STATLER STITCHER™ PRECISIONSTITCH™ USER GUIDE
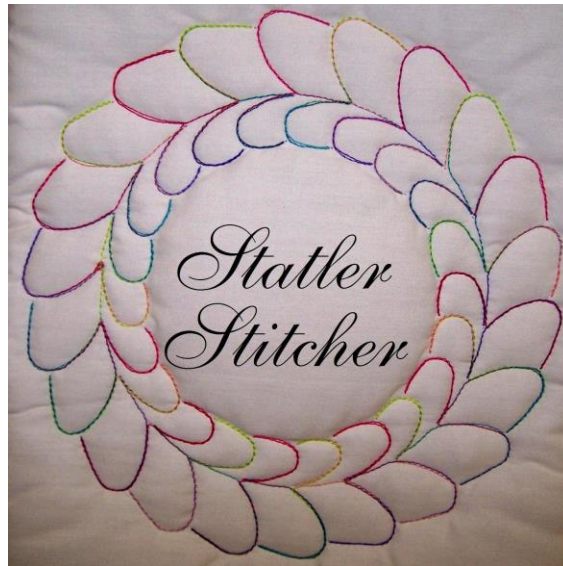
PrecisionStitch™
Version 8.0.0

Addendum for Version 8.5

June 2, 2006

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VIDEO FILE

Article I.   Introduction

The **PrecisionStitch™** system for the Statler Stitcher quilting system is simple and easy to use with just one **Main Screen**. Pattern files are drawn using AutoSketch or other drawing programs that can save files in the DXF format. For detailed information and instructions for using AutoSketch please refer to the ***AutoSketch User Guide***.

The modes of operation are:

Automatic mode is used for stitching single or repeat patterns in blocks, borders, sashes and allover designs. Patterns can be flipped horizontally and vertically and rotated at any degree for proper orientation. Notes can be included with each pattern for future reference.

In **Automatic** mode you can utilize "No Sew" lines to position a pattern for sewing. There are two different methods of stitching Alternating Patterns **Alternating Patterns** and **Alternating Patterns Alternating Patterns**

Regulated mode is used for stitching with a regulated stitch length. Regulated stitching can be done with the belts engaged or disengaged. In regulated mode you can use the **Channel Lock** feature to set any angle and use the **Thread Break** Sensor.

Constant Speed mode is for stitching with the motor set at a constant speed. This is the same as any machine without a stitch regulator or electronic control.

Record mode is for recording patterns that you trace with the needle off or on. The pattern is drawn directly in AutoSketch. In record mode you can use **Record/Sew Path.** Select points to define a path to sew straight lines between. **Record/Sew Pattern** is a feature that allows you to stitch a pattern between two points or more points.

File   Options   PatternInstaller   Help   ?

borde11.qli

Start

End

Rotate Right 90°   Flip Horizontally   Flip Vertically   Reset

Pattern Rotation (Degrees)   0

Pattern Width   12.000   Pattern Height   6.008
Actual Width   12.000   Actual Height   6.008

Show pattern segments   Measure   Restart Pattern   Square Up Quilt

Freeze Aspect
Stitch in the points

Idle

Sewing Speed
5 ——|—— 100
50
50   Maximum
Percent

Stitches Per Inch
B4 ——|—— 20
12.0   10   Stitches per Inch

Tieoff Stitches
☑ Do tieoffs   2   Tie Stitches
☑ Bobbin Pull-up   20   Stitches/Inch

Alternating Patterns
● Original Grid   ○ Alternating Plus
○ Alternating Minus

Pattern Mode
○ Single Block   1   Repeats per row
● Repeat Blocks
☑ Use Start & End   1   Rows
☐ Stop to cut thread between blocks
☑ Stop to cut thread end of each line
Horizontal Spacing   0.00
Vertical Spacing   0.00
Total Width   12.00   Total Hght   6.01

Info
	Start	End	Diff
Horiz	0.00	12.00	12.00
Vert	0.00	0.00	0.00

Channel Lock
Channel Lock   Angle   0
Use Squaring Angle

Stitcher Mode
Automatic

Regulated

Constant Speed

Record

Needle   **Thread Break**

Laser

Controls
Cut Bobbin   **Option**   **Mode**

Single Stitch   **Stop**   **Start**

Start   Statler Stitcher Progr...   9:37 AM

Article II.   Changes / Additions to 8.0.0

Section 2.01   Added "As Designed" to File Open

Files will open into Precision Stitch at the size they were drawn.

Section 2.02   Freeze Aspect in Single Block

Keeps patterns in proportion when used in single block mode.

Section 2.03   Triangles in Single Block Mode

1. Three points of a triangle are defined to place triangular pattern.
2. View the layout on screen
3. Alter the pattern size as needed.
4. Use Freeze Aspect

Section 2.04   Pattern Rotation with two Decimal place precision

Users can type in a rotation value with 2 decimal places, like 20.25

Section 2.05   Gammill Owners – An Oiling Routine is Added

For Gammill Machines. An Oiling routine to help distribute oil.

Section 2.06   Changed Minimum Line Length

A new minimum line length of .02 has been used. This is to assist patterns drawn with polylines, such as TEXT.

Section 2.07   Quick Pause

While a pattern is being sewn, Quick Pause can be used to stop sewing. Sewing can be continued from the pause location.

Section 2.08   Audible Sound

An audible Beep will sound when clicking points for a single block pattern

Section 2.09   Restart Pattern in Record Sew Path/Pattern

Restart Pattern is now available in record sew path and record sew pattern.

Section 2.10   In Record to AutoSketch – Option button will hold left button down

When recording to AutoSketch. The option button will 'lock' the left button down so you will not have to keep it depressed while sewing/tracing a pattern.

Section 2.11   Stitch Length & SPI Setting retained

Each mode retains the stitch length setting from the last time it was used. Modes with SPI are also saved.

Section 2.12   Larger Fonts

The font size has been increased to make setting easier to see from a distance.

Section 2.13   'Turn on/off' Channel Lock in Regulated

Channel lock can be turned on or off while in regulated mode

Section 2.14   Change Channel Lock by 90° while Sewing

While sewing in regulated mode, pressing 'mode-channel lock' will change angle by 90°. To position the needle up or down (a half stitch) hold down the **Stop** key and press **Single Stitch**

Section 2.15   Trim Added to Alternating Plus

Section 2.16   Trim the edge of any pattern set up in Alternating Plus. This will keep the left and right edges even, and no more sewing off the edge. An option allows for no-sew lines between broken segments.

Article III.

Article IV. Install PrecisionStitch™ 8.0.0 Upgrade

1. From the Statler Stitcher website you will download the *PrecisionStitch™ Installation Manual* and the *PrecisionStitch™* version 8.0.0 software.

2. Click on the link below to enter the download area.

   http://www.statlerstitcher.com/precisionstitch/index.html

   or

   www.statlerstitcher.com > TECH SUPPORT

3. In the blue shaded area of the screen you will see *PrecisionStitch™ Version 8.0.0* on the first line and *PrecisionStitch™ Installation Manual* on the second.

4. Download the installation manual first by clicking on it. The file will open in Acrobat Reader. Click the disc icon and save a copy of the installation manual on your hard drive. Alternatively, you can click the printer icon to print a copy.

5. Click the button on your browser to return to the download page.

6. Next download the software by **clicking** on *PrecisionStitch™ Version 8.0.0.*

   a. If you have a password click on **Yes, proceed to download version 8.0.0**.
   b. If you do not have a password click on **No, send mail to Statler Stitcher requesting the password** to open your email software. Send an email to StatlerStitcher to obtain your user id and password.

7. Upon successful entry, you will be presented with a **File Download** window..**Right Click** on *PrecisionStitch™ Version 8.0.0.* Choose **Save.Link As.**

8. In the **Save As** window, select **Desktop** and then choose **Save**". This will download the file to your desktop. Assuming that you are using a computer different from your Statler Stitcher computer, you will now need to burn this file to a CD or use a USB Flash Drive™ (much easier) so that you can load it to your Statler Stitcher computer.

9. Follow the instructions in the PrecisionStitch™ Installation Manual to install the software.

Section 4.01 Download the Users Manual

Under the blue shaded box are the links for the users manual. **RIGHT CLICK** on the manual of your choice and choose Save Link As.
The PDF version is for downloading, while the HTML version is intended for online viewing.

Section 4.02 Download and Install the Patterns

Due to the download size of PrecisionStitch the patterns are included in a separate file. Download the pattern file to your desktop. Double click the icon and installation begins.

Included with the patterns for PrecisionStitch 8.0.0 are P2P and Tri patterns. P2P patterns (Point to Point) are used with the new **Record / Sew Pattern** function. Tri patterns are for triangular blocks.
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Article V.   Main Screen Menus

Double click on the PrecisionStitch™ Icon to open the program. A small introduction screen is displayed as the program opens. The intro screen disappears after the software finishes loading. Pressing enter now has no effect.

Section 5.01   File

The **File** menu option is used to open and close pattern files, save pattern settings, exit the system and print the displayed pattern. At the bottom of the drop down menu is a list of the 20 most recently opened files. These files contain the settings displayed on the **Main Screen** at the time the file was closed. If you wish to start fresh, load the pattern from the

File > Open option instead of clicking on the recent pattern listed.

To open the last file that was closed, with a blank screen click **Start**. The last closed file is displayed along with its saved settings.

(a) File > Open

Clicking **File > Open** displays the **File List with Preview** dialog box shown below.
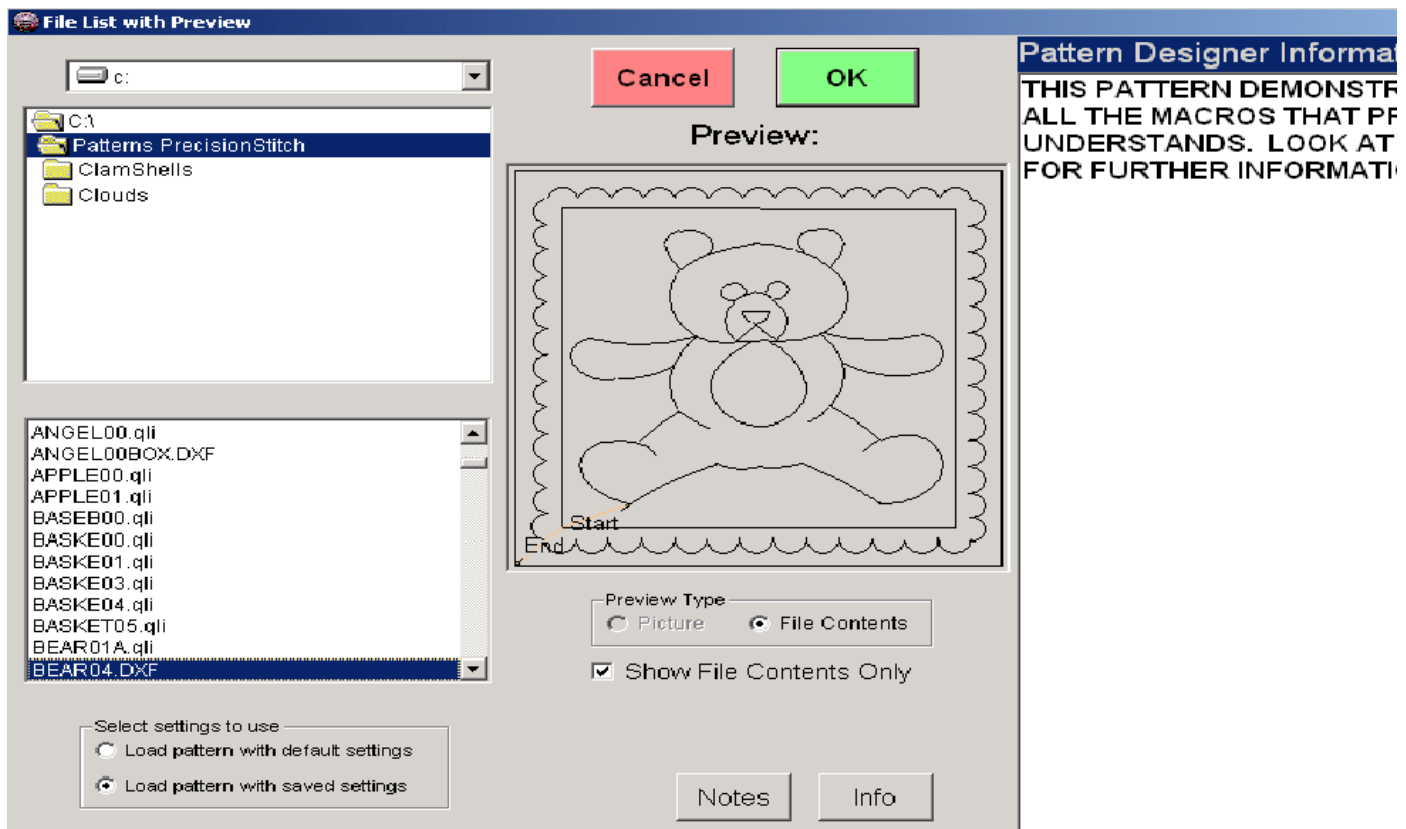
Use this screen to browse the pattern files on your computer. On the upper left section of the screen you can choose the drive where the pattern files are located. Just below that section the folders on the selected drive are displayed. A list of files in the open folder is shown on the lower left side.

Clicking on a file name displays a preview to the right. If the pattern includes **Pattern**

Designer Information or **Pattern User Notes** those are displayed as well on the far right side of the screen.

Pattern Designer Information – This is information added by the pattern designer. It can include any information the designer wishes to convey to the pattern user. Some things might include a copyright statement or information about sizing and using the pattern.

To display the **Pattern Designer Information** click **Info**.

Pattern User Notes – This is information you can add to any pattern and can include sizing information, customer information or any notes you wish to save (see **Options> Show/Edit Pattern Notes Options> Show/Edit Pattern Notes**) To display the **Pattern User Notes** click **Notes**.

If you have previously saved pattern settings, a frame "**Select settings to use**" gives you the option of loading the pattern with default or saved settings (see **File > Save Settings File > Save Settings**).

In **Preview Type** you have the option of viewing the **Picture** or the **File Contents**. A picture file is a WMF or MOV file that contains information you wish to note about a particular pattern. (MOV files are generated with the Build Function from older versions). The picture file is what is displayed. If you wish to display the file that the software sees, click **File Contents**. If you wish to see only the file contents, check **Show File Contents Only**.

Click **OK** to open the pattern or click **Cancel** to close the window.

After clicking **OK** to open the file and if there are no drawing errors, the pattern is displayed on the **Main Screen**. If there are errors in the file, the error is displayed in a pop up screen and the file will not open. You will need to edit the SKF file, save it as a DXF file and attempt to open the DXF file again. For drawing and editing pattern files please see the *AutoSketch For PrecisionStitch User Guide*.

(b) File > Close

Clicking **File > Close** closes the file displayed on the **Main Screen**. The values displayed on the screen at the time the file is closed are saved. The saved version of the file is listed at the bottom of the File menu along with the 19 last opened files.

(c) File > Save Settings

When a file is opened and the settings are determined for the quilt, you can save those settings for use later. Click **File** > **Save Settings** and the settings are saved in

memory. The screen below is displayed to indicate that the settings have been saved. It is good practice to click **Save Settings** before you start sewing.

In the event of a system abort (such as if the sewing head hits the take up roller) or a power failure the settings for the file will be lost unless they have been saved by either using the Save Settings option or the file was closed then reopened.

(d) File > Make QLI

This option is used by pattern designers to convert a drawing file, DXF, to a QLI file for distribution to other PrecisionStitch users. The QLI file cannot be edited which makes it less likely to be corrupted and insures proper stitching.

(e) File > Print

This option prints a copy of the pattern displayed on the screen. If no pattern is displayed, this option is grayed out.

(f) File > Exit

This option closes the file and exits the system. The pattern displayed at the time the system is exited is saved in the list of the last 20 opened files.

Options

The options menu allows you to change defaults, set squaring information, designate motor controllers and access other controller information with the help of technical support.

(g) Options> Show/Edit Pattern Notes

You have the ability to write notes for each pattern. You might wish to note information about a height or a range of height values that look better for the pattern or any other information that would be helpful next time the pattern is opened.

The pattern notes may be viewed when the pattern is displayed via the **File > Open** screen. See **File > Open File > Open** for more details. Or you can view/edit the pattern notes when the pattern is opened.

