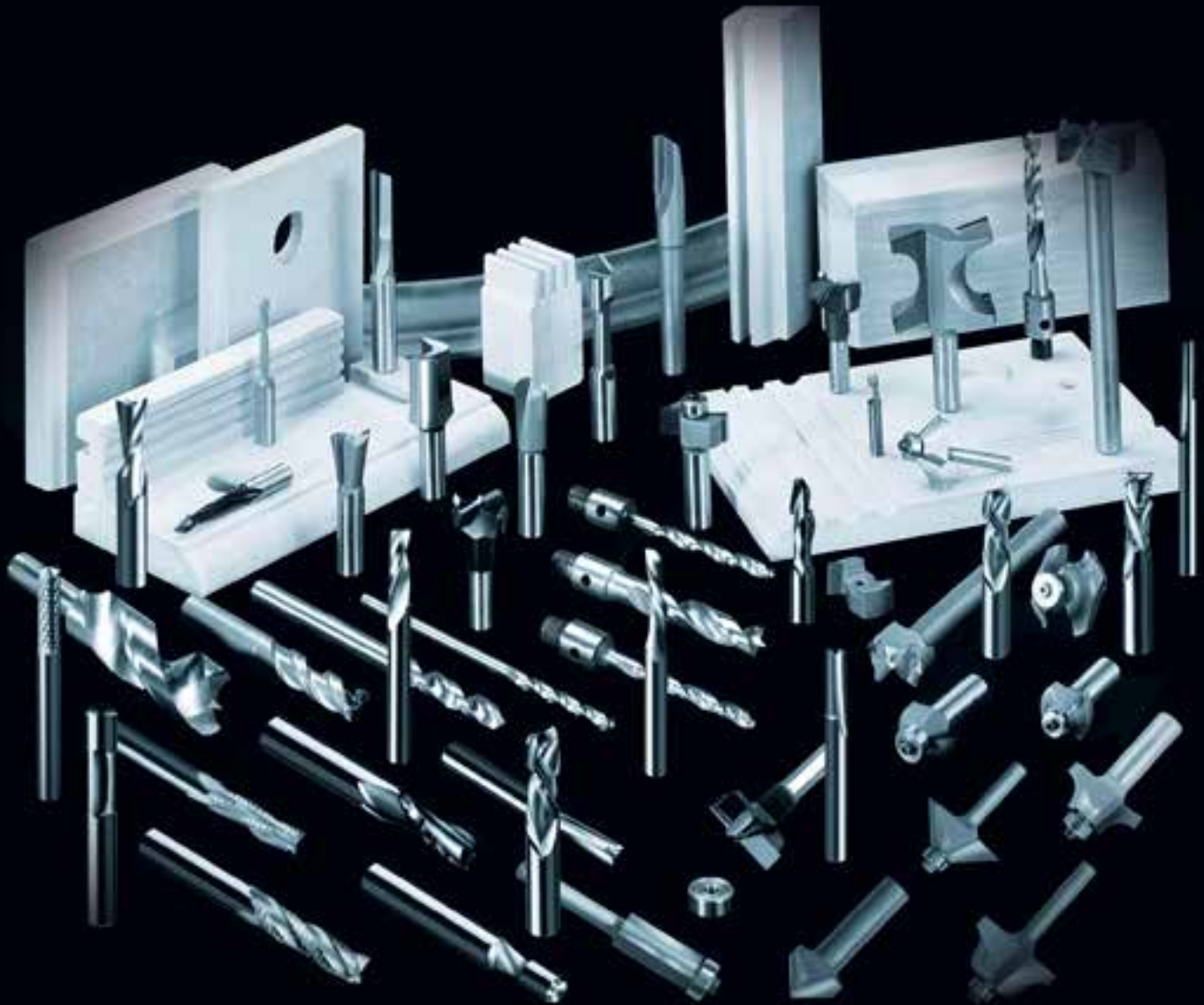


# Router Bits & Shank Tooling



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# 1 & 2 Flute Straight Cut Router Bits

A



1 Flute Right-Hand Bit

B

C



Finish ground on the face and outside diameter which provides a sharp cutting edge. Relief angles provide stability and strength as well as a free cutting bit. A versatile router bit excellent for various types of cuts such as dados, rabbet joints, plunge routing, mortise cuts, edging, trimming, sizing, etc. Recommended for use on pin and CNC routers. Can be used with hand routers provided a fixture, jig or template are utilized.

## 1/4" Shank

D

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC119	1/4	3/4	2-1/4	1-1/4
RC123	1/4	1	2-1/2	1
RC126	1/4	1	3-1/8	1-3/4
RC129	9/32	3/4	2-1/4	1-1/4

E

F

G

## 3/8" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC211	3/8	1	2-5/8	1

H

I

## 1/2" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC214	3/8	1	2-5/8	1-3/8
RC215	3/8	1-1/4	2-7/8	1-3/8
RC216	1/2	1-1/4	2-7/8	1-3/8
RC219	1/2	1-1/2	3-1/8	1-3/8
RC222	1/2	2	4-1/8	1-7/8
RC225	1/2	2-1/2	4-3/8	1-7/8

J

K



2 Flute Left-Hand Bit



## 3/4" Shank Left-hand

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC357L	3/4	2	5	3
RC359L	3/4	2-1/2	5-1/2	3

# 1 Flute Router Bits Staggered Tooth & Point Pilot



Staggered tooth arrangement reduces cutting pressures and horsepower requirements. Free cutting. Plunge endpoint for fast entry into the material. Has the balance of a 2 flute design, maximum material removal and cutting thick hard to cut material. Use in applications when cutting material that has a tendency to labor the motor.

## 1 Flute 1/2" Shank Staggered Tooth Router Bits

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC363	3/8	1-1/2	3-1/8	1-3/8
RC366	1/2	1-1/2	3-1/8	1-3/8
RC369	1/2	2-1/8	4	1-5/8



Drills its own hole with the plunge point. Single flute carbide tip used for cutting. The round base contacts the surface to follow either the inside edge or a template. Use 1 flute for higher feed rates and where rough cuts are acceptable. Excellent for machining cutouts for windows, doors, etc. Rough cutout operations. Used in the R.V. and trailer manufacturing industry.

## 1 Flute 1/4" Shank with Plunge Point Pilot Router Bit

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC558	1/4	3/4	2-5/8	1-1/4

## 3/8" Shank with Plunge Point Pilot Router Bit

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC561	3/8	1	3-1/4	1-1/4

## 1/2" Shank with Plunge Point Pilot Router Bit

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC564	1/2	1-1/4	4	1-1/4

# 2 Flute Straight Cut Router Bits



A versatile router bit excellent for various types of cuts such as dados, rabbets, plunge routing, mortise cuts, edging, trimming, sizing, etc. Use 2 flute router bits when you require a good final cut and finish on the material. When using hand routers it is recommended that you use a template or a guide system to provide accurate cuts. Can also be used on pin and CNC routers. Use the smallest cutting edge length to reduce vibration and the susceptibility to router bit breakage.

## 1/4" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC135	1/4	1/2	2	1-1/4
RC141	1/4	3/4	2-1/4	1-1/4
RC144	1/4	1	2-1/2	1-1/4
RC147L	1/4	1	2-1/2	1-1/4
RC149	1/4	1	3	1-3/4
RC151*	1/4	1	3-1/4	2-1/4
RC153	9/32	1	3	7/8
RC156	5/16	1	2-1/2	1-1/4
RC159	3/8	3/4	2-1/4	1-1/4
RC162	3/8	1	2-1/2	1-1/4
RC165	3/8	1-1/4	2-3/4	1-1/4
RC168	7/16	1	2-1/2	1-1/4
RC171	1/2	3/4	2-1/4	1-1/4
RC174	1/2	1	2-1/2	1-1/4
RC177	9/16	3/4	2-1/4	1
RC179	5/8	3/4	2-1/8	1
RC183	11/16	3/4	2-1/8	1-1/4
RC186	3/4	3/4	2-1/8	1
RC189	1	3/4	2-1/8	1-1/4

\* Widely Used on Air Routers

## 3/8" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC212	3/8	1	2-5/8	1-3/8
RC213	3/8	1-1/4	3-5/8	2

# 2 Flute Straight Cut Router Bits



Carbide tipped for maximum wear. Use 2 flute router bits when you require a good final cut and finish on the material. A versatile router bit excellent for various types of cuts such as dados, rabbets, plunge routing, mortise cuts, edging, trimming, sizing, etc. Recommended for natural woods, plastics, man-made material and aluminum.

## 1/2" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC231	1/4	3/4	2-3/8	1-3/8
RC234	5/16	1	2-5/8	1-3/8
RC237	3/8	3/4	2-3/8	1-3/8
RC239	3/8	1	2-5/8	1-3/8
RC243	3/8	1-1/4	2-7/8	1-3/8
RC246	13/32	3/4	2-1/2	1-3/8
RC249	7/16	1-1/4	2-7/8	1-3/8
RC252	1/2	1	2-5/8	1-3/8
RC255	1/2	1-1/4	2-7/8	1-3/8
RC258	1/2	1-1/2	3-1/8	1-3/8
RC261	1/2	1-1/2	4-1/8	2-3/8
RC264	1/2	2	3-1/2	1-1/4
RC267	1/2	2	4	1-7/8
RC269	1/2	2-1/2	4-1/2	1-3/4
RC273	17/32	1-1/4	2-7/8	1-3/8
RC276	9/16	1-1/4	3	1-3/8
RC279	5/8	1	2-1/2	1-3/8
RC282	5/8	1-1/4	3	1-7/16
RC285	5/8	1-1/2	3	1-3/8
RC288	5/8	2	4	1-3/4
RC291	11/16	1	2-1/2	1-3/8
RC294	11/16	1-1/4	3	1-3/8
RC297	3/4	1	2-3/4	1-3/8
RC298	3/4	1-1/4	3	1-7/16
RC299	3/4	1-1/2	3-1/4	1-3/8
RC311	3/4	2	3-5/8	1-3/8
RC312	13/16	1-1/4	3	1-7/16
RC313	7/8	1-1/4	3	1-3/8
RC315	1	1-1/4	3	1-7/16
RC318	1	1-1/2	3	1-3/8

Continued on next page...



# 2 Flute Straight Cut & Mortise Router Bits

A



B



1/2" Shank (continued from previous page)

C

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC321	1	2	3-3/4	1-3/8
RC324	1-1/8	1-1/2	3	1-3/8
RC327	1-1/4	1-1/2	3	1-3/8
RC329	1-3/8	1-1/4	3	1-3/8
RC333	1-1/2	1-1/4	3	1-3/8
RC336	1-3/4	1-1/4	3	1-3/8
RC339	2	1-1/4	3	1-3/8

G

H

Carbide tipped for maximum wear. Use 2 flute router bits when you require a good final cut and finish on the material. A versatile router bit excellent for various types of cuts such as dados, rabbets, plunge routing, mortise cuts, edging, trimming, sizing, etc. Recommended for natural woods, plastics, man-made material and aluminum.

I

3/4" Shank

J

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC345	3/4	1-1/4	3	1-1/2
RC348	3/4	1-1/2	3-1/4	1-1/2
RC351	3/4	2	4	1-3/4
RC354	3/4	2-1/2	4-1/2	2-1/4

K



1/4" Shank Mortise

Designed to provide clean splinter free edges on the material. Large gullet area between the flutes to facilitate fast chip removal. Can be use to cut both mortise and tenons using the same router bit. Produces a flat bottom cut on the material. Various cutting diameters are available to match the radius found on door hinges. The cutting action of each bit is designed to produce a smooth flat bottom cut.

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC375	1/2	3/4	2-1/8	1-1/4
RC345	3/4	1-1/4	3	1-1/2
RC348	3/4	1-1/2	3-1/4	1-1/2
RC351	3/4	2	4	1-3/4
RC354	3/4	2-1/2	4-1/2	2-1/4

\*RC387 Hs 1/2" Shnk Dimeter

# 2 Flute Helix Mortising Router Bits



Down-Shear



Designed with a downward shear direction to provide clean splinter free edges on the material. Carbide tipped cutter is removable from the threaded shaft. Includes both the cutter and the threaded shank. Can be use to cut both mortise and tenons using the same router bit. Produces a flat bottom cut on the material. Various cutting diameters are available to match the radius found on door hinges. The cutting action of each bit is designed to produce a smooth flat bottom cuts.

## With Down Shear - (Screw on Type)

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC393	1/2	5/8	7/8	1/4-28
RC396	33/64	5/8	7/8	1/4-28
RC397	5/8	5/8	7/8	1/4-28
RC399	41/64	5/8	7/8	1/4-28
RC411	11/16	5/8	7/8	1/4-28
RC412	3/4	5/8	7/8	1/4-28
RC413	49/64	5/8	7/8	1/4-28
RC414	13/16	5/8	7/8	1/4-28
RC415	7/8	5/8	7/8	1/4-28
RC417	1	1/2	1/2	1/4-28
RC419	1-1/8	1/2	1/2	1/4-28
RC423	1-1/4	1/2	1/2	1/4-28



Replacement Arbor for the Helix Mortise Bit

## Replacement Arbor

Part No.	Arbor Diameter	Overall Length	Thread Size
RP111	1/4	1-3/4	1/4-28
RP114	3/8	1-3/4	1/4-28



# 2 Flute Pilot Router Bits

A



B

C



Drills its own hole with the plunge point. Single flute carbide tip used for cutting. The round base contacts the surface to follow either the inside edge or a template. Use 2 flute for lower feed rates and where better finishes are desired. Excellent for machining cutouts for windows, doors, etc. Finish cutout operations. Used in the R.V. and trailer manufacturing industry.

## 1/4" Shank with Plunge Point

D

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC567	3/8	1	3-1/4	1-1/4

E

## 3/8" Shank with Plunge Point

F

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC569	3/8	1	3	1-1/4

G

## 1/2" Shank with Plunge Point

H

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC573	1/2	1-1/4	4	1-1/4

I

J

K

# 2 Flute Round Nose Router Bits



Features Extra long carbide for deep cuts. Can plunge cut for accurate positioning and stock removal. Excellent choice for sign making applications. Also used for grooving and stock removal in raised letter signs and bowls. Also used for fluting and other architectural work.

## 1/4" Shank

Part No.	Cutting Diameter	Cutting Radius	Cut Edge Length	Overall Length
RS101	1/8	1/16	1/4	2
RS102	3/16	3/32	3/8	2
RS103	1/4	1/8	1/2	2
RC426	3/8	3/16	5/16	1-15/16
RC429	1/2	1/4	5/8	2-1/4
RC432	5/8	5/16	7/16	2-1/16
RC435	3/4	3/8	1/2	2-1/8

## 1/2" Shank

Part No.	Cutting Diameter	Cutting Radius	Cut Edge Length	Overall Length
RC438	3/8	3/16	1	2-5/8
RC441	1/2	1/4	1-1/4	2-7/8
RC444	5/8	5/16	1-1/4	2-7/8
RC447	3/4	3/8	1-1/4	2-3/4
RC449	1	1/2	1-1/4	2-3/4
RC450	1-1/4	5/8	1-1/4	3
RC451	1-1/2	3/4	1-1/4	3
RC452	1-3/4	7/8	1-3/4	3
RC454	2	1	1-1/4	3

# 2 Flute Half Round & "V" Groove Router Bits



Carbide flutes available in popular cutting radii for various projects. Corner softening. Used to produce a half round or bullnose on material. Common uses are stair treads, furniture arms, shelves, window sills, etc.

