



# CONSOLIDATED DIAMOND

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## HOW TO SHAPE EDGES WITH ROUTER BITS

[WWW.CONSOLIDATEDDIAMOND.COM](http://WWW.CONSOLIDATEDDIAMOND.COM)



*AMERICAN QUALITY  
SINCE 1941*

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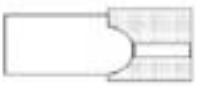








# CONSOLIDATED DIAMOND

## INTRODUCTION

The shapes shown in this flier are only a few of the hundreds of router bit shapes we have manufactured over the years. If you do not see what you want here, just send us a drawing, we would be happy to make a custom bit for you.

### HOT SHAPES

	DOUBLE ARCS P.6
	AMEROGEE P.2
	PHAT FULLBULL P.4
	PENCIL P.5
	BULLOGEE P.5
	STEPPED FULLBULL P.5
	FLARED FULLBULL P.5
	DUPONT P.3
	OGEE P.2
	SHAPE O P.4
	SHAPE Q P.4
	BEVEL/CHAMFER P.7

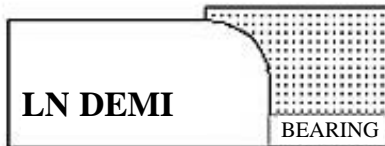
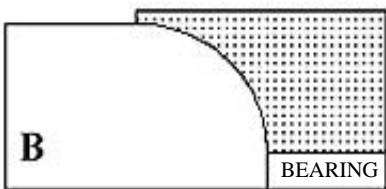
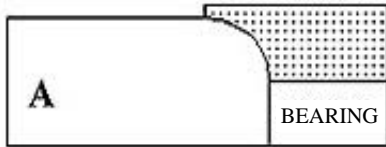
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**MADE IN AMERICA**



## HOW TO SHAPE EDGES WITH ROUTER BITS



### SHAPE A / SHAPE B

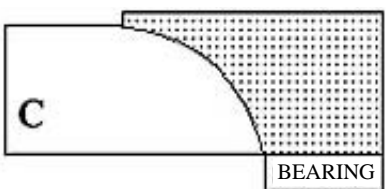
#### DEMIBULLNOSE, DEMI, EASED, LONGNOSE DEMI

Shape A usually has a radius that is half the thickness of the stone. Use a 10mm radius on 20mm stone, 15mm radius on 30mm stone and 20mm radius on 40mm stone. The term “Demi” or “Demibullnose” can be used to describe a bit with virtually any radius.

For example, Shape B, where the radius of the bit is almost the thickness of the stone is also made using a Demi bit. It is important to clearly specify the radius of the Demi bit you need.

A Demi bit only grind the radius. As an alternate, you may want to use a “Longnose Demi” (LN Demi) which grinds the side of the stone to the bearing as well as the radius.

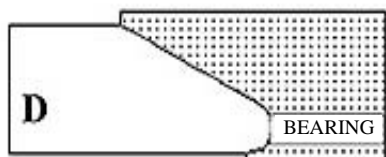
Router bits with any size radius can be provided. We recommend a Longnose Demi when the radii are small. For example, you may want to just break the edge of the stone with a 3, 6, 8 or 10 mm radius, use a Longnose Demi. Small radius Longnose Demis are also called “Eased” bits.



### SHAPE C

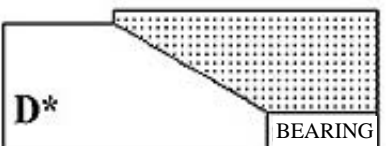
#### BIRD'S BEAK

A true Shape C is made by using template under the stone. You can do this edge by simply using an over-sized Demi.



### SHAPE D

Shape D can be made by using a router bit with either a center bearing or a bearing under the stone. The bearing on stone design shown here is not usually recommended because the bottom radius is typically too small and the additional cost of a “two piece” bit is not warranted.



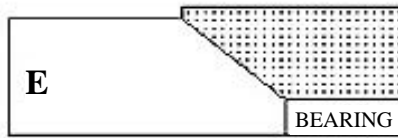
\* We usually recommend that you use a 30 degree Bevel and round the bottom by hand.



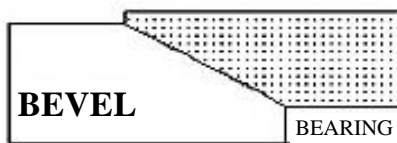
# CONSOLIDATED DIAMOND

## SHAPE E

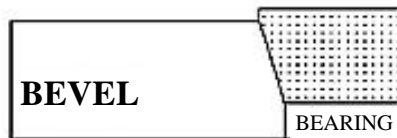
### 45 DEGREE BEVEL/ BEVEL BITS



Shape E is normally made with a 45 degree Bevel router with a bearing that rides on the side of the stone.



