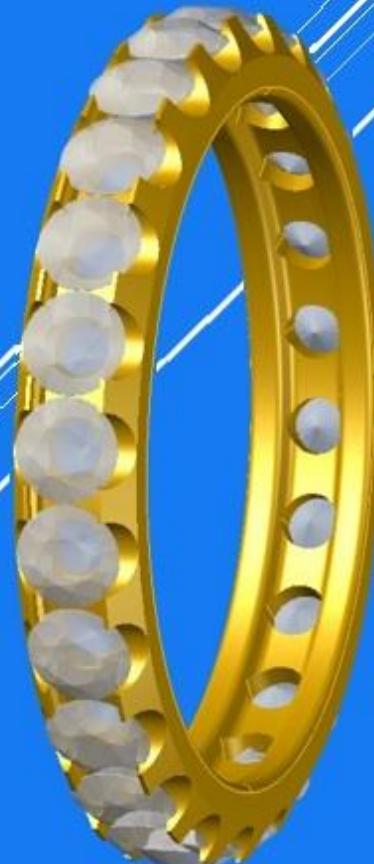




RINGTURN SOFTWARE

AN INSIDE LOOK AT HOW OUR  
SOFTWARE WORKS.





## AN EXPERT SYSTEM

Definition of The Word “Expert”: having or involving authoritative knowledge.

At Ringtech we made a decision to make wedding band production easy.  
To do this we had to tie different fields of expertise into a single integrated package.

We designed the software to be your in house expert.



CONCEPTS

How do we do this:

By using parametrics the machine can make decisions based on pre-determined logic.  
We use predefined material libraries for speeds and feeds.

What does that mean?

You can run any design of ring in any material with one program.  
Just push a button to select the material you want to machine  
OR add a link to the material library into the program.



# CONCEPTS

## Parametric Machining:

Parametric machining is the concept of pre-defined cycles using logic that ensures perfect results every time, with absolutely no chance of a machine crash.

You can select 8 different ways to machine a ring by changing 1 parameter.

You choose your bore type with 1 parameter.

You turn operations on and off with 1 parameter.

You do not have to repost or regenerate a program.

Simply change a couple of parametric values and the program is ready to run.

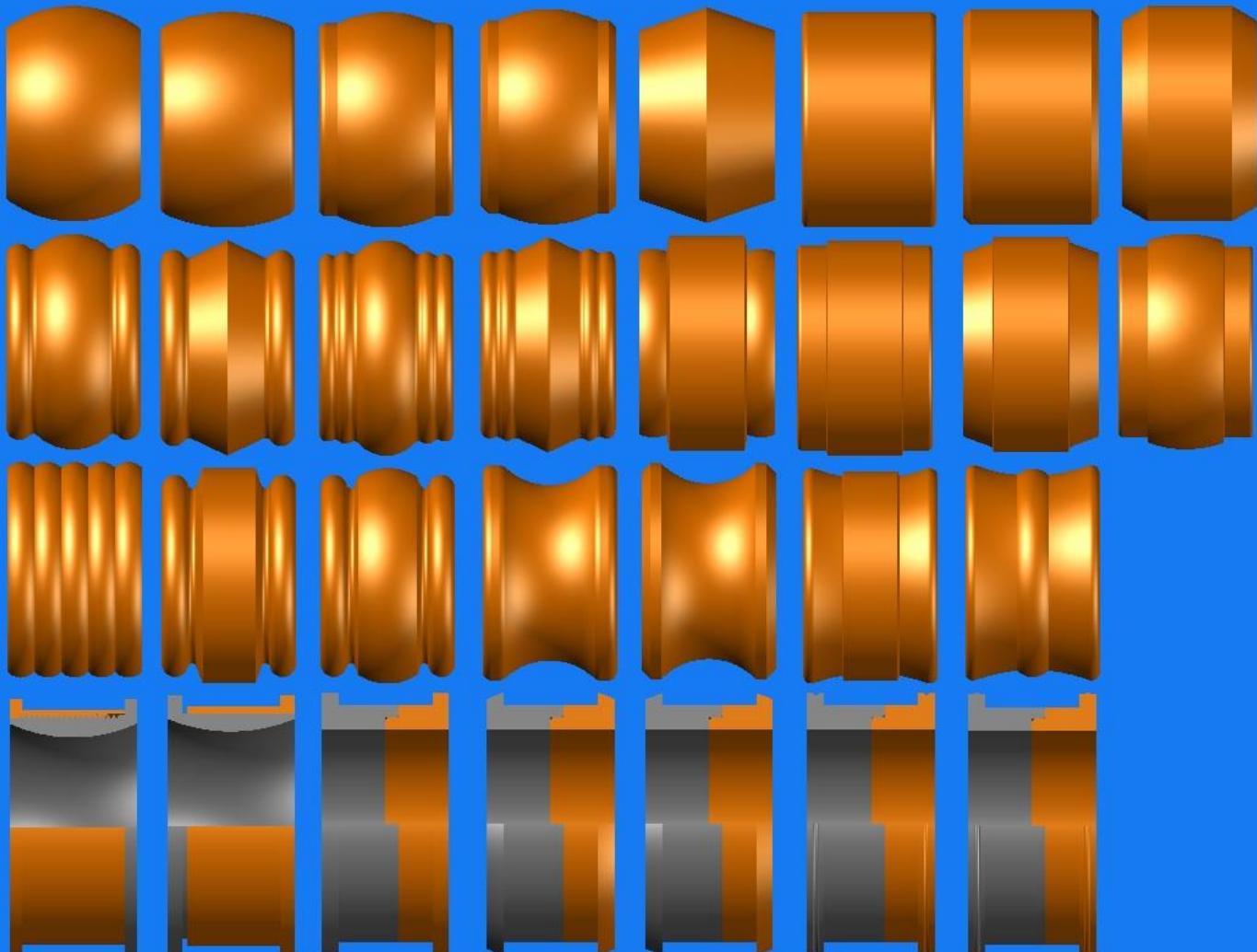


CONCEPTS

## Design Flexibility

We created multiple turned cross sections  
for wedding bands.

With this parametric approach to  
programming you can have an  
unlimited range of design variations.



\* Samples shown use a 6mm ring width.



