

**Getting Started with CreativeStudio™
Version 4.0.0**



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CreativeStudio™ User Manual

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Getting Started with CreativeStudio™

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Foreword

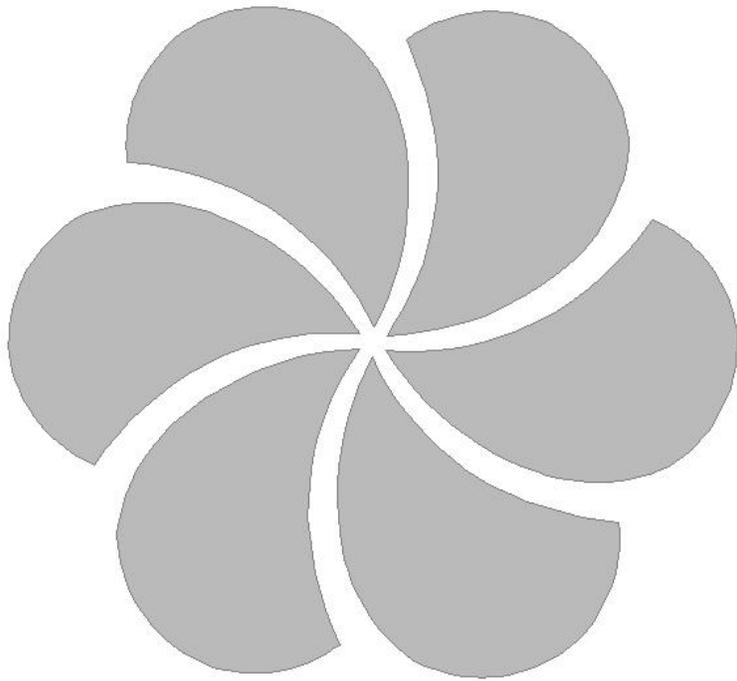
Gammill, Inc. is fortunate to have had a host of experienced professionals assist us with the development of CreativeStudio™. The combined efforts of these individuals have produced an amazing piece of software which is truly "feature rich".

Gammill & Statler wish to thank Patricia Barry of By Design Quilting, www.PatBarryQuilts.com for her exceptional work on the manual, as well as the entire Statler Stitcher team who have contributed countless hours towards the development of CreativeStudio™.

We also wish to thank the following individuals who have digitized patterns included in this manual.

Anita Shackelford, Thimbleworks www.anitashackelford.com
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Kim Diamond, Sweet Dreams Quilt Studio, www.sweetdreamsqiltstudio.com
Todd Brown, Legacy Quilting, www.legacyquilting.com
Tammy Finkler, TKQuilting, www.tkquilting.com

Part I



1 Introduction

Thank you for choosing CreativeStudio™ from Statler Stitcher®.

A complete 'Help' system has been created to support the Statler Stitcher® CreativeStudio™ software meaning the 'help' information is accessible in electronic format as well as printed. The electronic format is sometimes referred to as 'online' help but at no time is this help system connected to the Internet, the World Wide Web or any other network.

The electronic format is a database of information that has been linked into the CreativeStudio™ software and is accessible at any time during quilting. The help system can be accessed by using the 'Help' command at the top of each CS screen. Just click on the word 'Help' (or press the F1 function key) and another window will appear that presents the information and helps you look for the topic of interest.

The CreativeStudio™ help system was written for quilters by a professional quilter and explains each feature in a quilting context. The first section covers some computer skills that quilters may need to review. The second section describes the main screen. The third section discusses planning a quilt and explains how CreativeStudio™ can collect and save all of the planned details together for future reference. Section four details how to execute the planned quilt using the CS features. Section five contains Quick Reference cards which can be printed and kept close to the Statler Stitcher if needed.

The key features of CreativeStudio™ are presented in the same way they might be executed (Baste, Blocks, Borders, Backgrounds). Utility features (Restart, Defaults, etc) are toward the end of the manual. An extensive index was created to help people search for topics of interest.

Links have been used in the Help system, and are denoted by keywords displayed in cyan, and underlined. If using the electronic format, clicking on one of the links will take you directly to that place in the electronic format that explains the keyword in more detail. If using the printed format, a document icon is printed just following the link. This icon contains a number which is the page number containing the keyword explanation.

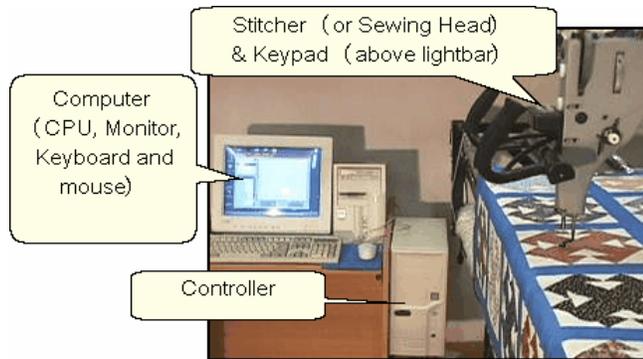
Color has been used to differentiate certain details that apply to different patterns and processes. It is highly recommended that this manual be printed in color, to take full advantage of the instruction. Suggestions for enhancements to the software and the User Manual can be sent to enhancements@statlerstitcher.com

Again, thank you for choosing CreativeStudio™ from Statler Stitcher®, a division of Gammill, Inc.

1.1 Technology Basics

This manual was written for people who are comfortable using a computer (with a mouse and keyboard) that is running Microsoft Windows. The Windows XP operating system was used when this manual was written. Other Windows operating systems should be similar. As a refresher, we have listed some of the basic concepts used.

1.1.1 Equipment



The Statler Stitcher system comes with the following computer equipment:

Computer CPU is the main processing unit. This looks like many other computers and has all the Statler Stitcher software already loaded on it. Don't add any other software to this computer, especially any internet access software. The software has been loaded for optimal performance and any other software packages will inhibit the responsiveness.

There is a special 'key' that is required by the Statler Stitcher software, called a '**dongle**'. If the dongle is not attached to the computer CPU, the software will not operate the stitcher.

Controller (also called a '**MOD**') controls the motors. This box contains the technology to translate the computer software instructions into commands that move the sewing head. There are different versions of these controllers, and each is marked with a letter or number. **THIS IS IMPORTANT!** Although you may only refer to this when downloading software, it is important to know which controller version you are using. On newer models, there is a small switch box with 2 switches (red and green) that controls the power supply to the stitcher and the controller.

Monitor (or **screen**) displays the instructions. The monitor looks and acts just like most other monitors. Some have the speakers attached, and some don't. All of the Statler Stitcher instructions will be displayed on this screen. Responses to the instructions can be given using the mouse, the keyboard or the keypad (on the sewing head).

Desktop is a nice name for the first computer screen that appears on the monitor after the computer is turned on. It shows a collection of icons, each of which has a

specific purpose. The icons have names and double clicking an icon will initiate that purpose, task or program.



A 6-button [keypad](#)⁵⁹ is on the Statler Stitcher sewing head. Like the mouse and keyboard, these keys are also programmed to respond to (or interact with) the instructions on the monitor. Using the keypad eliminates the need to move from the quilt to the computer every time instructions are executed.

Cables are required for all the parts to work together. This makes the system look complicated but the engineers have designed the cables so they are unique (one cable only fits into one connection) or color coded (like the mouse & keyboard cables) or they are very well labeled (X, Y, Z connections).

Mouse and **Keyboard** are used to respond to (or interact with) the instructions on the monitor.

Additional equipment you may want to purchase:

Surge Protectors are highly recommended for the computer and controller.

Universal Power Supply (UPS) is a good idea for people who experience frequent power outages. The UPS is like a backup battery that prevents damage to a computer component when the electricity fluctuates significantly. Contact Statler Stitcher technical support team to check the power specs for the UPS.

Thumb drive (also called Jump Stick, Travel Drive or Removable Disk Drive) is a form of removable media. It is a disk drive, used when copying files from the home computer to the Statler computer. It is much easier than using floppy diskettes (too small) or burning CDs (too slow). Files are copied from the source (home) computer to the thumb drive, and then from the thumb drive to the destination (Statler) computer.

1.1.2 Terminology

Terminology - Be sure you understand the following terms and concepts because they are used throughout the manual.

"Power Up" means to turn on the Controller, Stitcher and then turn on the computer CPU. Be sure the monitor and the speakers are on also. It takes a minute, but the 'Desktop' screen will appear on the monitor.

"Power down" means to turn everything off. Don't just turn off the power! Exit 'gracefully' by saving your work (save the project), exiting CS (click on the exit "X"), turning off the computer (click on the Start button, choose Turn Off Computer) and then turning off the power to the monitor, speakers, controller and Stitcher.

"Click" refers to using the computer mouse to choose something on the screen by pressing the left mouse button quickly. If it is a command button, this executes the command. If it is a pattern or boundary, it selects it. Clicking on any of the quilting icons will initiate that technique.

"Press" refers to pressing a button on the keypad located on the stitcher head. Each keypad button corresponds to a command to be executed. Sometimes the terms 'press' and 'click' are used interchangeably.

"Select" means to choose. If using the mouse, this is a single click. If using the keypad, this is pressing a button.

"Highlight" and **"Select"** are used interchangeably because selecting an object generally highlights it.

A **"dialog box"** (aka **'window'**) contains instructions, questions or descriptive information about something. CS uses dialog boxes to group information that belongs together, like the dimensions of a pattern.

A **"dropdown box"** is a dialog box that appears when a command is selected and there are choices associated with the command. The choices appear in a box which is usually just below the command so the association is clear.

A **"popup box"** is a dialog box that appears when the system needs to ask a question or give instructions. It can 'pop up' anywhere on the screen.

"Properties" (also called **details**) are descriptive pieces of information.

"Object" is a catch-all term for anything that can be described. It is a very general (but techy) term that could mean a million things, so CS tries to avoid it by using more specific terms.

"Tool Tips" are little boxes that pop-up and give the name or a short description of something. To look for tool tips, hold the cursor over an icon for a couple seconds

and see if the tip appears. Not all objects have tool tips, but most icons do.

“**CAD Screen**” also called the **Preview Area**, is the big, white, open area where the images of the patterns will appear.

“[Quilt Group](#)”^[65] is a term used to describe an area of the quilt top to be quilted. Quilt groups contain all the information (boundaries, reference points, sizing, positioning) needed to stitch a particular area of the quilt. It has its own Preview area so the patterns can be checked before being stitched. Some quilts have only one quilt group and others have dozens; it depends on the quilt.

“[Project](#)”^[62] is technically a computer file but figuratively is more like a file folder that contains all the patterns, quilt groups, preview areas and notes needed to complete a whole quilt.

“[Encrypted Patterns](#)”^[72] are pattern files that have been coded with a machine controller serial number, so they will run only on that machine. Encryption protects pattern designers by ensuring that people who have purchased one pattern can not make copies and distribute it to others. Encrypted patterns are protected in CS by using special [project file](#)^[63] types and using special [exported pattern file](#)^[103] types.

“[Removable Media](#)”^[11] is a device that holds computer files and can be moved from one computer to another. It makes copying files from one computer to another very easy.

“**Thumb Drive**” is another name for removable media.

“**UR**” is an abbreviation for Upper Right. Similarly, **UL** is upper left, **LL** is lower left, **LR** is lower right. These abbreviations are used often when defining boundaries - a concept to be explained soon!.



Tip: These are tips that explain how to use the software to resolve real life quilting issues. After all, this is about quilting !



Design It Yourself - These are tips for experienced CS quilters who appreciate keyboard shortcuts and want to do their own pattern designing using the extensive CreativeStudio capabilities.

1.1.3 Navigating

Navigating can be done with the mouse, the keyboard or the keypad (on the stitcher) but most of it is done using the mouse.



"Click" ¹² means to quickly press (and let go of) the left mouse button.

"Double click" ¹² means to click twice in rapid succession. Double clicking on a file will open it. Double clicking on a folder will open it too, displaying the contents of that folder.

"Drill down" means to open folders starting from the top level, working down one level at a time. This can be done using double clicks or by clicking once on a special "+" icon that appears in front of the folder name. (Examples in the next section).

"Right click" means to quickly press (and let go of) the right mouse button. Right clicking some objects will make a dialog box appear. The dialog box contains properties (which are details or characteristics) that describe the object. CreativeStudio™ uses right-clicking to make it faster to change a pattern's settings or characteristics.

"Drag" means to press the left button, hold it down and move the mouse. Positioning the cursor over something on the screen (an object of some kind) and dragging it will generally move it from one place to another.

"Scroll" generally applies to text rather than an image (but not always). It means to move the text on the screen so you can see what is before or after the current lines of text. CreativeStudio™ uses scrolling to navigate dialog boxes. Or, if Scroll bars appear on the right edge of the screen or dialog box, you can move up by clicking on the up arrow, and down by clicking on the down arrow. There is a bar between these two arrows which shows your relative position in the dialog box.

"Scrolling" can often be done using the mouse instead of commands. To scroll up, roll forward on the mouse roller (away from you). To scroll back, roll backwards (toward you).

"Zoom" means to change the size of an object on the screen by getting closer (zoom in) or farther away (zoom out). Zooming generally applies to images instead of text (not always).

"Zooming" can often be done using the mouse roller instead of commands. Roll it forward to zoom in, and backward to zoom out. Zooming is used in the preview

areas.

“Panning” generally applies to the screen images instead of text. It means to move the image on the screen in any direction without changing the size, scale or proportion. Press and hold the mouse roller wheel and move the mouse. The cursor shape becomes a hand. Notice the pink cuff on the hand icon? Nice work Matt! Panning will be used in CreativeStudio™ in the preview areas.

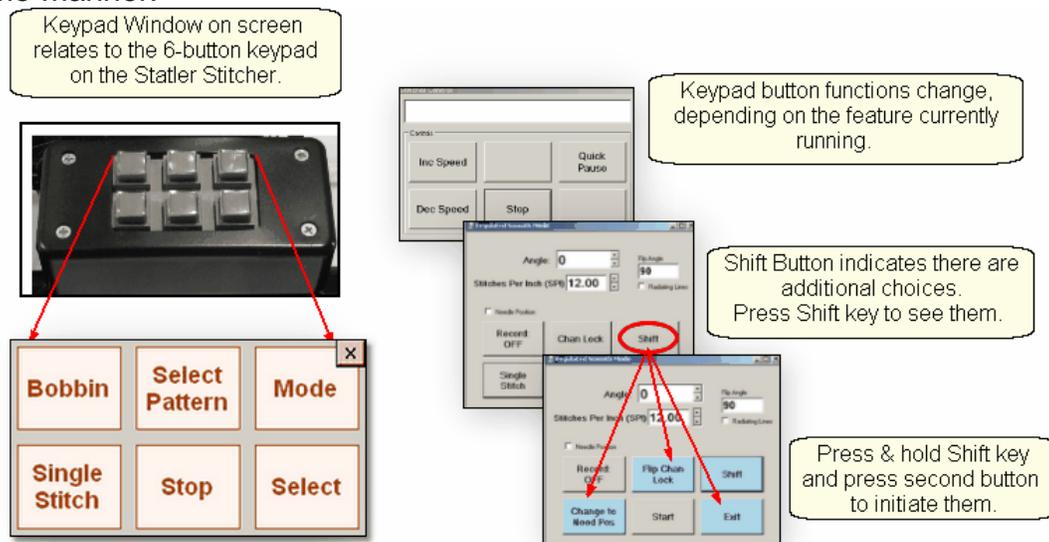
“Hovering” means to hold the cursor over an icon or other object for a couple seconds, and see if a little box appears (called a tool tip) that gives the name or a short description of that object.

"Selecting files" means to choose. Usually this will also highlight the object. When working with files, a single click will select a file. Double clicks open the file.

To select more than one file at a time, use the control key (Ctrl). Click on the first file, then press and hold the Ctrl key while clicking on the rest of the files that need to be selected. If you choose the wrong file, click it again and it will be deselected. When done, release the Ctrl key and all the files will be highlighted and can be copied, moved or deleted together.

To select a group of files that are all contiguous, use the Shift key (Shift). Click on the first file, then press and hold the Shift key while clicking on the last file. When done, release the Shift key and all the files between the first and last will be highlighted and can be copied, moved or deleted together.

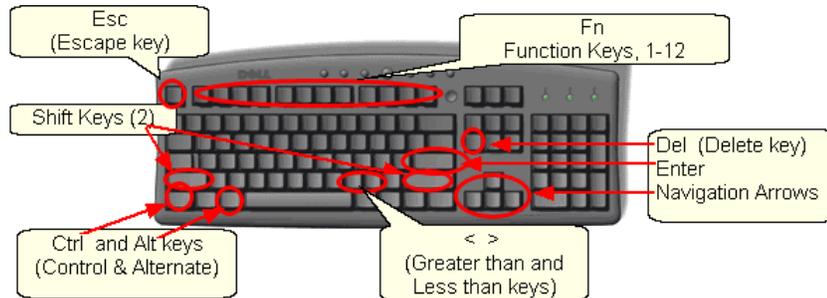
Navigating can also be done using the 6-button keypad on the Statler Stitcher. There is a keypad in the front and in the back of the machine, and they both function in the same manner.



Using the keypad on the machine eliminates the need to return to the keyboard/mouse repeatedly. Just press the Mode button to move sequentially through the icons. To backup, press and hold the Stop button, and press Mode.

1.1.4 Keyboard Shortcuts

Sometimes there are keyboard key-combinations that will execute a command without having to use the mouse. The combinations require pressing two keys at the same time, like pressing the shift key with a letter key to produce a capital letter. The Control key (abbreviated Ctrl or Ctl) and a letter are the most common combinations. Some examples of keyboard shortcuts are below:



Note: the check mark (✓) is short for 'click'.

KeySeq	Is the same as:	What it will do:
F1	✓Help	Access the User Manual Help System ³⁵
F2		Virtual Stitchout ¹⁰⁰ ,
F5		Reset keypad ³⁸
Ctrl+N	✓File, ✓New Project	Create a new project.
Ctrl+O	✓File, ✓Open Project	Open an existing project
Ctrl+S	✓File, ✓Save Project	Save the current project
Ctrl+Z	✓Edit, ✓Undo	Reverse the most recent command
Ctrl+Y	✓Edit, ✓Redo	Re-execute the command
Esc		Escape from a command sequence or mode
Ctrl+✓		Selects multiple items
Ctrl+A		Selects all items
< >		Selects each pattern in order, regardless of how many are stacked on each other.
Del		Delete the highlighted text or object.
↑ ↓ ← →		Navigate through the quilt groups.
Alt+ ↑ ↓ ← →		Nudge selected patterns.

Feature Specific Shortcuts:

Introduction
Technology Basics
Keyboard Shortcuts

Feature:	KeySeq	What it will do:
Measure	Right✓	Transfer a measurement. Measure first. Hover over destination field, then Right✓ the destination field, then click the number to transfer.
Draw/Set Sew Order	F8	Set Sew Order mode. Click arrow to change direction, click number boxes in preferred sequence. F8 again (or Right✓) to save changes. Esc to exit without changes.
Draw/Pattern Anchor	F9 F10 F11 F12	Choose pattern anchor 'Edge'. Choose pattern anchor 'Center'. Choose pattern anchor 'Endpoint'. Choose pattern anchor 'Stretch'. Double click a selected pattern to rotate through the choices.
Draw/Boundary	Alt+B	Begin (or end) Draw Boundary mode. Click ✓ the boundary points, Right✓ to end. Esc or Alt+B or second Right✓ to exit Draw Boundary mode.
Draw/Trim	Alt+T	Begin (or end) Draw Trim mode. Click ✓ the trim boundary, Right✓ to end. Esc or Alt+T or second Right✓ to exit Draw Trim mode.
Draw/Arc	Alt+A	Begin (or end) Draw Sewable Arc. Click ✓ 3 points (beginning, top of arc, ending). Esc or Alt+A or second Right✓ to exit Draw Arc mode.
Draw/Curve	Alt+C	Begin (or end) Draw Sewable Curve. Click curve midpoints. Right✓ to end. Esc or Alt+C or second Right✓ to exit Draw Curve mode.
Draw/P2P Line	Alt+L	Begin (or end) Draw P2P Line. Click ✓ line transition points. Right✓ to end. Esc or Alt+L or second Right✓ to exit Draw P2P Line mode.
Draw/P2P Pattern	Alt+P	Begin (or end) Draw P2P Pattern. Click ✓ pattern ending points, Right✓ to end. Esc or Alt+P or second Right✓ to exit Draw P2P Pattern mode.
Draw/Measure	Alt+M	Click any 2 points on Preview area; measurements are displayed. Esc to exit.
Draw	G	Turn on (or off) the Gridpoint Snap when working in Draw mode.
Draw	E	Turn on (or off) the Endpoint Snap when working in Draw mode.

1.2 Computer Skills

The Statler Stitcher CreativeStudio™ manuals assume that the quilter has been exposed to computer systems and is familiar with basic computer skills and terms. However, since many computer systems are similar (but different) a brief overview of those computer skills is included here.

One of the most powerful virtues of a computer is its flexibility. Unfortunately, that can also be a detriment because there are several ways to do the same thing, and that can cause confusion. The methods used in this text are NOT the only way to perform certain tasks. There are faster methods so if anyone is using a different technique but gets the same results, that is just fine!

1.2.1 'Explore' Folders

Folders and files are stored on a computer much the same as they would be stored in an office. By arranging them in a hierarchical structure, folders and files can be stored and retrieved easily. The term 'Path' is used to describe how to find them.

Example: **C:\All Statler Patterns\Patterns Precision Stitch\Alpha_old-z.qli**

- | | | |
|------|----------------------------------|--------------------------------------|
| (1.) | Your computer | is like the office. |
| (2.) | C: Disk Drive | is one of the file cabinets |
| (3.) | Patterns Precision Stitch | is one of the drawers in the cabinet |
| (4.) | Stick Alphabet | is a folder in the drawer |
| (5.) | Alpha_old-z | is a file in the folder |
| (6.) | .qli | is the file type. |

1. Your Computer holds all the files needed to run the Statler Stitcher.

2. Disk drive C: is like the file cabinet. It is a physical space that holds folders and files.

Disk Drives use letters to differentiate them.

A: is usually a floppy disk drive

C: is usually the computer's fixed hard disk drive

D: is usually the computer's CD drive

E, F, G, H, etc. are used as needed. They might refer to a network disk drive, a thumb drive, a digital camera card drive or other removable disk drive.

3. The file drawer contains file folders that are similar in nature. (Patterns Precision Stitch)

4. The file folder(s) group items that go together. (Alphabets)

5. The filename is (hopefully) a descriptive name.

For example: alpha_old-z is (hopefully) a pattern of the letter Z.

There are no rules regarding assigning names to files but keeping them simple and clear is a good idea. Filenames are usually listed in alphabetical order so if there are

two files that go together, it is wise to name them so they will be sorted together.
EX: daisy_block.qli, daisy_border.qli, daisy_panto.qli, daisy_triangle.qli

6. File Extensions indicate which programs can read them. Most word processing software can read a file extension of .txt (short for text) or .rtf (short for rich text format) or .doc (short for document). Word processors can't read a file extension of .qli (short for quilt language), .jpg (short for a picture file), .skf (short for sketch file) or .dxf (short for CAD drawing file) or .pat (short for pattern file).

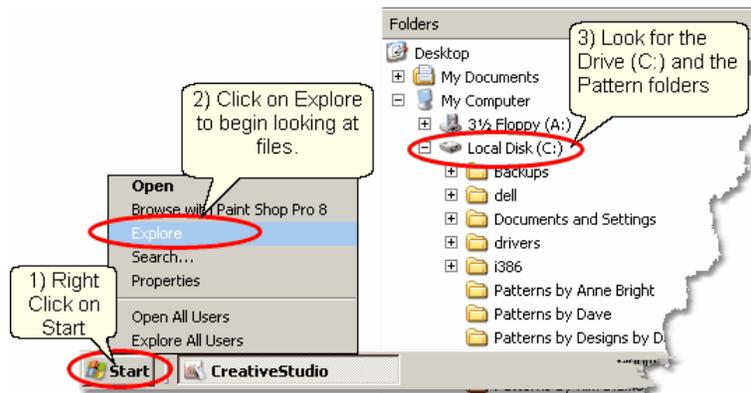
Statler Stitchers recognize file extensions for pattern files (.qli, .csq, .csqx, .dxf, .pat, .patx) and projects (.proj, .projx) and very little else.

Tip: Statler allows us to create new, original patterns. It also includes hundreds of pre-tested quilting patterns, with the file extension of .qli. In addition to this, Statler has provided us with multiple versions of these existing files so we can make changes to them if needed (using the Autosketch software). The following folders contain the additional versions:

- C:\Patterns PrecisionStitch DXF
- C:\Patterns PrecisionStitch JPG
- C:\Patterns PrecisionStitch SKF

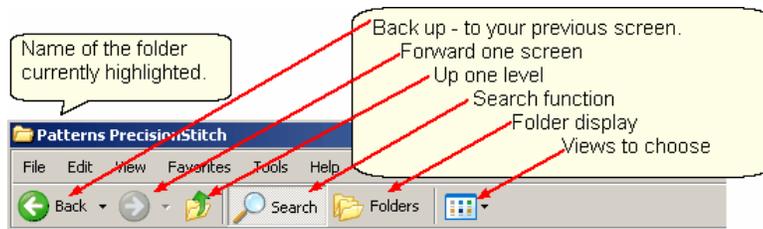
Looking at Folders

Windows Explorer makes it easy to view and manage files and folders. Right Click on the Start button (on the task bar⁶⁰ in the lower left corner of the screen) and a pop-up box appears. Click on "Explore" to begin working with the files.

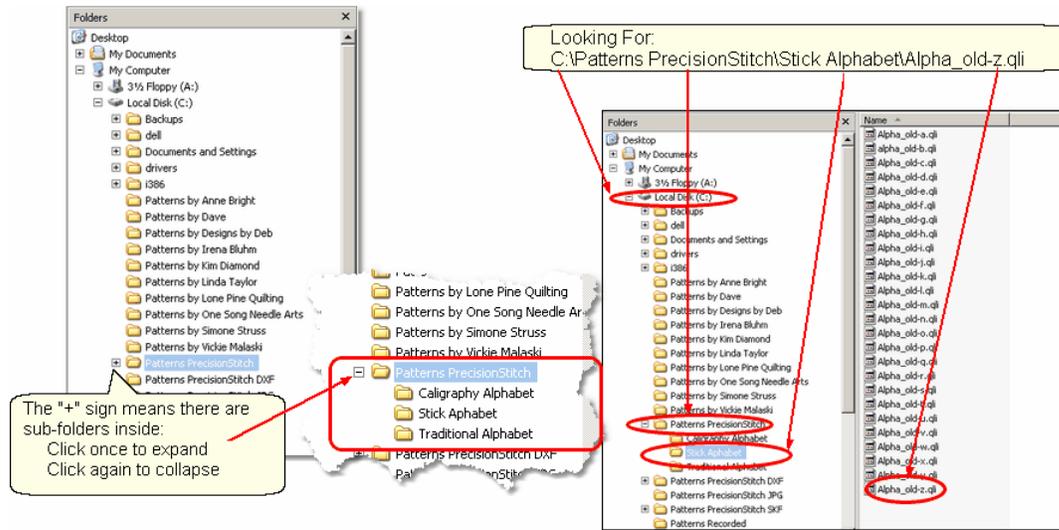


- 1) Right Click¹⁴ on Start
- 2) Click on Explore
- 3) Look for the C: drive

The screen appears with two panes. Single click the folder name (in the left pane) to select it and display the contents of the folder (in the right pane). Use the icons to navigate the folders and files.



[Drill down](#)¹⁴ and back up using clicks and the icons. The drill-down [path](#)¹⁸ is shown on the left (how to get to the selected folder, Stick Alphabet). The lowest detail level is listed on the right (what is inside the selected Stick Alphabet folder).



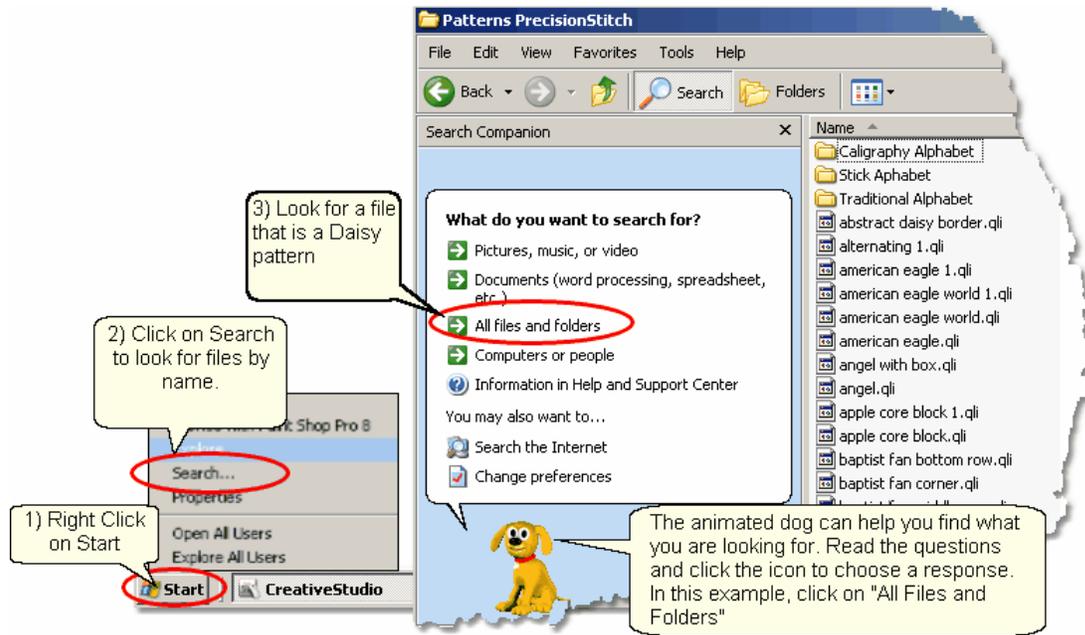
Searching Folders and Files

The "Search" function is used to find specific files and folders.

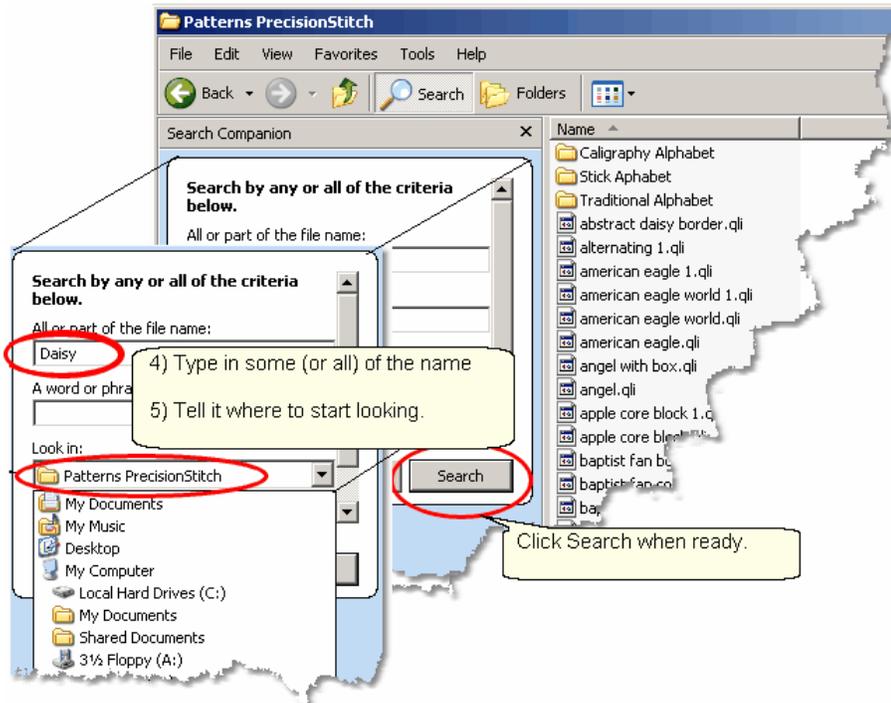
[Right Click](#)¹⁴ on the Start button (on the task bar in the lower left corner of the screen). The same [pop-up box](#)¹² appears but this time click on "Search" to begin looking for the files.



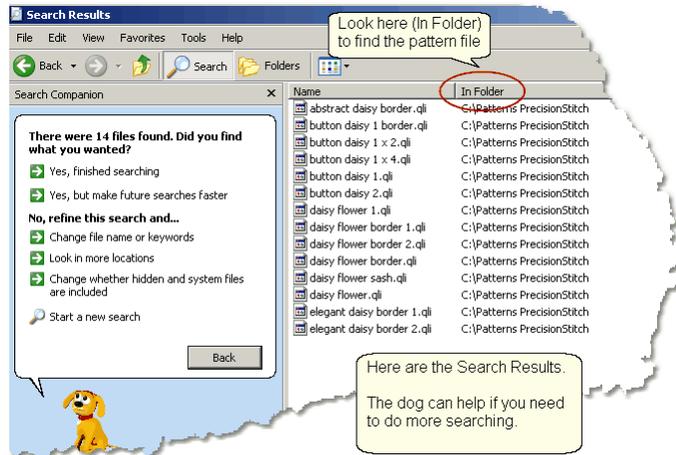
Let's look for a Daisy pattern. A very helpful animated character will guide you through the process. Since we are looking for a daisy pattern, we might start by searching for a pattern file with the word 'daisy' in the name. There could be other daisy pattern files that don't use the word 'daisy' in the name but this is a good place to start.



- 1) [Right Click](#)¹⁴ on Start
- 2) Click on Search
- 3) Click on All Files and Folders



- 4) Type in some (or all) of the file name, as prompted.
- 5) Tell the system where to start looking, by [selecting](#)¹² the correct folder name as prompted.
Click on "Search" when ready.



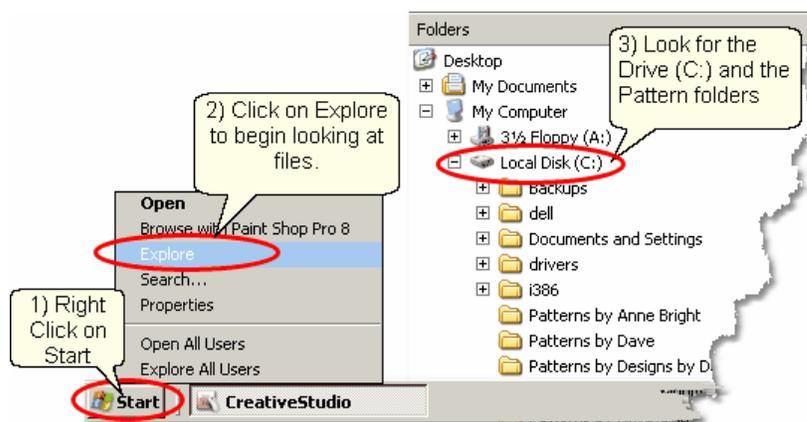
All the files with the word 'daisy' that were found in the Precision Stitch folder are listed. If you need to search more, let the dog help! If this is what you wanted to know, jot down the [path](#)¹⁸ so you can find the file in the correct folder using CreativeStudio.



Creating a New Folder

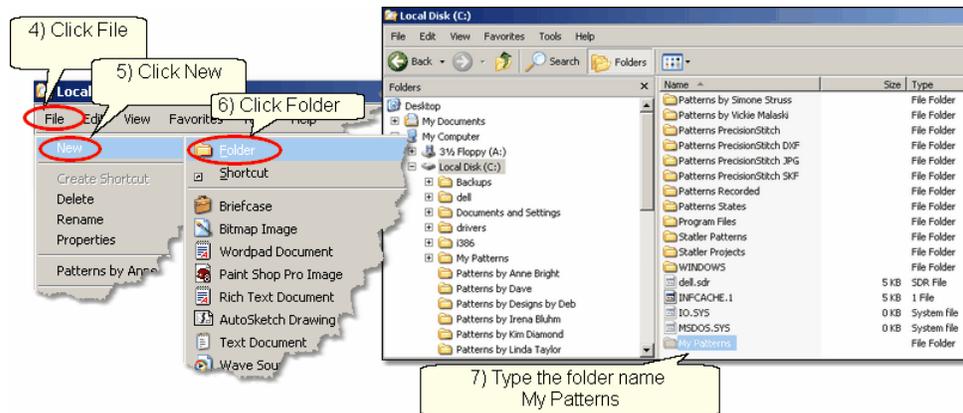
The Statler Stitcher comes with hundreds of patterns already loaded. In addition, there are dozens more that were provided by different Statler pattern designers. These bonus patterns are stored in separate file folders which identify the designer. It is a good idea to create a separate file folder for your original patterns you have recorded or created. This separates the patterns you have purchased from the ones that came with your system.

First, use [Windows Explorer](#)¹⁹ to find the C: drive. Looking at the folders tells us that the standard pattern files are stored on the C: drive so that is where we will put our new folder. C:\MyPatterns



The following steps show how to create a new folder:

- 1) [Right Click](#)¹⁴ on the Start button.
- 2) Click on [Explore](#).
- 3) Look for the C: drive. Click once on the "Local Disk (C:)" to select it.



- 4) Click on the Command bar's "[File](#)" [command](#)³⁰.
- 5) Click on "New" on the [drop down box](#)¹².
- 6) Click on "Folder" on the next [drop down box](#)¹².
- 7) Type the name of the new folder: "My Patterns" and press the enter key.

For practice, create another file folder called "My Projects". Use exactly the same steps, just a different file name. CreativeStudio uses special files called Project files to hold all the information required for a quilt. These files can be named and saved for future use. By putting them all into a new folder called My Projects, they will be easy to find later.

Tip: Consider creating additional folders for your best customers. These would be subfolders of C:\My Projects and would include the customer's name in the folder name. Then, save all their projects inside their own folder.

1.2.2 'Explore' Files

The Statler Stitcher computer comes pre-loaded with all the software and files in place, but at some time we all need to add, copy, move or delete some of our files. There are several 'right' ways to manage files so if there is a method you know and are comfortable with, use it. [Windows Explorer](#)¹⁹ is used here because it is easy to use.

As described earlier, files have a [path](#)¹⁸ (the disk drive, folder and subfolders), a [filename](#)¹⁸ (hopefully it is descriptive) and a type called a [file extension](#)¹⁹. CreativeStudio can read the following types of files:

- .qli is the Quilting Language format that the stitcher recognizes as a pattern file.
- .pat is an encrypted Pattern File.
- .csq is another Quilting Language format used for derivative patterns that you created (by modifying an existing pattern) and exported, giving it a new name.
- .csqx is the encrypted version of a .csq file.

.dxf is a CAD format used by CAD systems and recognized by the Statler.

