

# 1: Installation and Configuration

## Initial Setup

To get started using the HideShot software package, you must first install and unlock the program, then connect it to the Autometrix vision module and run the calibration process. If you already have HideShot installed, unlocked, and calibrated, you can skip to the Operation section of this manual.

## Installation and Unlocking

To install HideShot, download and execute the installation package from the Autometrix website ([www.autometrix.com](http://www.autometrix.com)). An installation wizard will guide you through the process. Use the Autometrix software unlock procedure to unlock the package as explained here:

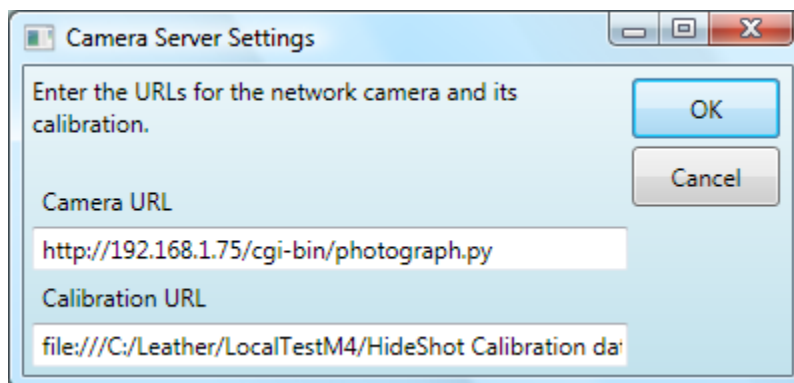
<http://docs.autometrix.com/documentation/software/unlock.html>

## Autonester Installation

Unlocking the Autonester features requires a USB key from Autometrix.

## Connecting to the Vision Module

Your vision module is an Ethernet enabled device. This means that HideShot only needs to know the address (URL) of the vision module in order to communicate with it. Click on the menu item 'Settings', then click on 'Camera'. The camera URL is found and set by clicking the 'Discover' button in the dialog. The location of the calibration file is set when you calibrate the vision module.



## Calibration

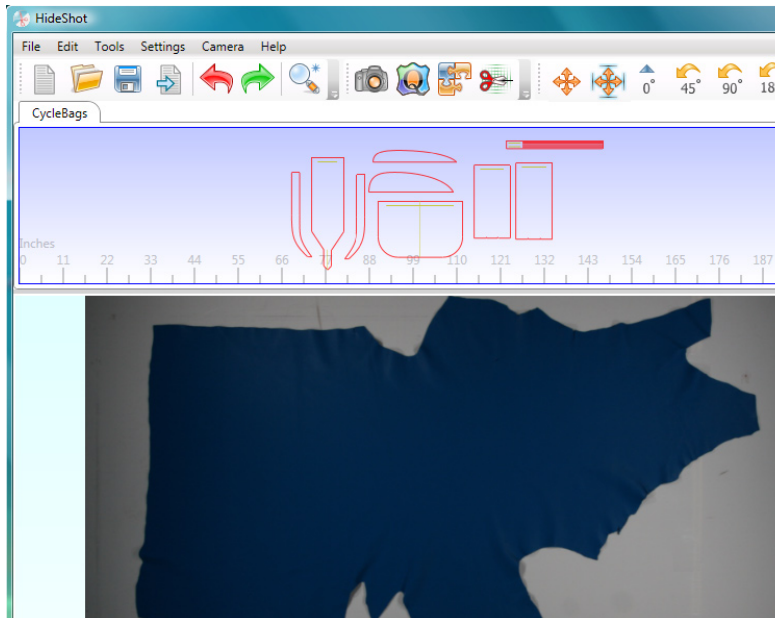
The goal for the calibration process is to:

- Get the accurate scale for the photo.
- Remove all lens distortion.
- Match any point in the photo to the correct point on the table.

Your system was calibrated when it was installed. Normally, the only reason to re-calibrate would be if the cutting table or vision system moved. Should you need to re-calibrate, detailed calibration instructions are available from Autometrix Customer Service.

## 2: Process Overview

### Step 1: Select the patterns you want to use.



Open or import the patterns you want to use. The Project window is divided into two sections - the top area for patterns and the bottom area for hides. You can open multiple project tabs if you need to cut patterns from a variety of projects on one hide.