With the pattern opened and displayed on the screen choose **Options > Show/Edit Pattern Notes** to open the **Pattern Notes** screen shown below.
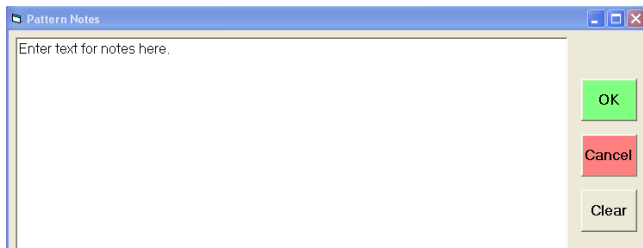
Type in the information you wish to save and click **OK**. The screen closes and the box labeled "**Notes**" shown below appears at the upper left of the screen whenever the pattern is displayed.
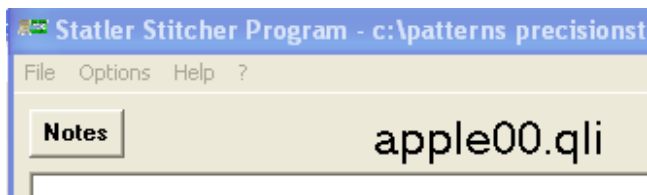
You must choose **File> Save Settings** to save the notes to the file.

Click on the **Notes** box to view and/or edit the information saved in the **Pattern Notes** screen. If there are no notes to view, the **Notes** box does not appear.

(h) Options > Set Defaults

This option sets the default values for **Needle On/Off**, **Thread Break Alarm**, **Sewing Speed**, **Stitches per Inch** and **Tieoffs**. Set these values for your preference then choose **Options > Set Defaults**. The default settings will appear each time a file is open from the **File > Open** menu.

If you have changed any of these settings for a pattern then closed the file, or clicked **File > Save Settings,** the changed settings will appear when you open that file from the list of previously opened files.

(i) Options > Stitch Count

When you first install PrecisionStitch or each time you upgrade, the stitch count is set to 0. Choose **Options** > **Stitch Count** to display the following screen.

As a pattern is stitched the system keeps track of the number of stitches for the pattern as well as a running total of all the stitches since the last software upgrade. **Stitch Count** gives the total number of stitches since **PrecisionStitch** was started. If you restart **PrecisionStitch** as you begin each quilt, you will have a stitch count of the amount of stitches used in that quilt. **Total Count** gives a running total of stitches from the last software upgrade.

(j) Options > Automatic Control of Laser

Newer machines are equipped with a laser that can be set to automatically illuminate when position information is needed. The laser should be aligned (before starting the quilt) by manually lowering the needle into the fabric, retracting the needle again, and adjusting the laser so that it centers on the hole that the needle made in the fabric.

This option, when checked, allows the system to automatically turn the laser pointer on when needed for "clicking" to locate points, and turn

it off otherwise. If this option is unchecked, the laser will operate manually only with the laser button located below the **Needle** and **Thread Break** buttons as shown below.
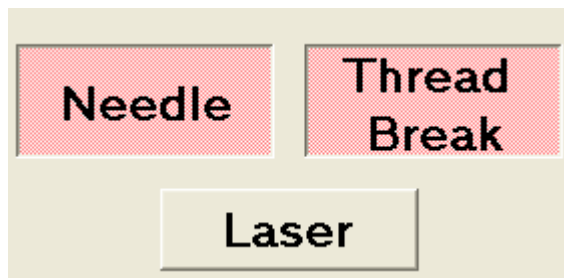
(k) Options > Show Restart Screen

When restarting a pattern after the stitching has been interrupted such as for a thread break, you have the option of restarting the pattern by locating the restart point on the quilt or on the computer screen. To find the restart point via the computer screen choose Options > Show Restart Screen. A check mark will appear next to this option if it is chosen. To find the restart point via the quilt, choose Options > Show Restart Screen once again to clear the check mark. For more information on restarting a pattern see **Restart Pattern** Restart Pattern

(l) Options > Set Squaring Information

When a quilt or part of a quilt has been squared up using the **Square Up Quilt** function a squaring angle is calculated and held in memory. This squaring angle is used each time a pattern is stitched in **Pattern Mode – Repeat Blocks**. Choosing **Options > Set Squaring Information** allows you to manually set the squaring angle.

Some cases you might use this function is to set the squaring angle to 0 or to reset a previously used value.

Options > Set Minimum Line Length

Patterns are drawn in AutoSketch with drawing entities such as three point arcs, line segments and poly lines. If a pattern is designed using three point arcs and straight lines, this value is not necessary.

If a pattern is designed using polylines (many very short lines) to simulate a circular arc, this option is used to speed up sewing. Choose **Options > Set Minimum Line Length** to set the smallest full-speed line.
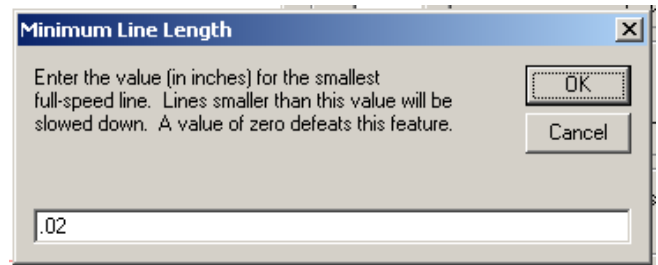
In the picture above the minimum line length is set at .02 inch. This means that any line segment (drawing entity) that is .02 inch or smaller will be stitched at a slower speed.

If this option is set to 0 the pattern is stitched at full speed as set in the **Speed** section of the **PrecisionStitch Main Screen**.

(m) Options > Calibrate Stitcher Motor

This option is used to set the sewing motor position accuracy which controls stitch length. Choose **Options**> **Calibrate Stitcher Motor**. The dialog box tells you to "Move stitcher off the quilt, remove thread and bobbin. Click **OK**. The motor is calibrated by taking 10 very slow stitches and the dialog box returns to display the new Z-count value. Click **OK**.

(n) Options > Show Diagnostics

Used to check proper keypad & switch operation, and encoder feedback.

(o) Options > Technical Support

Under the Technical Support Options you have 4 options which should only be used under the direction of the Technical Support team at Statler Stitcher.

Terminal
Select Controller
Set Calibration Value
Controller Definition

Section 5.02   Pattern Installer

The Pattern Installer is used to install patterns you receive from another party. Usually these patterns are on some type of removable disk. **Pattern Installer** searches on all drives except for where **PrecisionStitch** is installed then searches for patterns on those drives. You can then select the patterns you wish to install and Pattern Installer does the rest.

1. Insert the removable disk containing the new patterns.

From the Main Menu click PatternInstaller to open the Pattern Installer screen shown below.
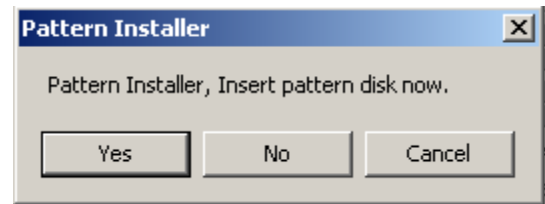
Click **Yes**. The system displays the Pattern Installer screen and looks for patterns on the removable disk.
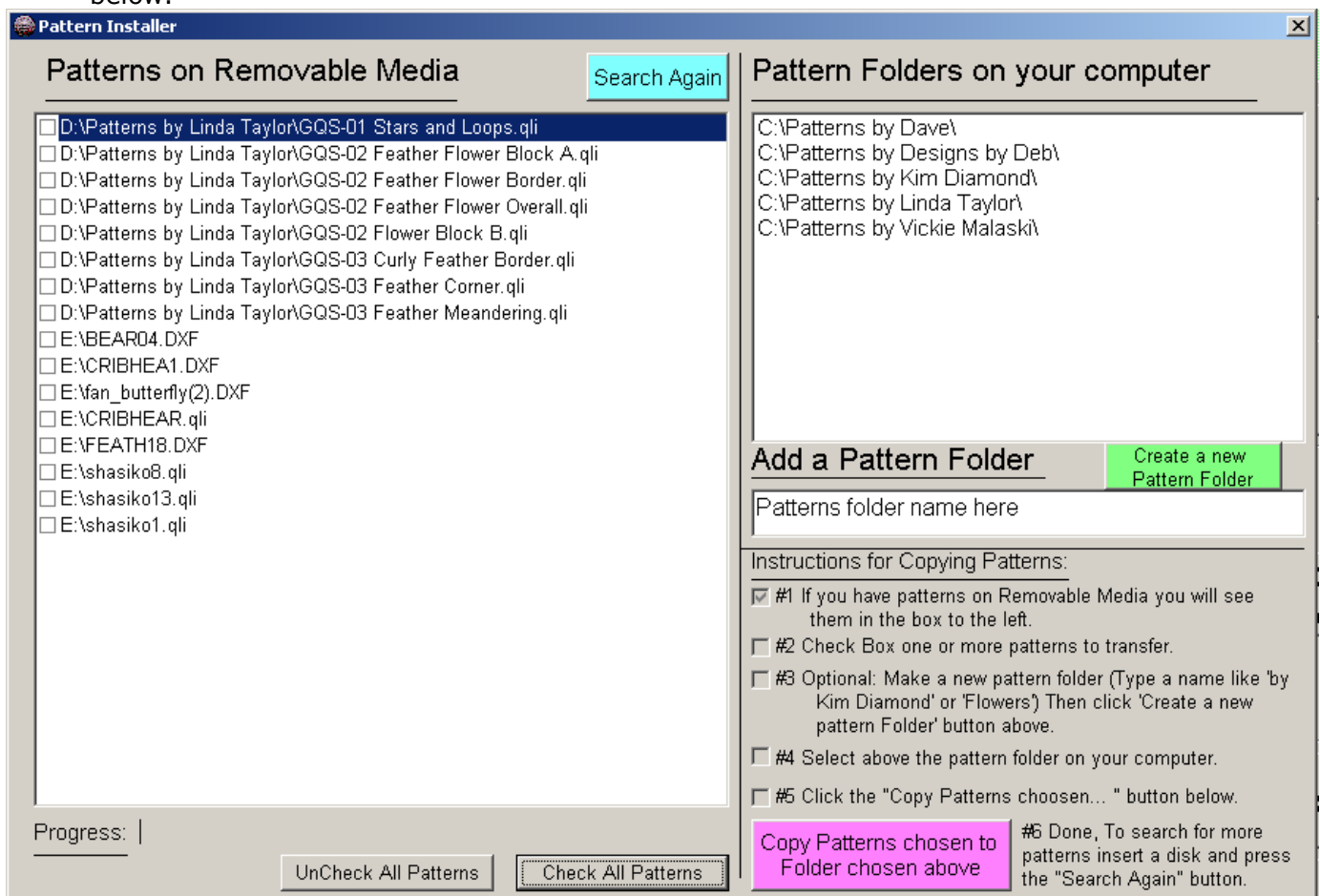
After the scan is complete the pattern files are displayed. If no files are located on the removable disk the left side of the screen is empty. Notice that all the pattern files/folders on your computer are listed on the right side of the screen.

In the middle section of the right hand side you can create and name new pattern folders. Simply enter a name for the new folder then click on **Create a new Pattern Folder**

Place a check in the box next to the patterns you wish to install and click the folder on your computer where you want the patterns to be installed as shown below.
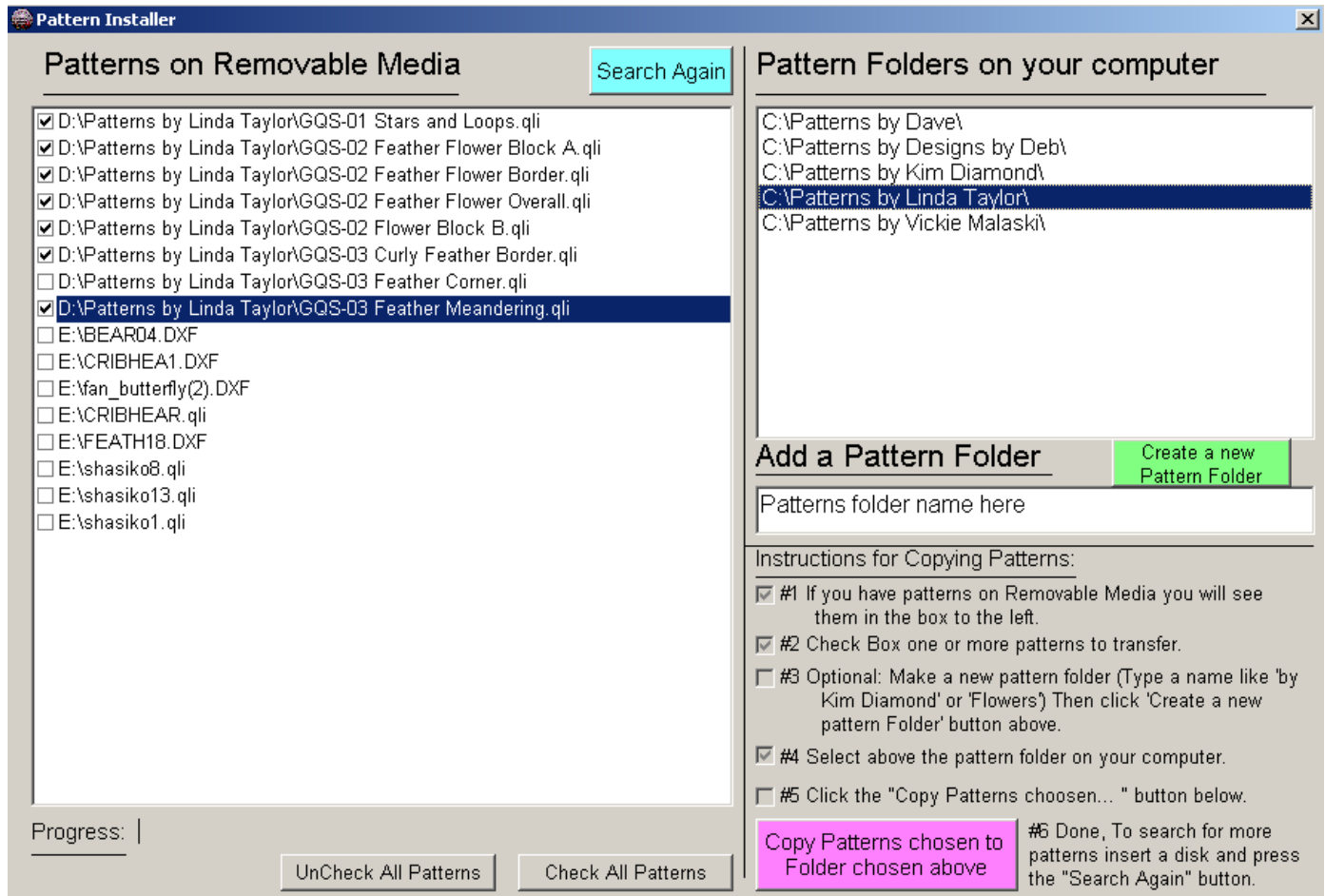
Click Copy Patterns chosen to Folder chosen above

Section 5.03   4.4 Oil

Primarily for Gammill Machines.
Selecting Oil will run a routine designed to assist the lubrication of the Gammill Machine.
   a. Thread should be removed past the take up arm.
   b. Remove Bobbin and Needle
   c. Move machine off of quilt
   d. Click on Oil
The system will now control the speed and direction of the machine to enhance the lubrication process for about 7 minutes. During this time, the speed and direction will change. User should stay clear of the needle bar during this time.

Section 5.04

Section 5.05   4.5 Help

The help screen provides online help in understanding system control buttons and input boxes.

(a) Help > Contents

Displays the Help dialog box where you can list a topic and read further information about using and understanding the system functions.

(b) Help > Tool Tips

If this option is checked you can view software tips on the screen. Move your curser over the

control button or input box and hold it there momentarily, the tips are displayed.

(c) Help > What's This

Click on this option and a question mark appears. Move the cursor and question mark to any active button on the screen and click. Information about that button is displayed on the screen. A shortcut for this function is the question mark shown to the right of the Help option.

(d) Help > About

Click on this option to see which version of **PrecisionStitch** is installed on your computer. This is also useful for retrieving your controller serial number so pattern designers can send you encrypted patterns.

Article VI.   PrecisionStitch™ Main Screen

The **Main Screen** fills the monitor so it can be viewed as you stand at the quilting machine.

