Vision Pro

Quick Start

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Once you have evaluated Vision Pro and determined the features and support that are of value to your shop, contact us for further information about features that pertain to your shop configuration. Our representatives will be able to provide advice about available packages based on your shop requirements.

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CHECKLIST – VISION PRO SETUP

Use the following as a quick checklist when setting up Vision Pro. These steps are elaborated upon in the following pages of this guide.

1. Install Vision Pro from the CD

2. During installation, indicate the driver that is required for each machine

3. After installation, connect the Vision Pro security dongle

4. If not already done, then connect the machine that will be receiving the cutting data. For proper installation of cutting knives, drill bits and loaded material, please consult the Operator Manual for the machine. When using the machine for the first time, it is recommended that a sample piece of material be loaded.

5. Launch Vision Pro

FOR ROTARY ENGRAVERS

Rotary engravers use the Engrave menu commands for setup and output.

1. Within Vision Pro, configure the driver settings for the machine (**Output** dialog and **Engraving Defaults** dialog). In particular, indicate the output port to which the machine is connected, and confirm that the **Machine Limits** are correct.

2. Create shapes on workspace and apply tool paths to these shapes. To minimize wasted material when using the machine

for the first time, it is recommended that small shapes be used.

3. Enter the <u>Engrave Preview</u> state. This is done by choosing the Output command under the Engrave menu.

4. In the Engrave Preview state, confirm that the shapes are placed correctly.

5. At the far-right of the **Output Manager** toolbar, click the **Engrave** button. Vision Pro will now send the cutting data, and the machine should now be receiving the data.

FOR LASER ENGRAVERS

Laser engravers use a printer driver that was included from the manufacturer. Please install the printer driver before continuing.

1. Within Vision Pro, load engraving colors into Shop Palette.

2. Create shapes on workspace and apply fill and stroke colors. Fill colors represent engrave fills, and stroke colors represent cut lines.

3. From the **Print** dialog, configure your printer by clicking **Setup** on the **Printer** tab.

4. On the **Print** dialog, click **OK** to send the job to the laser engraver.

GETTING STARTED WITH INSTALLING VISION PRO

> **Note:** Before installing, please verify that you have administrative permissions. Otherwise, Windows will prevent the installation of the dongle support software.

POLICY ON LOST OR STOLEN SECURITY DEVICES

☐ The USB security device provided with Vision Pro is your proof of purchase. If the dongle is lost or stolen, then that is equivalent to losing the entire software package, and a new package of Vision Pro must be purchased.

☐ In the event of a damaged security device that must be replaced, there is a nominal fee for EXCHANGING a new device for the older device, where the older device must be reclaimed by CADlink.
This fee is waived where product is still under warranty.

☐ Regardless, it is recommended that you ensure that your security device is covered under your business insurance policy.

STEP 1 – PROGRAM INSTALLATION

1. Connect the USB security device **NOW**.

2. Insert the Vision Pro install CD into your CD-ROM drive. The install wizard should "auto start".

   If the install wizard fails to auto start, then you will need to start the installation process manually:

   ☐ From the **Start** menu, choose **Run** to open the **Run** dialog.

□ Click **Browse** and locate the setup.exe file that is on the CD in the CD-ROM drive.

□ Click **Open** to choose the setup.exe file, and click **OK** to close the **Run** dialog.

3. During the installation, you will be asked to install various components:

□ If you are asked to insert a license disk or CD, then insert the license disk or CD that was provided with your Vision Pro package. Verify that the drive path is correct, and click **OK** to continue.

□ When asked to install cutter drivers, it is recommended that you install drivers for your cutters at this time. You will be provided with a list of manufacturers and cutters to choose from.

□ When asked to install fonts, it is recommended that you install fonts at this time. The installer will locate any TrueType fonts that are already installed and make them available for use in Vision Pro.

4. After the installation is complete, restart Windows.

5. If you were asked to insert a license disk or CD during the install, then eject the disk and store it in your Vision Pro package.

6. Launch Vision Pro from the **Start** menu >> **All Programs** >> **Vision Pro** group.

7. Proceed to the *Customizing the Vision Pro Workspace* chapter.

CUSTOMIZING THE VISION PRO WORKSPACE

The following are common elements of the Vision Pro workspace that you may wish to customize.

Once the workspace is ready, proceed to either 1) the *Preparing a Rotary Engraving Job* chapter, or 2) the *Preparing a Laser Engraving Job* chapter.

COMMON VIEW MENU CONTROLS

Note the following **View** menu controls that toggle elements of the Vision Pro workspace:

- □ **Show Plate** – Toggle the plate size, which is used to preview the cuttable area of the loaded media.

- □ **Show Fill** – Toggle the object fill colors.

- □ **Show Bitmap Outlines** – Toggle the display of imported or linked images.

- □ **Show Tool Diameter** – Show the thickness of the tools being used for cutting tool paths.

- □ **Show Tool Paths** – Toggle the display of tool paths.

INSTANTREPLAY

Under the **Options** menu, confirm that the **Use InstantReplay** item is checked (**ON**).

InstantReplay tracks the history of operations and special effects that have been applied to objects. When InstantReplay is ON, changes to an object will automatically update any operations or special effects that have been applied to that object.

When creating badges that have variable text, InstantReplay will re-apply operations and special effects for the text of each badge.

MULTIPLE INSTANCE

To have more than one Vision Pro window open at the same time, enable the **Multiple Instance** option under the **Options** menu. To help manage these windows, there will be two additional commands under the **File** menu: **Close** and **Close All**.

- ☐ **Close** – Close the current Vision Pro window (prompt to save)

- ☐ **Close All** – Close all of the Vision Pro windows

Having extra Vision Pro windows allows components of the design to be edited separately and then combined. To move a selected object between Vision Pro windows, use the **Copy** and **Paste** commands. In addition, objects can be drag-and-dropped between Vision Pro windows.

WORKSPACE RULERS

The workspace rulers can be set for either millimeters or inches. The units of measurement can be changed using either of the following:

- ☐ Left-click the ruler and choose either **Inches** or **Millimeters** from the context menu. (Fig. 1)

- ☐ From the **Options** menu, choose **Vision Pro Setup >> General Preferences**, and then specify the **Units**.
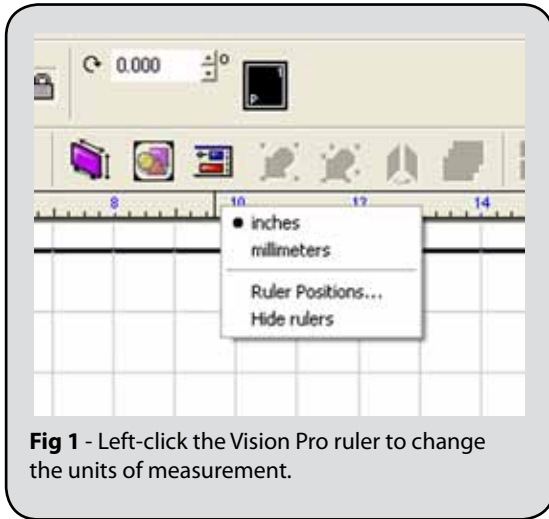
Fig 1 - Left-click the Vision Pro ruler to change the units of measurement.

PLATE SIZE

The plate size is used as a guide to indicate the available cutting space for your design. You will need to set the plate size according to the media that is loaded in the machine. Note that the plate size is used for the placement of badges (see either the *Preparing a Series of Single Plate Badges*, or *Creating Multiple Badges per Plate* chapters).

☐ The visibility of the plate size is toggled via **View** menu >> **Show Plate**.

☐ Change the plate size via **Layout** menu >> **Plate Size**. (Fig. 2)

On the **Plate Size** dialog, set the following:

- □ Set **Current Selection** to Custom.

- □ Set **Orientation** to either Portrait or Landscape.

- □ Set **Origin Selection** according to where the grid origin should be positioned.

- □ Set the **Width** and **Height** (the units here will correspond to the ruler settings).
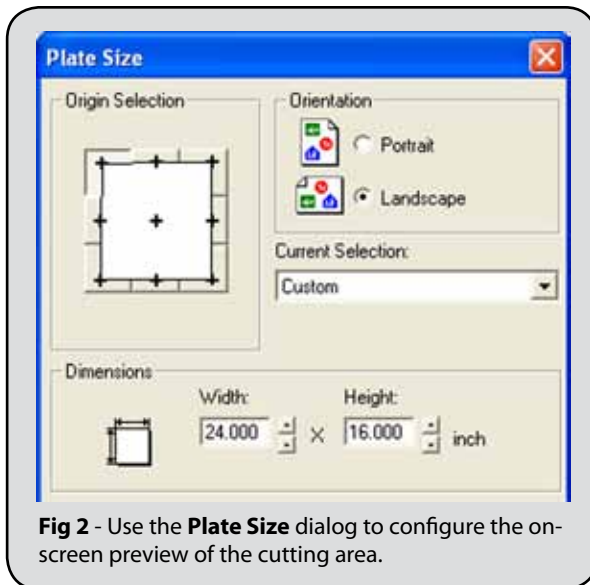
Fig 2 - Use the **Plate Size** dialog to configure the on-screen preview of the cutting area.

IMPORTING FROM CORELDRAW OR ADOBE ILLUSTRATOR

Vision Pro supports a wide range of commonly used file formats, such that you can work in the design environment that is most comfortable for you. The resulting design can then be brought into Vision Pro for further output preparation. The following sections provide advice about how to use some of the more common file formats. Though CorelDraw and Adobe Illustrator are mentioned, the advice is typical of how to use these file formats with other design applications.

CREATE A DESIGN IN VISION PRO

If you do not already have a design for importing, the design can be created in Vision Pro.

For designs that will be used to create multiple badges, creating a plate design within Vision Pro provides greater control for customizing the text frame properties to automatically adjust text size and kerning for each badge. This is described in the *Create a Plate Design in Vision Pro* chapter.

IMPORT A DESIGN FROM CORELDRAW

Choose from the following methods to bring a design from CorelDraw to Vision Pro. To preserve font information, avoid converting text to graphics when importing or exporting.

- ☐ From the CorelDraw **Standard** menu, select **Application Launcher** >> **CorelDraw to Vision Pro**. The view will switch to Vision Pro, and you can then click on the Vision Pro workspace to place the design.

- ☐ From the CorelDraw **File** menu, choose **Save As** and save

the design as an AI file. When saving, do not use a file compatibility greater than Adobe Illustrator 8.0 .

☐ From the CorelDraw **File** menu, choose **Export** and save the design as an EPS file. Check that text is being exported as text.

☐ From the CorelDraw **File** menu, choose **Publish to PDF**. Note that the PDF publish settings can be used to embed font information within the PDF file.

IMPORT A DESIGN FROM ADOBE ILLUSTRATOR

Use the following method to bring a design from Illustrator to Vision Pro. To preserve font information, avoid converting text to graphics when importing or exporting.

☐ From the Adobe Illustrator **File** menu, choose **Save As**.

☐ When saving an AI or PDF file, set the subset fonts at 1% to embed font information within the file.

Preparing a Rotary Engraving Job

The following procedure describes how to configure Vision Pro for a rotary engraving job. We will begin by adjusting the machine settings within Vision Pro, creating a design that has a tool path for engraving, previewing how that design will appear before output, and then sending the job to be cut.

> **Note:** For laser engravers, please refer to the subsequent procedure, *Preparing a Laser Engraving Job.*

Machine Setup

When Vision Pro is installed for the first time, or when drivers for a new machine have been installed, the Output dialog should be used to configure Vision Pro for output to the machine.

1. From the Windows **Start** menu, launch **Vision Pro**.

2. The **Plate Size** dialog will query for the size of your engraving bed. Typically, the **Width** and **Height** are set according to the cutting area of your machine.