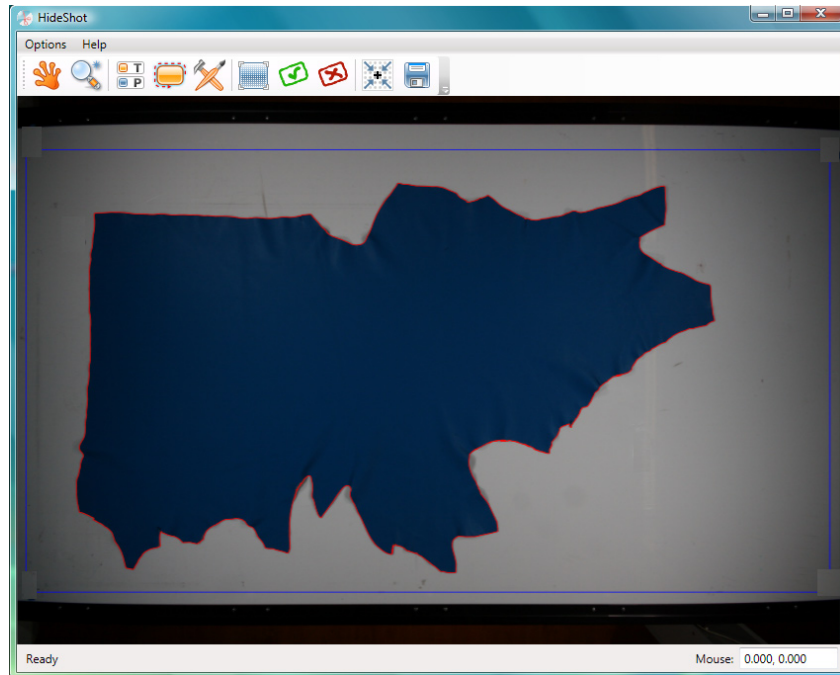
### Step 2: Capture the hide

Place the hide on the cutting table.





Take a photo of the hide.

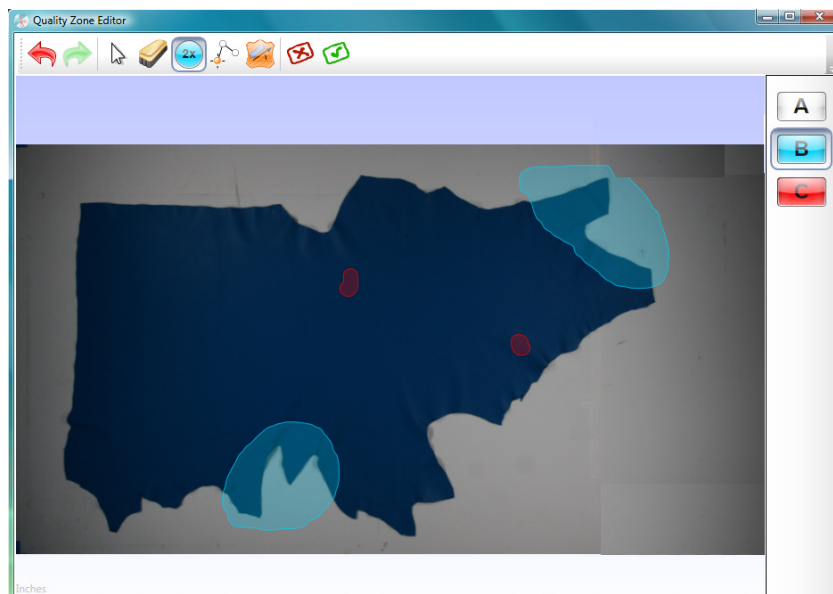


Find the nesting perimeter for the hide.



You can correct any perimeter errors, if needed.

### Step 3: Identify Quality Zones





Identify up to 16 quality zone levels on the hide and on your patterns.



Mask out flaws.

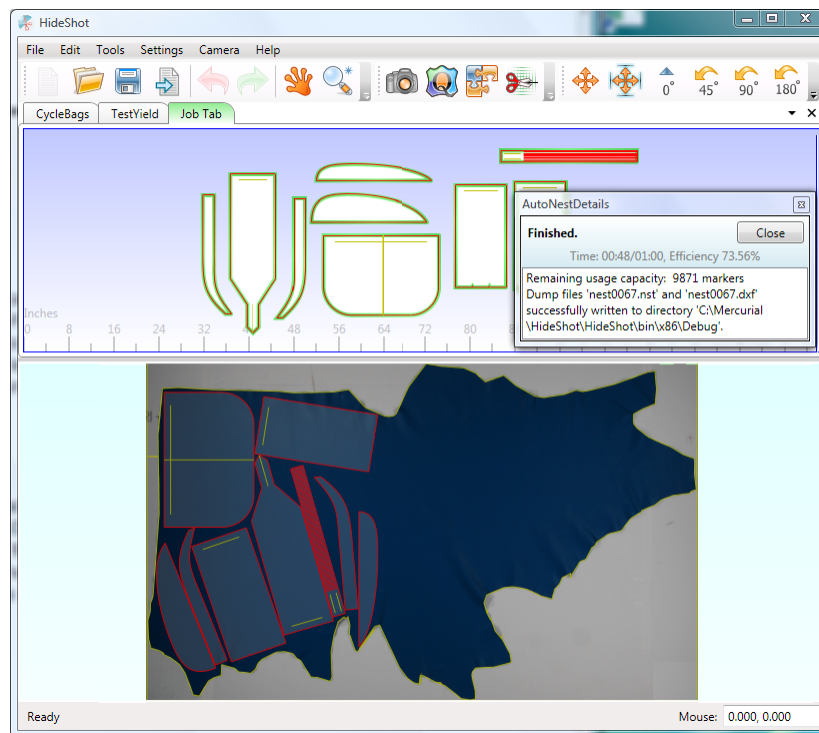


Identify the hide's grain line direction. The grain line establishes zero degrees for nesting purposes. Each time you make a pattern copy, it will be rotated to match the hide's grain line.

## Step 4: Nest Patterns



Nest patterns manually, or automatically with the auto-nesting plug-in.