# CONCEPTS

## Design Flexibility

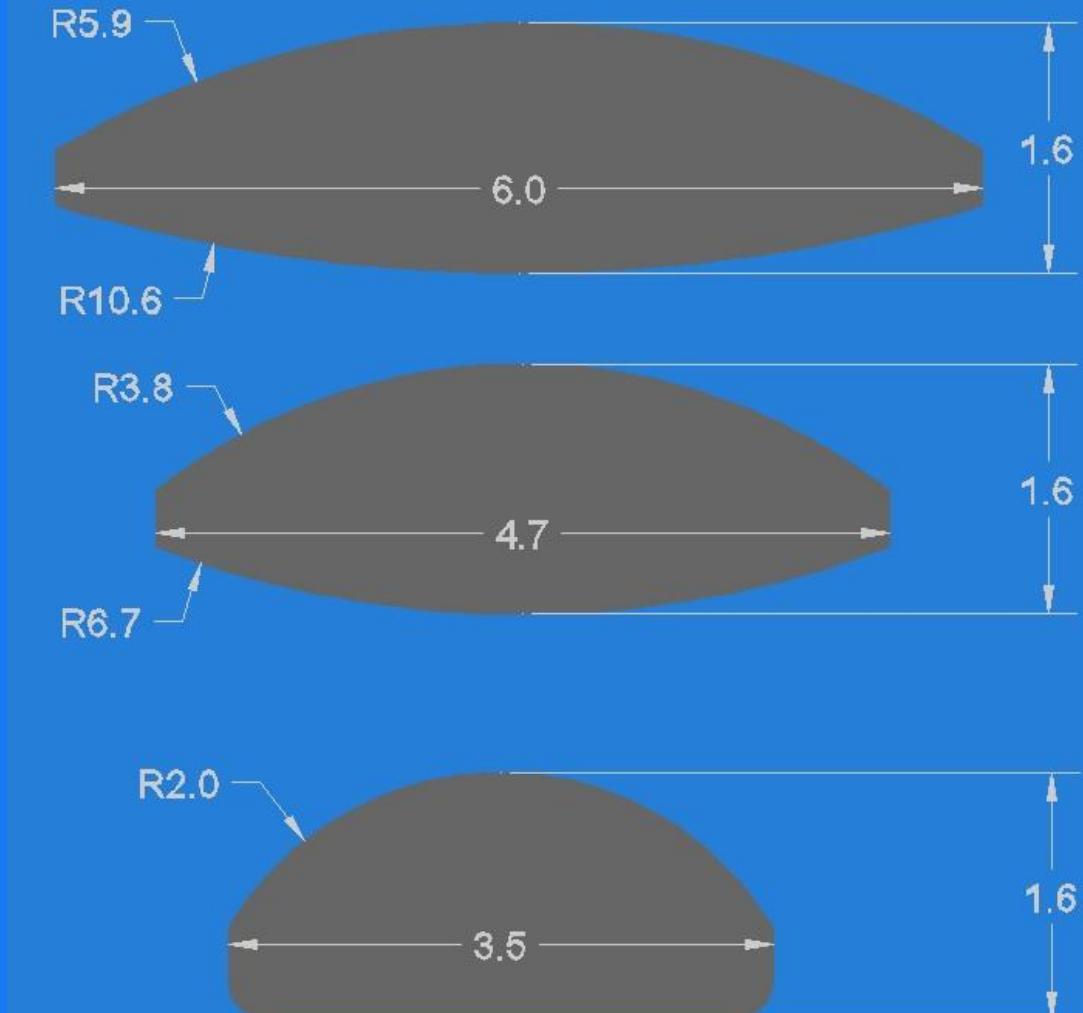
Lets start with a simple domed band.

We have these variables:

- Ring Size
- Ring Width
- Ring Thickness
- Dome Radius
- Bore Type, and Shape.

Keeping the width and thickness constant, changes in the comfort fit radius allow a change in the dome radius.

Changing the ring bore type allows for a smaller dome radius.





CONCEPTS

## Design Flexibility

As you change one variable the design follows or stretches to keep the other variables intact.

Change the thickness, and the dome changes its radius.

If you want to maintain a specific radius then the edge thickness changes.

We can program the system to suit your needs, not force you to change to our needs.\*

\*(Radii can be controlled by entering the actual dome and comfort fit radii or by side thickness)



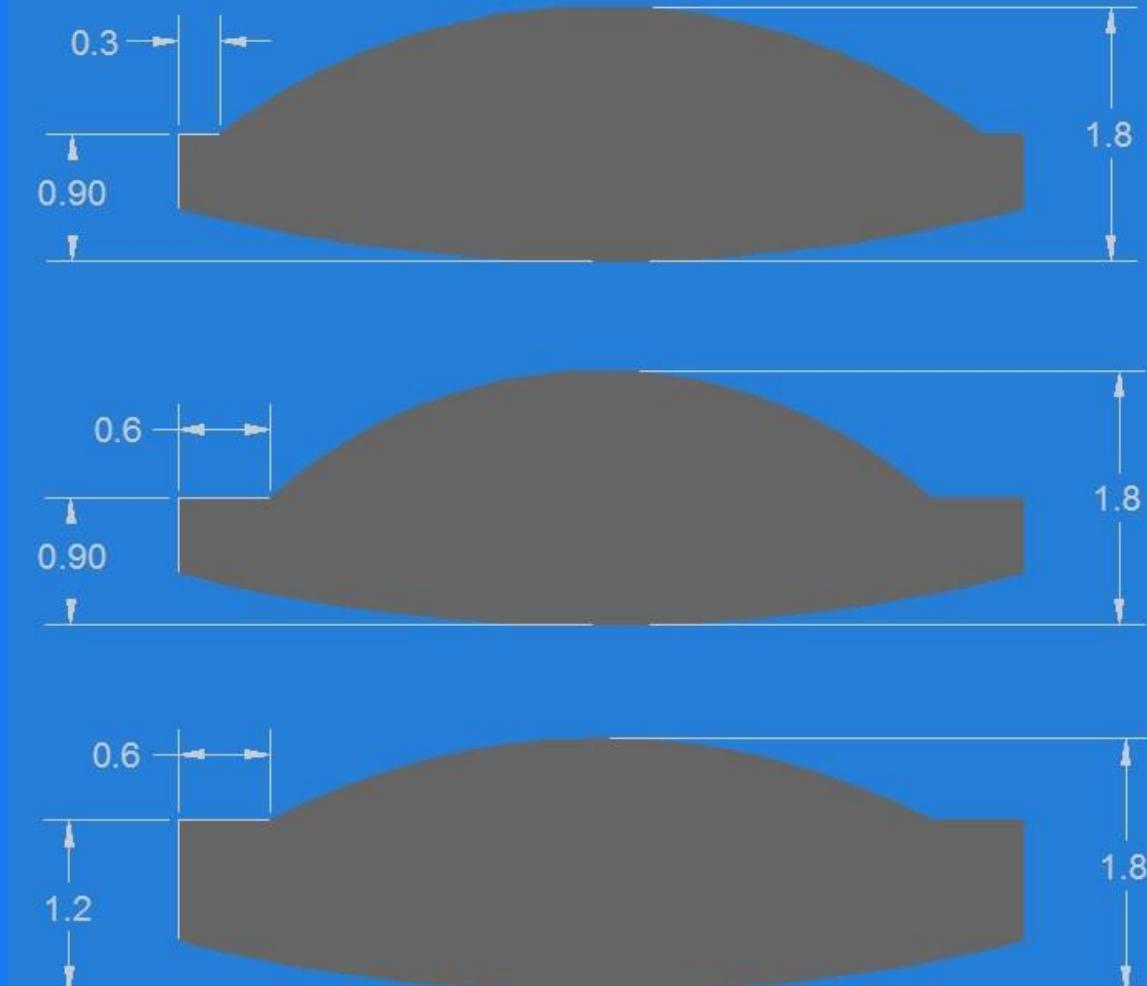
# CONCEPTS

## Design Flexibility

Here is an example of a more complex design and the changes that allow variations in the design.

Using the same width and thickness we can adjust the edge width and or the edge height to alter the shape of the ring.