   These settings can be modified later using **Layout** menu >> **Plate Size**.

3. From the **Engrave** menu, choose **Engraving Defaults**. The **Output** dialog will open. (Fig. 3)
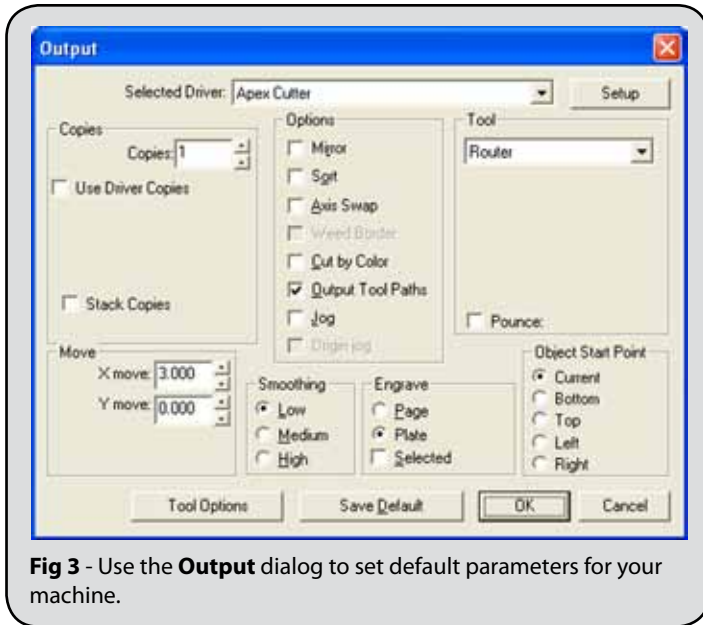
Fig 3 - Use the **Output** dialog to set default parameters for your machine.

4. Verify that the **Selected Driver** and **Tool** settings are correct.

Where shapes will be cut with more than one pass (i.e. cutting to progressive depths), the **Tool** setting should be "**Multiple Pass**" or "**Router**" (depending on the machine model). Make sure **Plate** is selected.

5. The **Output Tool Paths** checkbox will probably be enabled by default. If so, then clear the checkbox. If this checkbox is already cleared, then proceed to the next step.

6. With the **Output Tool Paths** checkbox clear, click the option to tick it. The **Tool Path Options** dialog will open. (Fig. 4)

Fig 4 - The **Tool Path Options** dialog is used to enable the creation of tool paths, or to automatically apply a default tool path to objects.

7. Click the **Output Tool Paths** option. Enabling this option indicates that the tool paths will be previewed in the **Engrave Preview** state.

8. Clear the "**Also Cut Contour Paths**" option. If this option were checked, then all objects (aside from tool paths) will be viewed as contour cutting paths in the Engrave Preview state. By disabling this option, only tool paths will be previewed in the **Engrave Preview** state.

Fig 5 - From the **Output** dialog, click **Setup** to open the **Engraver Setup** dialog.
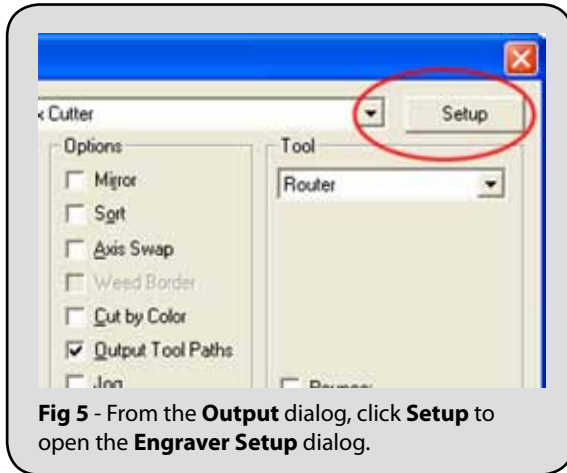
9. Click **OK** to close the **Tool Path Options** dialog. The view will return to the **Output** dialog.

10. Click **Save Default** to confirm your changes.

11. Click the **Setup** button. (Fig. 5)

12. The **Engraver Setup** dialog will open.

13. On the **Engraver** tab, confirm that the **Machine Limits** have not been exceeded. (Fig. 6)
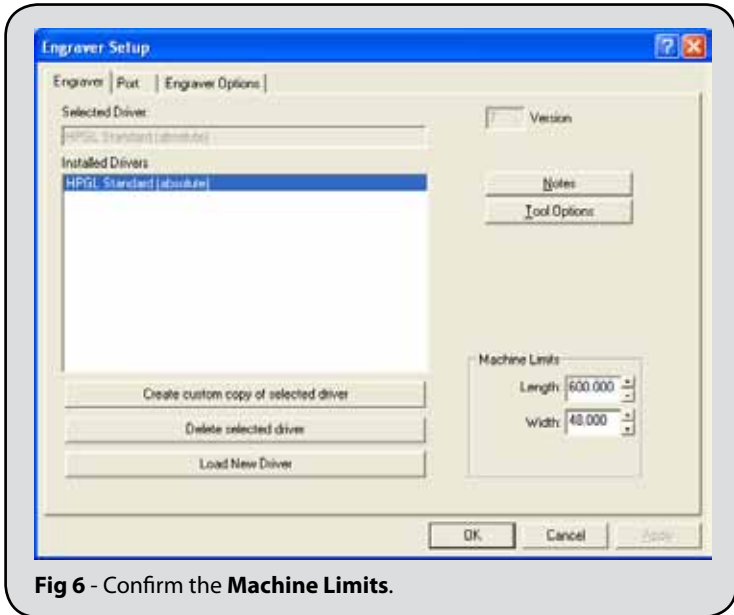
Fig 6 - Confirm the **Machine Limits**.

14. Click the **Port** tab. (Fig. 7)

15. Set the **Method** = Direct to port.
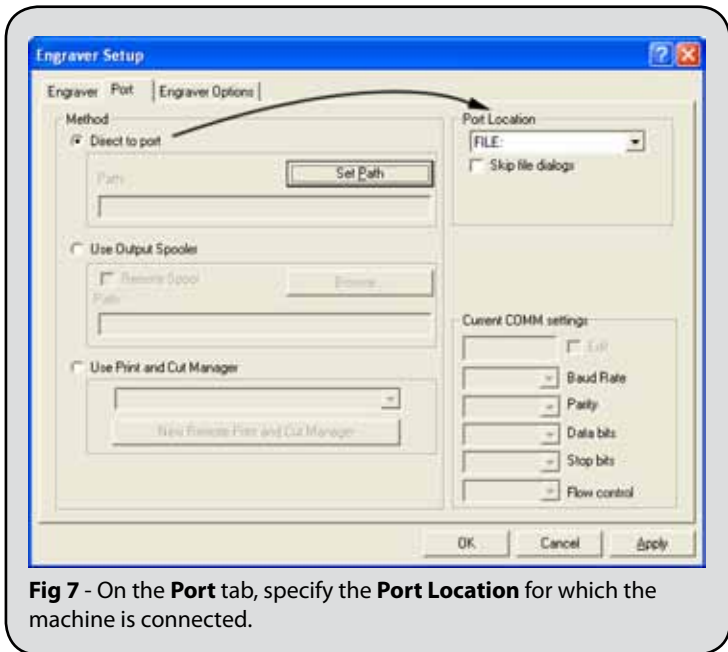
Fig 7 - On the **Port** tab, specify the **Port Location** for which the machine is connected.

16. Set the **Port Location** for the machine.

    In the vast majority of cases with CNC routers, the port will be "FILE:", and the router will have a system for downloading the output file that is generated by Vision Pro. For more information, please refer to the Operator Manual that was provided with the router.

17. Click the **Engraver Options** tab. (Fig. 8)

18. Set the **Origin** and **End Point** according to where you want the machine to start and finish each job.
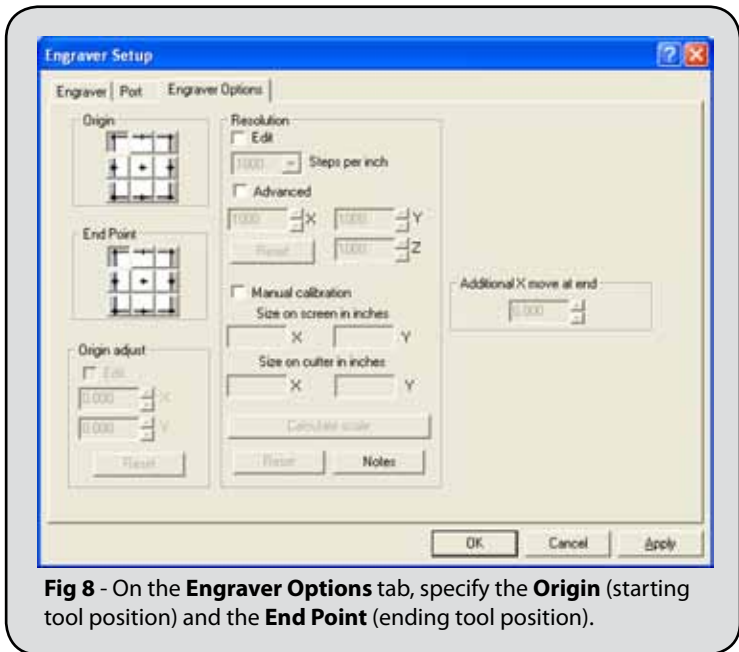
Fig 8 - On the **Engraver Options** tab, specify the **Origin** (starting tool position) and the **End Point** (ending tool position).

19. Click **OK** to close the **Plotter Setup** dialog.

20. Click **OK** to close the **Output** dialog.

CREATING A TOOL PATH

At this point, Vision Pro has been configured to send output to your machine. Now we want to create a design and assign a tool path that can be output for cutting.

1. On the Vision Pro workspace, create a rectangle shape.

2. With the rectangle shape selected, left-click the **Online** button from the **Tool Path Tools** flyout. (Fig. 9)

Fig 9 - Select the shape and choose **Online** from the **Tool Path Tools** flyout.
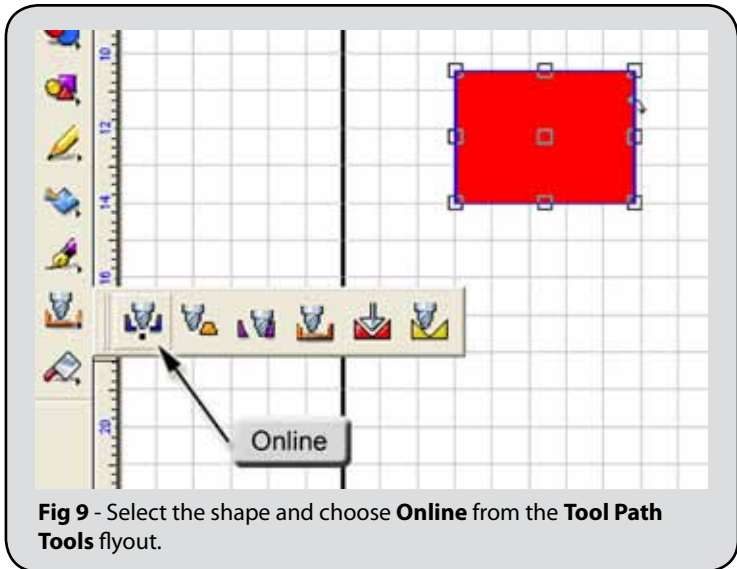
3. The **Online** dialog will open. (Fig. 10)

4. Some of the key information of a cut template is the **Tool** being used and the **Depth** being cut. The color will be used for displaying the tool path on the workspace.