## Step 5: Plot and Cut

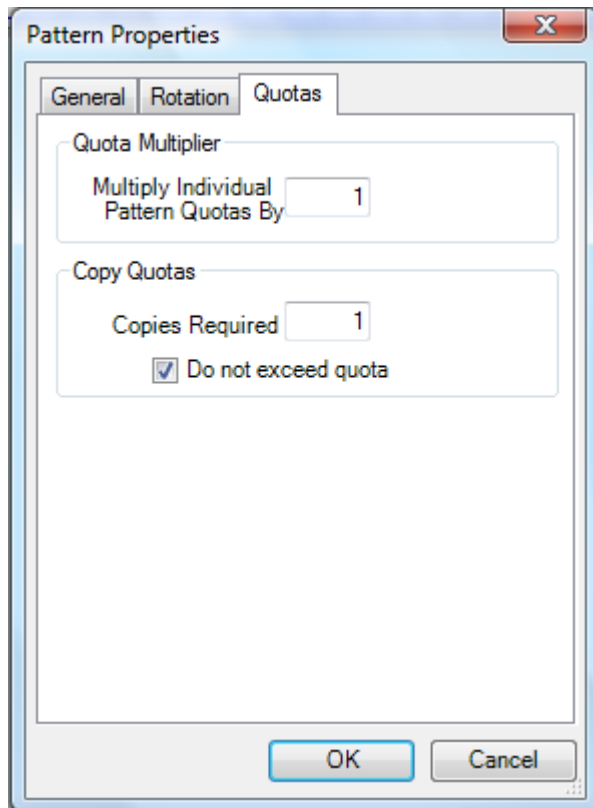


Send the nested patterns to the cutter.

## 3: Program Operation

### Pattern Preparation in PatternSmith:

#### Quotas



In PatternSmith, each pattern includes a quota and quota multiplier in its properties. The quota indicates the number of copies of a specific pattern that are needed to produce one product. For example, if the construction of a product requires two copies of a specific pattern, that pattern's quota would be set to two. If you want to produce four of that product, the quota multiplier would be set to four, allowing for eight copies of the pattern to be nested and cut. Set quota values in PatternSmith. If needed, values can be changed in HideShot. Select a pattern. From the Edit menu, click on Pattern Properties and then on the Quotas tab. Enter the Copies Required (quota) and the Quota Multiplier. Checking "Do not exceed quota" will prevent you from nesting more than your quota.

You can continue to nest copies of a pattern until you reach its quota. At that point, the pattern will fill with a color you have specified in PatternSmith (Pattern Properties > Fill Colors) and you won't be able to make any more copies.

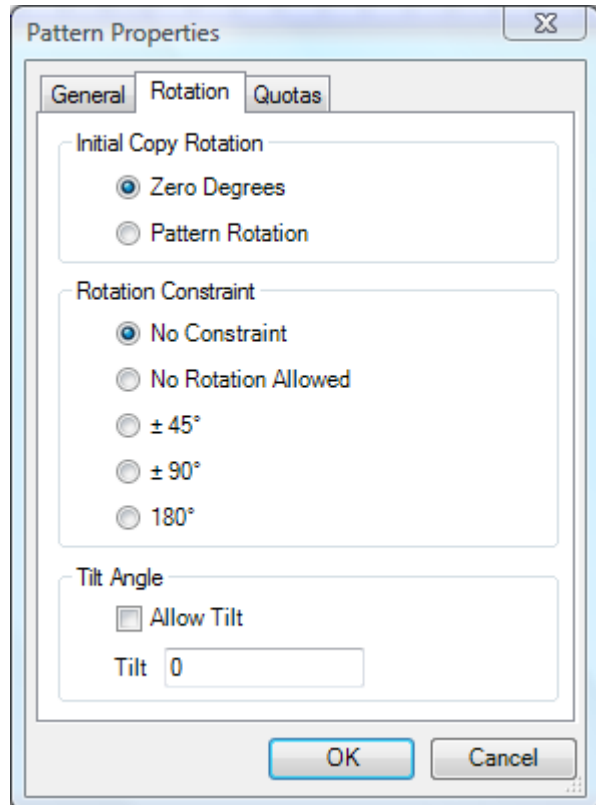
#### Resetting Quotas

After you have fulfilled the quotas of all of the patterns on a tab, you can either close that tab or reset the available quota back to the original quota from the menu. Click on Edit>Reset Quotas. If no patterns are currently selected, the reset command will apply to all the patterns on that tab. If any patterns are selected, only those patterns will have their quotas reset.

You can change any pattern's quota by editing its pattern properties (Edit>Properties).

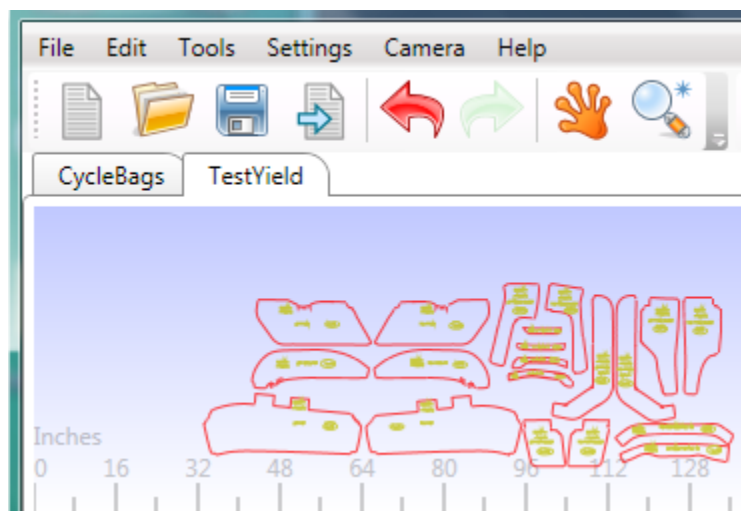
## Rotation Constraints

Each pattern's properties can also include rotation constraints. These are initially set when you save your patterns in PatternSmith. (See Chapter 4 of the PatternSmith manual.) They can be modified in the Pattern Properties dialog (Edit>Pattern Properties). Allowable angles are relative to zero degrees or to the hide's grain line. The grain line can be set in the Quality Zone Editor.