The dome arc will adjust to fit the other variables.





# PROGRAM GENERATION

## Screen Inputs

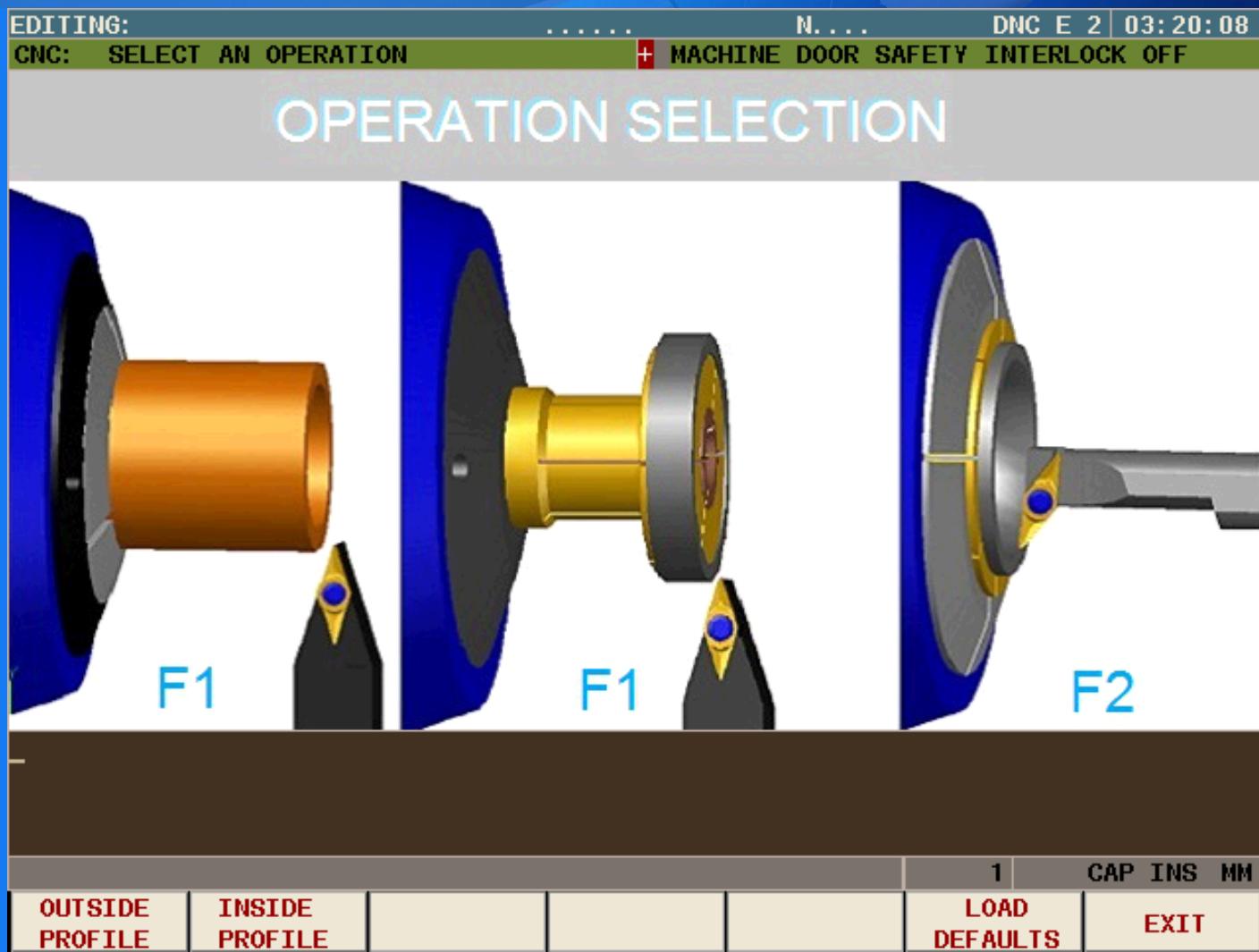
Each step in creating a new program requires a question to be answered.

These questions are always in the same order.

### Question 1

What type of program do you want to create.

1. Outside Profile [F1]
2. Inside Profile [F2]





# PROGRAM GENERATION

Screen Inputs

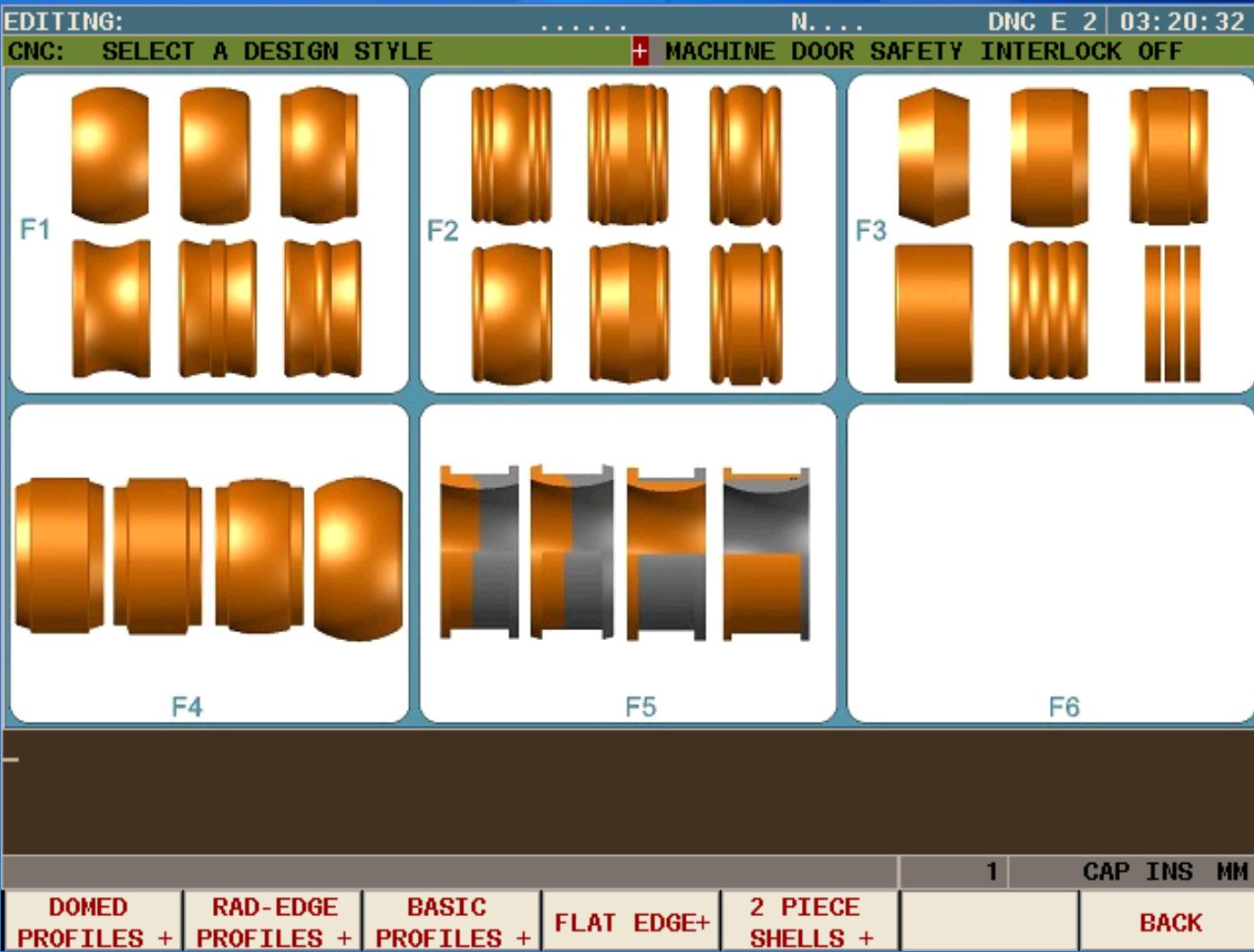
Next you pick a design family

Question 2

What type of design family do you want to use?