## Bullnose Half Round

Part No.	Cutting Radius	Shank Diameter	Opening of Cutter	Shank Length
RC453	3/32	1/4	3/16	13/16
RC456	1/8	1/4	1/4	13/16
RC459	3/16	1/4	3/8	1-1/4
RC462	1/4	1/4	1/2	1-1/2
RC465	3/32	1/2	3/16	1-1/2
RC468	1/8	1/2	1/4	1-1/2
RC471	3/16	1/2	3/8	1-3/8
RC474	1/4	1/2	1/2	1-3/4
RC477	3/8	1/2	3/4	1-3/4
RC479	1/2	1/2	1	15/16
RC483	5/8	1/2	1-1/4	15/16



90° "V" Groove



60° "V" Groove

The 90B produces a true 90B cut and is designed for decorative work only. It is not intended for use with V-fold or mitering systems. Use for freehand and machine routing. Designed for intricate sign making and decorative cuts. Use the 60B for veining, incised sign lettering and decorative cuts.



## 60° & 90° Angles "V" Groove

Part No.	Cutting Diameter	Shank Diameter	Cutting Depth	Overall Length
<b>90° "V" Groovers - Decorative</b>				
RC486*	1/4	1/4	1/4	1-1/2
RC489	3/8	1/4	1/2	1-11/16
RC492	1/2	1/4	1/2	1-3/4
RC495	3/4	1/2	5/8	2-1/8
RC499	1-1/2	1/2	1	3
<b>60° "V" Groovers - Veining and Sign Lettering</b>				
RC501*	1/4	1/4	1/4	1-1/2
RC502*	1/2	1/4	1/2	2
RC503	1/2	1/2	1/2	2-1/4

\*Solid Carbide Router Bit

# 2 Flute Dovetail Router Bits



Available in popular 9 and 14 degree angles as well as left hand rotations. Produces the ultimate interlocking joinery for drawer fronts, case work, etc. Can be used in hand router applications and dovetail fixtures and template guide systems. Also use in the stair manufacturing industry. Some bits are compatible for use in Incra™, OmniJig®, and JoinTech™ Systems.

## 1/4" Shank - Right-hand

Part No.	Degree Each Side	Large Diameter	Depth of Cut	Overall Length
1RC511	9°	3/8"	3/8	2
2RC512	14°	1/2	1/2	2

## 3/8" Shank - Right-hand

Part No.	Degree Each Side	Large Diameter	Depth of Cut	Overall Length
RC513	9°	3/8	3/8	2

## 1/2" Shank - Right-hand

Part No.	Degree Each Side	Large Diameter	Depth of Cut	Overall Length
RC516	9°	3/8	3/8	2-1/2
2RC519	14°	1/2	1/2	2-1/2
1RC522	7°	5/8	7/8	2-5/8
1RC525	7°	3/4	7/8	2-5/8
3RC528	7°	7/8	7/8	2-1/2
RC531	14°	1	7/8	2-1/2

## 1/2" Shank -Left-hand

Part No.	Degree Each Side	Large Diameter	Depth of Cut	Overall Length
RC546L	9°	3/8	3/8	2
2RC549L	14°	1/2	1/2	2-1/2
3RC555L	7°	7/8	7/8	2-1/2

# 2 Flute Cove Box & Keyhole Router Bits

A



B



C

Select radii for use in numerous applications. Balanced 2 flute design for smooth cutting and excellent finishes. Adds a decorative touch to drawer fronts, furniture and cabinet doors. Can also be used for drop-leaf construction of table tops by matching the radius with our roundover bits.

## Cove Box with Bearing

D

Part No.	Cutting Radius	Large Diameter	Shank Size	Cut Edge Length
RC576	3/16	7/8	1/4	1/2
RC579	1/4	1	1/4	1/2
RC582	3/8	1-1/4	1/4	9/16
RC585	1/2	1-1/2	1/4	5/8
RC588	1/4	1	1/2	1/2
RC591	3/8	1-1/4	1/2	9/16
RC594	1/2	1-1/2	1/2	5/8
RC595	5/8	1-3/4	1/2	3/4
RC596	3/4	2	1/2	7/8
RC597	1	2-1/2	1/2	1

E

F

G

H

I

All Cove Bits Above Use a B3 Bearing

J

K



The bit plunge cuts a round hole into the back of the item to be mounted. Then by moving the router horizontally the large diameter cuts a hole beneath the small diameter creating a recessed (stepped) area for the screw or nail to lock into. A fast and easy method of mounting plaques, picture frames and other items flush to a wall. The use of a plunge type hand router is recommended. Can also be used with a pin or CNC router.

## 2 Flute Keyhole Router Bits

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RC111	3/8	3/16	1/4	1-1/2

# 2 Flute Beading & Roman Ogee Router Bits



Provides an inset bead along the lower edge of the workpiece. By changing the cutting depth, a step can be employed on both the top and the bottom of the bead. Great for decorative cuts and adding details to workpiece edges.

## Beading with Bearing

Part No.	Cutting Radius	Large Diameter	Shank Diameter	Carbide Height
RC666	1/4	1	1/4	1/2
RC669	5/16	1-1/8	1/4	1/2
RC672	3/8	1-1/4	1/4	5/8
RC675	1/2	1-1/2	1/4	13/16
RC678	1/4	1	1/2	1/2
RC681	3/8	1-1/4	1/2	11/16
RC684	1/2	1-1/2	1/2	13/16
RC687	3/4	2	1/2	1

All Router Bits use a B2 Bearing



A common decorative edge used to increase the attractiveness of an edge. Popular on table tops and tables. By changing the bearing size, the bead depth can be reduced to allow for a different look of the profile.

## Roman Ogee with Bearing

Part No.	Cutting Radius	Large Diameter	Shank Diameter	Carbide Height
RC689	5/32	1-1/8	1/4	15/32
RC699	1/4	1-1/2	1/4	23/32
RC693	5/32	1-1/8	1/2	15/32
RC696	1/4	1-1/2	1/2	23/32
RC697	3/8	2	1/2	1

All Router Bits use a B3 Bearing

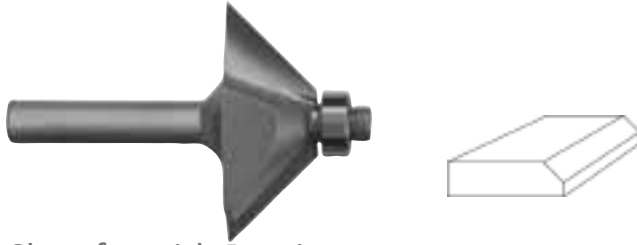
- A
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# 2 Flute Chamfering & Rabbeting Router Bits

A

B

C



Breaks the sharp corners of an edge and strengthens the corner. By adjusting the cutting height of the bit an endless variety of chamfers can be created. Use to produce decorative pieces and break the corners in timber.

## Chamfer with Bearing

D

E

F

Part No.	Degree of Angle	Carbide Length	Shank Diameter	Overall Length
RC711	15°	1/2	1/4	2
RC712	25°	1/2	1/4	2
RC713	45°	17/32	1/4	2-1/8
RC714	45°	17/32	1/2	2-7/16
RC715	45°	1	1/2	2-1/2

All Router Bits use a B3 Bearing

G

H

I

J

K



Change the depth by changing the bearing.

Use Bearing #B2 To produce a 7/16" Rabbet

Use Bearing #B7 To produce a 5/16" Rabbet

Use Bearing #B8 To produce a 1/4" Rabbet

Produces a "step" cut more commonly called a rabbet for joinery. Used in furniture and cabinet cuts for recessing backs, etc.

## 1/4" Shank Rabbeting

Part No.	Large Diameter	Rabbet Depth	Cut Edge Length	Shank Length
RC599	1-1/4	3/8	1/2	2-1/8

Uses a B3 Bearing

## 1/2" Shank

Part No.	Large Diameter	Rabbet Depth	Cut Edge Length	Shank Length
RC611	1-1/4	3/8	1/2	2-1/4

# 2 Flute Roundover & Template Router Bits



Ideal for rounding sharp corners and softening edges of furniture. Add a decorative touch by increasing the depth of cut until the shoulder produces a clean corner on the material. By changing the bearing you can convert a roundover bit to a beading bit.

## Corner Round

Part No.	Cutting Radius	Large Diameter	Shank Diameter	Carbide Height
RC612	1/16	5/8	1/4	1/2
RC613	1/8	3/4	1/4	1/2
RC614	3/16	7/8	1/4	1/2
RC615	1/4	1	1/4	1/2
RC618	5/16	1-1/8	1/4	9/16
RC621	3/8	1-1/4	1/4	5/8
RC624	1/2	1-1/2	1/4	3/4
RC625	3/16	7/8	1/2	1/2
RC627	1/4	1	1/2	13/16
RC629	5/16	1-1/8"	1/2	1/2
RC633	3/8	1-1/4	1/2	5/8
RC636	1/2	1-1/2	1/2	13/16
RC639	5/8	1-3/4	1/2	1
RC642	3/4	2	1/2	1
RC645	7/8	2-1/4	1/2	1-1/8
RC648	1	2-1/2	1/2	1-5/16
RC651	1-1/8	3	1/2	1-1/2
RC654	1-1/4	3-1/4	1/2	1-3/4
RC657	1-3/8	3-1/2	1/2	1-3/4
RC659	1-1/2	3-3/4	1/2	1-7/8

Replacement Bearings: Use a B3 Bearing for RC612 - RC648. Use a B4 Bearing for RC651 - RC659



Engineered with a bearing above the cutting flutes. Designed so that a template or jig can be placed on top of the workpiece. Allows easy visibility of the workpiece. Top bearing follows the template for accurate 1:1 duplication.

## Top Bearing Template

Part No.	Cutting Diameter	Cut Edge Length	Shank Diameter	Overall Length
RC778	1/2	1/4	1/4	1-7/8
RC780	1/2	3/4	1/4	2-1/4
RC781	1/2	1	1/4	2-1/2
RC782	1-1/8	1-1/2	1/2	3-1/2

Use a B9 Bearing for Router Bits RC778 to RC782



# Flush Trim Laminate Router Bits



Used on kitchen counter tops and display case goods where the edge of a laminate must be trimmed flush to the edge or top of the material. Can be used on both plastic laminates and solid wood veneers. Use the 3 flute for even better finishes and on materials that tend to chip.

## 2 Flute - Bottom Bearing

Part No.	Cutting Diameter	Cut Edge Length	Shank Diameter	Overall Length
RC719	3/8	1	1/4	2-5/8
RC723	3/8	1/2	1/4	2-1/8
RC726	1/2	1	1/4	2-11/16
RC729	1/2	1/2	1/4	2-3/16
RC735	1/2	1	1/2	3-1/4
RC738	1/2	1/2	1/2	2-3/4
RC741	1/2	1-1/2	1/2	3-5/8
RC744	1/2	2	1/2	4-1/4

Use a B1 Bearing for Router Bits RC719 to RC723

## 3 Flute - Bottom Bearing

Part No.	Cutting Diameter	Cut Edge Length	Shank Diameter	Overall Length
RC747	1/2	1	1/4	2-9/16
RC749	1/2	1/2	1/4	2-1/8
RC753	1/2	1	1/2	3-1/4
RC756	1/2	1/2	1/2	2-3/4
RC759	1/2	1-1/2	1/2	3-5/8
RC760	1/2	2	1/2	4

All router bits use a B3 Bearing

# Replacement Cutters



Slotting cutters are an excellent choice for cutting slots to accept "T" mouldings, Extrusions, etc. Available in a variety of kerfs that are typically found in this industry. By selecting various bearing sizes the depth of cut can be controlled.

## 3 Wing Slotting

Part No.	Cutting Diameter	Bore Size	Kerf Decimal	Fractional Inch
RC990	1-7/8	5/16	.062	1/16
RC991	1-7/8	5/16	.094	3/32
RC992	1-7/8	5/16	.125	1/8
RC993	1-7/8	5/16	.156	5/32
RC994	1-7/8	5/16	.250	1/4

Replacement arbor with a threaded 5/16 end and includes a B5 bearing which will produce a 1/2 depth of cut. Use the following chart to determine the correct bearing to order for additional depths of cut.

- Use B5 bearing for a 1/2 depth of cut
- Use B20 bearing for a 9/16 depth of cut
- Use B25 bearing for a 3/8 depth of cut
- Use B26 bearing for a 1/4 depth of cut
- Use B27 bearing for a 5/8 depth of cut

## Arbors for Slotting

Part No.	Shank Size	Threaded End	Overall Length	Includes Bearing
RP101	1/4	5/16	2-3/8	B5
RP102	3/8	5/16	2-3/8	B5
RP103	1/2	5/16	2-3/8	B5
RP104	1/2	5/16	4	B5

Includes a B5 bearing for a 1/2" depth of cut

# Replacement Bearings



Replacement sealed bearings for long life and trouble free performance.

A

B

C

D

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Part No.	Reference Number	Outside Diameter	Inside Diameter	Bearing Type
RP117	B1	3/8	1/8	Sealed
RP119	B2	3/8	3/16	Sealed
RP123	B3	1/2	3/16	Sealed
RP125	B9	1/2	1/4	Sealed
RP126	B4	3/4	1/4	Sealed
RP129	B5	7/8	5/16	Sealed
RP132	B6	5/8	1/4	Sealed
RP135	B7	5/8	3/16	Sealed
RP138	B8	3/4	3/16	Sealed
RP137	B11	1-1/8	1/2	Sealed
RP139	B20	3/4	5/16	Sealed
RP140	B25	1-1/8	5/16	Sealed
RP142	B26	1-3/8	5/16	Sealed
RP143	B27	5/8	5/16	Sealed

# Brad Point Dowel Drills



Made of the finest carbon steel and heat treated. Precision ground for exacting tolerances. Shoulder on shank has a pin hole for easy removal on the machinery. Used for drilling clean holes in natural wood for doweling operations. Economical drill with good wear and tool life characteristics.

## Carbon Steel-Screw Shank

Part No.	Cutting Diameter	Twist Length	Overall Length	Threaded Shank	Rotation Direction
B111	1/8	3	4-1/2	7/16-14	R
B141L	3/8	3	4-1/2	7/16-14	L



Same as page 25 except manufactured from Super Wear Steel. Requires less tool changes for sharpenings. Provides excellent wear and tool life characteristics.