## Importing Projects from PatternSmith

### Pattern Tabs

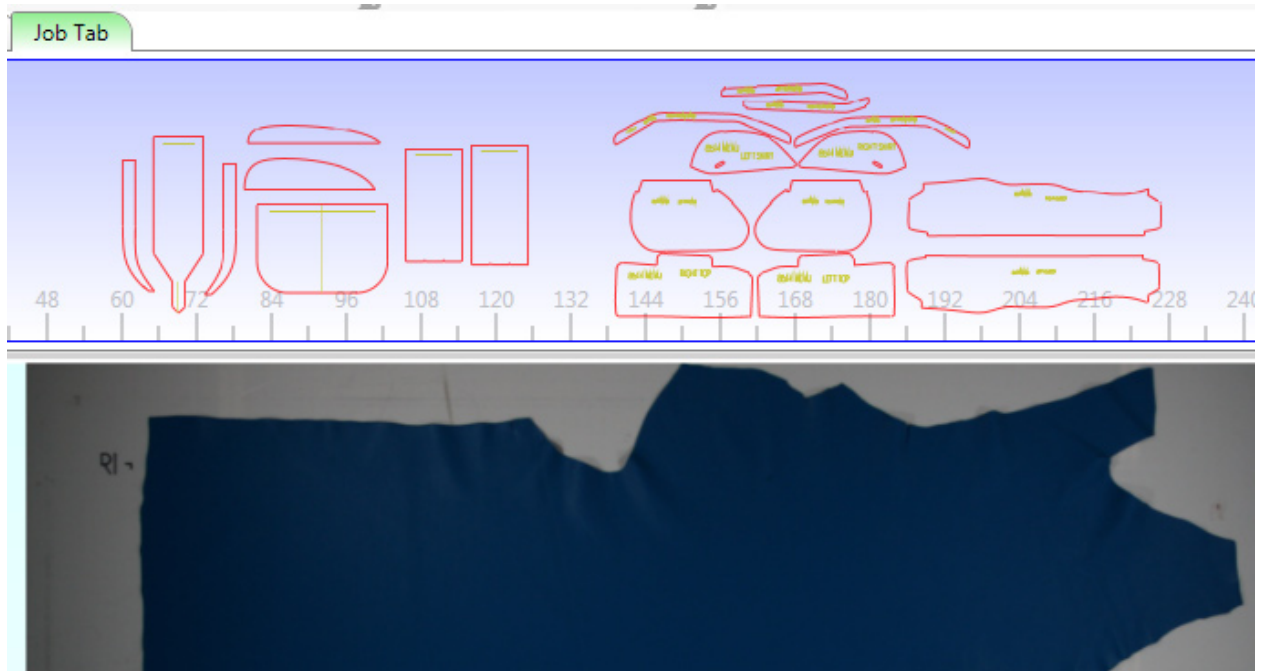


When you click the 'Open' tool button, you create a pattern tab to hold all of the patterns in the PatternSmith psxml file that you select. You can open multiple pattern tabs for convenience.



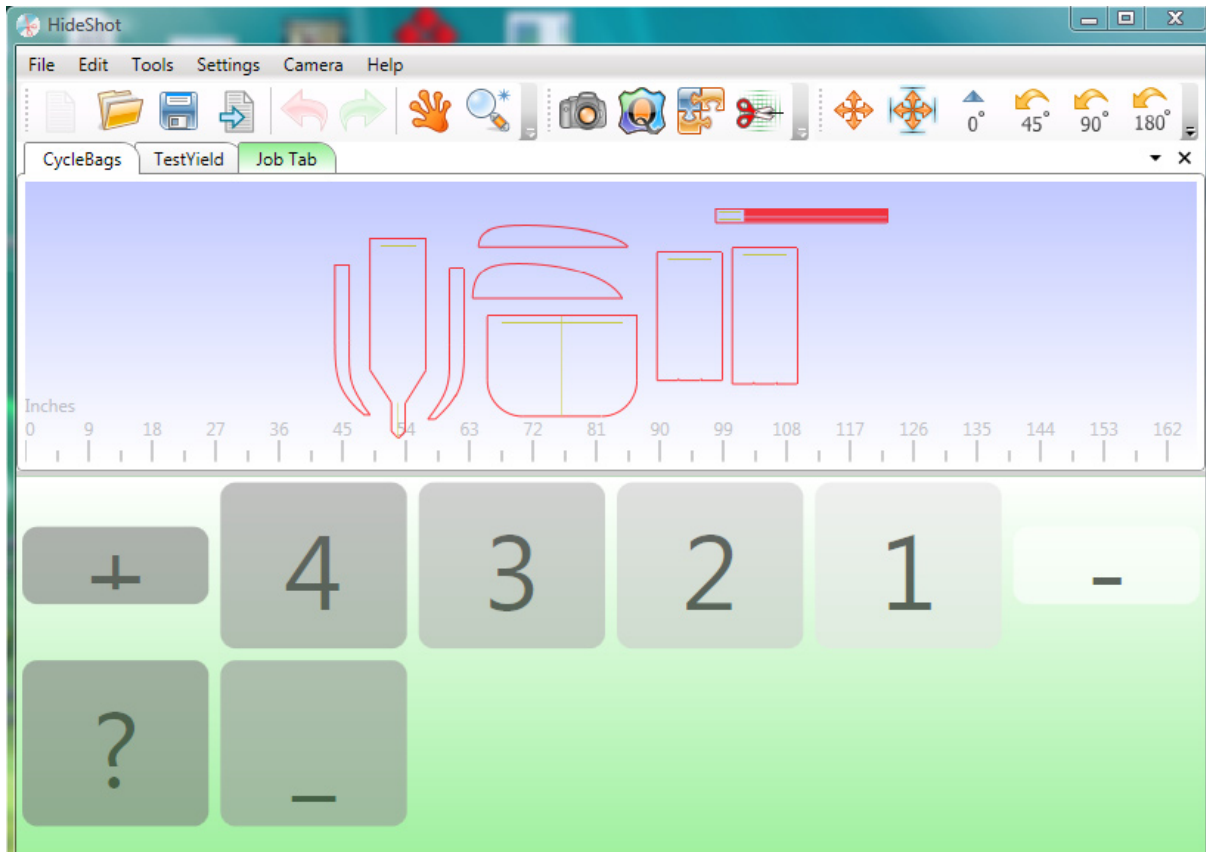
You can also add all of the patterns in any pxml file to an open tab by using the 'Import' button.