5. Click **OK** to apply the tool path and close the **Online** dialog.

Fig 10 - Set the tool and cutting depth.
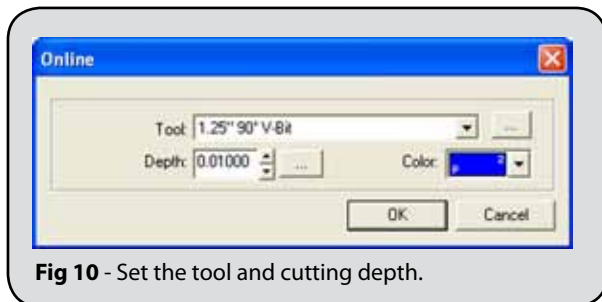
6. The resulting tool path will appear like a stroke on the rectangle. If the tool path is not visible, then confirm that the **Show Tool Paths** option is enabled (**View** menu).

Note: In step (2), left-clicking the **Online** button forced the **Online** dialog to open, whereas right-clicking would have applied the most recently used **Online** tool path (if any).

PREVIEWING AND CUTTING THE TOOL PATH

1. Now that the tool path has been created, choose **Output** from the **Engrave** menu to activate the **Engrave Preview** mode. The tool path will be positioned as it would be cut upon the material. (Fig. 11)
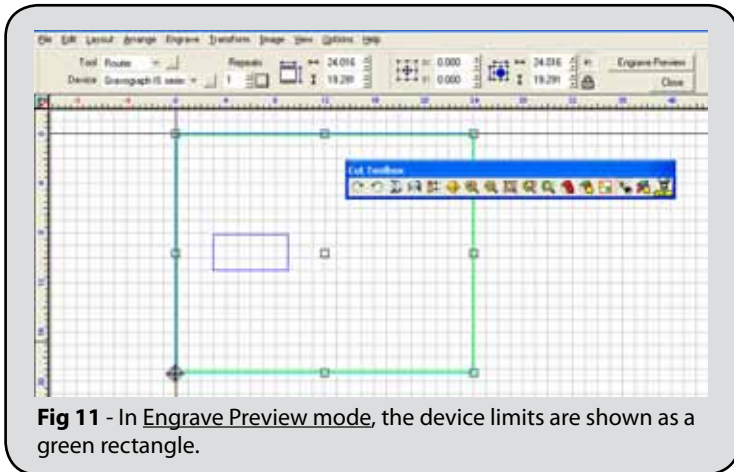
Fig 11 - In Engrave Preview mode, the device limits are shown as a green rectangle.

2. Within the <u>Engrave Preview mode</u>, the device limits are shown as a green rectangle, so that the placement of the tool path can be confirmed. In the SmartBar, verify that both the **Device** and **Tool** are the same as were selected previously within the **Output** dialog.

3. At this point, the cut data is ready to be sent from Vision Pro. Please confirm that the machine is online and loaded with the appropriate material.

4. On the **Cut Manager** toolbar, clicking the **Engrave** button will begin the sending of cut data.

Note: If the **Port Location** of the **Plotter Setup** dialog had been set to "FILE:", then Vision Pro will prompt for a filename and file location before saving the cut data.

Preparing a Laser Engraving Job

Whereas cutting to a rotary engraver uses the **Engrave** menu >> **Output** command for sending a job, laser engravers use the **File** menu >> **Print** command because the printer driver is used to interpret the image data for laser engraving. In this manner, laser engravers can interpret object fills and strokes as cut data.

1. From the Windows **Start** menu, launch **Vision Pro**.

2. The **Plate Size** dialog will query for the size of your engraving bed. Typically, the **Width** and **Height** should be set according to the cutting area of your machine.

3. These settings can be modified later using **Layout** menu >> **Plate** Size.

Set a Default Color Palette

1. From the **Options** menu, choose **Palette** >> **Load** >> **Set Default**.

   This command is also available through the Shop Palette context menu.

2. The **Default Palette** browse dialog will open.

3. From the Vision Pro install directory, browse to the **Palettes** >> **Engrave directory**.

4. In the Engrave directory are an assortment of color palettes per different manufacture of laser engraver. Each palette contains colors used by the given manufacturer to indicate speed and power.

5. Choose the color palette that corresponds to your laser engraver, and then click the **Save** button.

6. From the **File** menu, start a new workspace by choosing **New**.

7. Along the bottom of the workspace, note that the Shop Palette has loaded the manufacturer palette that you had previously set as the default.

SETTING FILL AND STROKE COLORS

With laser engravers, object fill colors produce an engrave fill, and hairline colors produce a cutting line.

1. Under the **View** menu, confirm that there is a checkmark beside the **Show Fill** option.

2. Under the **View** menu, confirm that there is a checkmark beside the **Show Tool Paths** option.

3. Create a circle shape and assign a black fill.

   (i.e., select the circle and left-click black in the Shop Palette)

4. Draw a square shape around the circle and assign an **Invisible** fill to the square. (Fig. 12)

   (i.e., select the square and left-click **Invisible** in the Shop Palette)
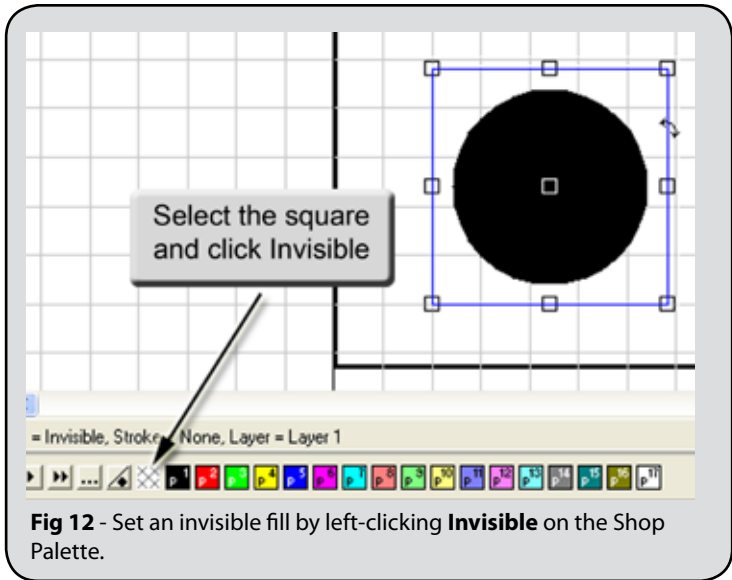
Fig 12 - Set an invisible fill by left-clicking **Invisible** on the Shop Palette.

5. Select the square shape.

6. From the **Stroke and Fill Tools** flyout, choose **Tool Diameter**.

7. In the SmartBar, choose a **Hairline** style, and set a red stroke color.

PRINTING TO THE LASER ENGRAVER

As mentioned previously, laser engraving output is driven through a printer driver, so output from Vision Pro in done using the **File** menu >> **Print** command.

1. From the **File** menu, choose **Print**. The **Print** dialog will open.

2. On the **Printer** tab, select your laser engraver.

Note: If your laser engraver is not listed, then refer to the installation instructions provided with your laser engraver.

3. Tick the **Preview** checkbox. (Fig. 13)
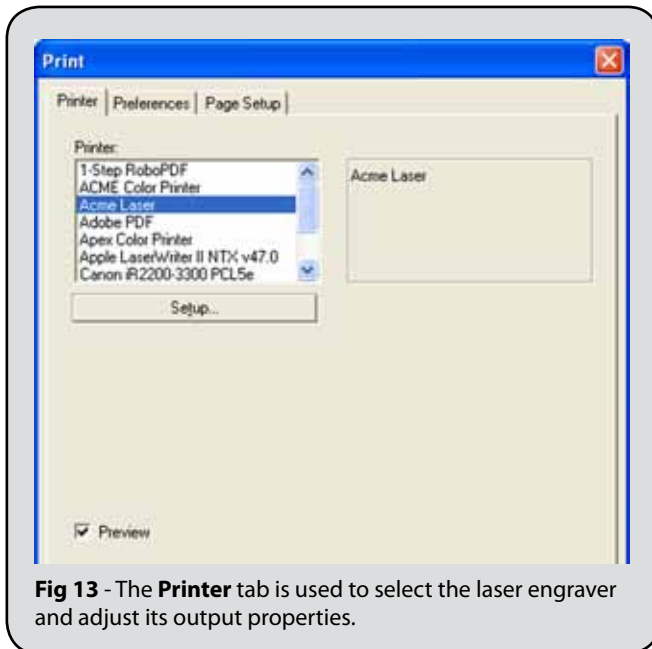
Fig 13 - The **Printer** tab is used to select the laser engraver and adjust its output properties.

4. Click the **Preferences** tab. (Fig. 14)

5. Tick the **Print As Shown On Screen** checkbox.

6. Click the **Plate Area** option.

7. If required, tick the **Print by Colors** option.

8. The **Print by Colors** option is used to maintain a particular sequence in which the objects are cut.
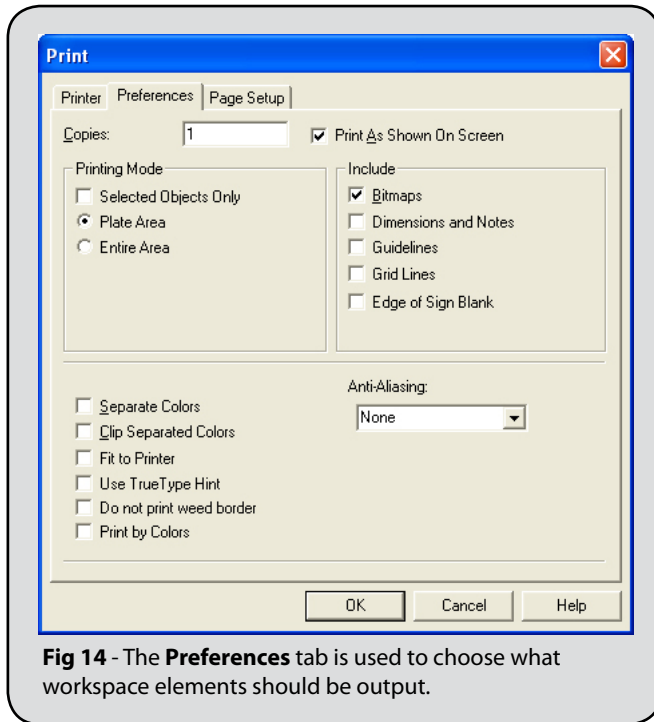
Fig 14 - The **Preferences** tab is used to choose what workspace elements should be output.

9. On the **Printer** tab, click the **Setup** button.

10. The **Properties** dialog for your laser engraver will open.

11. The controls on the **Properties** dialog will vary according to your model of laser engraver. For specific instructions concerning these controls, please refer to the documentation provided with your laser engraver.

12. The following aspects of the **Properties** dialog (e.g., Fig. 15) should be confirmed:

   □ For the colors defined within the driver, adjust the power and speed settings as required.

   □ For each color, set the pen mode to output both raster and vector data.

   □ Confirm that the engraving area is correct.

   □ Set the cutting mode to **Black and White**.