## Super Wear Steel - Extended Screw Shank

Part No.	Cutting Diameter	Twist Length	Overall Length	Threaded Shank	Rotation Direction
BW138	3/8	1-3/4	4-1/2	7/16-14	R
BW141	7/16	1-3/4	4-1/2	7/16-14	R
BW144	3/8	1-3/4	4-1/2	7/16-14	L



Extended shank provides stability and rigidity especially when using small cutting diameters. Designed primarily for the Bell 24 Double End Miter and Boring Machine. Can also be used on other machines where runout/walking is a problem. Provides Rigidity.

## Super Wear Steel - Screw Shank

Part No.	Cutting Diameter	Twist Length	Overall Length	Threaded Shank	Rotation Direction
BW111	3/16	3	4-1/2	7/16-14	R
BW114	1/4	1-1/4	4-1/2	7/16-14	R
BW117	9/32	3	4-1/2	7/16-14	R
BW123	3/8	3	4-1/2	7/16-14	R
BW126	7/16	3	4-1/2	7/16-14	R
BW129	1/2	3	4-1/2	7/16-14	R

# Brad Point Spur Machine Drills

A



These machine drills are ground from hardened steel to maintain their accuracy. Two spurs cut in advance of the chip lifter. Versatile machine drills widely used for cross-grain boring and other applications that require smooth accurate holes.

B

## Carbon Steel

C

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
B147	3/16	3	5	1/2x2
B149	7/32	3	5	1/2x2
B153	1/4	3	5	1/2x2
B156	5/16	3	5	1/2x2
B159	7/16	3	5	1/2x2
B162	3/16	4	6	1/2x2
B165	7/32	4	6	1/2x2
B168	1/4	4	6	1/2x2
B171	5/16	4	6	1/2x2
B174	11/32	4	6	1/2x2
B177	3/8	4	6	1/2x2
B179	7/16	4	6	1/2x2
B183	1/2	4	6	1/2x2
B186	9/16	4	6	1/2x2
B189	5/8	4	6	1/2x2
B192	3/4	4	6	1/2x2
B195	1	4	6	1/2x2

D

E

F

G

H

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J

K



Provides longer tool life and wear than the carbon steel drills. Used for cross-grain boring and other work where smooth accurate holes are required. Two spurs cut in advance of the chip lifter.

## Super Wear Steel

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BW147	3/16	3	5	1/2x2
BW149	1/4	3	5	1/2x2
BW153	9/32	3	5	1/2x2
BW156	5/16	3	5	1/2x2
BW159	11/32	3	5	1/2x2
BW162	3/8	3	5	1/2x2
BW165	7/16	3	5	1/2x2
BW168	1/2	3	5	1/2x2
BW171	1/4	4	6	1/2x2
BW174	9/32	4	6	1/2x2

Continues on next page...

# Brad Point Spur Machine Drills



Provides longer tool life and wear than the carbon steel drills. Used for cross-grain boring and other work where smooth accurate holes are required. Two spurs cut in advance of the chip lifter.

## Super Wear Steel (continued from previous page)

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BW177	5/16	4	6	1/2x2
BW179	11/32	4	6	1/2x2
BW183	3/8	4	6	1/2x2
BW186	13/32	4	6	1/2x2
BW189	7/16	4	6	1/2x2
BW192	1/2	4	6	1/2x2
BW195	17/32	4	6	1/2x2
BW198	9/16	4	6	1/2x2
BW211	5/8	4	6	1/2x2
BW212	11/16	4	6	1/2x2
BW213	3/4	4	6	1/2x2
BW214	13/16	4	6	1/2x2
BW215	7/8	4	6	1/2x2
BW216	15/16	4	6	1/2x2
BW219	1	4	6	1/2x2



Provides longer tool life and wear than super wear steel. Use for man-made materials such as plastics, chip core and other hard to drill materials.

## Carbide Tipped

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BC111	1/4	3	5	1/2x2
BC114	5/16	3	5	1/2x2
BC117	3/8	3	5	1/2x2
BC119	7/16	3	5	1/2x2
BC123	1/2	3	5	1/2x2
BC126	5/8	3	5	1/2x2
BC129	3/4	3	5	1/2x2
BC132	1/4	4	6	1/2x2
BC135	5/16	4	6	1/2x2
BC138	3/8	4	6	1/2x2
BC141	7/16	4	6	1/2x2
BC144	1/2	4	6	1/2x2
BC147	5/8	4	6	1/2x2

# Drill & Brad Point Center Drills

A



Provides longer tool life and wear over carbon steel. Shank diameter is the same as the cutting diameter. Designed for cross-grain boring and other boring operations. Used with the counterbore and countersink tools on page 32.

B

C

## 4-1/2" Long - High Speed Steel - Straight Shank Drill Point

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BH131	1/8	2-1/4	4-1/2	1/8
BH132	3/16	2-1/4	4-1/2	3/16

E

## 6" Long - High Speed Steel - Straight Shank Drill Point

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BH113	1/8	2-1/4	6	1/8
BH111	3/16	2-1/4	6	3/16
BH115	5/32	2-1/4	6	5/32
BH116	7/32	2-1/4	6	7/32

F

G

H

I

J



Provides longer tool life and wear over carbon steel. Shank diameter is the same as the cutting diameter. Used with the counterbore and countersink tools on page 285.

K

## 4-1/2" Long - High Speed Steel - Straight Shank Brad Point

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BH126	1/8	2-1/4	4-1/2	1/8
BH129	3/16	2-1/4	4-1/2	3/16

## 6" Long - High Speed Steel - Straight Shank Brad Point

Part No.	Cutting Diameter	Twist Length	Overall Length	Shank Size
BH112	1/8	2-1/4	6	1/8
BH114	5/32	2-1/4	6	5/32
BH117	3/16	2-1/4	6	3/16
BH119	7/32	2-1/4	6	7/32
BH123	1/4	2-1/4	6	1/4

# Countersink, Counterbore Drills & Brad Point Dowel Drills



82 degree countersink design. Double fluted for fast chip removal. Drill is held by split and set screw. For seating flathead screws.

## Adjustable Countersink - 1/2" x 2" Shank - Carbon Steel

Part No.	C-Sink Diameter	Drill Size	Twist Length	Overall Length
B229	3/8	3/16	2-1/4	4-1/2
B233	1/2	3/16	2-1/4	4-1/2

Center Drill not included



Double fluted for fast chip removal. Drill is held by split and set screw. Bores smooth flat bottom holes.

## Adjustable Counterbore - 1/2" x 2" Shank - Carbon Steel

Part No.	C-Sink Diameter	Drill Size	Twist Length	Overall Length
B236	3/8	3/16	2-1/2	4-1/2
B239	7/16	7/32	2-1/2	4-1/2
B242	1/2	3/16	2-1/2	4-1/2
B245	1/2	7/32	2-1/2	4-1/2
B248	1/2	1/4	2-1/2	4-1/2

Center Drill not included



Shanks are 10mm with a machined flat and adjusting screw. For use on European boring machines. Used for adjustable shelving and concealed hinges.

## Standard Drills - Carbide Tipped Dowel

Part No.	Cutting Diameter	Overall Length	Flute Length	Shank Size
BC149	5	57.5	30	10x20
BC153L	5	57.5	30	10x20
BC156	6	57.5	30	10x20
BC159L	6	57.5	30	10x20
BC162	8	57.5	30	10x20
BC165L	8	57.5	30	10x20
BC168	10	57.5	30	10x20
BC171L	10	57.5	30	10x20

## Long Drills - Carbide Tipped Dowel

Part No.	Cutting Diameter	Overall Length	Flute Length	Shank Size
BC174	5	70	35	10x30
BC177L	5	70	35	10x30
BC179	8	70	35	10x30
BC183L	8	70	35	10x30



# Twist Drills & European Hinge Bits

A



Shanks are 10mm with a machined flat and adjusting screw. Provides clean through holes on the back side of the material.

B

## For Through Holes - Carbide Tipped

C

Part No.	Cutting Diameter	Overall Diameter	Flute Length	Shank Size
BC186	5	57.5	10	R
BC189L	5	57.5	10	L
BC192	5	70	10	R
BC195L	5	70	10	L
BC198	8	70	10	R
BC211L	8	70	10	L

F

G



Has a 10 x 26 shank with a machined flat and adjusting screw. For European boring machines. Used for the concealed hinge systems.

H

I

## Carbide Tipped European Hinge Bits

J

Part No.	Cutting Diameter	Overall Length	Shank Diameter	Shank Length
BC212	15	57.5	10	26
BC213L	15	57.5	10	26
BC214	20	57.5	10	26
BC215L	20	57.5	10	26
BC216	25	57.5	10	26
BC219L	25	57.5	10	26
BC222	35	57.5	10	26
BC225L	35	57.5	10	26

K

# 1 Flute Straight Cut "O" Flute Router Bits



Made from High Speed Steel. Use 1 flute router bits when you require a freer cutting bit using high feed rates. A versatile router bit excellent for various types of cuts such as dados, rabbets, plunge routing, mortise cuts, edging, trimming, sizing, etc. Recommended for natural woods, plastics and aluminum.

## High Speed Steel - 1/4" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH162	1/16	1/4	1-15/16	1-3/16
RH165	3/32	3/8	2	7/8
RH168	1/8	5/8	2-3/16	1-1/4
RH171	5/32	1/2	2	7/8
RH174	3/16	3/4	2-13/16	1-7/16
RH179	1/4	3/4	2	13/16
RH183	1/4	1	2-1/4	13/16
RH186	1/4	1-1/4	2-1/2	7/8

## High Speed Steel - 1/2" Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH192	1/2	1-1/4	3-1/8	13/16

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K

# 2 Flute Straight Cut "V" Flute Router Bits

A



B



Made from High Speed Steel. Use 2 flute router bits when you require a good final cut. A versatile router bit excellent for various types of cuts such as dados, rabbets, plunge routing, mortise cuts, edging, trimming, sizing, etc. Recommended for natural woods, plastics and aluminum.

C

## High Speed Steel - 1/4" Shank

D

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH111	3/16	5/8	2	11/16
RH117	1/4	3/4	2	1
RH119	1/4	1	2-1/4	7/8

E

F

## High Speed Steel - 3/8" Shank

G

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH126	3/8	1-1/4	2-3/4	11/16

H

## High Speed Steel - 1/2" Shank

I

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH129	1/4	3/4	2-3/8	9/16
RH132	5/16	1-1/4	2-3/4	1/2
RH135	3/8	1-1/2	3	1/2
RH141	1/2	1-1/4	2-3/4	1/2
RH144	1/2	2	4	1-1/16
RH147	5/8	1-1/4	2-3/4	1/2
RH149	3/4	1-1/4	2-3/4	5/8
RH153	7/8	1-1/2	3	1-1/4
RH156	1	1-1/4	2-3/4	1-1/4
RH159	1-1/4	1-1/4	2-3/4	1-5/16

J

K

# 1 Flute Straight & Spiral Panel Pilot Router Bits



Drill end point which allows you to plunge into material. Open cutting operations such as windows and doors.

## High Speed Steel - 1/4" Straight Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH195	1/4	3/4	2-5/8	1

## High Speed Steel - 3/8" Straight Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH198	3/8	7/8	3	1-1/8

## High Speed Steel - 1/2" Straight Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH211	1/2	1	3-1/2	1-1/8



Drill end point which allows you to plunge into material. Open cutting operations such as windows and doors.

## High Speed Steel - 1/4" Spiral Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH212	1/4	3/4	2-5/8	1-1/8

## High Speed Steel - 3/8" Spiral Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH213	3/8	7/8	3-1/2	1-5/8

## High Speed Steel - 1/2" Spiral Shank

Part No.	Cutting Diameter	Cut Edge Length	Overall Length	Shank Length
RH214	1/2	1-3/4	4-1/2	1-1/2



**Carbide Insert  
Router Bits**

# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To shape raised panels used in door applications.

## Technical Information

- Shank style cutter body design uses 2 non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of face mounted screws.
- Optional center router bit can be used to machine the edges of the panel.
- Maximum RPM 12,000

## Advantages

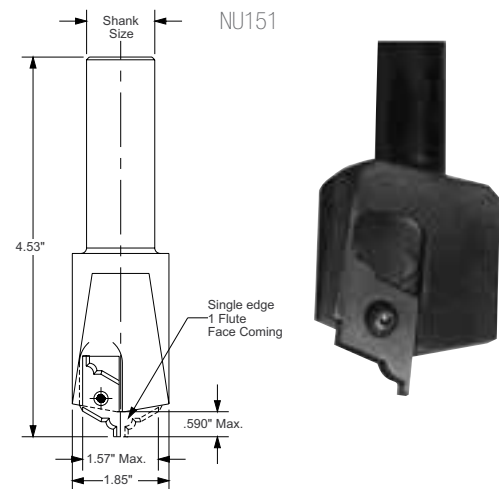
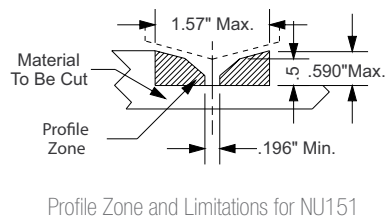
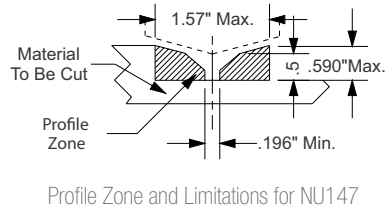
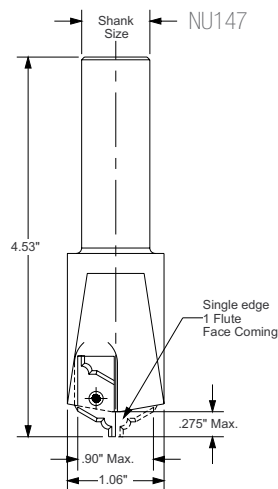
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Profile Cut Width		Cutting Depth		Shank Size	Small Diameter		Large Diameter		Uses Insert No.
	mm	in	mm	in	in	mm	in	mm	in	
ND159	30	1.18"	46	1.81"	3/4"	22	.87"	112	4.41"	6735 / 6765

See page 297 for inserts.

## Spare Parts

Part No.	Description
NP249	Torx Clamping Screw M4x6
NP123	Torx Clamping Screw M4x5.9
NP171	Torx Wrench "T" Handle T15
6778	Carbide Insert 20x12x2
6781	Carbide Insert 36x21x2i



# Universal Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To produce profiles that have a large depth of cut.
- Use on edges of decorative panels, doors, furniture, etc.

## Technical Information

- Shank style cutter body design made of aluminum alloy is at a 45° angle and uses 2 non-turnable profiled carbide inserts.
- Available in a 2-wing (flute) design only.
- Requires the use of backing plates to support the profiled cutting region.