This screen show a graphical view of the different designs.

Just select the F key that matches your choice.





# PROGRAM GENERATION

## Screen Inputs

The machine has multiple built in routines to make machining decisions easy.

### Question 3

What type of machining operation do you want to do?

The screens are easy to understand  
Just select the F key that matches your choice.

\* This value can be changed in any program





# DESIGN CHOICES

Screen Inputs

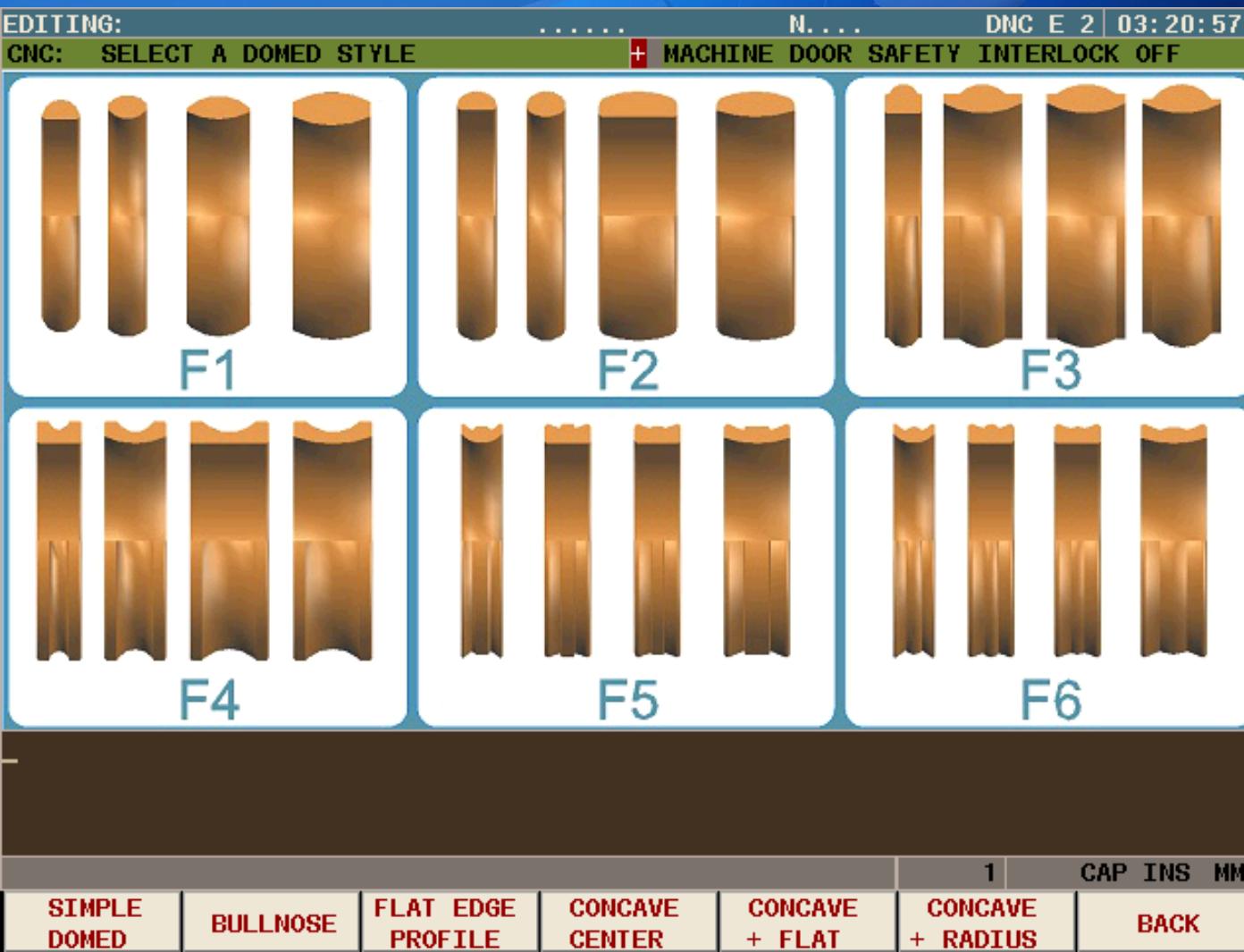
Next you pick a specific design

Question 4

What type of specific design do you want to do?

This screen shows a graphical view of the different designs with variations.

Just select the F key that matches your choice. [F1-F6]