> **NOTE**: When you change any settings on this screen by highlighting and inputting new values you must always press the **enter** key to input the new values.
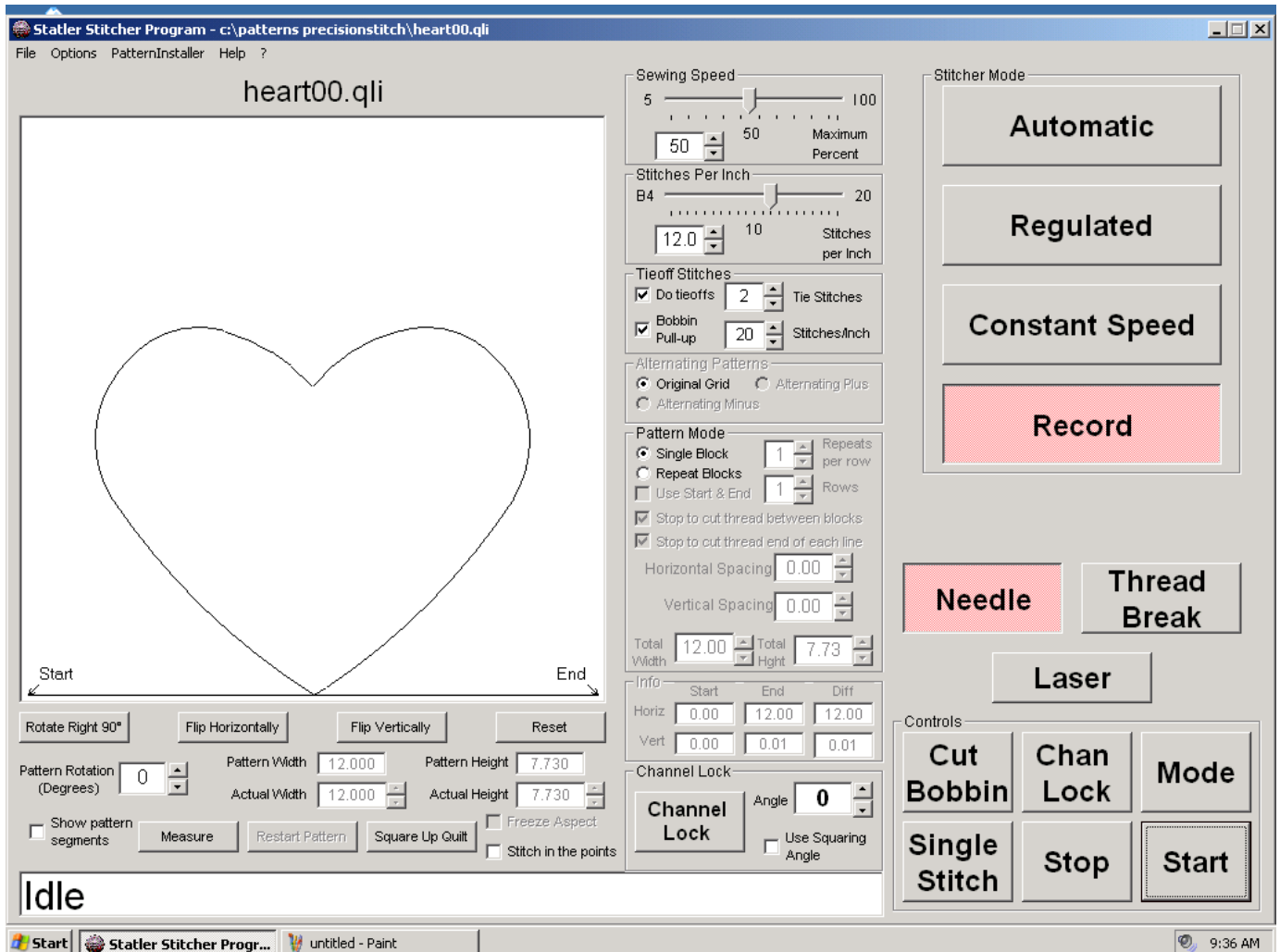
Section 6.01   Pattern Information

The picture above shows the main screen displaying the heart00.qli pattern on the left side. The file name is displayed above the picture. The file's location is shown at the very top of the screen.

When a pattern is opened the default **Pattern Mode** Pattern Mode setting is Single Block. This means that there are several functions that are not available in this pattern mode and are therefore grayed out on the screen.

(a) Pattern Display

Click anywhere in the white part of the screen displaying the pattern to open the **Magnified Pattern** screen. This screen gives you an enlarged view of the pattern should you need a closer look.
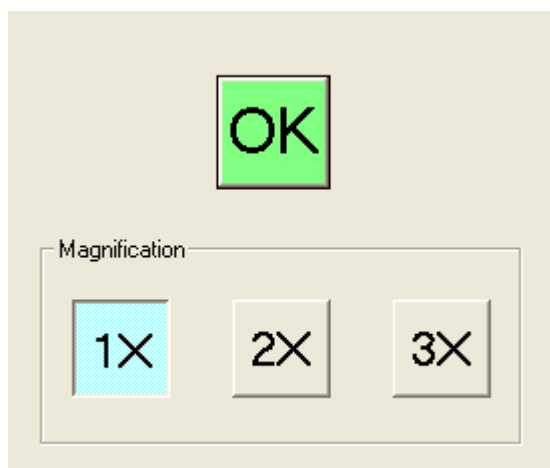
You can increase the magnification to two or three times if you desire. Click **OK** on the enlarged pattern screen to close it.

The "**Start**" and "**End**" are shown on the pattern. If start and end are at the same location "**Both**" is shown.

When positioning a single pattern for stitching, you will be asked to input the four corners of the block or other space where the pattern is to be stitched. The four corners of the white space displaying the pattern represent these four corners.

(b) Rotating the Pattern

Use the buttons below the picture to rotate, flip or reset the pattern position. Whatever position the pattern is displayed is the position it is stitched in the block.

The pattern can be rotated in 90° increments using the **Rotate Right 90°** button or any increment using the **Pattern Rotation (Degrees)** input box. To use the input box you can highlight the current value then type in the new value with up to 2 decimal places and hit enter or you can use the up / down arrows to change the values.
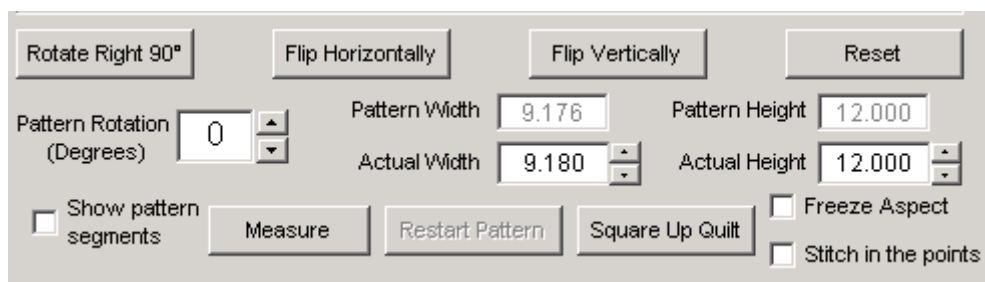
(c) Flip Horizontally

Click this button to flip the pattern horizontally from left to right.

(d) Flip Vertically

Click this button to flip the pattern vertically (turn it upside down.) A time you might use **Flip Vertically** is when stitching repeat patterns with **Start** and **End** near the top. When stitching allover patterns you can use the **End of Previous Set** option to locate the next row to be stitched. The **End of Previous Set** option uses the **End** point of the pattern. If the pattern is set for a large height the **End** point of the pattern is rolled onto the take-up roller when the quilt is advanced. By flipping the pattern vertically (turning the pattern upside down) the **Start** and **End** points are positioned at the bottom making the **End** point of the pattern accessible for the **End of Previous Set** option(see **Stitching Patterns at Maximum**

Height for Your Machine Stitching Patterns at Maximum Height for Your Machine).

(e) Reset

Click this button to reset the pattern orientation and size to that of its original state when loaded

(f) Show Patterns Segments

When a pattern is drawn in AutoSketch it is divided into segments such as lines, three point arcs and polylines. PrecisionStitch™ uses these segments when restarting a pattern after a thread break (see **Restart Pattern** Restart Pattern). You can view these segments on the pattern screen by checking the Show pattern segments box.

When **Show pattern segments** is checked the segments are shown alternately green and black on the screen as shown below.

Start   End
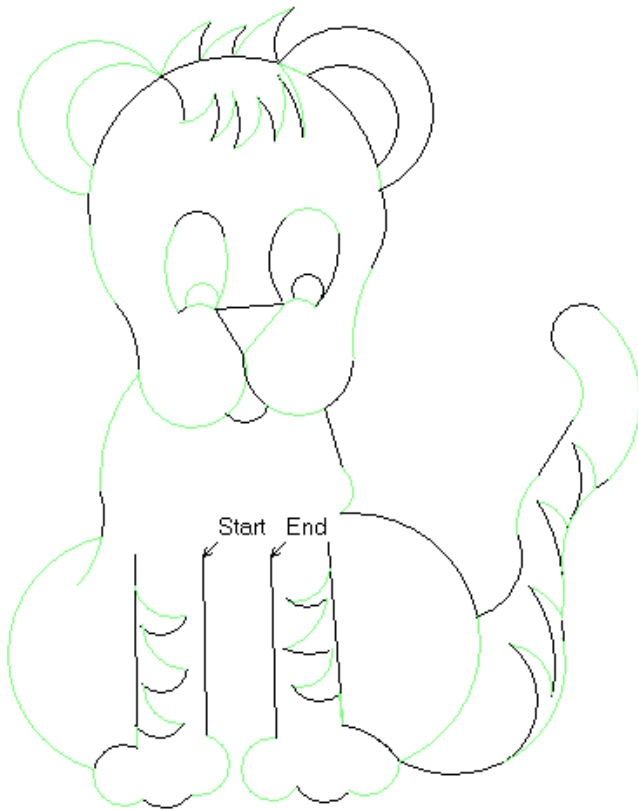
(g) Pattern Width and Pattern Height

With **Load as designed** *unchecked*. The **Pattern Width** and **Pattern Height** are normalized to 12" when the file is opened. This means that the larger measurement, either height or width, is set to 12" and the other measurement is set proportionally. These values are displayed in **Pattern Width** and **Pattern Height** and cannot be changed. For single blocks the sizing information is set when the **Start** button is pressed.

(h) Actual Width and Actual Height

When **Pattern Mode>Single Block** is checked this option is grayed out because a single block is sized and stitched by locating points on the quilt. When stitching **Repeat Blocks** you can change the **Actual Width** and **Actual Height**. See **Stitching Repeat Blocks** Stitching Repeat Blocks.

(i) Freeze Aspect

In **Single** or **Repeat Block** mode, any time a pattern is opened the program takes the largest measurement, either length or width, and makes it 12". The smaller measurement is proportionately sized. When you want to

change the width or height of a pattern you check Freeze Aspect to preserve the proportions of the drawing as it is resized.

You can uncheck **Freeze Aspect** to size the pattern to exactly fit the desired area.

(j) Stitch in Points

If the **Stitch in points** box is checked, the program will add a stitch at each "point" in the pattern (a point is an angle which causes the stitcher to momentarily stop when sewing.) This will cause the "points" to be sharp. This is especially useful with large stitches and pointy patterns.

(k) Measure

See **Measure Measure**.

(l) Restart Pattern

See **Restart Pattern Restart Pattern**.

(m) Square Up Quilt

See

Section 6.02   Speed

This section of the screen is where you set the stitching speed. Use the slider, up/down tumblers or type in the number to change the speed. The speed can be changed using any of these methods while the pattern is stitching.
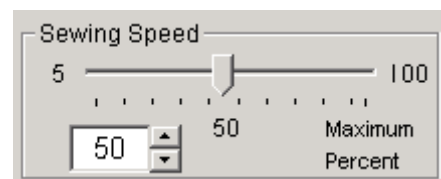
Section 6.03   Stitches per Inch (SPI)

This section is used to set the desired stitches per inch. **B1/2-B4** are for basting stitches and only available in **Regulated** Mode. Basting is adjusted in 1/2" increments and **Stitches Per Inch** can be changed in ½ stitch increments. **Stitches Per Inch** is adjustable while sewing in **Regulated Mode**. Up/down tumblers appear for **Stitches Per Inch** when you start **Regulated** stitching.

Note: Settings for SPI are kept separate.
This means that once a SPI is set in Automatic mode, then Regulated is used at a different SPI setting, when returning to Automatic mode, the SPI will be as you set it. The same is true if you return back to Regulated mode.
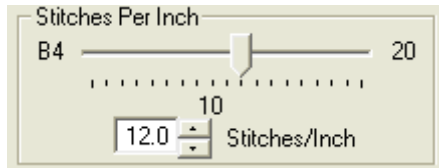
Section 6.04   Tieoffs

Use this section to set the number of stitches and stitches per inch for each tieoff and to disable the initial Bobbin Pull-up stitch at the beginning of sewing. The settings below indicate that two tie stitches will be taken at the start and end of the pattern and the length of those two stitches is 20 stitches per inch.
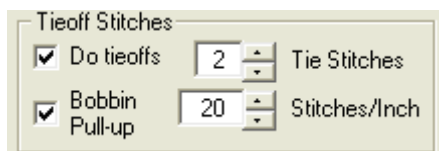
Section 6.05   Alternating Patterns

This is one method you can use to stitch Alternating patterns. The second method is described in **Alternating Patterns Alternating Patterns**.

Some patterns such as cloud00.dxf need to alternate each row such that the clouds on the top row are moved over slightly then centered over the clouds on the bottom row. The picture below shows three repeats and two rows of cloud00 that do not alternate.
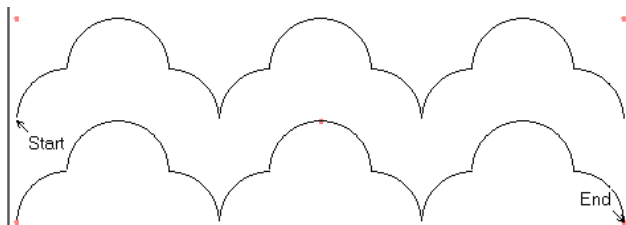
This is how the pattern displays when **Original Grid** is selected under **Alternating Patterns** .

Alternating Pattern Grid.
Shown is Alternating Plus with the Trim & Tie

When **Alternating Plus** is checked the program adds one repeat to the top row and centers the rows as shown.
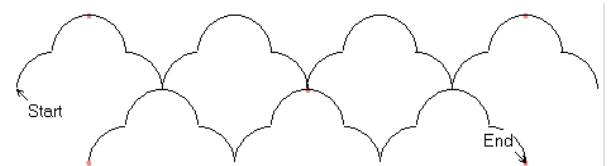
When **Alternating Minus** is checked the program subtracts one repeat from the top row and centers the rows

Note the location of the five red dots that represent the corners and center of the design. When the program calculates **Total Width** and **Total Height** for these patterns it calculates between the lower left and right corners and/or between the upper left and right corners (these distances are equal.). Any part of the pattern shown outside the red dots will stitch off the quilt.

Trim & **Tie** options

When **Alternating Plus** is checked, **Trim** is used to trim the portion of the pattern displayed to the left of the left edge or right of the right edge leaving a smooth edge.

Tie is used to force no-sew lines between Segments trimmed at the edge. Otherwise, vertical lines are sewn between trimmed segments.
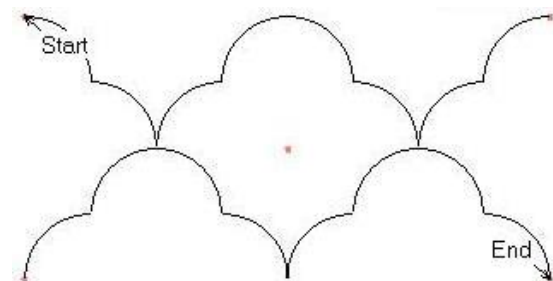
Shown with Trim

Section 6.06   Pattern Mode

This section is used to designate a pattern for a single block or for repeat blocks. When Single Block is checked all other areas of this section are grayed out. When Repeat Blocks is checked you can change the Repeats per row, the number of Rows and other information for repeat blocks. See **Stitching Repeat Blocks** Stitching Repeat Blocks.

The picture below shows the functions available when **Repeat Blocks** is selected in pattern mode.

In this screen you designate the number of repeats per row as well as the number of rows. You can choose to have the stitching stop between blocks or at the end of each line so the thread can be cut.

The **Horizontal Spacing** option is used to adjust the distance between repeats. For an example of this see **Repeating Block Patterns in Borders or Sashes**Repeating Block Patterns in Borders or Sashes**.

The **Vertical Spacing** option is used to adjust the distance between rows such as to adjust patterns that interlock from one row to the next.

Section 6.07   Info

When Repeat Blocks is checked the Info section is active. This section gives the coordinates of

the Start and End points with the origin at the lower left.

The **Vert Diff** is important for repeatable patterns. This number must be 0 or nearly 0 for the pattern to repeat.

Section 6.08   Channel Lock

This option is available in **Regulated or Constant Speed** mode and locks the movement of the machine head to the input angle.

The raised button shown above indicates that **Channel Lock** is not activated. Clicking on the button turns it red indicating that it is active.

Set the desired angle by typing in the value and pressing **Enter** or by using the up/down tumblers. If you wish to use the angle obtained from **Square Up Quilt**, check the **Use Squaring Angle** box to use the squaring angle. Using the squaring angle will give you a line of stitching that is parallel to the line you used in the **Square Up Quilt** function. An angle set to 0 restricts vertical movement of the machine along a horizontal line. An angle of 90° restricts horizontal movement of the machine along a vertical line.