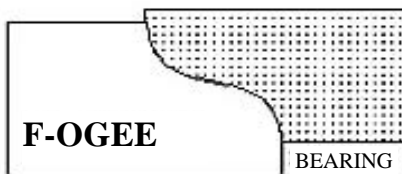
Bevels can be made with any degree of angle. This drawing shows a 60/30 degree Bevel. Note that some companies may call this a 30 degree Bevel, while others a 60 degree. It is always best to work with drawings to avoid confusion



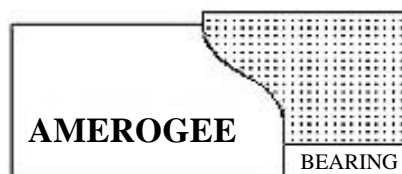
This drawings shows a 15/75 degree Bevel which is a nice edge for an undermount sink. Some call this a 15 degree and others call it a 75 degree Bevel. So again, work with a drawing to avoid problems. Consolidated will manufacture Bevel bits with whatever angle you may need.

## SHAPE F

### OGEE



Shape F is also called an Ogee. The drawing shows a standard Ogee. When selecting the standard Ogee, bear in mind that a flat on the front of the stone makes the edge more attractive. We usually recommend a 20mm or 25mm Ogee for 30mm stone and a 25mm or 30mm Ogee for 40mm stone.



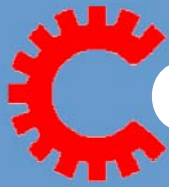
Consolidated offers many different Ogee shapes. The term Amerogee is used to describe a blended ogee. The advantages of an Amerogee over a standard ogee are: 1) looks better 2) does not dig into the stone as deeply, resulting in: 3) quicker grinding 4) longer bit life and 5) an edge that is easier to polish.

## SHAPE G

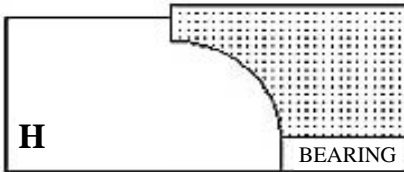


Shape G is made by using a Shape G router bit with either a center bearing or a bearing under the stone. This is a difficult edge due to the large amount of stone that needs to be removed. Alternatively, try using a large Cove and rounding the bottom by hand.

Note that the area where the bearing rides is not ground and would have to be finished by hand. If this is undesirable, a template under the stone and a longer bit would have to be used.

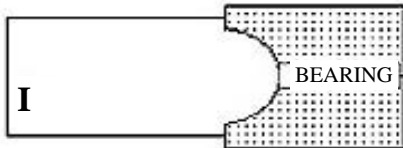


# CONSOLIDATED DIAMOND



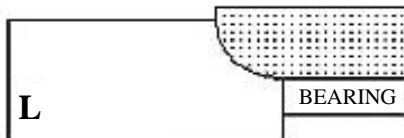
## SHAPE H DUPONT

Shape H is made by using a Dupont router bit. We manufacture many Duponts, differing in the top step thickness and the radius. Quickly gaining in popularity. Use a small bearing to make a Bead (see Page 8).



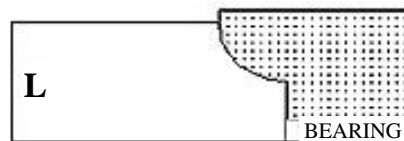
## SHAPE I NORMANDY BEAD

Shape I is made by combining two Dupont routers with a center bearing. Various looks are available.

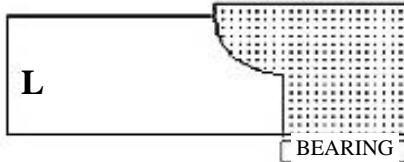


## SHAPE L COVE, SCOTIA

Shape L is made by using a Cove router with a bearing riding on the side of the stone.



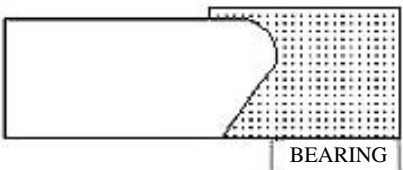
Alternatively, if you want to grind some of the side of the stone, a Scotia router can be used with a bearing on the bottom. A Scotia bit is a Longnose Cove. There should be room for the bearing to ride on the stone.



If you want to finish the entire side, the bearing can be under the stone, riding on a template.

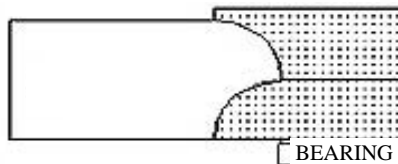
## SHAPE M STAIRTREAD

Shape M can be made with a center bearing as shown here, since this shape is often used on straight stairtreads, it may be easier to use a straight template with a bearing riding on the template under the stone.



## SHAPE N

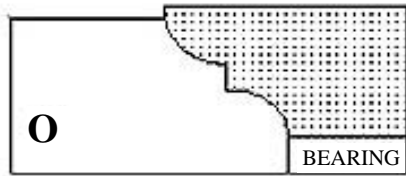
A Shape N bit combines a Demibullnose on top with Cove on the bottom. If you put the Cove on top and the Demi on bottom, you can use this combination to make a Shape S stone edge. The bearing usually rides on a template (not shown) underneath the stone.