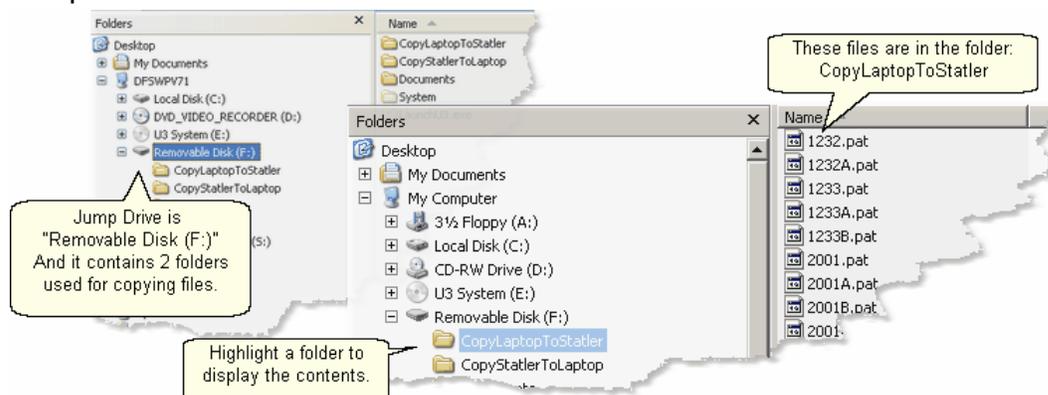
A special file type that the CreativeStudio recognizes is a [project file](#)^[63] (file extension is .proj or .projx). Project files contain all the patterns, sizes and other descriptive information needed to complete a quilt. Projects are described in depth later.

At some time, additional patterns will be purchased and will need to be moved to the folder containing your personal files; C:\My Patterns. The new files will exist on some type of removable media (like a [thumb drive](#)^[11]) and Windows Explorer can help copy them to their new folder.

First, insert the [thumb drive](#)^[11] (removable media generally need a USB port) and open up [Windows Explorer](#)^[19]. [Search](#)^[20] the folder structure and find the removable media.

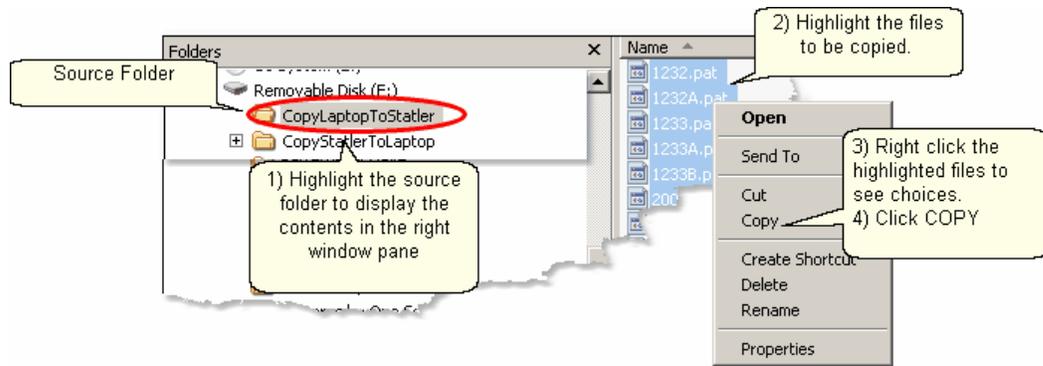
Tip: Scan the thumb drive with up-to-date Antivirus software before you move it to your Statler. It is wise to do this EVERY time you move media between computers. This protects your investment in your Statler Stitcher.

In this example, the thumb drive has been given the letter "F" but each computer can be different so it might be E, F, G, H, or some other letter. The example shows the thumb drive has two folders that will be used for copying files to/from the home computer (Laptop) and the Statler. These folders are named: *CopyLaptopToStatler* and *CopyStatlerToLaptop*. Using descriptive names for files and folders will make this process much easier.

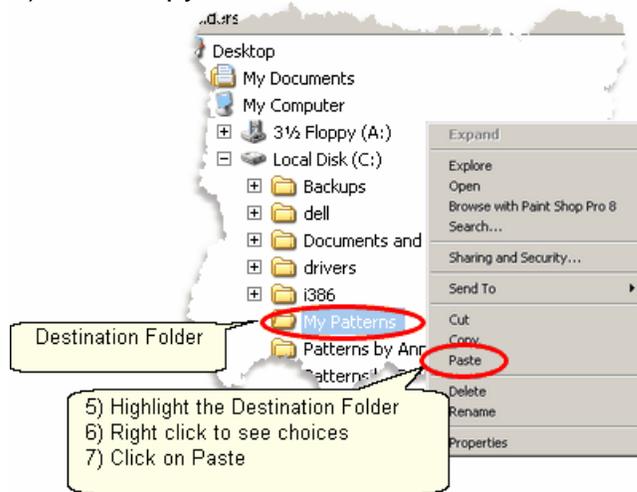


Copying Files

We know where the files are (source is F:\CopyLaptopToStatler) and where they need to be placed (destination is C:\My Patterns). Windows Explorer is used here too.



- 1) Click on the source folder, and the content will be displayed in the right window pane.
- 2) [Select](#)¹⁵ the files to be copied.
- 3) [Right click](#)¹⁴ the selected (highlighted) files
- 4) Click Copy

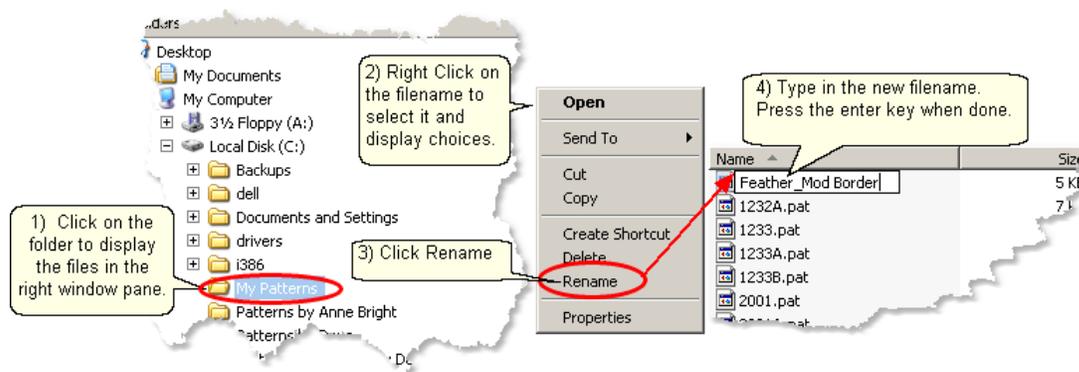


- 5) Click on the destination folder.
- 6) Right click the highlighted destination folder
- 7) Click Paste. Now click on the destination folder and the files should appear in the right window pane.

Tip: Copying or moving can also be done by dragging the group of files to the destination. If the source and destination are in the same path, the files are moved. If they are in different paths, they are copied.

Rename Files

The new files in this example have names that are more like product codes than pattern file names, so change them to something you can recognize. Again, Windows Explorer makes this easy.



Managing Recorded Files

One of the outstanding features of CreativeStudio is the ability to use the stitcher to create an original design by [recording](#)^[140] the motions for stitching that design and save them so it can be used repeatedly. CS will automatically name the pattern file and save it to a folder on your computer. The path is:

C:\Patterns Recorded\RecordedQLI_yyyyMondd_hhmmss.qli.

This looks scary but it is really very logical. The new pattern file needs a name that is unique, and the current date and time make it unique. A pattern recorded on New Years Day, shortly after noon might be named

C:\Patterns Recorded\RecordedQLI_2009Jan01_120345.qli.

It can be found in the folder C:\Recorded Patterns.

When a recorded patterns is sure to be used again, it is a good idea to [Export](#)^[103] the file, giving it a descriptive name, putting it in your 'My Patterns' folder and saving it as a .csq file. The .csq format is preferred because It is saved as arcs, not polylines. That is a techy reason but it means the file is saved more efficiently.

Buying Pattern Files

Statler Stitcher owners seem to share an appreciation for beauty and perfection. This is one of the reasons we tend to build a stash of patterns. Finding the perfect motif for a quilt is fun and stitching it out is very satisfying. So, building a stash of patterns is bound to happen. Each designer has a style of their own, so try patterns from multiple designers, and collect all their pattern catalogs too! They are really inspirational. When ready to place an order, here is what to do:

1. Log on to their website and view their catalogs. Most catalogs have shopping cart functions, so you can be adding patterns to your shopping cart as you find them. When you are done shopping, follow the instructions for checking out and paying for the patterns. Each designer does this a little differently so follow their directions carefully. One of the steps is to give your name, address and email address. The designer will either email the patterns to you or tell you how to download them yourself.
2. When you get your patterns save them to your home computer first. (This assumes that your home computer has internet access, a firewall and virus security software.) All new files should be received by (and saved on) your home computer so it can check them for viruses, etc. The Statler Stitcher should never be connected to a network or to the internet.

3. Frequently the patterns will arrive in a zipped file folder, which means it has been compressed so it takes less space and can be sent to you faster. It is easy to unzip a folder. Just like Windows Explorer, right click the zipped folder and follow the instructions. There is a wizard that will help explain the process.
4. Now copy the files to your Statler Stitcher computer.

Moving Files

Many people use the terms 'copy' and 'move' interchangeably because they are so similar. When files are copied from one place (source) to another (destination), the original files on the source remain. When files are moved from one place (source) to another (destination) the original files are deleted.

The previous section described how to copy files from a Removable Media to a folder on the Statler computer. Copying files from the home computer to the Statler computer works exactly the same, but it takes two steps. The first step is to copy or move files from the home computer to the removable media, and the second is to copy or move the files from the removable media to the Statler computer. Easy!

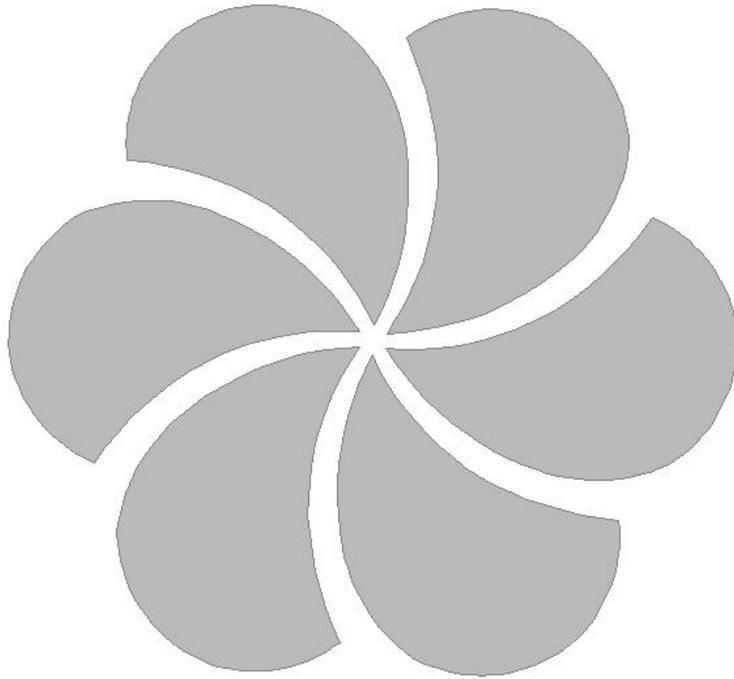
Downloading new versions of the software.

The Statler Stitcher is a stand-alone system which means it should NOT be connected to the internet or have any other graphics software loaded on the computer. This guarantees that the CS software can run at peak performance and anti-virus software is not needed. Screen Savers should NOT be used either.

The first time CreativeStudio is installed, it must be done from a CD because it is big (see the Installation Guide section). After the initial installation however, you can download new files from the Gammill / Statler website. Use a different computer (your home computer) to access the internet when downloading files. All software upgrades are announced on the Gammill website and on several internet discussion groups. Access to the Technical Support section of the site www.Gammill.net requires some setup so call the Statler Stitcher Tech Support people first.

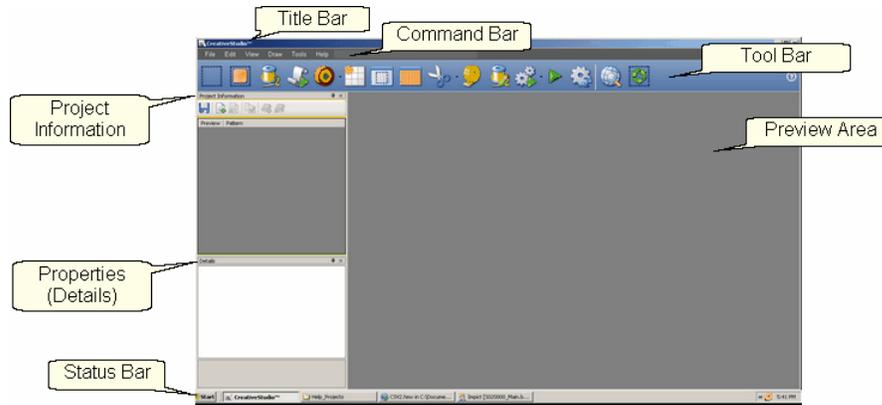
If you have no desire to ever download software, Statler (and most pattern designers) will copy the software to a CD and mail it to you. There will always be a fee for this extra service, so call first and ask about the process.

Part II



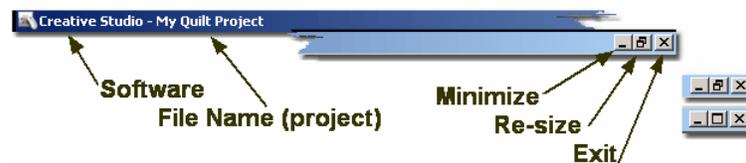
2 Main Screen Layout

This section is dedicated to understanding the main CreativeStudio™ (CS) screen. The top section has all the tools and commands needed; [Title Bar](#)^[29], [Command Bar](#)^[29], [Tool Bar](#)^[39]. The center section is the main [working area](#)^[43]. It is divided into three distinct areas; [Project information](#)^[45], [Details](#)^[46] and the [Preview area](#)^[58]. At the bottom of the screen is the [Status Bar](#)^[60] and the [Task Bar](#)^[60]. Each area will be discussed in more detail later, when they are used to describe the quilting process.



2.1 Title Bar

The Title Bar is a standard feature in most software products. It displays the title of the software program being used and the name of the file currently being used. For CS, the file is a project.



Title Bars also contain three important icons.

Minimize will shrink the screen, making it a button on the task bar.

Re-size will change the screen size (Full Screen or Partial Screen)

Exit is a fast way to close the software (Also called "X-it" meaning click on the "X").

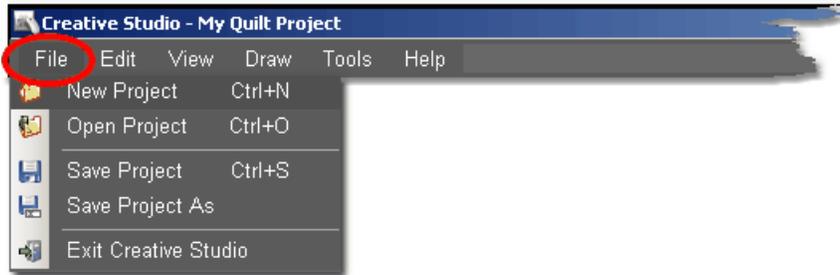
2.2 Command Bar

The Command Bar is the second line of the screen. Click on any of the words, and a drop-down box appears, showing the choices for that command.



2.2.1 File Command

The File commands are used to organize and save your work. CS uses 'projects' to collect, hold, preview and save the patterns and layout you choose for your quilt. [Projects](#) ⁶² are described in detail later in this text so at this point, consider them to be a file folder that holds all the details about a quilt. Click on the command "File" to see the options.



New Project - is used when starting a new quilt. (Ctrl+N is the keyboard shortcut).

Open Project - is used when the project already exists. (Ctrl+O is the keyboard shortcut).

Save Project - saves all of the elements of the project together using the current project name. Save Often! (Ctrl+S is the keyboard shortcut).

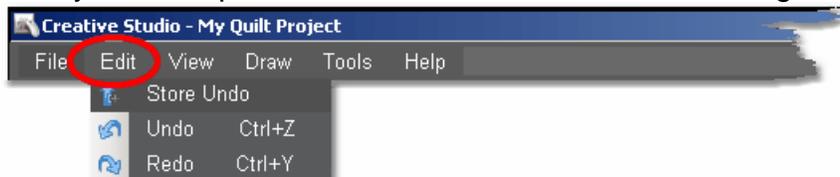
Save Project As - saves all of the elements of the project together AND lets you give it a different name.

Exit CreativeStudio - will close the software, just like the Quick Exit icon.

Tip: The default project name is "My Quilt Project". Although it is possible to add patterns to this and save it, it is not advisable. So, always provide your own project names. Consider using a naming convention that somehow identifies the quilt; perhaps by customer, date, style, event or some other combination of methods.

2.2.2 Edit Command

CS provides the ability to undo (or redo) the previous command, so if a command step is made by mistake, it can be immediately corrected. This does not apply to numeric measurement changes, just adjustments on the Preview area. CS remembers the recent commands (called the stack) performed in the current quilt group, so if you backup too far, Redo will "Undo the Undo" or go forward again.



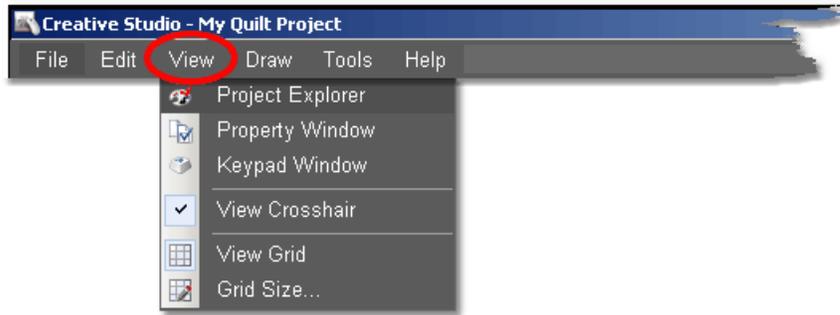
Store Undo will store the current state (this is for the techie people).

Undo will reverse the previous command.

Redo will re-execute the previous command.

2.2.3 View Command

CS can include (or exclude) certain windows which contain some of the operating details.



View **Project Explorer** means to display a dialog box that lists the details of the current project. Generally this means showing all of the patterns chosen for the current project.

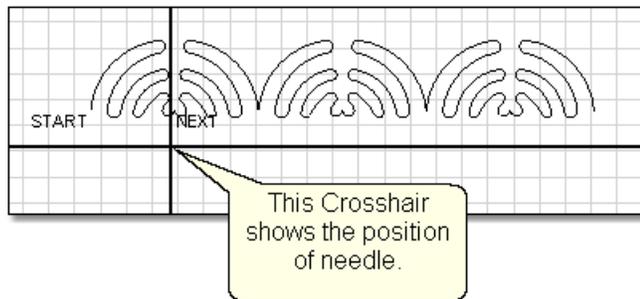
View **Property Window** means to display a dialog box that itemizes the properties of the object currently selected. In non-techy terms, properties means details describing the item selected. So, viewing the property window means to display the details of the highlighted object.

View **Keypad Window** means to display an image of the keypad mounted to your sewing head. The image on the screen is 'grayed out' which means it can't be clicked with the mouse. It just serves as a reminder by displaying what the current functions are for the keypad on the stitcher.

[View Grid](#)⁹³ - Choosing to display a grid will change the look of the preview area. It can look like graph paper with very fine lines and it is helpful when drawing and planning pattern positioning.

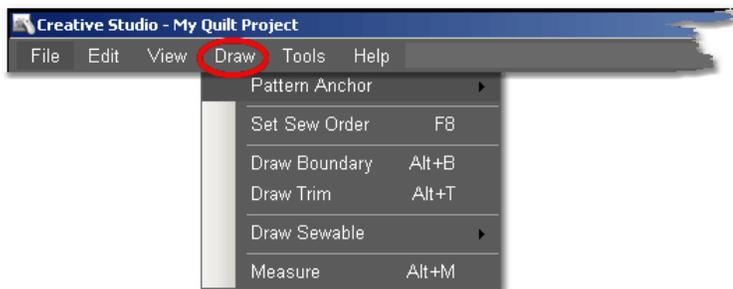
[Grid Size](#)⁹³ - Choose the distance between the grid lines that helps you plan the designs effectively. If precise pattern placement is important, the grid size might be set to a quarter inch (0.25) but if the pattern is very large scale, the grid size might be better at one inch.

View Crosshair means to show the needle position of the sewing head, on the computer screen in the preview area. Like on a graph, the needle position has X and Y co-ordinates. To make it easy to find this position on the screen these appear as horizontal (X) and vertical (Y) translucent blue lines. The intersection of the two lines is the 'crosshair' which is the needle position.



2.2.4 Draw Command

In addition to the hundreds of patterns in CS, it is also possible to use the mouse to create boundaries, create new patterns and to modify existing patterns. Complete details and examples are given in the section on quilt pattern editing.



***D. I. Y.** Design It Yourself - For most experienced quilters, the drawing capabilities of CS virtually eliminate the need for a separate piece of software to create and save original patterns. Most 'Draw' functions have keyboard shortcuts.*

[Pattern Anchor](#)^[124] - There are four different pattern anchor modes used to [adjust patterns](#)^[78]. Each mode is identified on the screen by different color resizing handles. Click a pattern once to select it and see the resizing handles. Double click the pattern to change the pattern anchor modes, rotating through all the appropriate modes. Each mode responds differently to resizing because it is anchored at different points.

* Edge (F9) - Move any resizing handle (purple) and the opposite edge is anchored.

* Center (F10) - Move any resizing handle (orange) and the center is anchored.

* Endpoint (F11) - Move one of the resizing handles (blue squares that appear only at the start or end of the pattern) and the other is anchored.

* Stretch (F12) - Move any resizing handle (gray) and the opposite handle is anchored. Stretch is the only resizing method that allows a resizing handle to change both height and width at the same time. This allows the pattern to be stretched or skewed, which is very useful when fitting a pattern into a not-so-perfect quilt block.

[Set Sew Order](#)^[125] (F8) - By default, CS will stitch patterns in the same order that they are moved on to the preview area (screen). This command allows changes to be made to the sewing order. It also allows the stitching direction to be reversed.

[Draw Boundary](#)^[128] (Alt+B) Boundaries are created for general reference and for receiving and resizing patterns. They can be defined [using icons](#)^[75] and the sewing

head (to identify the actual shape of a quilt block). This command draws boundaries on the screen [using the mouse](#)^[128]. The size of a boundary can automatically resize a pattern to fit the space.

[Draw Trim](#)^[130] - (Alt+T) This is a special type of boundary used to remove or trim away some part of the pattern(s) showing on the screen. Trim boundaries can be defined [using icons](#)^[194] and the sewing head (to identify the actual shape of a quilt block) but this command draws trims on the screen [using the mouse](#)^[130]. The [Trim icon](#)^[39] displays the choices: [Trim Inside](#)^[194] or [Trim Outside](#)^[161] which determines what part of the pattern will be concealed and not quilted. This is a temporary change to the copy of the pattern(s) on the screen. It does not permanently affect the originals, it just prevents the trimmed portion of the pattern from stitching out.

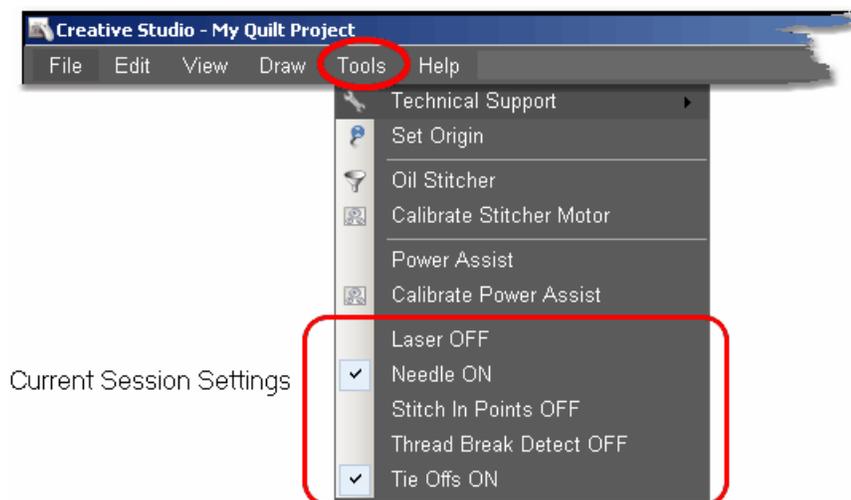
[Draw Sewable](#)^[132] - Unlike drawn boundaries that do not stitch out, these drawings will stitch out. Sewable drawings are all positioned using the mouse instead of the sewing head. These drawings can be used with other patterns or independently. The sewable drawing choices are:

[arcs](#)^[133] (Alt+A) [curves](#)^[134], (Alt+C) [lines](#)^[136] (Alt+L) and [patterns](#)^[137] (Alt+P) .

[Draw Measure](#)^[138] (Alt+M) - Allows images on the screen (boundaries, patterns, etc) to be measured using the mouse. This gives a good approximation of the true size.

2.2.5 Tools Command

The tools listed here are used as needed, to customize the quilting process. The tools may be used frequently or not, but they affect how the system operates. This section describes briefly what they do. If needed, more detail is included in other sections of the manual.



[Technical Support](#)- There are many mechanical, electrical, and numeric settings that are required to run CS. Some of the settings are [defaults](#)^[225] that can be changed to suit the quilter's preferences. These [default settings](#)^[225] are defined in the Controller Definition Form and are explained in detail in the chapter on [Utility Functions](#)^[225].

[Technical Support](#) also covers [Diagnostics](#) (which are metrics that are used to run diagnostic tests) and [Test System](#) (which is a routine used for troubleshooting). Both

are considered Restricted Areas - Do not modify any of the values without the explicit instructions from one of the Statler Stitcher support staff.

[Set Origin](#)^[228] - The origin point is a new variable in CS. All graphics products need an origin but CS's ability to set a unique origin point enables the projects to be repeatable, across machines. The repeatable origin allows recovery from accidental (or end of the night) power shutdowns. It also means that projects can be created for a whole quilt and the project can be sold / shared to others, just like a single pattern is sold / shared in PS. ([Utility Functions](#))^[225].

[Oil Stitcher](#)^[229] - This is a special routine that is an optional part of the regular cleaning and maintenance. It runs the sewing head motor at varying speeds backwards so the oil has a chance to penetrate some places that are otherwise hard to reach. New machines and certain climates may require this to be done more frequently. See [Utility Functions](#)^[225] for complete details.

[Calibrate Stitcher Motor](#)^[230] - Calibrating the stitcher motor guarantees stitching accuracy. This does not need to be done often but can be performed as needed. It is required when CS is first installed, after loading new software versions or performing any significant technical maintenance. (see [Utility Functions](#)^[225])

[Power Assist](#)^[230] - This feature enables the machine head to move more easily by adding a little 'motor power'. This compensates for the weight of the machine and is adjustable to suit each individual.

[Calibrate Power Assist](#)^[231] - This routine allows the quilter to adjust the Power Assist to suit their own personal 'touch'. There is an automatic calibration routine, followed by the ability to adjust the settings until the machine movement 'feels' right. See [Utility Functions](#)^[225] for complete details.

Current Session Settings: The following settings are inherited from the default settings. Changes made here apply only to the current session:

Laser OFF (or ON) - The laser light is automatically turned on during certain functions, but it can be turned on (or off) manually. If CS needs the laser light on, it will turn it on automatically.

Needle OFF (or ON) - The needle can be turned OFF when a pattern is being checked for proper positioning. By turning the needle off and the laser light on, CS can move through the pattern and the light shows where the stitch line would appear. This is like a rehearsal. Once the path is correct, turn the needle ON and use the Restart function to repeat the motions, and stitch it out.

Stitch in Points OFF (or ON) - When the Stitch in Points is set ON, the sewing head will take an extra stitch in every point it encounters. This enhances some patterns by making the point more precise.

Thread Break Detect OFF (or ON) - When the Thread Break detector is ON, the thread break sensor on the sewing head is enabled. This sensor is usually a cylinder that is included in the thread path and it rotates when stitching. If it stops rotating when stitching, CS assumes that the top thread has broken and CS will stop stitching and show a Thread Break message.

Tieoffs OFF (or ON) - Tieoffs are the tiny stitches that are made at the beginning and

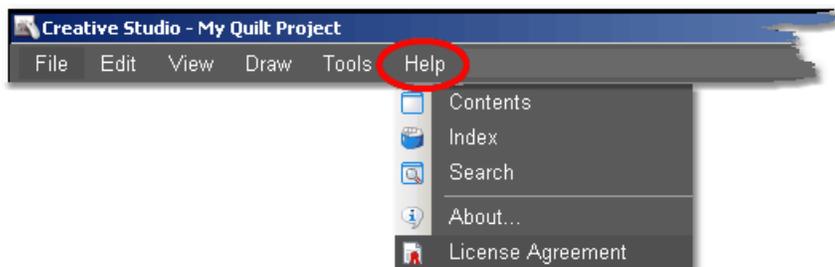
the end of a pattern or a line of stitching. They serve to knot the threads so the stitches will not easily come out.

- Regular tieoffs are made before the pattern is stitched. Half of the tieoff stitches are made going forward, the other half stitch backward, so the machine ends up at the same spot before starting the pattern (or after ending the pattern). The result is a very secure, but noticeable knot.
- Competitive tieoffs are usually much smaller and do not stitch over themselves or the pattern. They are made going forward as the start of the pattern, and at the end of the pattern. They take the place of the first (and last) portion of the pattern. The result is a secure, almost invisible knot.

Tip: Any changes you make to these settings will affect the current session only. When you shut down the system and restart it, the settings return to their default values. To change defaults, see the Configuration Form in the Utilities section.

2.2.6 Help Command

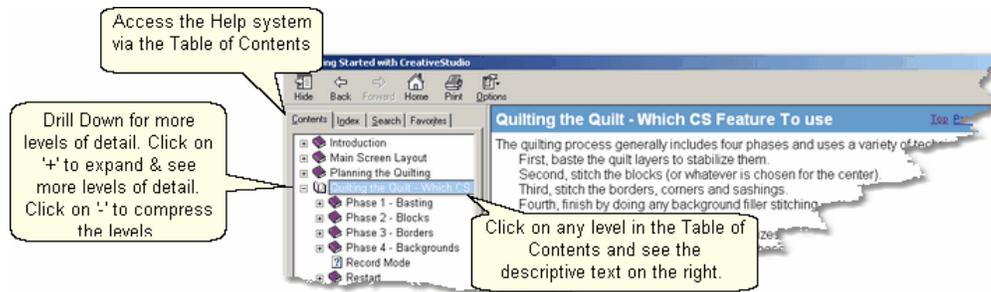
Help is an integrated system that provides information about CreativeStudio. Click 'Help' or press F1 to view the user manual's Table of contents, to use the Index of key words, or search for key phrases. "About..." will display the software version numbers, the Controller serial number and the Security Key (dongle) serial number. The Statler Stitcher Software License Agreement is included too.



This new 'Help' window will look very familiar to people who have used other help systems. It is a split screen that allows navigating by topic on the left, and full explanations of the selected topic on the right. It is possible to search for something by browsing the table of contents, by browsing the index, or by doing a search for a word or series of words.

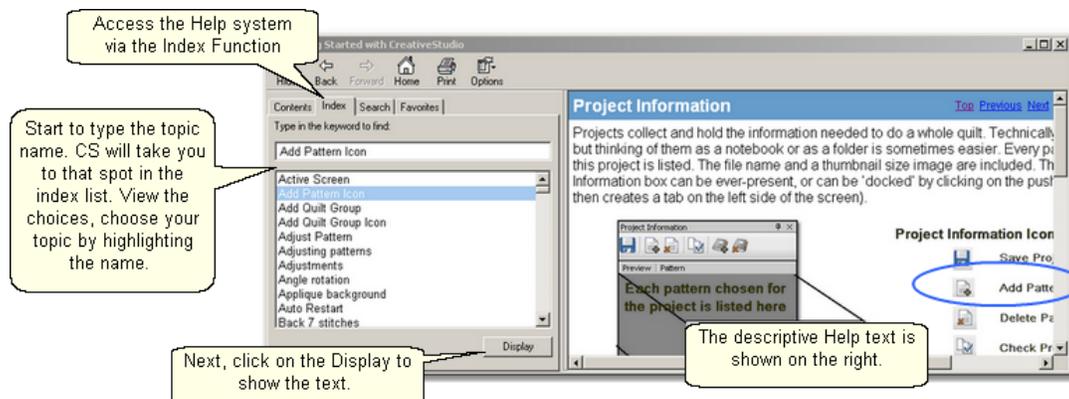
Many of the screens also have a Help icon "Help ?" which is a context sensitive request for help. Click-on this icon once, then move to the object on the screen that is not understood and click again. A short explanation appears or the help system opens allowing search capabilities.

Help - Using the Table of Contents.



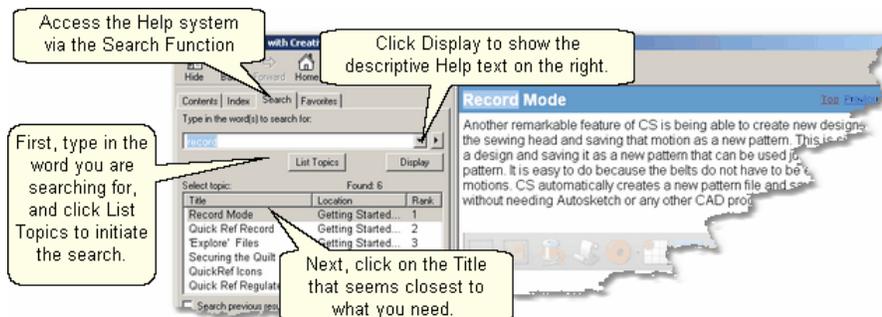
The Table of Contents provides a convenient way to scan the content of the manual quickly. The table of contents can be expanded to display all levels or compressed to show just the major sections. Any time a title is highlighted in the table of contents on the left, the text associated with that title appears on the right.

Help - Using the Index.



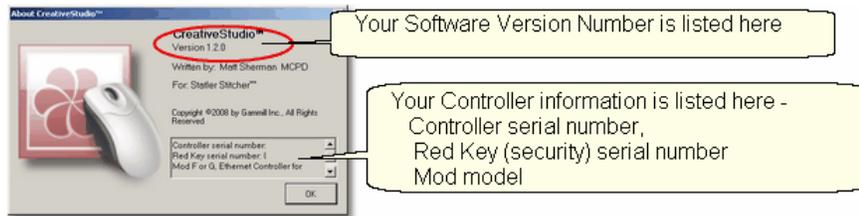
The Index provides a convenient way to look for a word and any variations of that word. For example, typing in a general term like the word 'Repeat' would point to the place in the index that would precede repeat pattern icon, repeat pattern setup, repeat setting details, repeats and rows, etc. Highlighting a word and clicking 'Display' will show the detail on the right. If a word appears more than once, a list will be presented and you will be asked to make a choice before the detail is shown on the right.

Help - Using the Search feature.



The search function will search the entire CS User Manual database looking for a match. Instead of displaying all of the matches, CS displays a list of titles (section titles) and locations (chapter names) to help you choose the right match. Click on 'Display' to show the actual text from the CS User Manual.

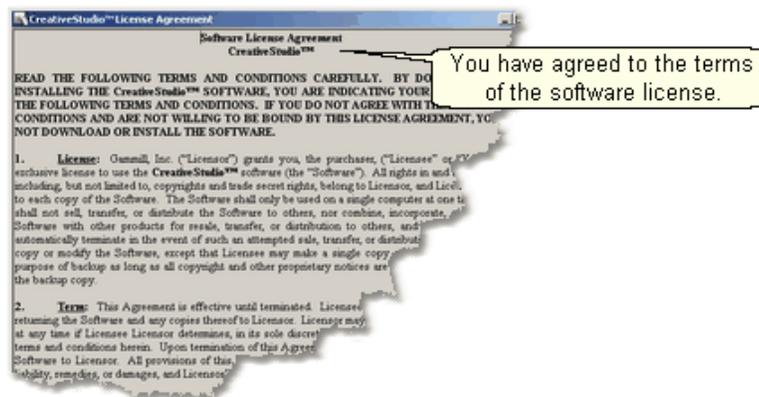
Help - About your Statler Stitcher System.



Some day you are going to call the Support Team and they are going to ask you what version of software you are running and what Controller Mod you have. These are good things to know, and it is probably a good idea to write down this information somewhere accessible - perhaps on the first page of this printed user manual.

Tip: Every Statler Stitcher controller has a serial number assigned to it. Similarly, every new style security key (dongle) has a serial number also. Pattern designers are encrypting purchased patterns with the serial numbers to prevent patterns from being 'shared' inappropriately. So, don't be surprised if you are asked for your controller serial number when you are buying a new pattern.

Help - Statler Stitcher Software License Agreement.



Like all proprietary software companies, Statler Stitcher has certain terms you agree to when you buy and install the CreativeStudio software. Basically it says that Statler has done its due diligence in providing a world class software program, and that the user (you) promise not to do anything illegal with it. How's that for simple!

2.3 Function Keys

Function Keys are shortcuts for features that would require several 'clicks' using the mouse and the Main Screen.



[F1 - Help](#) ³⁵

No matter where you are in the CreativeStudio™ Screens, you can just press the F1-Help Key and you will be presented with the Help system that is integrated into the software, just waiting for you to call it.

[F2 - Virtual Stitchout](#) ¹²²

When modifying or creating a new pattern, it is advisable to check the sewing path before saving (exporting) the pattern. F2 - initiates a process that checks the path, and 'boinks' if there are breaks found. This Virtual Stitchout does not require that pattern to actually be stitched out - it is just simulated.

[F3](#) (available)

[F4](#) (available)

[F5](#) - Keypad Reset

Most of the CreativeStudio™ features can be initiated using the keypad mounted on the sewing head. The purpose of this is to expedite the quilting process. When complicated features take time, and the quilter attempts to exit that feature and try something else, the keypad can get confused. The safest way to handle this situation is for the keypad to stop responding. To reset the keypad, simply press F5.

[F6](#) (available)

[F7](#) (available)

[F8 - Set Sewing Order](#) ¹²⁵ -

[F9 - Edge Pattern Anchor](#) ³²

Changes the Pattern Selection Resizing Handles to Edge.

[F10 - Center Pattern Anchor](#) ³²

Change Pattern Selection Resizing Handles to Center.