(a) Using Channel Lock for Cross Hatching

Cross hatching is done by stitching parallel lines in one direction then rotating the angle 90° and stitching parallel lines in the other direction. To do this quickly you can set the squaring angle to the stitching angle then toggle the Channel Lock angle from 90° to 0° as described below.

1. In **Regulated** or **Constant Speed** mode, click **Options > Set Squaring Information** to open the **Squaring Angle** screen.
2. Type in **45** and click **OK**.
3. Check **Use Squaring Angle** and leave **Channel Lock Angle** = 0.
4. Position the head where you want to start stitching. Press **Channel Lock** and **Start** to

begin stitching. The stitching will be at 45°. When you reach the end of the stitching line press **Stop**.

5. Press **Channel Lock** to turn it off. Hold down **STOP** and press **Channel Lock** to change **Angle** to 90°.
6. Press **Channel Lock** and **Start** to begin stitching. The stitching will be at 90° + 45° for a total of 135°.

Section 6.09   Stitcher Mode
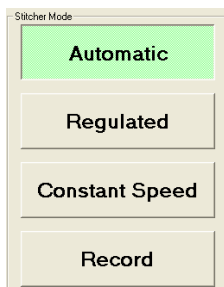
Choose the stitching mode in this section. Each mode is designated by a color. When **Start** is pressed the mode's corresponding color is displayed in the background indicating that the mode is active. The background can be seen from the quilting machine.

Automatic is green, **Regulated** is orange, **Constant Speed** is Blue and **Record** is red.

Section 6.10   Needle and Thread Break Controls

Use these buttons to toggle the **Needle** and/or **Thread Break** off and on. The red shown below for **Needle** indicates **ON**. The raised button for **Thread Break** indicates the thread break is **OFF**.
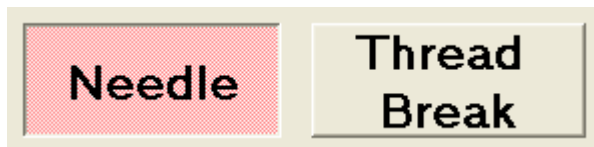
When Needle is turned off the sewing head follows the pattern without stitching. Use this feature to do test runs of patterns before actual stitching is done. When the sewing head moves with the needle off this is called "No Sew".

When threading the sewing head the thread is wrapped around the thread break sensor. If the sewing head is stitching with the **Needle** and **Thread Break** on and the thread break sensor

stops turning, the Thread Break Detected screen is displayed as shown below.
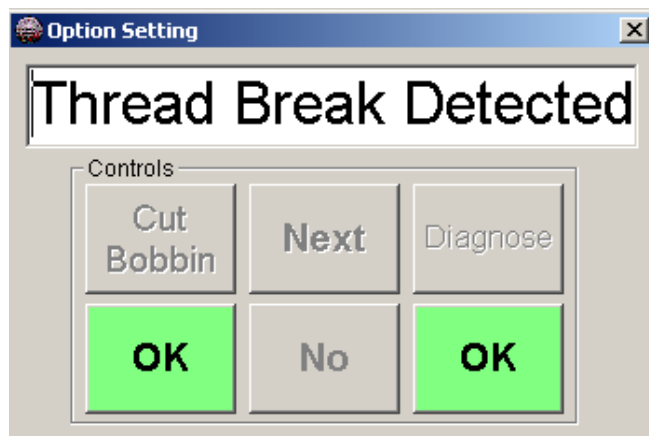
When this screen is displayed in **Automatic** or **Record** modes the sewing head stops stitching. When this screen is displayed in **Regulated** or **Constant Speed** mode the sewing head continues to stitch. Press **OK** to close the screen.

Section 6.11   Laser

Newer models of StatlerStitcher quilting machine include an automatic laser positioner for locating points. See **Options > Automatic Control of Laser Options > Automatic Control of Laser**.
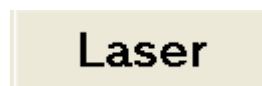
Section 6.12   Controls

Most of the functions can be controlled from the keypad located on the quilting machine head. The positions of the **Controls** buttons on the **Main Screen** and on any pop up screen correspond to those on the keypad. The buttons on the screen are large so they may be viewed as you stand at the quilting machine.

When using various options of the program some of the **Controls** buttons take on different functions.

(a) Cut Bobbin

(b)   The Cut Bobbin button is available whenever the system status is Idle. Press this button and the machine moves to the left a few inches giving you time to grasp the top thread. The machine then moves back to the stop point and takes a single stitch. While the machine moves back and takes the stitch, keep light tension on the top thread. You can then pull on the top thread to raise and cut both threads.

Additionally, while a pattern is sewing in **Automatic**, **Constant Speed or Record** Mode, the **Cut Bobbin** button becomes an **Up Arrow**. Use this button to increase the sewing speed. In **Regulated** mode the **Up Arrow** is used to increase the **Stitches Per Inch**.

(c) Chan Lock

This key toggles the **Channel Lock** function off and on and is available in **Regulated**, **Constant Speed** or **Record** modes. In **Automatic** mode this button is the **Option** button. **NOTE:** the belts must be engaged in order to use the **Channel Lock** function.

(d) Option - Next

When the **Option** button is pressed you are able to call up the **Measure**, **Square Up Quilt, Restart Pattern** functions or toggle the **Needle, Thread Break** or **Laser** functions OFF/ON. When the dialog boxes for these functions are displayed, **Option** changes to **Next** to enable you to step through the available options.

(e) Mode

This button steps through the modes, **Automatic**, **Regulated**, **Constant Speed** or **Record**, until the desired mode is reached.

(f) Single Stitch – Yes – OK

(g)   Causes the machine to take a single stitch. This button changes to YES when stepping through the available options and changes to OK when dialog boxes are displayed, allowing you to call up functions and to input information from the sewing head or the computer**.**

Additionally, while a pattern is sewing in **Automatic**, **Constant Speed or Record** Mode, the **Single Stitch** button becomes a **Down Arrow**. Use this button to decrease the sewing speed. In **Regulated** mode the **Down Arrow** is used to decrease the **Stitches Per Inch**.

(h) Stop – No – Cancel

Stops the stitching abruptly. You must **Restart Pattern** to finish sewing. This button changes to **NO** when stepping through the available options and changes to **Cancel** when the **Options** dialog boxes are displayed. This allows you to choose not to call up a function and/or to cancel options.

(i) Start – Yes – OK

Starts the stitching or opens the dialog boxes for other functions. This button changes to **YES** when stepping through the available options and changes to **OK** when dialog boxes are displayed allowing you to call up functions and to input information from the quilting machine.

Additionally, while a pattern is sewing the **Start** button becomes a **Pause** button. This allows you to stop the stitching without losing pattern information. See **Pause & Quick Pause** Pause Stitching.

Section 6.13   System Status

The text box at the bottom left of the **Main Screen** displays the system status.

Section 6.14   Handle Buttons

Front and rear handles of the sewing head are
wired with buttons:

Right Handle
Red Button – **Stop/No/ Cancel**

Left Handle
Black Button -- **Single Stitch/ Yes/OK**

Article VII. Inputting Location Points

This system inputs location points via the sewing head. The location of the **needle** is the point it records. For the greatest accuracy in inputting location points the needle should be directly over the point.

If your sewing head is not equipped with a laser light for entering location points, the best way to achieve accuracy is to look directly into the center of the hopping foot down to the quilt top and align the needle from that vantage point. However, with the longer machine throat on the quilting system, looking directly down into the hopping foot can be difficult at times.

Newer machines are equipped with a laser which automatically illuminates when position is needed. The laser should be aligned (before starting the quilt) by manually lowering the needle into the fabric, retracting the needle again, and adjusting the laser so that is centers on the hole that the needle made in the fabric.

Here are some tips for achieving greater accuracy in setting location points:

Advance the quilt so the area you are working on is closer to you.

If you do not have a laser, use the hand wheel to lower the needle as close to the quilt top as possible without touching it, making it easier to see the needle location. This causes the hopping foot to lower as well. When the needle and hopping foot are in this lower position it is easier to run into seamline intersections as you move the needle over the quilt locating points. You'll need to be careful to avoid the intersections as you move the needle over the quilt.

Article VIII. Pause & Quick Pause

Pause
While a pattern is being stitched you can pause the stitching without loosing pattern information. The **Start** button on the control panel is used to pause the stitching and toggles from pause to stitching.

Note: The stitcher will pause when it reaches the end of the pattern segments it has already processed. In other words, it will pause at the end of the red line shown on the computer screen in the pattern window.

Quick Pause
While a pattern is sewing, **Quick Pause** will stop the sewing immediately, then allow you to continue. The keypad display will show the upper right key as the **Quick Pau**se Key

Article IX. Needle Off Operation – Testing

At some time you may wish to do a test run of a repeatable pattern before actually sewing. Perhaps you want a pattern to fall just inside a seamline or to perfectly place it where you want it. Once you have your pattern sized you can turn off the **Needle**, turn on the **Laser** then stitch the pattern with the needle off This is called No Sew stitching. Here are the steps to accomplish this.

1. Size the pattern to fit the space. This could be a block, border, sash or the entire quilt.
2. Click **Needle** to turn the needle off.
3. Click **Laser** to turn the laser on.

4. **Start** the pattern using your choice of location (i.e. upper left, lower left etc.).
5. Watch the laser light as the pattern is traced to make sure it stitches at the desired place.
6. If the pattern "stitched" as desired, click **Needle** to turn on the needle.
7. Click **Start** then choose **Same as last time** to start stitching the pattern that you just traced.
8. If the pattern did not trace as desired, resize it then retrace with the needle off.

Article X. Stitching and Appliqué

You may wish to stitch a pattern, and not stitch on top of appliqué that exists in the middle of the pattern. One way of doing this is the following:

  a) Start stitching the pattern with a slow speed.
  b) When the needle is close to the appliqué, press **Stop**.
  c) Refer to the pattern window to help you guess where the sewing would continue on the other side of the appliqué. Realize that the red line is somewhat beyond the point where you stopped. Click **Restart** and click on the other side of the appliqué where sewing should begin.
  d) Click **Back** and **Next** to find the best starting point, and click OK to continue.
  e) Later, use **Record/Sew Path** or **Regulated** to fill in any gaps between the pattern stitching and the appliqué

Advanced Method
Another method is to lay out the pattern in AutoSketch as being sewn.(SKF/DXF file of the pattern is required) Create an outline of the appliqué in the appropriate location on the drawing
(This can be a separate drawing or even a digital photo of the appliqué, sized appropriately)
With everything in place, lines crossing over the appliqué can be changed to **No-Sew** lines or even eliminated as needed. The Modified patterns would then be used in sewing the quilt.
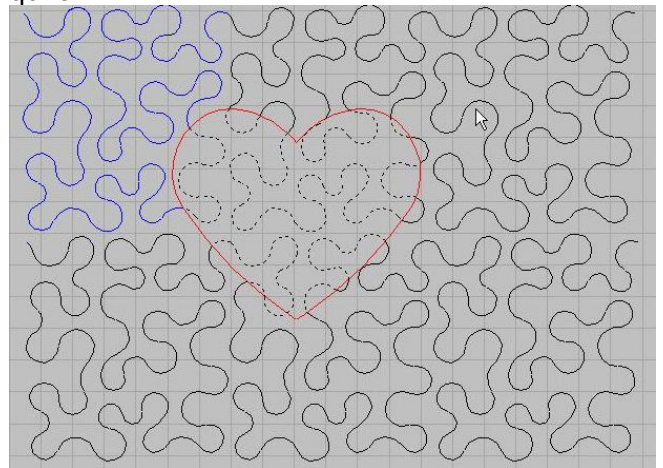
Example of pattern assembled in AutoSketch using actual pattern height and width information from PrecisionStitch. The heart represents an appliqué which is sized and placed. The heart will not be sewn over. All lines inside the heart were changed to No-Sew lines.
You have the choice of joining all blocks in a row together as one large pattern, or break out each individual modified repeat to use separately.

Article XI. Measure

Use this function to measure any distance on the quilt. There are two ways to access the measure function:

1. In any **Stitcher Mode**, from the main screen click **Measure**, or In **Automatic Mode**, from the main screen or the keypad click **Option** to display the dialog box then click **Next** until the **Measure? Option** is displayed, then click **Yes**.

2. The **Measure Tool** dialog Box is displayed. Following the instructions on the screen, move the needle to one end of the line to measure. Use **OK** to enter location data. Move the needle to the other end of the line to measure and click **OK**. As you move the needle over the quilt, the measurements are continuously updated. The next screen displays the **Width**, **Height** and **Length** of the line you measured.

Once the first measurement is complete, the **Measure** screen is set up to measure another line. Once you are done with the measure tool, click **Cancel** to exit and close the screen..

The picture above shows the results of a measurement in **Automatic Mode** with **Repeat Blocks** checked. This is the only time that the values calculated by the Measure function can be transferred to the main screen for **Actual Height**, **Total Height**, **Actual Width** and **Total Width**. In addition you can use the measured Width and Height values to calculate the repeats per row and the number of rows respectively.

Section 11.01 Transferring Measurements to Main Screen

When sizing repeat blocks it is useful to measure the exact space to fit the pattern repeats such as in borders or sashing. If a pattern is open on the screen and **Repeat Blocks** is checked when the **Measure Tool** is

called you have the option to automatically transfer the measured values to the **Main Screen**.

After clicking the end of the line and viewing the displayed values, click on any of the ten buttons to transfer the following measurements to the pattern displayed on the **Main Screen**:

(a) Transfer to Actual Width

Clicking this button transfers the **Width** measurement to the **Actual Width** of the pattern. The **Actual Width** is located just under the lower right side of the displayed pattern.

(b) Transfer to Total Width

Clicking this button transfers the **Width** measurement to the **Total Width** of the repeat pattern. The **Total Width** is located in the **Pattern Mode** section when **Repeat Blocks** is checked.

(c) Transfer to Actual Height

Clicking this button transfers the **Height** measurement to the **Actual Height** of the pattern. The **Actual Height** is located just under the lower right side of the displayed pattern.

(d) Transfer to Total Height

Clicking this button transfers the **Height** measurement to the **Total Height** of the repeat pattern. The **Total Height** is located in the **Pattern Mode** section when **Repeat Blocks** is checked.

Section 11.02 Transferring Diagonal Measurement to Main Screen

The diagonal measurement is shown in Length. You can transfer this measurement to **Actual Width** or **Actual Height** both located just under the lower right side of the displayed pattern.

Section 11.03 Calculate Repeats

The measure tool can be used to calculate the **Repeats per row** for **Repeat Blocks** using the **Actual Width** of the pattern and the measured width.

1. Open the file and set your **Actual Height** and **Actual Width** to the desired size.

   Measure the width of the quilt.

   Click **Calculate Repeats**. The system calculates the number of repeats needed to fill the **Total Width**, displays the number of Repeats per row and displays the revised pattern on the screen.

Section 11.04 Calculate Rows

The measure tool can be used to calculate the **Rows** for **Repeat Blocks** using the **Width** of the pattern and the measured width.

1. Open the file and set your **Actual Height** and **Actual Width** to the desired size.

   Measure the length of the area to be stitched.

   Click **Calculate Rows**. The system calculates the number of rows needed to fill the **Total Height**, displays the number of Rows and displays the revised pattern on the screen.

Section 11.05 Calculate Repeats and Rows for the Entire Quilt

You can use the **Measure** tool to calculate the number of **Repeats per row** and the number of **Rows** for the entire quilt.

1. Open the file and set your **Actual Height**, **Actual Width** and **Vertical Spacing** to the desired size.
2. Open the **Measure Tool**.
3. Click any two points on the quilt.
4. Highlight the **Width** measurement and type in the quilt width. DO NOT hit Enter.
5. Highlight the **Height** measurement and type in the quilt length. DO NOT hit Enter.
6. Click **Calculate Repeats** and the system calculates the number of repeats and displays them on the screen.
7. Click **Calculate Rows** and the system calculates the number of rows and displays them on the screen.
8. Click **File > Save Settings**.
9. Decrease the number of **Rows** until **Total Height** is less than sewing head throat size.
10. Press **Start** to begin stitching.

Article XII. Squaring Up the Quilt

All quilts are not always straight from edge to edge or along borders, sashings, etc…
Precision Stitch enables the user to make adjustments to compensate for areas not straight.
Square Up Quilt is the tool for this purpose. With an area identified as needing a correction or squaring up. The user will identify 2 points along a seam or line for squaring up to.

Section 12.01 Squaring Angle

This angle represents the different from a perfectly straight line. and a line identified using **square up quilt**. The system then uses this angle to rotate the sewing path to match the squared up angle.