- Standard hook angle is 10° positive.
- Comes complete with cutter body, wedges, screws and allen wrench.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM for 110mm Dia. = 12,000, 148mm Dia. = 6,000

## Advantages

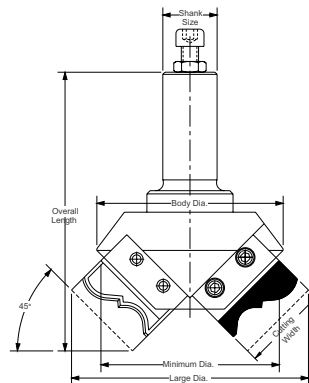
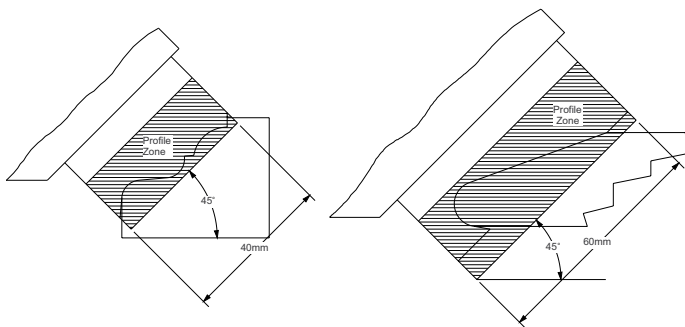
- Cutterhead is able to produce numerous profiles by simply changing the insert.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Produces a constant cutting circle so setup and machine adjustments are reduced to a minimum.
- Lower tooling costs due to decreased down time required for tooling changes.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size in.	Overall Length		Cutting Circle Dia.		Uses Insert No.	Backing Plate No.
	mm	in.	mm	in.		mm	in.	mm	in.		
NU135	40	1.57"	17	.67"	3/4"	123	4.84"	110	4.33"	6650	NB123
NU136	60	2.36"	22	.87"	3/4"	142	5.59"	148	5.83"	6660	NB122
NU137	40	1.57"	17	.67"	1"	123	4.84"	110	4.33"	6650	NB123
NU141	60	2.36"	22	.87"	1"	142	5.59"	148	5.83"	6660	NB122

See page 297 for inserts.

## Spare Parts

Part No.	Description
NP111	Clamping Wedge for 40mm Inserts
NP114	Clamping Wedge for 60mm Inserts
NP117	Wedge Screw M8x12 for II Cutters
NP119	Allen Wrench SW4 for Screws
NB122	60mm x 41mm Backing Plate
NB123	40mm x 36mm Backing Plate





# Universal Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

- Comes complete with cutter body, wedges, screws and allen wrench.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM for 3/4" Shank = 10,000, 1" Shank = 12,000

## Technical Information

- Shank style cutter body design uses 2 non-turnable profiled carbide inserts.
- Available in a 2-wing (flute) design only.
- Requires the use of backing plates to support the profiled cutting region.
- Standard hook angle is 10° positive.

## Advantages

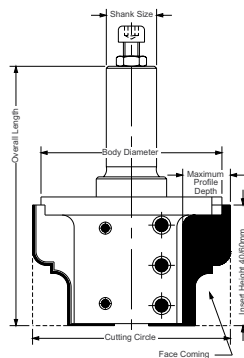
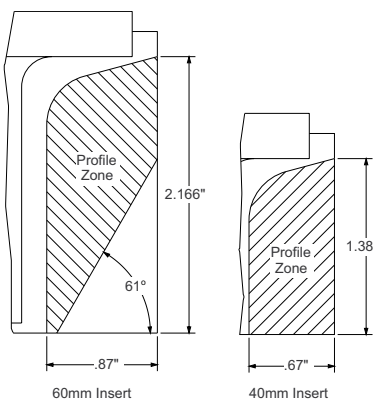
- Cutterhead is able to produce numerous profiles by simply changing the insert.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Produces a constant cutting circle so setup and machine adjustments are reduced to a minimum.
- Lower tooling costs due to decreased down time required for tooling changes.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size	Overall Length		Cutting Circle Dia.		Uses Insert No.	Backing Plate No.
	mm	in.	mm	in.		mm	in.	mm	in.		
NU111	35	1.38"	17	.67"	3/4"	109	4.29"	90	3.54"	6650	NB123
NU114	55	2.17"	22	.87"	3/4"	129	5.08"	100	3.94"	6660	NB122
NU117	35	1.38"	17	.67"	1"	109	4.29"	90	3.54"	6650	NB123
NU119	55	2.17"	22	.87"	1"	129	5.08"	100	3.94"	6660	NB122

See page 297 for inserts.

## Spare Parts

Part No.	Description
NP111	Clamping Wedge for 40mm Inserts
NP114	Clamping Wedge for 60mm Inserts
NP117	Wedge Screw M8x12 for all Cutters
NP119	Allen Wrench SW4 for Screws
NB122	60mm x 41mm Backing Plate
NB123	40mm x 36mm Backing Plate





# Universal Insert Router Bits

A

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

B

C

D

E

F

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K

- Comes complete with cutter body, wedges, screws and allen wrench.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM for 3/4" Shank = 10,000, 1" Shank = 12,000

## Advantages

- Cutter head is able to produce numerous profiles by simply changing the insert.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Produces a constant cutting circle so setup and machine adjustments are reduced to a minimum.
- Lower tooling costs due to decreased down time required for tooling changes.

## Technical Information

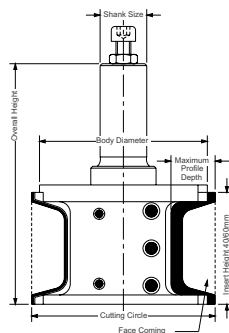
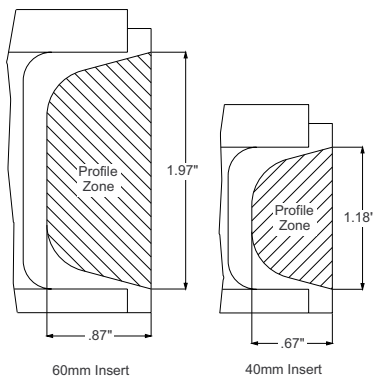
- Shank style cutter body design uses 2 non-turnable profiled carbide inserts.
- Available in a 2-wing (flute) design only.
- Requires the use of backing plates to support the profiled cutting region.
- Standard hook angle is 10° positive.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size	Overall Length		Cutting Circle Dia.		Uses Insert No.	Backing Plate No.
	mm	in.	mm	in.		mm	in.	mm	in.		
NU123	30	1.18"	17	.67"	3/4"	109	4.29"	90	3.54"	6650	NB123
NU126	50	1.97"	22	.87"	3/4"	129	5.08"	100	3.94"	6660	NB122
NU129	30	1.18"	17	.67"	1"	109	4.29"	90	3.54"	6650	NB123
NU132	50	1.97"	22	.87"	1"	129	5.08"	100	3.94"	6660	NB122

See page 297 for inserts.

## Spare Parts

Part No.	Description
NP111	Clamping Wedge for 40mm Inserts
NP114	Clamping Wedge for 60mm Inserts
NP117	Wedge Screw M8x12 for all Cutters
NP119	Allen Wrench SW4 for Screws
NB122	60mm x 41mm Backing Plate
NB123	40mm x 36mm Backing Plate



# Universal Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining operations such as grooving, lettering and engraving in both natural and man-made material.
- Insert can be profiled on one cutting edge only to provide small decorative cuts.

## Technical Information

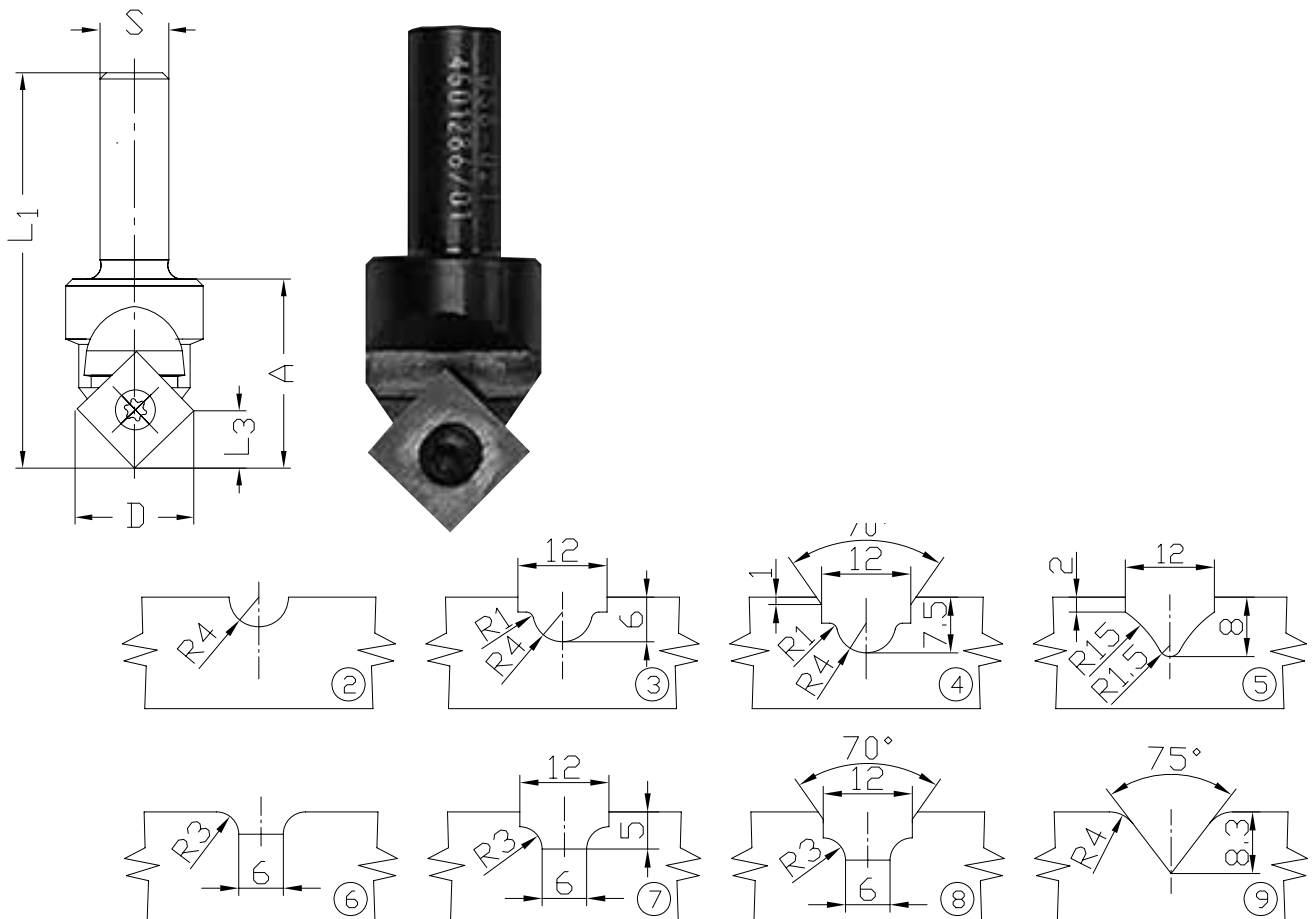
- Shank style cutter body design made from high tensile steel and tempered for long life and wear resistance.
- Small indexable standard carbide insert is easily removed with the use of the wrench provided.
- 1 cutting edge utilized/profiled per insert.
- Accuracy maintained even when changing the insert.
- Maximum RPM 24,000

## Advantages

- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Reduced sharpening costs due to small cost of inserts

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size in.	Overall Length in.	No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm					
ND259	.69"	8.5	.34"	1/2"	48	1.89"	1	1	TJ156N

See page 297 for inserts.



# Universal Insert Router Bits

A

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile wide profiles and grooves, some rosettes that do not have a center button.
- Can also be used to cut raised panel sections and deep flat profiles.

B

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- Standard hook angle is 10° positive.
- Comes complete with cutter body, wedges, screws and allen wrench.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM for 3/4" Shank = 10,000, 1" Shank = 12,000

## Advantages

- Cutterhead is able to produce numerous profiles by simply changing the inserts and backing plates.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Produces a constant cutting circle so setup and machine adjustments are reduced to a minimum.
- Lower tooling costs due to decreased down time required for tooling changes.

## Technical Information

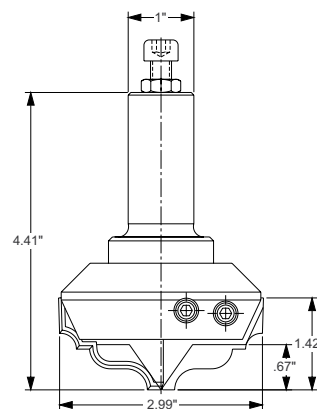
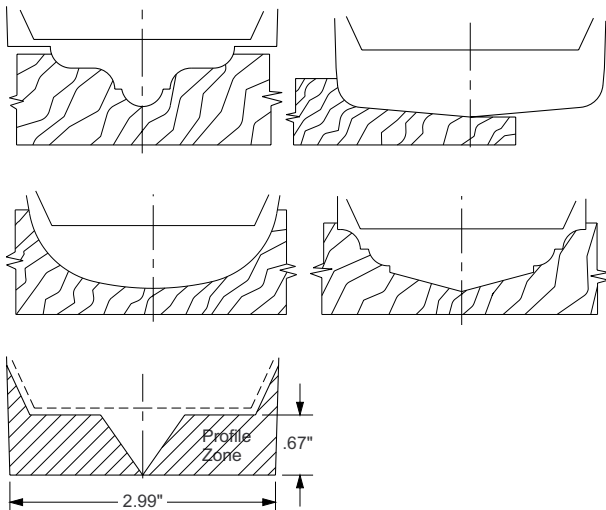
- Shank style cutter body design uses 2 non-turnable profiled carbide inserts.
- Available in a 2-wing (flute) design only.
- Requires the use of backing plates to support the profiled cutting region.

U.S. Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size In.	Overall Length		Cutting Circle Dia.		Uses Insert No.	Backing Plate No.
	mm	in.	mm	in.		mm	in.	mm	in.		
NU138	76	2.99"	17	.67"	3/4"	112	4.41"	38	1.5"	6771/6774	NB123
NU144	76	2.99"	17	.67"	1"	112	4.41"	38	1.5"	6771/6774	NB123

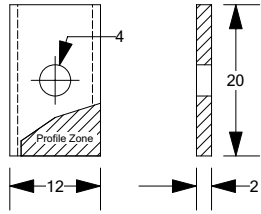
See "Universal Inserts" on page 297 for inserts.