**ALL CONSOLIDATED ROUTER BITS ARE  
MADE IN THE USA**

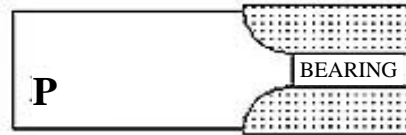


# CONSOLIDATED DIAMOND



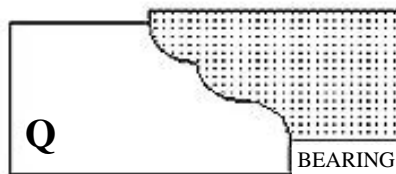
## SHAPE O

This shape can be made by using a Shape O router bit with a bearing on the stone. Consolidated offers many varieties of Shape O bits with several thin or thick “drops” to enhance the shadow.



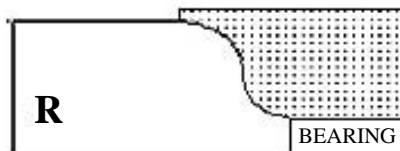
## SHAPE P

Shape P is made by using two Cove router bits with a center bearing. Alternatively, two Scotia bits with a bearing may be used. You can also use a regular Cove and flip the stone.



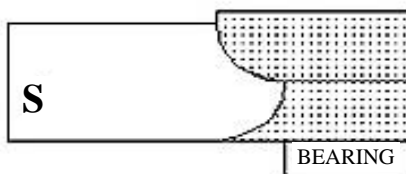
## SHAPE Q DOUBLE OGEE

Shape Q can be made by using a Shape Q router with a bearing on the stone as shown. Stay small because this shape requires grinding lots of stone.



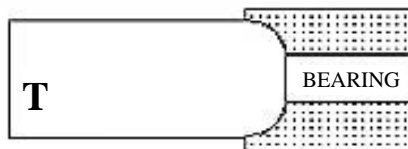
## SHAPE R

Shape R is made by using a Shape R router with a bearing that rides on the side of the stone. The same bit looks good when lowered to cut in a top step.



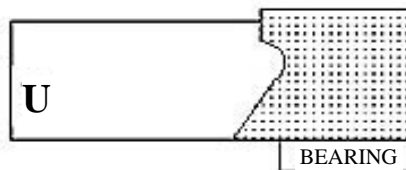
## SHAPE S

Shape S is made by combining a Cove router on top and a Demibullnose router on the bottom. The bearing is on the bottom. If you put the Demi on top and the Cove on bottom, you can use this combination of bits to make shape N. A template under the stone is commonly used.



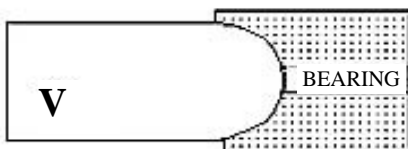
## SHAPE T

Shape T can also be made by using two Demibullnose routers of the proper radius with a bearing riding on the side of the stone. This shape is common in Home Center Showrooms.



## SHAPE U

Shape U is made by using a Stairtread router bit with a bearing on the bottom. To make this edge, the router must be set lower than in Shape M. A template under the stone is commonly used.

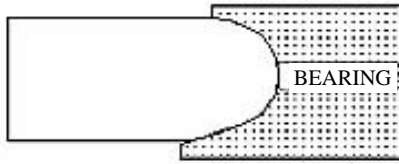


## SHAPE V FULLBULLNOSE, PHAT FULLBULL

Shape V is made with a Fullbullnose router, consisting of two Demis and a center bearing. Always use a bit slightly larger than the stone thickness unless the stone is pre-calibrated. In addition to our normal Fullbulls, you can order PHAT Fullbulls that are slightly larger. For example a PHAT 30V is actually 32mm while a PHAT 40V is a generous 43 mm.



# CONSOLIDATED DIAMOND



## FLARED V—FLARED FULLBULLNOSE

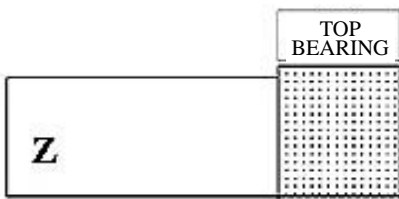
Slab thickness varies. A 30mm slab is never precisely 30mm unless pre-calibrated. A standard Fullbull could dig into the bottom of an oversized slab. Our Flared Fullbull, on the other hand, has a tight Fullbull with a flared bottom which feathers back the bottom of oversized slabs giving a more attractive edge.