# PROGRAM GENERATION

## Screen Inputs

A new screen will ask you a series of questions related to its specific design

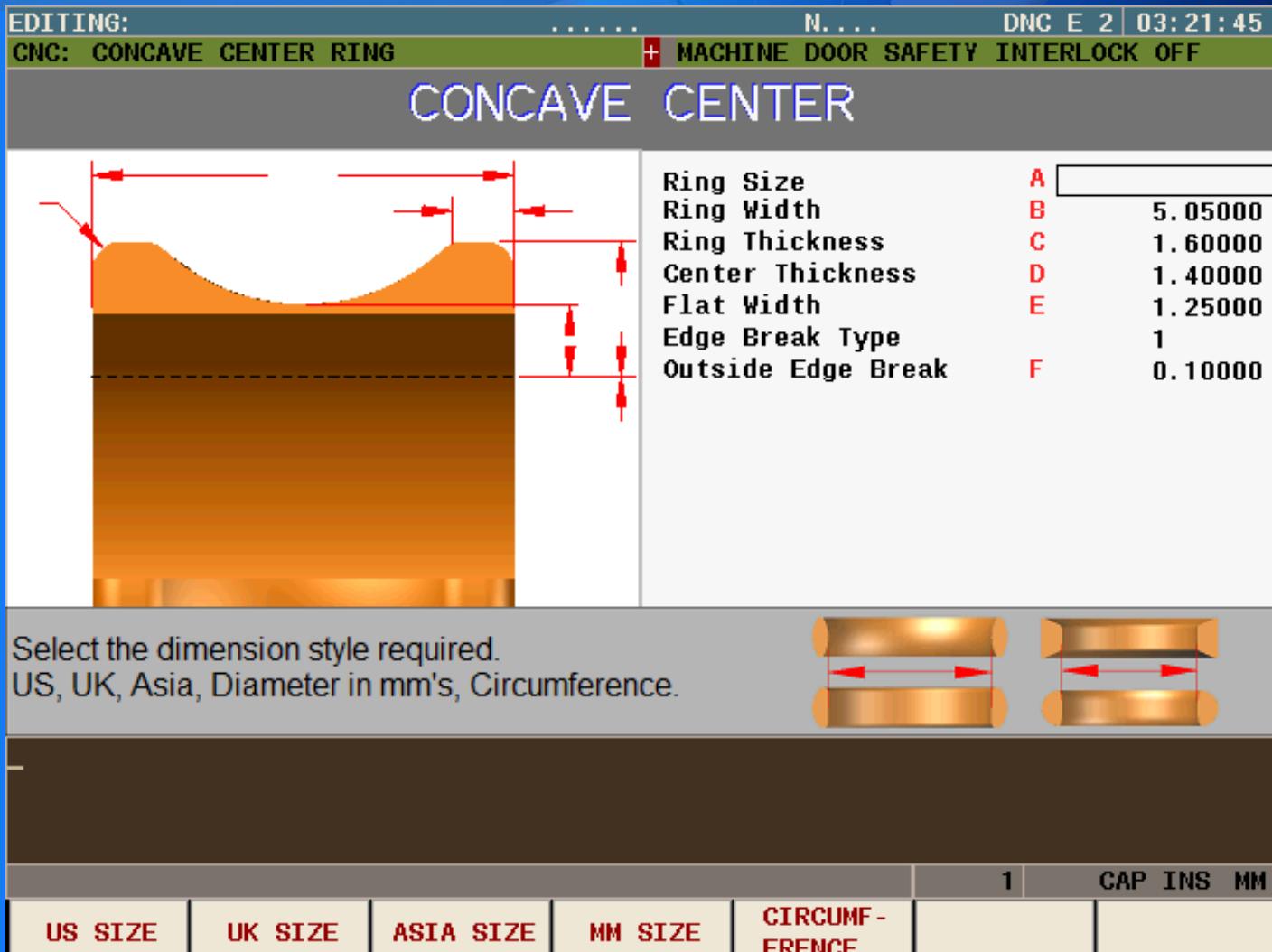
Questions 5-6-7

- 5 Ring Size (with choice of input)
- 6 Ring Width
- 7 Ring Thickness

All ring designs have the same basic parameters.

Just enter the value you want.

\*These values can be changed later.





# PROGRAM GENERATION

## Screen Inputs

Designs that require more information prompt you for these inputs. Specific information related to the questions are shown at the bottom of the screen.

Questions 8-9-10-11

8 Center Thickness

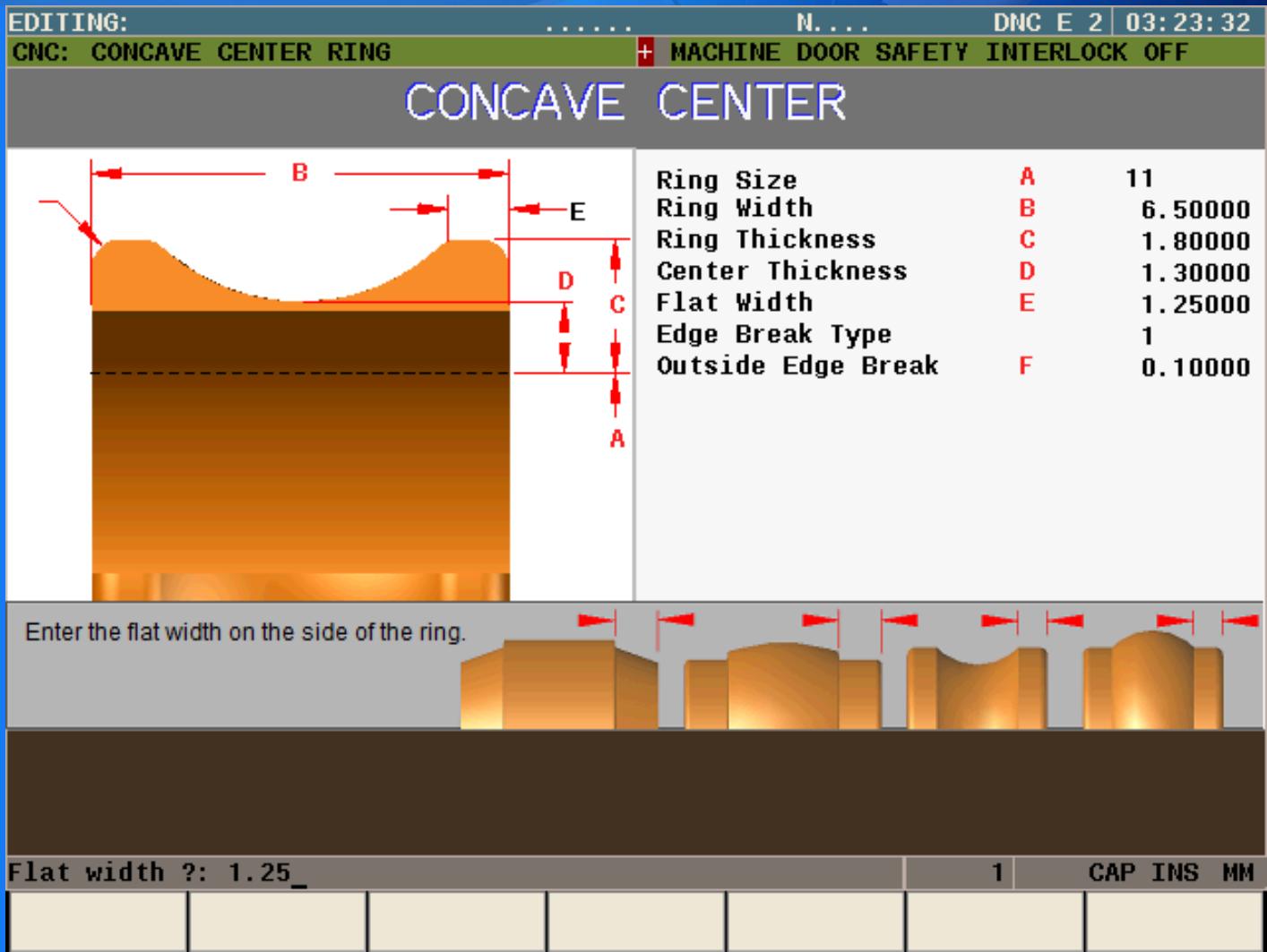
9 Flat Width

10 Edge Break Type

11 Size Of The Edge Break

Just enter the value you want.

\*These values can be changed later.