## Job Tab



When you click the 'New' tool button, you create a special pattern tab called the 'Job Tab'. This gives you a convenient way to pull patterns from a variety of open pattern tabs, and set their quota multipliers at the same time. If you have a Job Tab open, the hide area for all other pattern tabs will show drop targets. The number on the drop target is used to set the quota multiplier for the patterns you drag and drop there. After you drop any patterns on a drop target, you will find them on the Job Tab, with their newly assigned quota multiplier.





Job Tabs are intended to be temporary. When you have nested and cut all of the patterns you placed on the Job Tab, you are finished with it. Right click on the tab and then click 'Close'. Open a new Job Tab to start the process again.

## Capturing Hide Information

### Taking the Photograph and Finding the Edge

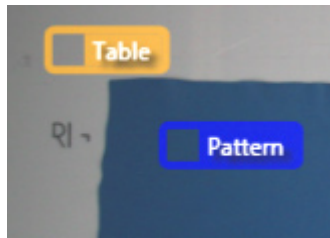


From the main window, click the 'Take Picture' tool button to take a photo of the hide. It will appear in the Edge Finder window.





First, use the 'Sample Colors' tool to tell the program the color of the hide and the background. Click and drag each sample box (table and pattern) to areas that allow you to collect an accurate sample of color. (If the colors are the same as the last hide, you can skip this step.)



Next, click the 'Find Edge' tool to let the program find the edge of the hide. Then click to the left of the hide to start the edge-finding process. If successful, you will see a red line around the hide perimeter. If the edge isn't correct, try different placement of the hide and table color-samplers and see if the perimeter improves.

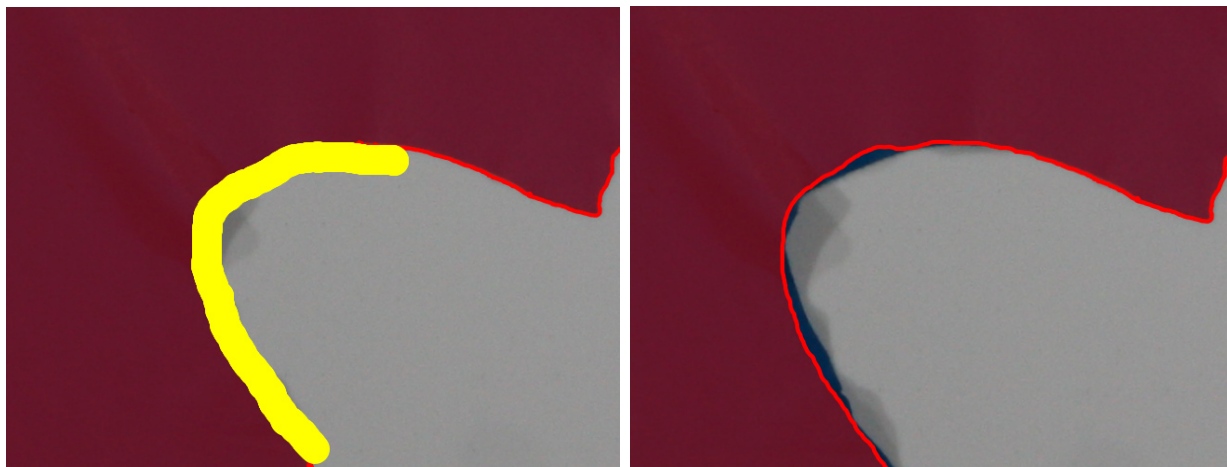


When you have a good perimeter, click the 'Apply' button to return the hide to the main window. If you choose not to accept this perimeter, click 'Cancel'.

