groove).

Slow Spiral - A spiral configuration that has a less aggressive twist than standard spiral bits.

Solid Carbide - A router bit that is milled from a solid carbide blank.

Solid Surface - The material known as solid surface is an acrylic-based material that contains mineral dust, resins, and pigments. It is poured and formed into countertops for kitchens, bathrooms, and other applications. Although in many cases it looks like stone, this material is relatively soft and can be cut and formed using router bits and abrasives.

Speed or Spindle Speed – The speed in revolutions per minute (RPM) at which the spindle of the CNC router turns while cutting.

Spiral bit – Straight-sided bits with milled helical (angled) flutes that spiral around the circumference of the bit. This provides more efficient chip ejection. These are typically made of solid carbide and produce a smoother surface finish. With a spiral, part of the cutter is in the material at all times, compared to a carbide-tipped bit where the cutting edge touches the material twice per rotation.

Spoilboard – Spoilboards are used as a base surface for cutting to prevent your CNC table from being damaged by the cutting tool. Because of this, a spoilboard needs to be solid enough that it doesn't compress when the vacuum pump is turned on while also being porous enough to allow for appropriate airflow. Spoilboard resurfacing involves a large-diameter router bit flattening the surface for further use of the board.

Staggertooth Bit - A bit that has two cutting edges that are staggered along the length of the cutting portion of the bit. One begins at the tip of the cutting portion of the bit, and the other begins where the first one ends.

Straight bit – A straight cutting bit with no profiled shape, either carbide tipped or spiral.

Stile & Rail – A stile and rail set is a set of router bits that cut the tongue and groove joinery used to construct cabinet doors, some drawer fronts, and end panels. Part of the set also cuts the groove that accepts the panel. The stile is the vertical portion of the door frame and the rail is the horizontal portion. To easily remember this, think of the rails of the door frame as the rails of train tracks..laid horizontally.

T) **Template bit** – A template bit is similar to a flush-trim bit. But where a flush-trim bit has the bearing mounted at the bottom of the cutting edge of the bit, the template bit has the bearing mounted at the top of the cutting edge. With the flush-trim, the cutting is done ABOVE the bearing, whereas the template bit does the cutting BELOW the bearing.

Tenon – A projecting piece of wood made for insertion into a mortise in another piece.

Tongue & Groove – This is one of the oldest types of joinery in woodworking. Usually a two-bit set, this makes a groove on one piece and a tenon (tongue) on the other. When they are assembled and glued, it makes for a strong joint. This is typical in wood flooring and similar applications.

Top Bearing – With the shank end pointing upward, the bearing will be located at the top of the flutes, or cutting edges.

U) **Up-Cut (up shear)** – The bit has an upward cutting action, pulling the chips "up" and toward the router motor, leaving a clean cut on the bottom edge of the workpiece. This is preferred when making grooves to aid in chip removal. The up-cut action allows for faster cutting as the chips are cleared from the cut path more efficiently. If a clean-cut edge is desired on the top edge of the workpiece, this is NOT the configuration to use.

V) **V-Groove or V-Bit** – A "V" shaped bit used mostly for carving, lettering, or miter-folding. These bits come with differing angles measured in degrees.

Z) **ZirKon coating** – A nano-ceramic coating that, when added to the carbide, increases the hardness of the cutting edge, and increases the bit's lubricity, causing it to run cooler and with less friction. This increases the life of the bit to 2-3 times the life of an uncoated bit. The Zirkon coating is a light yellow/gold color. When using o-flute bits, the Zirkon coating is more suited to non-ferrous metals and composites but will cut plastics and composites, as well.

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