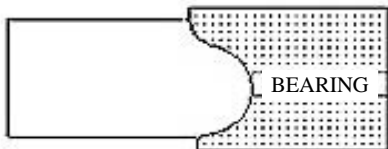
## SHAPE Z

### STRAIGHT, DRUMWHEEL

Shape Z is just a straight edge. It is made by using a Z Bit with a bearing on the bottom. Z bits can be made in various outside diameters. Sometimes you want a small diameter in order to get inside a corner of a bowl hole. Common diameters are 1.5", 2" and 3".

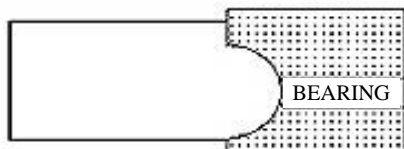


For bowl holes you usually have a sink template that fits on top of the stone. We can supply you with a top bearing so you can finish the bowl using the template.



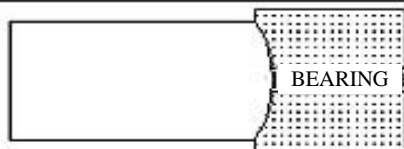
## BULLOGEE

This bit is a special Ogee over a Demi. We have found that a blended Ogee (Amerogee) on top makes a nicer edge than the standard Ogee. Available for 30mm, 40mm and 60mm materials. This shape has a very graceful look.



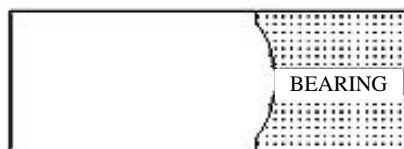
## STEPPED BULLNOSE

The Stepped Bullnose is made by combining a Dupont on top with a Demi router on the bottom. This shape has excellent shadow detail.

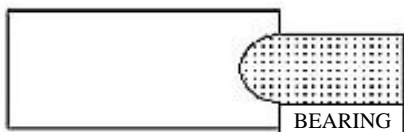


## PENCIL, PARTIAL FULLBULL, PENCIL I

The Pencil edge is a partial Fullbull. Our basic 3cm and 4cm shapes match well with the Park Pro-Edge Programmed edges. If you need an exact radius, a special bit with the proper radius can be made.



Pencil bits with Top and or Bottom flats can also be provided. We call this shape a Pencil I.



## FLUTE

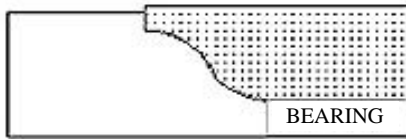
### FULL COVE

A Flute router bit can be used to put a rounded flute in the side of the stone. A bearing rides on the edge of the stone or on a guide underneath the stone if the edge is too thin



# CONSOLIDATED DIAMOND

## DOUBLE ARCS-ROMAN OGEE

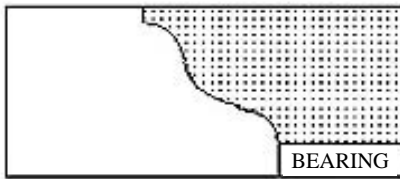


A Double Arc bit consists of a convex arc blending into a concave arc. They can be used in the lowered position as shown here to make a top step on the stone.

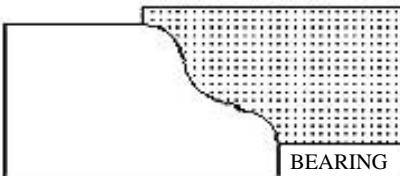


Raising the bit creates an edge without a top step. Consolidated has made many varieties of Double Arcs made over the years.

## TRIPLE ARCS

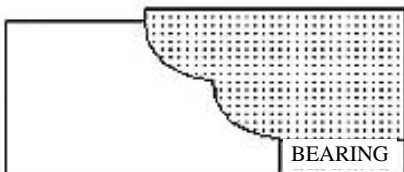


A Triple Arc bit has three blended arcs. This bit can be lowered into the stone to make a top step.



Raising the bit creates an edge without a top step. Consolidated has manufactured many types of Triple Arcs.

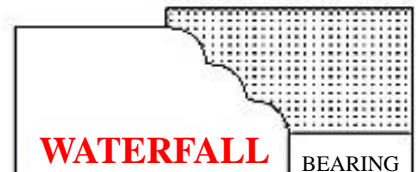
## DOUBLE COVE



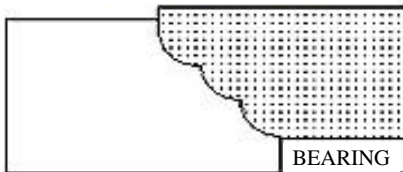
## DOUBLE DEMI



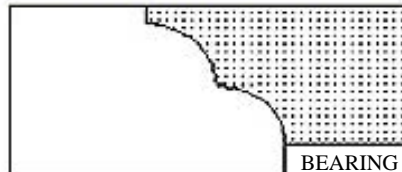
## TRIPLE DEMI



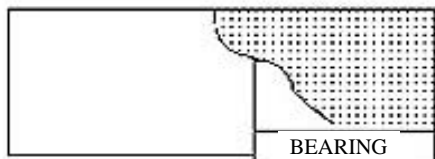
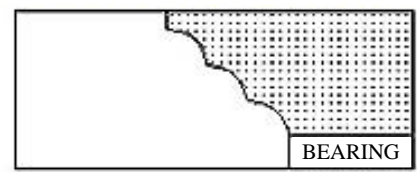
## TRIPLE COVE



