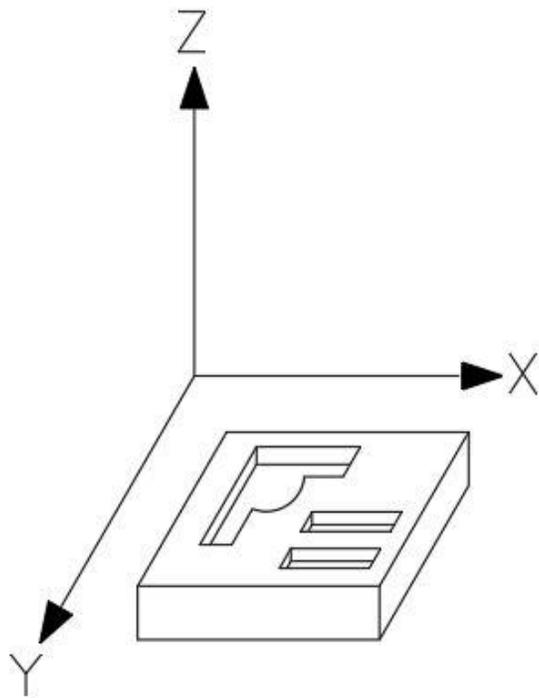


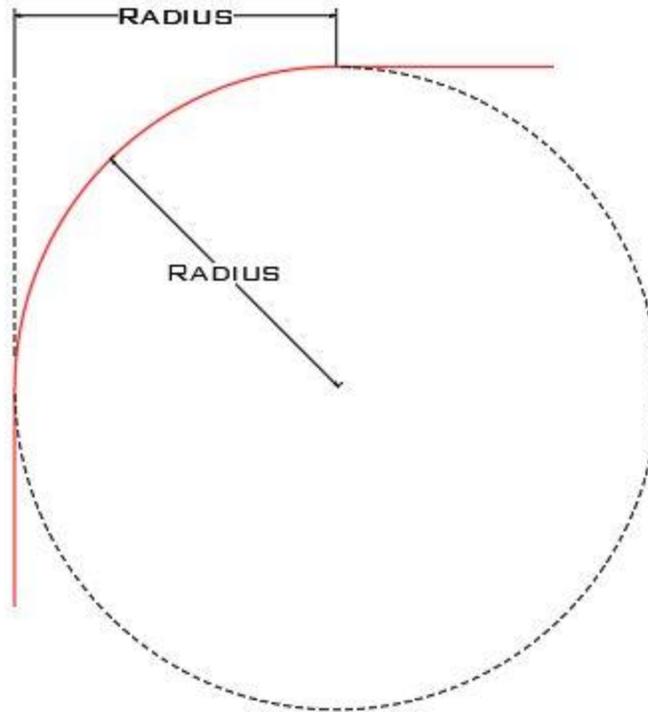
Tips/Tutorial

1. Size of Foam

- To start, expand the “Size of Foam” tab to display options related to foam size and color.
 - If you wish to design a foam insert for a Nanuk Case select the appropriate size from the “Cases” drop down menu.
 - If you are designing an insert for any other case, drawer or specific area, select “No Case” in this dropdown menu and proceed to specify the dimensions below. These dimensions include length, width, depth, and the corner radius of the space you wish to work within.
- The X (Width) is across the screen horizontally, the Y (Height) is across the screen vertically, as shown in the diagram.
- The Z (Thick) represents the thickness of foam and cannot be displayed in the two dimensional model space however the user can imagine it going in and out of the screen. Each Nanuk case will have a specified thickness of foam that is shown at the bottom of the page when selecting the case. For inquiries that are not for Nanuk cases
- There are 5 different thicknesses of foam to choose from and create different thicknesses by mating 2 of the 5 thicknesses. This will be the overall thickness of your foam. All of our foam products have a black top layer which is $\frac{1}{4}$ ” thick and then the remaining thickness is colored foam. Please note when designing that we recommend that you leave $\frac{1}{4}$ ” of foam at the bottom of each pocket. For example If you are designing an insert with 1.25” thick foam, the maximum pocket depth should never exceed 1”.



- The R (Radius) box can be filled out with the corner radius for the insert. This value changes the corners from square corners to a rounded corner. For square corners, set the radius value 0". The radius is referring to what is seen in the diagram below, and it is measured in inches.