## Edge Repair Tool

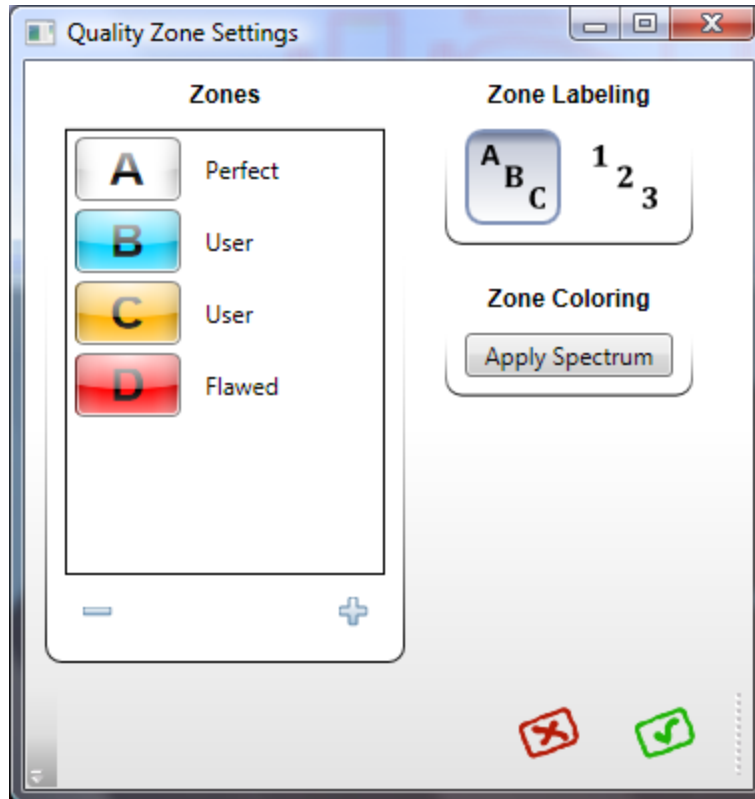


Sometimes lighting, contrast problems, or shadows will cause the hide perimeter to be inaccurate. Use the edge repair tool to correct the perimeter. This tool works like a paint tool. To add area to the hide, just hold the left mouse button as you paint the area. To subtract area, hold down the control key as you paint. Use the mouse wheel to zoom in or out on a section of the hide.



# Quality Zone Editor

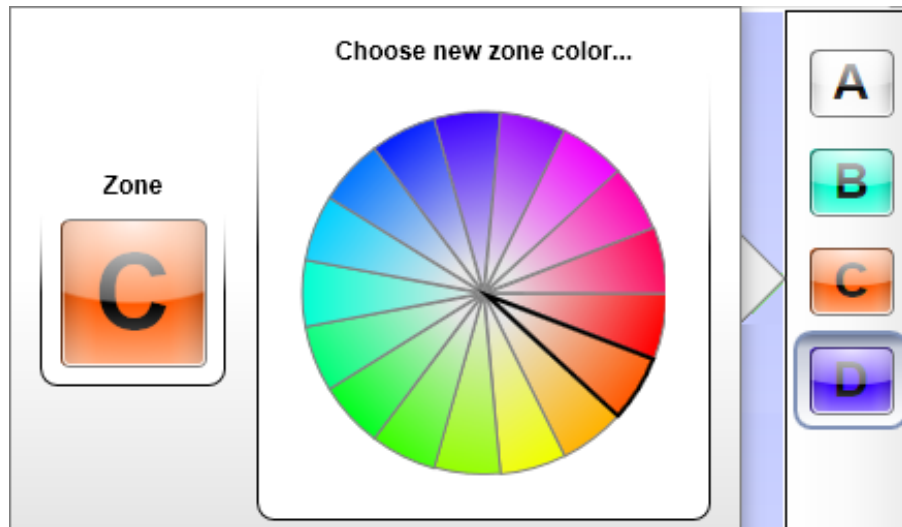
## Quality Zone Setup



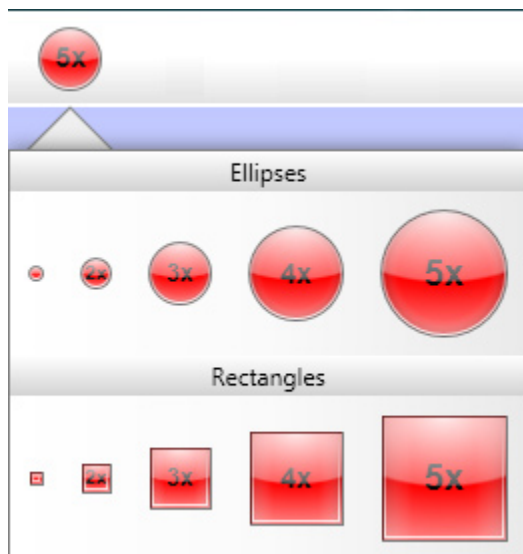
Set up the number of quality zones you will be using. For most companies, this is usually a constant number. From the 'Settings' menu, go to 'Quality Zones'. You can define up to 16 quality zone grade levels. One level must be for perfect areas (A or 1, clear color) and one for unusable flaws (highest number or letter). Use the plus and minus buttons to add or subtract grade levels. Click 'Apply Spectrum' to apply a pre-set spectrum of colors. Choose your own colors by right clicking on any identifier and selecting another color. Under 'Zone Labeling', select numbers or letters for zone identifiers.

## Specifying the Zone Colors

While you are using the Quality Zone Editor, you can easily change the colors you use for each zone by right clicking on the zone color button. Remember, however, that changing the total number of quality zone identifiers can only be done from the 'Settings' dialog.