## DOUBLE DEMI LOWERED



## TRIPLE DEMI LOWERED

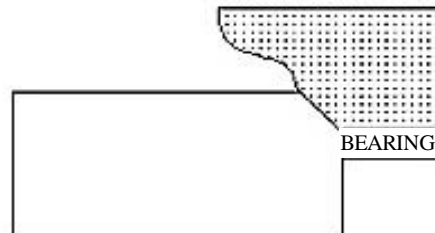
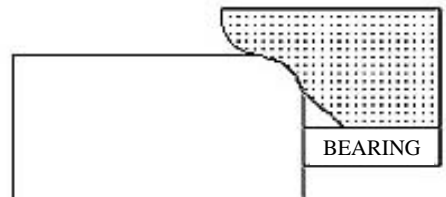


**COVE**

**DEMI**

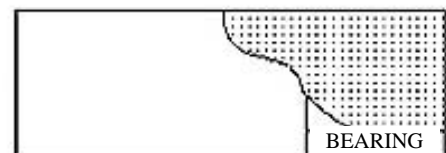
## QUATTRO

**FOUR BITS IN ONE**



**BEVEL**

**OGEE**

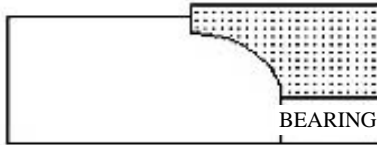
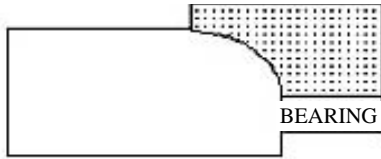




# CONSOLIDATED DIAMOND

## ELLIPTICAL DEMI

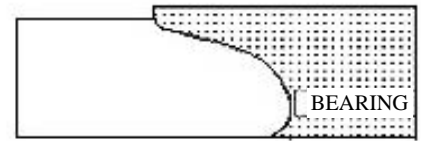
Like a Demi, but elliptical rather than round  
**Raised** **Lowered**



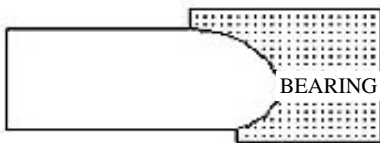
**THUMBNAIL DUPONT**

## TUSCAN CURVE

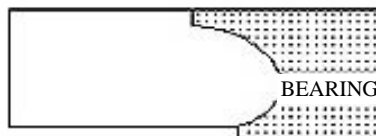
Rounded Top Step in Elliptical Fullbull



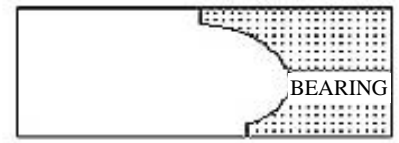
## ELLIPTICAL FULL BULL



## STEPPED ELL .FBN

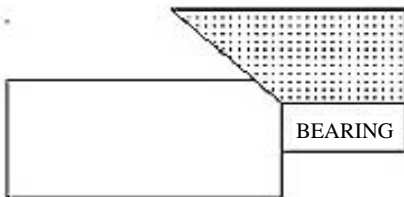


## ELLIPTICAL 1



## SINK BOWL DETAIL BITS

Consolidated manufactures Small Diameter bits for doing the inside of bowls. These bits can be supplied with either Top or Bottom Bearings. For Bowl detail, we recommend that you use a sink template over the stone and a bit with a top bearing.

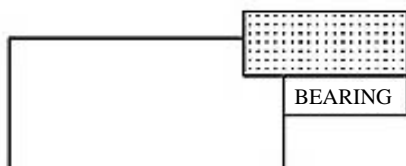


## CHAMFER

A Chamfer can be cut using a 45 degree Bevel router that has been raised so as to only grind the top part of the stone. The same Bevel bit can be used for all Chamfers by raising the router for a smaller Chamfer and lowering the router for a larger Chamfer.



Alternatively, a Chamfer router can be used. This bit will grind the chamfer and the side of the stone to the bearing.



## QUIRK

A Quirk can be cut using a straight router. In this case, the bearing rides on the side of the stone. Note that the same straight bit can be used for all quirks. The depth of the cut is controlled by the OD (diameter) of the bearing. Use a smaller bearing for a deeper Quirk and a larger bearing for a shallower Quirk. Raise or lower the router for the proper thickness of Quirk.