[F11 - Endpoint Pattern Anchor](#) ³²

Change Pattern Selection Resizing Handles to Endpoint

[F12 - Stretch Pattern Anchor](#) ³²

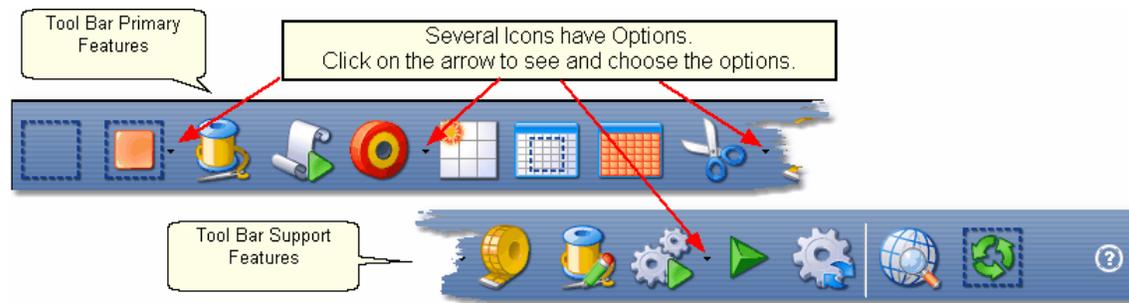
Change Pattern Selection Resizing Handles to Stretch.

2.4 Tool Bar

The icons displayed on the Tool Bar (also called tool strip) represent unique quilting features. The features can be initiated by using the mouse (to click the icon) or pressing the Mode button on the keypad until the icon is highlighted, and then pressing Select on the keypad. Several of the icons have options incorporated into the icon. These icons have small black arrows next to the icon. Clicking on the arrow will display the options. Your choices will remain active until you change them, even when switching projects or shutting down and restarting CS.

Each time the Mode button is pressed, the next feature icon is highlighted. To highlight the previous feature icon, press (and hold) the Stop button and press Mode.

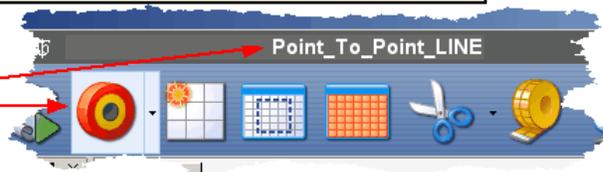
Every quilting features (represented by icons) is described briefly here, and in more depth later when they are used in context.



Tip: Holding the cursor over the icon (called hovering) will display the name of the icon in a 'tool tip'. Using the keypad to select an icon will display the name of the icon in the center of the Command Bar.

Press Mode button to scroll forward, highlighting the next icon.
Press Stop + Mode together to scroll backward.

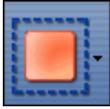
When using the Keypad,
The name of the Icon appears
when the icon is highlighted.



Boundary Icon¹⁵⁴ - Clicking on this icon will initiate a series of prompts, asking for the points that define the bounded area. Boundaries may have as few as 3 points (triangle) or may have hundreds (unlimited actually) of points, outlining almost any shape. Pressing the 'Stop' key will end the boundary definition and connect the last point with the first. Boundaries are used for placing patterns and for general reference. The concept of the boundary is also used in specific functions like Trim and Edge-to-Edge.



Design It Yourself: Boundaries can also be defined directly on the screen using the mouse, clicking on the DRAW command and choosing Draw Boundary. Note: Stand Alone Mode (SAM) uses this method to define boundaries.



Pattern to Boundary Icon ^[155] - This icon will move the selected pattern into the selected boundary. The pattern is resized to fit the boundary space.



There are two method for resizing the pattern.

- * **Standard** is used when the boundary shape resembles the pattern shape. For instance, when both are square, the pattern is resized to fit the boundary but the pattern image is not changed significantly because they have the same basic shape.
- * **Stretch** is used when the shapes are different. For instance, moving a square pattern into a parallelogram will stretch the pattern to fit the boundary.

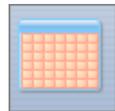


Quilt Icon ^[71] -This icon initiates the stitching process, and is used in conjunction with all the other icon features. When using the default settings, the sewing head moves to the start point of the first pattern, takes a single stitch and shows a prompt to pull up the bobbin thread. Clicking OK/Select will begin the stitching, starting with the tieoff stitches (if enabled). When the quilting is done, CS again displays a prompt to pull up the bobbin thread, and click OK when done. The OK indicates the successful completion of the task. Clicking Stop means the task was not completed successfully.



Continue Icon ^[206] - is most often used with Edge-to-Edge

(which is the icon that does all the E2E pattern sizing and setup). When the first part of the E2E quilt is complete and has been rolled at least once, Continue will prompt for the registration points (if needed), and provide the prompts to complete each section until the quilt is complete. Continue can also be used in special cases like wholecloth quilts, when the patterns have been all been positioned, but only part of them can be quilted at one time.



Point to Point Icon ^[250] - This function is extremely powerful because it allows patterns (or lines) to be placed in very specific positions. (click on



the arrow on the right side to display the choices). It will stitch a line or pattern between every pair of sequential (contiguous) points. It is very useful when making composite designs and when working on an area of the quilt that may

not be perfectly aligned (like borders, sashings, and flying geese). Points are identified by [using the mouse](#)^[132] or moving the sewing head to the point on the quilt, and pressing the OK/Select button. Selecting two points will define one line or pattern; three points defines two patterns, ten points defines nine patterns, etc.

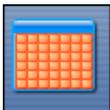
 *Design It Yourself: Point-to-Point (P2P) lines and patterns can also be defined directly on the screen using the mouse. Click the DRAW command, choose Draw Sewable, and choose Line or Pattern. Note: Stand Alone Mode (SAM) uses this method to place lines or patterns.*



[Repeat Pattern Icon](#)^[157] - This function will use the pattern being highlighted, prompt for a reference point and allow you to specify multiple repeats and/or rows. It does not require a boundary but usually a boundary is helpful when placing multiple patterns. It is very similar to the Edge-to-edge feature but more flexible especially with composite design elements.



[Border Corner Icon](#)^[168] - This function is very useful when joining corner patterns with border patterns because it allows the patterns (corners first, then borders) to be selected, placed and previewed before stitching. Each pattern can be [adjusted](#)^[78] to fit the space exactly, and the settings are saved as their own Quilt Group.



[Edge To Edge Icon](#)^[247] - The Edge-to-Edge function initiates the pattern selection, sizing, positioning, and the first row(s) of quilting. The E2E function will prompt for the first boundary (which is the first section to be quilted) and the total quilt length. It uses these dimensions to suggest the number of rows and repeats needed to complete the quilting. Modifications are possible, and CS will adjust the counts (rows and repeats) and the pattern proportion (pattern length and height) if



needed to fit the total quilt. Use Continue after rolling the quilt the first time.



[Trim Icon](#)^[254] - The Trim function uses boundaries to define a space, and then will trim away the unwanted part of the quilting pattern.



The trim can be done to the pattern [inside](#)^[254] or [outside](#)^[255] of the bounded area so

make that choice first using the arrow to the right of the icon. This function allows patterns to be used as background fillers, behind some other pattern or applique.



Design It Yourself: Trim boundaries (Trim Inside or Trim Outside) can be defined directly on the screen using the mouse. Click the DRAW command and choose Draw Trim. Note: Stand Alone Mode (SAM) uses this method to define trim boundaries.



Measure Icon⁷² - The measure function will help obtain exact measurements for the area you choose. It prompts for the beginning and ending point of a line, and then displays the measurement of the absolute height, absolute width, the actual length (which is the diagonal) and it gives the angle (number of degrees of rotation) of the defined line. This utility will allow multiple measurements to be taken consecutively, so press Cancel to exit the measure function.



Design It Yourself: Measurements can be made directly on the screen using the mouse. Click the DRAW command and choose Measure. This method gives good estimates, but measuring the quilt using the Measure icon and the sewing head is more accurate. Note: Stand Alone Mode (SAM) uses this method to measure.



Restart Quilting Icon²²¹ - The Restart function is used whenever the machine stops by itself (thread break) or the Stop button is pressed. The process can begin stitching at exactly the spot where the stitching stopped (great if you needed to press the Stop button) or it can be adjusted to restart at any other point (great if the bobbin ran out and the thread break sensor didn't detect a break immediately). It is possible to define the restart point using the sewing head & the quilt top, or the mouse and the computer screen.



Regulated Sewing Icon²³⁹ There are several choices for stitching with the stitch regulator (Original, Plus, Smooth). Recording patterns while using the stitch regulator is possible with any of the choices. To choose a mode, click on the arrow to the right of the icon and a drop-down box appears with the following:



* **Original** refers to the original stitch regulator action, which did not keep the needle running around the corner.

* **Plus** is designed to keep the needle running at points or corners. This guarantees

a sharp point, like the Gammill Plus machine.

* **Smooth** has a different power curve (needle up/down speed) for people who don't pause at points, but do slow down going into the point and coming out of it.



Constant Speed Icon -When constant sewing is started, the needle starts stitching, and it is up to the quilter to move the sewing head smoothly and consistently. The quilter's motion determines the stitch length, not the sewing head. This function is preferred by some when doing micro-stipple backgrounds in custom quilting. Most of the rest of us use constant sewing only when we are winding bobbins using the on-board bobbin winder.



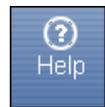
Baste Icon - is special because it is designed for stitching slowly and it will not push / stretch the fabric. It is essentially individual long single stitches done continuously. Stitch length can be as long as 4 inches.



View All Icon - is a fast way to zoom out far enough to see all the boundaries and patterns in the current quilt group. This is also used by quilters who like to see the grid background behind all boundaries and patterns.



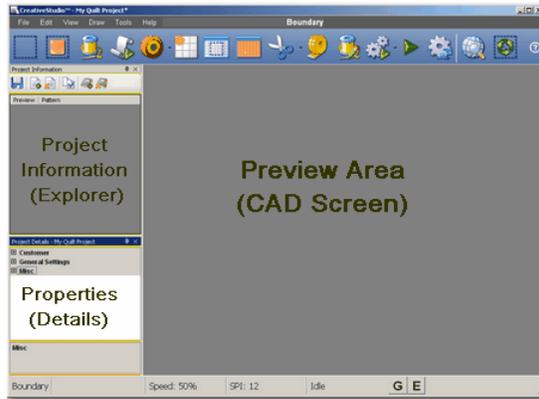
Select All Patterns Icon is a fast way to treat all patterns as one entity. This is useful when trying to adjust the positioning of all patterns in a boundary. Also very useful when rotating or flipping the group of patterns.



Help ? Icon is context sensitive help. Just in case you have forgotten the purpose of some icon, you can click on the Help?, the cursor turns into a question mark, which can be moved to the icon in question. By clicking again, a dialog box will appear that will briefly explain the icon.

2.5 Work Area

Work Area is divided into three distinct parts - like panes within this window.



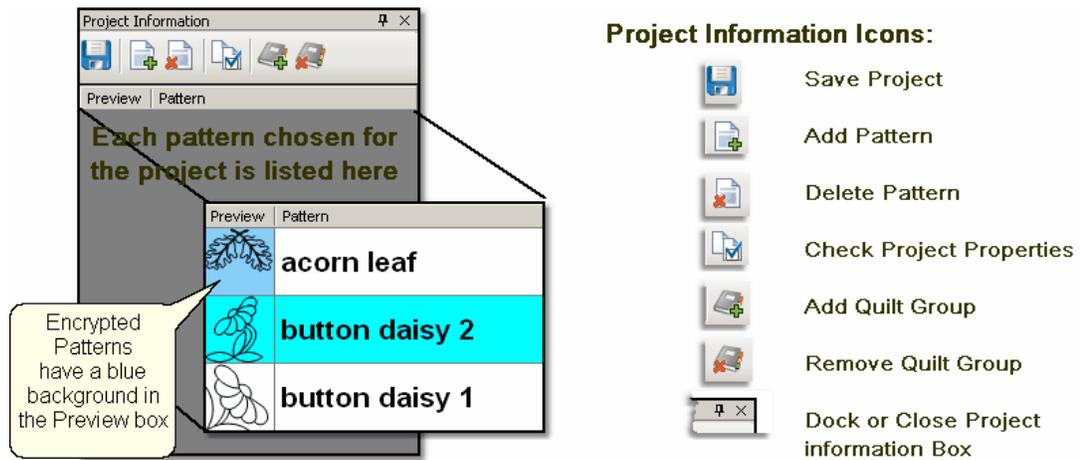
[Project information](#)⁴⁵ is also known as the Project Explorer.

[Properties](#)⁴⁶ window will list the settings and other details.

[Preview Area](#)⁵⁸ is also called the CAD Screen by techy types. The images of the quilting designs appear here.

2.5.1 Project Information

Projects collect and hold the information needed to do a whole quilt. Technically a project is a file but thinking of them as a notebook or as a folder is sometimes easier. The patterns chosen for this project are listed here, showing a thumbnail size preview of the pattern and its name. The Project Information box can be ever-present, or can be 'docked' by clicking on the pushpin icon (which then creates a tab on the left side of the screen).



Throughout the quilting process, the Project icons can be used.



[Save Project](#)^[63] - saves the project file. If a name has not been given to the file, CS will prompt for one.



[Add Pattern](#)^[72] - initiates the process of looking, previewing and choosing a pattern for this project.



[Delete pattern](#)^[72] - will remove a pattern from this project.



[Check Project Properties](#)^[47] - will display some of the project details in the Properties window.



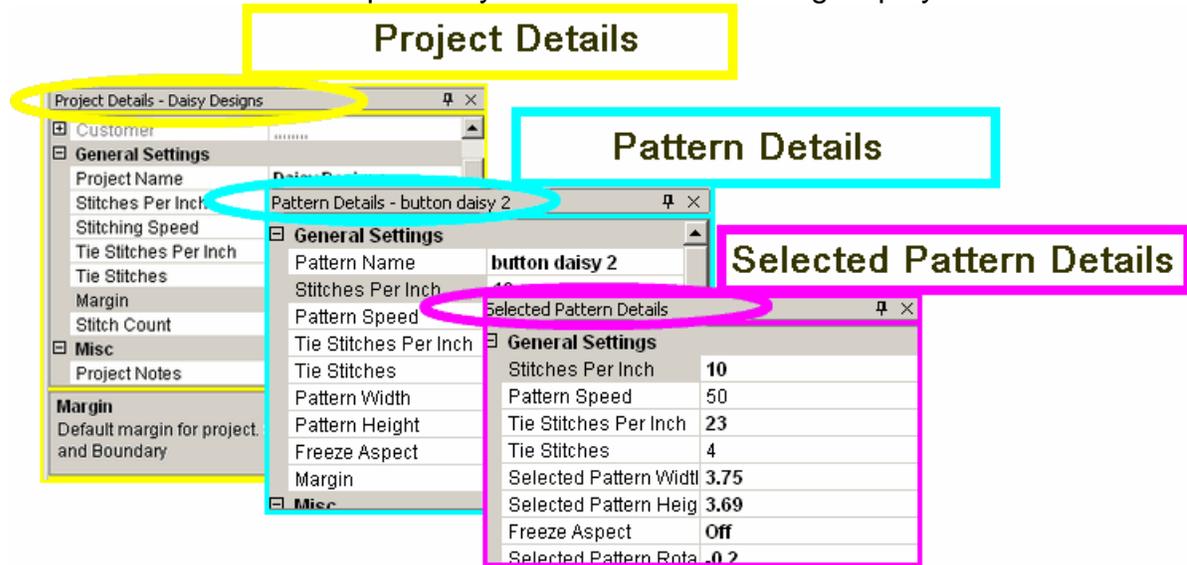
[Add Quilt Group](#)^[66] - will create a new tab, prompt for a name for the tab, and create a preview area for the new quilt group tab.



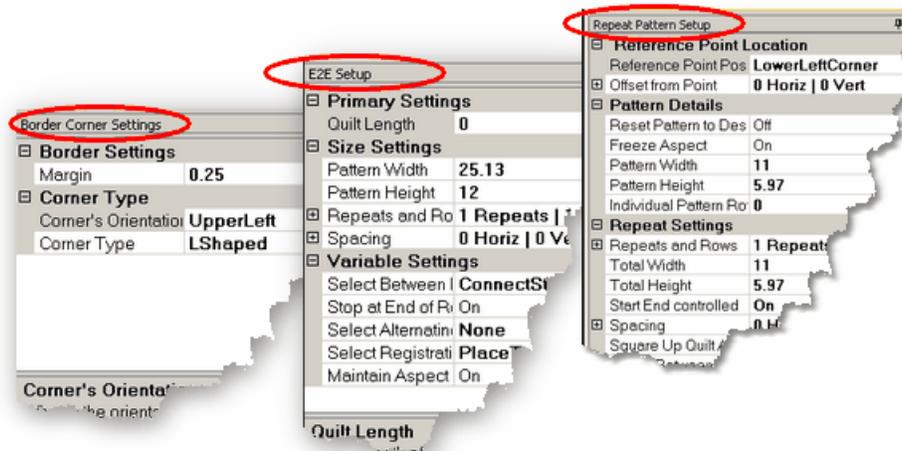
[Remove Quilt Group](#)^[66] - will delete the current tab. CS will ask for confirmation before deleting the tab because it can't be retrieved.

2.5.2 Property Window

Properties (aka settings) are the details that define how (and what) the sewing head will stitch. These details may apply to a [project](#)^[47] (yellow frame), a [pattern](#)^[49] (cyan frame), or a [selected pattern](#)^[51] (magenta frame). The frame around the details area is color coded to help convey which details are being displayed.

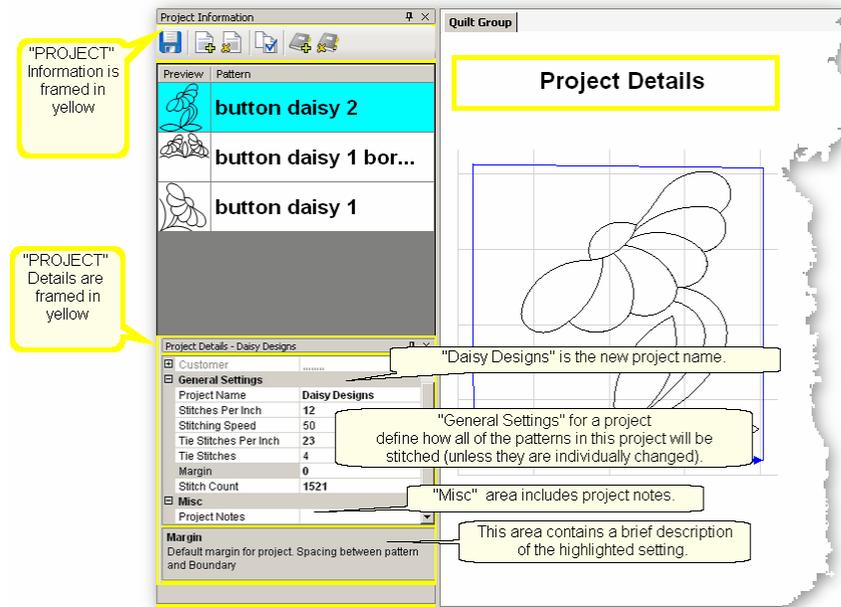


Settings can also apply to a process. Several important quilting features ([Edge To Edge](#)^[200], [Repeat Patterns](#)^[170] and [Border/Corner](#)^[183]) require a series of steps and additional information. [Process](#)^[53] settings provide the extra information.



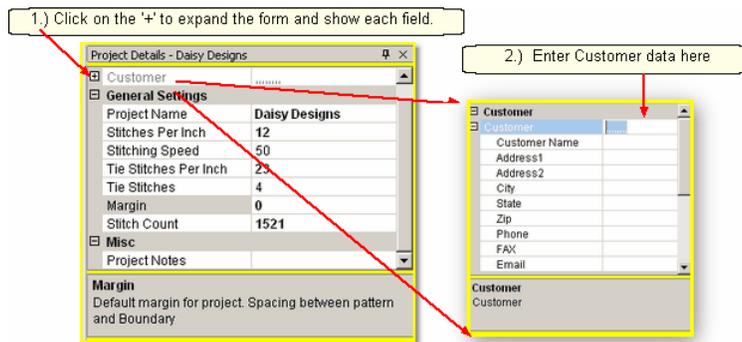
2.5.2.1 Project Details - Yellow Frame

Project Details - appear in the Property Window and are framed with a yellow line, just like the [Project Information](#)⁴⁵ box is framed in yellow. The Title Bar specifies "Project Details" and includes the project name. If no patterns are selected yet, the Project Details box shows the current default settings.



Changing the Project Details:

The **Customer** Section is a form that includes the customer name and contact information. Click on the "+" sign to expand the form and show each of the fields. Click on the individual field to input your data. Click on the "-" sign to collapse the form.



Project Name⁶³ – The default name for all projects is "My Quilt Project". This name is automatically changed to the project file name when you save your project.

The remaining **General Settings** have values that are inherited from the [default settings](#)²²⁵ (on the configuration form). If any setting is changed here, all patterns selected for this project **after the change** will use the new setting.

Numeric Changes are easy!

Click in the settings box and a drop down box appears. Make your changes by dragging the slider, using the tumblers or typing a number.

Stitch count accumulates all the stitches taken for this project.

Stitches per Inch (SPI) setting will apply to all the patterns selected for the project.

Stitching Speed is measured as a percentage of maximum motor speed.

'50' means 50% of the maximum speed.

Tie Stitches Per Inch is the size of the stitches taken when doing tieoffs.

Tie Stitches is the number of stitches taken when doing tieoffs.

Margin is the distance between the stitch lines and the boundary lines, at the closest point.

Stitch Counter is the cumulative number of stitches for this project.

TIP: Tieoff Stitches are tiny stitches taken at the beginning and ending of a line of stitching. By doing this, the threads do not need to be hand knotted or buried with a needle. Just trim them off because the knot secures the threads.

Miscellaneous information (like Project Notes) is listed here.

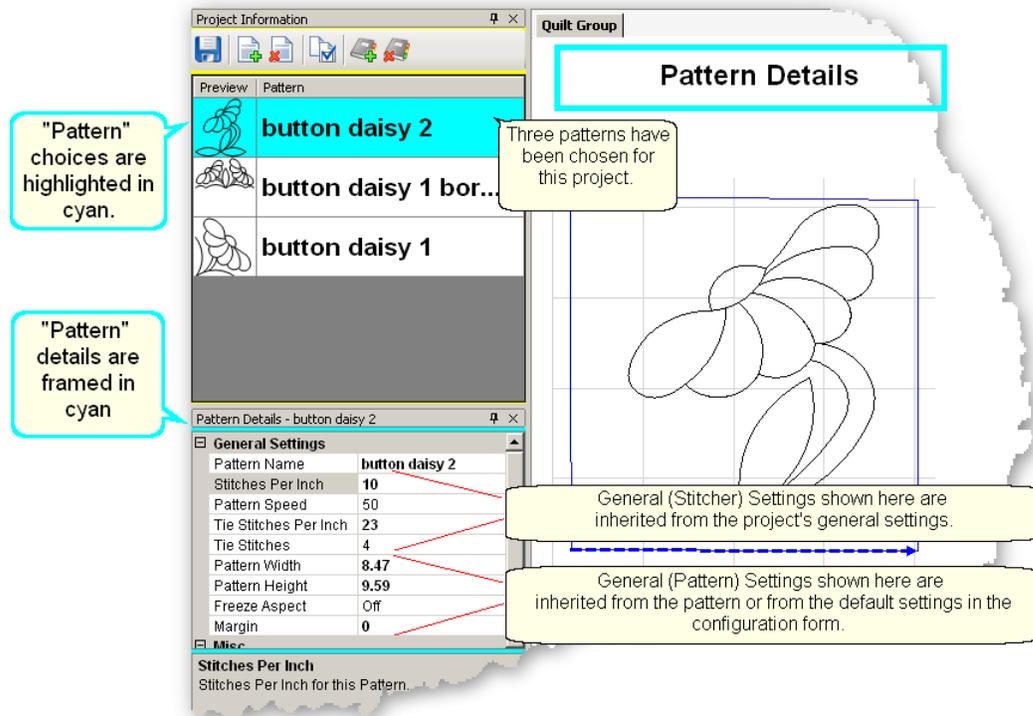
Type Project Notes here. Click OK when done.

Project Notes
Enter any notes to be saved with Project.

Click on the Project Notes field and the memo area pops up. Type in the information you wish to keep with this project. Click OK when done, and it will be saved when you save your project.

2.5.2.2 Pattern Details - Cyan Frame

Pattern Details appear in the Property Window and are framed with a cyan line. They display settings that apply to the pattern selected in the project information area. Pattern Details are framed in cyan (to match the cyan highlighting in the Project info). Encrypted patterns will be highlighted in cyan when selected, and when not selected, the pattern image will still be highlighted but in a light blue, not cyan.



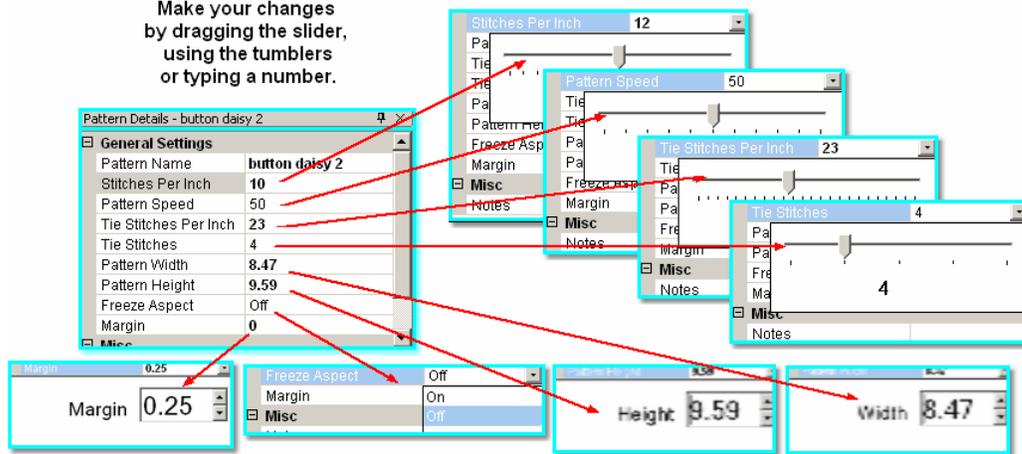
Changing the Pattern Details:

Pattern Name – This relates back to the selected pattern above.

General (Stitcher) Settings for this pattern have values that are inherited from the [project settings](#)^[47] (which were inherited from the [current defaults](#)^[225]). If any setting is changed here, it will apply to the patterns that are moved into the preview area **after the change**, not those that have already been moved into the preview area.

General (Pattern) Settings have values that are inherited from the pattern (as originally defined by the pattern designer). If any settings are changed here, the change will apply to copies of this pattern that are moved into the preview area **after the change**, not those that have already been moved in.

Click in the settings box and a drop down box appears. Make your changes by dragging the slider, using the tumblers or typing a number.



Stitches per Inch applies to this pattern.

Pattern Speed is measured as a percentage of maximum motor speed. '50' means 50% of the maximum speed.

Tie Stitches Per Inch is the size of the stitches taken when doing tieoffs.

Tie Stitches is the number of stitches taken when doing tieoffs.

Pattern Width is the width of one pattern, measured at the widest point.

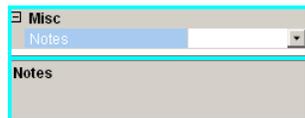
Pattern Height is the height of one pattern, measured at the tallest point.

Freeze Aspect - 'ON' means the ratio of Height:Width remains the same when the size changes. So, if one of the dimensions is changed, CS will change the other automatically to keep the ratio the same. 'OFF' means CS will allow the ratio to be distorted.

Margin is the closest distance between the stitch lines and the boundary lines.

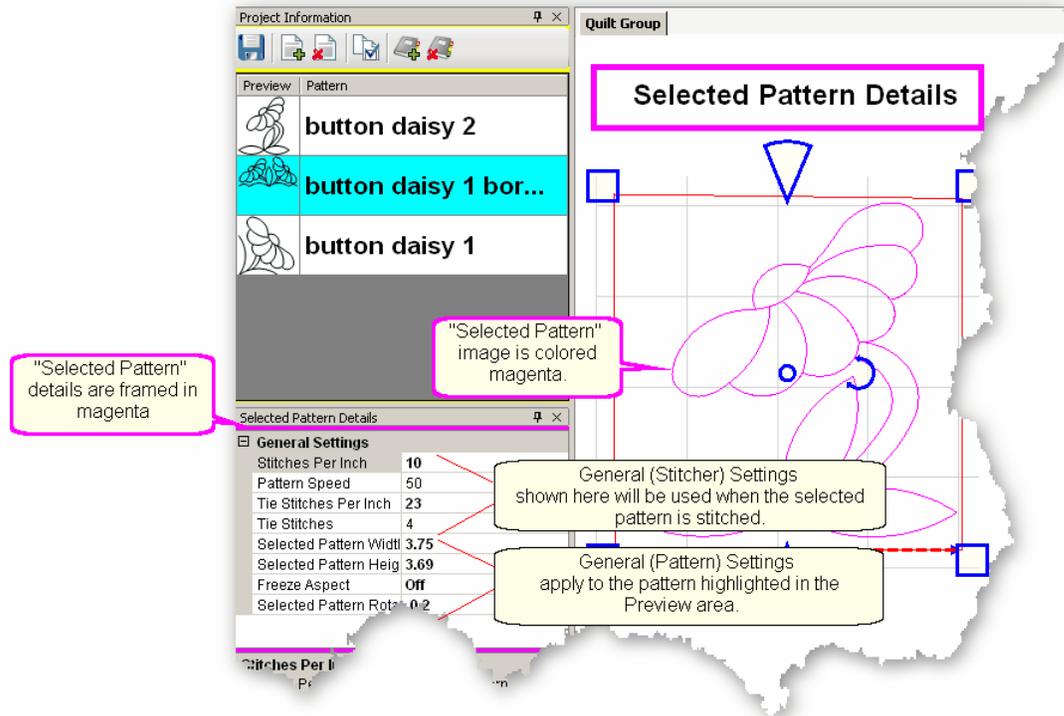
Misc

Project Notes are saved with the project for future reference.



2.5.2.3 Selected Pattern Details - Magenta Frame

Selected Pattern Details appear in the Property Window and are framed with a magenta (hot pink) line. These details apply to the pattern selected in the [preview area](#)⁵⁸ (not the one highlighted in the project information area). The magenta color was chosen to match the highlighting in the Preview area.

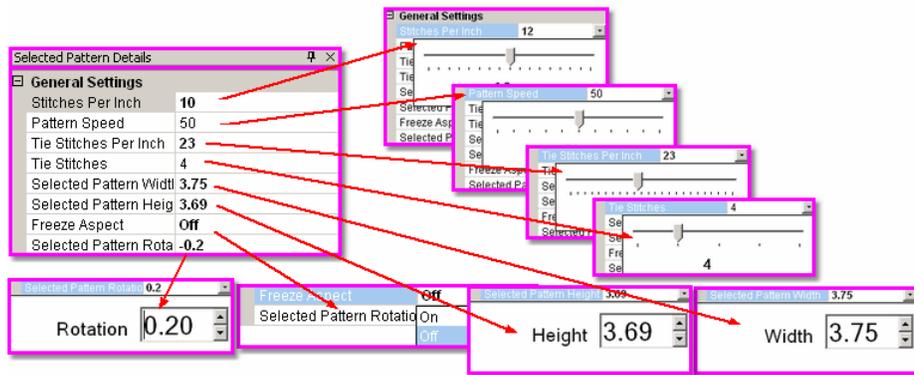


Changing the Selected Pattern Details

General (Stitcher) settings have values that apply to the highlighted pattern and were inherited from the [pattern settings](#)⁴⁹ (which were inherited from the [Project Settings](#)⁴⁷ which were inherited from the [default settings](#)²²⁵).

General (Pattern) settings apply to the characteristics of the pattern highlighted in the preview area.

Click in the settings box and a drop down box appears. Make your changes by dragging the slider, using the tumblers or typing a number.



Stitches per Inch applies to this pattern.

Pattern Speed is a percentage of maximum motor speed. '50' means 50% of the maximum speed.

Tie Stitches Per Inch is the size of the stitches taken when doing tieoffs.

Tie Stitches is the number of stitches taken when doing tieoffs.

Selected Pattern Width is the width of one pattern.

Selected Pattern Height is the height of one pattern.

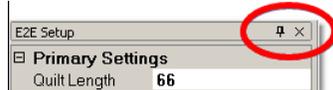
Freeze Aspect - 'OFF' means the Height & Width are independent of each other.

Selected Pattern Rotation is the number of degrees that the pattern is angled.

2.5.2.4 Process Details - Gray Frame

Process Details appear in the **Property Window** and are framed in gray. There are three processes that need additional details for the setup mode; [Repeat Pattern Setup](#)¹⁵⁷, [Border Corner Settings](#)¹⁷⁴ and [Edge-to-Edge](#)²⁰⁰. The Title Bar for the window specifically states which process is being used.

The Title Bar will always specify *Which Details* are being displayed, followed by two icons. The Push Pin icon will ‘dock’ the details so they are out of the way, but still accessible. The “X” will exit, or close the details.



Separate quilt groups are created for Border-Corner and Edge-To-Edge.

1.) The [Repeat Pattern](#)¹⁵⁷ Setup controls the positioning and placement of repeated patterns. This process is used when multiple copies of a particular pattern are needed. It contains the settings which determine which pattern will be used, where the pattern will be stitched and how many times it is repeated.



Repeat Pattern Setup

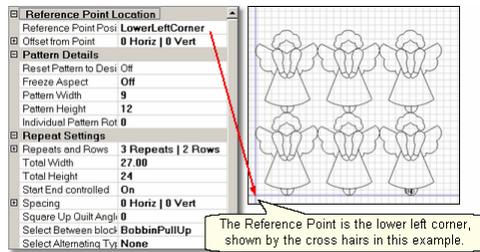
- Reference Point Location**
 - Reference Point Position: LowerLeftCorner
 - Offset from Point: 0 Horiz | 0 Vert
- Pattern Details**
 - Reset Pattern to Designec: Off
 - Freeze Aspect: Off
 - Pattern Width: 22.314
 - Pattern Height: 9.72
 - Individual Pattern Rotation: 0
- Repeat Settings**
 - Repeats and Rows: 1 Repeats | 1 Rows
 - Total Width: 14.67
 - Total Height: 9.72
 - Start End controlled: On
 - Spacing: 0 Horiz | 0 Vert
 - Square Up Quilt Angle: 0
 - Select Between block...: ConnectStartAndEr
 - Select Alternating Type...: None

Callout 1: A reference point specifies where the pattern will be placed on the quilt top.

Callout 2: The Repeat Settings will vary, depending on the pattern scale and the size of the area to be quilted.

Callout 3: The Pattern Details refer to the pattern that was highlighted when the Repeat_Patterns icon was clicked.

Reference Point Locations help to position the repeated patterns on the quilt top. Reference Point is a specific point on the quilt that is used for placing patterns. Offsets are used if the repeated patterns need to be positioned some distance from the initial reference point. As an example, the reference point may be the upper left corner of the quilt, but the repeated patterns are intended for an inner area, which starts some distance away. This distance is measured in two directions, moving Horizontally and Vertically.



Pattern Details refer to the pattern selected in the Project Information area.

Reset Pattern to Design means any/all changes that were made to the selected pattern will be undone, and the pattern reverts to the original dimensions, as designed.

Freeze Aspect - 'ON' means the ratio of Height:Width remains the same when the size changes.

Pattern Width is the width of one pattern.

Pattern Height is the height of one pattern.

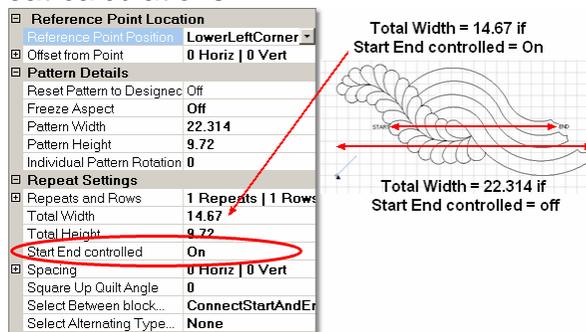
Individual Pattern Rotation is the number of degrees that each pattern is angled.

Repeat Settings show how many repeats and rows are needed to fill the space.

Total Width and **Total Height** are calculations based on the pattern size and the number of repeats/rows. Several of the settings below have an impact on the layout of the patterns which also affects the calculation. It is possible to modify the total size, and let CS adjust the pattern size, repeats and/or rows.

Start End Control - The width of a pattern is usually the widest part of the pattern.

However, when patterns nest together, the distance between the startpoint and the endpoint is less than the total width. When StartEnd Control = OFF, CS will use the widest part as the width for repeat calculations. When StartEnd Control = ON, CS will use the distance between the startpoint and endpoint as the width for repeat calculations.



Spacing - The pattern placement can be adjusted as desired. The Horizontal spacing affects the space between the repeats. The Vertical spacing affects the space between rows. Space can be increased (positive spacing) or decreased (negative spacing). CS automatically includes the spacing adjustment when it calculates the Total Width and Total Height of the area to be quilted.

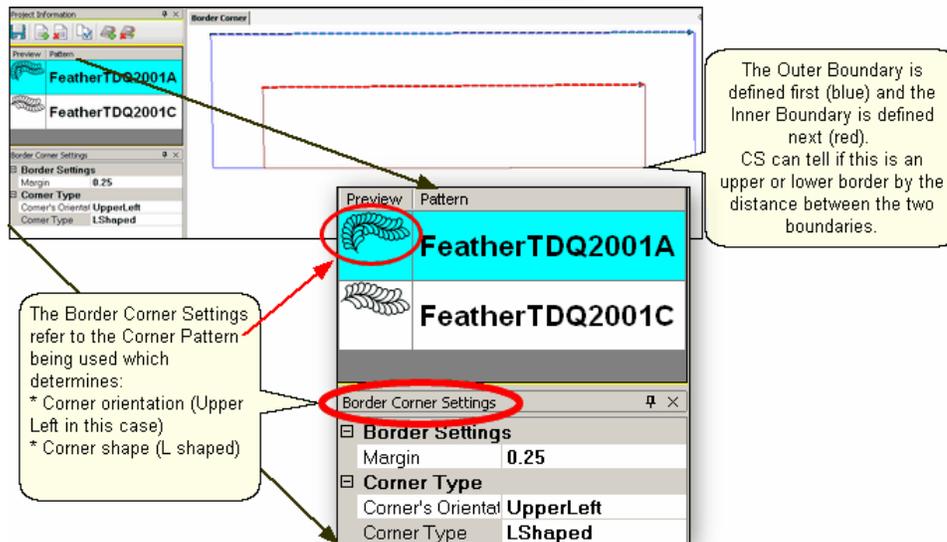
Square Up Quilt - is the number of degrees that the set of repeated patterns is angled.