13. Click **OK** to accept the **Print** dialog settings and enter the **Print Preview** page.

SENDING THE LASER ENGRAVING JOB

1. The file is ready to be sent from Vision Pro.

2. Confirm that the machine is online and loaded with the appropriate material.

3. In **Print Preview**, click **Print** to begin engraving. (Fig. 16)
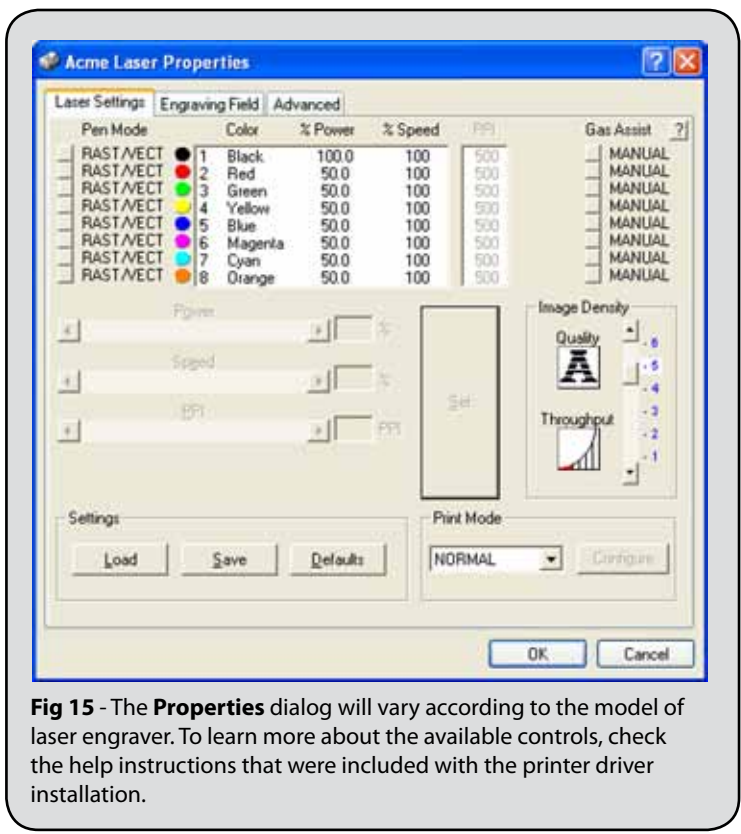
Fig 15 - The **Properties** dialog will vary according to the model of laser engraver. To learn more about the available controls, check the help instructions that were included with the printer driver installation.
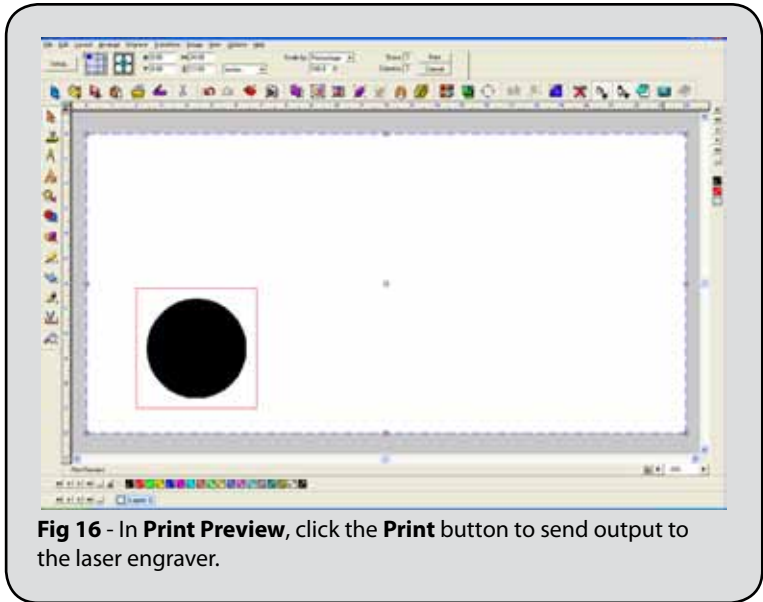
Fig 16 - In **Print Preview**, click the **Print** button to send output to the laser engraver.

Tracing Artwork into Cut Paths

Often a customer will provide sample artwork or business cards that are of relatively poor quality for engraving. In such a case, use the AccuScan image editing features to clean up and trace the artwork into vector paths that can be cut.

Importing a Bitmap Image

Your Vision Pro installation directory contains a Tutorial sub-directory. Within the Tutorial directory are sample files that can be used with the following procedure.

1. From the **File** menu, choose the **Import** item. The **Import** File dialog will open.

2. Browse to the **Tutorial** directory and choose the cortech.tif file.

3. Click **Import** to proceed.

4. Click on the workspace to place the imported file. (Fig. 17)
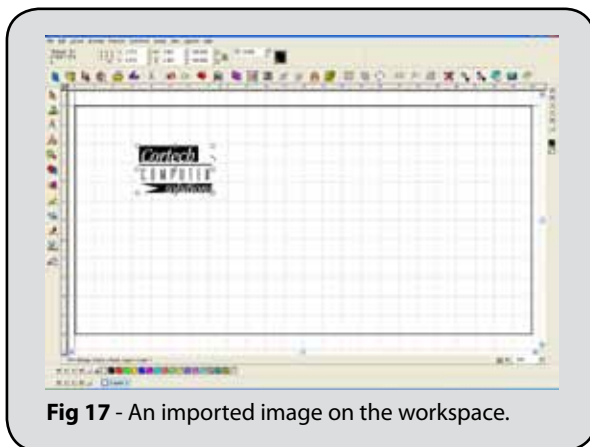
Fig 17 - An imported image on the workspace.

CONVERT THE IMAGE TO MONOCHROME

In order to obtain the best tracing results, convert the image to monochrome.

    1. Select the image.

    2. Choose **Image** menu >> **Mode** >> **Monochrome**. (Fig. 18)

    3. The image will now be in monochrome format.
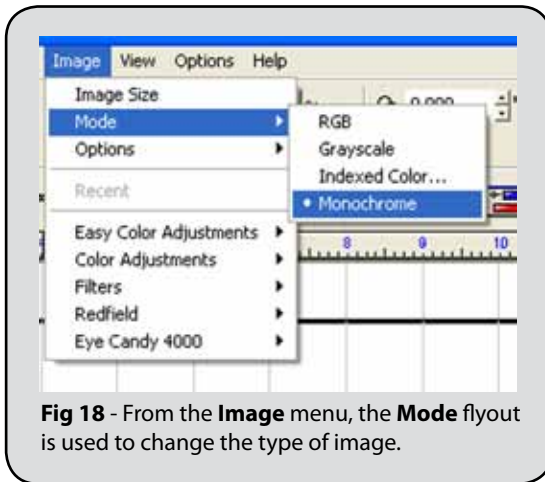
Fig 18 - From the **Image** menu, the **Mode** flyout is used to change the type of image.

Tracing the Image with AccuScan

The monochrome image is now ready to be traced by AccuScan.

1. With the image selected, choose **AccuScan** from the **Scan Tools** flyout. (Fig. 19)
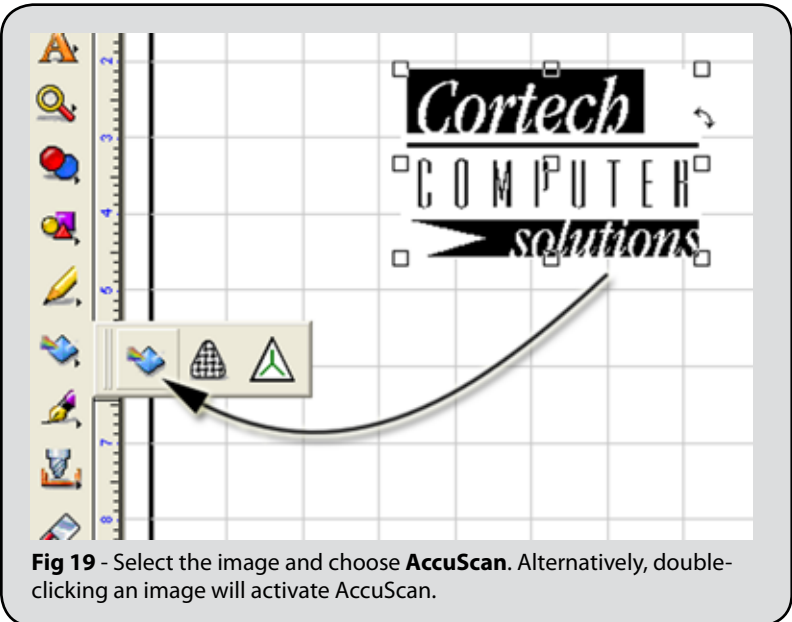
Fig 19 - Select the image and choose **AccuScan**. Alternatively, double-clicking an image will activate AccuScan.

2. The AccuScan controls will become available within the SmartBar.

3. At the far-right of the SmartBar, the controls for **Vectorization**, **Trace Setup**, and **Saved Settings** are available. (Fig. 20)

Fig 20 - In AccuScan mode, the tracing tools will become available in the SmartBar.
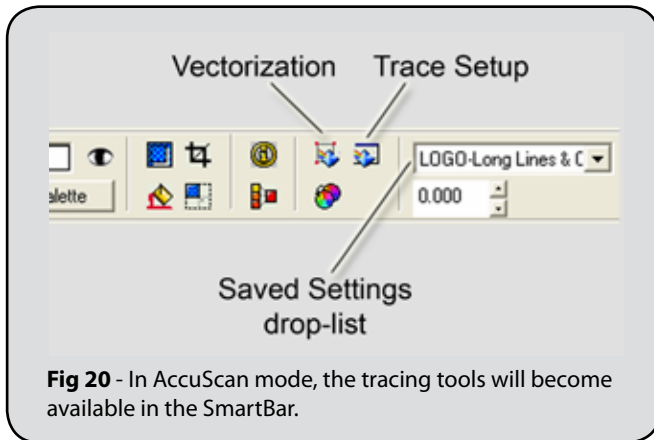
4. From the **Save Settings** drop-list, choose the "Small Serif Text" item. (Fig. 21)
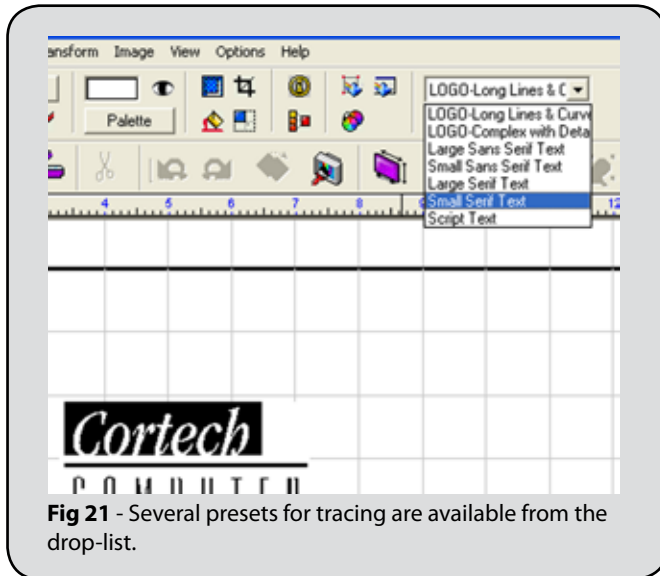
Fig 21 - Several presets for tracing are available from the drop-list.

5. To begin tracing the image, click the **Vectorization** button. Our sample image is relatively simple, so only a moment will be required to complete the tracing.

6. Once the image trace is complete, click the **Close** button to close AccuScan and return to the Select state. The trace is now grouped on the workspace.

7. Drag the bitmap aside, so that you can see the traced line art.

8. To see the tracings more clearly, toggle the **View** menu >> **Show Fill** command.

ADDING CUT PATHS TO LINE ART

Under the Engrave menu, the Contour Cut tool is used to create cut paths. This section discusses how to add cut paths to line art, and the subsequent section will discuss images.

1. Select the imported line art that you want to add contour cut paths to.

2. From the **Engrave** menu, choose **Contour Cut**.

3. At the far-left of the SmartBar, select the type of contour cut path that you want to create.

4. Tick **Inside/Outside** to cut both inner and outer contours. Otherwise, only the outer contours will be cut.

5. Set the **Corner Style** according to how rounded or sharp the cut paths should be. (Fig. 22)
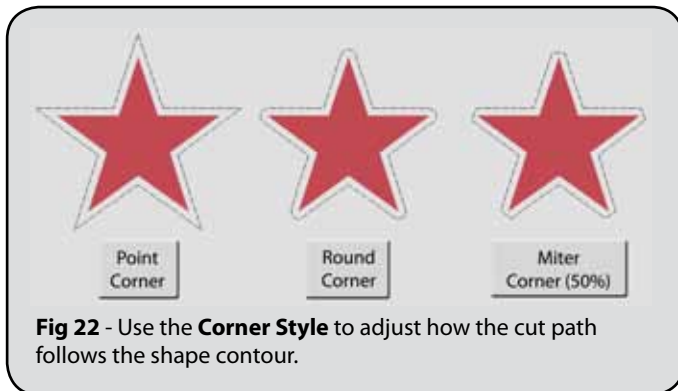
Fig 22 - Use the **Corner Style** to adjust how the cut path follows the shape contour.