## SLOTTING

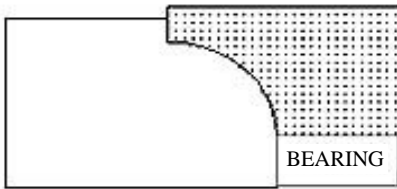
A Slotting/Notching bit is used with either a bottom bearing (as shown) or a top bearing. You need to specify the thickness and depth of the slot you want to put into the edge of the stone. Good for edge inlays.



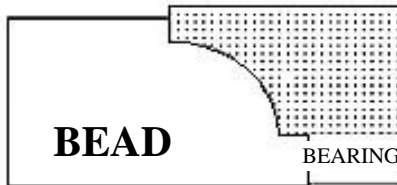
# CONSOLIDATED DIAMOND

## SOME TIPS

### CHANGE BEARINGS FOR ADDITIONAL EDGES

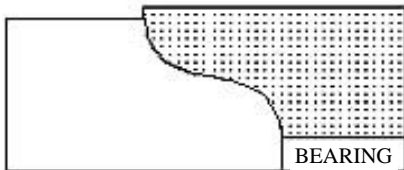


If you simply change the size of the bearing, you can make additional edges. For example, use a smaller bearing on a Dupont.....

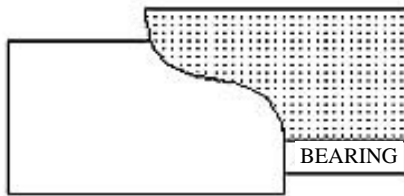


..... to make a Bead with the same router bit.

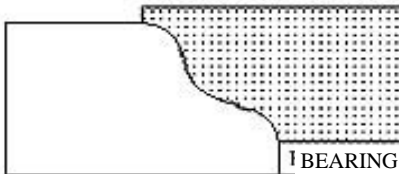
### RAISE A BIT FOR A DIFFERENT LOOK



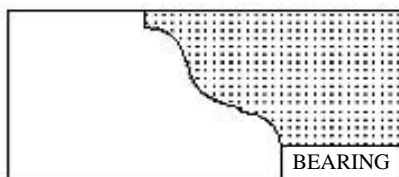
If you raise a bit (run it "high") you will get a different looking edge. Often standard Ogee edges look better if the bit is raised. Raising the bit reduces the amount of stone that has to be removed to produce the edge. Less stone removed means faster grinding and longer bit life.



### LOWER THE BIT FOR A TOP STEP

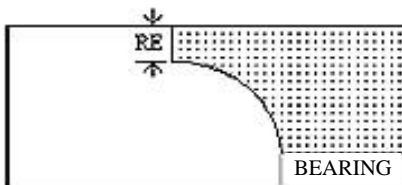


The top of the bit on many Consolidated router bits is often used to produce a step on the top of the stone.



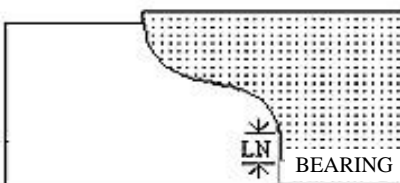
This edge was produced by simply lowering a Triple Arc router bit, giving an 0.125" step on the top of the stone. Most Consolidated bits come with a 0.125" (1/8") top as a standard.

### REINFORCED EDGES



If you want a step deeper than .125," you should order a router bit with a Reinforced edge. Just tell us how deep of a step you need. We suggest 0.25" (1/4") as a nice option.

### LONGNOSE DESIGN



Router bits can be provided with a Longnose design. A Longnose bit will grind more of the side flat than a normal bit. This drawing shows an example of a Longnose Ogee. The Longnose should not be too long to prevent the bearing from riding on the stone.



# CONSOLIDATED DIAMOND

## CONSOLIDATED FIVE POSITION POLISHING SETS

Consolidated manufactures a wide range of FIVE POSITION Diamond Router Bit Polishing Sets. These sets are different than anything else on the market both in terms of the quality of the polish and the life of the bits. POS 1-4 are **Conform** (**C**ontinuous **f**orm metal bond) while POS 5 is a **Diapol** (**D**iamond **p**olishing bit). Our manual router bits have BUILT IN FEEDS. This means that you just have to take one bit off and put the next bit on, without adjusting the router. To use these bits follow these simple rules:

- ◆ All bits must be run at the same RPM (4500-7500RPM).
- ◆ All bits must be used WET.
- ◆ Let the bits do the work. Do not force. This is especially important for POS 5.
- ◆ Crayon the stone in between positions to ensure that all steps work evenly.
- ◆ Never skip positions.

### POLISHING SET CODE:

POS #	COLOR
0	BLACK
1, A1	BLUE
2	GREEN
3	RED
4	COPPER
5	SILVER

### TWO CHOICES FOR FIRST POSITION:

**POS 1 - LONGER LIFE**

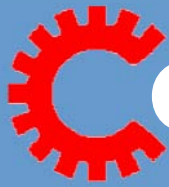
**POS A1 - MORE AGGRESSIVE CUTTING**

To polish most granites and marbles, we recommend all five positions. A buff can be used after POS 5 for extra luster. To polish Engineered Stone, we recommend only POS 1-4 followed by a buff. Many shops still only use only the first position and finish by hand. This can be a slow process. Remember even if you do not want to use the entire polishing set, the more positions you use, the greater is the savings.