## Spare Parts

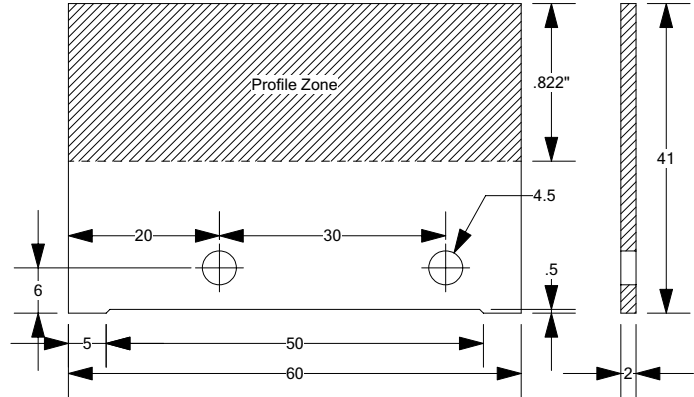
Part No.	Description
NP111	Clamping Wedge for 40mm inserts
NP117	Wedge Screw M8 x 12 for all Cutters
NP119	Allen Wrench SW4 for Screws
NP123	40mm x 36mm Backing Plate



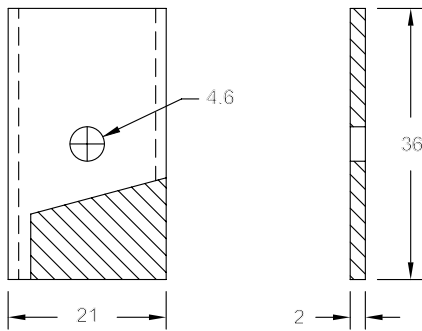
# Universal Inserts



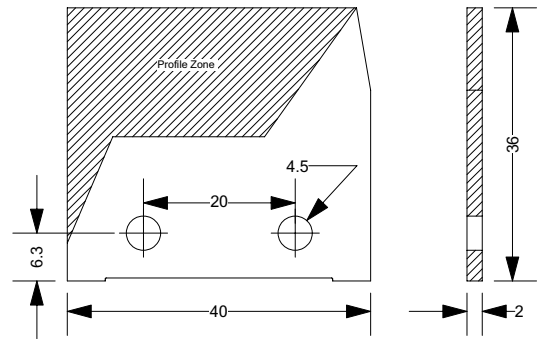
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6778	20x12x1.5	GP	Ea.



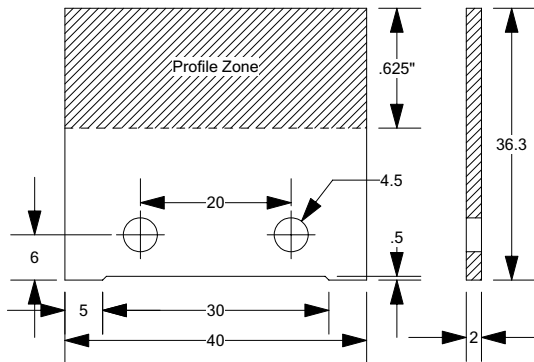
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6660	60x42x2	GP	Ea.



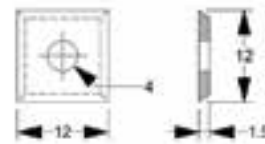
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6781	36x21x2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6771	40x36x2	GP	Ea.
6774	40x36x2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6650	40x36.3x2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ156	12x12x1.5	GP	10

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- K

# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To shape raised panels used in door applications.

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of face mounted screws.
- Optional center router bit can be used to machine the edges of the panel.
- Maximum RPM 12,000

## Technical Information

- Shank style cutter body design uses 2 non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

## Advantages

- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Profile Cut Width		Cutting Depth		Shank Size in	Small Diameter		Large Diameter		Uses Insert No.
	mm	in	mm	in		mm	in	mm	in	
ND159	30	1.18"	46	1.81"	3/4"	22	.87"	112	4.41"	6735 / 6765

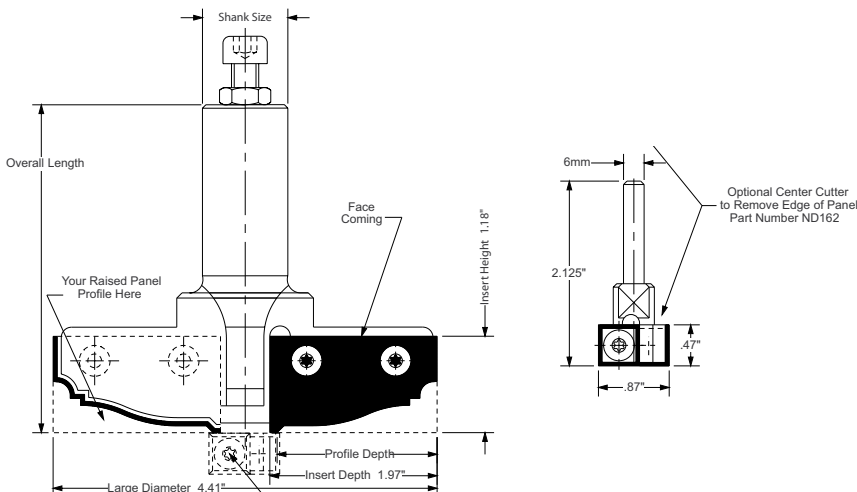
Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15

## Spare Parts for Optional Center Cutter

Part No.	Description
ND162	Optional Center Cutter .87" Dia.x47"
NP129	Screw M4x25 for RB #NP162
TJ156	Std. Insert 12x12x1.5mm



# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of face mounted screws.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM for 45mm dia. = 18,000, 55/65mm dia. = 12,000

## Technical Information

- Shank style cutter body design uses non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

## Advantages

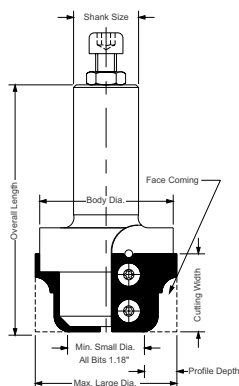
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert

Part No.	Max. Cutting Width		Shank Size and Dimensions		Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	Dia.	Length	mm	in.	mm	in.	
ND111	30	1.18"	1/2"	1.57"	45	1.77"	42	1.65"	6711 / 6741
ND114	30	1.18"	3/4"	2.17"	45	1.77"	42	1.65"	6711 / 6741
ND114	30	1.18"	3/4"	2.17"	55	2.17"	52	2.05"	6714 / 6744
ND114	30	1.18"	3/4"	2.17"	65	2.56"	52	2.05"	6717 / 6747
ND117	40	1.57"	1/2"	1.57"	45	1.77"	42	1.65"	6719 / 6749
ND119	40	1.57"	3/4"	2.17"	45	1.77"	42	1.65"	6719 / 6749
ND119	40	1.57"	3/4"	2.17"	55	2.17"	52	2.05"	6723 / 6753
ND119	40	1.57"	3/4"	2.17"	65	2.56"	52	2.05"	6726 / 6756
ND123	50	1.97"	1/2"	1.57"	45	1.77"	42	1.65"	6729 / 6759
ND126	50	1.97"	3/4"	2.17"	45	1.77"	42	1.65"	6729 / 6759
ND126	50	1.97"	3/4"	2.17"	55	2.17"	52	2.05"	6732 / 6762
ND126	50	1.97"	3/4"	2.17"	65	2.56"	52	2.05"	6735 / 6765

Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15



# Dedicated Insert Router Bits

## A Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

- Insert is mechanically fastened by the use of back mounted screws.
- Mèche à plaquette fabriquée pour une rotation vers la droite.
- Maximum RPM for 34mm dia. = 18,000, 44/54mm dia. = 12,000
- Ramp plunging is possible with this tool.

## D Technical Information

- Shank style cutter body design uses non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.
- Requires no backing plates or clamping wedges.

## Advantages

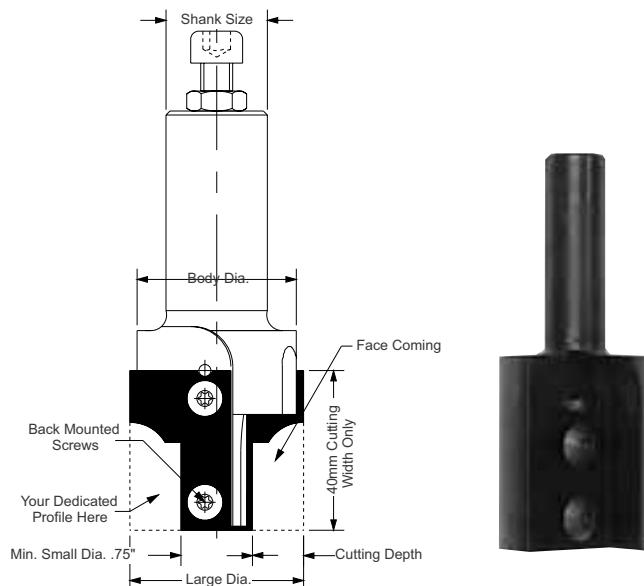
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size Inches	Min. Small Diameter		Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	mm	in.		mm	in.	mm	in.	mm	in.	
ND129	30	1.18"	7	.28"	1/2"	19	.75"	34	1.34"	28	1.10"	6711/6741
ND132	30	1.18"	7	.28"	3/4"	19	.75"	34	1.34"	28	1.10"	6711/6741

Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15



# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

- Insert is mechanically fastened by the use of 3 back mounted screws for additional protection.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM for 34mm dia. = 18,000, 44/54mm dia. = 12,000
- Ramp plunging is possible with this tool.

## Technical Information

- Shank style cutter body design uses non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.
- Requires no backing plates or clamping wedges.

## Advantages

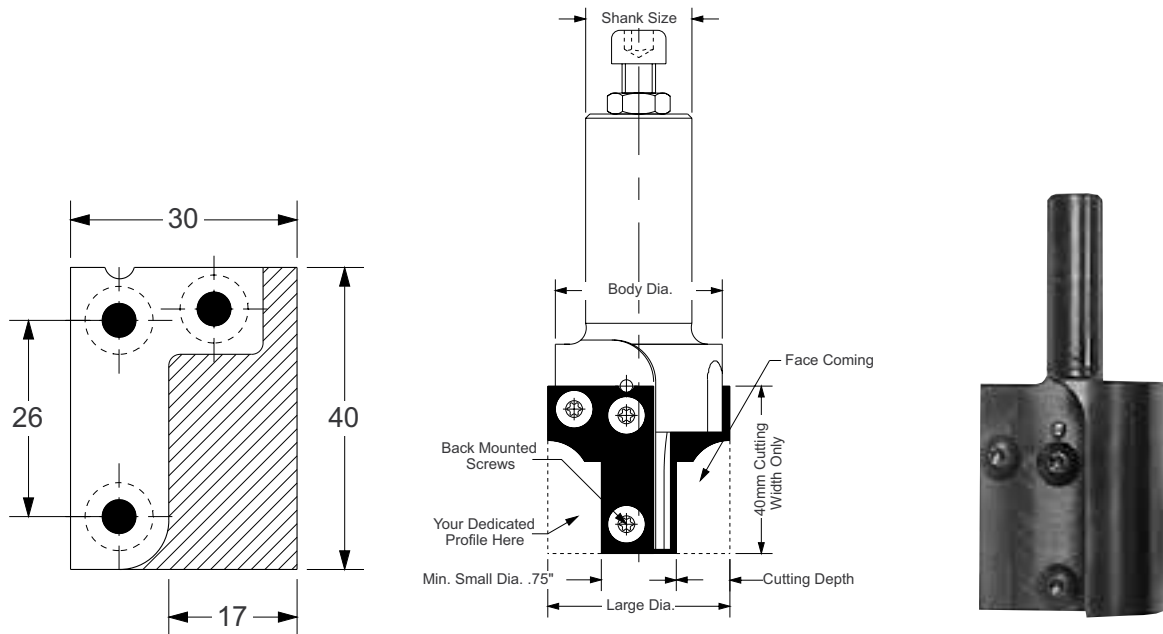
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size Inches	Min. Small Diameter		Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	mm	in.		mm	in.	mm	in.	mm	in.	
ND135	40	1.58"	17	.67"	1/2"	19	.75"	54	2.13"	41	1.61"	6728/6758
ND138	40	1.58"	17	.67"	3/4"	19	.75"	54	2.13"	41	1.61"	6728/6758

Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15





# Dedicated Insert Router Bits

A

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

B

C

D

## Technical Information

- Shank style cutter body design uses non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

E

F

G

H

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of back mounted screws.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM 18,000
- Ramp plunging is possible with this tool.

## Advantages

- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size Inches	Min. Small Diameter		Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	mm	in.		mm	in.	mm	in.	mm	in.	
ND141	25	.98"	See Drawing		1/2"	10	.39"	30	1.18"	28	1.10"	6738
ND144	25	.98"	See Drawing		3/4"	10	.39"	30	1.18"	28	1.10"	6738

Dedicated inserts begin on page 308.

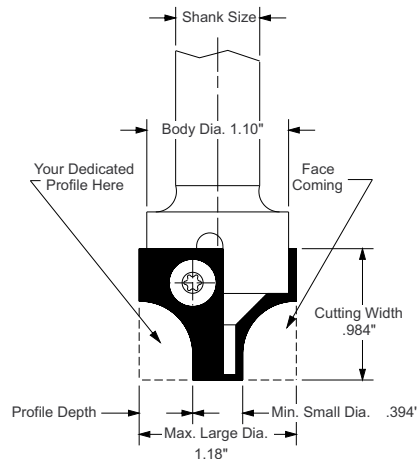
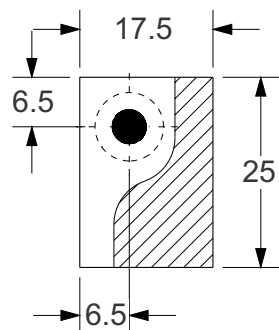
I

## Spare Parts

J

K

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15



# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of back mounted screws.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM 12,000

## Technical Information

- Shank style cutter body design uses non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