6. Set the **Offset** according to how you want the cut lines spaced along the line art contours. (Fig. 23)

The **Offset** amount indicates the distance between the object contour and the resulting contour cut. An **Offset** of zero will place the cut lines precisely along the edges of the line art, whereas a positive or negative value may be set according to how much trimming you want.

Offset 0   Offset +1   Offset -1

Fig 23 - The **Offset** is the distance of the cut path from the object contour.
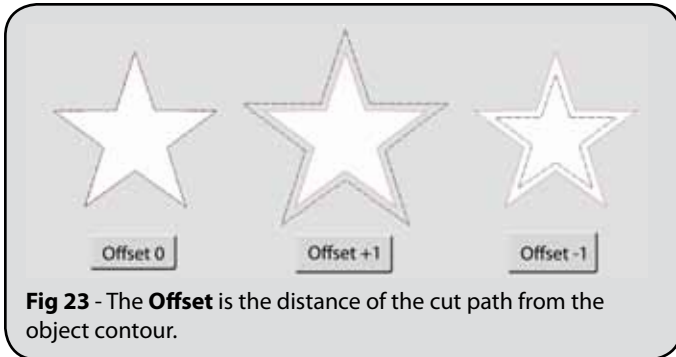
7. If you selected the **Miter** corner style, then the **Miter Limit** field will appear.

The **Miter Limit** is applied between the corners of the original object and the contour cut. This limit is expressed as a percentage of the **Offset** amount. (Fig. 24)

Fig 24 - The **Miter Limit** is the percentage of corners that are trimmed.
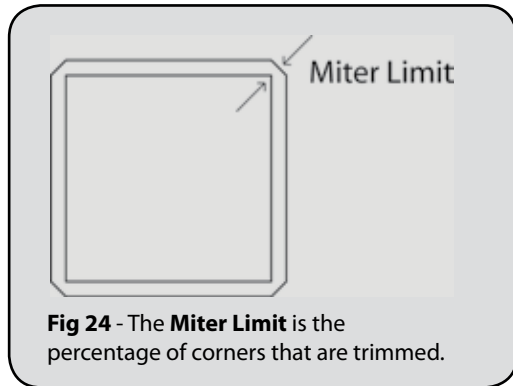
8. The **Color Picker** is used to indicate the color of the dashed contour cut lines on the workspace.

   For rotary engravers, choose a color that allows you to differentiate the contour cut lines within the design. If you later use the **Filter By Color** tool, then you can choose which contour cut paths to cut according to their color.

   For laser engravers, choose a color according to the power and speed settings within the printer driver.

9. Click an empty portion of the workspace to finish editing the contour cut paths.

10. The contour cut paths will appear as dashed lines along the contour of the line art.

ADDING CUT PATHS TO IMAGES

From the **Engrave** menu, the **Contour Cut** command is used to create cut paths for images in three ways:

A. Create a rectangular cut line around the bounding area of the image.

B. Create an irregular cut line that traces the transition between white and dark portions of the image.

C. Create an irregular cut line that traces the transition along a specific grayscale value in the image.

Fig 25 - From left to right are three examples of cut lines having been added to an image. In the first image, the cut lines follow the rectangular bounds of the image. In the second image, the cut lines follow the contour of the image. In the third image, the cut lines include a shadow that has been added to the image.

1. Select the imported image that you want to add contour cut paths to.

2. From the **Engrave** menu, choose **Contour Cut**. (Fig. 26)

3. At the far-left of the SmartBar are two checkboxes: **Inside/ Outside** and **Bitmap Frame**. These checkboxes control how cut lines are created for an image. For example:

□ To cut within the rectangular bounds of the image, the **Bitmap Frame** checkbox should be **OFF** (no tick).

□ To create a cut lines that follow the contour of the image (i.e., inner contours), the **Inside/Outside** checkbox should be **ON** (ticked).

4. Set the **Corner Style** according to how rounded or sharp the cut paths should be.

5. Set the **Offset** according to how you want the cut lines spaced along the image contours.

6. Select a color from the **Color Picker** to use for the dashed contour cut lines on the workspace.

□ For rotary engravers, choose a color that allows you to differentiate the contour cut lines within the design. If you later use the **Filter By Color** tool, then you can choose which contour cut paths to cut according to their color.
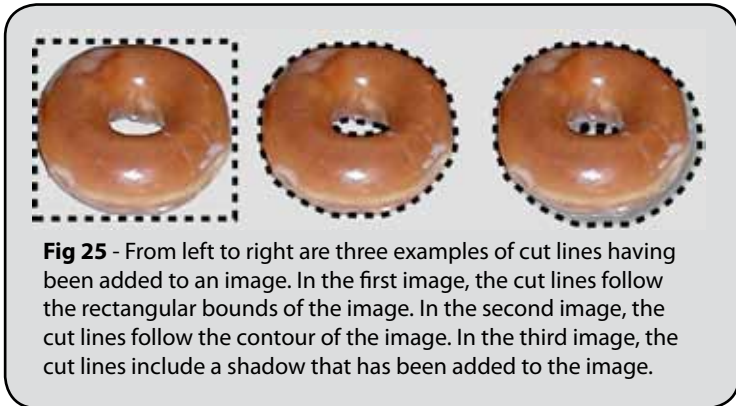
□ For laser engravers, choose a color according to the power and speed settings within the printer driver.

Fig 26 - The SmartBar displays the **Contour Cut** controls.

7. Click **Apply** to create contour cut paths for the image. If the **Bitmap Frame** checkbox = OFF, then the **Monochrome Filter** dialog will open (Fig. 27). Otherwise, proceed to step (8).

□ To trace the contour of an image that has a white background, set the **Threshold** to 255 (move the slider all the way to the right).

□ To trace the contour of an image that has a shadow effect, set the **Threshold** somewhere around 200 (move the slider close to the right).

□ For a monochrome image, the slider will not be adjustable.
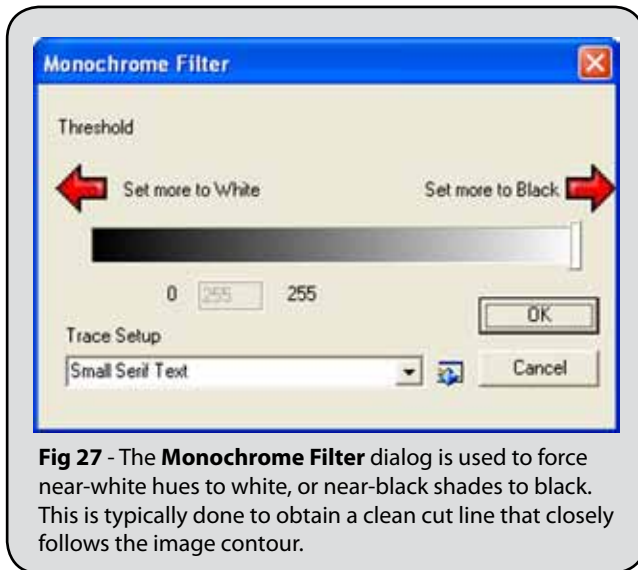
Fig 27 - The **Monochrome Filter** dialog is used to force near-white hues to white, or near-black shades to black. This is typically done to obtain a clean cut line that closely follows the image contour.

8. Click within an empty portion of the workspace to finish editing the contour cut paths.

TIPS WHEN SETTING THE THRESHOLD VALUE

The **Threshold** value on the **Monochrome Filter** dialog determines the contour cut between the light and dark portions of the image. Behind the scenes, Vision Pro is analyzing a monochrome (i.e. black-and-white) version of the image to determine the discrete boundaries of the image. To improve the process, consider the following:

☐   The image is composed of a fine grid of pixels. Each pixel in the image has a brightness that ranges from 0 to 255. A brightness that is close to 0 is considered to be near white (maximum lightness), whereas a brightness that is close to 255 is considered to be near black (maximum darkness).

☐   For each pixel in your image, a brightness lower than the **Threshold** will be considered to be white, and a brightness above the **Threshold** will be considered to be black.

CREATE A PLATE DESIGN IN VISION PRO

Use the following procedure to create a single plate design with text that adjusts to the plate margins.

1. Under the **Options** menu, verify that **Guides** >> **Use Guides** is **ON** (i.e., has a checkmark).

2. Create a rectangular shape that will represent the dimensions of the plate.

3. With the rectangle selected, press **[Shift]** and then right-click the upper-left handle of the rectangle.

4. Two guides will be created.

5. Press **[Shift]** again and right-click the lower-right handle.

6. Another two guides will be created.

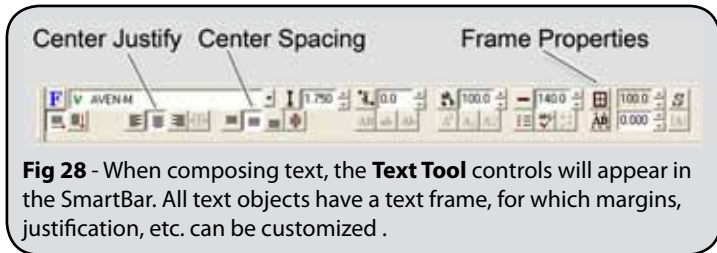
Note: To distinguish between the rectangle and text, either toggle the **View** menu >> **Show Fill** option, or assign different fill colors to each object.
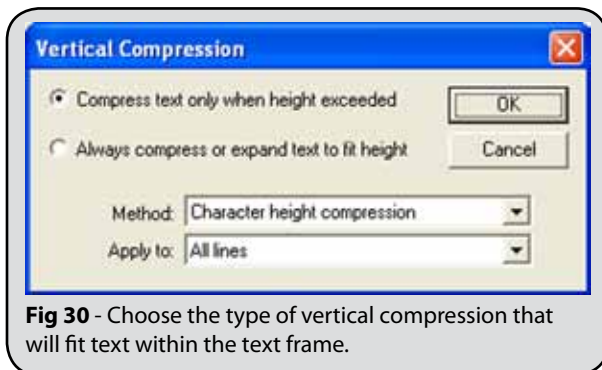
---

7. From the **Text Tools** flyout, choose **Text Compose**.

8. Using the guides, click and drag a text frame from the upper-left to the lower-right of the rectangle.

9. The text controls will appear in the SmartBar. (Fig. 28)

Fig 28 - When composing text, the **Text Tool** controls will appear in the SmartBar. All text objects have a text frame, for which margins, justification, etc. can be customized .

10. Click the **Center Justify** button.

11. Click the **Center Spacing** button.

12. Click the **Frame Properties** button to open the **Text Frame Properties** dialog. (Fig. 29)

13. Set the **Margins** to Percentage, and set each margin to a 6.0 value.

14. The **Auto Spacing** checkbox should be **OFF** (no tick).

15. Click the **Vertical Compression** button.

16. The **Vertical Compression** dialog will open. (Fig. 30)

17. Click the "**Compress text only when height exceeded**" option.

18. From the **Method** drop-list, choose "Character height compression".

Text Frame Properties

○ Free Width
● Fixed Width   ⊪ 0.936

○ Free Height
● Fixed Height   ≡ 1.750

x: 8.832   y: 4.652

Margins
○ Absolute
● Percentage

                    6.0

6.0   6.0

                    6.0

☐ Auto Spacing   Settings...