Select Between... affects how CS connects the patterns. Bobbin PullUp means patterns are placed side by side and CS stitches them individually. Connect Start and End means CS places them so the end point of one pattern connects with

the start of the next pattern, and CS stitches them as one continuous row. Naturally, this affects the total width calculation.

Select Alternating Type... - allows the rows to be staggered by adding an extra repeat to every other row. There are three choices; None (default), Plus Row on Top (the extra repeat begins with the first row), Minus Row on Top (the extra repeat begins with the second row).

2.) The **Border Corner**¹⁷⁴ **Settings** control the placement of the corner patterns. CS creates a new quilt group for this process called 'Border Corner'. The process will prompt for the outer border first, then the inner border. This gives CS enough information (along with the settings) to position the corner patterns. The settings are introduced here and will be explained in detail when used in context.



Border Settings:

Margin is the distance between the pattern and the boundary.

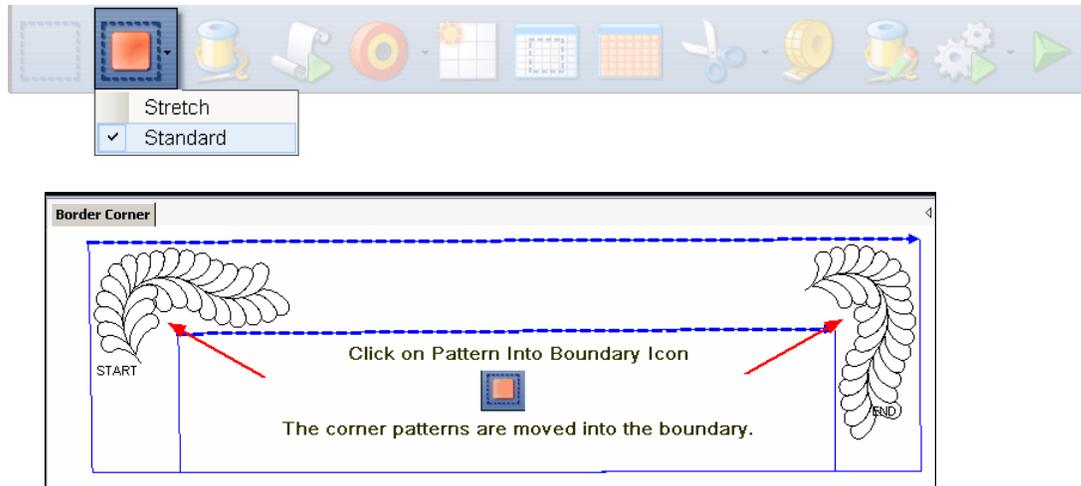
Corner Types:

Corner's orientation refers to the shape of the original design. Make a choice based on the original design; does it look like the corner would fit in the Upper Left corner? UR? LR? LL?

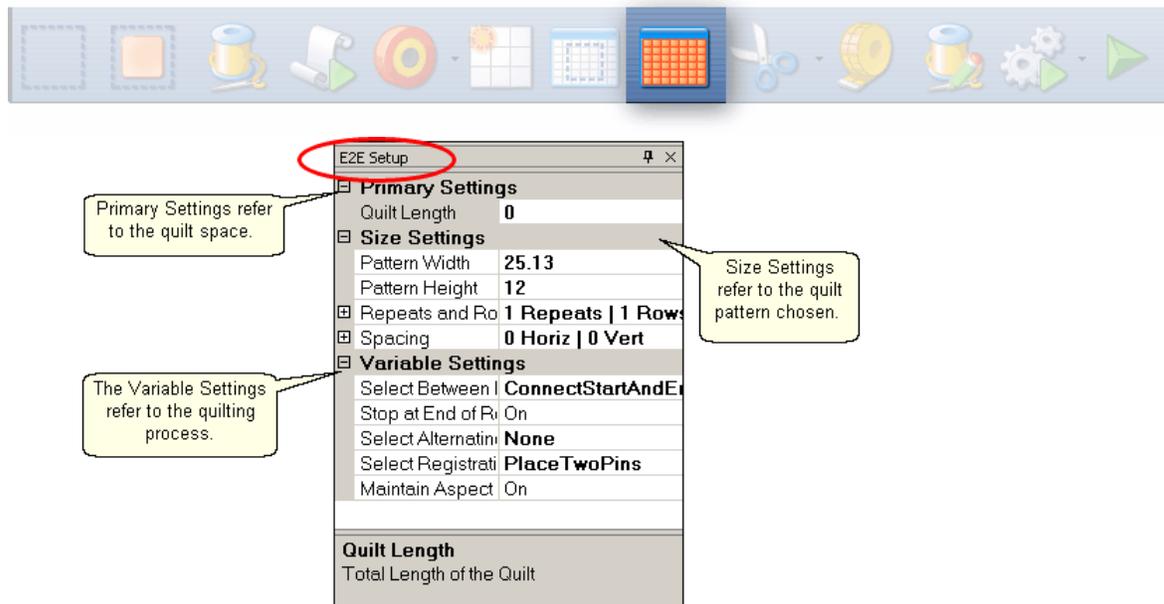
Corner Type refers to the overall shape and how it should be positioned, relative to the rest of the quilt.

- * "L" shaped corners extend past the corner into the border area.
- * Square corners have the top upright and the bottom upside down.
- * Square oriented corners are rotated in 90 degree increments.
- * Angled corners are angled toward the inside at each of the four corners.

To finish this process, click on Pattern Into Boundary Icon.



3.) **The Edge To Edge** ²⁰⁰ **Settings** control the placement of repeated patterns. The process defines all the repeats required to fill an area of the quilt top. It works in conjunction with the Continue process, which helps to position the rows of quilting after the quilt top has been rolled. The settings are introduced here and will be explained in detail when used in context.



Primary Settings refer to the quilting space.

Quilt Length is to the total length of the space to be quilted. Measure the space and then subtract the margin amount twice (top & bottom).

Size Settings refer to the quilt pattern chosen (highlighted in the Project Information box).

Pattern Width is the width of one pattern.

Pattern Height is the height of one pattern.

Repeats and Rows will be calculated by CS based on the pattern size and the quilt space (Length and width). Changes to the number of repeats and rows will adjust the pattern size to fit the quilt space.

Spacing allows the rows and columns to be nested if needed. The spacing measurements are positive if extra space is needed between rows or repeats. Spacing measurements are negative if space is removed between the rows or repeats.

Variable Settings refer to the quilting process and the stitching preferences. Select Between Blocks tells CS what to do between patterns. The patterns can be connected (no stop between them) or individual (CS stops, does tieoffs and bobbin pullups).

Stop at End of Row tells CS to stop and tieoff at the end of each row.

Select Alternating Type describes the pattern positioning. 'No' alternating means the patterns are placed like a spreadsheet, creating rows and columns. The other choices allow every other row to be staggered, making the repeats less noticeable.

Select Registration describes what CS should use as the registration points so the rows don't get out of alignment when the quilt top is rolled.

Maintain Aspect - is similar to Freeze Aspect for a pattern. 'ON' means CS will avoid distorting the pattern proportions if at all possible. Some minor distortion may be necessary to completely fill the quilt space.

2.5.2.5 Inheriting Settings

A word about settings and the level of inheritance of settings.

Level 0: Tech support at Statler Stitcher controls all settings. Period. They do allow some of the settings to be modified by the users, as follows:

L1: [Default settings](#)^[225] (that the users can modify) are shown in the configuration form. A change to the configuration form is permanent going forward (until you change it again). These changes are not retroactive.

L2: [Settings](#)^[34] can be changed for the **current session** (✓Tools on command bar).

A change at this level applies to all new activity for the rest of the session. Changes are not retroactive. Nor are they permanent.

L3 [Settings](#)^[47] can be changed for a **single project**. A change at this level applies to all new activity for that project during the current session. Changes are not retroactive or permanent but they are saved with the project so the next time the project is opened, the settings will apply.

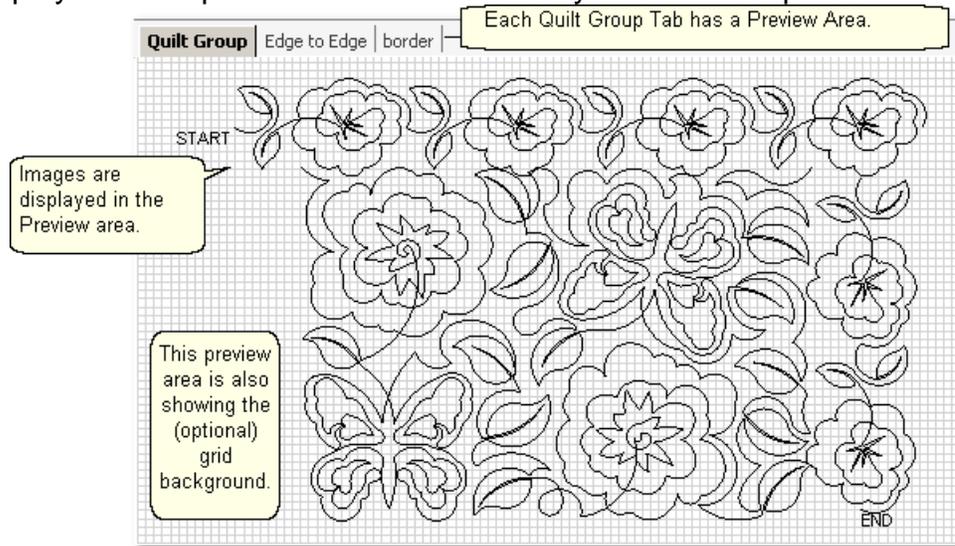
L4 [Settings](#)^[49] can be changed for a **single pattern within a project**. A change at this level applies to all new activity for that pattern in that project during the current session. Changes are not retroactive and do not affect other projects but they can be saved with the project.

L5 [Settings](#)^[51] can be changed for a **pattern that has been selected** and is visible in the preview area of the screen. These changes are not retroactive and have no effect on any other patterns in the project. These changes will not affect the same pattern if it is used again in this project in the future. This is the bottom of the hierarchy.

Settings always cascade forward and down, never backward or up.

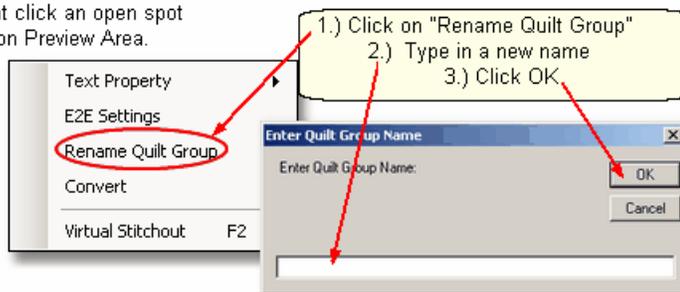
2.5.3 Preview Area (CAD Screen)

The Preview Area – (also called the CAD window by techies) is the big, white area where the images of the patterns and boundaries appear. Each [quilt group](#)^[65] (tab) gets its own preview area, where the images can be adjusted. Images that are displayed in the preview area will be exactly what will be quilted.



Every quilt has at least one quilt group, and custom quilts will have many. Some of the CS features need a quilt group of their own, so they are created automatically. Quilt groups can also be [added](#)^[66] or [deleted](#)^[66] using the icons in the [Project Information](#)^[45] area. They can be renamed too, by right clicking an open spot on the [Preview area](#), and choosing 'Rename Quilt Group'^[66].

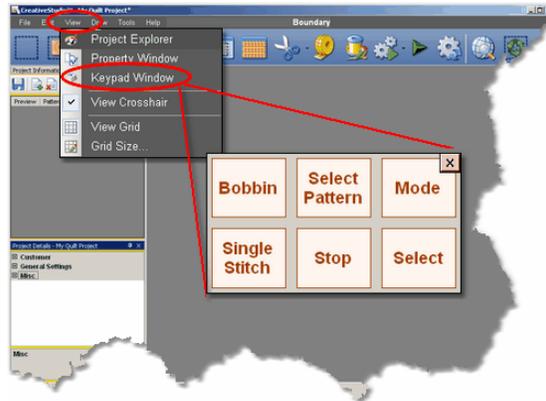
Right click an open spot on Preview Area.



***Tip:** Use the first tab (called Quilt Group) to preview your patterns together. This is a fast and easy way to audition patterns and determine the right pattern scale. When the patterns are chosen and previewed, change the name of this tab to 'Preview' or something similar, so you remember that you previewed your patterns. Then save the project (with a descriptive file name) so all the details are readily available when it is time to complete this quilt.*

2.6 Keypad Window

The Keypad Window shows an image of the six buttons on the sewing head keypad. Using the keypad reduces the number of times you must walk to the computer and use the mouse to select an option. To view the keypad image, click on View, then click on Keypad Window and the image will appear in the CAD screen. This image is grayed out which means it won't respond to any clicking with the mouse. It is only a reminder of what the keypad buttons will do. To hide the window, click the "X" on the title bar. It is possible to display the keypad window all the time - see the default settings in the configuration form.



Keypad Buttons can be used instead of the mouse in certain situations. Each button can have multiple meanings, depending on the task being performed. The following defaults are the most common:

Bobbin - will initiate the bobbin pull-up sequence.

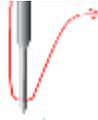
Select pattern - will scroll through the selected patterns in the Project Properties.

Mode - will highlight each icon on the Tool Bar, moving forward sequentially. **To go backwards, press and hold the Stop button, and then press the Mode button.**

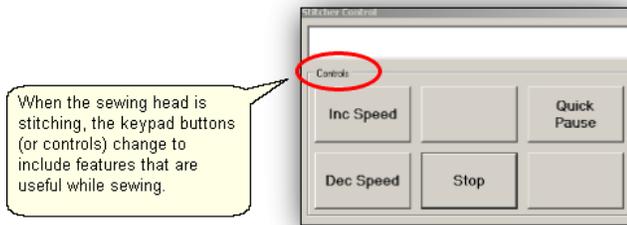
Select - initiates the feature represented by the icon that is currently highlighted.

Stop - terminates the feature currently running.

Single Stitch - will complete one stitch when pressed. Holding down the button will result in a series of single stitches which is useful when basting or doing your own tieoffs.

 *Tip: The buttons in the handles of the machine head are hard-wired to two of the controls on the keypad. The left handle is connected to the lower left keypad button and the right handle is connected to the lower middle keypad button.*

When the sewing head is stitching, the keypad button controls change.



Stitcher Control Window shows the choices when the machine is sewing.

Inc Speed - will increase the motor speed by 5% every time it is pressed.

Dec Speed - will decrease the motor speed by 5% every time it is pressed.

Quick Pause - will stop the sewing head immediately, and remember where it is, so it can restart. This button is replaced by Quick Start which restarts the stitching exactly where it stopped.

Stop - will stop the sewing head immediately, and terminate the current process. Use the Restart feature to continue the line of stitching.

2.7 Status Bar

The Status Bar displays the current status of the operation being performed.



Beginning at the left section, some current settings are shown.

- * Speed is expressed as a percent of the maximum motor speed.
- * SPI refers to the stitches per inch, for the pattern being stitched.
- * Zoom percent describes how large the designs are on the CAD screen, compared to what they will be when stitched.
- * The buttons labeled 'G' and 'E' refer to [Gridpoint](#)¹²⁹ or [Endpoint](#)¹³⁰ Snaps. When manipulating patterns, these Snap buttons assure accurate alignment.
- * Idle is the machine's current status.
- * Repeat Patterns is the name of the current (or most recent) operation.
- * X and Y co-ordinates define the position of the sewing head.

Tip: Click on the 'Zoom: %' section of the Status bar and CS will change the zoom to 100% or actual size.

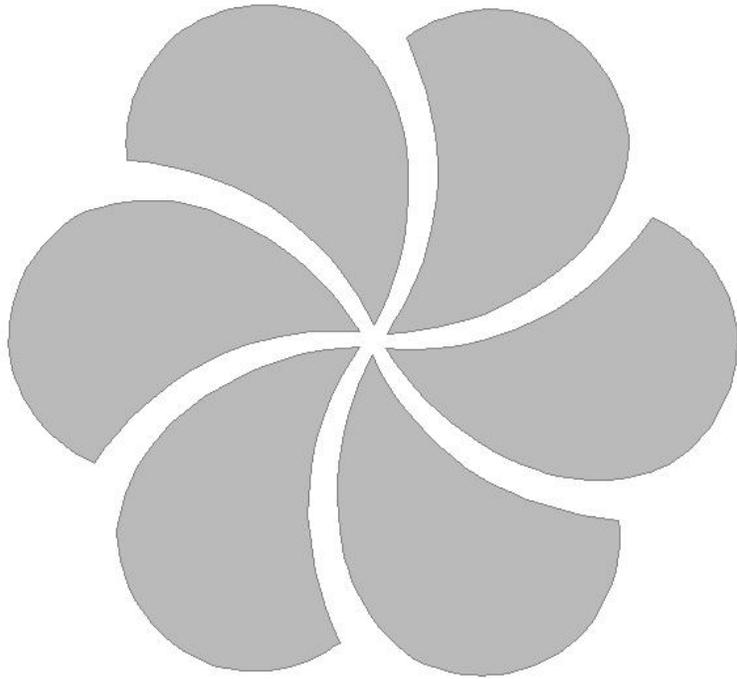
2.8 Task Bar

The last line of the screen display shows the Task Bar which contains buttons that relate back to the computer programs currently open. It is possible to have several programs open simultaneously. The computer will layer (or stack) the screen images from each program. Clicking one of the buttons will bring the screen for that program to the top of the stack.

The Task Bar shows the START button and buttons for all programs currently open. The button for the program that is currently active is depressed.



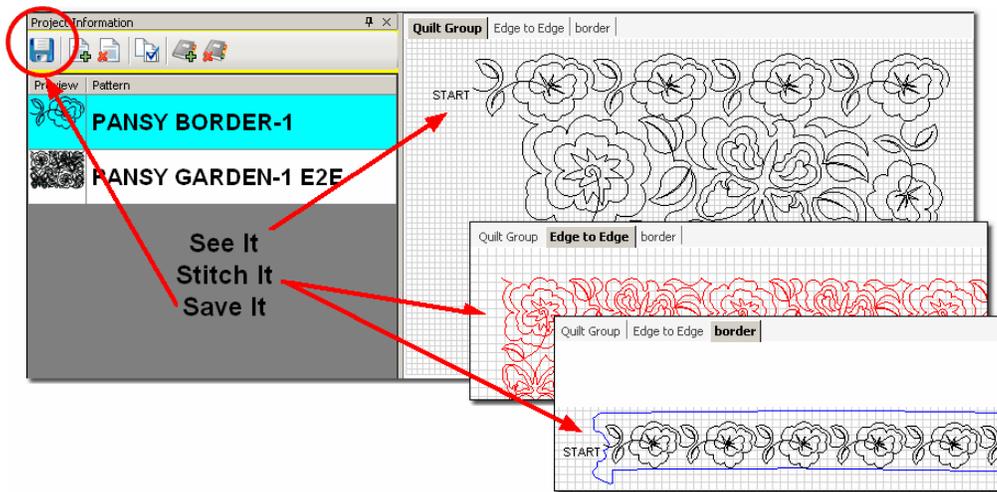
Part III



3 Planning the Quilting

A key strength of the Statler Stitcher CreativeStudio™ software is the ability to:

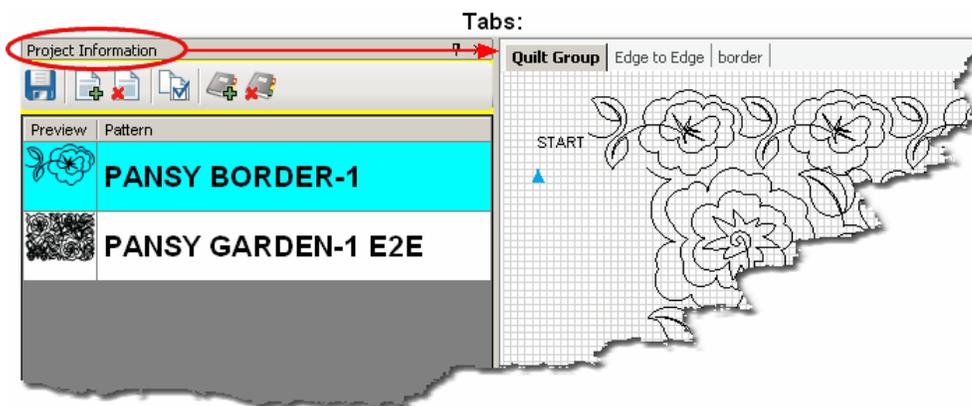
- * **See it** Choose, Modify, Position and Preview quilting patterns before stitching them.
- * **Stitch it** What You See Is What You Quilt! (WYSIWYQ)
- * **Save it** Save all the patterns, positioning, & settings in a Project for future use.



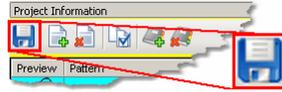
Planning the quilting is easy now because the quilter can select, combine and preview quilting patterns, and see (or show the customer) what they look like together. Completely new patterns can be created and saved too. The entire project can be saved for future reference or repeated use.

3.1 Quilt Projects

Quilt Projects are used by CreativeStudio™ as a way to collect and organize the details for a quilt. A project is like a notebook that contains all the information used for a quilt. The notebook has general [project information](#)⁴⁵ and it has tabbed sections that contain the details relating to specific areas of the quilt. Projects files can be saved and re-used at a future date, with minimal adjustments.

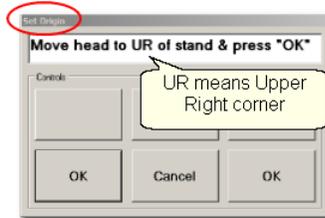


Save your project often!



3.1.1 Origin Point

CS requires an “Origin” point which is a reference point used for the placement of patterns. This origin is set (using the sewing head) every time the CS software is started.



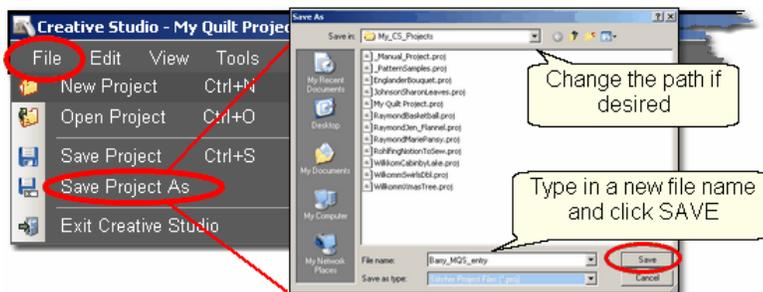
"Move head to UR of stand & Press OK" is the very first step to do. Although this dialog box asks for the Upper Right corner, it could be Upper Left or any other point that is reliable and repeatable.

In CS, everything is relative - to the origin that is. CS views the sewing area to be one big grid and it identifies points on the grid with (X,Y) coordinates, relative to the origin. Why is this important? Because it enables CS to be restarted with minimal adjustments after CS has been shut down (everyone needs to sleep occasionally). The origin point can also be modified when needed due to shrinkage caused by dense quilting. This is explained in detail, in the section on [Relocate Patterns](#)¹⁰⁵ in [Extra Editing Options](#)⁹⁵.

3.1.2 Project Names

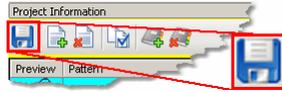
CS creates a [project](#)⁴⁷ every time the software is used. By default, the project is named “My Quilt Project”. As soon as you save the project file, the new file name will appear as your project name.

Saving a project file is easy. Just click File, click Save Project As, and the Save As dialog box appears. CS will try and help by using the Project Name as the File Name but it can be changed to something else if desired. Change the [path](#)¹⁸ if needed and click SAVE.



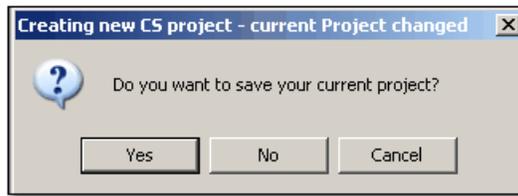
CS saves projects with a [file extension](#)¹⁹ of .proj or .projx. The extension is

determined by the type of patterns used. If the project includes only unencrypted patterns (like those that came with the Statler Stitcher) the file extension will be "proj". If the project includes patterns that were purchased from a designer who [encrypted](#) them to run on one machine only, the file extension will be "projx". Once an encrypted pattern is added to the project's pattern list, and the project is saved, the project becomes encrypted and remains encrypted, even if the encrypted pattern is removed.



Save your project file often!

CS will remind you to save your project file before it opens a new project or closes the software.



By clicking on the "Yes" button, the Save As dialog box appears. CS will try and help by using the Project Name as the File Name but change it and the path if desired. Click SAVE to complete the process.

Tip: Since a project is created for each quilt, the project name (and project file name) could include the customer name, quilt name or date, for future reference.

3.2 Quilt Groups

A quilt group contains the information (boundaries, reference points, sizing, positioning) needed to do a particular area of a quilt. CS will create a new quilt group automatically for certain techniques, like [Edge-To-Edge](#)^[200] and [Borders/Corners](#)^[174]. Individual quilt groups can also be created for different sections of the quilt, like the center medallion, or side triangles, borders or sashings, etc. Each quilt group has a tab which appears above the [preview area](#)^[58] of the screen.

In the following example, there are three quilt groups.

1. Quilt Group - in this example, 'Quilt Group' is the default name that was used just to audition two patterns together. The purpose of auditioning two (or more) patterns is to see if they look good together and to set the scale (density) of quilting.



2. Edge to Edge - is an example of a quilt group that is automatically created by the [Edge-to-Edge](#)^[200] (E2E) feature. Pattern size and alignment is very important in E2E, so CS controls this in its own quilt group.

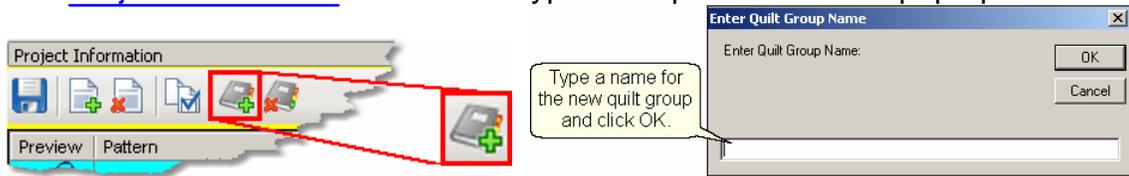
3. Border - is another quilt group that was created for this quilt. It will be used to create boundaries & position border patterns.

There is no limit to the number of quilt groups that could be used. Some quilts require only one quilt group (like E2E), and others have many (like custom quilting). The diagram above shows how a quilt group can be used to preview how the patterns will look together. By just placing the patterns on the preview area, their relative scale can be determined too.

 *Design It Yourself: To easily switch from one Quilt Group to the next, press the arrow keys (↑ ↓ ← →).*

3.2.1 Creating a Quilt Group

New quilt groups can be added easily. Just click on the AddQuiltGroup icon located in the [Project Information](#) ⁶² window. Type a unique name in the pop-up box..



A tab is created with the new quilt group name. Each tab has its own preview area.

3.2.2 Removing a Quilt Group

Removing the quilt group does not delete any of the patterns selected for the project. Just click on the quilt group tab, so that tab (or quilt group) becomes the active one, and click on the (RemoveQuiltGroup) icon located at the top of the Project Information window. CS will always ask if you are sure you want to remove a group.

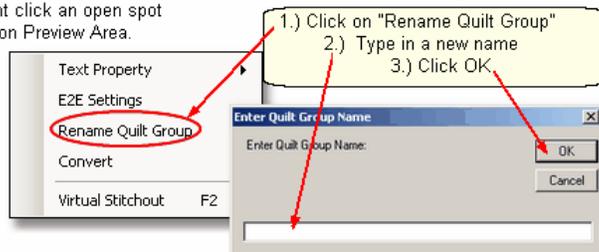


Tip: It is always better to remove a group and start over rather than just deleting the patterns and boundaries inside the group.

3.2.3 Renaming a Quilt Group

Quilt groups can be renamed easily too. Just right click on an empty space in the Preview area for that group, and one of the choices is 'Rename Quilt Group'. Click anywhere on those words, and a dialog box appears where you can type the new name. The names need to be unique and it is useful if they are descriptive. Click OK when done and the name will change.

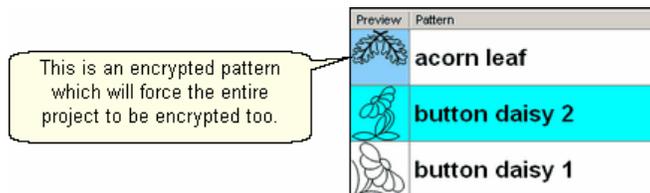
Right click an open spot on Preview Area.



3.3 Quilt Patterns

Hundreds of digitized quilt patterns came with your Statler, and thousands more are available for you to purchase. The designers who sell their patterns all get to decide how to protect their designs via copyright statements and some use encryption. So, don't be surprised if you are asked to provide your controller number when you purchase digitized patterns. (To find it, click on Help, then click on 'About'. The controller serial number is displayed.) Encrypted patterns will only run on one machine, so they can't be shared, transferred, duplicated or sold.

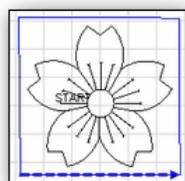
When you purchase patterns, look at the file extension. If they end with **.pat** instead of **.qli**, then they are encrypted. All patterns derived from an encrypted pattern will also be encrypted, and have a file extension of **.csqx** instead of **.csq**. All project files that use any encrypted patterns will also be encrypted (with a file extension of **.projx** instead of **.proj**) and will only run on your machine. When an encrypted pattern has been chosen for a project, it appears in the pattern list, but it has a blue background behind the pattern image. Once a project is encrypted, it remains that way, even if the encrypted pattern is removed from the project.



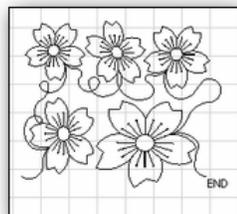
There are a million different quilting patterns available today. Good choices are continuous line designs. By definition, a continuous-line design has only one start and one stop.

- * [Block patterns](#)⁶⁸ are usually a single pattern and frequently have the start and stop at the same point.
- * [Edge-to-Edge or Border patterns](#)⁶⁹ are multiple repeats of the same pattern, with the end of one pattern connected to the start of the next, along the same (straight) line. They also have only one start and one stop but not at the same point.
- * [Point To Point patterns](#)⁶⁹ must be continuous because the end of one pattern is connected to the beginning of the next. The connected patterns do not have to be along the same (straight) line. Choosing the right pattern for each section of the quilt is important.

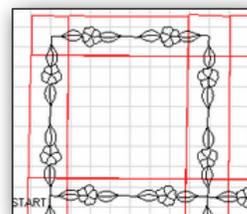
Continuous Line Designs



Block Pattern



E2E or Border



P2P Pattern

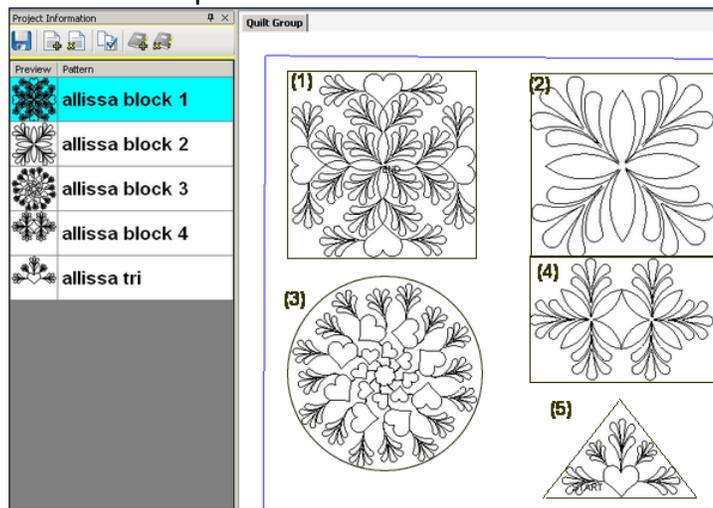
Composite patterns are comprised of individual patterns and they have more than

one start and stop. The term 'jump stitch' is used to describe the transition between the end of one part of the pattern and the beginning of the next. Pattern designers are creating projects that use a composite pattern (with multiple individual patterns) which is stitched first, and the final product is made into a wholecloth quilt, wallhanging, tote bag, placemat or other home decor item.

Derivative patterns consist of portions of another pattern. The CS design capabilities make it easy to modify patterns, and export the derivative to be used in other projects.

3.3.1 Single Block Patterns

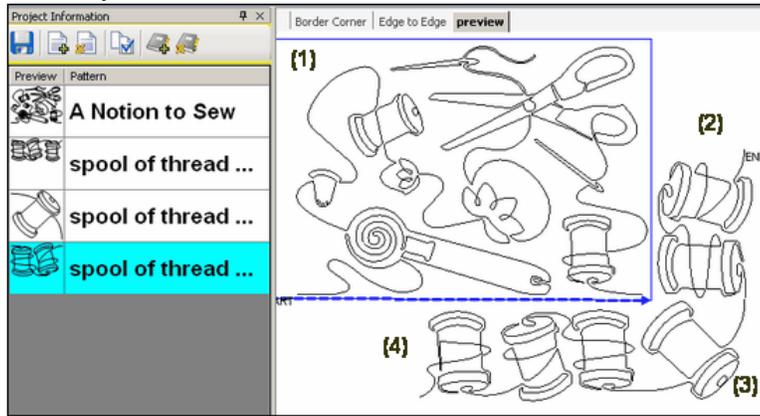
Single Block Patterns come in different sizes and shapes. Usually, they have the same start and end point. Here are some common block styles:



- (1) Allissa block 1 – is very detailed with a square-ish shape.
Is very dense – Good for larger blocks.
Has symmetry (and heart shapes) – suggest freeze aspect = ON
Shape – square, circle maybe octagon
- (2) Allissa block 2 - is a simpler design with a square shape
Is not dense – Could fit many sizes
Has symmetry – suggest freeze aspect = ON
Shape – square
- (3) Allissa block 3 – is circular, with more density on outer edges.
Is very dense – Good for larger blocks
Has motion – Direction of hearts conveys motion, suggest freeze aspect = ON
Shape – circular, maybe octagon.
- (4) Allissa block 4 – is detailed with a rectangular shape
Is somewhat open – could fit many sizes
Has secondary design – Multiple repeats might be interesting
Shape – rectangle
- (5) Allissa tri – is a triangle, with more density on outer edges.
Is not too dense – fits triangular shapes.
Center focus – the density on the outer edges actually frames the heart
Shape – triangle, could also be stitched multiple times for a composite shape.

3.3.2 Continuous Patterns

Continuous Patterns also come in different sizes and shapes. By definition, the startpoint and the endpoint are not the same point. Here are some common continuous styles:

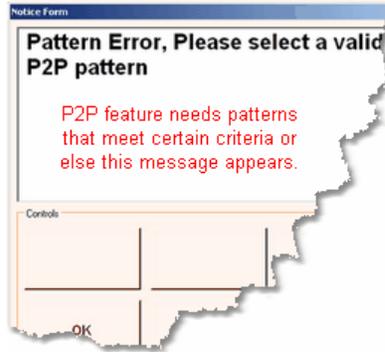


- (1) A Notion To Sew – is a pantograph pattern that can be repeated across and down the entire quilt, Edge To Edge (E2E). Pantographs can also be used on the inside of the quilt, from border to border - sometimes called B2B. The outer edges of this pattern are relatively linear, making it a good candidate for B2B (or even a very wide border).
- (2) Spool of Thread (with two spools) is a border pattern. It is continuous and is designed to be repeated as many times as needed, to span the border.
- (3) Spool of thread (with one spool) is a corner pattern. It is continuous, and is designed to connect the stitch lines of the border patterns.
- (4) Spool of Thread (with three spools) is a specialty border pattern. This one has been designed to work with the corner, making the transition into the corner appear more symmetrical.

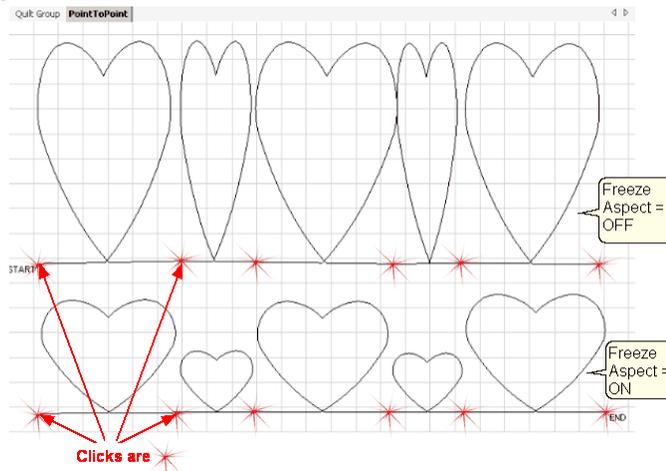
3.3.3 Point To Point Patterns

Point To Point is a unique process that allows quilting patterns to be placed precisely. The process will prompt for a series of points and then stitch one repeat between each consecutive pair of points. This process delivers a very 'custom' result. The P2P patterns are continuous and have a few restrictions:

- * They must have the start point on the left and the end point on the right.
- * The start and end must be on the same horizontal line when it is designed (not when it is used). If any of these restrictions are not met, CS will display an error message.



They can be stitched with the Freeze Aspect setting ON or OFF, for very different results.



In the example above, Clicks were made at varying intervals, 6", 3", 6", 3", 6". The top row shows the resulting pattern when the Freeze Aspect is OFF. The bottom row shows the results when the Freeze Aspect is ON. These hearts were stitched along one straight line but they didn't have to be.



Design It Yourself: Point-to-Point (P2P) lines and patterns can be positioned using the P2P icon & sewing head or using the Draw command and the mouse. Both techniques will be described in full detail.

3.4 Quilt Pattern Setup and Edit

What You See Is What You Quilt !

There is an acronym for this: **WYSIWYQ** (Pronounced “Whissey Wick”). Being able to see what is about to be quilted is extremely valuable because it eliminates many surprises.

There are two modes involved when choosing, positioning and previewing quilting patterns:

1. Setup Mode enables the quilter to change the settings that define how the patterns should stitch for this project.
2. Edit Mode enables the quilter to see an image of what is going to be stitched, and fine tune the details if needed.

It is important that the Setup changes be done first, and the Edit changes done last. Flipping between the two modes can undo Edit mode changes.

Color coding is used to distinguish between the two modes. **Setup** steps are highlighted in **cyan** throughout the user manual and the Quick Reference Cards. **Edit** steps are highlighted in **magenta**. The choice of highlight colors is not accidental. The colors cyan and magenta were chosen because they relate back to color coding of the ‘details’ in the Property Window.