## Advantages

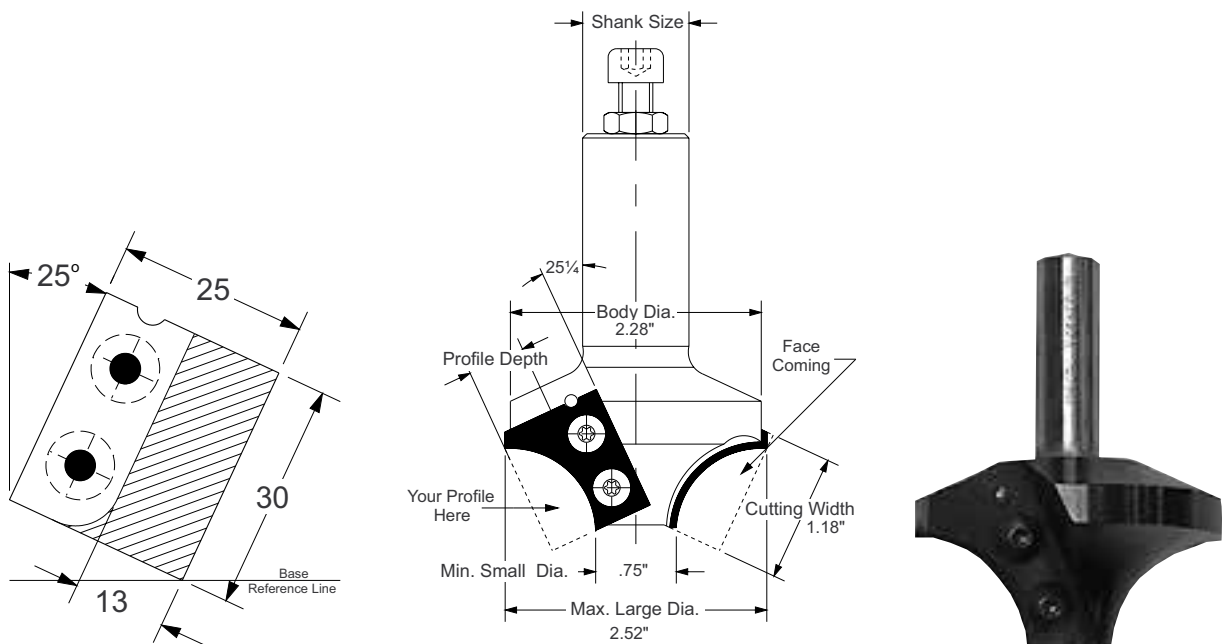
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size Inches	Min. Small Diameter		Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	mm	in.		mm	in.	mm	in.	mm	in.	
ND147	30	1.18"	See Drawing		1/2"	19	.75"	64	2.52"	58	2.28"	6714/6744
ND149	30	1.18"	See Drawing		3/4"	19	.75"	64	2.52"	58	2.28"	6714/6744

Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15



# Dedicated Insert Router Bits

## A Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

## D Technical Information

- Shank style cutter body design uses non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of back mounted screws.
- Insert router bit is manufactured in right-hand rotation.
- Maximum RPM 12,000

## Advantages

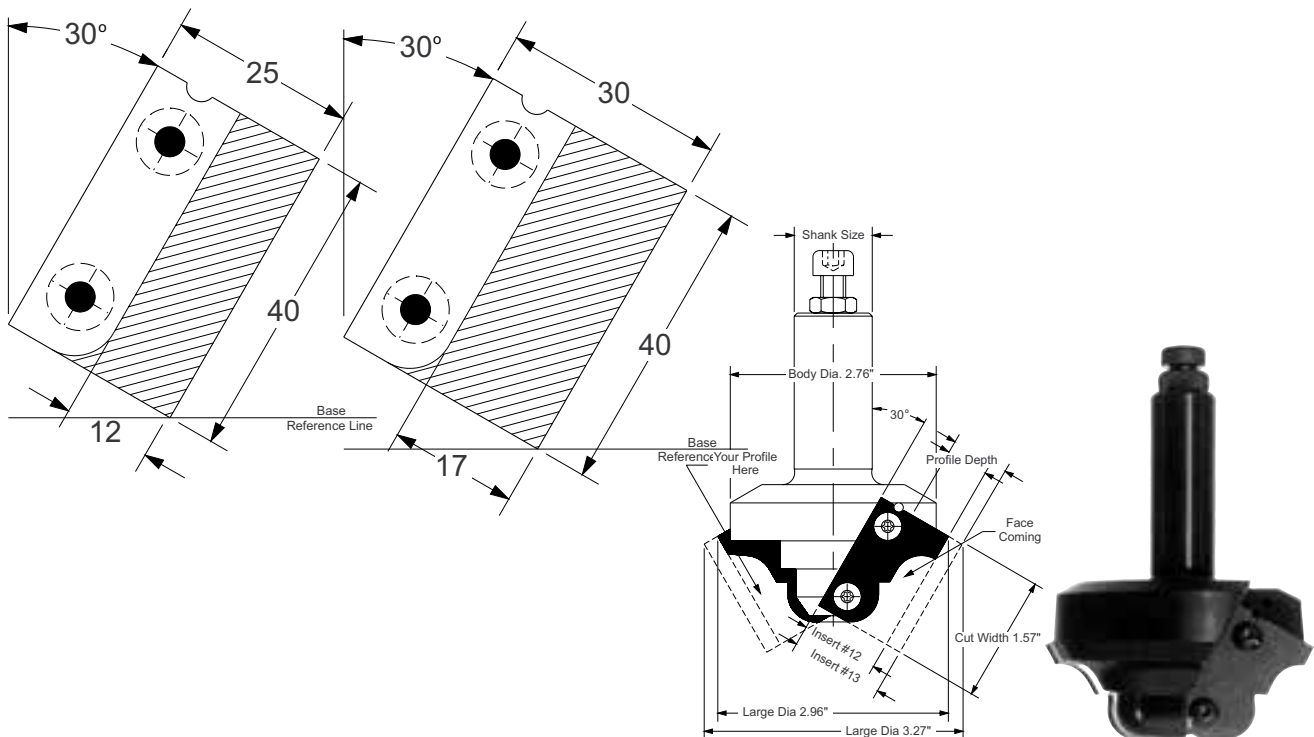
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size	Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	mm	in.		mm	in.	mm	in.	
ND153	40	1.57"	See Drawing		3/4"	74	2.91"	70	2.76"	6723 / 6753
ND153	40	1.57"	See Drawing		3/4"	83	3.27"	70	2.76"	6726 / 6756

Dedicated inserts begin on page 308.

## I Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15



# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To profile edges on decorative panels, doors, frames, etc.

## Technical Information

- Shank style cutter body design of high alloy steel uses 2+2 non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.
- Requires no backing plates or clamping wedges.

- Insert is mechanically fastened by the use of back mounted screws.
- Insert router bit is manufactured in right-hand rotation with a combination up-shear/down-shear configuration which eliminates tearout on larger profiles.
- Maximum RPM 12,000

## Advantages

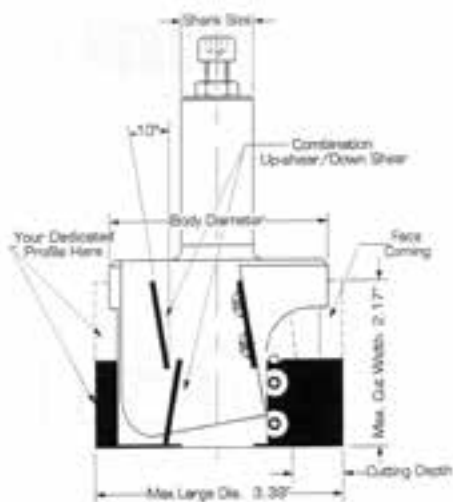
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.

Part No.	Max. Cutting Width		Max. Profile Cutting Depth		Shank Size in.	Max. Large Diameter		Body Diameter		Uses Insert No.
	mm	in.	mm	in.		mm	in.	mm	in.	
ND156	55	2.17"	See Drawing		3/4"	86	3.39"	75	2.95"	6717 / 6747

Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP126	Torx Wrench T15



# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining operations such as jointing, rabbeting, beveling and chamfering in both natural and man-made material.

- Swivel range from top 0°-45°, bottom 0°-90°.
- Small indexable standard carbide inserts are easily removed with the use of the wrench provided
- 2 inserts on the cutting edge.
- Accuracy maintained even when changing the inserts.
- Maximum RPM 9,400 - 12,000

## Technical Information

- Shank style cutter body design made from high tensile steel and tempered for long life and wear resistance.

## Advantages

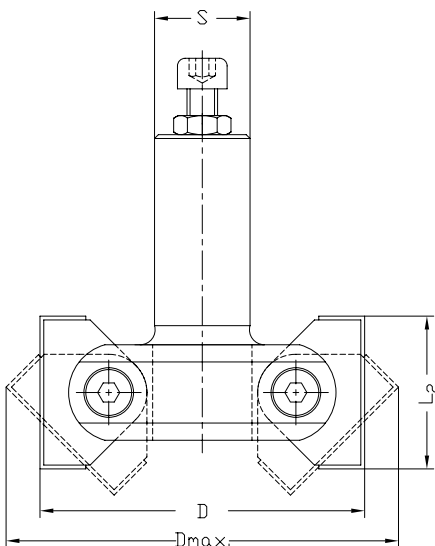
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size In.	Overall Length mm	No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	mm	in.					
ND237	4.02" mx	40	40	1.57"	3/4"	92	2	2	TJ123

Dedicated inserts begin on page 308.

## Spare Parts

Part No.	Description
NP244	Clamping Screw M5x16 Din 912
	Allen Screw M6x8
TJ123	40x12x1.5 Page TCI1-1
NP119	Wrench "T" handle SW4
NP197	Wrench "T" handle SW3
NP132	Allen Wrench SW3



# Dedicated Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining operations such as beveling, decorative grooving, and miter folding.

## Technical Information

- Shank style cutter body design made from high tensile steel and tempered for long life and wear resistance.

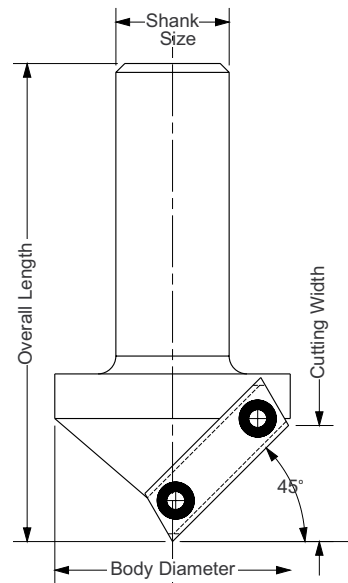
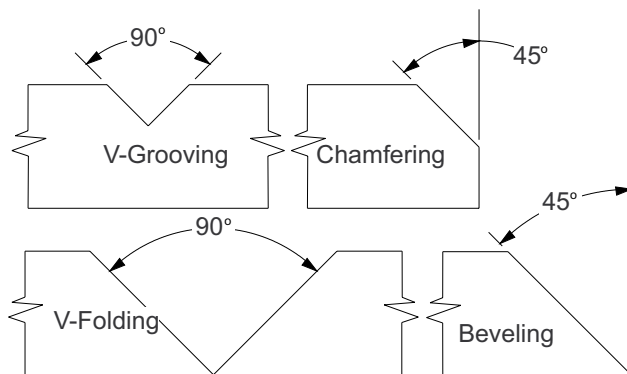
- Small indexable standard carbide inserts are easily removed with the use of the wrench provided
- 1 insert with 2 cutting edges.
- Accuracy maintained even when changing the inserts.
- Maximum RPM 12,000

## Advantages

- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

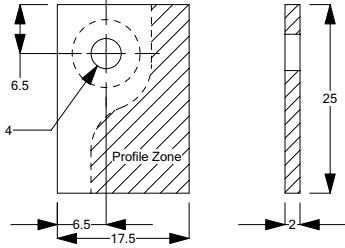
Part No.	Cutting Edge Diameter	Cutting Edge Length		Shank Size	Overall Length		No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	in.	In.	mm	in.			
ND154	1.97"	25	.98"	3/4"	93	3.66"	1	1	TJ125

Dedicated inserts begin on page 308.

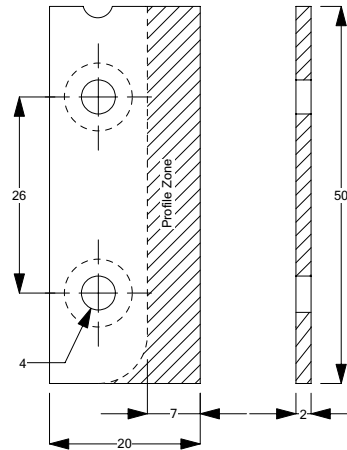


# Dedicated Inserts

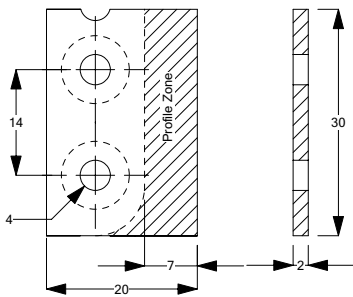
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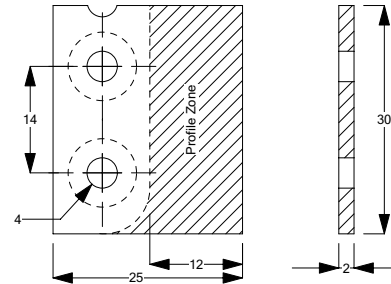
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6738	17.5x25x2	GP	Ea.



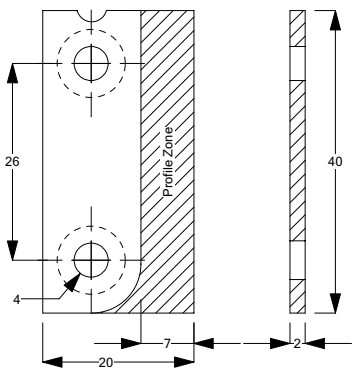
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6729	20x50x2	GP	Ea.
6759	20x50x2	NW	Ea.



U.S. art No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6711	20x30x2	GP	Ea.
6741	20x30x2	NW	Ea.

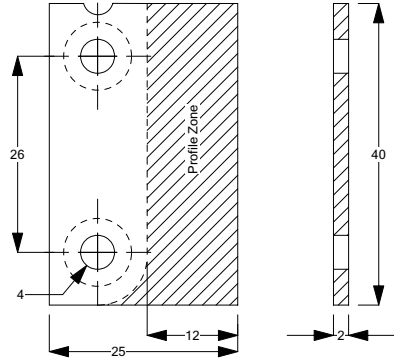


Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6714	25x30x2	GP	Ea.
6744	25x30x2	NW	Ea.

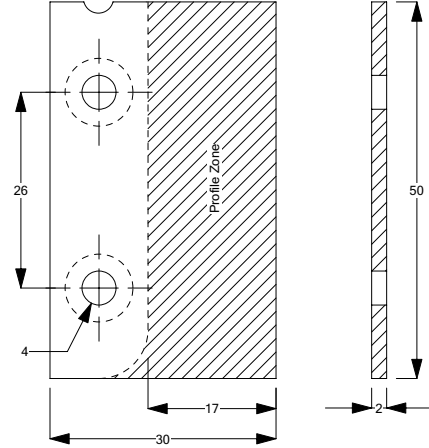


Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6719	20x40x2	GP	Ea.
6749	20x40x2	NW	Ea.

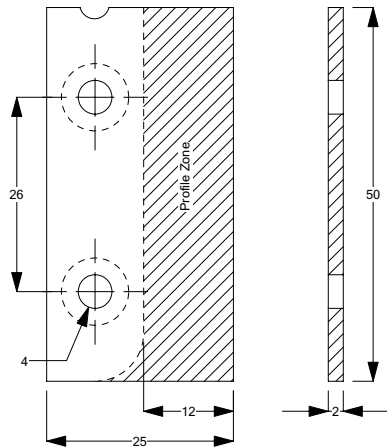
# Dedicated Inserts



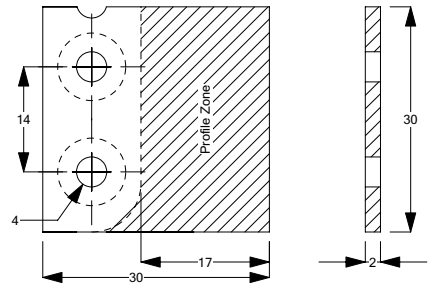
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6723	40x25x2	GP	Ea.
6753	40x25x2	NW	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6735	50x30x2	GP	Ea.
6765	50x30x2	NW	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6732	50x25x2	GP	Ea.
6762	50x25x2	NW	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6717	30x30x2	GP	Ea.
6747	30x30x2	NW	Ea.