## Painting the Zones



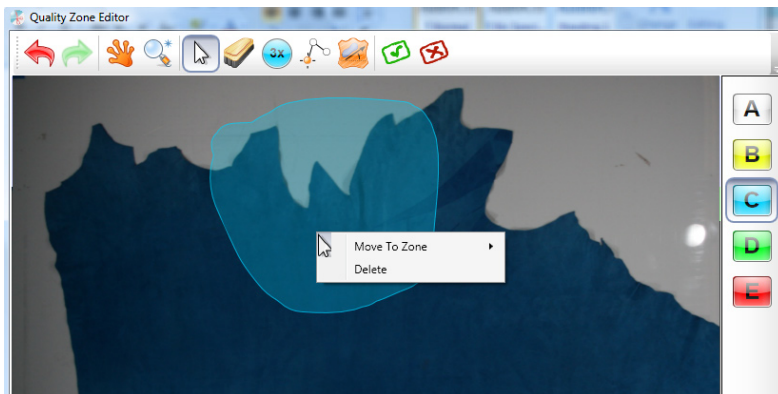
The tools for specifying zones work like a paint tool. Right click on the tool button to select the brush size and shape. Choose the zone grade level you want to use. Then click and hold the left mouse button to paint the zone area.

## Erasing a Zone



You can erase any portion of a zone by selecting the 'Eraser' tool, then painting over the zone. Click the 'Eraser' tool button again to de-select it. You can also switch to the eraser tool by holding down the Ctrl key while painting a zone.

## Changing a Grade Level



To change a zone to another grade level, right-click inside the zone and then choose a new grade level from the context menu.

## Grain Line

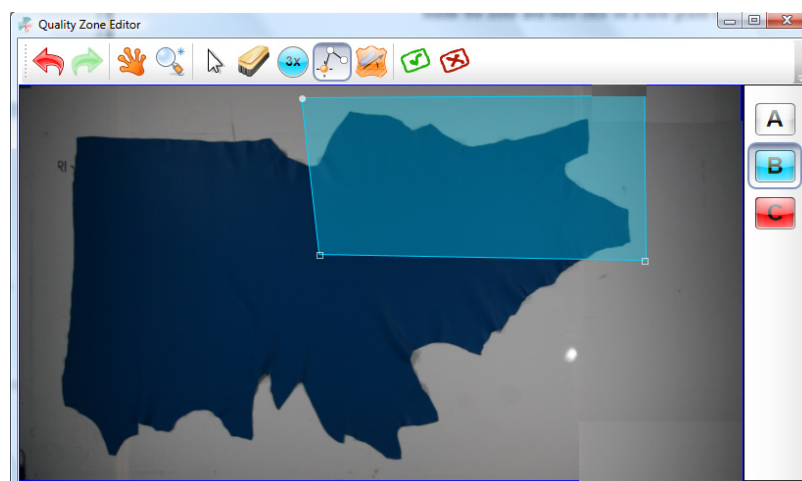


Use the Grain Line tool to draw a grain line for the hide. For nesting purposes, the grain line will be considered zero degrees. When you drop a pattern on the hide, it will start out aligned with the grain line. Use the various buttons on the tool bar to rotate a pattern a given number of degrees. Click 0° to return the pattern to the grain line again.

## Polygon Tool



After selecting the polygon tool, you can create any shape you desire by left clicking on vertex points. Double click on your last point to finalize the polygon. This tool lets you quickly assign large areas to a quality zone. For example, if you only want to nest on a portion of a hide, assign the rest of the hide as “flawed”.



## Apply



Click 'Apply' when you are satisfied with your zone assignments. This will return you to the Main Window.