Cyan is used for **Pattern Details** settings which is done in **Setup Mode**.
Magenta is used for **Selected Pattern details** which is done in **Edit Mode**.

To facilitate pattern setup and edit, it is strongly suggested that you use the grid on the CAD screen, and use the Crosshair to show the current position of the sewing head. These were mentioned earlier, but it is worth more detail now.

The Setup and Edit steps are described in detail here, in the same sequence that would be typical for starting a new project. To demonstrate how these modes work together we will show the steps for doing a single block and repeated blocks. The purpose of this is to familiarize you with some of the basic functions and explain the process and how to navigate through it. This is just a simple example.



Design It Yourself: Throughout the manual there will be DIY tips that look like this. These are intended for experienced CS quilters who want to use keyboard shortcuts and commands to control pattern design. You can ignore the DIY tips without losing any functionality.

All of the quilting features will be described in full detail and in context in the next sections – The Quilting Process. Each feature will include the feature name, any assumptions and the steps to follow. If the step numbers are highlighted with cyan, the step is part of the Setup mode. Steps highlighted in magenta are part of the Edit mode.

The following two examples will provide an overview of the two most common quilting processes; Single Blocks and Repeat Patterns.

3.4.1 Single Blocks

Single blocks use boundaries to define the pattern sizes. This means the original pattern is automatically resized to fit the defined boundary. The size can still be modified however, in both Setup mode (using the numeric measurements in the details area on the left of the screen) or in Edit mode (using the resizing handles in the Preview area on the right side of the screen).

Feature: Single Blocks

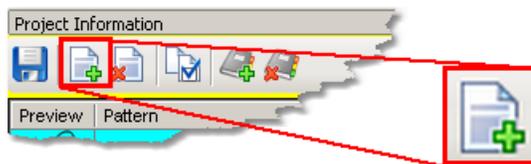
Assumptions: CS has been turned on and the Origin has been set, the quilt is loaded, bobbins wound, machine threaded. You (or your customer) know which patterns will be used. A new project has been started (click File, click New Project).

Steps to follow:

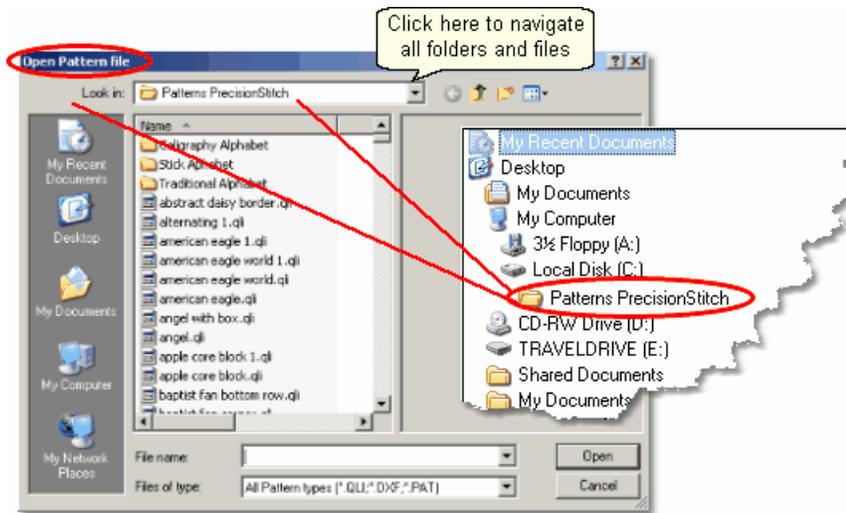
- Step 1. Choose a pattern
- Step 2. Define a boundary in the preview area
- Step 3. Move the pattern into the boundary
- Step 4. Adjust the pattern in the boundary.

3.4.1.1 Step 1: Choose pattern

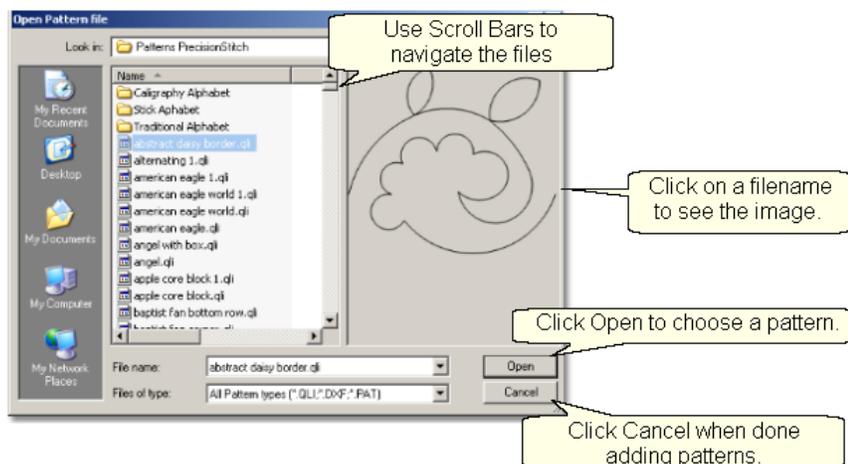
Step 1: Choosing the patterns can be done as needed during the quilting process, or can be done at the beginning of the quilting process.



- * Click on Add Pattern icon (if needed).
- * The 'Open Pattern File' dialog box appears:



- * Navigate the folders and files, previewing and selecting patterns. The current folder name is shown in the "Look In:" selection. In this example, it is called "Patterns Precision stitch".
- * To change folders, click on the arrow to the right of the current folder name and navigate to other folders and files.
- * Double click on a folder name to open it. The list of files in that folder will appear.
- * Click on any filename and a preview of that pattern file is displayed.



- * Once the first file is selected, the [keyboard](#) ¹⁶ navigation buttons are activated:
 The down arrow will move down one file at a time.
 The Up arrow moves up one at a time.
- * Using the mouse to [scroll](#) ¹⁴ is sometimes faster if you don't need to look at each pattern file:
 Click on the scroll bar 'up' arrow to scroll up one file at a time.
 Click on the scroll bar 'down' arrow to scroll down one file at a time.
 Grab & drag the scroll bar 'slider' to scroll to a different part of the folder.
 Click on the scroll bar ABOVE the 'slider' and move back 1 screen (about 15 files).
 Click on the scroll bar BELOW the 'slider' and move forward 1 screen (about 15 files).

- * Use the mouse and special icons to navigate folders:

Navigating icons:

Go back to the last folder visited

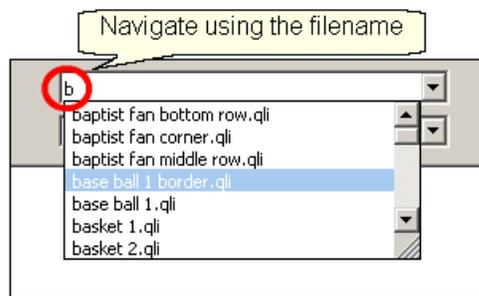
Go up one level

Create New Folder

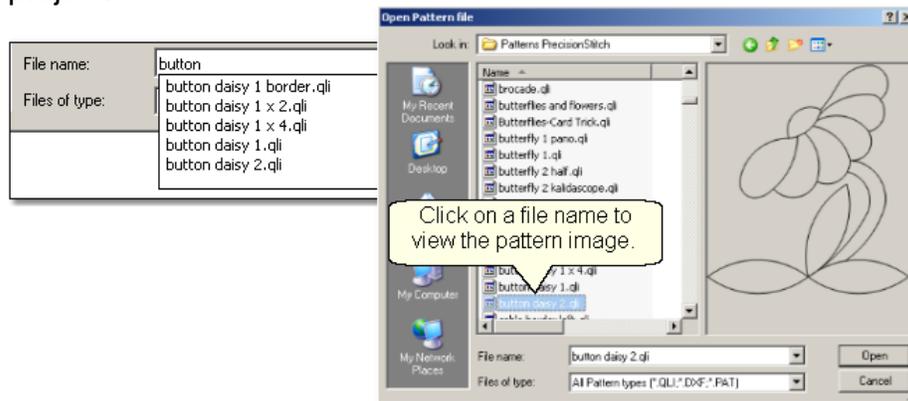
Change the view options



- * To find a specific file, begin to type in the name of that file in the FileName box. A list of filenames appear in a drop-down box, showing the filenames that match that criterion. If many files match, there will be scroll bars in the drop-down box that allow you to scroll through the list looking for the correct file.



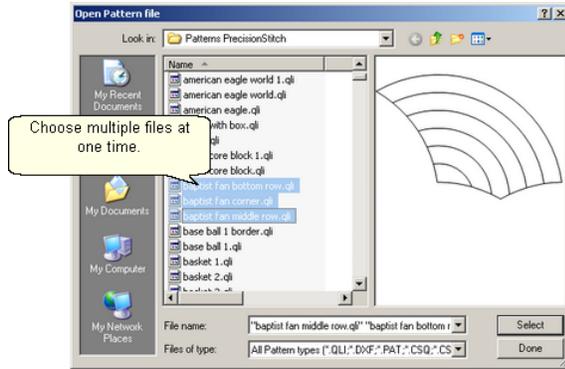
- * The more letters that are typed in, the more specific the search criterion and fewer files are returned. Click on the filename to select it and an image of the pattern will appear in the preview area. Click the Open button to choose this pattern for your project.



- * Use the Shift or Control keys to choose multiple patterns at one time (Limit of 9 files).

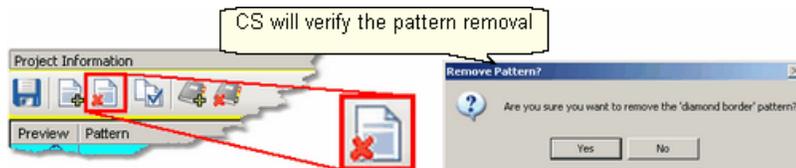
- When the filenames are contiguous, Click on the first filename, Press and hold the Shift Key, and Click on the last file name. This highlights all the files. Click on Open button to copy them into the project. .

- When the filenames are not contiguous, Click on the first filename, Press and hold the Control Key, and click on the other individual files needed. Click on Open button to copy them into your project.



* When done, click Cancel to exit.

If you change your mind, and decide not to use a pattern that has been selected, just remove it by clicking on the Delete Pattern icon.



* Save the project.



3.4.1.2 Step 2: Define Boundary

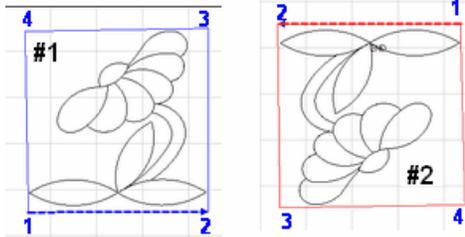
Step 2: Define a Boundary for a single block.

Boundaries are used in many of the CS techniques. They might be required by a technique (such as defining the quilting surface of an E2E design) or used as a convenient reference for guiding the placement of patterns. Either way, they synchronize the quilt top with the screen image.



About boundaries:

- * A bounded area must have at least 3 points (a triangle) and can have hundreds.
- * The first point is considered the anchor. The lower left corner of the pattern will always be aligned to the first point clicked.
- * The first two points define the baseline which determines the pattern rotation.
- * Pressing Stop completes the boundary. CS will connect the first and last points, enclosing the area.
- * Choose the baseline and click the points in a counter clockwise direction. Patterns are aligned to the baseline as shown:

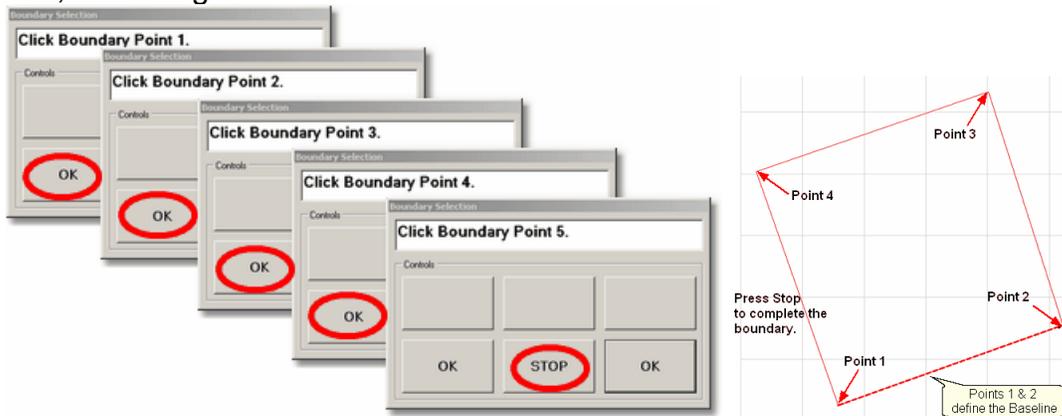


- * Once a boundary is defined, it can not be changed. It can however be deleted and a new boundary defined.
- * To delete a boundary, first make sure no patterns are selected. Then, select the boundary (the boundary turns red) and press the Delete key on the keyboard. This works for patterns and trim boundaries also.

How to define a boundary:



1. Click on the Boundary icon (or press the Mode button on the keypad until the boundary icon is highlighted, and then press the Select button on the keypad to initiate the feature). CS will begin to prompt for points that define the bounded area.
2. Move the sewing head to the first point and press OK on the keypad.
3. Continue clicking points sequentially until the boundary is defined.
4. Press Stop on the keypad when done and CS will join the last click point with the first, enclosing the area.



***D.I.Y.** Design It Yourself: An alternative method of creating a boundary is to use the mouse and define the boundary on the screen, without using any specific points on the quilt top. This is explained in detail in the [Draw Options](#)¹²⁴, [Draw Boundary](#)¹²⁸ section.*

[Save the project](#)⁶³.

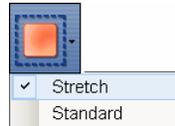


3.4.1.3 Step 3: Pattern to Boundary

Step 3: Move Patterns into Boundary

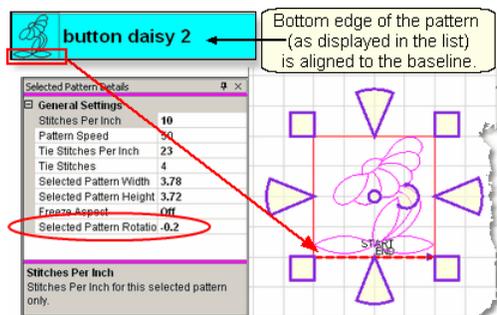


- * Click on a boundary to select it. (It turns red).
- * Click on a pattern (in the Project Information box) to select it. (It turns cyan).
- * Click on the drop-down box next to the icon.



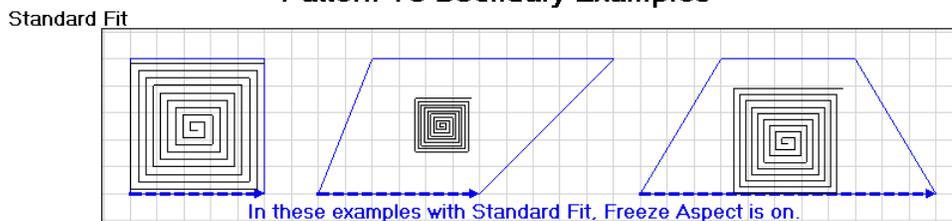
- * Choose: 'Standard' or 'Stretch'.
- * Click on the Pattern_To_Boundary icon to move the pattern in.

When a pattern is moved into a boundary, the bottom edge of the pattern (as it is displayed in the pattern list) is aligned to the baseline. If the baseline slopes up (or down) the pattern will be rotated accordingly. The slope angle is displayed in the Selected Pattern Rotation field of the details.



When the boundary has an irregular shape, the pattern will be resized to fit if possible. The following example shows how a pattern is resized using the 'Standard' fit.

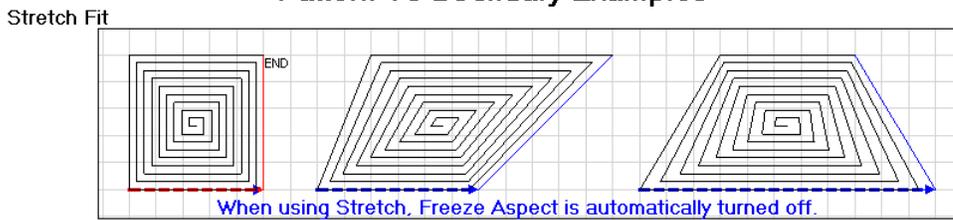
Pattern To Boundary Examples



The pattern is resized to fit the bounded area. Notice that the results are very different, based on the shape of the boundary. In these examples the margin is set to 0 and FA is 'on'. CS will maintain the aspect first, and fit the pattern to the boundary if possible.

This next example shows how the same pattern is resized using the 'Stretch' fit.

Pattern To Boundary Examples



When 'stretch' is used, the FA (freeze aspect) setting is turned off. CS will reshape the pattern to fit the boundary if possible.

Exit Setup mode by closing the Settings dialog box or changing to a different quilt group (tab). The individual patterns can now be edited in the Preview area as needed. Click on any image in the Preview area to edit it.

* The Preview area is focused on the pattern most recently used.



To see all patterns and boundaries, click View All icon.

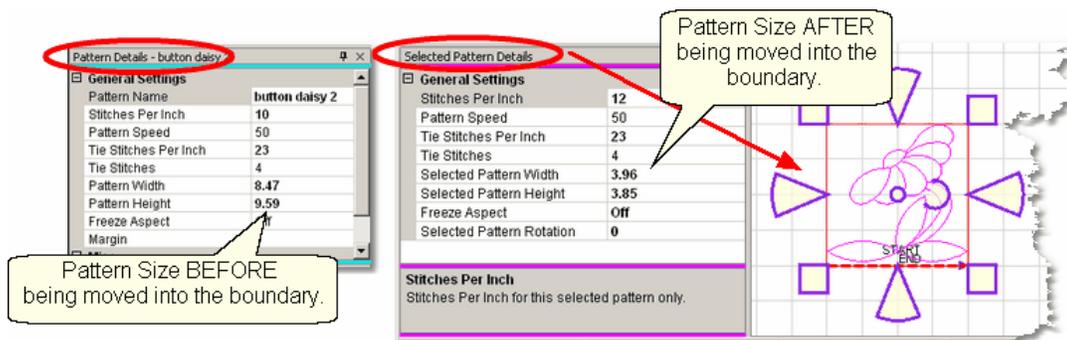


Save the project.

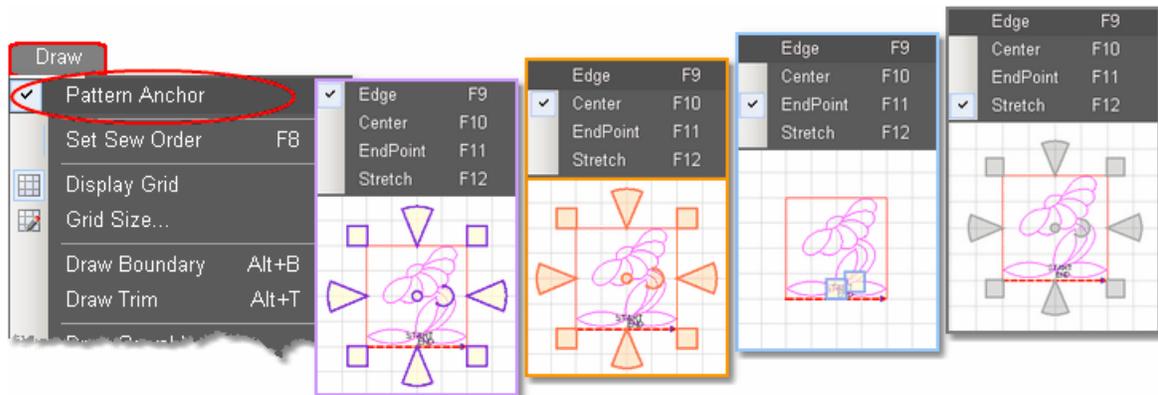
3.4.1.4 Step 4: Adjust Pattern

Step 4: Adjusting (resizing) Patterns.

* Click on the pattern within the [preview area](#)⁵⁸ and resizing handles appear surrounding the pattern. The size and rotation of this pattern is now displayed in the [Selected Pattern Details](#)⁵¹ area (framed in magenta) and the title bar says specifically "Selected Pattern Details". If more changes are made to the original pattern details (framed in cyan), they would not affect the pattern already moved into the preview area (framed in magenta). They will only affect patterns moved into the preview area from that point forward, never retroactive.



When a pattern is highlighted in the Preview area, the shape can be changed by using the re-sizing handles. The handles have different colors and shapes, depending on the [Pattern Anchor](#)¹²⁴. The default is 'edge' anchor. Double click the pattern to step through all of the choices.



Double click the selected pattern to switch to the next anchor type.

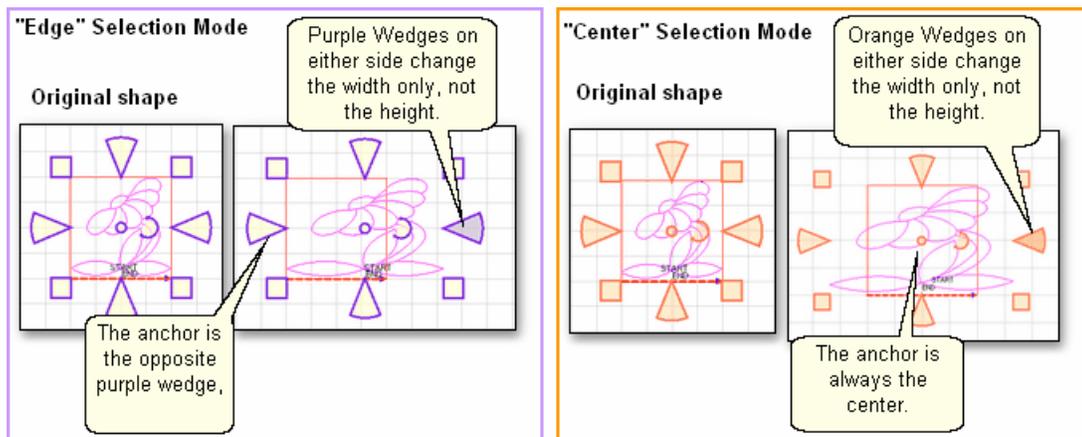
When Pattern Anchor is 'Edge' - the **re-sizing handles are purple**. When any handle is moved, the opposite handle is anchored in place.

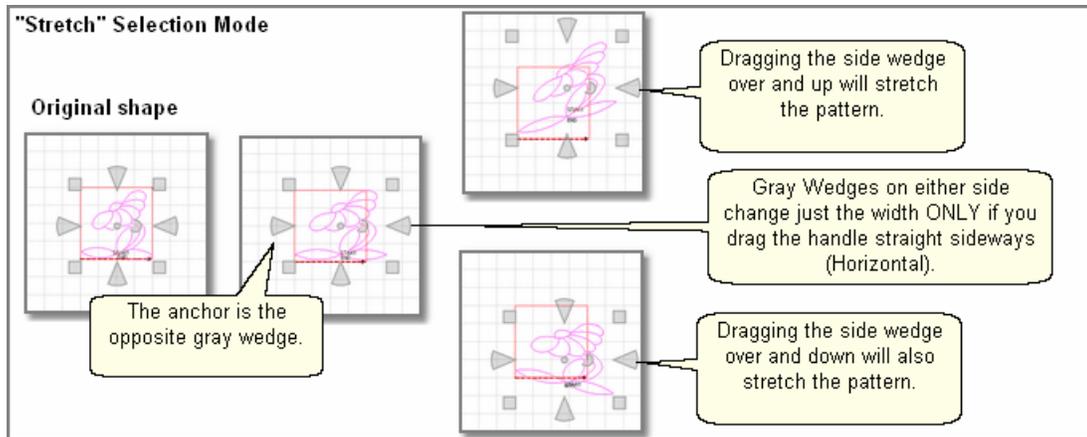
When Pattern Anchor is 'Center' - the **re-sizing handles are orange**. When any of the handles are moved, the center of the pattern is anchored in place.

When Pattern Anchor is 'Endpoint' - **handles are blue boxes**, at the Start and End points. Endpoint Anchor is not a choice for a [block pattern](#)⁶⁸ when the start and end points are the same.

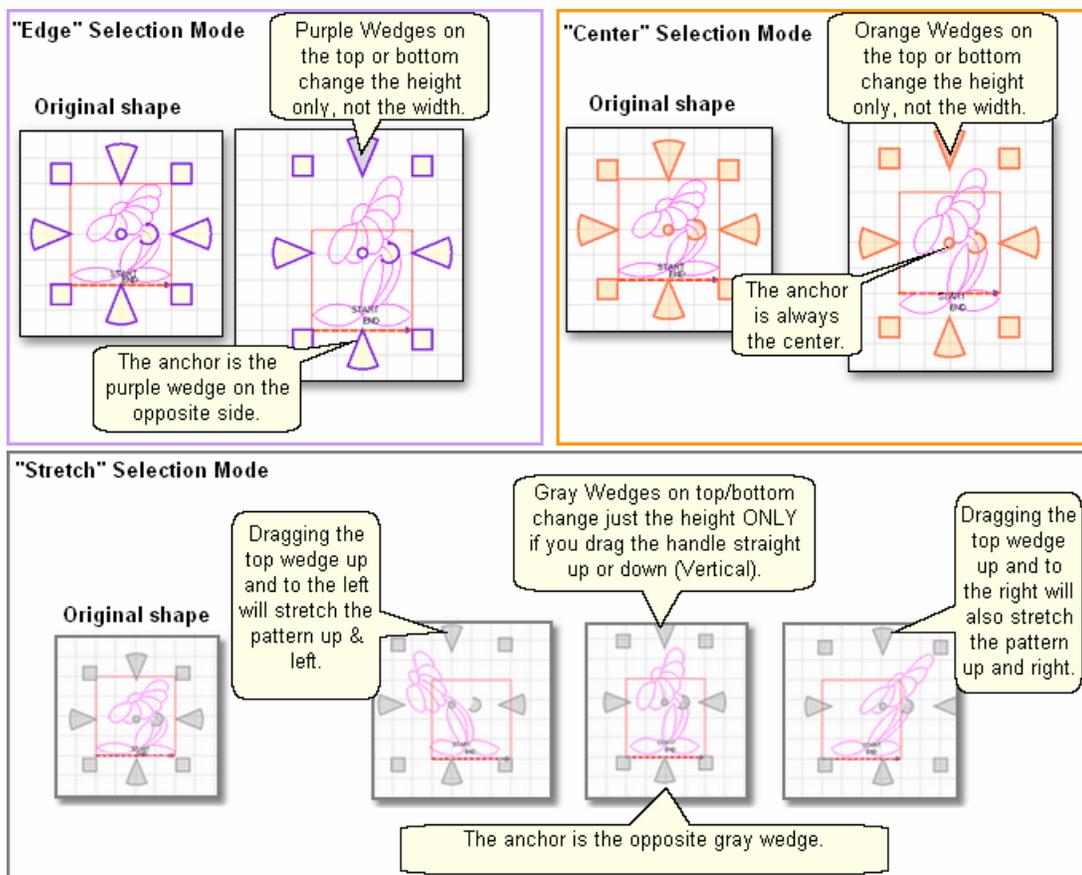
When Pattern Anchor is 'Stretch' - **the re-sizing handles are gray**. When any handle is moved, the opposite handle is anchored in place. The Stretch Pattern Anchor is special because it allows portions of the pattern to be stretched. This essentially warps the pattern, and sometimes that is needed when seam lines are not accurate.

Resize Pattern Width - The wedge shaped handles on the sides of the pattern control the width. Move the cursor over the left side or right side wedge and press down on the left button; the center of the wedge turns darker (purple or orange). Hold the left mouse button down and move the mouse to resize the pattern.

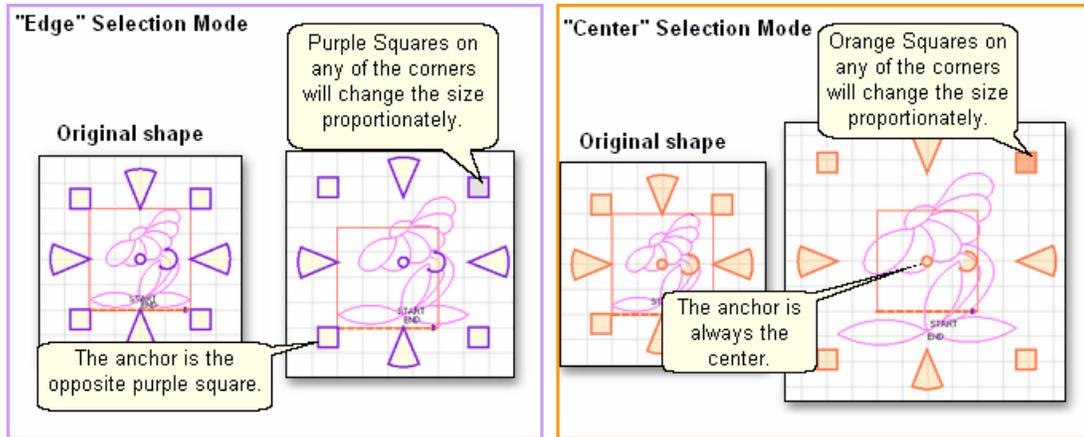




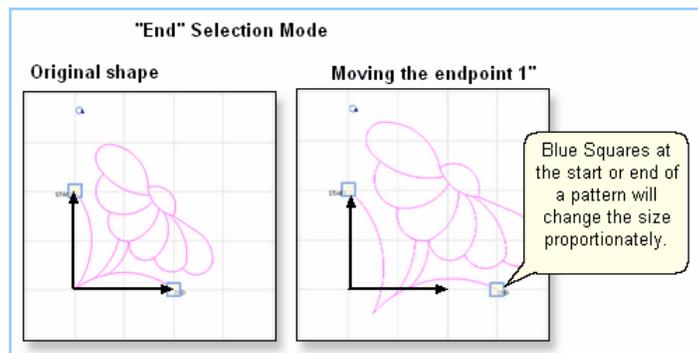
Resize Pattern Height - .The wedge shaped handles on the top and bottom of the pattern control the height. Move the cursor over the top or bottom wedge and press down on the left button; the center of the wedge turns darker (purple or orange). Hold the left mouse button down and move the mouse to resize the pattern.



Resize Pattern Proportionately. With the exception of the Stretch Pattern Anchor, the square handles at the four corners will change both dimensions proportionately (also known as Freeze Aspect). Move the cursor over one of the corner squares and press down on the left button; the center of the square turns darker (purple or orange). Hold the left mouse button down and resize the pattern.

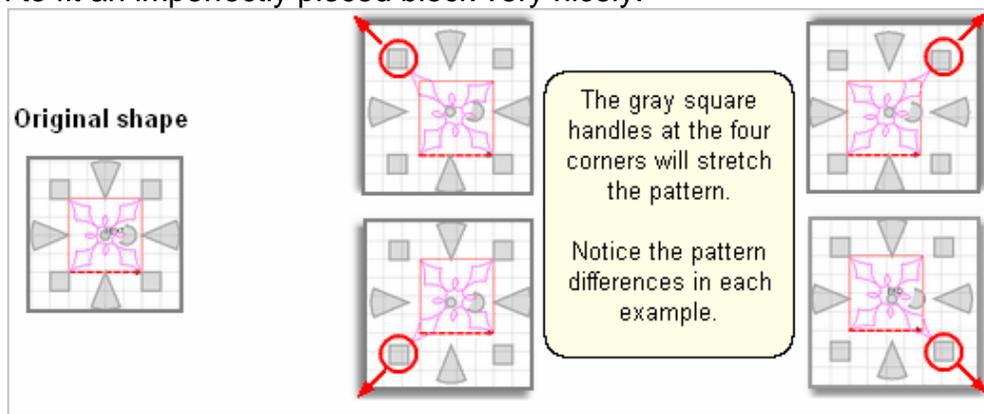


The Endpoint Pattern Anchor doesn't have handles at the four corners, but by moving either of the blue boxes (at the beginning or end of the pattern) the opposite endpoint stays anchored and the pattern changes size proportionately.



To move the entire pattern using Endpoint Pattern anchors, press and hold the Ctrl key (or the Alt key) and use the keyboard arrows. If nudging the pattern is too slow, use one of the other pattern anchor choices.

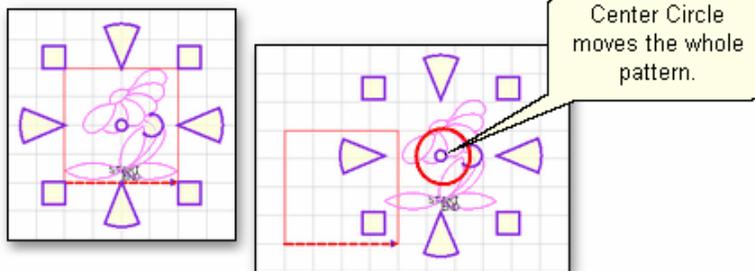
The Stretch Pattern Anchor has handles at the four corners, but they do not move the pattern proportionately. Instead, they stretch that corner of the pattern, allowing a pattern to fit an imperfectly pieced block very nicely.



TIP: The Stretch Resizing Handles are very powerful so small movements work best. Use Ctrl Z (Undo) to return to the original shape.

Reposition Patterns by grabbing the center circle and dragging the pattern. When the cursor is over the center circle, it becomes a '+'. Hold the left mouse button down and drag the pattern to the new location. Edge anchor, Center anchor and Stretch anchor will function the same way.

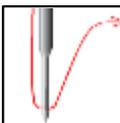
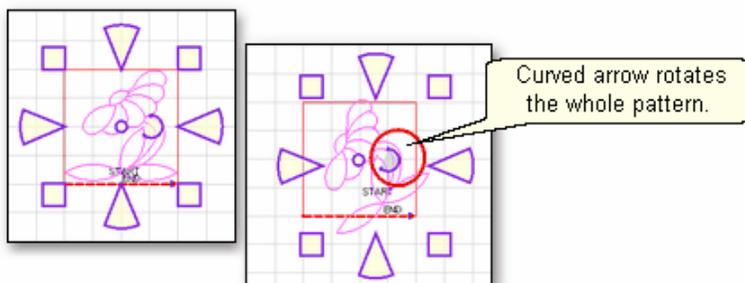
Original shape



Design It Yourself: To 'Nudge' a pattern (move it just a tiny bit) hold the Alt key (or the Ctrl key) down and press the directional arrow buttons (↑ ↓ ← →).

Rotate Patterns using the curved arrow. Move the cursor over the curved arrow and press down on the left button; the center of the curved arrow turns darker (purple or orange). Hold the left mouse button down and rotate the pattern. Edge anchor, Center anchor and Stretch anchor will function the same way.

Original shape



TIP: Rotating a pattern works best if the cursor stays away from the center circle. So, click the curved arrow, drag the cursor away (to the right) and then rotate the shape.

Select Multiple Patterns. The techniques defined above work on single patterns and on a selection of multiple patterns. There are several methods to select multiple patterns.



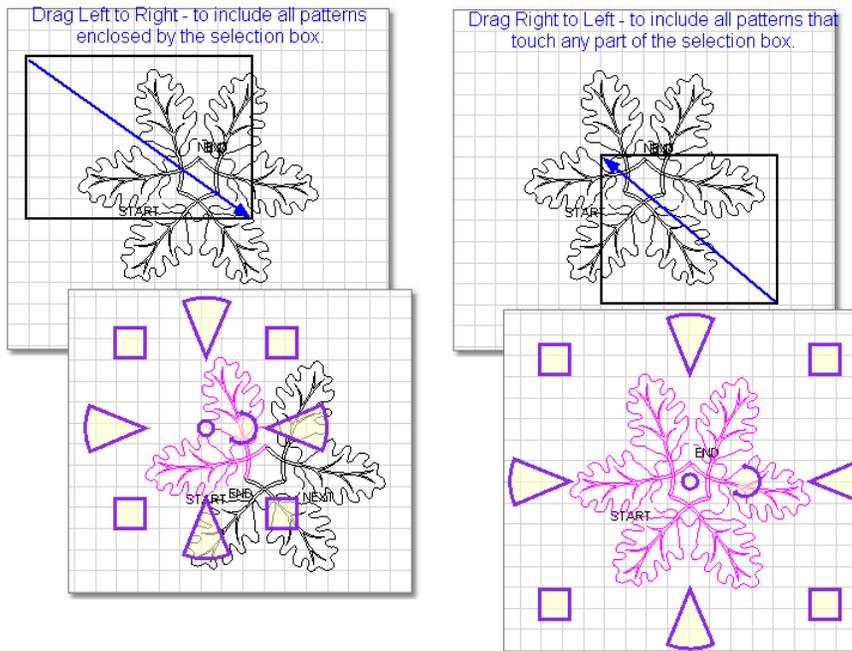
* **All Patterns** - can be selected by clicking on the 'Select All Patterns' icon. This will select everything on the preview area for the current quilt group, including any reference points. (The reference points come from the Repeat Pattern feature, explained later in this text). By default, the stitching order is determined by the order the patterns were moved onto the preview area.

* **Pick and Choose** - select multiple patterns individually. To do this, hold the Control

key down while clicking on as many patterns as needed. **The sequence of choosing the patterns can be important.** If the group of patterns will be combined, rubber stamped or exported, the order of selection is the order of stitching, so don't click them randomly if they need to be stitched in a specific sequence.

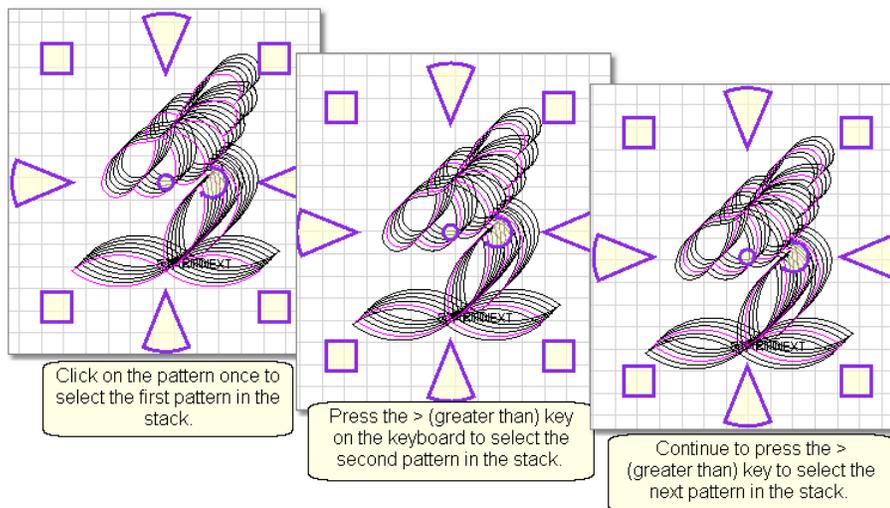
* **Marque (click and drag)** - choose a group of patterns by dragging a selection box around them. This selection box is created by starting at a point on the Preview area that is away from all patterns. Click on this first point, hold down the left mouse button, and drag the mouse away, creating the selection box. The distance and direction determine which patterns are included in the selection.