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# Dedicated Inserts

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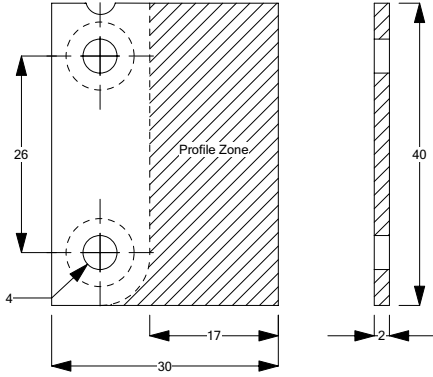
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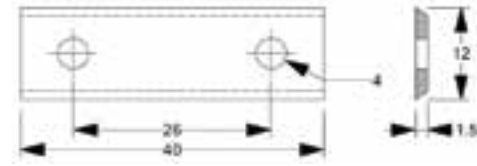
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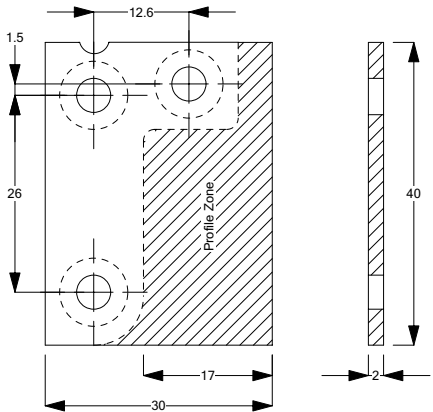
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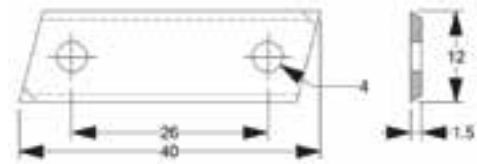
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6726	40x30x2	GP	Ea.
6756	40x30x2	NW	Ea.



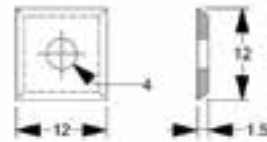
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ123	40x12x1.5	GP	10



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
6728	40x30x2	GP	Ea.
6758	40x30x2	NW	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ125	40x12x1.5	GP	10



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ156Q	12x12x1.5	GP	10

# Standard Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for jointing, coping, parting, rabbeting, ramp plunge, vertical ramp plunging, boring, cutout routing etc.

## Technical Information

- Shank style cutter body design made from high tensile steel for long life and durability.
- Use a single flute for higher feed rates and faster material removal.

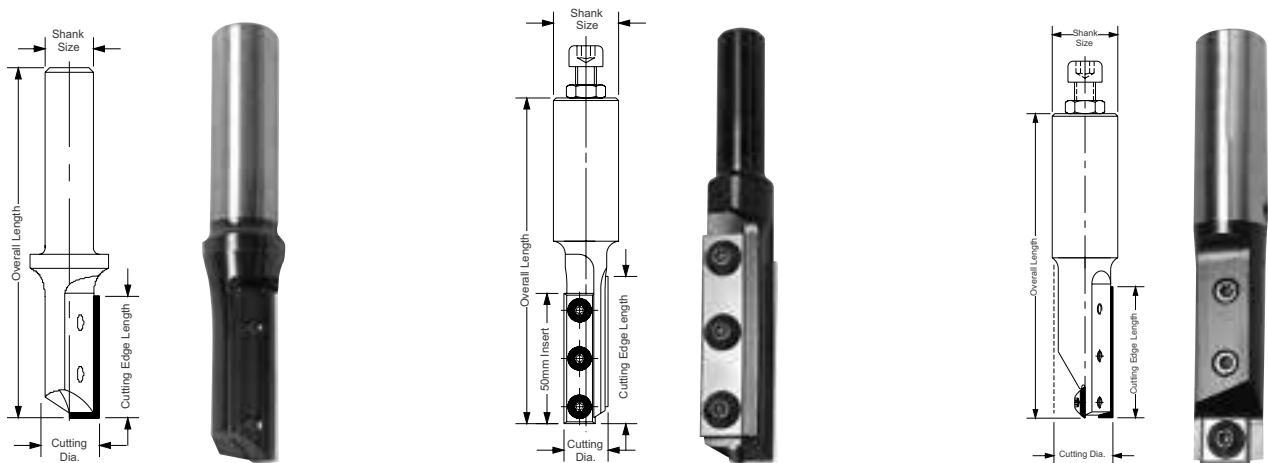
- Use a double flute for smoother finishes and high quality cuts.
- Indexable standard carbide inserts are easily removed with the use of the torx wrench provided.
- Requires no special set-up fixtures to set knives.
- Maximum RPM 24,000

## Advantages

- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size		Overall Length		No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm	In.	mm	in.	mm			
ND189	1/2"	30	1.18"	30	1/2"	80	3.15"	80	1	1	TJ235
ND192	3/4"	50.5	1.99"	50.5	3/4"	110	4.33"	110	1	2	TJ241/TJ156
ND193	3/4"	50.5	1.99"	50.5	1/2"	110	4.33"	110	1	2	TJ241/TJ156
ND195	3/4"	56	2.20"	56	1/2"	110	4.33"	110	2	2	TJ129

Standard inserts begin on page 321.



# Standard Insert Router Bits

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## Spare Parts for ND189

Part No.	Description
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NP215	Torx Screw M3x7.0 T8
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NP176	Clamping Wedge 30mm RH
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C

## Spare Parts for ND195

Part No.	Description
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NP123	Torx Screw M4x5.9 T15
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NP171	Torx Wrench T15
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## Spare Parts for ND192 & ND193

Part No.	Description
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NP123	Torx Screw M4x5.9 T15 (for plunge point)
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NP258	Clamp Screw for Wedge M3.5x5.5 T15
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NP171	Torx Wrench T15
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NP224	Clamping Wedge for ND192 RH
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# Standard Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for jointing, coping, parting, rabbeting, ramp plunge, vertical ramp plunging, boring, cutout routing etc.

## Technical Information

- Shank style cutter body design made from high tensile steel for long life and durability.
- Uses standard turnover inserts to reduce cutting pressures.

- Top and bottom inserts have down and up shear to eliminate tearout on material surfaces.
- Can be used for plunge cutting.
- Designed for high removal rates in either natural or man-made material. Excellent for double face laminates.
- Requires no special set-up fixtures to set knives.
- Maximum RPM 18,000

## Advantages

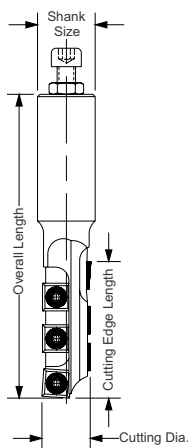
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size In.	Overall Length		No. of Flutes	No. of Inserts Required	Uses Insert No.
	mm	in.	mm	in.		mm	in.			
ND221	22	.866"	42	1.65"	3/4"	115	4.53"	1+1	4	TJ156
ND224	22	.866"	60	2.36"	3/4"	131	5.16"	1+1	6	TJ156

Standard inserts begin on page 321.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4 Extra Large Head T15
NP171	Torx Wrench T15



# Standard Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining double laminated material where chipping and "lifting" of presents a problem with straight style router bits.

## Technical Information

- Shank style cutter body design made from high tensile steel for long life and durability.

- Small indexable standard carbide inserts are easily removed with the use of the wrench provided.
- Requires no special set-up fixtures to set knives.
- Maximum RPM 18,000

## Advantages

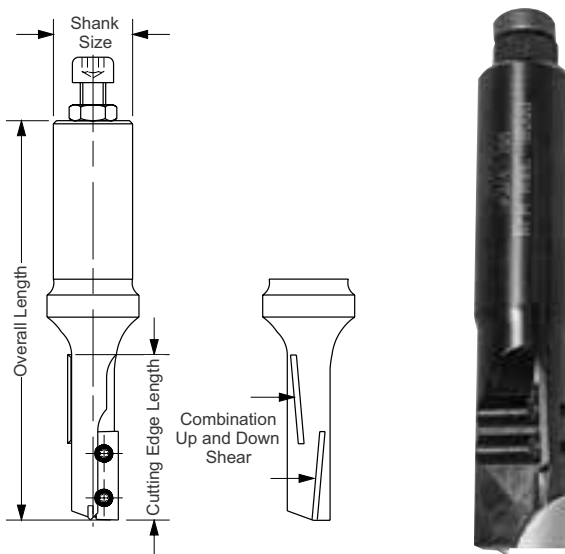
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size		Overall Length		No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm	In.	mm	in.	No. of Flutes		
ND198	3/4"	30	1.18"	30	3/4"	95	3.74"	1	2	TJ389
ND197LH	3/4"	30	1.18"	30	3/4"	95	3.74"	1	2	TJ389

Standard inserts begin on page 321.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4 Extra Large Head T15
NP126	Torx Wrench T15
TJ389	Standard Turnover insert 16x7x1.5



# Standard Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining operations on double faced laminates, plastics and paper coated material.

## Technical Information

- Shank style cutter body design made from high tensile steel and tempered for long life and wear resistance.

- Indexable standard carbide inserts are easily removed with the use of the torx wrench provided.
- 2 inserts on the top and 2 inserts on the bottom.
- Combination up/down shear eliminate chipping and lifting of the laminated material.
- Maximum RPM 18,000

## Advantages

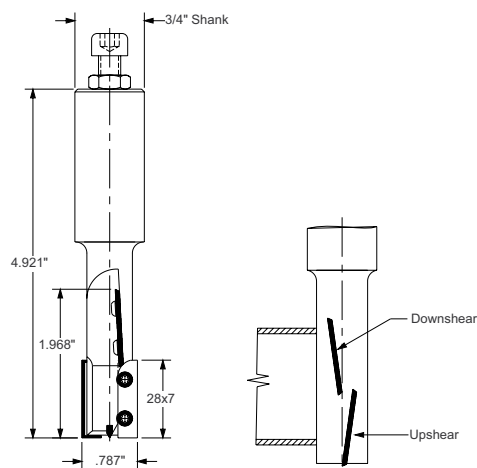
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size		Overall Length		No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm	In.	mm	in.	No. of Flutes		
ND244	.787"	50	1.97"	50	1/2"	125	4.92"	2+2	4	TJ381

Standard inserts begin on page 321.

## Spare Parts

Part No.	Description
NP231	Clamping Screw M3x4.4 T9
NP159	Torx Wrench "T" Handle T9
TJ381	Standard Insert 28x7x1.5



# Standard Insert Router Bits

A

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining operations such as jointing, rabbeting, contour cutting, cut-outs in both natural and man-made material.

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## Technical Information

- Shank style cutter body design made from high tensile steel for long life and durability.

- Indexable standard carbide inserts are easily removed with the use of the torx wrench provided.
- Requires no special set-up fixtures to set knives.
- Maximum RPM 18,000

## Advantages

- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

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Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size In.	Overall Length		No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm		mm	in.			
ND227	20	28+28	1.10+1.10"		3/4"	130	5.12"	2+2	4	TJ381

Standard inserts begin on page 321.

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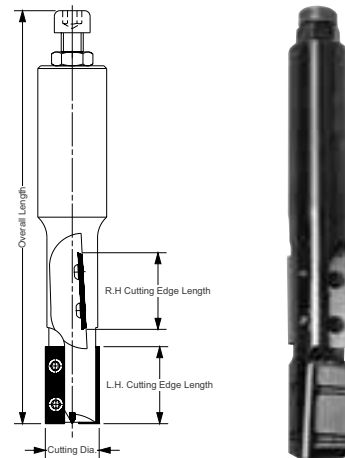
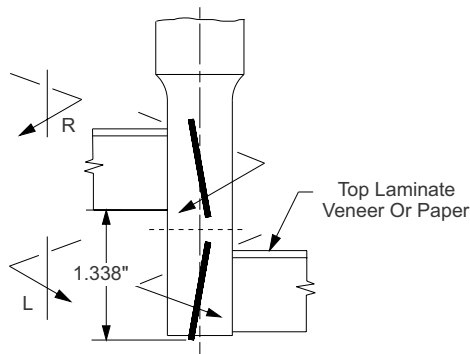
## Spare Parts

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Part No.	Description
NP231	Clamping Screw M3x4.4 T9
NP159	Torx Wrench "T" Handle T9
TJ381	Standard Insert 28x7x1.5



# Standard Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for machining operations such as jointing, rabbeting, contour cutting, cut-outs in both natural and man-made material.

## Technical Information

- Shank style cutter body design made from high tensile steel for long life and durability.
- Single flute design using one insert on the top and one insert on the bottom.

- 1 Plunge point center insert.
- Small indexable standard carbide inserts are easily removed with the use of the wrench provided.
- Requires no special set-up fixtures to set knives.
- Maximum RPM 18,000

## Advantages

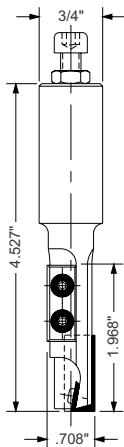
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size		Overall Length		No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm	In.	mm	in.				
ND241	18	50	1.97"	50	3/4"	115	4.53"	1	2+1	TJ384/TJ111	

Standard inserts begin on page 321.

## Spare Parts

Part No.	Description
NP252	Torx Screw Extra Large M4x4 T15
NP171	Torx Wrench T15
TJ384	Standard Turnover Insert 30x12x1.5
TJ111	Plunge Point Insert 7.5x12x1.5





# Standard Insert Router Bits

A

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical and hand feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- Use for jointing, coping, parting, rabbeting, ramp plunging, vertical plunging, boring, cutout routing etc.

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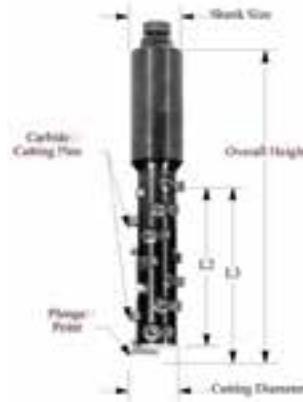
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## Advantages

- Outstanding cutting performance due to reduced cutting pressures (designed for rough cut applications only).
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- Excellent for high production runs requiring thick materials to be machined.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.