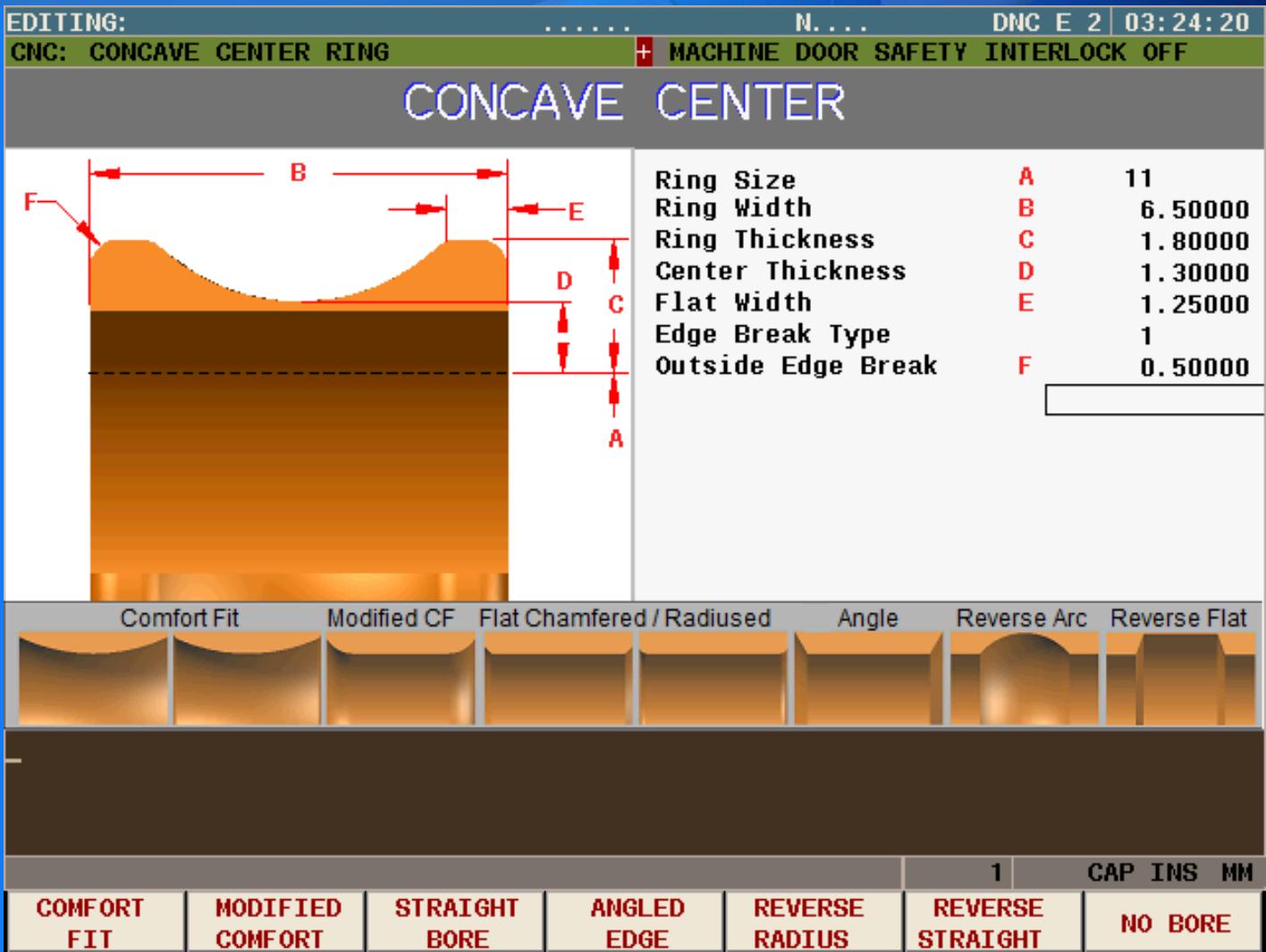
# PROGRAM GENERATION

## Internal Profile Choices

After answering the basic questions that provide information about this ring, you are prompted to select a bore type. Then you are asked specific questions related to the bore type chosen.

There are 7 choices:

1. Comfort Fit
2. Modified Comfort Fit
3. Straight Bore
4. Angle Edge Bore
5. Reverse Radius
6. Reverse Straight
7. No Bore



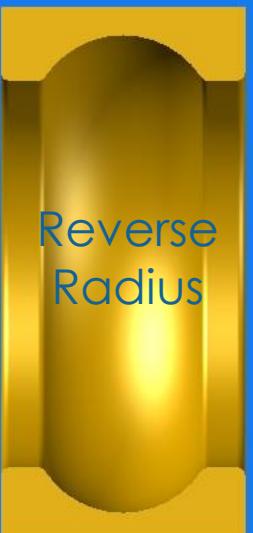
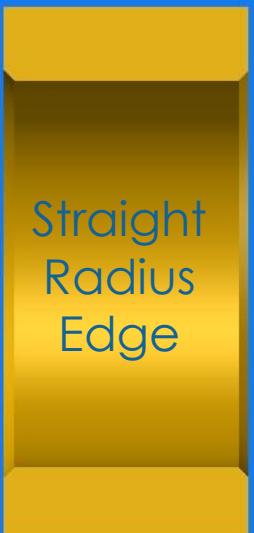


# INTERNAL PROFILES

## Internal Profile Choices

Any bore type can be applied to any profile design.  
Each bore type has parametric variations.

You can select “No Bore” if no boring is required.