- Drag Left to Right to select patterns that are completely inside the selection box.
- Drag Right to Left to select all patterns that touch any part of the selection box.



Selecting Specific Patterns. There will be times when patterns overlap each other. CS only recognizes the first two patterns in the stack, so an alternate method is needed to select any others. To select a buried pattern, use the < > keys (greater than and less than keys). Click once on the stack to select the first pattern, and click > to move to the next pattern. Continue pressing > to move through the stack in order. To backup, press <.

Rubberstamped patterns are good examples of stacks of patterns.

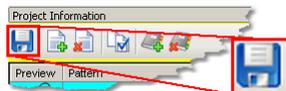


Deselecting Patterns. To deselect just one of many patterns, press and hold the Ctrl key, and click on the pattern. To deselect all patterns, any of these methods will work:

- * Press the Escape (Esc) key on the keyboard.
- * Click on a different pattern.
- * Single or double click on any open space in the preview area.

Always remember that "What You See Is What You Quilt", so edit until the pattern looks the way you like.

Save the project.



3.4.2 Repeat Patterns

Repeat Patterns is the second most common method of quilting. Repeat Patterns uses measurements to determine pattern sizes. Boundaries are still used, but they are for reference rather than resizing patterns. After repeated patterns are placed on the CAD screen, they can still be changed using the resizing handles in the Preview area on the right side of the screen.

Feature: Repeated Blocks

Assumptions: CS has been turned on and the Origin has been set. The quilt is loaded, bobbins wound, machine threaded. You (or your customer) know which patterns will be used. A new project has been started (click File, click New Project).

Steps to follow:

- Step 1. Choose a pattern
- Step 2. Measure
- Step 3. Change the Pattern details
- Step 4. Change the Repeat details
- Step 5. Adjust the pattern in the boundary.

3.4.2.1 Step1: Choose pattern

Step 1: Choose patterns using the same techniques as described in [Single blocks](#)



3.4.2.2 Step2: Measure

Step 2: CS provides two Measure options. One measures the quilt, using the sewing head to identify the start and end points of the line being measured. The other measures the screen image of the quilt, using the mouse to click on the start and end points of the line being measured. Regardless of the method chosen, the results can be transferred easily to the details in the Property window.

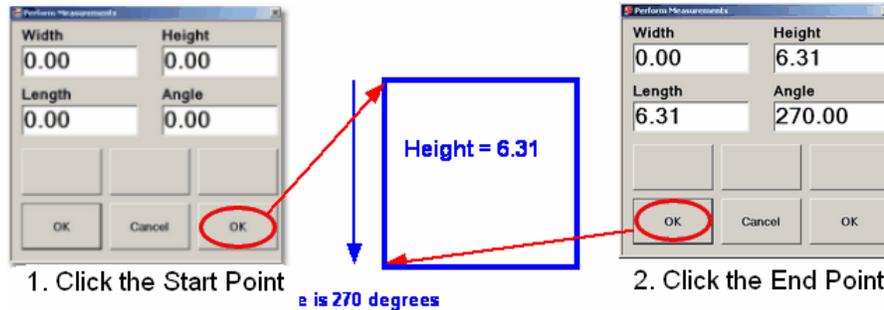
To measure the quilt, click the Measure icon. You are now in Measure Mode, and will be able to do multiple measurements, as needed.



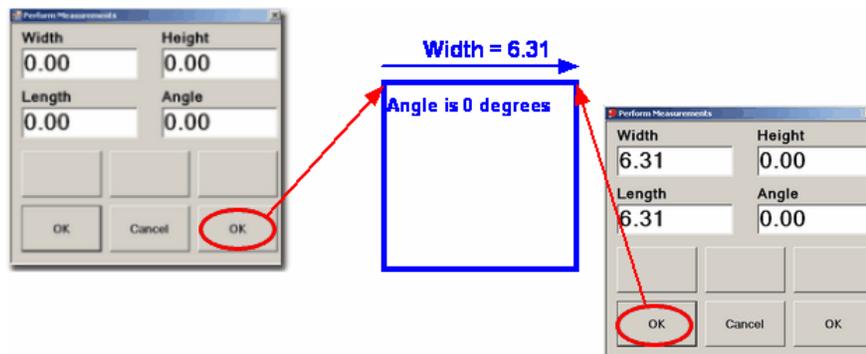
* CS prompts with the "Perform measurements" dialog box.

1. Move the stitcher to the start of the line and press OK.
2. Move the stitcher to the end of the line and press OK again.

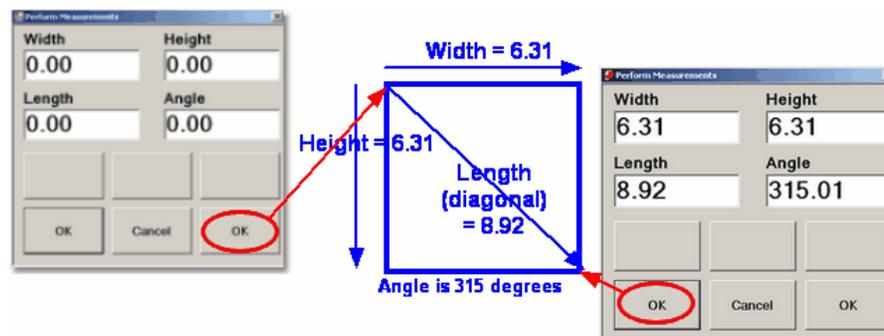
The measurement is displayed immediately. In fact, the sewing head measures dynamically - just click the start point and move the machine. The numbers change as you move the machine, and don't stop until you click the end point.



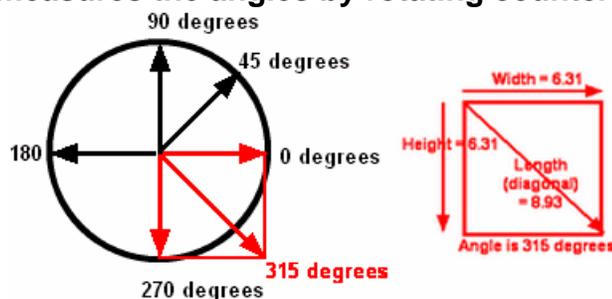
* Remember to measure in the same direction that the pattern will be sewn. The measure function calculates the angle automatically, so use that angle as the squaring angle.



* Measuring the block diagonally will give the height, width, length and the angle of the diagonal.

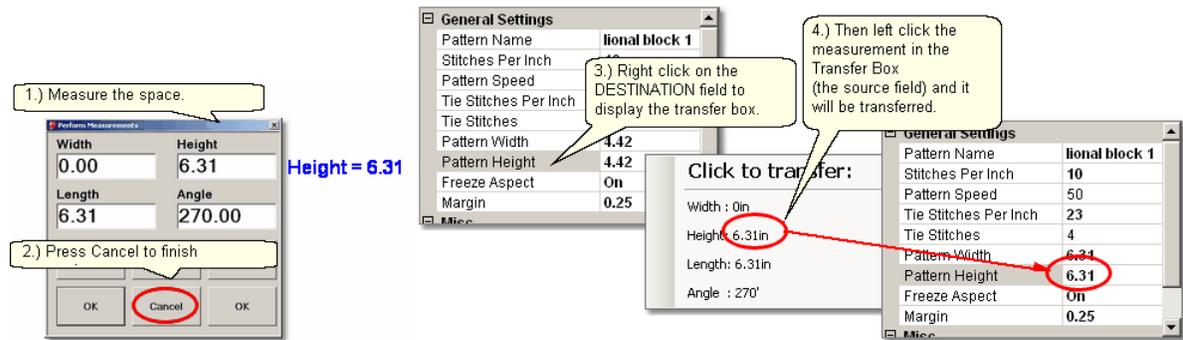


* It is important to understand how the angle rotations are defined.
CS measures the angles by rotating counterclockwise.



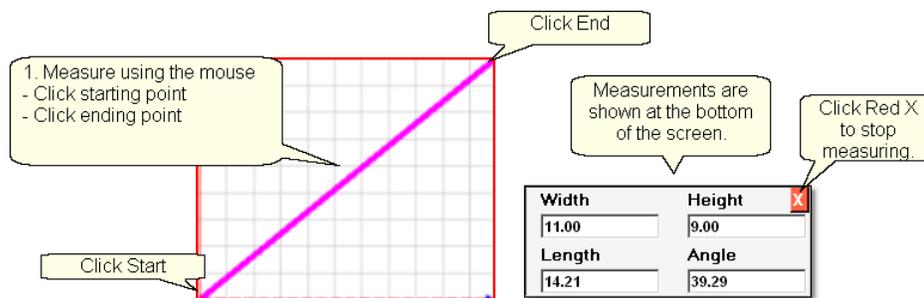
To transfer measurements to pattern details. CS remembers the four numbers (width, height, length, angle) from the last measurement made, and will transfer

them for you. This 'transfer' feature is one of the many special Right Click shortcuts.



1. Make the measurement. (Be sure the destination field is not already selected.)
 - Move the machine head to the start point and click OK.
 - Move the machine head to the end point and click OK.
2. Click on Cancel to stop measuring.
3. Right click on the Destination field (where you want the measurement to go). The Transfer box appears.
4. Click on one of the measurements and the number will be moved to the destination.

To measure the image of the quilt, click on Draw, Click on Measure (or use the Alt+M shortcut). This uses the mouse and screen to take measurements of the items (boundaries and patterns) you have moved to the preview area. These are just approximations and not the real quilt block measurements.



CS is ready to make as many measurements as needed - just keep clicking start & end points. Press Esc or click on the Red "X" on the dialog box when done measuring.

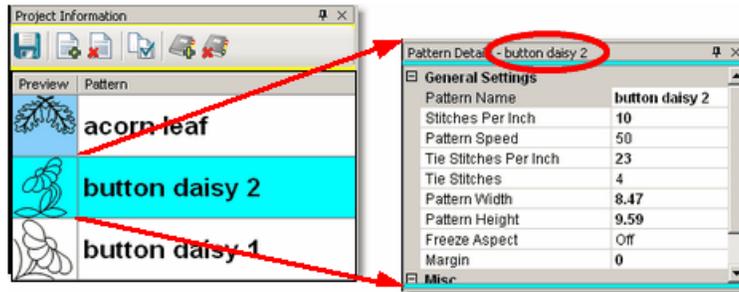


3.4.2.3 Step3: Pattern Details

Step 3: Change the Pattern Details ⁴⁹ to reflect your measurements before moving patterns into the preview area.

* Click on the pattern to be used. The pattern image and filename are highlighted in cyan and the details below are framed in cyan. The Title bar also includes the filename. If you make your changes now, the new values will be used every time this

pattern is used in the current project (from this point forward). The new values will not affect any patterns that are already in the preview area (CAD screen).



General Stitcher Settings ⁴⁹ - The first several settings refer to how the pattern will be stitched. These settings are based on the current CS default settings.

Pattern Name - the name of the pattern highlighted in cyan.

Stitches Per Inch applies to this pattern.

Pattern Speed is measured as a percentage of maximum motor speed. '50' means 50% of the maximum speed.

Tie Stitches Per Inch is the size of the stitches taken when doing tieoff stitches.

Tie Stitches is the number of stitches taken when doing tieoff knots.

General Pattern Settings ⁴⁹ - The remaining settings refer to the pattern size and placement. If the pattern needs to be a specific size, now is the time to change it. The same holds true for the Freeze Aspect setting and the Selected pattern Rotation.

Pattern Width is the width of one pattern, measured at the widest point.

Pattern Height is the height of one pattern, measured at the tallest point.

Freeze Aspect - 'ON' means the ratio of Height:Width remains the same when the size changes. So, if one of the dimensions is changed, CS will change the other automatically to keep the ratio the same. 'OFF' means CS will allow the ratio to be distorted.

Margin is not recognized in Repeat Patterns or in E2E. It is intended only for the Pattern To Boundary function.

Note: Below the General Settings area there is a context sensitive 'help' area.

Clicking on any of the General Settings will provide a brief definition of that setting.



Save the project ⁶³.

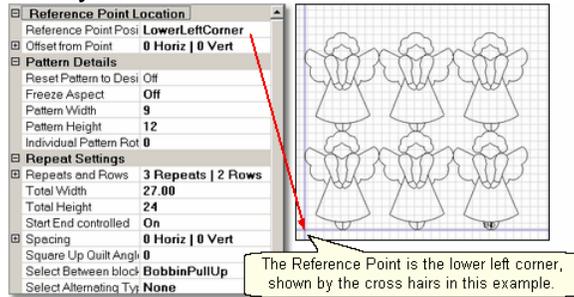
3.4.2.4 Step4: Repeat Details

Step 4: Click on Repeat Patterns icon. CS asks for a reference point, and it displays a box on the left which contains the settings for quilting repeat patterns. You can either decide for yourself how many repeats and rows you need, or you can provide the measurements of the total size, and CS will do the calculations for you.

Reference Point Locations are used to position the repeated patterns on the quilt

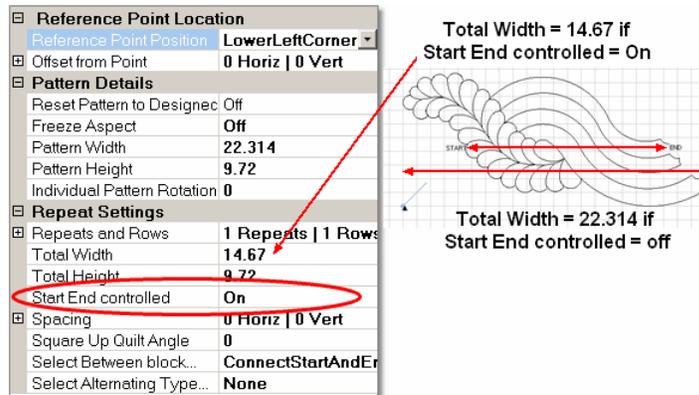
top.

Reference Point is a specific point on the quilt that is used for placing patterns. Offsets are used if the repeated patterns need to be positioned some distance from the initial reference point. As an example, the reference point may be the upper left corner of the quilt, but the repeated patterns are intended for an inner area, which starts some distance away. This distance is measured in two directions, moving Horizontally and Vertically.

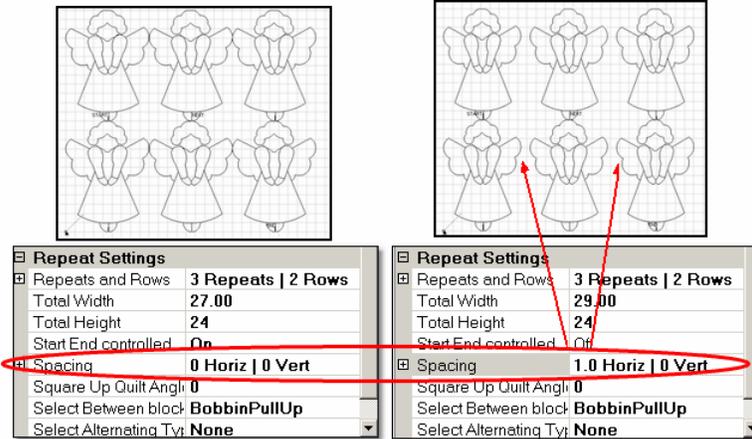


Repeat Settings show how many repeats and rows are needed to fill the space. Total Width and Total Height are calculations based on the pattern size and the number of repeats/rows. It is possible to modify the total size, and let CS adjust the pattern size, repeats and/or rows. Several of the settings below have an impact on the layout of the patterns which also affects the total size calculations.
Note: Starting with CS V4.0, the default value for Start End Controlled is ON. Prior versions had the default value OFF. This change affects the way the Total Width is calculated.

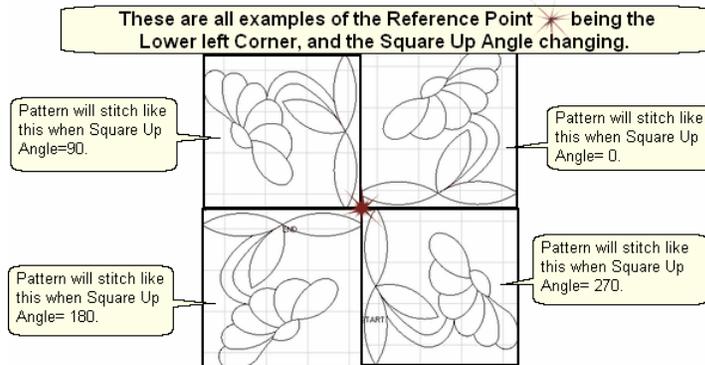
Start End Control - The width of a pattern is usually the widest part of the pattern. However, when patterns nest together, the distance between the startpoint and the endpoint is less than the total width. When StartEnd Control = OFF, CS will use the widest part as the width for repeat calculations. When StartEnd Control = ON, CS will use the distance between the startpoint and endpoint as the width for repeat calculations.



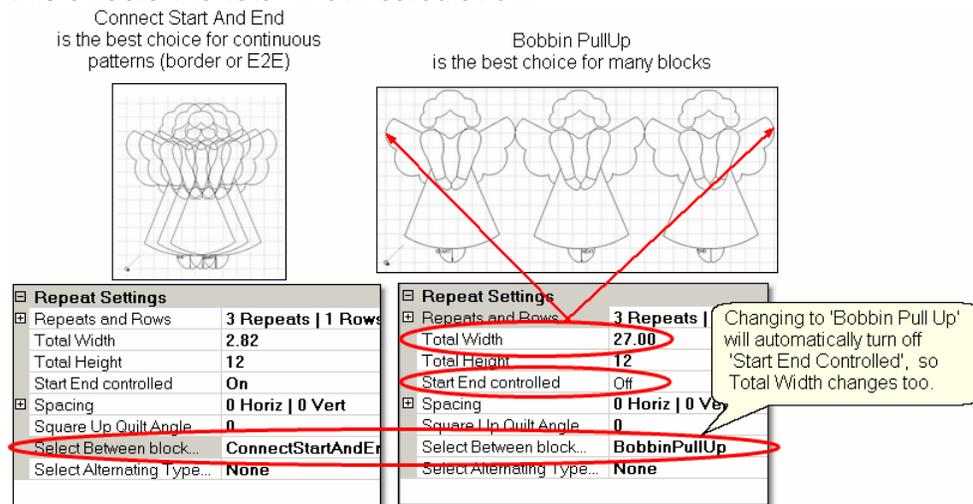
Spacing - The pattern placement can be adjusted as desired. The Horizontal spacing affects the space between the repeats. The Vertical spacing affects the space between rows. Space can be increased (positive spacing) or decreased (negative spacing). CS automatically includes the spacing adjustment when it calculates the Total Width and Total Height of the area to be quilted.



Square Up Quilt Angle - is the number of degrees that the set (1 or more) of repeated patterns is angled.

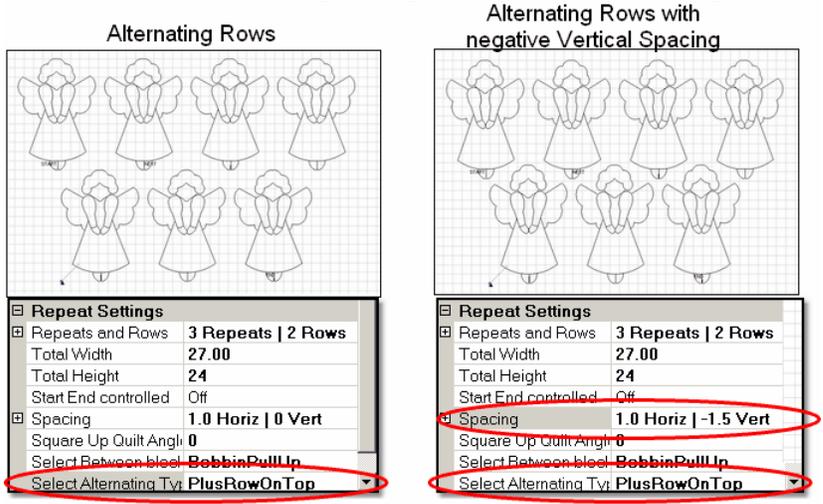


Select Between... affects how CS connects the patterns. **Bobbin PullUp** means patterns are placed side by side and CS stitches them individually. **Connect Start and End** means CS places them so the end point of one pattern connects with the start of the next pattern, and CS stitches them as one continuous row. Naturally, this affects the total width calculation.



Select Alternating Type... - allows the rows to be staggered. This is done by adding an extra repeat to every other row. The choices are **None** (default), **Plus Row on Top** (the first row gets the extra repeat) and **Minus Row on Top** (the second row

gets the extra repeat). Alternating patterns are often nested to eliminate the gap between rows. This is done using a negative Vertical spacing, as shown below.

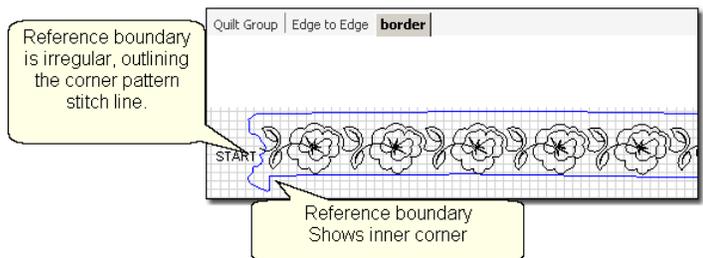


3.4.2.5 Step5: Adjust and Quilt

Step 5: Adjusting (resizing) Patterns.

The previous section explained in full detail 'How To' adjust the patterns. But, why do you need to? CS will plan the quilt patterns and will stitch them with absolute perfection. Unfortunately, quilts won't ever be that perfect, so this is the time to create reference boundaries.

It is a fact that borders and blocks are rarely square, so by creating a reference boundary around them, you will see an image on the screen which enables you to adjust the pattern to fit the 'real' quilt, as defined by the reference boundary. In the following example, the reference boundary shows the border space, the inside corner location, and the stitch line of the patterns already stitched in the corner. The reference shows us the border patterns need to be moved up so they don't stitch on the seamline.



The quilting process causes shrinkage, so it is wise to create reference boundaries as you work, not all at once. It is also worth noting that reference boundaries can / will be used every time the quilt is rolled because that can cause the layers to shift.

3.5 Quilt Pattern Creation

It is a good idea to become familiar with the basic operation of CS before beginning to create your own original patterns. If you are a novice quilter, you will LOVE the ability to synchronize the designs on the computer screen with your quilt top. The Preview Area Grid and the Crosshairs will make this even easier.

If you are an experienced CS quilter, you are going to LOVE the the ability to create your own designs. CS comes with hundreds of patterns but sometimes it would be nice to easily modify the patterns to fit an unusual block on a special quilt without having to learn another software program. CS now has several options that can modify existing patterns, create new patterns, and combine features to create custom quilting patterns. Plus, 'F2-Virtual Stitchout' is a feature that checks your newly created pattern, making sure all the pieces are connected and will stitch in the correct sequence.

Imagine being able to choose a background fill pattern, size it exactly to your block, trim it to stitch around an appliqued design in the block, and stitch the background fill in one continuous line instead of in small segments where tie-off stitches may show. Then, convert the trimmed boundary into a stitchable pattern that becomes your applique outline quilting. It is all possible!

* [Extra Edit Options](#)⁹⁵ can be accessed by Right Clicking (patterns, boundaries or open space) in the Preview area. The dialog box choices allow patterns to be stitched, restitched, repositioned, rotated, reversed, stretched, twisted, twirled, tweaked, copied, combined, converted, deleted, divided, flipped, echoed and exported, all of which essentially create new patterns. They can be customized to suit one unique quilt project, or they can be created so they will be valuable in many future projects.

* [Draw Options](#)¹²⁴ allow patterns to be created from scratch or from other existing patterns, using the mouse. Start with a clean screen or start with an existing pattern, and modify it to suit the quilt. Draw capabilities include the ability to create boundaries, and measure them. Reverse the start and end points of patterns so they stitch backwards - which is great for using mirror images. Define your own geometric designs using arcs, curves and lines. You can draw them on the screen using a background grid for accuracy, and stitch them out. Even P2P patterns can be drawn on the screen, previewed to see if the results are appealing. Check your newly created patterns using F2-Virtual Stitchout, which identifies breaks in the stitching path that would result in jump stitches.

* [Record Options](#)¹⁴⁰ allow the quilter to create a pattern by recording the motions of the sewing head. Not only will it record free motion quilting, but it can be used to trace things - like designs in the fabrics used to make the quilt. Imagine being able to create a completely new quilting design that mimics the fabric design. Now, that is custom!

* [Text Options](#)¹¹⁹ allow standard Windows fonts to be used as templates for creating new patterns. Now it is possible to easily personalize a quilt with a monogram, a date, an occasion or a name. Each line of text is an individual pattern

instead of each letter, which makes quilting soooo much easier.

* [Add Text Fonts](#)²³² (described in Utility Functions) explains how to install new fonts. The internet has hundreds of free fonts, many of which have themes, decorations, designs, figures, etc. and although they won't all stitch out smoothly, it is worth a try! There seems to be no limit to the number of free fonts available on the internet, even the simple pictures included in the Wingdings font will work.

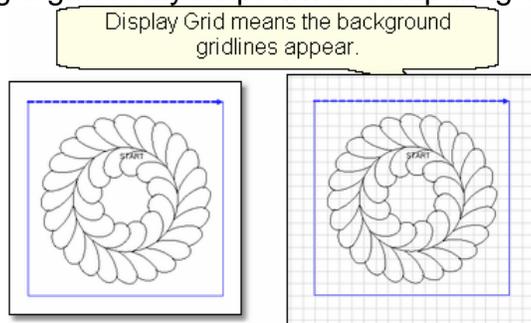
3.5.1 Preview Area Grid

The preview area is like a drawing pad, allowing the selection, positioning and resizing of patterns. Having a grid helps with the positioning of the quilting patterns. Having a crosshair to show where the sewing head is currently placed helps to synchronize the those images with the actual quilt.

3.5.1.1 View Grid

View Grid - Choosing to show a grid will change the look of the preview area. It will look like graph paper with very fine lines and it is helpful when planning pattern positioning. Some of the Draw features using [Gridpoint Snaps](#)¹²⁹ will automatically display the grid.

Having a grid really helps when comparing or aligning patterns.



- * Click View
- * Choose View Grid

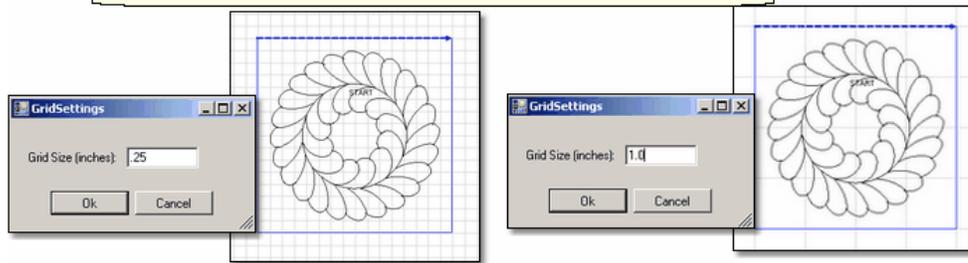
A background grid now appears. Once the 'View Grid' has been selected, it remains visible until it is deselected, even through shutting down and restarting CS.

3.5.1.2 Grid Size

Grid Size - Grid size is the distance between the grid lines. If precise pattern placement is important, the grid size might be set very small (quarter inch or less) but if the pattern is very large scale, the grid size might be better at one inch or more. Grid size can be changed anytime during the project.

Choose the distance between the grid lines that helps you plan the designs effectively.

Changing the Grid Size can make visual adjustments easier.



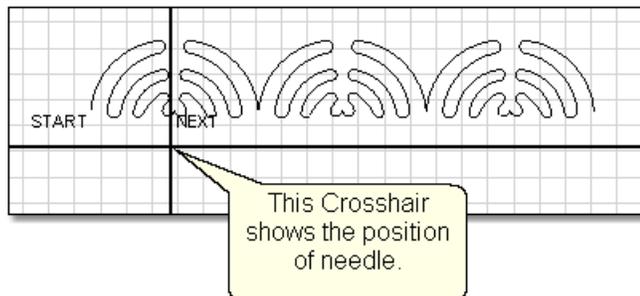
- * Click View
- * Choose Grid Size
- * Type in the size, in inches.

A background grid now changes size.

The grid is also used to align patterns when using other Draw features.

3.5.1.3 Crosshair

Crosshair refers to two lines that intersect and appear on the CAD preview area. The intersection of these lines indicates where the sewing head is currently positioned. Like on a graph, the needle position has X and Y co-ordinates. To make it easy to find this position on the screen these appear as horizontal (X) and vertical (Y) translucent blue lines. The intersection of the two lines is the 'crosshair' which is the needle position.



The crosshair is very useful, especially when checking the alignment of the patterns on the screen, with the patterns stitched on the quilt. It will be mentioned frequently. Once the 'Crosshair' has been selected, it remains visible until it is deselected, even through shutting down and restarting CS.

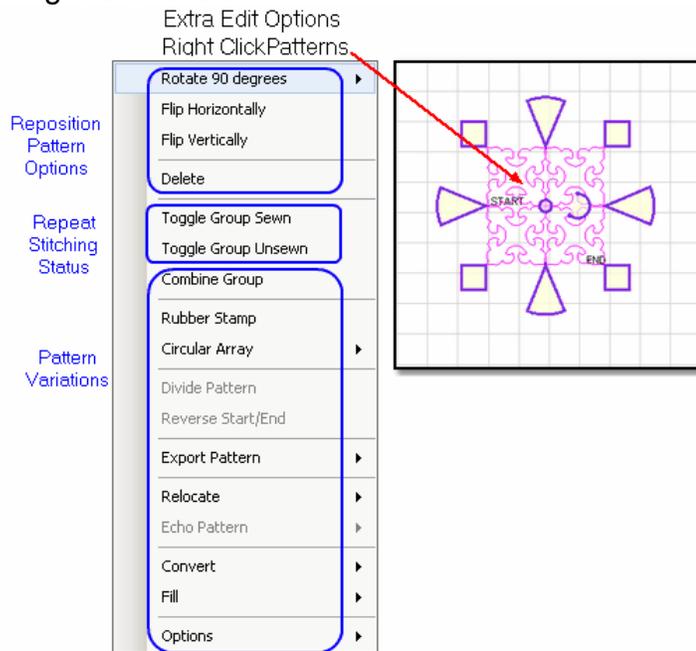
3.5.2 Extra Edit Options

Extra Edit Options can be found by Right-Clicking somewhere in the Preview Area. This could mean clicking on an individual pattern that has been moved to the Preview Area or a group of patterns. It could also apply to clicking on a boundary that has been defined, or an open area where nothing has been defined. Right clicking on any of these areas will display an Options Dialog box that lists the possible choices. The choices will vary, depending on what was selected. These Extra Edit Options are very important, and many work together, making the quilting process much easier and more accurate.

3.5.2.1 Right Click Patterns

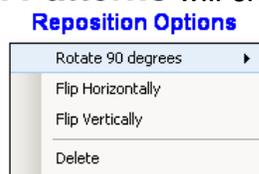
Right clicking a pattern or group of patterns displays a list of choices for changing the pattern(s). *Note: you can right click anywhere inside the resizing handles with the possible exception of the Echo option. When initiating an [Echo](#) of the inside of a pattern, the right click cursor position **MUST** be placed in the inside of the selected pattern..*

The Options Dialog box appears showing choices for repositioning patterns, repeat stitching status and creating new variations of the pattern. The choices in the dialog box will vary depending on the sewing status and/or number of patterns selected. If the right-click options don't appear as shown, left click the selected patterns first, then right click them.

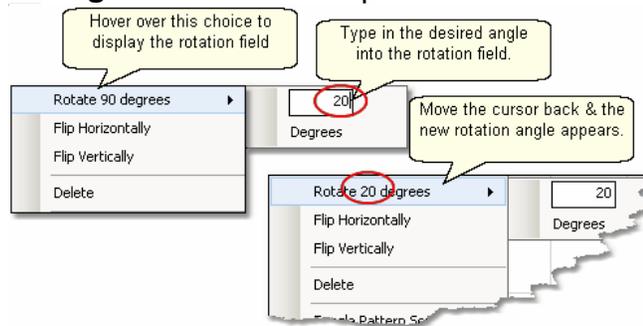


3.5.2.1.1 Reposition Patterns

Reposition Patterns will change the orientation in several ways.

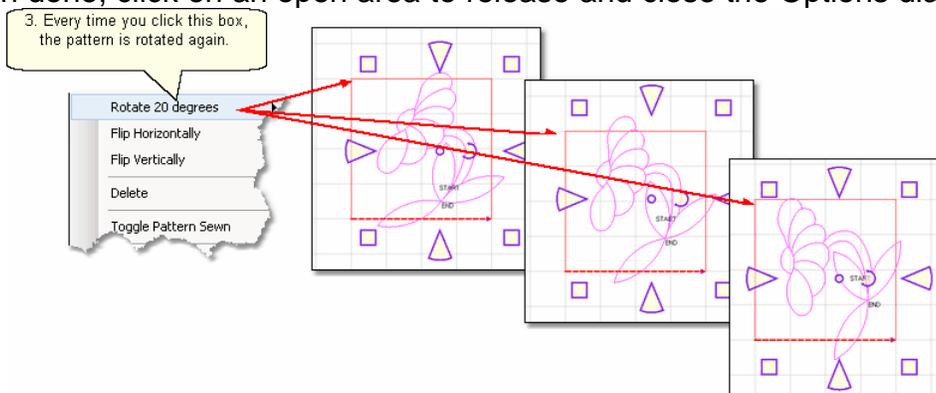


Rotate xx degrees - rotates the pattern counterclockwise.



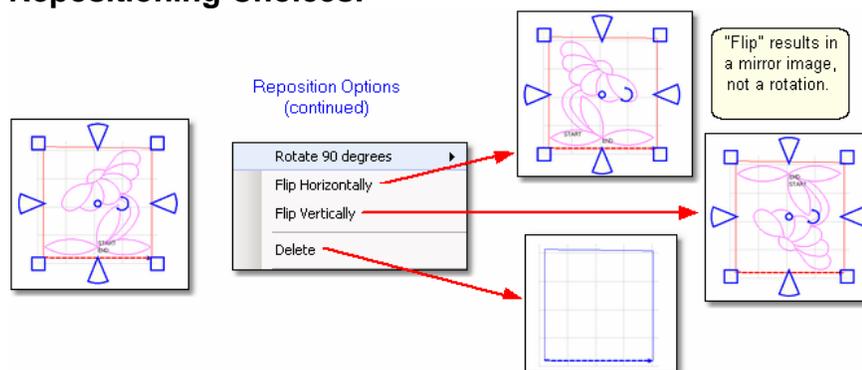
With the mouse pointer, hover over the 'Rotate xx degrees' choice in the Options dialog box and an additional pop-up box will appear.

- * Type in the degrees of rotation needed, but don't press 'enter' yet.
- * Move the cursor back to hover over the 'Rotate' choice and the new rotation number will appear.
- * Click the 'Rotate' choice and the pattern will be rotated. .
- * The Options dialog box remains active so click the 'Rotate' choice as many times as needed.
- * When done, click on an open area to release and close the Options dialog box.



TIP: To rotate the pattern clockwise, enter a negative rotation angle. To nudge the angle rotation just a bit, enter a tiny number, like +/- .05 and click Rotate.

Other Repositioning Choices:



Flip Horizontally - creates a mirror image, as if the mirror is held at the right or left side of the selected pattern(s).

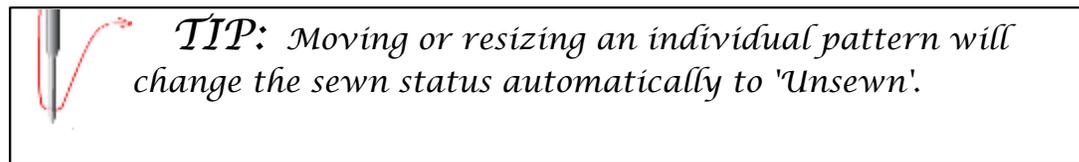
Flip Vertically - creates a mirror image, as if the mirror is held at the top or bottom of the selected pattern(s).

Delete removes that pattern from the preview area.

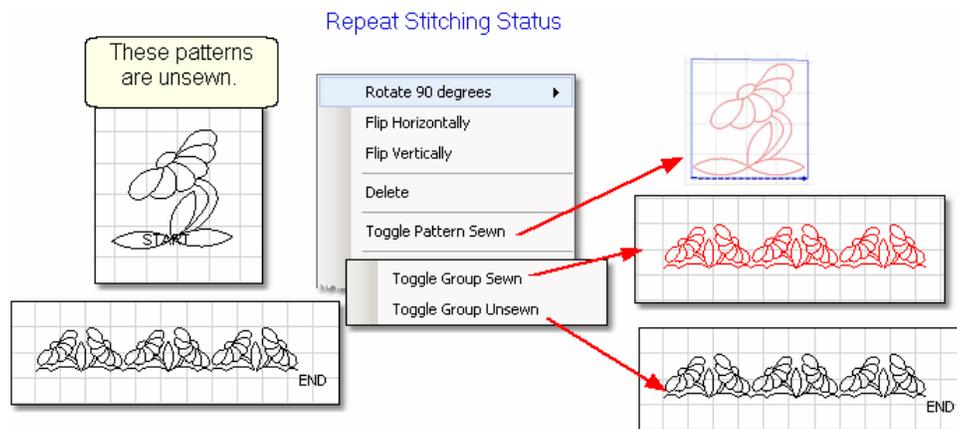
3.5.2.1.2 Sewn or Unsewn

Sewn or Unsewn - It is possible to re-cycle the patterns on the preview area.

When a pattern is moved into the preview area, CS tags it as being 'unsewn' and it is black. After it has been sewn, it is tagged as 'sewn', and it turns red. CS will re-stitch the pattern if the status is changed back to 'unsewn'. Moving or resizing an individual pattern will change the Sewn Status automatically to 'Unsewn'. This does not happen with groups of patterns however.