## Technical Information

- Shank style cutter body design with 3 cutting rows and a single carbide plunge point insert at the bottom.
- Small indexable carbide inserts (pins) are easily removed with the use of the torx wrench, inserts on pages 74-77.
- Reduced cutting pressure due to up-spiral design.
- Requires no special set-up fixtures to set knives.
- Maximum RPM 18,000

Part No.	Cutting Edge Diameter	Shank Size	Cutting Edge L2 Length w/o Plunge Insert	Cutting Edge L3 Length with Plunge Insert	Overall with Plunge Insert Length	No. of Spiral Rows	No. of Carbide Pins Required
ND179	24mm	24mm	3.27"	3.54"	6.02"	3	18
ND183	3/4"	3/4"	1.65"	1.89"	4.13"	3	9
ND186	3/4"	3/4"	2.20"	2.44"	4.69"	3	12
ND187LH	3/4"	3/4"	1.65"	1.89"	4.13"	3	9
ND188LH	3/4"	3/4"	2.20"	2.44"	4.69"	3	12

## Spare Parts For ND179

Part No.	Description
TJ374	Size 2 Straight Inserts (box of 20)
TJ377	Plunge Point Insert (sold individually)
NP149	Torx Clamping Screw M4x6.7 T15
NP126	Torx Wrench T15

## Spare Parts for ND183 & ND186

Part No.	Description
TJ379	Size 1 Straight Inserts (box of 20)
TJ383	Plunge Point Insert (sold individually)
NP156	Torx Clamping Screw M3x5.5 T9
NP159	Torx Wrench T9
NP162	Torx Clamping Screws for (plunge pt) T9

# Standard Insert Router Bits

## Applications

- Designed for use on C.N.C. router machines.
- Can also be used on stationary overhead routers.
- Use with mechanical feed operations.
- CNC router must have excellent hold downs to ensure the least possibility of part movement.
- To round or bevel edges on decorative parts, panels, etc.

## Technical Information

- Shank style cutter body design uses 2 non-turnable profiled carbide inserts.
- Cutter body is profiled to match the carbide insert.

- Requires no backing plates or clamping wedges.
- Insert is mechanically fastened by the use of face mounted screws.
- Maximum RPM 18,000

## Advantages

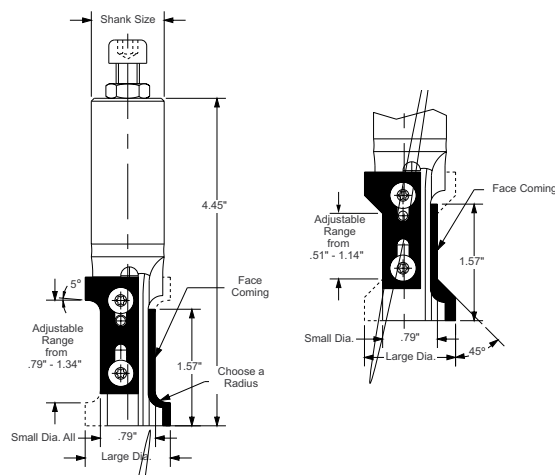
- Reduced set-up time because of fewer parts and a constant cutting circle.
- Extended tool life over brazed tooling due to insert accuracy and superior carbide grades.
- One cutter body is capable of producing all of the radii and bevels by simply changing the inserts.

Part No.	Required Insert Profile	Adjustable Range		Large Diameter		Shank Size	Uses Insert No.	
		in.	in.	mm	in.		Top	Bottom
ND165	45°	.51"	1.14"	34	1.34"	3/4"	TJ317	TJ319
ND165	1/8"	.75"	1.34"	28	1.10"	3/4"	TJ323	TJ326
ND165	5/32"	.75"	1.34"	30	1.18"	3/4"	TJ329	TJ332
ND165	13/64"	.75"	1.34"	32	1.26"	3/4"	TJ335	TJ338
ND165	15/64"	.75"	1.34"	34	1.34"	3/4"	TJ341	TJ344
ND166	45°	.87"	1.69"	57	2.24"	3/4"	TJ444	TJ447
ND166	1/4"	1.38"	2.20"	49	1.93"	3/4"	TJ451	TJ454
ND166	21/64"	1.38"	2.20"	53	2.09"	3/4"	TJ457	TJ461
ND166	13/32"	1.38"	2.20"	57	2.24"	3/4"	TJ464	TJ467

Standard inserts begin on page 321.

## Spare Parts

Part No.	Description
NP123	Torx Screw M4x5.9 large head T15
NP171	Torx Wrench T15



# Standard Insert Router Bits

A

## Applications

- Designed for use on hand router machines.
- For square trimming of plastic or veneered laminated surfaces.
- Also designed for copy routing with the template attached on the bottom side of the workpiece.

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## Technical Information

- Shank style cutter body design made from high tensile steel for long life and wear resistance.
- Small indexable standard carbide inserts are easily removed with the use of the wrench provided.

D

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- Utilizes 2 standard 4 sided inserts on the cutting edge.
- Accuracy maintained even when changing the inserts.
- Ball bearing is replaceable from the shank side.
- Maximum RPM 24,000

## Advantages

- Extended tool life over brazed tooling due to insert accuracy and superior carbides grades.
- Reduced sharpening costs due to small cost of inserts over standard brazed router bits.

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Part No.	Cutting Edge Diameter		Cutting Edge Length		Shank Size In.	Overall Length		No. of Flutes	No. of Inserts Required	Uses Insert No.
	in.	mm	in.	mm		mm	in.			
ND199	.87"	22	.47"	12	1/4"	54		2	2	TJ156
ND212	.87"	20	.79"	20	1/4"	82	2.44"	2	2	TJ117
ND254	.87"	20	.79"	20	1/4"	62	2.44"	2	2	TJ115
ND257	.87"	50	1.97"	50	1/2"	113	4.44"	2	2	TJ129
ND258	.87"	30	1.18"	30	1/2"	86		2	2	TJ384

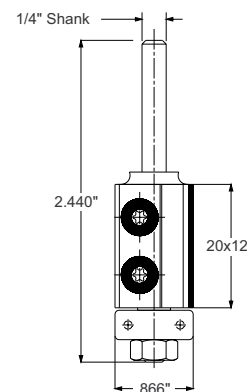
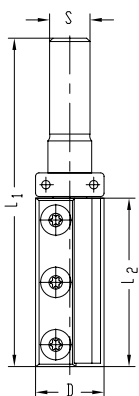
Standard inserts begin on page 321.

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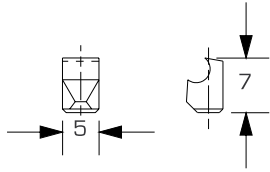
## Spare Parts

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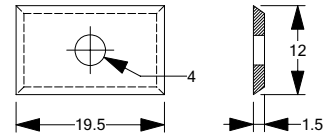
Part No.	Description
TJ115	Std. Carbide Insert 20x12x1.5
TJ117	Std. Carbide Insert 20x12x1.5
TJ129	Std. Carbide Insert 50x12x1.5
TJ384	Std. Carbide Insert
TJ156	Std. Carbide Insert 12x12x1.5
NP219	Ball Bering 22x8
NP123	Torx Clamping Screw M4 T15
NP171	Torx Wrench "T" Handle T15



# Standard Inserts



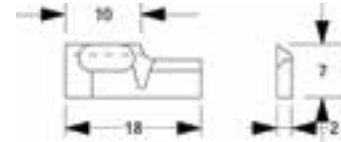
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ374	5x7x5	GP	20



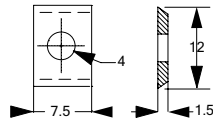
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ115	19.5x12x1.5	GP	10



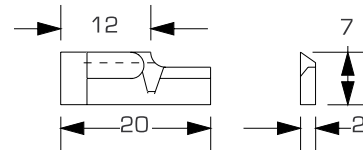
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ379	5x6x5	GP	20



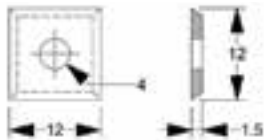
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ383	18x7x2.0	GP	Ea.



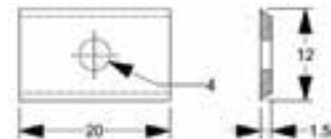
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ111	7.5x12x1.5	GP	10



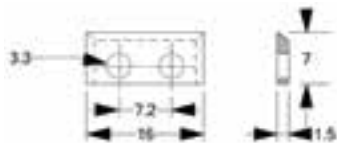
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ377	20x7x2.0	GP	Ea.



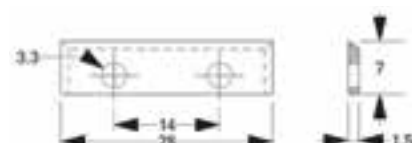
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ156	12x12x1.5	GP	10



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ117	20x12x1.5	GP	10



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ389	16x7x1.5	GP	10



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ381	28x7x1.5	GP	10

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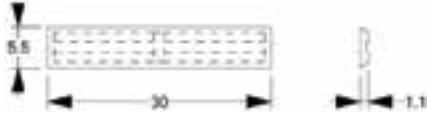
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# Standard Inserts

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Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ235	30x5.5x1.1	GP	10

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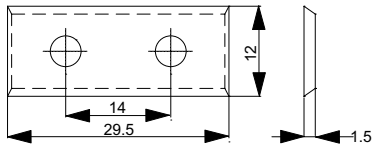
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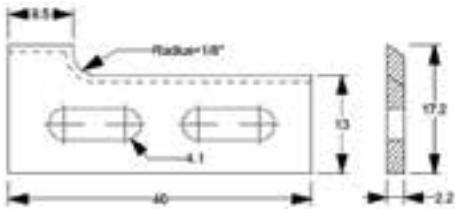
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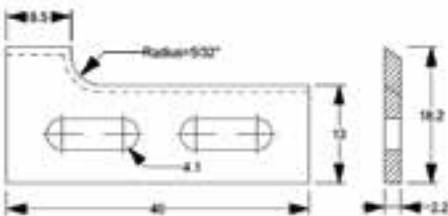
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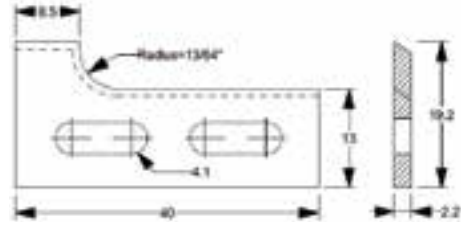
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ384	30x12x1.5	GP	10



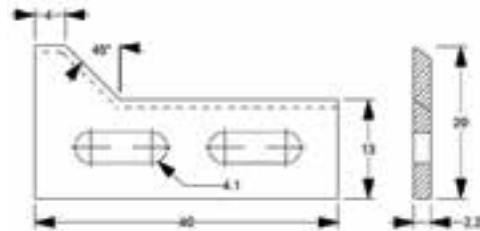
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ323	40x17.2x2.2	GP	Ea.
TJ326	40x17.2x2.2	GP	Ea.



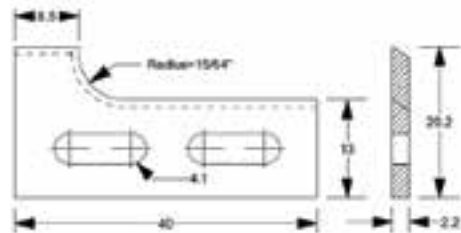
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ329	40x18.2x2.2	GP	Ea.
TJ332	40x18.2x2.2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ335	40x19.2x2.2	GP	Ea.
TJ338	40x19.2x2.2	GP	Ea.

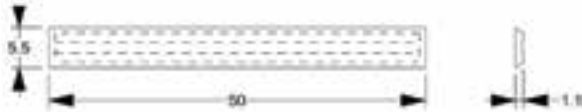


Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ317	40x20x2.2	GP	Ea.
TJ319	40x20x2.2	GP	Ea.

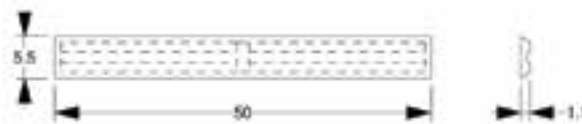


Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ341	40x20.2x2.2	GP	Ea.
TJ344	40x20.2x2.2	GP	Ea.

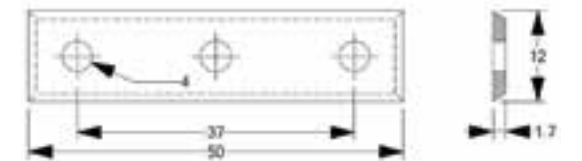
# Standard Inserts



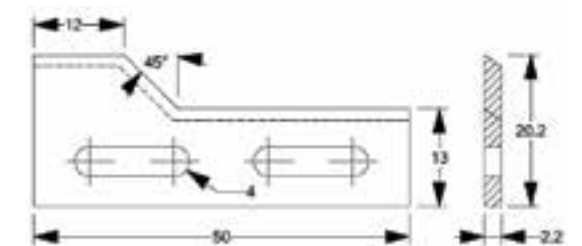
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ226	50x5.5x1.1	GP	10



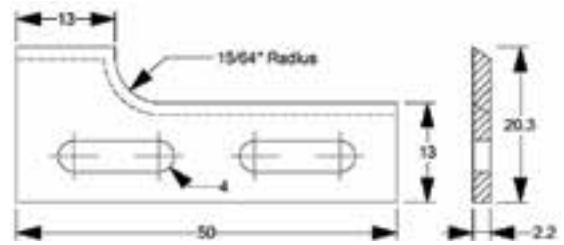
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ241	50x5.5x1.1	GP	10



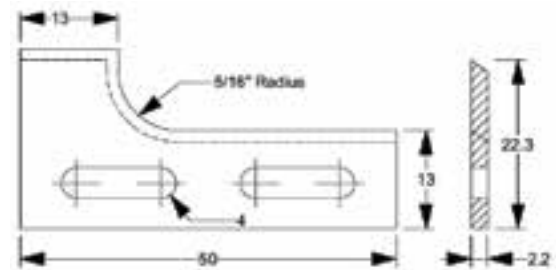
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ129	50x12x1.7	GP	10



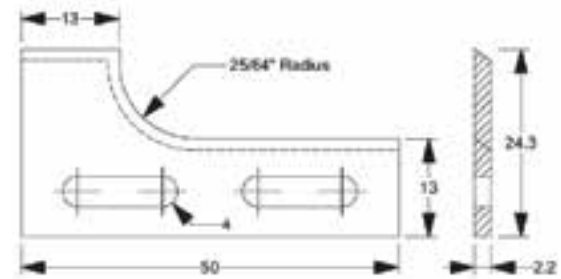
Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ444	50x20.2x2.2	GP	Ea.
TJ447	50x20.2x2.2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ451	50x20.3x2.2	GP	Ea.
TJ454	50x20.3x2.2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ457	50x22.3x2.2	GP	Ea.
TJ461	50x22.3x2.2	GP	Ea.



Part No.	Dim. WxHxT	Carbide Grade	Sold in Quantities
TJ464	50x24.3x2.2	GP	Ea.
TJ467	50x24.3x2.2	GP	Ea.

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- B
- C
- D
- E
- F
- G
- H
- I
- J
- K