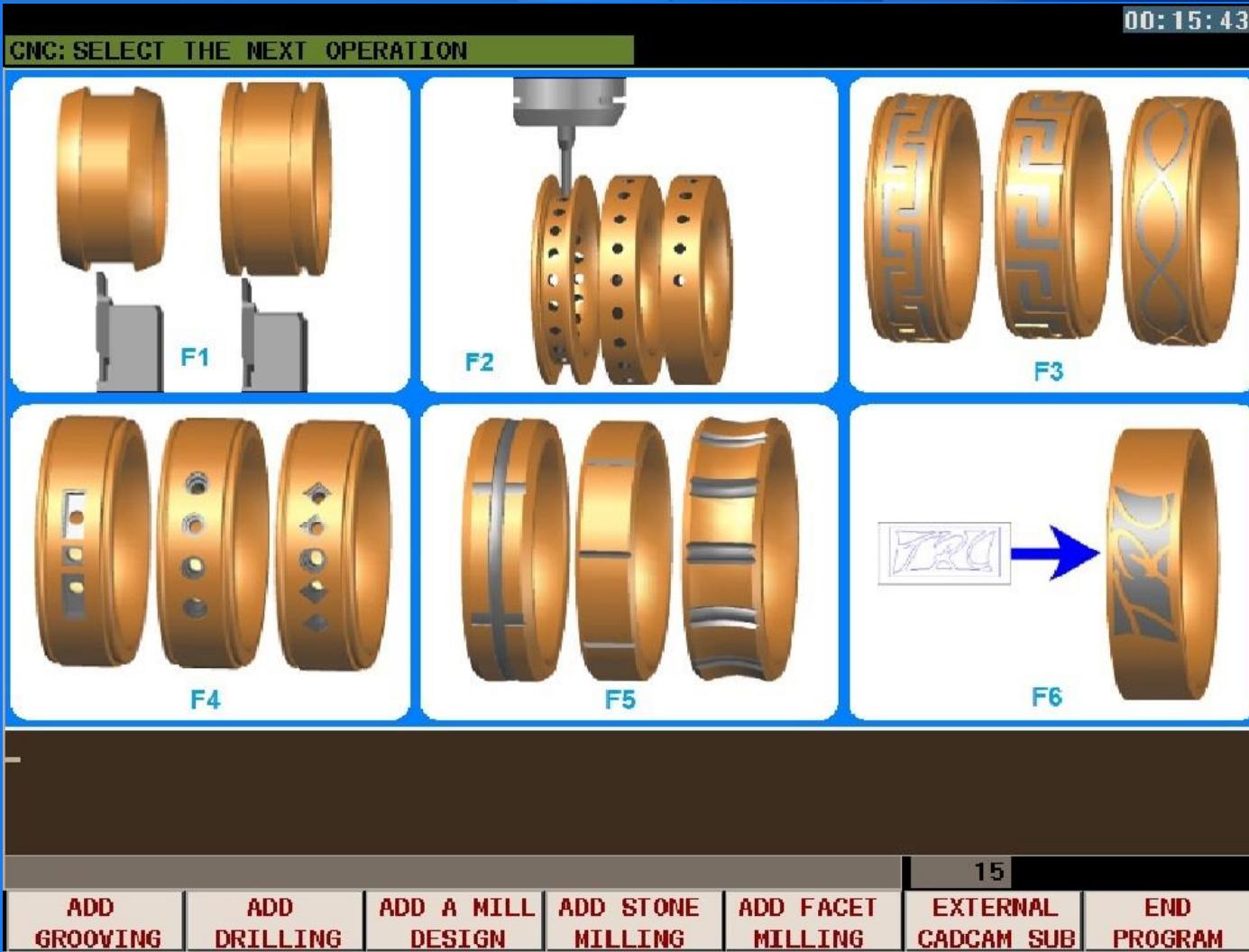


# OPERATION LAYERING

## Next Operation Selection

After answering the questions based on the profile description, you are asked if you want to add other operations:

1. Add Grooving
2. Add Drilling
3. Add a Mill Design
4. Add Stone Milling
5. Add Facet Milling
6. External CAD CAM program
7. End Program





## OPERATION LAYERING

### Next Operation Selection

An explanation of each selection shows how complex ring designs can become.

Each new operation can be added to a profile.

Operations can be stacked on top of each other.

An example could be this:

2 stone grooves are added that are on the edge of the ring.

Then drilling can be added to drill in to the grooves for stones.

Then a mill design can be added down the center of the ring.



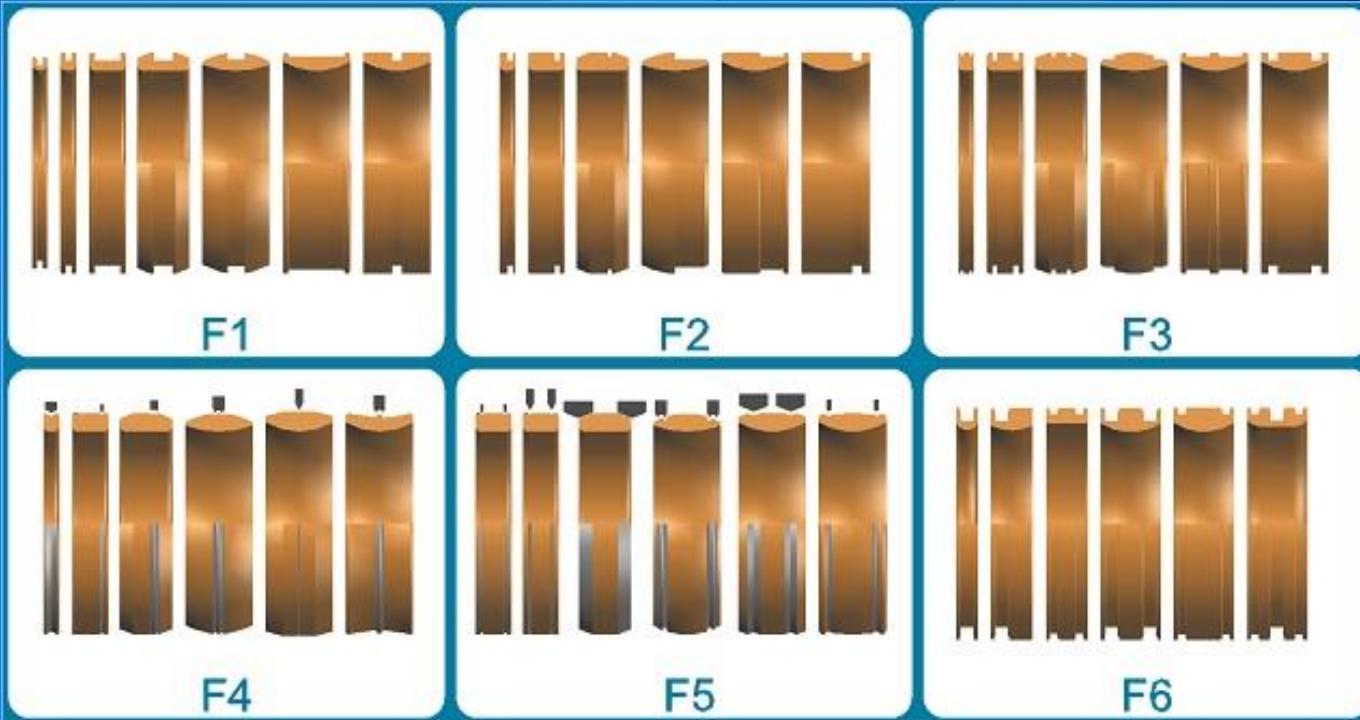


# GROOVING

## Grooving Operations

There are 6 grooving choices:

1. Single groove in the center of the ring
2. Offset groove anywhere on the ring
3. Double groove symmetrical on the ring
4. Single form groove anywhere on the ring
5. Double form groove symmetrical on the ring
6. Stone groove anywhere on the ring



All of these choices can be added to any ring.

To create 3 grooves use a single groove and a double groove.

The possibilities are endless, you design the rings you want, flexibility is your key.



DRILLING

## Drilling Operations

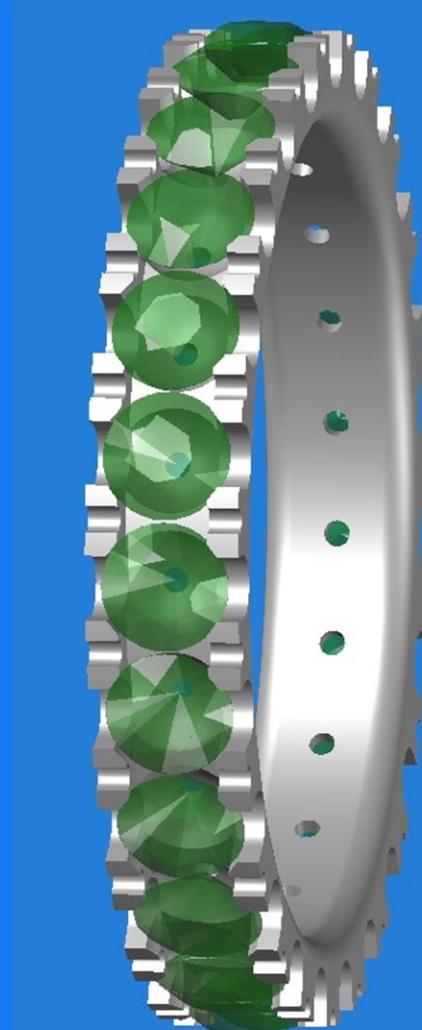
The drilling operation choice provides a fast easy way to program multiple drilled holes.