The picture below shows the pattern of three circles stitched without the squaring angle. The straight line represents a seam line.
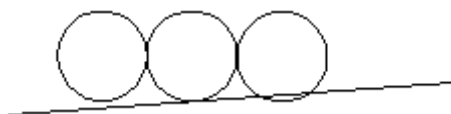
The pattern below shows the pattern stitched with a squaring angle.

The three circle pattern is rotated at an angle equal to the squaring angle which places the pattern parallel to the seam line.

In the **Channel Lock** function you have the option of using the squaring angle to set the angle of the stitched line. Check **Use Squaring Angle** in the Channel Lock function to stitch a line parallel to the line you used to square up the quilt.

Section 12.02 Square Up Quilt Tool

Click **Square up Quilt** to display the Square up dialog box.
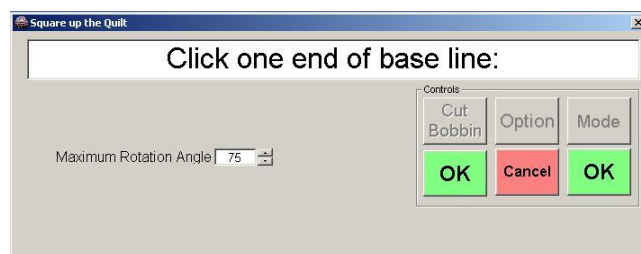
The Maximum Rotation Angle is used when squaring up vertical lines and generally the default value is not changed.

Follow the instructions on the screen and move the needle to one end of the base line and click **OK**.
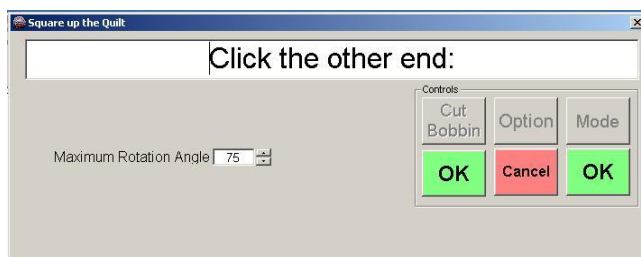
When the other end is clicked the dialog box closes. The squaring angle is calculated and stored in memory. It is held in memory until the file is closed or until another squaring angle is calculated. To set the squaring angle to 0 or to any angle click **Options > Set Squaring Information** or click **Square Up Quilt** , **Cancel**.

Each time a pattern is opened the squaring angle is set back to 0. If you have set the squaring angle and you experience a system abort you can enter the same squaring angle using **Options** > **Set Squaring Information**. In order to do this you will need to know what the previously squaring angle was.

Use this mode to automatically stitch patterns from pattern files. The two **Pattern Modes** available in this mode are **Single Block** and **Repeat Block**. Stitching a single block means that one repeat of the design is stitched. Single blocks are sized and located on the quilt via the input of four location points representing the four corners of the block. Patterns fill the designated area to the minimum margin you

specify. If the block is out of square or not perfectly sized the pattern is rotated to fit squarely in the area.

Repeat Block is used any time more than one repeat of the pattern is needed such as for sashes, borders or allover designs. Repeat patterns are located using a variety of options such as the center of the area, one of four corners or the end of the previous set of stitched repeats.

Square up Quilt can be used on many sections of a quilt to assure patterns are sewn at the proper angle required for an area.

Features for sizing and stitching patterns include

For repeat blocks, as you increase or decrease the number of repeats, rows and the spacing between them, the complete pattern is displayed on the screen. This gives you the opportunity to see how the pattern rows interlock for even spacing over the entire quilt.

✳ Stitching can be paused and restarted without losing sizing or location information.

✳ When the thread breaks, stitching stops automatically (if **Thread Break** is **ON**) and you can restart the pattern at the segment you choose without starting over from the beginning of the pattern.

<h1 align="center">Article XIII.   Automatic Mode</h1>

Section 13.01 Stitching Single Blocks

Open a pattern file. In **Pattern Mode** click **Single Block**. In this mode location points and other sizing information are entered after the **Start** button is pressed. Before we do that you should understand how the pattern is placed on the quilt in single block pattern mode. The only information needed for single blocks are the four location points and the **Minimum Margin**. The four location points define the size of the block, the squaring angle and the block's location on the quilt.

(a) Sizing the Pattern

The **Minimum Margin** is the space you want between the edge of the block and the stitching. For example a 10" square block with a **Minimum Margin** of 1" results in a stitched pattern 8" square as shown by the heart on the left of the diagram below.
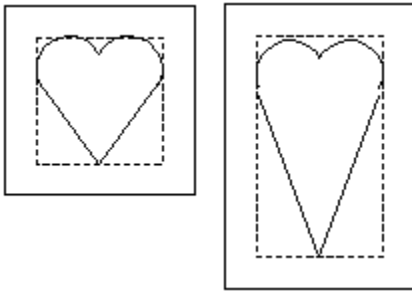
If the pattern is roughly square and the block is rectangular, the same pattern will be elongated to fit within the minimum margin of the rectangle as shown by the heart on the right. In the case of something like the heart this is a good way to have a tall heart without drawing another pattern. However, if the pattern is a tall, thin soldier it is stitched as a short, fat soldier in a square block. In each of these examples the pattern is sized without regard to height and width proportions, known as aspect ratio.

With **Freeze Aspect**.checked, the pattern will retain its size and be centered within the area defined

(b) Orienting and Locating the Pattern in Single Block Mode

You have the option to rotate the pattern in 1º or 90º increments and/or flip it vertically and/or horizontally. Use the buttons below the pattern to place the pattern in the proper orientation.

To locate the position of the block you will input the locations of four points in order:

1. Lower Left Corner
2. Lower Right Corner
3. Upper Right Corner
4. Upper Left Corner
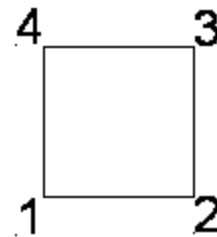
If a pattern is rotated or flipped on the screen it is stitched exactly the same inside the four location points. Cat00 is shown below rotated at 90º.
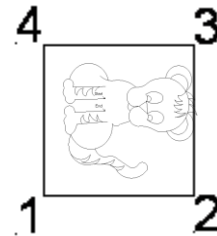
It is helpful to remember that the lower left corner of the pattern displayed on the screen corresponds to the lower left corner location point you designate on the quilt. This is true no matter the rotation of the pattern displayed

1. Click **Start**. The **Block Size** dialog box is displayed. Change the **Minimum Margin** to the desired number.

2. Move the needle to the lower left corner of the block and click the **Black Button** or **OK**. Continue following the instructions on the screen to enter the other three points in order. After the last point is entered the screen displays "**Click to move to starting point.**"

3. Click once more and the needle moves to the starting point. As the needle moves to the starting point the dialog box displays

"**Moving to starting point**". When the needle reaches the starting point a single stitch is made and the dialog status changes to "**Pull up bobbin thread. Click to start:**" The machine will not move away from this point so the easiest way to pull up the bobbin thread is to hold the top thread and slide a long straight pin under the hopping foot. As the pin emerges from under the hopping foot the bobbin thread comes with it. Grasp both threads and pull them up and out of the way. You will need to hold both threads taut as the tieoffs are made in the next step.

4. Click again while holding the threads. The tieoff stitches are completed and stitching begins. To pause the stitching, press either the **Quick Pause** or **Pause** button. See **Pause & Quick Pause** Pause Stitching. If a thread break occurs or the stitching is stopped see **Restart Pattern** Restart Pattern.

5. When stitching is complete the final tieoff stitches are completed and the system returns to idle status.

Section 13.02 Triangular Blocks

Triangular shaped blocks are placed by identifying the 3 points of the triangle to fill. Load the pattern to use. Set **Pattern Mode** for **Single Block** then press **Start**
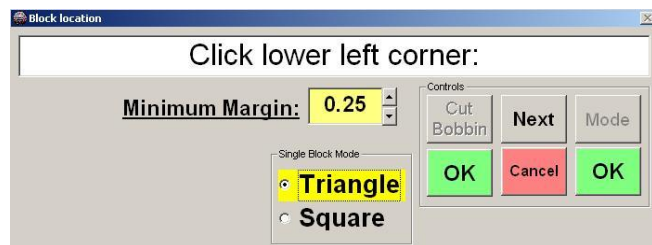
Click on **Triangle** as the area to be defined. Adjust the **Minimum Margin** as needed.

Following the on screen prompt, **Click lower left corner** of the triangle. Move the needle to locate and **Click lower right corner,** then the needle is moved to **Click top of triangle**.

With all three points identified, a display of the pattern placed in a triangle, as defined, is shown on the screen.
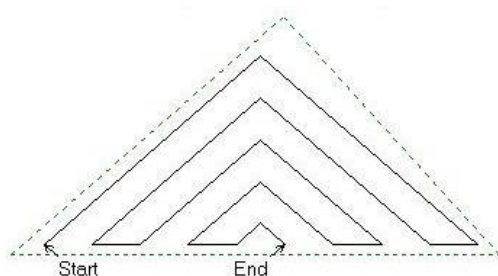
Pattern is shown inside a defined triangle
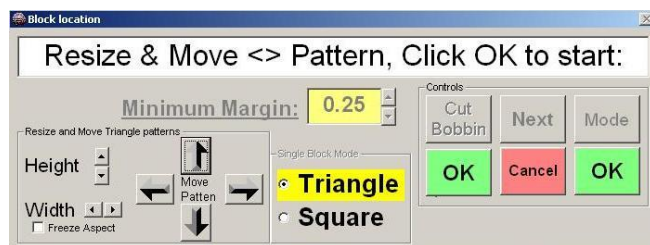
Working with the buttons displayed. The pattern **Height** and **Width** can be increased or decreased. The display will reflect the change in relationship to the defined triangle. The pattern position can be **Moved** in relationship to the triangle as well.
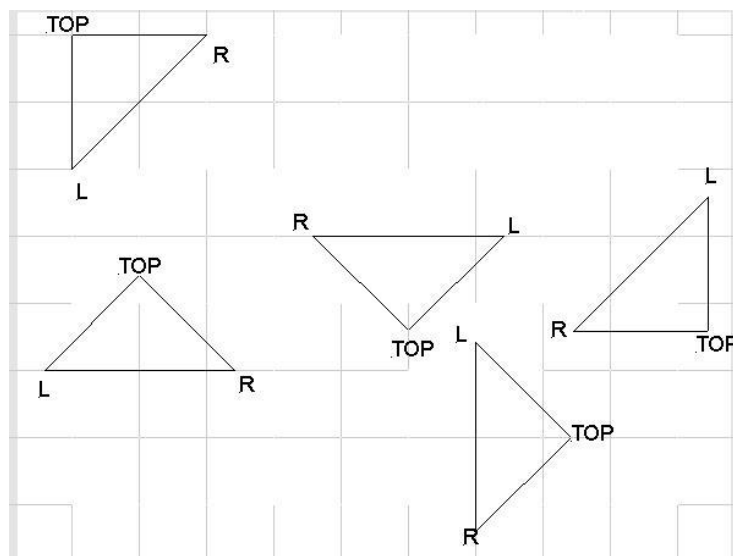
This diagram shows the location of points to be identified when triangles are in different positions.

Note: When resizing or moving a pattern in this mode, the pattern displayed remains stationary, while the triangle is shifted and resized.

Note: If **Freeze Aspect** is used, these patterns may not size correctly to the defined triangle.

Another method

Triangular Blocks Using "No Sew" Lines

Another way to locate a triangular pattern is to set up a "No Sew" line in AutoSketch when the pattern is drawn. See the AutoSketch User manual for more information on No Sew lines.

The picture below shows a triangular pattern drawn with no sew lines.

When this pattern was drawn, the proper margins were included for the triangle. To size and locate this pattern on your quilt:

a) Open the pattern for the block to be stitched.
b) Choose **Repeat Blocks** leaving **repeats per Row** and **Rows** at 1 each. Measure the base of the triangle and transfer to **Total Width**. Measure the height and transfer to **Total Height**.
c) **Square up Quilt** using the base of the triangle.
d) Click **Start.** Choose **Center of Area** for starting location.
e) **Center of area** is located at halfway along the baseline, and halfway to the top of the triangle
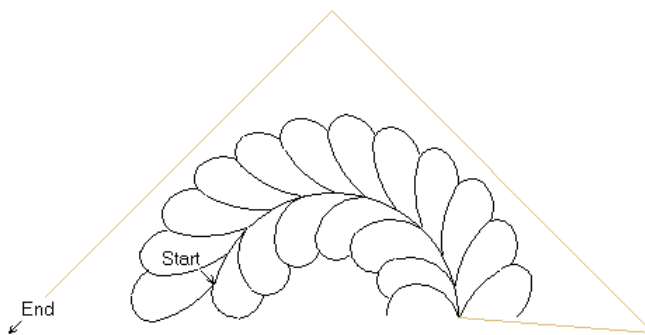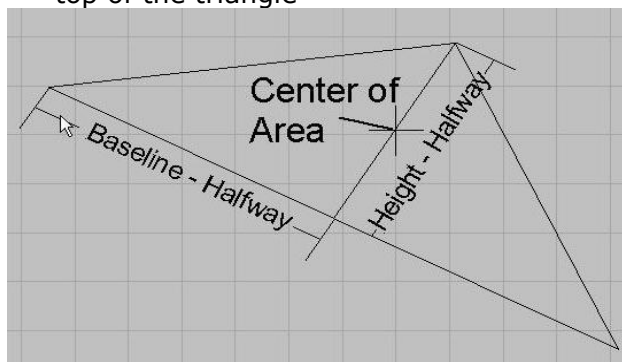

Center of Area

Section 13.03 Stitching Repeat Blocks

When stitching repeat blocks you set the width, height and orientation of the pattern and then you have several ways to locate the pattern on the quilt such as the upper or lower corners of the space, the center of the space and more.

In the previous section, Single Blocks, if the quilt was out of square relative to the sewing head, the squaring angle was determined when the four corners of the block were located. With repeat blocks the location of the pattern is designated using one point. Therefore it is important to use the **Square up Quilt** function as you stitch repeat blocks. Some guidelines for squaring up the quilt are:

✴ In allover patterns, each time the quilt is advanced. Use a row of blocks or any piecing that is repeated across the width of the quilt.

✴ In blocks, each time you prepare to stitch another block. Use one side of the block.

✴ In sashes, each time you prepare to stitch another sash. Use the long edge of the sash.

✴ In borders, each time you prepare to stitch a border or part of a border. Use the long edge of the border along a seam line.

Remember that the squaring angle is held in the system memory until you change it using the **Square up Quilt** function; set it to 0 from the options menu or when you close the file. You want to use the squaring angle for the area you are currently working on, not from the previous area.

In most cases you square up the quilt just before pressing **Start**. To remind you that a squaring angle is in memory, the **Square Up Quilt** button changes to yellow when the angle is not equal to 0.

(a) Using Start and End

Patterns whose Start and End are located at the outermost edges (Vert Diff = 0) will be continuous when repeated across a row. However patterns whose Start and End are not located at the outermost edges will not be

continuous when repeated across a row. For these patterns you have the option of connecting the End of one pattern to the Start of the next in order to make it continuous.

The pictures below show pattern borde02a whose Start and End are not on the outermost edges of the pattern. In the first picture **Use Start & End** is not checked so the system places the outermost edges of the blocks next to each other.


The picture below shows the same pattern repeats with **Use Start & End** checked.
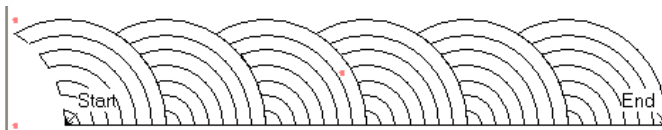
Another way to achieve the same results as the picture above is to uncheck **Use Start & End** and adjust the **Horizontal Spacing** to a negative number.

(b) Locating Repeat Patterns

When a pattern is displayed on the screen and **Repeat Blocks** is checked you will see five red dots: four in the corners and one in the center. When **Start** is pressed for **Repeat Blocks** the screen below is displayed.
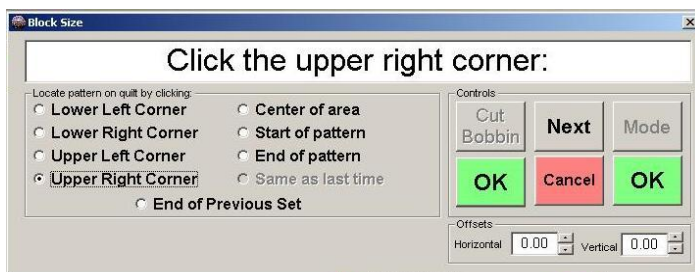
The first five options listed on this screen correspond to the five red dots on the display screen. As an example we will take the Upper Right Corner chosen above. To visualize this choose **File > Print** to print the pattern on the screen.