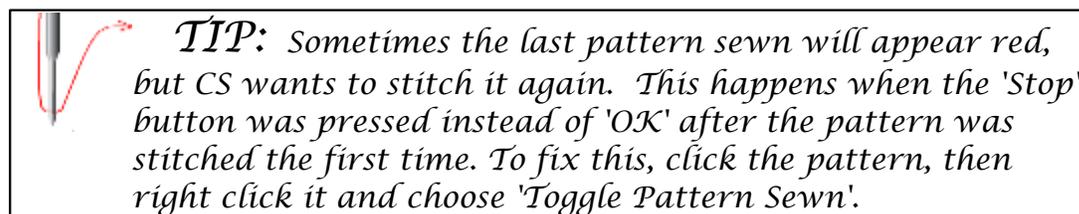


Toggle Pattern Sewn (or **Toggle Group Sewn**) means it won't stitch out again.



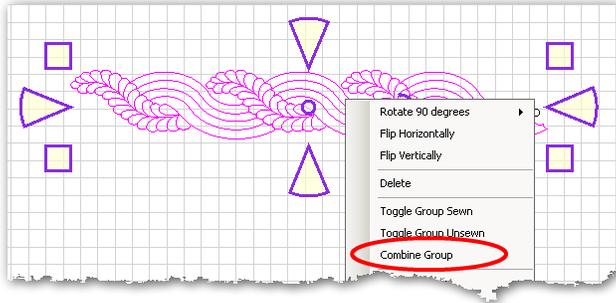
- * Select the pattern(s)
- * Right click them.
- * Choose 'Toggle Pattern Sewn (or Unsewn) for an individual pattern.
- * Choose 'Toggle Group Sewn (or Unsewn) to a group.

When a selected pattern is changed using "Toggle Pattern Sewn", it does not look like anything happened until you deselect the pattern by clicking anywhere else in the preview area. Then, the pattern color is red indicating it has been sewn (versus black which is unsewn).



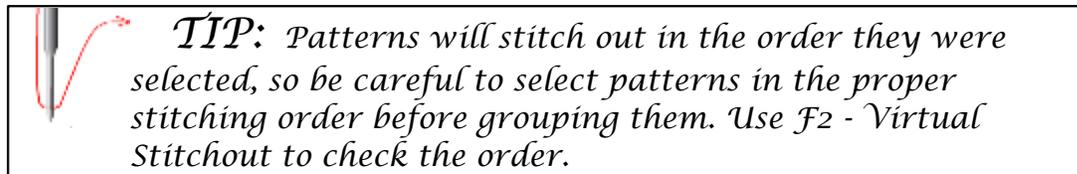
3.5.2.1.3 Combine Group

Combine Group - will group together all the selected patterns, so they can be used as a single pattern for the duration of the project. If the patterns are positioned to sew in one continuous line (like repeated patterns in a border) there will not be a 'jump stitch' between the selected patterns. This is very handy for sashings and border areas. If the patterns are not continuous, there will be tieoffs (or a prompt for the bobbin pull-up sequence) at each jump stitch.



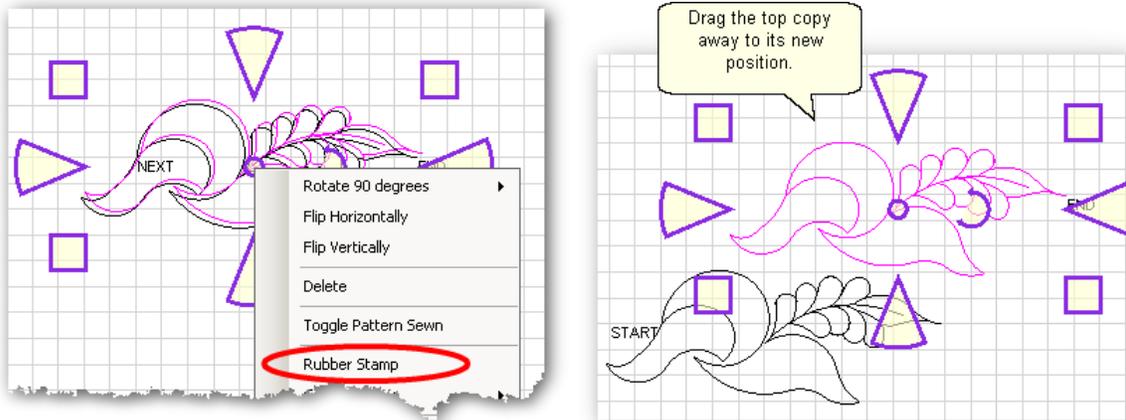
- * Select the patterns, in stitching sequence.
- * Right click the group.
- * Choose 'Combine Group'.

Caution: Once patterns are combined, they can not be 'uncombined' in a way that restores the individual patterns. They can be divided into pattern segments, but not back into the original patterns. The 'Undo' command (Ctrl Z) is the only way to 'uncombine'.



3.5.2.1.4 Rubber Stamp

Rubber Stamp - makes an exact copy of an existing pattern or group of patterns. If several patterns were selected, CS will treat the rubber stamped copies as [combined group patterns](#)⁹⁸. The selected patterns remain individual; only the copies are grouped.



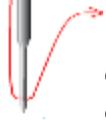
- * Select the pattern(s) in stitching sequence.
- * Right click the selected pattern(s).
- * Click on 'Rubber Stamp' as many times as needed.
- * Drag each copy off the top of the stack, to its new position.

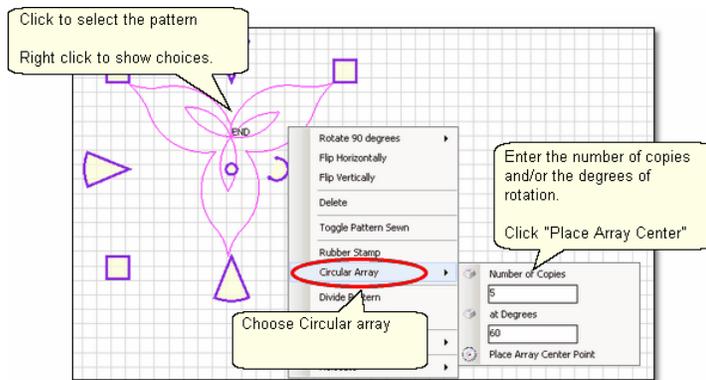
When you click on a stack of patterns, CS will only highlight the first or second patterns in the stack. To select one of the other patterns in that stack, click on the stack once, and then use the > (greater than) key to step through the stack, selecting the next pattern(s) in the stack. Use the < (less than) key to go backwards.

 **TIP:** Every Rubber stamped copy of a pattern is automatically tagged as being 'unsewn'.

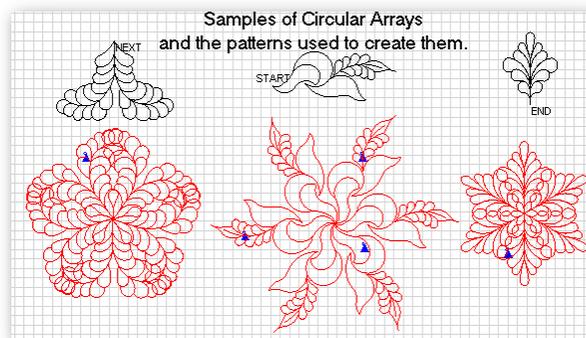
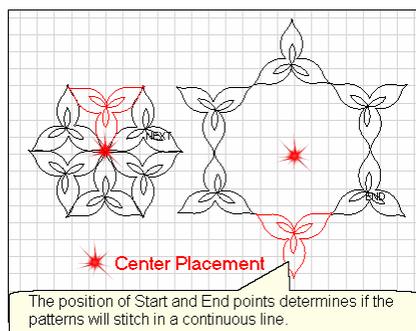
3.5.2.1.5 Circular Array

Circular Array uses one pattern to make a completely different pattern. It begins with a single pattern then repeats and rotates it for a completely different look. CS only needs to know which pattern to use, how many repeats are needed (or how many degrees between each repeat) and where the center should be placed. Begin with a single pattern image in the preview area.

 **TIP:** Choose a design that is simple and will fill a circular space evenly because dense quilting at the center can make the quilt pucker.



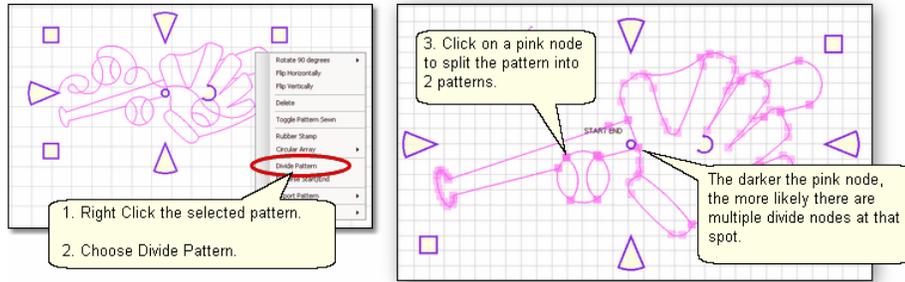
- * Click the pattern to select it.
- * Right click the selected pattern to see the Extra Edit options.
- * Choose Circular Array.
- * There are several ways to determine the number of copies and/or the number of degrees of rotation between them:
 - If you know both the number of **copies** and the degrees, just type in both of those numbers. CS will use your numbers, even if that means they don't add up to 360 degrees.
 - If you know the number of **total** patterns you want but not the degrees, just type in the **Total** Number, then click on the word 'Copies'. CS will subtract 1 from your total number, and use that for the number of **copies**. It will also calculate the number of degrees to use.
 - If you know the number of degrees between the patterns but not the number of copies, just type the number of degrees, then click on the word 'Degrees'. CS will automatically calculate the number of copies to use.
- * Click on the words "Place Array Center point" and the cursor changes to a small crosshair. In the preview area, click where you want the center of the circular array to be placed. The center point does not need to touch the original pattern - in fact, the results are remarkably different!



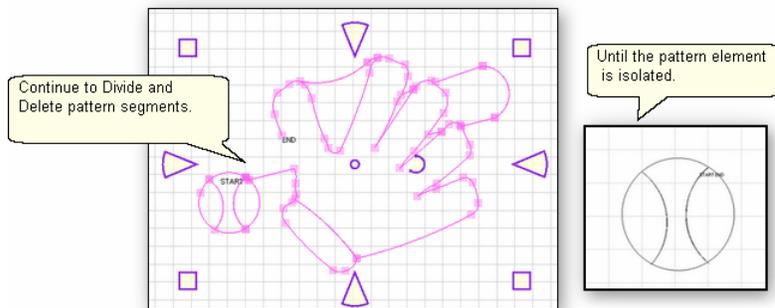
3.5.2.1.6 Divide Pattern

Divide Pattern - allows one pattern to be split into two patterns by clicking on a pattern node. Patterns are made up of segments which are straight lines or arcs (versus polylines). The place where two pattern segments connect is called a node, and is shown below as little pink boxes.

Complex patterns can be divided repetitively, creating individual motifs as shown:

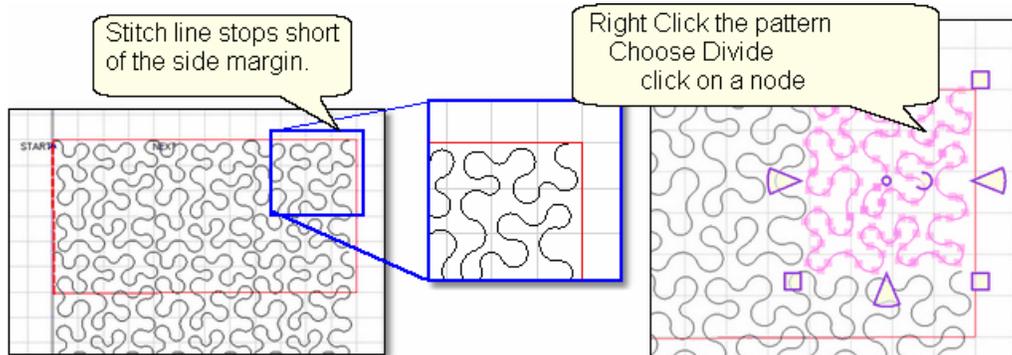


Step 1. Right click the selected pattern to see the Extra Edit options.
 Step 2. Choose Divide Pattern. This will display the nodes which are the points where pattern segments connect.
 Step 3. Click on a node and the pattern is divided into two separate patterns. Clear the screen if possible by clicking on the pattern parts that are not needed, and moving them off to the side, or press the delete key (Del) to remove them.
 Step 4. Click on the remaining pattern to select it.
 Repeat steps 1-4, deleting the extra segments until the pattern element is isolated.
 This pattern element is a derivative of the original pattern, but can be saved as a unique pattern.



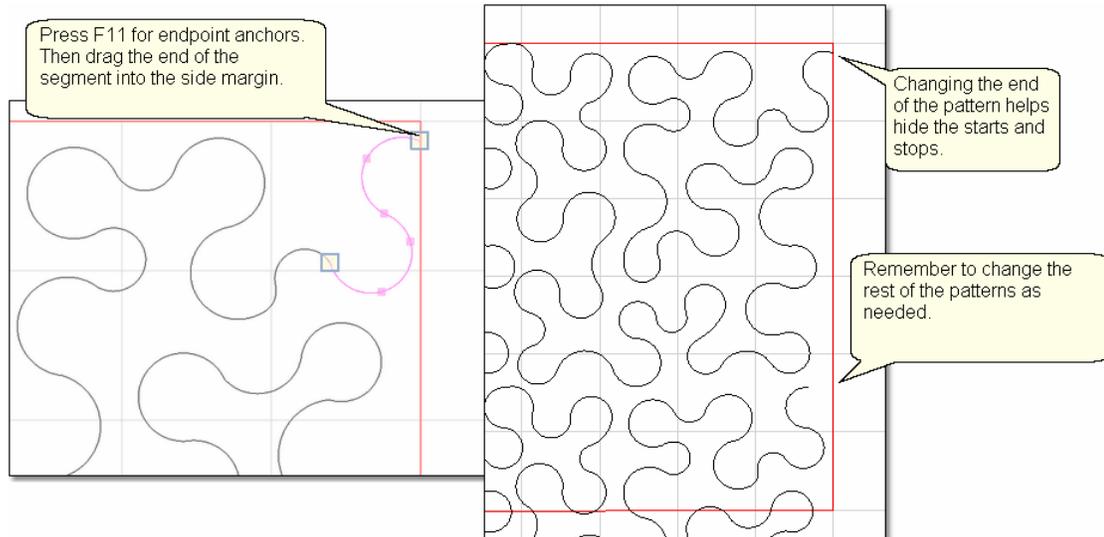
Check the stitching path of the newly created pattern derivative using the [Virtual Stitchout](#)¹⁰³. This feature will trace the pattern from start to end, checking for a continuous stitching path.

Divide Pattern can also be used to adjust the 'fit' of an E2E pattern. Consider the image below which shows the ending of the pattern is set in, so tieoff stitches will be noticeable. By dividing the pattern to isolate just the last segment(s) so they can be repositioned, the endpoint can be moved so it is hidden in a seam or in the binding area.



1. Right click the ending pattern and choose Divide, to show all the nodes.

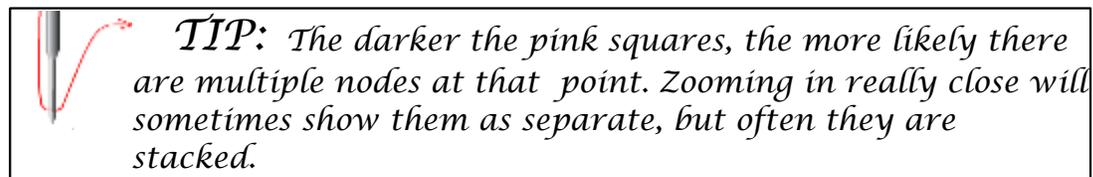
2. Click on one of the nodes to isolate the end of the pattern. In this case, more than just the last segment was selected, to prevent an obvious change in the pattern curvature.



3. Press F11 - Endpoint Anchors, and the resizing handles become blue boxes.

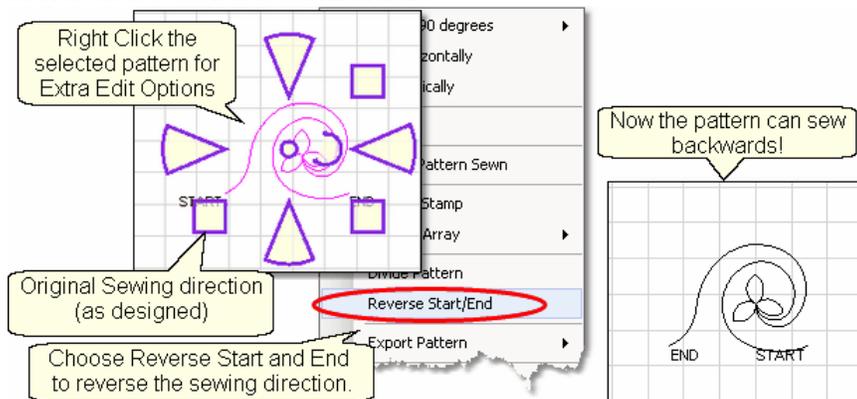
4. Drag the blue box at the end of the segment over to the side margin. Remember to change the ending pattern for the rest of the quilt if desired.

To exit from Divide mode, Press the Esc (escape) key or double click on an open spot on the Preview area. To save the newly created pattern variation, [export the pattern](#)¹⁰³.



3.5.2.1.7 Reverse StartEnd

Reverse Start/End - will reverse the start and end points, essentially allowing patterns to be sewn backwards!



- * Right click the selected pattern to see the Extra Edit options.
- * Choose Reverse Start / End.

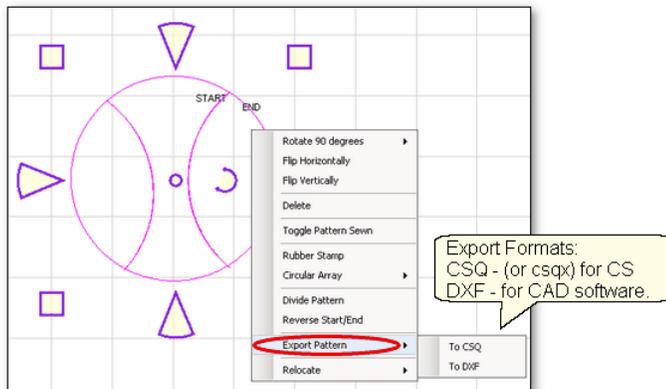
When patterns are rearranged to make interesting combinations, they sometimes don't stitch out in one continuous line design. By checking the [Set Sew Order](#)¹²⁵ (part of the [Draw Command](#)¹²⁴ options), it is possible to also see the sewing direction, and change it if needed.

 *Design It Yourself: Use keyboard function keys to check patterns.*
F2 - Virtual Stitchout will check the stitching path.
F8 - Set Sew Order will change the stitching direction and sequence.

3.5.2.1.8 Export Pattern

Export Pattern - allows a newly created pattern to be exported as a special CS file type that can be used by other CS projects (within the copyright laws of course!). Sometimes the new patterns are so customized that they would probably only work on the current project. Other times the new pattern could be used in many quilt projects. When an encrypted pattern is used in a project, all exported patterns will also be encrypted. CS will automatically substitute the .csq file type with .csqx.

Selecting multiple patterns and then exporting them will result in one exported pattern, not multiples. (This does not combine the original patterns, just the exported one). It is always a good idea to check the sewing path before exporting to make sure the new pattern will stitch out in one continuous line design. [F2 - Virtual Stitchout](#)¹²² will check the pattern.



Step 1 - Select the pattern(s).

Step 2 - Right click on the selection to show options.

Step 3 - Click on Export Pattern

Step 4 - Choose a file type:

To CSQ - is a file format only CS can use.

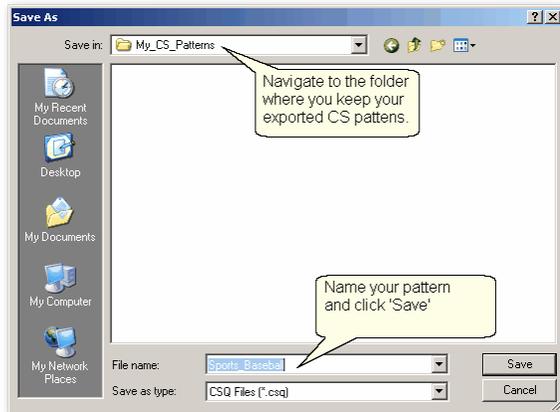
.csq is the actual file type used for non encrypted patterns.

.csqx is the substituted file type used for encrypted patterns.

To DXF - is a file format that some drawing programs can use but only works for non-encrypted patterns.

Tip: Use the .csq or .csqx format whenever possible (instead of .dxf) because the .csq format is more efficient and the stitched designs have smoother curves.

When exporting patterns, it is helpful to give the pattern a descriptive name and to save it if it may be useful in the future. Derivative patterns should be named & saved in the same folders as the originals, so they are easy to find.



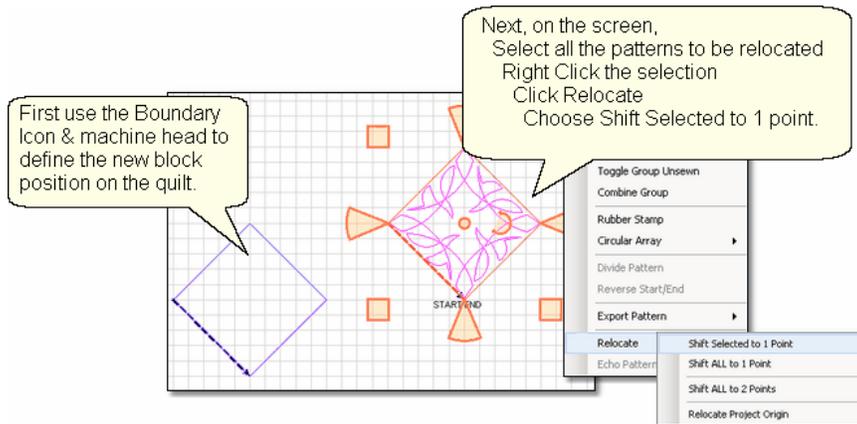
3.5.2.1.9 Relocate Patterns

Relocate - means correcting the alignment between pattern(s) shown on the screen preview area and where it will be stitched on the quilt. Sometimes it is necessary to realign patterns, especially when recovering from a problem. There are four ways to relocate a pattern and all of them use 1 or 2 Known Points. These are points that can be precisely identified on the screen (using the mouse) and on the quilt (using the machine head).

Relocate has no impact on any of the sewing functions except on Edge-to-Edge (using the E2E icon) which needs to control all the patterns and the positioning. If the Relocate feature is chosen for an Edge-to-Edge (using the E2E icon), a dialog box appears with a warning explaining that the process will be converted from E2E icon to Edge to Edge Repeat Patterns.

When using any of the Relocate options, it is always a good idea to use the crosshair or the boundary tool to confirm that the patterns moved as expected. If they did not, you can use the relocate tool again.

Shift Selected to 1 point - will relocate the selected pattern(s) only. It uses one point called the Known Point. In our example, the block on the right shows the original placement of the pattern. The block on the left shows the new placement. Here are the steps to realign a pattern to the new block placement.



Step 1 - Mark the boundary of the new block location.

Step 2 - Select the patterns to be relocated.

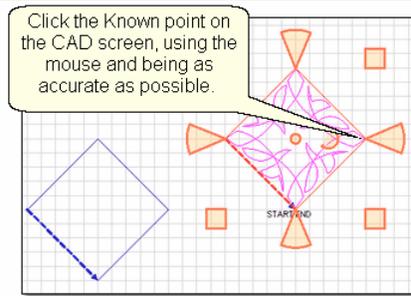
Step 3 - Right click to see [Extra Edit Options](#) 95.

Step 4 - Click on 'Relocate'

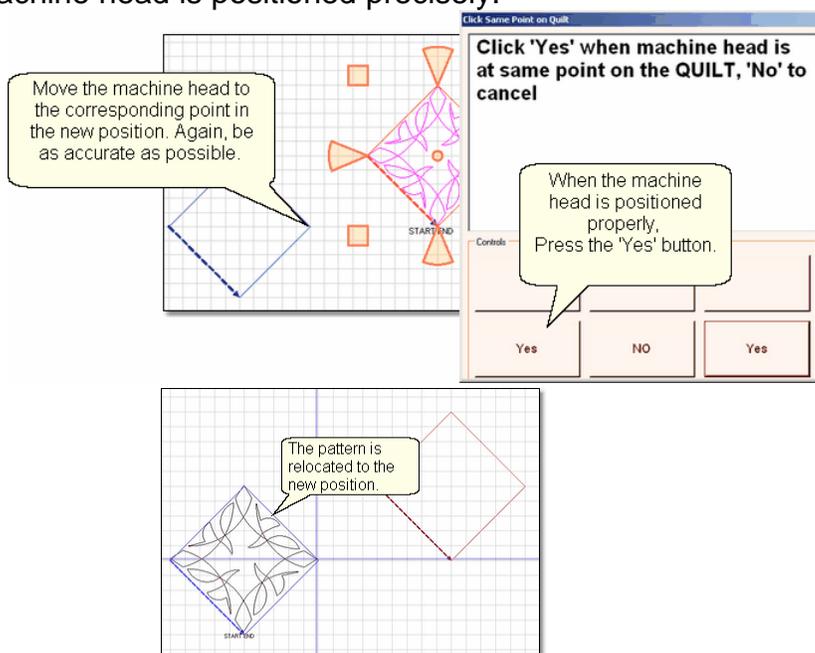
Step 5 - Choose 'Shift Selected to 1 Point'.

CS will prompt for the "Known point on CAD" screen, using the mouse. Zoom in if needed so the point is as accurate as possible.

Click Known point on CAD



CS will now ask you to move the machine head to the new 'Known' point on the quilt. Again, be as accurate as possible. Press the 'Yes' button on the keypad when the machine head is positioned precisely.



It is always a good idea to verify the accuracy of new alignment. This can be done easily by turning on the crosshairs (View Command) and moving the machine head to various points, checking the pattern alignment. Remember, 'Shift Selected' only realigns the selected patterns.

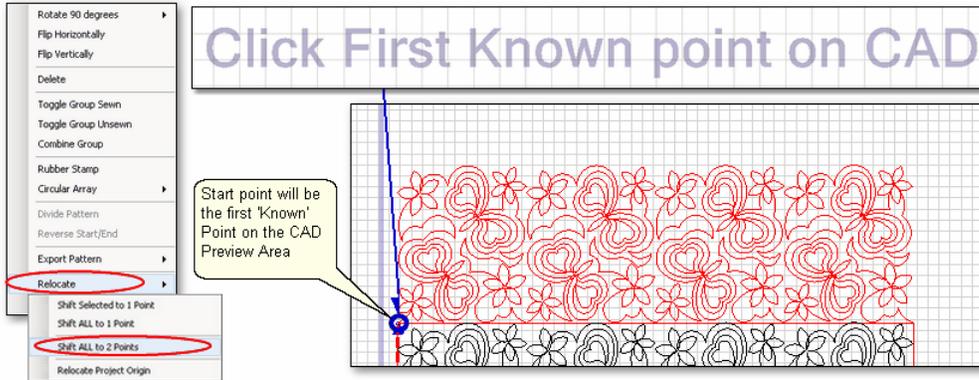
Shift All to 1 point - will relocate all of the patterns in the quilt group using one Known point. It is virtually identical to the process used above, except it impacts more than the selected patterns. When you choose to Shift All to 1 Point, all the patterns in the current quilt group will be realigned. Only the current quilt group is changed - other quilt groups are excluded from the realignment.

Shift All to 2 points - will relocate all of the patterns in the quilt group using two Control Points. This will affect the location and squaring of the quilt, but not the size of the patterns. This is a great method for restarting a Repeat Pattern Pantograph project that was interrupted for some reason. Repeat Pattern Pantograph projects depend on the Square Up Angle, and this method of relocating patterns will measure and adjust for that angle. Because of this, it is a good idea to choose two points that

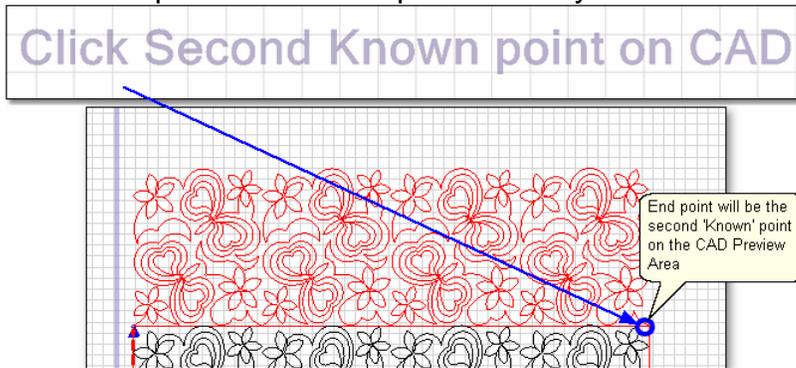
are on opposite sides of the quilt. This gives the best chance of getting the Square Up angle accurate.

In the following example, the first row of the quilt has been quilted already. It is a good idea to choose known (control) points from the last row completed. In this example, the two known points will be the start and end of the last row completed because they are accessible and identifiable on both the screen and the quilt top.

- Right click on any pattern(s) to select them. The patterns selected do not need to be the same ones that contain the First or Second Known Points.

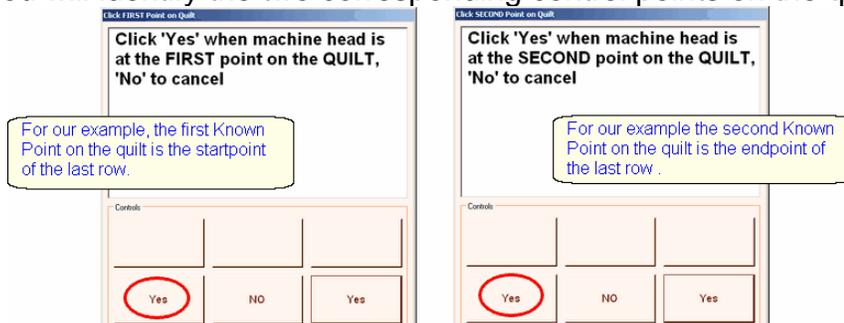


- Click on "Relocate" and Choose "Shift All to 2 Points".
- A dialog box appears, giving instructions.
 - Use the mouse to click the first Known point on the CAD screen. Because our example is using the start and end points of the pattern, [Endpoint snaps](#)¹³⁰ can help to select these points exactly.



- Use the mouse to click the second Known point on the CAD screen.

Now you will identify the two corresponding control points on the quilt.



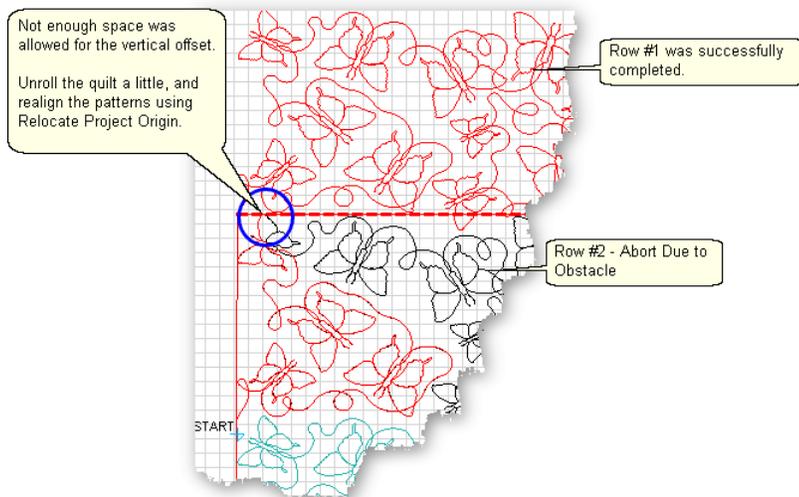
- Follow the instructions in the dialog box:

- Move the machine head to the first Known point and press 'Yes'.
(in our example this is the start of the last row quilted).
- Follow the instructions in the next dialog box:
 - Move the machine head to the second Known point and press 'Yes'.
(in our example this is the end of the last row quilted)

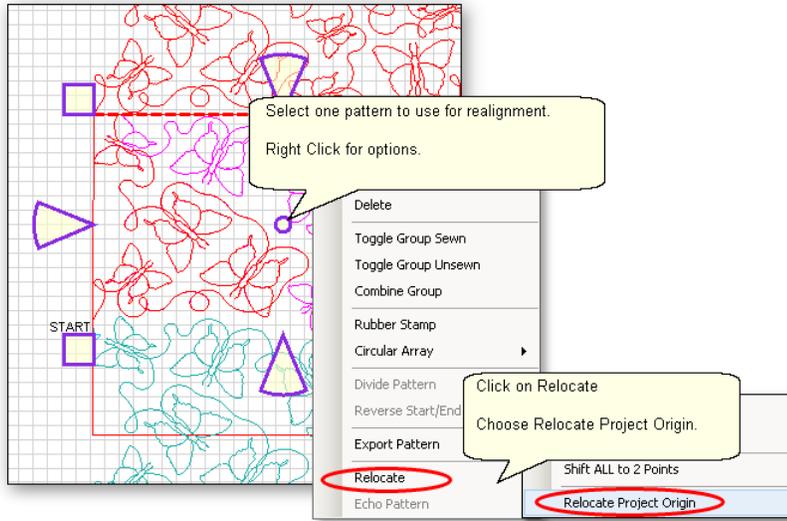
It is always a good idea to check the positioning by using the machine crosshairs. This can be done easily by turning on the crosshairs (View Command) and moving the machine head to various points on the quilt top, checking the pattern alignment on the screen. If the 2 Known Points are not perfectly horizontal, the angle of rotation between the two points is calculated automatically. This is good for E2E quilts that aren't straight, but it means clicking accuracy is critical!

Relocate Project Origin - is similar to shifting pattern(s) but it shifts the [Point Of Origin](#)⁶³ to realign the entire project. This affects all patterns on all quilt groups for the entire project. It uses the starting stitch of one pattern and all the other patterns and quilt groups are realigned automatically.

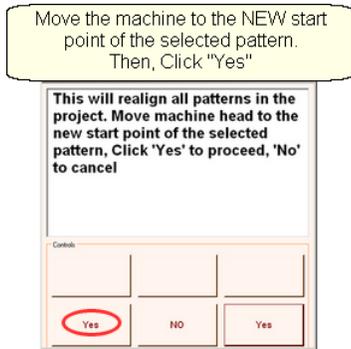
In the following [Edge-to-Edge](#)²⁰⁰ quilting example, the machine ran into the takeup roller and stopped with "Abort due to Obstacle" error message. The quilt was unrolled a few inches so the alignment needs to be corrected.



Step 1 - Unroll the quilt enough to prevent the problem from re-occurring.

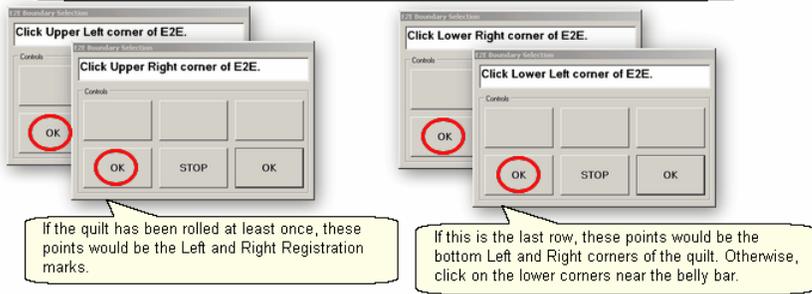


- Step 2 - Click on the pattern to be used as the 'new' position.
- Step 3 - Right click to see the options.
- Step 4 - Click on Relocate.
- Step 5 - Click on Relocate Project Origin.

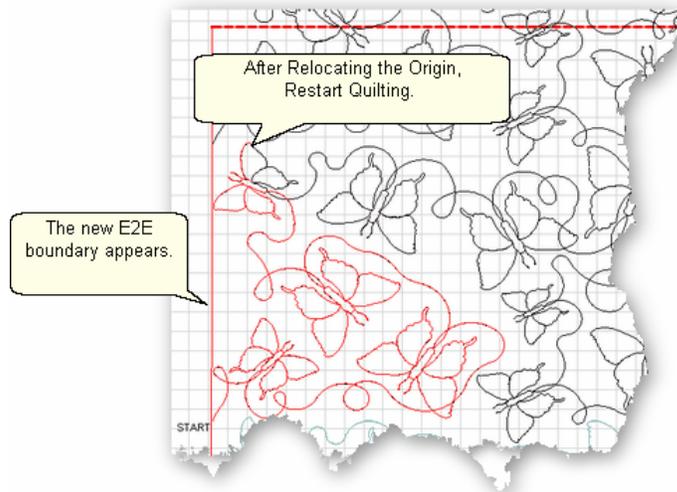


Step 6 - CS will explain what is going to happen. Move the machine head to the start of the selected pattern. Click 'Yes' to proceed.

Next, follow the prompts to re-define the boundary for the E2E quilting.



Step 7 - CS will prompt for the four corners of the E2E²⁰⁰ boundary. After the boundary is defined, CS will show the new boundary and the new position of all the patterns.



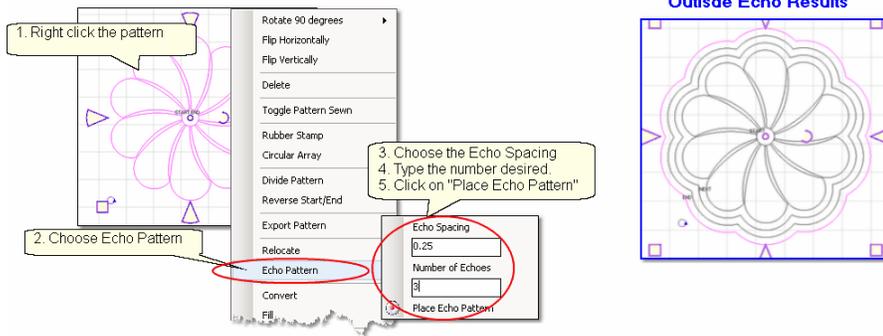
Optional Step - Go through the [restart](#)^[221] procedure to find the correct spot to begin quilting.

Final Step - Quilt!

3.5.2.1.10 Echo Patterns

Echo Pattern - means to quilt an outline of a pattern, keeping a consistent spacing between the pattern and the echo copy. CS allows us to determine how much space between the pattern and the copy(s) and it lets us choose how many echo outlines we would like. Best of all, we can echo the inside of a pattern too.