                         Close

Fig 29 - Adjusting the margins and compression settings for a text field.

Vertical Compression

● Compress text only when height exceeded   OK

○ Always compress or expand text to fit height   Cancel

Method: Character height compression
Apply to: All lines

Fig 30 - Choose the type of vertical compression that will fit text within the text frame.

19. From the **Vertical Compression** dialog, click the **Close** button.

20. On the **Text Frame Properties** dialog, click the **Close** button.

CREATE TEXT IN THE TEXT FRAME

Now that the text frame margins and compression have been set, we can enter several lines of text. As new lines are added, text compression will be automatically applied. This text compression will also be applied when creating badges that have variable text.

1. When the **Text Frame Properties** dialog was closed, the view returns to the text frame.

2. Type a line of text and press **[Enter]**.

3. Type a second line of text and press **[Enter]**.

4. Type a third line.

5. As each line is added, note how the character heights are automatically reduced to fit the text within the text frame.

6. When you are finished adding lines, click in an empty portion of the workspace.

Preparing a Series of Single Plate Badges

Use the following procedure to prepare a series of badges, where only one badge will be cut at a time. Text substitution can be applied for each badge, such that the InstantReplay feature will automatically replicate any special effects that have been applied to the text, such as outlines, transformations, or shadows.
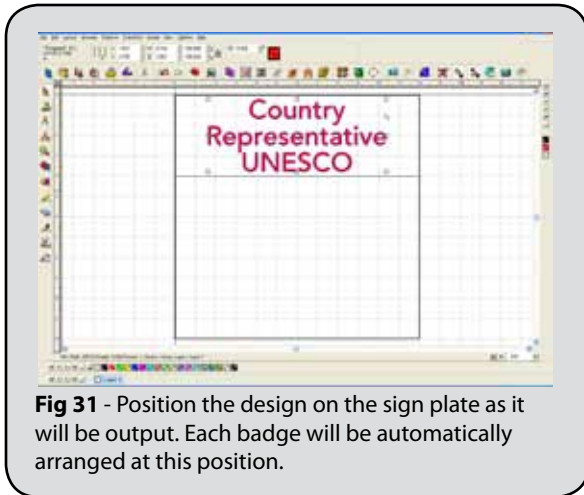
Note: If a plate design needs to be created, then refer to the *Create a Plate Design in Vision Pro* chapter.

Note: If a plate design needs to be imported from another design application, then refer to the *Importing from CorelDraw or Adobe Illustrator* chapter.


Fig 31 - Position the design on the sign plate as it will be output. Each badge will be automatically arranged at this position.

POSITION THE INITIAL DESIGN

Position the design on the plate according to where the machine should cut. (Fig. 31)

APPLYING AN ONLINE TOOL PATH FOR ROTARY ENGRAVERS

1. For laser engravers, proceed to *Applying Colors for Laser Engravers.*

2. We want to apply an online tool path, which **InstantReplay** will replicate for each badge.

3. Select the text shape, and then create an **Online** tool path from the **Engrave** menu. (Fig 32)
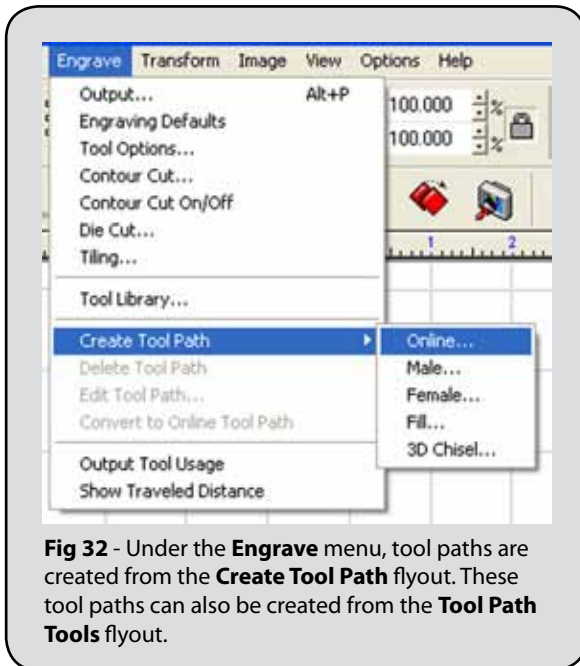
Fig 32 - Under the **Engrave** menu, tool paths are created from the **Create Tool Path** flyout. These tool paths can also be created from the **Tool Path Tools** flyout.

4. The **Online** dialog will open. For this example, a 0.005 ¼"
   Engraver was used, and the **Depth** was set to 0.01". (Fig. 33)
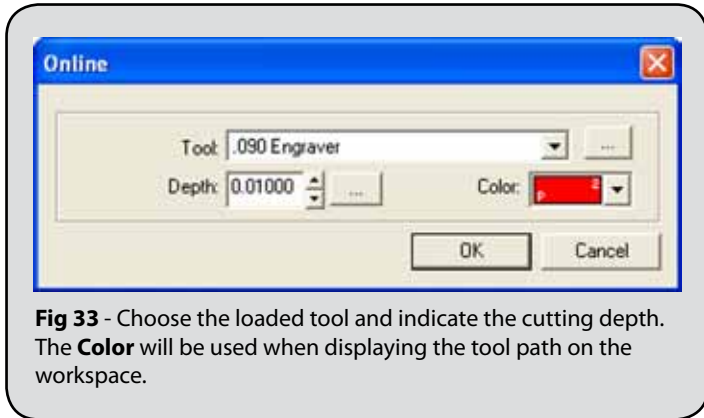
Fig 33 - Choose the loaded tool and indicate the cutting depth.
The **Color** will be used when displaying the tool path on the
workspace.

5. Click **OK** to accept the **Online** dialog settings, and the tool path
   will be applied.

6. Note that the **View** menu >> **Show Tool Diameter** command
   can be used to toggle visibility of the tool paths.

APPLYING COLORS FOR LASER ENGRAVERS

1. For rotary engravers, proceed to the *Initial Badge Setup*.

2. Check that the fill and stroke colors are correct for the plate
   design.

3. The colors set here will be replicated for each badge.

Initial Badge Setup

1. Select all the elements of your plate design. The objects selected will be replicated for each badge.

2. From the **Layout** menu, choose the **Badges** item. The **Badge Setup** dialog will open. (Fig. 34)
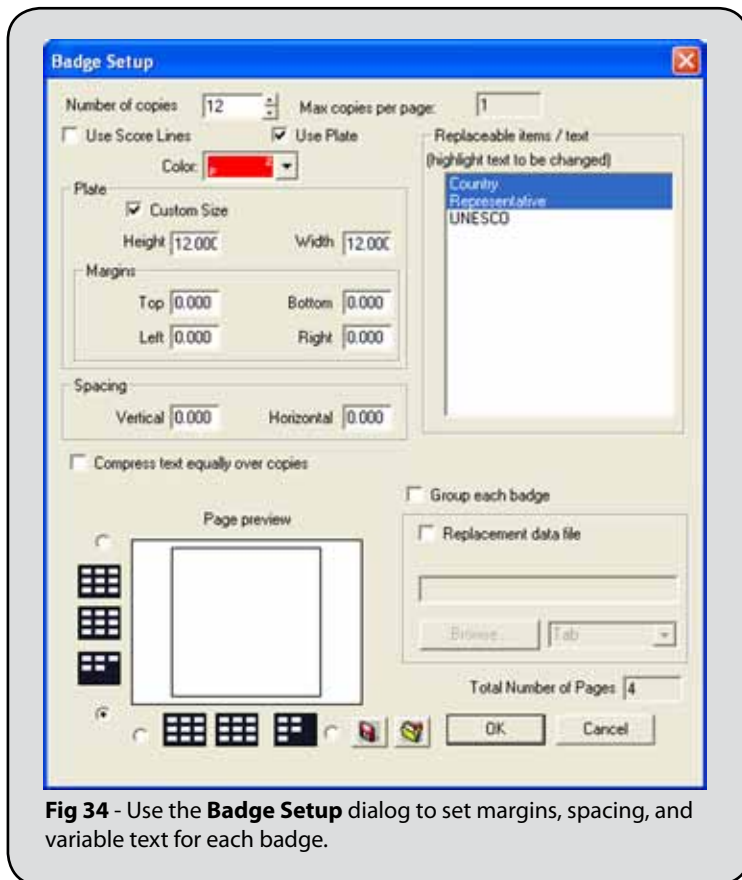
Fig 34 - Use the **Badge Setup** dialog to set margins, spacing, and variable text for each badge.
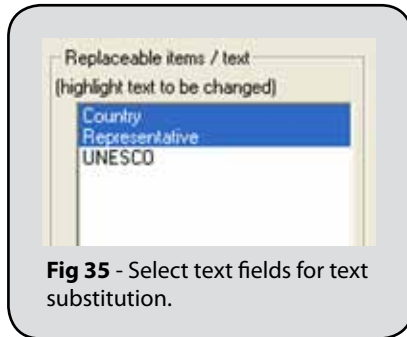
3. Tick the **Use Plate** checkbox to limit each badge to a single plate.

4. If the **Use Plate** checkbox is already ticked, then clear the checkbox and then tick it again. The **Page preview** will now show as a single, white badge, as opposed to multiple badges arranged on a single plate.

5. Notice that the **Plate** fields, **Height** and **Width**, have been set to the dimensions of the sign plate. These settings are fine.

6. Set the **Margins** according to your design. This is unnecessary if you have already defined margins within the text field.

7. Set the **Spacing – Vertical** and **Horizontal** to zero.

8. If present, clear the **Compress Equally Over Copies** option (**OFF**).
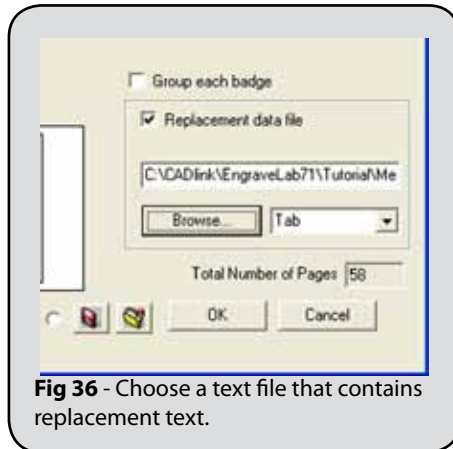
SET VARIABLE TEXT

1. For our example, we have a tab-delimited text file that contains country names and the name of their representative

2. In the **Replaceable items / text** list, click each item for which text replacement should be applied. For this example, only the first two text fields have been selected. (Fig. 35)

The **[Ctrl]** and **[Shift]** modifier keys can be used when selecting from this list. Note that these items are listed according to the order in which they were created on the workspace.

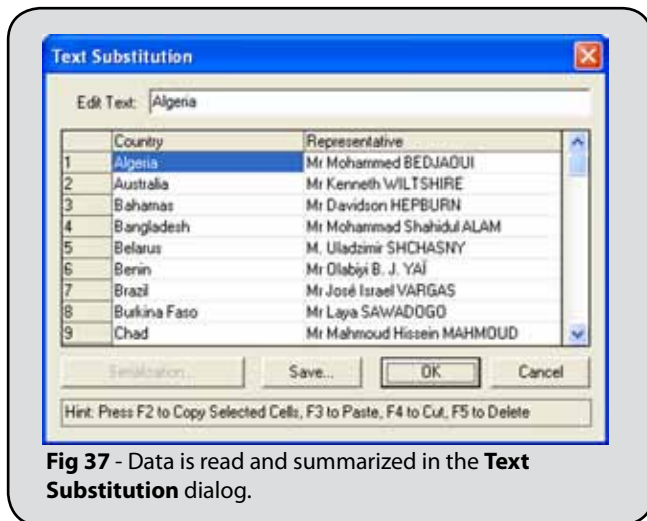**Fig 35** - Select text fields for text substitution.