Although the red dots do not print, find and mark the location of the upper right red dot on

you paper. Draw a vertical line on the right side of the pattern and a horizontal line across the top as shown below. The intersection of these lines is the upper right corner.

Once you choose the option to locate the pattern, move the needle to the location on the quilt that represents that position. In this example that is the upper right corner of the block. When the needle is at the correct position, click **OK** to input the location.
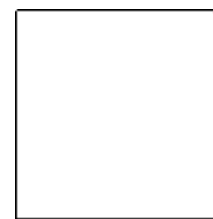
If you choose **Upper Right Corner** to locate your pattern, the dot you just located is positioned at that point. As an example we take a 12" block and size the Cat00 pattern to a height of 10". We will choose **Upper Right Corner** as the location point. If we then move the needle to the upper right corner of the block and click to input the location point, the stitched result is shown below right.
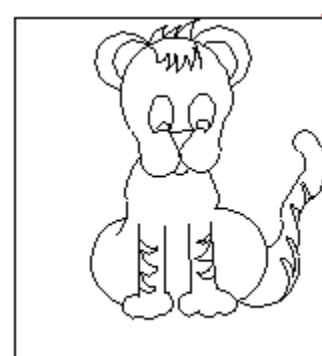
If you wanted to use the upper right corner but wanted to offset the pattern, then in **Offsets** input -1" in **Horizontal** and -1" in **Vertical.** This will give a 1" margin on all sides.

Another way to locate this pattern would be to choose **Center of Area** then move the needle to the center of the block. Using this method to locate the pattern means that the system has taken the center red dot and placed it at the location on the quilt that you designated as the center of the block.

Start of Pattern and **End of Pattern** are useful options for placing the start or end of a pattern at an exact point. An example is if you are joining a previously stitched segment of the border to the segment about to be stitched. The start and end points are noted on the display screen.

Same as Last Time is the exact point you used the last time the pattern was located.

End of Previous Set is used to locate the next row of stitching for an allover pattern. Place the needle over the last stitch of the last row and sewing will start on the next row.
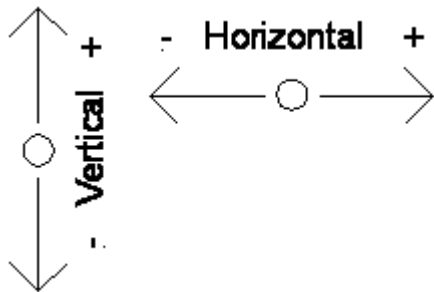
(c) Offsets

In **Repeat Blocks**, in addition to the 9 options described above for locating a pattern, you can also choose to locate a pattern a certain distance from the point you designate. The **Horizontal** and **Vertical Offsets** are used to enter the offset distance.

For example, you want the pattern to be placed 3 inches to the right of the left seam. If you choose Lower Left Corner to locate the pattern with a Horizontal Offset = 3, the pattern will be stitched 3" to the right of the left seam and even with the bottom seam as shown below.
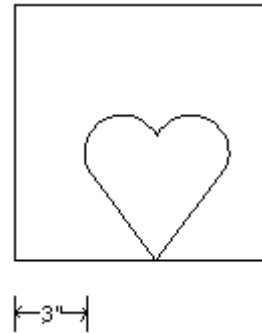
Section 13.04 Stitching One Repeat

If you wish to preserve the aspect ratio of a single pattern such as keeping a tall, thin soldier tall and thin, you will need to check **Repeat Blocks** in **Pattern Mode** which makes the **Actual Width** and **Actual Height** of the pattern active.

1. Open the file. In **Pattern Mode** check **Repeat Blocks**. Note the 5 red dots in the corners and center of the pattern.
2. Also in **Pattern Mode** check **Stop to cut thread between blocks** to make the final tieoff.
3. Under the pattern, to the right check **Freeze Aspect**. Checking this means that when one dimension, either height or width, is changed the other dimension changes proportionately.
4. In **Actual Width** or **Actual Height**, highlight and change to the desired size and hit **enter**. Notice that the values for **Actual Height** and **Actual Width** change along with those for **Total Height** and **Total Width** in **Pattern Mode**. (You can also use the **Measure** tool see **Calculate Repeats and Rows for the Entire Quilt Calculate Repeats and Rows for the Entire Quilt**
5. Since we want just one repeat of this pattern leave **Rows** and **Repeats per row** at 1.
6. Square up the quilt.
7. Click **Start**. The Block size dialog box is displayed. Choose an option for locating the pattern. Move the needle to the corresponding position on the quilt and click **OK**.
8. You are instructed to **"Click to go to starting point"**. Click **OK**.
9. The needle moves to the starting point. As the needle moves to the starting point the dialog box displays "**Moving to starting point**". When the needle reaches the

starting point a single stitch is made and the dialog status changes to "**Pull up bobbin thread. Click to start:**" Pull up the bobbin thread.

10. Click again while holding the threads. The tieoff stitches are completed and stitching begins. To pause the stitching, press either the **Quick Pause** or **Pause** button. See

Pause & Quick Pause Pause Stitching. If a thread break occurs or the stitching is stopped see **Restart Pattern** Restart Pattern.

11. When stitching is complete the final tieoff stitches are completed and the system returns to idle status.

Section 13.05 Borders and Sashes

Many times you might wish to set the height or width of a pattern to an exact number such as fitting a pattern in a border or sash. Although patterns can be sized at any height or width, many patterns look better at a certain size or within a certain range of sizes. In these cases you have the option to set the actual height or width of a pattern before you begin adding repeats and rows

In this example all the borders are stitched along with the stitching for the interior of the quilt. The "working surface" referred to in the steps that follow is the area of the quilt that can be stitched without advancing the quilt. After stitching the top border and advancing the quilt, the interior of the quilt in the working surface should be quilted or at least stabilized before stitching the side borders. This prevents puckers or fullness at or near the border seam line. Some quilters choose to leave the side borders unquilted, basting them as the quilt is advanced, then unloading and turning the quilt to complete the side borders which are now parallel to the rollers.

The steps for stitching the borders as you stitch the interior of the quilt are:

1. Measure the side borders before loading the quilt. Make a note of the measurements.
2. Stitch the top border.
3. Stitch any interior quilting in the working surface.
4. Advance the quilt.

5. Stitch any interior quilting in the working surface.
6. Stitch the left side border in the working surface.
7. Stitch the right side border in the working surface.
8. Advance the quilt.
9. Continue stitching the interior, left side border and right side border until you reach the bottom border.
10. Stitch the bottom border.

If you are using a different thread color for the borders than you use for the quilt interior you should baste the borders as you quilt the interior. Rolling unquilted or unbasted borders on the rollers causes distortion of the borders and/or may result in puckers or pleats later. Stitch large meandering stitches over the borders or place straight pins parallel to the rollers to baste. Once the interior is completed and you reach the bottom of the quilt you can change thread and begin quilting the borders starting with the bottom border and move up. Remove the basting stitches before quilting in an area.

(a) Stitch Top Border

In this example we use the Heart10 pattern to stitch in a 3" border without corners. Use the same methods for stitching a sash.

1. Open Heart10. Notice that this is a directional pattern.
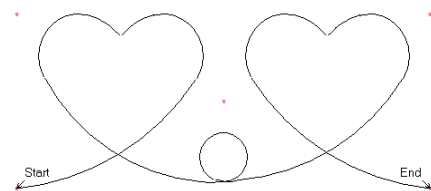
For this example we want the heart points to point to the interior of the quilt. Rotate the pattern as needed so the hearts are in the correct orientation.
2. In **Pattern Mode** check **Repeat Blocks**. Then click on the up arrow in **Repeats per row**.
3. Use **Square up Quilt** along the border seam line to enter the squaring angle.
4. Check **Freeze Aspect**. In **Actual Height** highlight the value, type 2.5 and press **enter**.
5. Uncheck **Freeze Aspect**.

6. In **Pattern Mode** check **Use start and end**.
7. Uncheck **Stop to cut threads between blocks**.
8. Use **Measure** to measure the length of the border. Leave the Measure screen displayed with the measured value.
9. Start adding **Repeats per row** until the **Total Width** is approximately the length you measured. If **Total Width** is larger than the measured length, the pattern will be slightly compressed to fit. If **Total Width** is smaller than the measured length, the pattern will be slightly stretched to fit.
10. On the **Measure** screen click **Transfer to Total Width**. (The Measure screen may be hiding behind the Main Screen). The length of the measured border is entered in **Total Width.**
11. Click **Start**. Determine which point you will use to locate the pattern. In this case Start and the lower left corner are at the same point. If you want the bottom edge of the border to sit near the seamline use either **Lower Left Corner** or **Start of Pattern**. If you wish to center the pattern in the border **use Center of Area**. When sizing and locating patterns for the outer border remember to allow for the binding seam allowance.
12. Stitch the top border. For use later when sizing the side borders, make a note of Actual Width and Actual Height.

(b) Stitch Side Borders

When a pattern is rotated to stitch the side borders, what was height before is now width and repeats per row are now rows. Use the side border length you measured before loading the quilt to roughly size the side borders.

1. Square up the quilt using the side border seam line as a reference.
2. Change **Repeats per Row** to 1. **Rotate** and or **flip** the pattern until it is at the correct orientation. Note the Start and End positions on the display screen. You will need to take those into account later when choosing location points.
3. Check **Freeze Aspect** and change **Actual Width** to 2.5. Uncheck **Freeze Aspect**.
4. Start adding **Rows** until **Total Height** is approximately equal to the border length. Highlight **Total Height** and

enter the border length. You may wish to compare **Actual Height** here with the **Actual Width** you noted for the top border. The difference shouldn't be too great. If it is you should add or delete rows until the values are closer together.
5. You will only be able to stitch as much of the side borders that will fit inside the throat of your machine. Decrease **Rows** until **Total Height** is smaller than the throat of your machine. Check that the quilt is positioned such that the entire pattern can be stitched without the needle running into the take-up roller.
6. Click **Start**, locate then stitch the pattern on the quilt.
7. Flip the pattern **Horizontally** and you are in position to stitch the other side border.
8. Note the side border settings so they can be used to stitch the next side border segments after advancing the quilt and stitching the interior.
9. When you are ready to stitch the last side border segment near the bottom border, use **Measure** to measure the unquilted portion of the border. Use that measurement to fit the last segment between the previous segment and the end of the border.

(c) Stitch Bottom Border

The bottom border is stitched in the same manner as the top border.

(d) Border Corners

Connect corners to adjacent borders in one of two ways:

1. Connect using free motion quilting, or
2. Choose coordinating patterns that are drawn to connect to each other. Size the height and/or width as needed.

(e) Connect with Free Motion Quilting

To use this method simply stitch the corner as a single block. The four location points are the four corners representing the corner square. Stitch the border as described above. Change to Regulated Mode and connect with appropriate free motion designs.

(f) Coordinating Patterns

Coordinating border and corner patterns should be drawn together so the start and end points are at the same point. The patterns are then separated and saved as two files, one for the corner and one for the border repeats.
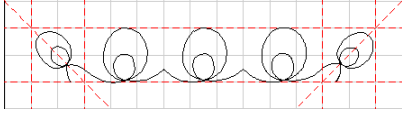
Follow these steps for stitching connecting borders and corners.

1. Stitch the two corners first using **Repeat Block** mode and setting the **Actual Height** and **Actual Width** equal to the **Actual Height** of the top border pattern. Use one of four location points that represent the corner block.
2. Use the start/end points of the corner pattern to square up the quilt and to measure. To stitch the border between the corners, Use **Start of Pattern** to locate the border.
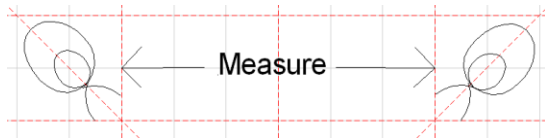
(h) Angled Sashes

When stitching angled sashes, such as the sashings around blocks on point, you size the height, width and repeats as you normally do

(g) Repeating Block Patterns in Borders or Sashes

It isn't always necessary to have a block or border pattern be continuous in a border or sash. You can use a single block pattern that has the start and end points at the same location.

1. Open the block pattern and in **Pattern Mode** choose **Repeat Blocks**.
2. Check **Freeze Aspect** then enter the desired pattern height in **Actual Height** and hit **Enter**.
3. Uncheck **Use Start and End** so the patterns are not connected.
4. In **Pattern Mode** add **Repeats per row** until you reach the desired **Total Width**.
5. The block patterns will stitch one next to the other with no horizontal spacing. If you wish to have a space between the blocks, increase the **Horizontal Spacing** until the desired **Total Width** is reached.

The picture below shows six repeats of FEATH09. The pattern was first repeated three times and sized to fit the left half of the border. After the left half was stitched the pattern was flipped horizontally and stitched in the right half of the border.

top fit the space. Use **Square up quilt** to find the angle at which the system rotates the pattern. For sashes that might be out of square it might be best to use the center of the sashing to square up quilt. Use Center of Area to locate the pattern.

Article XIV. Allover Patterns

Sizing and stitching allover patterns is similar to that of stitching borders. For this example we will stitch an allover pattern over a 75 x 95 quilt using Fan00. Two methods for sizing allover patterns are presented in this User Guide. The first method used the **Measure** function and is explained at **Calculate Repeats and Rows for the Entire Quilt** Calculate **Repeats and Rows for the Entire Quilt**. The second method is explained here.

Section 14.01 Sizing Allover Patterns

Note: The "Start" and "End" points of an allover pattern should be near the bottom of the screen. If you open a pattern for allover quilting and the "Start" and "End" are near the top of the screen click **Flip Vertically** to flip the pattern so "Start" and "End" are near the bottom of the screen. This makes it easier to use "End of Previous Set" when locating the starting point of the next row of stitching.

1. Open Fan00. Check **Repeat Blocks**.
2. We want the actual height of the pattern to be 10.5 inches. Check **Freeze Aspect**. Highlight and change **Actual Height** to 10.5 and hit **enter**. Uncheck **Freeze Aspect**.
3. If you want the pattern repeats to connect, **check Use Start and End**.
4. First we adjust the width. Increase the **Repeats per row** until **Total Width** is approximately 75. In this case that is 7 repeats per row with a **Total Width** of 79.60.
5. Highlight the 79.60 in **Total Width** and change it to 75. Hit **enter**.
6. Now increase the **Rows** until **Total Height** is approximately 95. In this case it is 9 rows for a **Total Height** of 94.5. Now is the time to check the horizontal and vertical spacing between repeats and rows. Look at the pattern displayed on the screen. Increase and decrease the **Horizontal Spacing** and/or **Vertical Spacing** until you are satisfied with the layout. Rows that interlock will have a vertical spacing less than 0. To get a closer look at the spacing, click anywhere on the pattern section of the screen to see a magnified view. See **Pattern**

Display Pattern Display for more information.
7. Once you are satisfied with the spacing, highlight **Total Height** and change it to 95. Hit **enter**. The pattern is now sized to fit the quilt.
8. Choose **File** > **Save Settings**.

Section 14.02 Stitching Allover Patterns

Now that the pattern is sized you see the entire number of rows and repeats displayed on the screen. Note that there is only one Start and one End. If this pattern were to be stitched in its entirety it would tieoff at the end of the first row and move directly to the second row to begin stitching.

You need to decrease the **Rows** until the **Total Height** fits in the throat of your machine. For this example we will use two rows.

1. Square up the quilt. See **Squaring Up the Quilt** Squaring Up the Quilt for more information.
2. Press **Start**. The location dialog box is displayed. For allover patterns the easiest place to locate the pattern is **Upper Left Corner**. Check **Upper Left Corner**. Move the needle to the upper left corner of the quilt and click the black button or **OK**.
3. You are instructed to **"Click to go to starting point"**. Click **OK**.
4. The needle moves to the starting point. As the needle moves to the starting point the dialog box displays "**Moving to starting point**". When the needle reaches the starting point a single stitch is made and the dialog status changes to "**Pull up bobbin thread. Click to start:**" Pull up the bobbin thread.
5. Click again while holding the threads. The tieoff stitches are completed and stitching begins. To pause the stitching, press either the **Single Stitch** or **Start** button. See **Pause & Quick Pause** Pause Stitching. If a thread break occurs or the stitching is stopped see **Restart Pattern** Restart Pattern.
6. When stitching is complete for the row, the final tieoff stitches are completed.

7. Use the **Cut Bobbin** key to bring up the bobbin thread and cut the threads. Click **OK**. The needle moves down and over to the start of the second row.
8. Bring up the bobbin thread. The tie stitches are taken then the row is stitched with ties stitched at the end.
9. Advance the quilt and square it up using seam lines or block intersections as a guide, not the previously stitched pattern.
10. .After the second row the pattern is located using **End of Previous Set**. This is the point where the pattern ended from the last row just stitched. Be sure that the end of the previous row is not advanced into the take up roller.
11. Click **Start**. Choose **End of Previous Set**. Move the needle to the end of the last row stitched and click **OK**.
12. The sewing head moves to the start of the next row and takes a single stitch. Pull up the bobbin thread and click **OK**. The tieoff stitches are made and stitching begins.
13. Continue with steps 6 – 12 until the quilt is completely stitched.