## CUSTOM SHAPES ARE AVAILABLE

Consolidated welcomes the chance to make custom router bits for you. Use the space below to draw the edge you want to make. We are happy to quote based on your drawing. Kindly tell us: the shape, thickness, material, machine to be used and when you must start the job!

Consolidated has been manufacturing quality diamond tooling for more than 60 years. We manufacture in the U.S. a full range of diamond products including router bits, profile wheels, saw blades and core drills. If you need a special tool for stone working, we would be pleased to help you. For more information, please do not hesitate in contacting us.



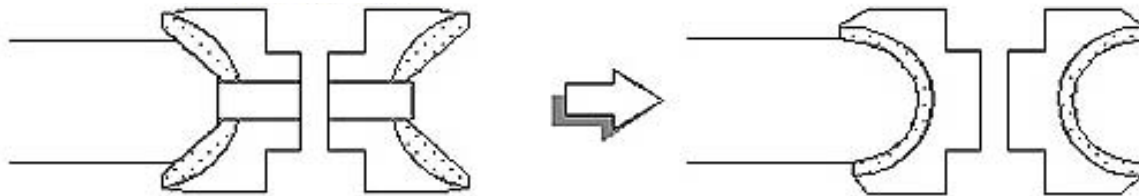
# CONSOLIDATED DIAMOND

## BREAKING CORNERS / BREAKER BITS / POS 0 BITS

To maximize router bit performance you should pre-cut the material very close to the final shape and then use a Breaker Bit (POS 0) to pre-shape the edge. A Breaker Bit eliminates the sharp corners on the stone which can dig into a shaped bit causing rapid, pre-mature wear. While you can break corners by, for example, using grinding wheels, we recommend our Breaker Bits because they:

- ◆ Are always used WET which prevents grinding dust.
- ◆ Are designed for use with specific edges to prevent over or under grinding.
- ◆ Have an extra thick diamond section for extra long life.
- ◆ Have been specially formulated for smooth, aggressive cutting.

### DOUBLE BREAKER



A Double Breaker grinds the top and bottom of the stone in preparation for a Full Bullnose (V).

### SINGLE BREAKER



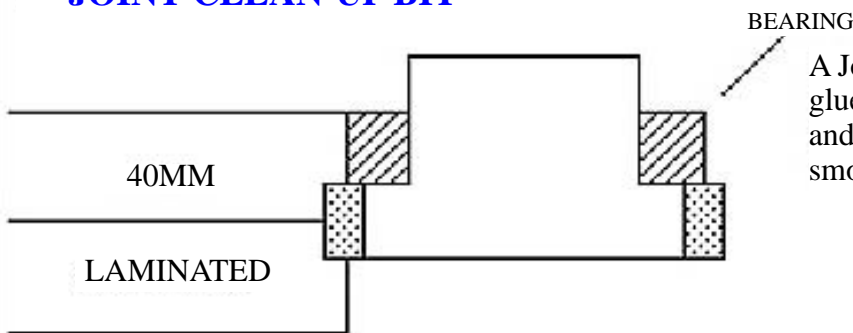
A Single Breaker may be used for most "One Piece" bits. It is important that the Breaker Bit be positioned so as not to over-cut the stone.

### OGEE BREAKER

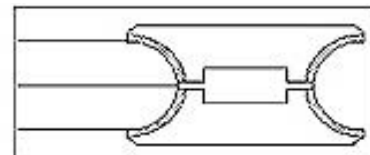


Consolidated also makes special Breaker bits for specific edge shapes. For example an Ogee Breaker removes the maximum amount of stone before the Shaped Ogee Bit is used.