- Foam color refers to what colour is beneath the $\frac{1}{4}$ " top layer of black foam. The color options Guard Dog offers are blue, grey, red and yellow.
- Once you have finalised the size and color of your custom foam insert you are ready to begin designing and adding shapes.

2. Add Shapes

- There are 3 functions that will allow you to draw and add shapes to your foam insert. These functions include basic shapes, objects library and the photo trace function.
 - *Basic Shapes*: the basic shapes provided are circles, ovals, rectangles and squares. These shapes will mainly be used to create simple pockets that do not require a custom shape. Circles can be used for perfectly round objects to reduce steps in the designing process. Another common use for circles and rectangles

is to create finger hole pockets reducing the effort needed to remove objects from the foam.

- *Objects Library*: The objects library contains shapes of tools that we have already designed a usable profile for. This library is constantly improving and changing as more tools and shapes are added to our database. A user can easily select tools from this menu to use in their own foam design while eliminating the step of taking pictures and adding that particular shape.
- *Photo Trace*: The photo trace function is used when the user has a custom shaped item they would like a cutout for. A proper photo of any item can be used and either automatically or manually traced as described in the Photo Trace instructions described below.

3. Photo Trace

To ensure your objects fit into the designed pockets and to make the process faster it is crucial to use good quality photos. Good quality does not necessarily mean the resolution quality but instead a desired photo for the software to easily trace. For this to be accomplished there are some requirements that should be met when taking a picture in order to have accurate cut outs. There are four key components to consider when taking quality picture of your tools:

1. Background

- An easily attainable, high contrast background can often be created by placing one or more pieces of 8 ½" X 11" paper on a flat surface.
- If the tool you are taking a photo of does not fit on one piece of paper use enough to have a white background behind the entire object.
- Make sure to get the entire object in the photo with no part of the object extending outside the frame of the camera

2. Lighting

- Take photos in a well lit location that casts the least amount of shadows possible as they will be picked up by the photo tracing software.
- For non-reflective items using the flash on your camera or phone will help combat this issue.

3. Angle

- It is crucial to take photos from directly above the object as any angle in the photo can affect the size of the object as it becomes skewed due to camera angle

4. Orientation

- The object should be photographed in the orientation it is intended to sit in the foam cut out for best results
- It helps to take photos of the object keeping it as square as possible with the camera as the angle of orientation can be changed once you begin manipulating shapes.



Perfect Photo



Bad Photo - Shadows will be picked up by trace tool



Bad Photo - Background too busy



Bad Photo - Taken at awkward angle



Bad Photo - Not taken from directly above

Once you have compiled a bank of quality photos of all of the items you wish to place in the foam you are ready to begin using the photo trace software to convert those pictures into profiles that will form the pockets for your items.

For Auto Trace

- Select the “Photo Trace” button and choose the picture of the tool you wish to trace.
- Once the photo is in the window, name the shape and enter the dimensions of length, height and depth of the object
- Click on the photo and drag the mouse until the outline surrounds your object tightly
- If the outline appears to trace the shape that you’d like, select “Continue To Trace Shape”
- Nodes will appear with transparent red inside the shape. This is essentially the shape that will be cut out of the foam.
- If the nodes do not follow the outline of your object tight enough to your discretion you can drag and manipulate the nodes to do so.
- You can also remove nodes if they are unnecessary.
- Once you are satisfied with the shape select “Create Shape” and it will produce a profile that you can rotate, move around and scale in the design space.

For Manual Trace

- Some pictures work better than others therefore some will not trace properly. For this reason there is a manual trace function where you can click along the outline of the object placing a node with every click
- Bring a picture in the same way as auto trace, supplying a name and dimensions for the shape
- To get into manual trace mode select “Manual Trace” after you have brought the photo into the phototrace area.

- Begin clicking around the perimeter of the object working around the shape either clockwise or counter clockwise
- On straight edges use the least amount of nodes possible, this will give the cutout the most straight line.
- When tracing round objects use many nodes and attempt to make the transition between nodes as smooth as possible (not one up one down)
- After you have successfully placed points around the outside of your shape select "Adjust Points" and it will allow you to fine tune the node points.
- Once satisfied select "Create Shape" and you will be taken into the design window with your newly designed shape.

In the design space you can move shapes around, rotate, scale and add more shapes this is where you can play around with the design of your foam insert placing objects exactly where you'd like them to be.