3. Within the **Replacement data file** section, click the **Browse** button and choose the text file that contains your replacement text.

4. This example uses the "MemberStates.txt" file that is in the Vision Pro Tutorial directory. (Fig. 36)

Fig 36 - Choose a text file that contains replacement text.

5. When the text file is loaded, note that the number of badges is updated to reflect the number of data entries found within the file.

6. To the right of the **Browse** button, verify that the drop-list indicates the delimiter that is used in the text file. In this example, "Tab" indicates that the fields within the text file are separated by **[Tab]** characters.

TEXT SUBSTITUTION FOR EACH BADGE

1. At the bottom-right corner of the **Badge Setup** dialog, click the **OK** button.

2. The **Text Substitution** dialog will open. (Fig. 37)

Fig 37 - Data is read and summarized in the **Text Substitution** dialog.

3. All of the entries from the text file will now be listed.

Along the bottom of the **Text Substitution** dialog, note the shortcuts that can be used to rearrange the columns.

4. Click **OK** to accept the **Text Substitution** fields, and Vision Pro will proceed to create the badges.

THE FINISHED BADGES

1. When the badges have been completed, the workspace will display the first badge in the series. (Fig. 38)

2. Recalculating such operations is part of the **InstantReplay** functionality that is built into Vision Pro.

   □ For rotary engraving jobs, notice that the **Online tool path** operation has been recalculated to account for the substituted text.

   □ For laser engraving jobs, note that the fill and stroke color assignments have been retained for each substituted text object.

3. To view the remaining badges, use the **Paging Tool** that is at the bottom-right corner of the workspace. Click the **Forward** and **Back** navigation buttons to access the other badges. (Fig. 39)
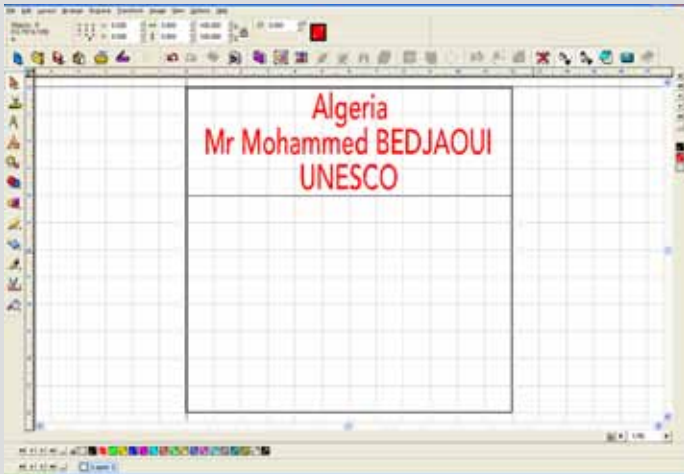
Fig 38 - After badges have been created, the view will return to the Vision Pro workspace, where text substitution for each badge has occurred.
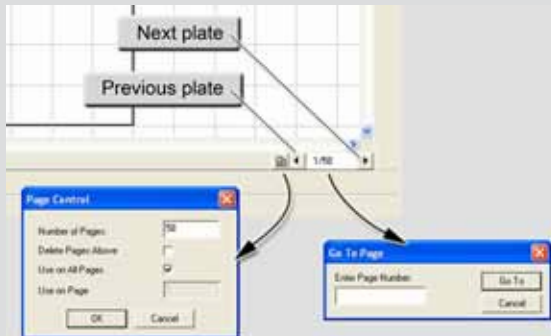
Fig 39 - Use the **Paging Tool** to browse each badge.

CREATING MULTIPLE BADGES PER PLATE

Use the following procedure to prepare a series of badges, where multiple badges will be arranged on each single plate. Text substitution can be applied for each badge, such that the **InstantReplay** feature will automatically replicate any special effects that have been applied to the text, such as outlines, transformations, or shadows.

Note: If a plate design needs to be created, then refer to the *Create a Plate Design in Vision Pro* chapter.

Note: If a plate design needs to be imported from another design application, then refer to the *Importing from CorelDraw or Adobe Illustrator* chapter.

Note: In the lesson, Creating a Multi-line Plate, the multi-line plate was stored as a "badge.cdl" file, and badge replacement text was stored as a "MemberStates.txt" file. Both files will be referred to within this lesson.

Position the Initial Design

When creating multiple badges per plate, the initial placement does not matter because the badges will be automatically positioned on the plate size. (Fig. 40)
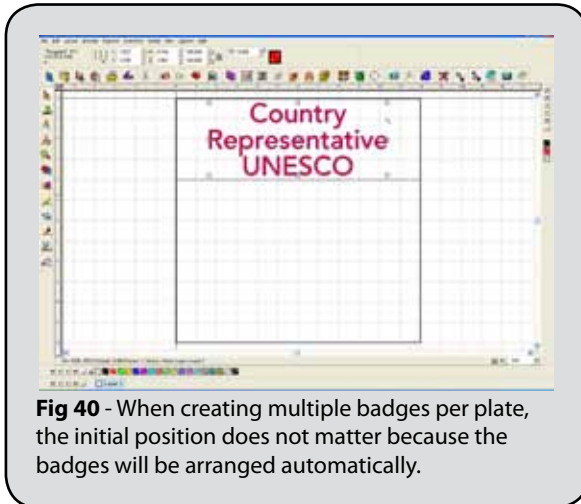
Fig 40 - When creating multiple badges per plate, the initial position does not matter because the badges will be arranged automatically.
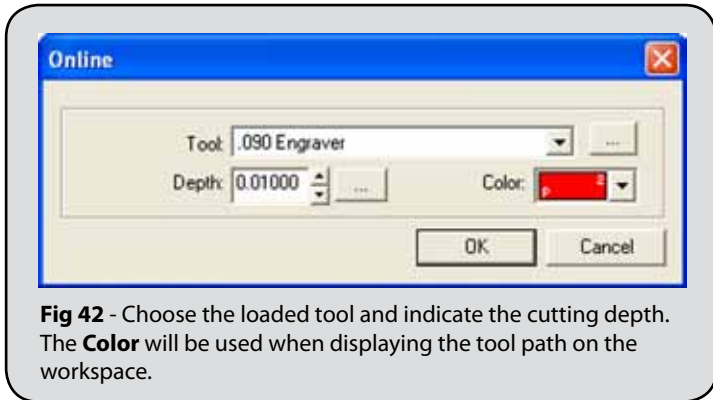
APPLYING AN ONLINE TOOL PATH FOR ROTARY ENGRAVERS

    1. For laser engravers, proceed to *Applying Colors for Laser Engravers.*

    2. We want to apply an online tool path, which **InstantReplay** will replicate for each badge.

    3. Select the text shape, and then create an **Online** tool path from the **Engrave** menu. (Fig. 41)

Fig 41 - Under the **Engrave** menu, tool paths are created from the **Create Tool Path** flyout. These tool paths can also be created from the **Tool Path Tools** flyout.

4. The **Online** dialog will open. For this example, a 0.005 ¼"
Engraver was used, and the **Depth** was set to 0.01". (Fig. 42)

Fig 42 - Choose the loaded tool and indicate the cutting depth.
The **Color** will be used when displaying the tool path on the
workspace.

5. Click **OK** to accept the **Online** dialog settings, and the tool path
will be applied.

6. Note that the **View** menu **>> Show Tool Diameter** command
can be used to toggle visibility of the tool paths.

APPLYING COLORS FOR LASER ENGRAVERS

1. For rotary engravers, skip to the *Initial Badge Setup*.

2. Check that the fill and stroke colors are correct for the plate
design.

3. The colors set here will be replicated for each badge.

INITIAL BADGE SETUP

1. Select all the elements of your plate design. The objects selected will be replicated for each badge.

2. From the **Layout** menu, choose the **Badges** item. The **Badge Setup** dialog will open. (Fig. 43)
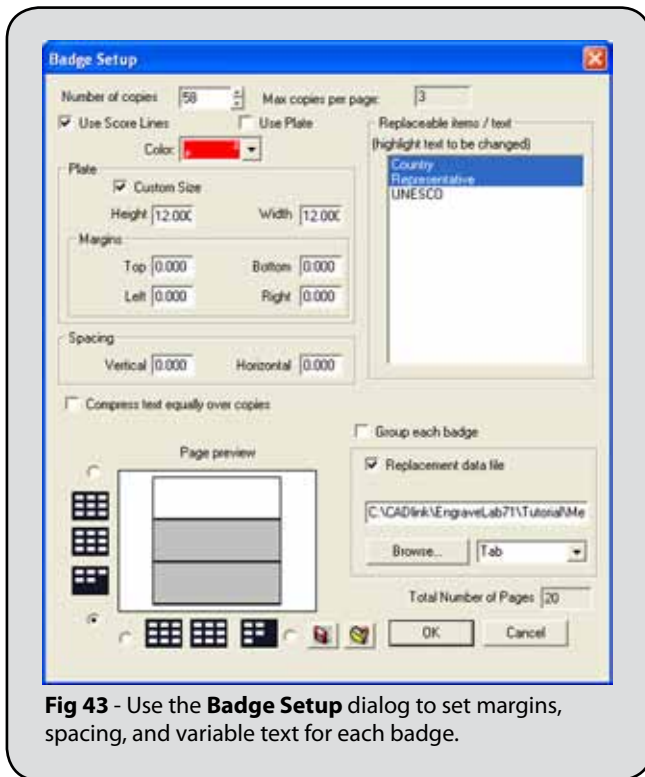

Fig 43 - Use the **Badge Setup** dialog to set margins, spacing, and variable text for each badge.

3. Clear the **Use Plate** checkbox, such that multiple badges can fit within a single plate.

4. Note that the **Page Preview** shows multiple badges arranged on a single plate.

5. Notice that the **Plate** fields, **Height** and **Width**, have been set to the dimensions of the sign plate. These settings are fine.

6. Set the **Margins** according to your design. This is unnecessary if you have already defined margins within the text field.

7. If present, clear the **Compress Equally Over Copies** option (**OFF**).

8. Set the **Spacing – Vertical** and **Horizontal** to zero.

9. Verify that the **Compress Text Equally Over Copies** option is disabled.

10. Tick the **Use Score Lines** checkbox.

11. Use the color picker to choose an appropriate score line color. For laser engravers, this color should represent a speed and intensity that will allow the badges to break cleanly.

SET VARIABLE TEXT

1. For our example, we have a tab-delimited text file that contains country names and the name of their representative

2. In the **Replaceable items / text** list, click each item for which text replacement should be applied. For this example, only the first two text fields have been selected. (Fig. 44)

   The **[Ctrl]** and **[Shift]** modifier keys can be used when selecting from this list. Note that these items are listed according to the order in which they were created on the workspace.
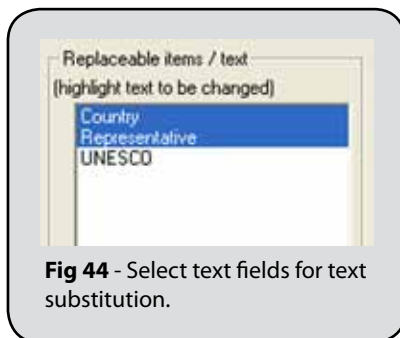
Fig 44 - Select text fields for text substitution.

3. Within the **Replacement data file** section, click the **Browse** button and choose the text file that contains your replacement text.