- Drill 32 holes in each of 2 grooves for full channel set rings.
- Drill 6 holes around the profile of a ring anywhere across it's width
- Drill a single hole for a bezel set stone
- Drill hole patterns for pave' style rings

All of these choices can be added to any ring shape.

The possibilities are endless, you design the rings you want, flexibility is your key.

The ring shown can be produced by using the single groove operation and a milled slot routine with a drilling operation





## MILLING DESIGNS

### Mill Design Operations

The milling designs built into the software cover the basic popular designs:

1. Greek Key
2. Single Curves
3. Infinity Curves
4. Boxes
5. Link Designs



All of these choice can be added to any ring.

The possibilities are endless, you design the rings you want, flexibility is your key.



## STONE POCKETS

### Stone Pockets

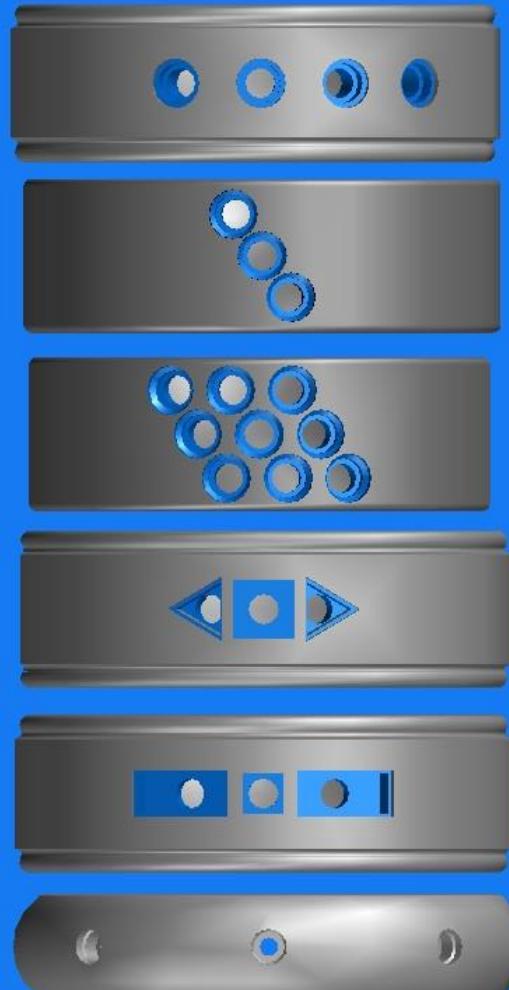
The stone pocket designs built into the software allow a vast range of design choices:

We can produce stone pockets with these shapes:

- Round (Brilliants)
- Square (Princess) & at 45°
- Baguettes
- Trillion (in 4 directions)
- Channel Set (any number of stones, any stone size)

All of these choices can be added to any ring shape.

The possibilities are endless, you design the rings you want, flexibility is your key.





# FACETING

## Faceting Operations

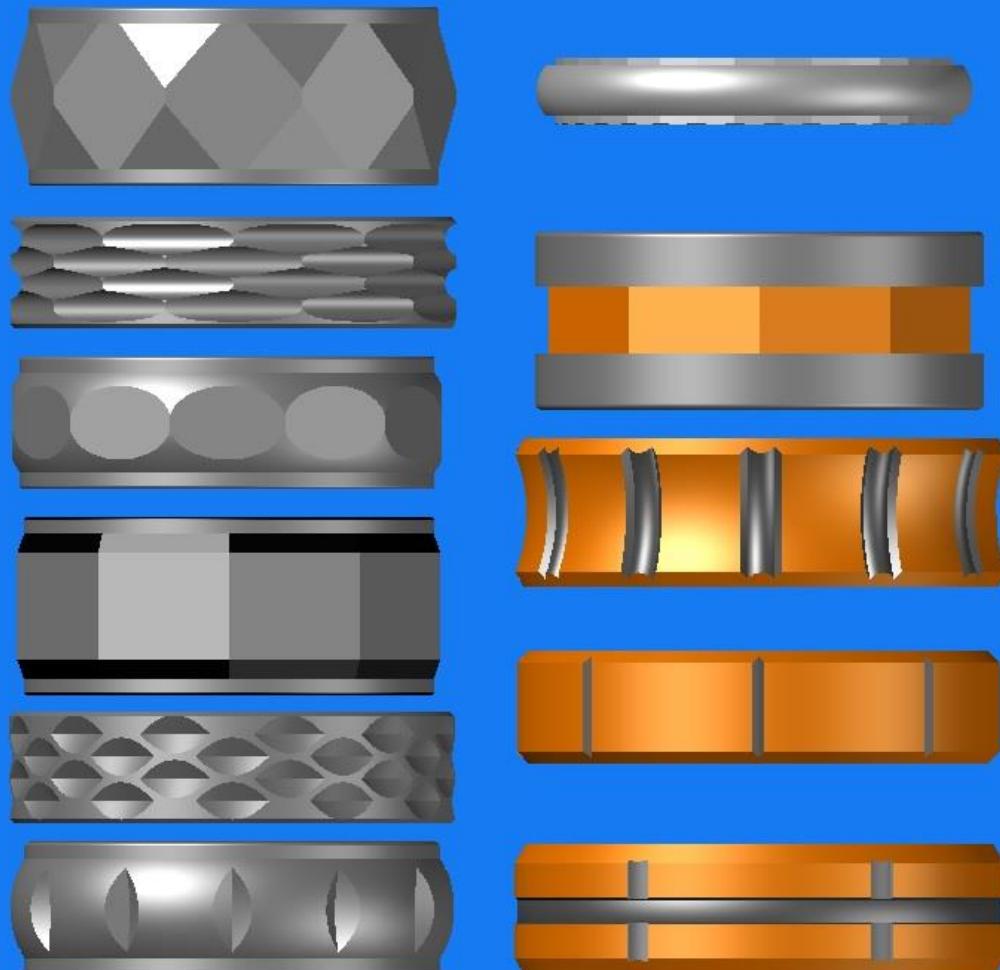
The facet cutting operations are simple cycles that automate plunge cutting facets

Faceting can be done with 4 types of operations:

1. Plunge Cut from the side
2. Plunge Cut from the face
3. Profile Cut from the side
4. Flat Cuts across The top

Using different form tools allows many designs to be created.

The possibilities are endless, you design the rings you want, flexibility is your key.





# CAD-CAM GENERATED PROGRAMS

Using a CAD-CAM system for programs

The FAGOR control is a stand alone CNC machine controller and can have standard G code programs loaded into it, so that you can create custom designs.

These programs can use multiple tools thanks to the 18 position tool changer available on the RTL-4000



The possibilities are endless, you design the rings you want, flexibility is your key.



## CONCLUSION

Thank you for reviewing this information

At Ringtech we are always striving for new ideas, designs and machining concepts to keep our valued customers on the leading edge of technology.

This brief overview of the software covers some of the features available.

There are so many variations of ring shapes and designs that can be created, that it would be impossible to show every permutation.

If you have not already visited our website please take a look.

[www.Ringtech.com](http://www.Ringtech.com)