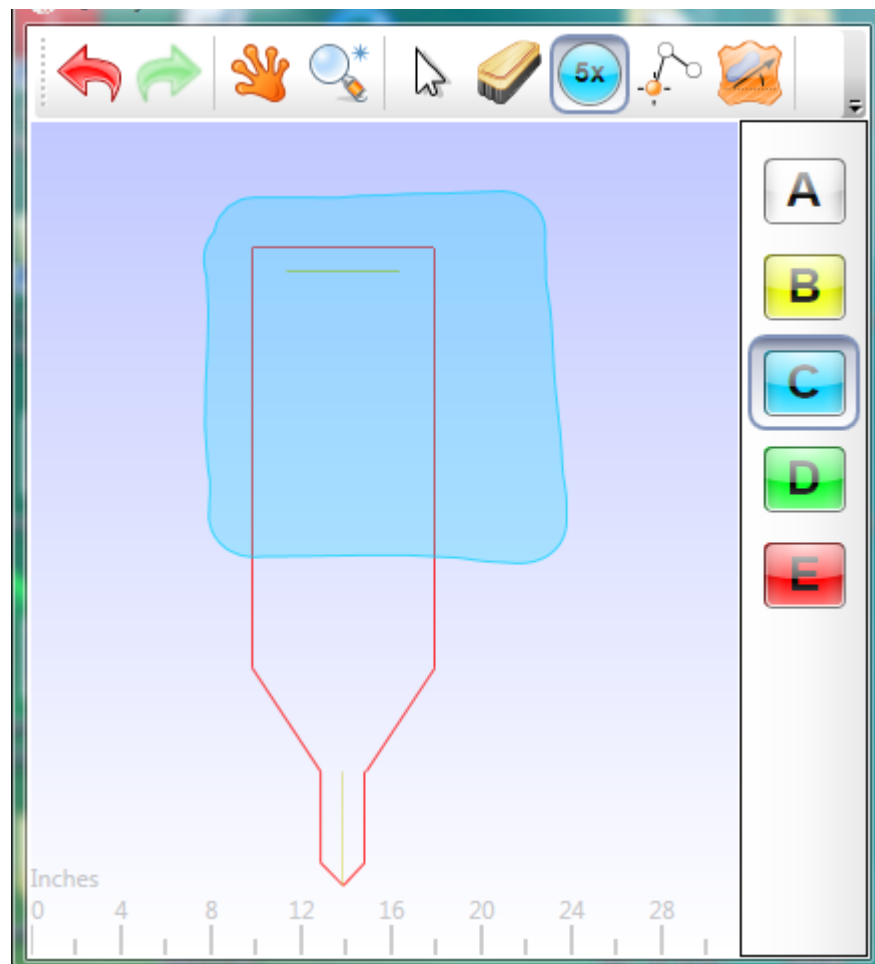


Click 'Cancel' to return to the Main Window without making zone assignments or changes.

## Pattern Quality Zones

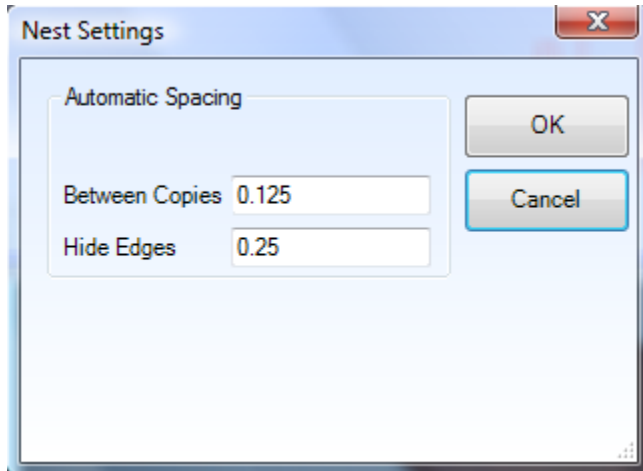


Select a pattern, then click the Quality Zone Editor icon on the toolbar. You can also click 'Quality Zone Editor' on the Tools menu. You will now be able to assign specific quality zones on that pattern. When you automatically nest that pattern, HideShot will only allow it to go into areas of the hide with the same quality zone or better. For example, a pattern section marked as Zone C could go into a section of the hide zoned C, B, or A. If you are nesting by hand, match the zone colors visually.



# Nesting

## Nest Settings



Set the minimum spacing between copies ('Inter-copy') and the distance from copies to the hide edge ('Container Edges'). These values are used for both manual nesting and automatic nesting.

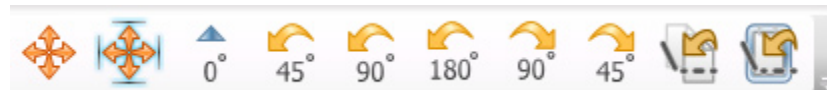
## Nesting by Hand

From any pattern tab, you can drag and drop a pattern onto the hide. Use the left mouse button to move the pattern. Click and hold the right button to rotate the pattern by moving the mouse side to side. To remove any pattern, click inside to select it, and then press the Delete key. The pattern will be returned to the Pattern View.



There are two nesting modes: 'move freely' and 'nestle'. In nestle mode, you can nest a pattern next to another pattern or next to the hide edge, to the minimum spacing you've established. You cannot overlap another pattern or the hide edge. You must drop a pattern by releasing the mouse button before you can enter nestle mode.

In move freely mode, you can move a pattern to any location - even off the hide. Switch between modes using the space bar or the toolbar buttons.



You have shortcut buttons on the toolbar for rotating 45, 90, and 180°. Remove rotation with the 'Rotate Zero' button.



You can also copy the rotation angle of any pattern, and then duplicate that angle on any other patterns. (Shortcut key: Ctrl-M)



Use the mouse wheel to zoom in or out on the hide or on a pattern. Use the Zoom Full Screen tool button to return to the full view. (This works in any HideShot window.)



Pan by pressing the mouse wheel as you move the mouse. (This works in any HideShot window.)

## Auto-Nesting



Nesting automatically is as simple as selecting all of the patterns you want to nest, then click the Auto-Nest tool button. The auto-nesting function will comply with your quota and rotation constraints, as well as any quality zone information you have entered. You can also place selected patterns by hand and then let the Auto-Nester take over and nest remaining patterns.

## Nesting Across Multiple Hides

When you fill a hide with patterns, but still have more to nest, send the nested hide to the cutter. Prepare your next hide and continue the process. HideShot remembers which patterns you have already nested on all previous hides, and will let you continue nesting until you have fulfilled the quotas for all the patterns on any tab. When all quotas have been fulfilled, you can either close the tab, or reset the quotas to their original value. (Edit > Reset Pattern Quotas)

## Cutting



When you are ready to cut the patterns, click the 'Plot and Cut' tool. Control will be transferred to PatternSmith, along with all pattern and hide information. Part of the calibration process links the coordinates returned by the vision system to the actual table coordinates. For that reason, you must always be positioned at global home (0,0) before you start cutting a hide. Otherwise, cut as you normally would.