Section 14.03 Stitching Patterns at Maximum Height for Your Machine

In some cases the height of a pattern takes up most of the sewing head throat space. Often this means that you need to advance the quilt slightly in order to use End of Previous Set to find the start of the next row then advance the quilt slightly again in order to stitch the next row.

1. After stitching one row of the pattern, remove the clamps from the side of the quilt and advance the quilt until the end of the stitching is several inches away from the take-up roller.
2. Move the sewing head so the needle is over the last stitch (**End of Previous Set**) and press **Start**.
3. Choose **End of Previous Set** and click **OK**. Click **OK** once more and the sewing head moves to the start of the next row of stitching and takes a stitch. At this point if you continued on to stitch the next row, the pattern may be too large for the sewing machine throat.
4. Place a pin where the needle entered the quilt. This is the **Start of Pattern** for this row. Click **Cancel**. You will need to advance the quilt a little more to be sure the pattern fits in the stitching area.
5. After advancing and re-clamping the quilt, place the needle over the pin, remove the pin and click **Start**.
6. Choose **Start of Pattern** and click **OK**. Continue to stitch the row.

Another method you can use to find the starting point of the next row is to add an extra row to the number of rows that can be stitched. When the machine moves to the start of the extra row it will take a single stitch. Mark this location with a pin then hit **Stop**.

Advance the quilt, clamp the sides and place the needle over the pin. Start the next row using **Start of Pattern**.

Article XV. Alternating Patterns

This is a second method you may use for stitching alternating patterns. The first method is described at **Alternating Patterns Alternating Patterns**.

Alternating patterns are those designs that shift to the left or right slightly on every other row. The Cloud pattern below is an example of a pattern that is not shifted.
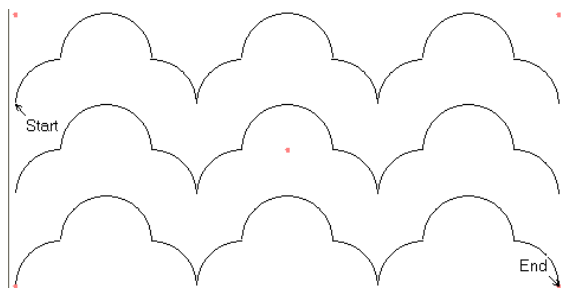
In order to have the clouds touch each other between rows and to look like clouds you use two patterns as shown below.
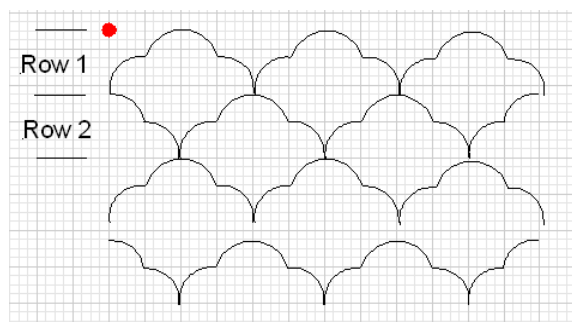
Row 1 is from one pattern and Row 2 is from the alternate pattern. To stitch alternate patterns you will stitch the Row 1 pattern on alternate rows and input a vertical spacing to leave room for the second pattern to be stitched in between the rows.

Start the first set of patterns by clicking on Upper Left Corner and marking the spot with a pin. This is shown by the red dot above.

After stitching the set of first pattern rows, load the second pattern, and use Upper Left Corner with a negative vertical offset, clicking on the pin. This will cause the machine to move down the offset amount and start stitching the second set of patterns.

It is advisable to try out this procedure on a test quilt until you are comfortable stitching it.

Section 15.01 Clamshells and Clouds

PrecisionStitch™ 6.4.0 and 7.0.0 included sets of files for clamshell and cloud patterns. These patterns were included in the Clamshells and Clouds directories respectively under Patterns PrecisionStitch™. The Clamshells directory contains fifty patterns for clamshells and the Clouds directory contains 28 patterns for clouds.

The files are named either Clamshell**x** or Cloud**x** where **x** is the number of full units. Cloud03 is shown below with its three full cloud units on the top row. Notice that the start and end points are identical.
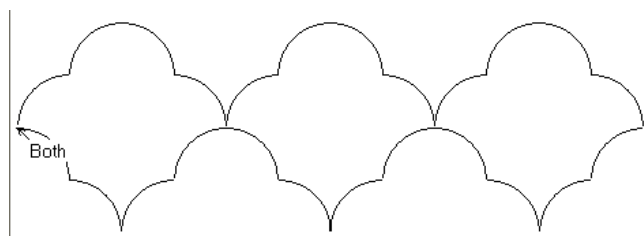
These patterns are set up for just one repeat per row. They stitch from left to right across the top then immediately stitch from right to left across the bottom. You can add rows of patterns just as you normally do to fill up the stitching space. The Cloud03 pattern shown below is set at 1 Repeat per row with 2 rows.
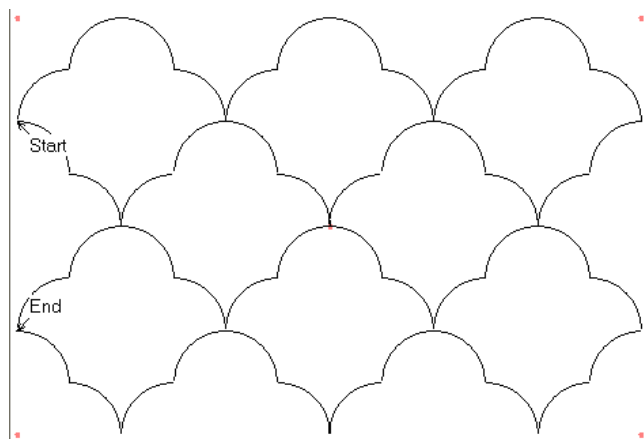
You can uncheck "Stop to cut thread between blocks" and "Stop to cut thread end of each

line". This will allow the sewing head to stitch all rows without stopping to cut threads.

Which pattern file you choose is determined by how large you want the clouds or shells and the size of the quilt. For this example we want to stitch clamshells on a 77 x 83 quilt and we want the clamshells to be 3" wide.

1. To find which clamshell pattern to use divide 77 (width of quilt) by 3 (width of clamshell) to get 25.667. Drop the fraction and you get 25.
2. Open the Clamshell25 file shown below. There are 25 full clamshells across the top row

3. **In Pattern Mode** check **Repeat Blocks** and check **Freeze Aspect**.
4. Highlight the 12.00 in **Total Width**, enter 77 and press **Enter**. The Total Height changes to 3.08 which is what we want. If the clamshell is 3 inches wide then two rows of clamshells is 3 inches wide. Uncheck **Freeze Aspect**.
5. Now add rows until **Total Height** nears 83 for this quilt.
6. A total of 27 rows gives a height of 83.16 inches. Highlight 83.16 in **Total Height**, enter 83 then press **Enter**.
7. Save Settings.
8. Decrease the number of rows until the Total Height is such that it can be stitched within the sewing head throat without running into the take up roller.
9. Continue stitching as an allover pattern.

Article XVI.Restart Pattern

As a pattern is being stitched, several events can cause the stitching to stop before the end of the pattern. Some examples are thread breaks, pressing **Cancel** or **NO** or a power interruption or outage. In these cases you can use the **Restart Pattern** function to resume stitching near the location where stitching was terminated.

When a pattern is displayed on the screen before stitching begins, the **Restart Pattern** button is not active. The reason for this is that no location information has been entered; therefore the system has no way of knowing where the pattern is located on the quilt. Once stitching has started, the location information remains in memory until the file is closed or the system or computer shuts down.

In the case of thread breaks or if the pattern information is still displayed on the screen you simply click **Restart Pattern** to continue the pattern. However, in cases where the file closed or the system or computer shut down you will need to locate the pattern again before using **Restart Pattern**.

Section 16.01 Restart a Pattern with Location Information in Memory

When the thread breaks during stitching of single or repeat blocks with the **Thread Break** button pressed, the stitching stops and a notification screen is displayed. Click **OK** to close the screen. After fixing the thread break press the **Option** button at the head. Press the **Next** button until "Restart Pattern?" is displayed. **Position the head** near the point of restart and press the **OK** button. Press the **Back** or **Next** buttons until the head is positioned at the segment to be restarted. Press the **OK** button for a bobbin-up stitch. After pulling the bobbin thread, Press the **OK** to continue sewing.

If **No** or **Cancel** is pressed while a pattern is stitching the system status changes to idle. The pattern information is still displayed on the screen and Restart Pattern is active. Restart by following the **Restart a Pattern** instructions above.

Restarting Pattern after Loss of Location Information

When the location information has been lost such as caused by a power interruption you will need to relocate the pattern before you can restart it.

(a) Repeat Blocks

For repeat blocks this is easily done by pressing **Start** as the first step. Pressing **Start** will load the last pattern file used with its settings.

a. Choose **Start of Pattern** to locate the pattern and move the needle to the first stitch of the entire set being sewed.
b. Click **OK**. At the next prompt ("Click to go to Starting Point"), Click **Cancel**. The location information is now in memory.
c. Follow the **Restart a Pattern** instructions above.

(b) Single Blocks

Because single blocks are sized and located using four location points, it is more difficult to relocate and restart the exact pattern location and size.

Single block information is not stored the same as repeat blocks. The use of the Start button cannot be used restore the pattern and its settings.
What can be done is to log the information of the single block before sewing. Needed would be the actual pattern height, actual pattern width and squaring angle.

a. After restarting the system, pressing start will reload the pattern to default values.
b. Change the Pattern Mode to Repeat Blocks.
c. Enter the logged information for actual pattern height, width and squaring.
d. Use steps in 15.2.1 (a – c) for restarting repeat blocks.

Show Restart Screen

Another method for restarting a pattern is using the Restart Screen. The restart screen function can be enabled by choosing **Show Restart Screen** from the Options menubar. The restart function is then accessed by clicking **Restart Pattern.** The magnified pattern is displayed with its segments alternately colored green and black. The upper right part of this screen gives you the option to cancel out of restart pattern or to magnify the pattern 2X or 3X times.

In the lower right section of this screen you are instructed to "**Click on the segment at which to start:**"

Use the Magnification buttons if needed to determine which segment to begin stitching and click on it. The segment is colored red and the dialog box asks "**Start sewing with the red segment?**"

a. If this is the correct segment then click **Yes**.
b. If this is not the correct segment or you wish to choose a different segment, click **No**. The dialog box closes and the segment returns to its original color. You can now choose another segment.
c. Click **Cancel** to close the dialog box. If you cancel out of Restart Pattern you still have the option to restart the same pattern until you close the pattern or until Start is pressed again.

If you choose **Yes** you are asked to "**Click to go to starting point**". Click **OK**. The needle moves to the starting point and you are asked **"Is this the correct starting point?"** At this point you can choose to start the stitching where the needle is now or you can click **Back** or **Next** to move the needle to the previous or next segment.

a) If this is the correct starting point click **OK**. Pull up the bobbin thread and click **OK**. The tieoff stitches are completed and stitching resumes.
b) If you need to move to a different segment click **Back** or **Next**. The needle moves along the pattern to the start of the segment. You can continue to click **Back** or **Next** as many times as you need to reach the thread break. When you reach the desired starting point, click **OK**. Pull up the bobbin thread and click **OK**. The tieoff stitches are completed and stitching resumes
c) If you have gone beyond the point in the pattern where the thread broke, click **Cancel**. You will need to click **Restart Pattern** and try again.

Article XVII.   Regulated Stitching

In **Regulated** mode you are able to set the desired stitches per inch from 4 to 20 in half stitch increments and you are guiding the machine by hand. Any pattern that is displayed on the screen is ignored in this mode. Use regulated stitching for any free motion quilting when an even stitch length is desired.

In this mode you will find it easier to disconnect the belts and use the auxiliary encoders because it is easier to guide the machine by hand and curves will not flatten out. However, if you wish to use the **Channel Lock** function, the belts must be engaged.

In Regulated mode you can use the following functions:

- Measure
- Square up Quilt
- Cut Bobbin
- Channel Lock – belts must be engaged
- Needle Down

1. Click **Regulated** on the **Main Screen**.
2. Disconnect the three belts on the machine front and rear and on the carriage.
3. Set the desired stitches per inch.
4. Press **Start** to turn on stitch regulation. The motor does not stitch until the machine is moved and stops stitching when the machine stops.
5. To change **Stitches Per Inch** press **Up/Down Arrow** on keypad.
6. To turn off stitch regulation, press the **Red Button** or **Stop**. For your safety and the safety of those around the machine, you should be in the habit of always pressing Stop to turn off stitch regulation. With stitch regulation turned on, any movement of the machine will cause the needle to stitch and fingers or hands may be in the way. After 25 seconds with no movement of the machine, stitch regulation turns off automatically.
7. **Needle down** can be used to park the needle in a down position. After pressing Stop, press and hold Stop, then press the Single Stitch button. The needle will then move to a down position. Pressing Start will bring up the needle and activate the regulated mode for sewing.

Article XVIII.   Constant Speed Stitching

In **Constant Speed** mode you are able to guide the machine by hand with the motor set at a constant speed. In this mode stitch length is determined by the speed of the motor and how fast you move the machine. Any pattern that is displayed on the screen is ignored in this mode. Use constant speed stitching for any free motion quilting. On a Gammill quilter, this mode is usually used to wind the bobbin thread.

In this mode you will find it easier to disconnect the belts. With the belts disengaged it is easier to guide the machine by hand and curves will not flatten out.

In **Constant Speed** mode you can use the following functions:

- Measure
- Cut Bobbin
- Channel Lock – belts must be engaged

1. Click **Constant Speed** on the **Main Screen**.
2. Disconnect the three belts on the machine front and rear and on the carriage.
3. Press **Start** to start the motor.
4. To **increase/decrease** the motor speed while stitching, press the **Up/Down Arrow** buttons on the keypad.
5. To stop the motor, press the **Red Button** or **Stop**.

Article XIX. Record Using AutoSketch

When the **AutoSketch** option is chosen in **Record** mode, AutoSketch™ is called up and the drawing is created as you stitch. The needle becomes the curser. Use the **Black Handle Button**, **Red Handle Button**, **OK** and **NO** to click to enter points in AutoSketch just as you would use the left and right mouse buttons. You then save the pattern file for future use.

Before choosing **Record Using AutoSketch** you should close the AutoSketch program. If you want to record a pattern that you stitch free motion you will find it easier to disconnect the belts. The pattern will be recorded using the auxiliary encoders.

Section 19.01 Record the Pattern

1. Click **Start**.
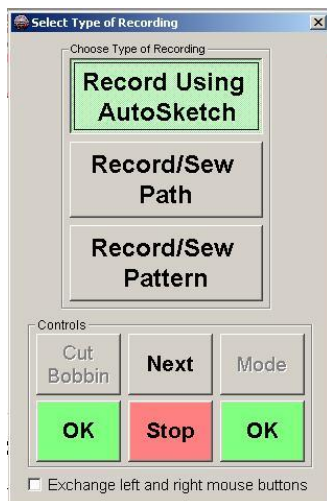
2. Choose **Record Using AutoSketch** then Click **OK**.
3. You are asked to input locations of the four corners of your block starting with the lower left corner. If you will be locating points along the edge of the block you might wish to make the block bigger as you locate points. This assures you have enough space later to reach the outer points of the block.
4. After inputting the last location and clicking **OK** the screen closes and AutoSketch is opened to a new file. The background of the **Main Screen** remains red as long as AutoSketch is opened.

5. The needle becomes your cursor and the **Left Handle – Black Button** becomes the mouse clicker.
6. In **AutoSketch** choose a drawing tool such as three point arc, line, polyline or sketch polyline. To activate the drawing tool move the cursor (needle) over the tool and select it with the **Left Handle – Black Button**.
7. Move the machine inside the block you located and the drawing is created in AutoSketch as you choose drawing tools and click points.

Section 19.02 Drawing Tools

While you are in **Record Using AutoSketch** you choose a suitable AutoSketch drawing tool to trace or draw the segments of your pattern. The most commonly used tools are described below.

(a) Single Line

Use the single line tool to draw one line between two points. In AutoSketch, select the Single Line tool.

1. Choose **Draw > Line > Single**.
2. At the quilting machine, move the needle to the location of the beginning of the line and click.
3. Move the machine to the location of the second point and click.

(b) Multiple Lines

Use the **line multiple** tool to draw a series of connected lines. In AutoSketch, select the **Line Multiple** tool.