4. This example uses the "MemberStates.txt" file that is in the Vision Pro Tutorial directory. (Fig. 45)

5. When the text file is loaded, note that the number of badges is updated to reflect the number of data entries found within the file.
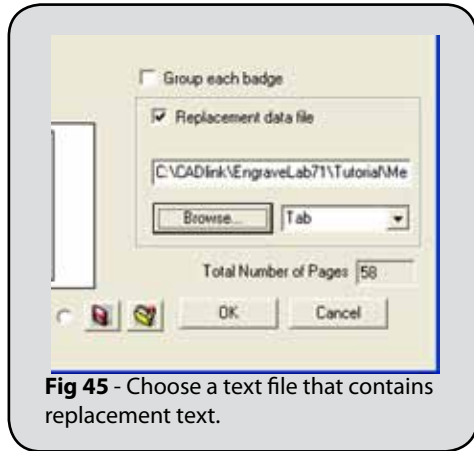
**Fig 45** - Choose a text file that contains replacement text.

6. To the right of the **Browse** button, verify that the drop-list indicates the delimiter that is used in the text file. In this example, "Tab" indicates that the fields within the text file are separated by **[Tab]** characters.

TEXT SUBSTITUTION FOR EACH BADGE

1. At the bottom-right corner of the **Badge Setup** dialog, click the **OK** button.

2. The **Text Substitution** dialog will open. (Fig. 46)

3. All of the entries from the text file will now be listed.

Along the bottom of the **Text Substitution** dialog, note the shortcuts that can be used to rearrange the columns.

4. Click **OK** to accept the **Text Substitution** fields, and Vision Pro will proceed to create the badges.
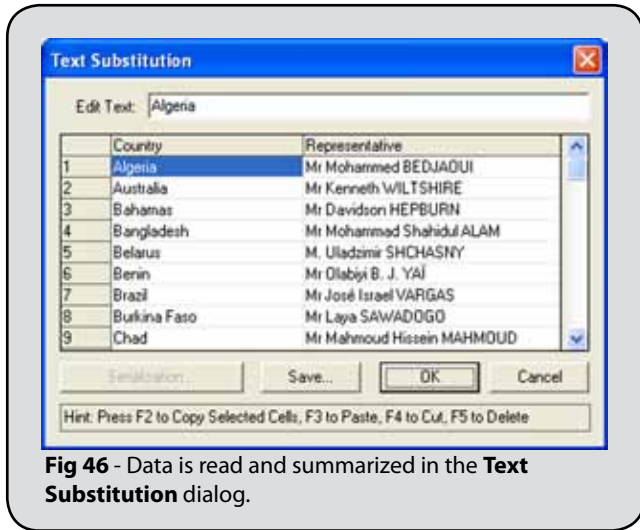
Fig 46 - Data is read and summarized in the **Text Substitution** dialog.

THE FINISHED BADGES

1. When the badges have been completed, the workspace will display the first page of badges. (Fig. 47)

2. If there are more badges than will fit on a single plate, the **Paging Tool** can be used to view the remaining badges. Click the **Forward** and **Back** navigation buttons to access the other badges. (Fig. 48)
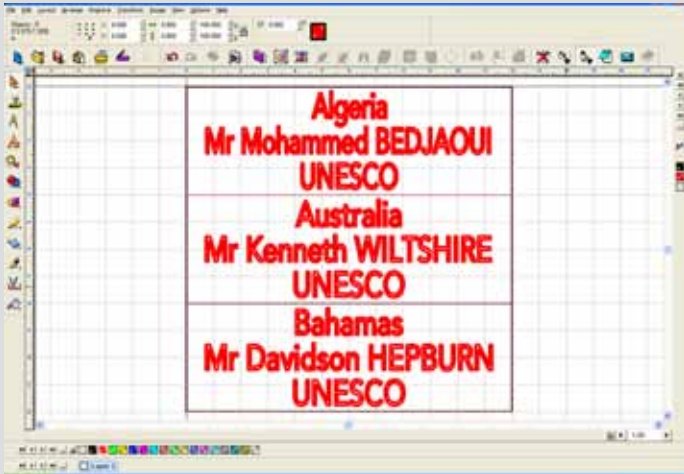
Fig 47 - After badges have been created, the view will return to the Vision Pro workspace, where text substitution for each badge has occurred.
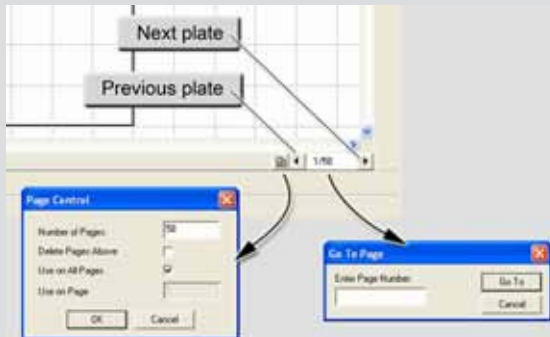

Fig 48 - If there are additional plates of badges, then use the **Paging Tool** to browse each plate.

Photo Laser – Preparing an Image for Laser Engraving

The Photo Laser tool is used to prepare an image for output through a laser engraver. Various image filters are available for improving the quality of the image, and you can choose from preset settings that have been configured for different types of material. Since a laser engraver is essentially a monochrome device (laser on or laser off), any color information retained in the image is not useful, so the resulting photo laser image will be in monochrome format.

1. Import an image onto the Vision Pro workspace. (Fig. 49)

2. From the **Transform** menu, choose **Photo Laser >> Interactive**.
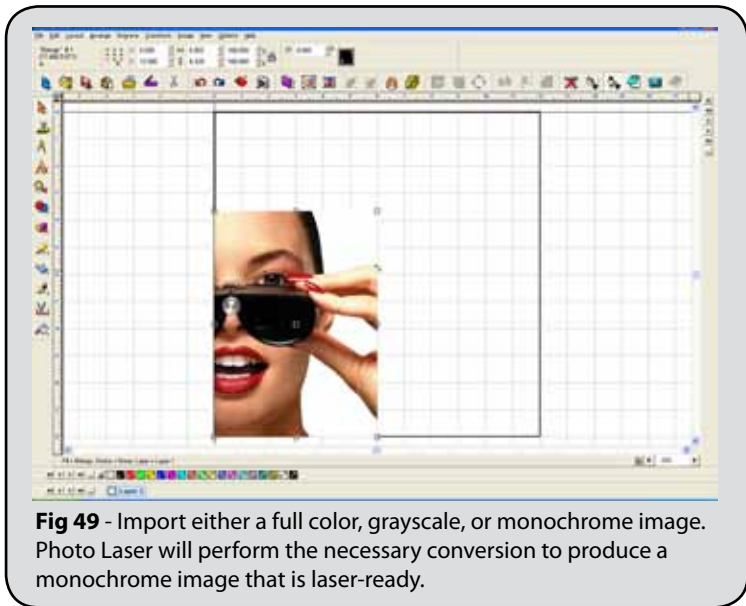
Fig 49 - Import either a full color, grayscale, or monochrome image. Photo Laser will perform the necessary conversion to produce a monochrome image that is laser-ready.

3. The **Photo Laser** dialog will preview the effect of applying the various filters. (Fig. 51)

4. In the **Filter** list, right-click will toggle a filter between **ON/OFF**.

USING PRESET FILTER SETTINGS

In the lower-left corner of the Photo Laser dialog, click the **Load Presets** button to choose from an assortment of parameter files that have been configured for various materials. (Fig. 50)
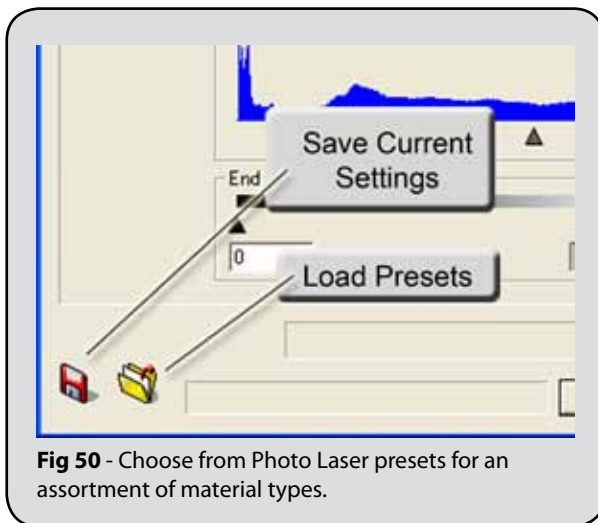

Fig 50 - Choose from Photo Laser presets for an assortment of material types.

SUGGESTIONS FOR ADJUSTING FILTERS FROM SCRATCH

If you wish to adjust the Photo Laser settings without using preset values, then it is recommended that you start with only one filter, and then incrementally increase the number of filters until you achieve the desired results. For example:

☐ Right-click to turn **OFF** all the filters, except for the **Histogram** filter.

☐ Adjust the **Histogram** filter to trim excess shadow (**Black**) and excess highlight (**White**).

☐ If necessary, adjust the midtone (**Gamma**) to obtain more balance in the resulting shades.

☐ At this point, the image can be further refined by incrementally turning on more filters, one by one, and making adjustments as appropriate.

☐ For example, turn **ON** an **Edge** filter, set it to **Unsharp Mask**, and then adjust the **Amount**, **Radius** and **Threshold** to find values that produce good results.

☐ Then turn **ON** the **Threshold** filter and adjust the **Threshold** slider to help sharpen the image.
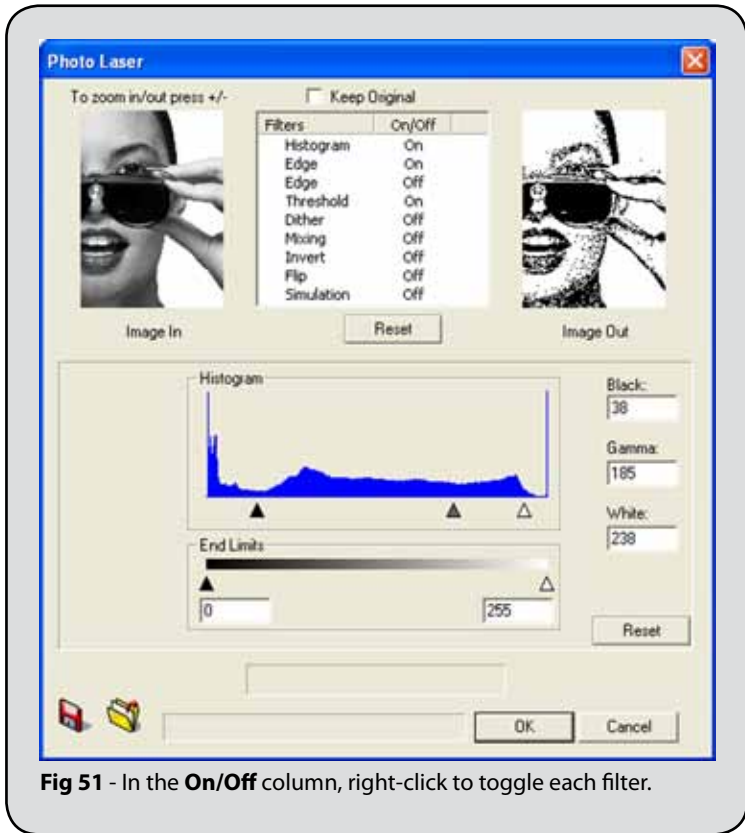
Fig 51 - In the **On/Off** column, right-click to toggle each filter.

OUTPUT THE PHOTO LASER JOB

1. From the **Photo Laser** dialog, click **OK** to apply the filter settings.

2. From the **File** menu, choose **Print** to open the **Print** dialog.

Note: See the *Preparing a Laser Engraving Job* chapter for more details about **File** menu >> **Print**.

3. Click **OK** to accept the **Print** dialog settings and enter the **Print Preview** page. (Fig. 52)

4. Confirm that the machine is online and loaded with the appropriate material.

5. In **Print Preview**, click **Print** to begin engraving.

Fig 52 - Use **File** >> **Print** to output the Laser Engraving job, and then **Preview** before sending.