## JOINT CLEAN-UP BIT



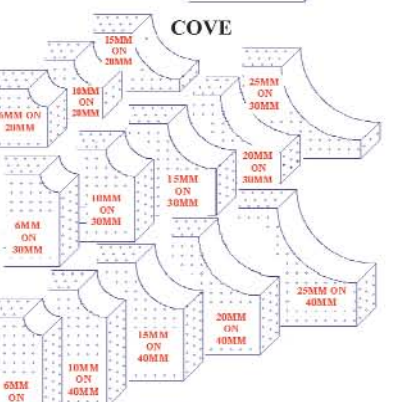
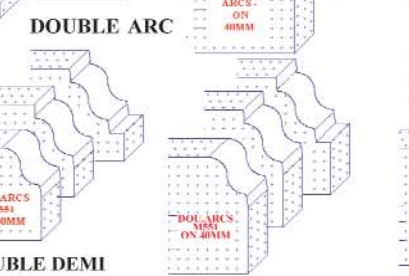
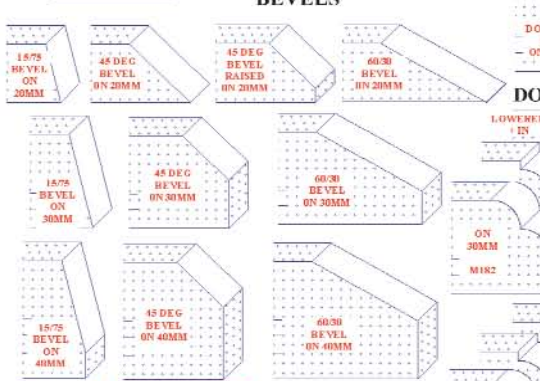
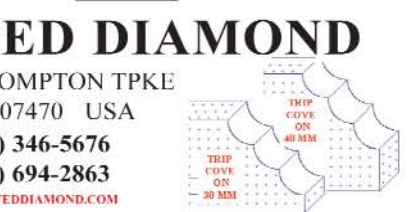
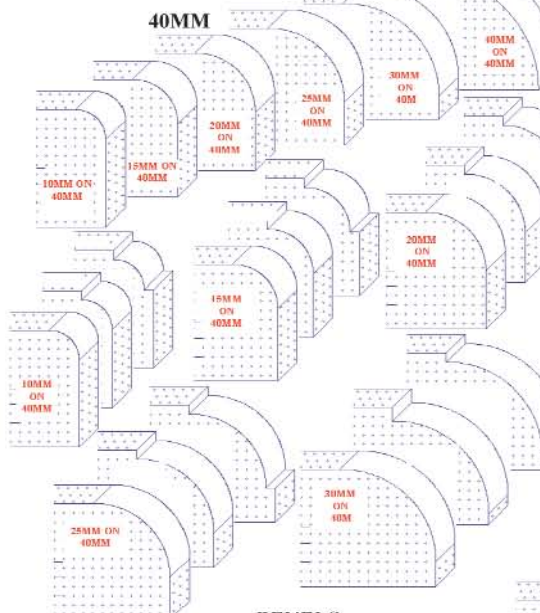
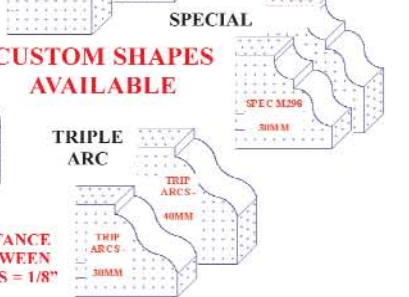
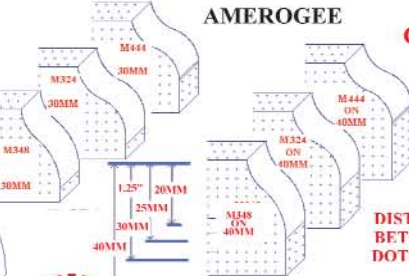
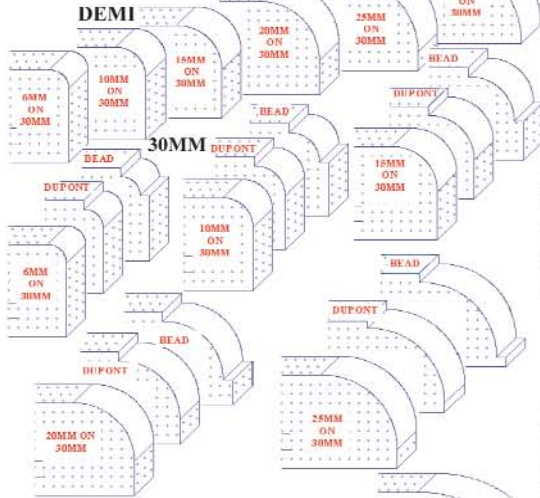
A Joint Clean-up bit should be used to grind the glue joint so it is free of excess glue and chips and the bearing on a Fullbullnose bit rides on a smooth, flat surface which is in parallel.



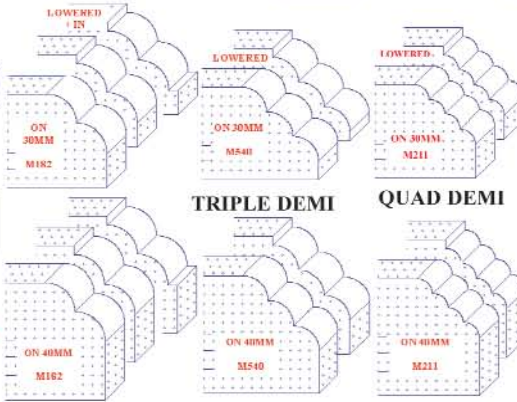


# CONSOLIDATED DIAMOND

## CONFORM STONE SHAPE



AMERICAN MADE



## CONSOLIDATED DIAMOND

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