1. Choose **Draw > Line > Multiple**.
2. At the quilting machine, move the needle to the location of the beginning of the line and click. Move the needle to the next point of the line and click.
3. Continue locating and clicking points until you reach the last point. Click **No** to input the last location and exit the tool.
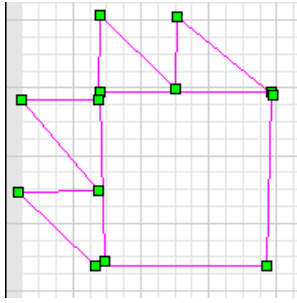
The green squares indicate the location points that were entered each time the black button was clicked.
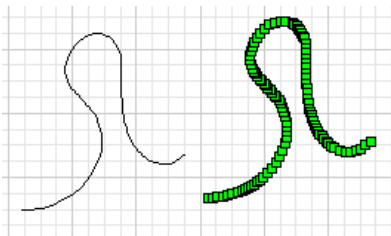
(c) Three Point Arc

Use this tool to draw curves and circles. In AutoSketch select the Three Point Arc tool.

1. Choose **Draw > Arc > 3 Points**.
2. At the quilting machine move the needle to the location of the first point of the arc and click.
3. Move the needle to the middle of the curve and click
4. Move the needle to the last point of the arc and click.

(d) Sketch Polyline

Use this tool to draw free motion designs. When polylines are drawn they consist of a multitude of points along the line as shown below.

These many points make the file large but with PrecisionStitch 7.0.0 the large file does not affect the stitching speed.

After drawing a pattern with this tool you might wish to trace over the polyline with the three point arc and/or the line tools. This reduces the file size and the quilting time for the pattern.

1. Choose **Draw >Polyline > Sketch**.
2. Press and hold the black button as you draw the pattern. Release the black button when drawing is complete.

3. Or – Press the top center keypad button to lock the left button down. This eliminates having to hold the black button down to draw.

Section 19.03 Complete the Drawing

Once you are finished drawing with the quilting machine you will save the SKF file In AutoSketch using **File> Save Copy As**. Providing a name for the file.

After using Save Copy As, close AutoSketch

AutoSketch will then be restarted, and the newly created file opened so you can tidy up the drawing to smooth out curves and straighten lines and ad required text commands.

1. Connect all the endpoints and order intersections if necessary.
2. Add "first" and "last" and any other notation needed on the pattern.
3. Save the SKF file by choosing **File > Save As**
4. Once you are happy with the drawing, you need to save the file as a DXF R12 file for PrecisionStitch to read. Choose **File> Save As...** and save as an AutoCAD R12/LT2 DXF file.

Note:
To Record with the **Needle On**, press the Top Right Keypad button. Pressing the Top Center keypad button will turn the **Needle off.**

Article XX.   Record/Sew Path

In **Record** mode the **Record/Sew Path**. With this option you input points along a seam line, patch, set of patches or anywhere on the quilt you wish to stitch. You are able to input commands to turn the needle off or on. This allows you to jump from one area to the other to add stitching. Each time a needle is turned off or on, tie stitches are made unless **Do tieoffs** is unchecked in the **Tieoff Stitches** section.

Channel Lock is available in Record/Sew Path.

Once the points are entered the system stitches a straight line from one point to the next just like the childhood game, Connect the Dots. The program records the position of the needle so accuracy is important. See **Inputting Location Points** Inputting Location Points for tips on accuracy. The picture below shows two triangle patches that have been stitched. The green and red squares represent the location points.
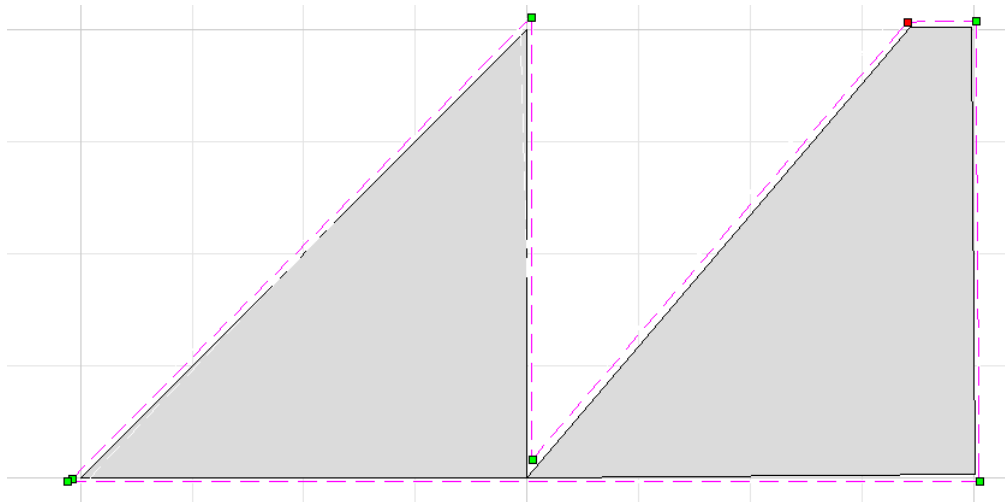
The triangle on the left has perfect points while the triangle on the right has a chopped off point. When following patchwork, it is important to look ahead to the next point and visualize a line of stitching between the two points.

The picture below shows sloppy placement of location points.
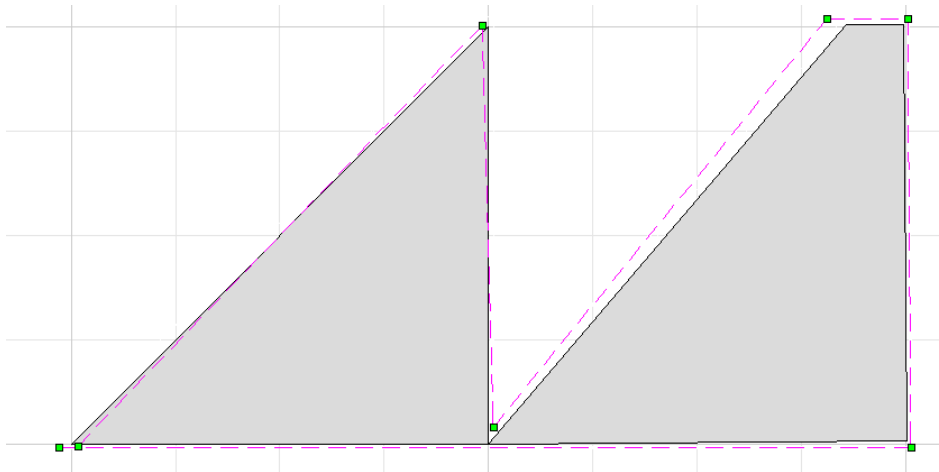
1. The belts must be engaged when using **Record/Sew Path**. You may want to set the stitching speed to a slow value, if you wish to "tweak" the quilt while sewing in this mode. Remember that the speed can be adjusted by using the **Up/Down Arrow** keys while sewing.
2. In **Record** mode click **Start.**
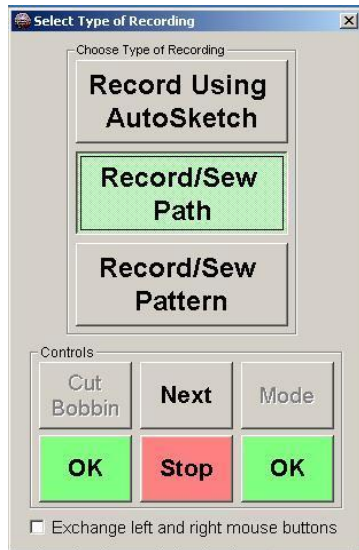
3. Choose **Record/Sew Path** and click **OK.**
4. The dialog box below is displayed.
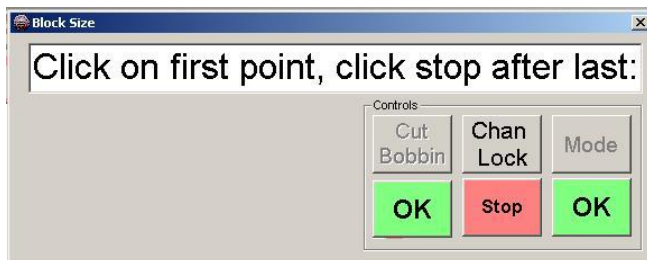
5. Move the needle or laser to the first point and click the **black button** or **OK**. The dialog box below is displayed.
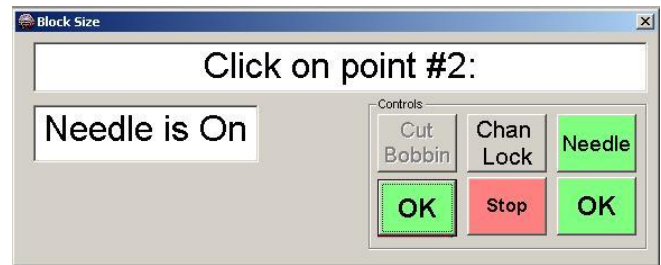
6. The dialog box reminds you that the needle is **On**. Move the needle or laser to the second point and click the **black button** or **OK** to input the second point.
7. After inputting the second point you have the option of turning the needle off or on by clicking **Needle**. Always turn the needle off or on **AFTER** inputting the location point. By recording points with the needle off, the system will tie off before the needle off move, drag the thread to the next needle on location, do a tie stitch and continue sewing.
8. Continue entering points in this manner until you are at the last point. Click **Stop** to enter the last point.
9. You are instructed to "**Click to go to starting point**". Click and the machine moves to the start point and takes a single stitch. You are instructed to "**Pull up bobbin thread. Click to Start**" Pull up the bobbin thread and hold on to the tails.
10. Click **Start**. The tieoff stitches are made and stitching begins.
11. As the stitches are completed between the points, stitching pauses slightly at each point. You may slow down the stitching if you like in the **Spee**d section of the **Main Screen**.
12. When stitching is complete the final tieoffs are made and the system returns to idle status.

Restart Pattern can be used if a thread break is encountered during the sewing of a Record/Sew Path operation. See **15 Restart Pattern**

Article XXI. Record / Sew Pattern

Record / Sew <u>Path</u> stitches a straight line between two points and **Record / Sew Pattern** stitches a pattern between two points. The patterns for **PrecisionStitch 8.0.0** include some that begin with "P2P" for Point to Point. Use these patterns to try out **Record / Sew Pattern**.

There are several rules to follow in order to get the desired results.

• The **Start** and **End** (**First** and **Last** in the drawing) must be on the same horizontal line (**Vert Diff** = 0).
• When the distance between the two points is small, check **Freeze Aspect** to retain the height and width proportions.
• When stitching a pattern in a border, set the actual height.

To use the **Record / Sew Pattern** feature.

1. In **Record** mode click **Start**
The **Select Type of Recording** screen is displayed as shown below.
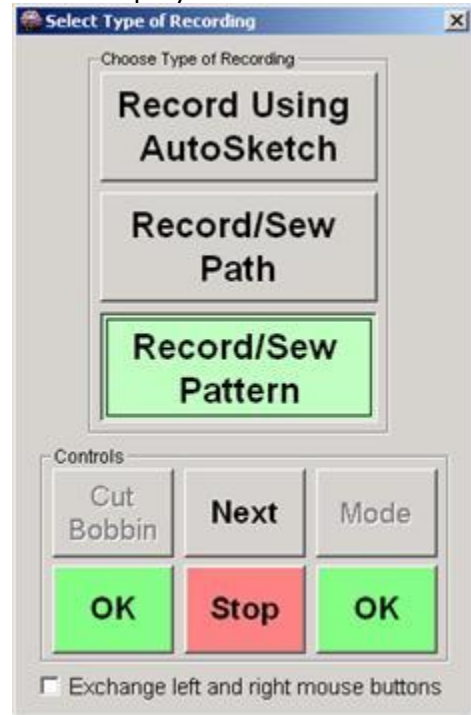
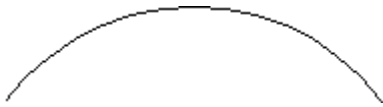Click on **Record/Sew Pattern** then click **OK**. **The Block Size** screen is displayed as shown below.
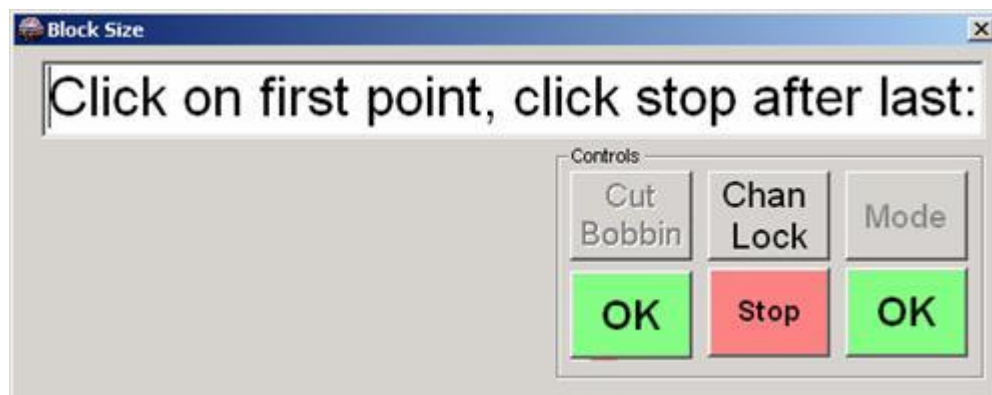
Channel Lock, **Needle Off** and **Thread Break** are available in Record/Sew Pattern.
Click the desired points. Click **Stop** after clicking the last point. You can input as many points as you

Click to go to starting point. The needle moves to the starting point and takes a single stitch. Pull up bobbin thread then click to start.

Example
You have a small square that needs continuous curve quilting. Your continuous curve pattern looks like this:


1. Set **Actual Height** to .25.
2. In **Record/Sew Pattern** click **Start**.
3. Click the four corners of the block in a counter clockwise direction as shown below.
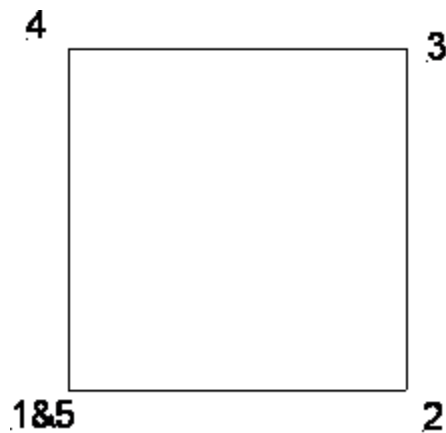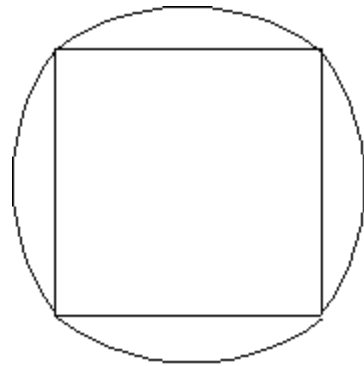

One pattern will be stitched inside the area between each of the points and the height will be .25 inches as shown below.
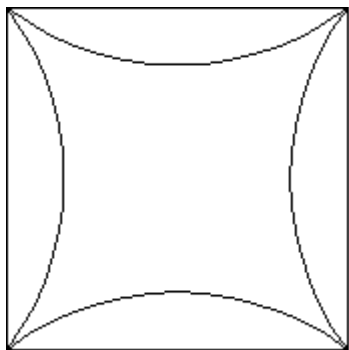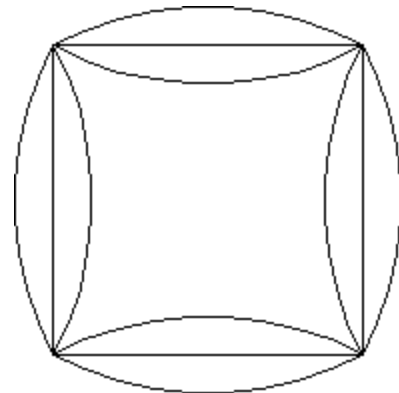

To stitch the pattern on the outside of the square, input the points in a clockwise direction as shown below.
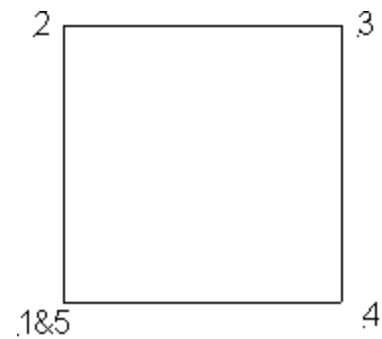
One pattern will be stitched outside the area between each of the points and the height will be .25 inches as shown below.

If you combine patterns in the clockwise and counter clockwise directions your block will look like this.

While sewing, if a **Thread Break** is encountered, **Restart Pattern** is available for recovery. See **15 Restart Pattern**.