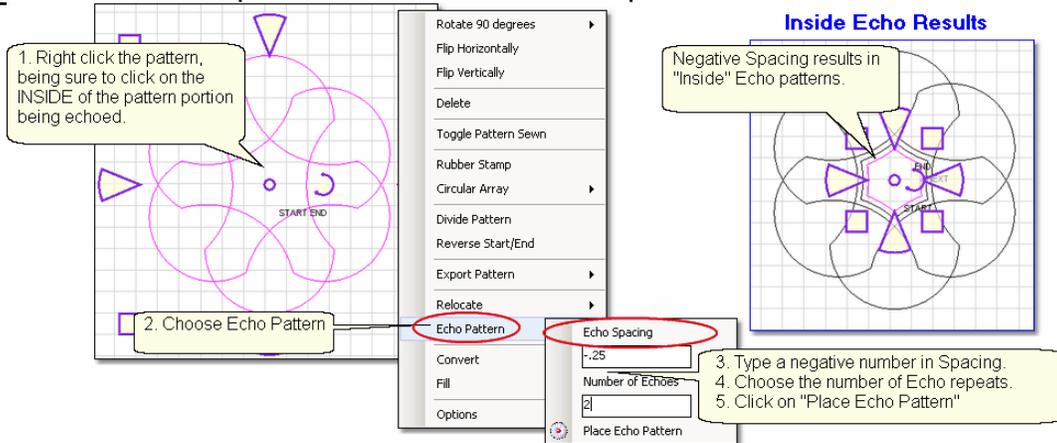
To Create an Echo pattern on the Outside of the pattern:



1. Right Click the pattern in the Preview Area to select it. Only one pattern can be used at a time for the Echo command. If multiple patterns are required, they must be connected, and must be combined as a group first.
2. Click on 'Echo Pattern' from the Options.
3. Type in the 'Echo Spacing'. This is the distance between the pattern and echo.
4. Type in the number of copies.
5. Click on the flower icon or the words 'Place Echo Pattern'.

An hourglass will appear while CS creates the echo pattern. Be Patient because it might take time. The larger the Echo pattern, the longer the process takes.

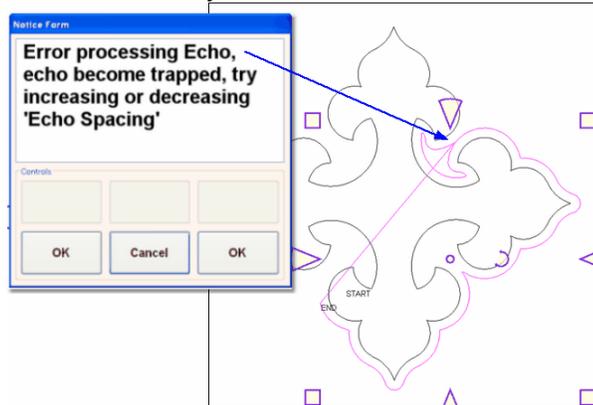
To Create an Echo pattern on the Inside of the pattern:



1. Move a pattern into the Preview Area, and Right Click the pattern.
Remember - if you want to echo the inside of a pattern, you must Right Click the Inside of the pattern area you wish to echo -and- the Echo Spacing must be negative.
2. Click on 'Echo Pattern' from the Options.
3. Type in the 'Echo Spacing' as a negative number.
4. Type in the number of copies.
5. Click on the flower icon or the words 'Place Echo Pattern'.

An hourglass will appear while CS creates the echo pattern. Be Patient because sometimes it takes longer to do an inside Echo.

Echo needs enough extra space so it won't cross over itself, creating an enclosed area. Here is an example of an outside Echo getting trapped. If this happens, just try different spacing or a simpler pattern. This warning does not appear for inside echoes, because they are intended to be enclosed,

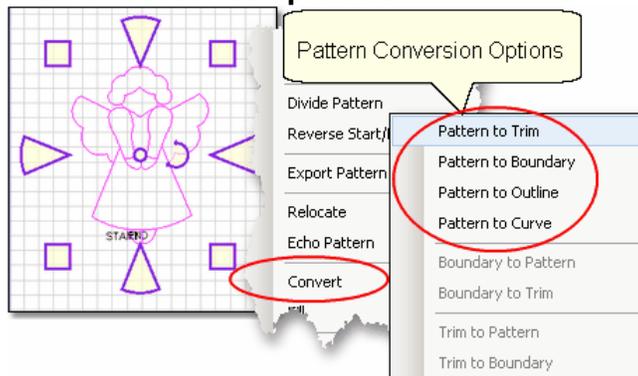


Echo only works on one pattern at a time, so if you need to echo a border area, group the border patterns together first. Echo copies can be divided, so if the border area needs to be done in 2 or more sections, the overlapping parts can be separated and deleted.

3.5.2.1.11 Convert

Convert will change the characteristics of patterns, boundaries and trims. This saves time by eliminating the need to define boundaries multiple times.

Pattern Conversion Options:

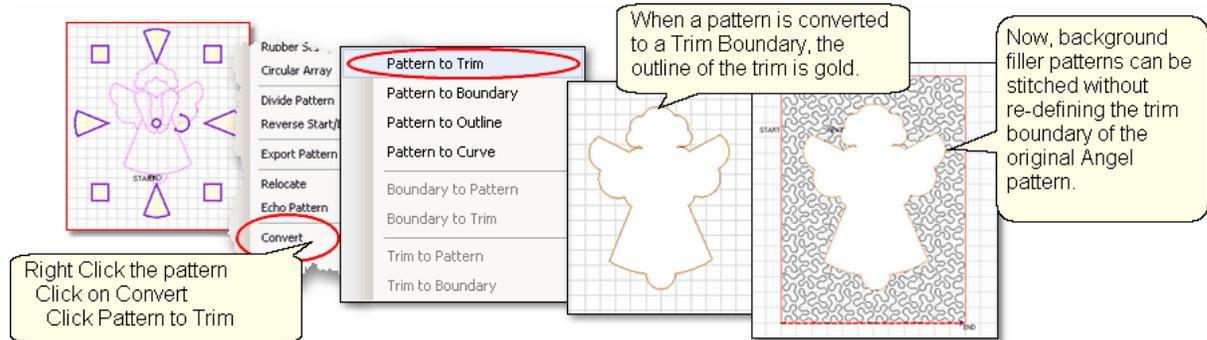


Right click any pattern in the Preview Area. Choose 'Convert' from the dialog box. The choices are displayed in the next dialog box. Notice that some choices are grayed out. This means that the choice is not available for the item selected.

Pattern to Trim - This choice is useful when a pattern has been chosen and stitched, and there is another pattern to stitch in the background behind the original pattern. The background pattern will be trimmed to fit around the Angel. The trim boundary is just a bit larger than the original pattern - it is 1/32" taller and 1/32" wider.

Note: The starts/stops may or may not include tieoff stitches. People who do competitive quilting often use this method so they can use the Competitive Tieoff stitches, which are virtually invisible. People

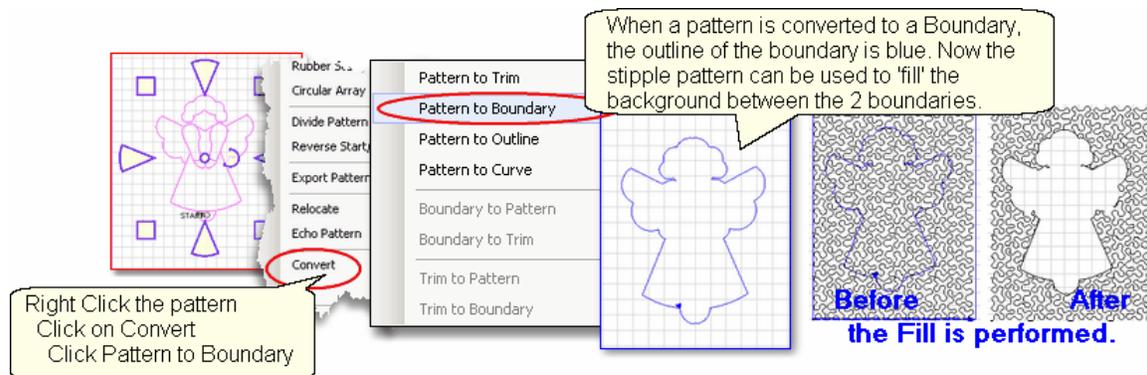
who prefer to hand-tie their threads and bury them with a needle also prefer this method because it allows them to pause at each start and stop to pull up the bobbin thread and prepare to bury the threads. To avoid tie-offs completely, use the ['Fill Patterns'](#) ¹¹⁶ option, described in the next section



In this example, the Angel pattern will be stitched in the block, and a background filler pattern will be stitched behind it, without stitching over the angel.

1. Draw a boundary around the perimeter of the quilt block.
2. Place the angel pattern in the boundary, resize if needed and stitch.
3. Select the angel pattern, right click it, Click Convert, Choose Pattern to Trim.
4. Place the background filler pattern(s) in the block boundary. Notice how the area inside the angel does not show as part of the stitching. CS will stitch up to, but not over, the Angel. When the stitchline reaches the trim boundary, it stops, (tieoff stitches are taken if desired), and moves to the next part of the stitchable pattern (called a jump stitch) to resume stitching the background.

Pattern to Boundary - This choice is useful when a background fill pattern is preferred (because there are no tieoff stitches). The 'Fill patterns' feature use two boundaries, so converting the pattern to a boundary provides one of them. This boundary is also just a bit larger than the original pattern - it is 1/32" taller and 1/32" wider.

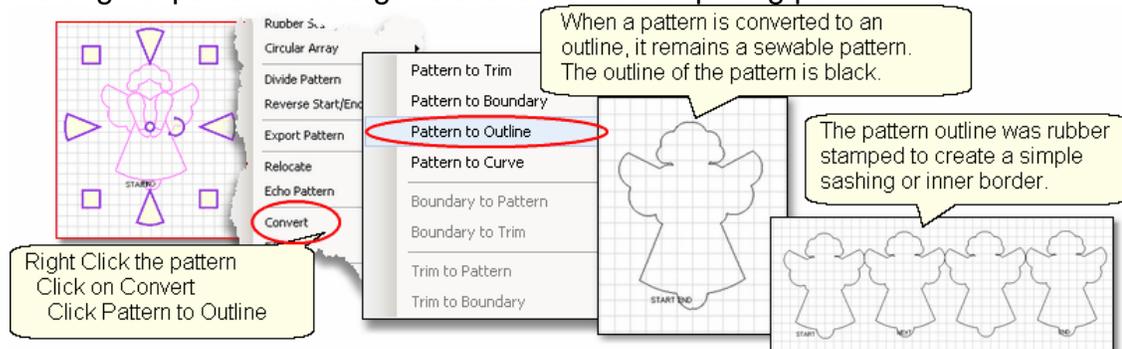


In this example, the Angel pattern will be stitched in the block, then converted so the Fill Feature can stitch another pattern in the background without stitching over the angel and without tieoff stitches.

1. Draw a boundary around the perimeter of the quilt block.
 2. Place the angel pattern in the boundary, resize if needed and stitch.
 3. Select the angel pattern, right click it, Click Convert, Choose Pattern to Boundary.
 4. Place the background filler pattern(s) in the block boundary.
- Now use the Fill Feature to add the background. By placing 1 or more background patterns in the block boundary, these patterns can be selected together and

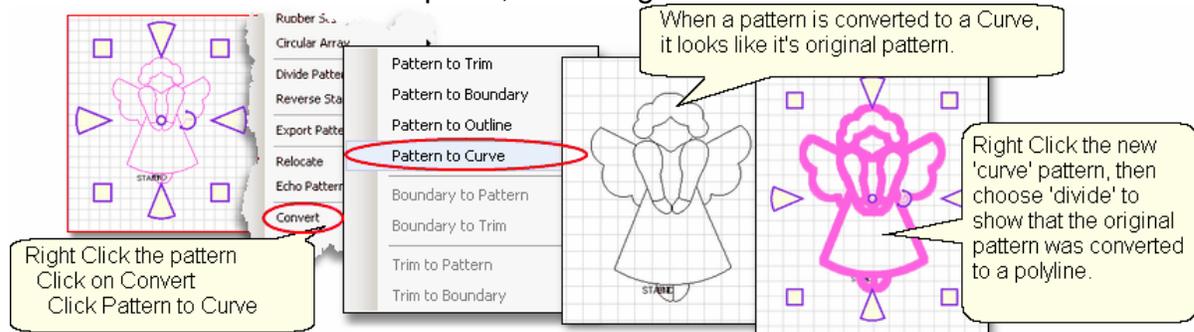
converted to a new pattern that 'fills' the space and does not start or stop during stitching, so there are no tieoff stitches. This method is described in detail in a later section.

Pattern to Outline - This choice is useful when creating quilting designs that silhouette a previously stitched design. This is a great option when multiple repeats of the original pattern would generate too dense a quilting pattern.



1. Move the Angel pattern to the Preview Area (any method).
 2. Right click the pattern, Click Convert, and choose Pattern to Outline.
- An outline is a stitchable pattern that is derived from the original pattern. In this example, it was duplicated (using Rubber Stamp feature) and aligned to make a simple sashing or inner border.

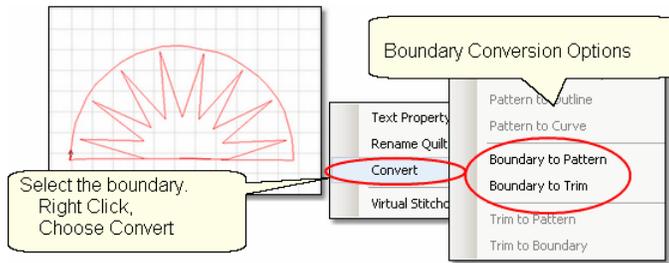
Pattern to Curve - This choice is useful when using one pattern to create a derivative pattern. The original Angel is made of arcs and lines, which can only be divided at the nodes that join the arcs and/or lines. So, if the original pattern needs to be divided at a non-standard place, this is a good method.



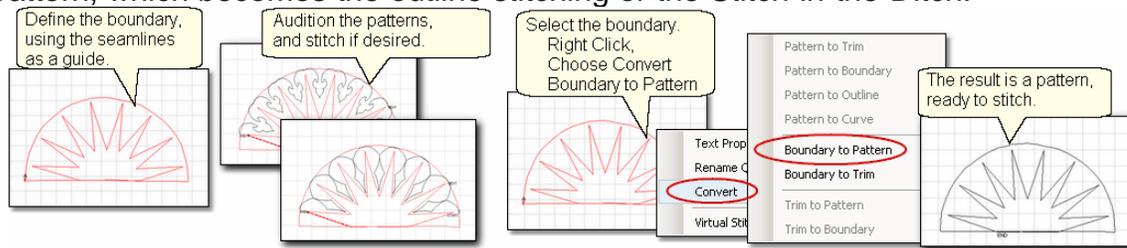
1. Move the Angel pattern to the Preview Area (any method).
2. Right click the pattern, Click Convert, and choose Pattern to Curve.

The resulting image looks just like the original image, but the structure has changed completely. To see this, right click the converted 'curve' pattern, and choose 'Divide'. Note how the nodes are very close together, making it possible to divide the pattern into two or more pieces, at practically any spot.

Boundary Conversion Options:



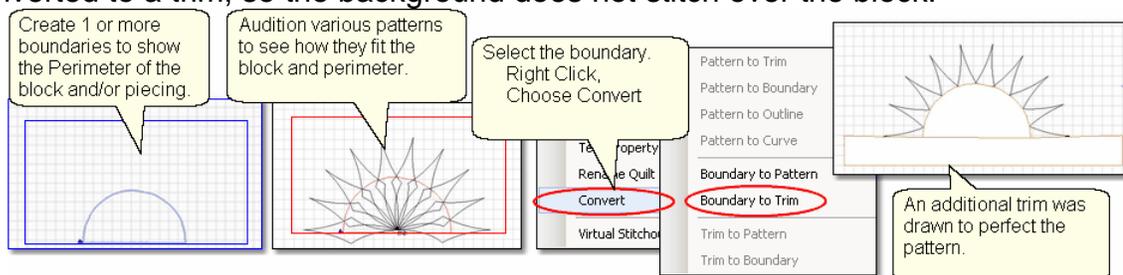
Boundary to Pattern - This choice is great when the seams in a block need to be considered when choosing quilting designs. Later the boundary can be converted to a pattern, which becomes the outline stitching or the Stitch-in-the-Ditch.



A New York Beauty block was used in this example since seams are seldom perfect.

1. Draw (1 or more) boundaries around the seamlines of the block.
2. Audition different designs with the boundaries. Because this is a boundary, it is easy to add and remove different quilting patterns from the preview area without changing the shape of the block boundary. (The selected quilting designs can be stitched now or later, as desired.)
3. When done, right click the boundary, click Convert, Choose Boundary to Pattern.
4. Before stitching this new outline pattern, it is a good idea to reduce the stitching speed.

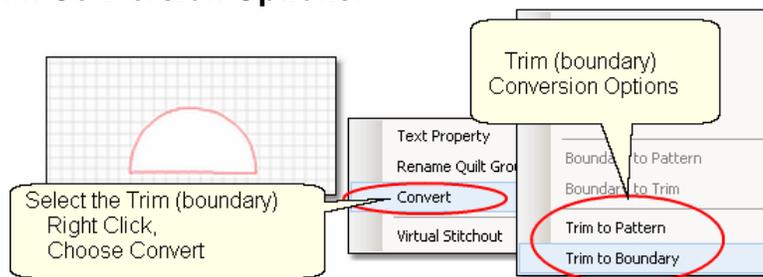
Boundary to Trim - This choice works well when the seams of the block need to be considered when choosing background designs. Later the boundary can be converted to a trim, so the background does not stitch over the block.



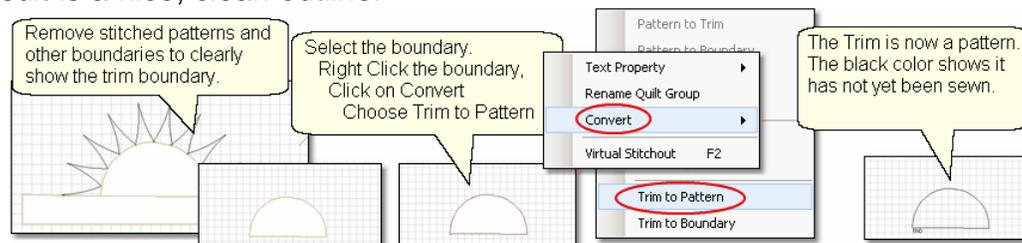
1. Define a boundary around the seams of the piecing.
2. Audition how different designs align with the boundary. Because this is a boundary, it is easy to add and remove different quilting patterns from the preview area without changing the shape of the block boundary.
3. When ready, right click the boundary, choose Convert and Boundary to Trim.
4. Stitch. The pattern chosen will stitch up to the trim boundary. It will do tieoffs if that setting has been chosen.

Note: After stitching the pattern, the trim boundary can be converted to a pattern, creating a stitchable outline pattern - see below, Trim to Pattern.

Trim Conversion Options:



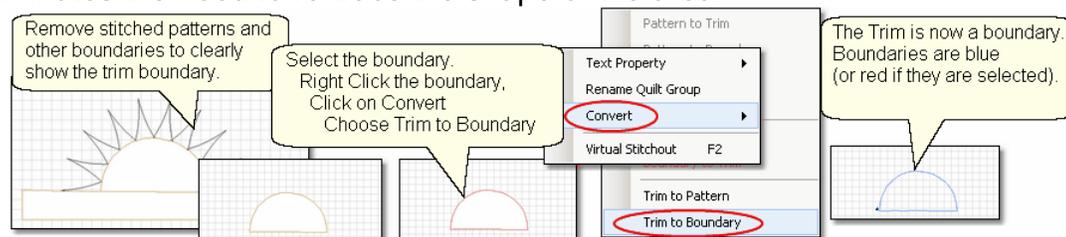
Trim to Pattern - This choice was designed for people who choose to trim away some part of a pattern, and then go back and outline stitch the trimmed boundary. This hides the tie-off stitches that are sometime visible to the discerning eye. The result is a nice, clean outline.



This is a continuation of the example above : Convert Boundary to Trim. After the designs have been stitched, there can be tieoff knots along the trim boundary. One easy way to hide them is to do an outline stitch along the trim boundary.

1. Remove other patterns and boundaries if needed.
2. Select the Trim boundary.
3. Right click the trim, click Convert and choose Trim to Pattern.
4. Stitch. The new pattern will stitch along the trim boundary.

Trim to Boundary - This choice was designed for allowing a Fill design to be used inside the trim. Fill requires boundaries, so the ability to convert a trim to a boundary eliminates the need to re-trace the shape of the area.



1. Remove other patterns and boundaries if needed.
 2. Select the Trim boundary.
 3. Right click the trim, click Convert and choose Trim to Boundary.
- Now, the boundary is ready to be filled with a background pattern if needed.

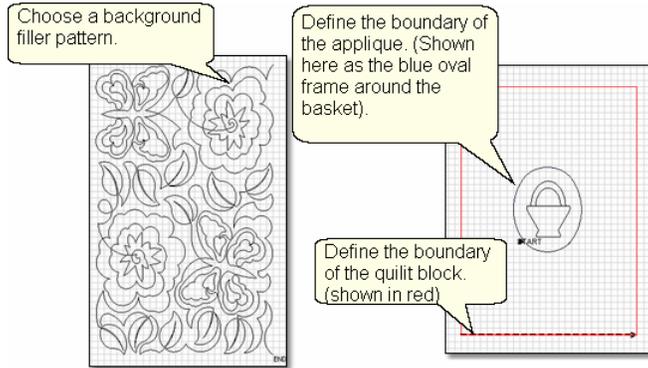
3.5.2.1.12 Fill Patterns

Fill - is a special feature that uses 1 or more repeats of a pattern and 1 or more boundaries to create a new pattern that stitches a background filler. It will stitch the background patterns without stitching beyond the defined boundaries.

Consider stitching inside a block but around an applique. There is one boundary

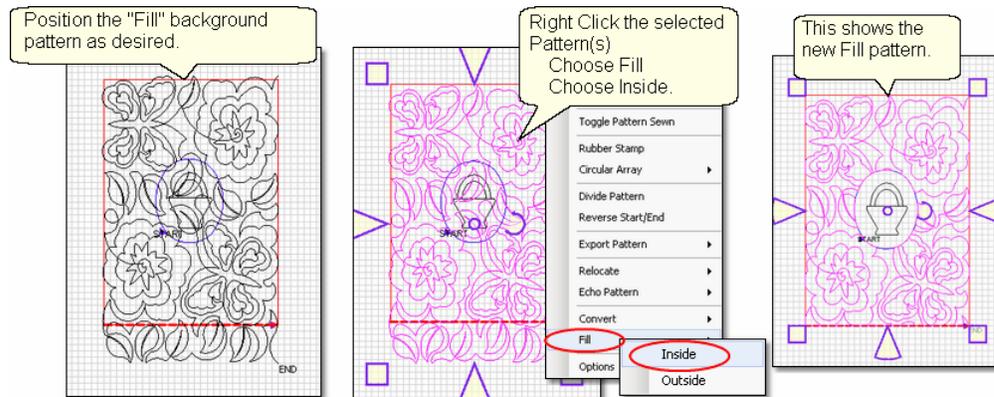
along the block perimeter, and one boundary around the applique. The background pattern can have 1 or more repeats as needed to fill the block.

The patterns are selected and modified to provide a customized fit for that block and applique, without any jump stitches and/or tie-off stitches. Instead, the pattern follows the boundaries, stitching along that path until it reaches the next sequential piece of the background pattern.

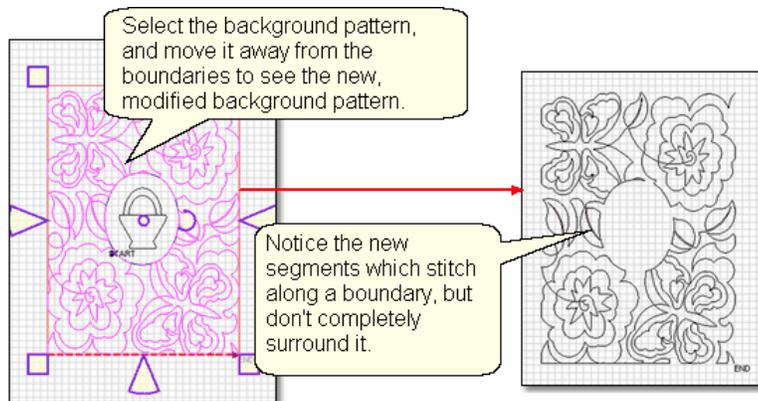


To begin,

1. Choose a background pattern and resize it to fit.
2. Define a boundary around the applique (the frame around the basket as shown here)
3. Define a boundary around the quilt block.



4. Move the background pattern over the block boundaries.
5. Select the background patterns.
6. Right click the selection; Click on Fill, and Choose Inside and Be Patient ! CS is creating a new pattern that stays within the boundaries defined.



To demonstrate the new pattern, you can move it away from the boundaries as shown above. Notice that the excess pattern (outside the block boundary) is gone. Similarly, the pattern that would have stitched over the oval framing our applique is gone. The remaining pattern segments are connected with new segments that follow the boundaries, and connect the segments in the same order they would have been stitched.

It is important to note that this method does not stitch along the entire perimeter of either boundary. Plus, in some cases, there will be multiple lines of stitching on a boundary due to the path of the background filler.

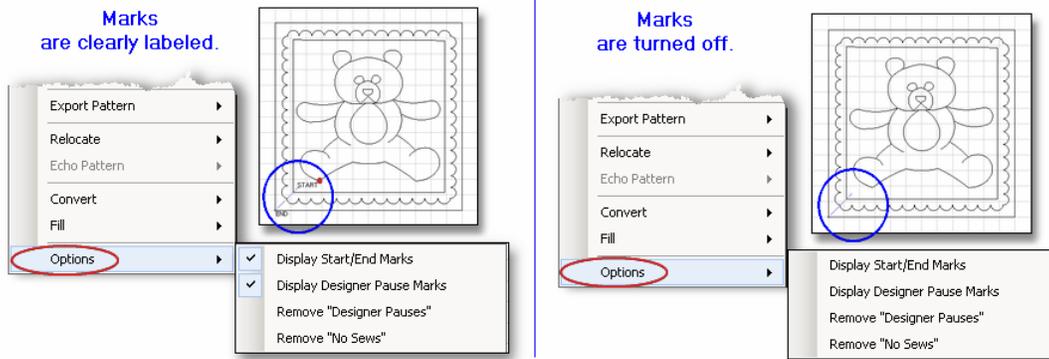
Tip: Use the F2 - Virtual Stitchout feature to trace the stitching path. This will show if there are multiple lines of stitching on the boundary.

3.5.2.1.13 Options (for Patterns)

Options - refer to how patterns are displayed or stitched. There are certain choices that a pattern designer can use that affect how the pattern is displayed on the screen, or how it is stitched out. These choices can make it easy to use the pattern as it was originally designed, but might not be helpful in derivative patterns. So, CS allows the quilter to choose which options to keep/remove it needed.



Note: It is worth noting that previous versions of the Statler Stitcher software used these choices more extensively than the current CreativeStudio software.



Designers can 'Mark' certain areas of their patterns, which helps them visually determine how the pattern should stitch.

* Display Start/End Marks means the word 'Start' appears at the beginning of the first pattern to be stitched. The word 'End' appears at the end of the last pattern to be stitched.

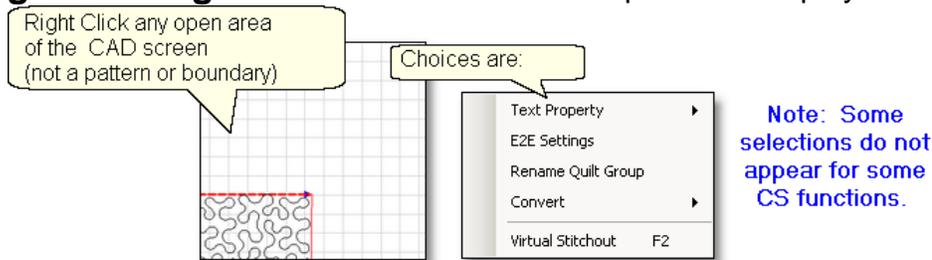
* Display Designer Pause Marks means a red dot will appear on a pattern if the designer has included a 'pause' in the stitching sequence. This is often done on patterns where a thread color change would enhance the quilting. Although this is not used very often, it is a useful mark - How else would a quilter know the pattern is going to stop in the middle somewhere?

* Remove "Designer Pauses" means the pattern will not stop so the thread color can be changed (or any other reason). The red dot disappears from the image of the pattern on the screen, and the stitching continues past the original pause position.

* Remove "No Sew" lines means CS will ignore these lines. In a previous software system, designers would include a 'No Sew' frame around a pattern so it would fit the block better. CS is so flexible now, these are no longer needed.

3.5.2.2 Right Click Preview Area

Right clicking the Preview area in an open area displays a list of choices.



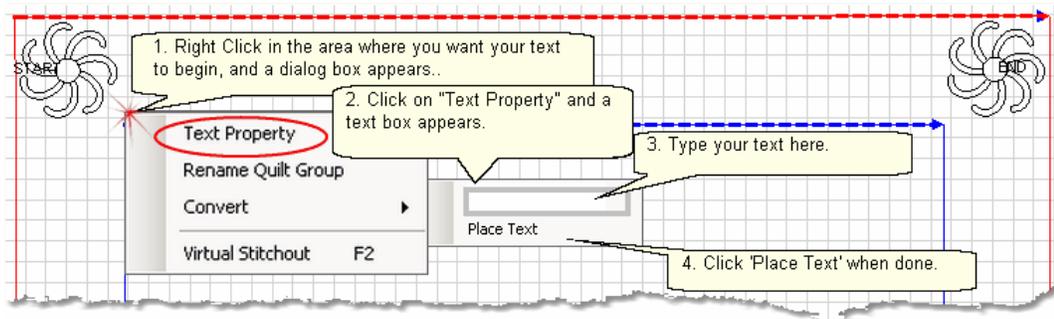
Not all of the choices shown above will appear every time. Some CS choices (like E2E Settings) appear only if CS is performing that function (Edge-to-edge).

3.5.2.2.1 Text Property

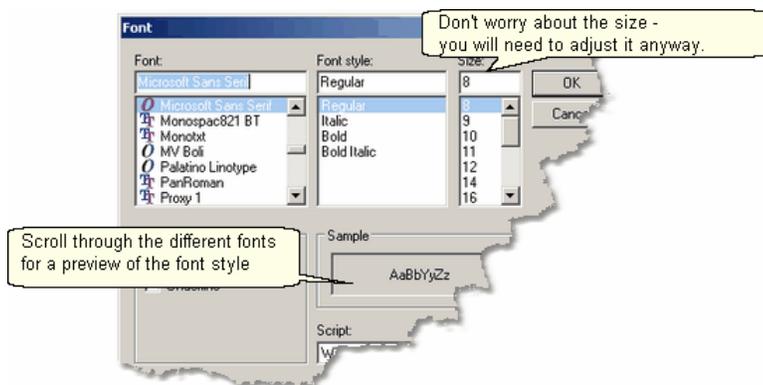
Text Patterns can be made using standard Windows fonts. Text patterns let you personalize your quilts with logos, dates, names or greetings. The text can be typed, placed, sized and stitched. This feature is done in the preview area in an open space, not on an existing pattern.

Steps to follow:

1. Right Click in an open area of the preview area. It is a good idea to have [defined a reference boundary](#) so you can size the text to fit the space on the quilt. In our example, we are using the top border.
2. Click on 'Text Property' in the dialog box that appears.
3. Click in the text box and type your message. The text box looks small, but will handle long phrases. CS will treat each phrase as a pattern. If your phrase needs two (or more) lines, you could create one pattern and divide it, but it is easier to create 2 (or more) separate text patterns.

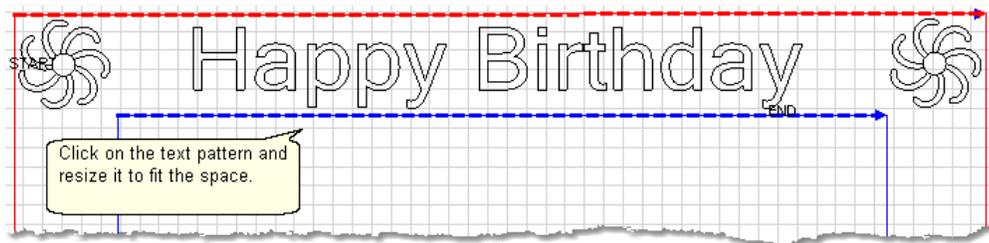


4. Click on 'Place Text' when done, and the Font dialog box appears.



5. Choose the font style you like. By scrolling through the choices, you can see what the style looks like in the 'Sample' box. For variations, preview the font using italics, bold and bold italics styles. Choose any font size because you will need to modify it to fit your boundary anyway.

6. Click 'OK' when ready and the pattern is moved into the preview area of the screen. Resize as needed.



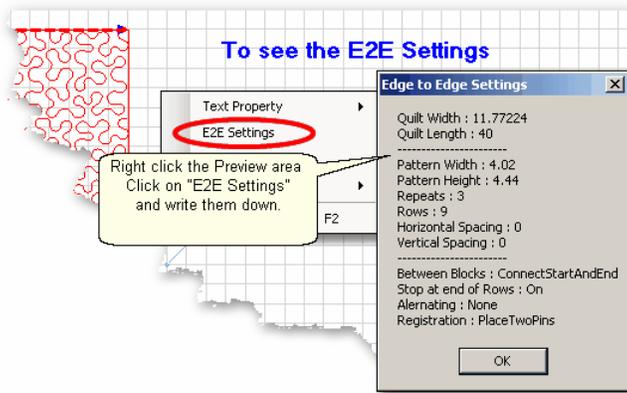
7. Save the Project. 



8. Click on Start_Quilting  and the sewing head will move to the Start of the first pattern. CS will prompt for pulling up the bobbin thread and choosing OK when ready to quilt. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

3.5.2.2.2 E2E Settings

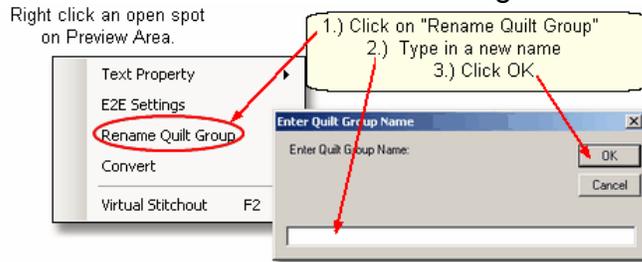
E2E Settings can be recalled during your project. When setting up an Edge-to-edge quilting pattern, CS takes care of most of the measurements and adjustments automatically. The E2E Process Details dialog box contains all these details initially but often the dialog box is closed. If you ever need to review the E2E Setting, it is easy to do. Just right click on an empty space and choose E2E Settings.



You can use these settings to recreate an E2E.

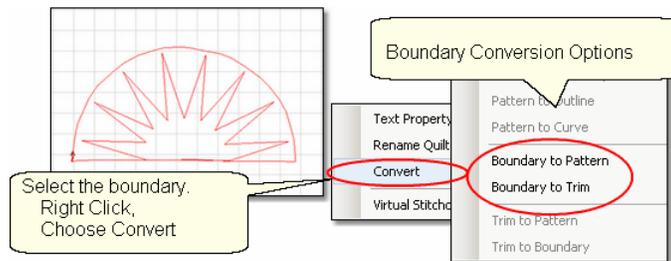
3.5.2.2.3 Rename Quilt Group

Renaming Quilt Groups is easy. Just right click on an empty space in the Preview area for that group, and one of the choices is 'Rename Quilt Group'. Click anywhere on those words, and a dialog box appears where you can type the new name. The names need to be unique and it is useful if they are descriptive. Click OK when done and the name will change.



3.5.2.2.4 Convert (boundary)

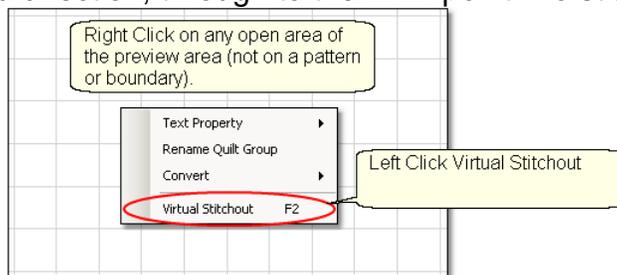
Convert allows a boundary to be changed to a new function.



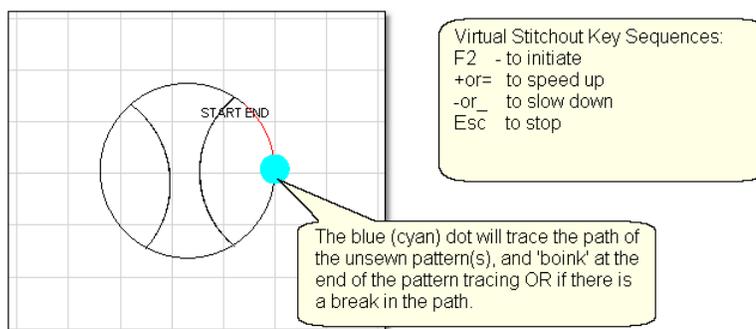
Click on the boundary to select it, then right click the selection to see the choices. Boundaries can be converted to patterns or Trims. ['Convert'](#)¹¹² is explained in detail in a previous section.

3.5.2.2.5 Virtual Stitchout

Virtual Stitchout (F2) - verifies the continuous stitching line of any/all unsewn patterns. The trace begins at the START point, and follows the stitching sequence and direction, through to the END point. No stitching will occur.



To begin, Right click anywhere on the CAD area, and choose Virtual Stitchout. (F2 is the keyboard shortcut for this feature). A blue circle will appear, moving along the path, in the same sequence that the pattern or pattern segments would be stitched. If there is a break in the continuous path, the machine will make a 'boink' sound, but continue to trace the path to the end. Watch the screen during this process to see where the breaks occur. If needed, use F8 - [Set Sew Order](#)¹²⁵ to change stitching direction and sequence.

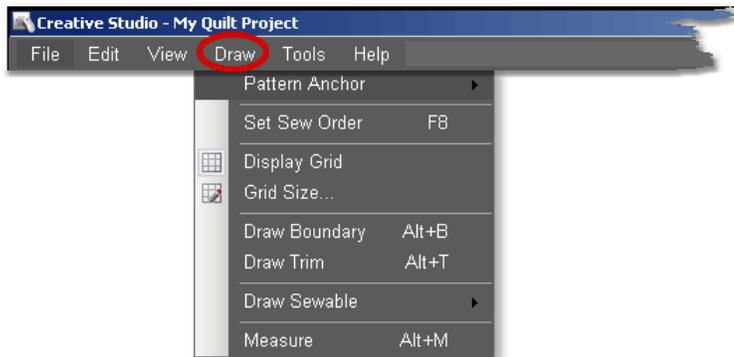


* A 'boink' sound happens at the end of the path also, which is not a cause for concern.

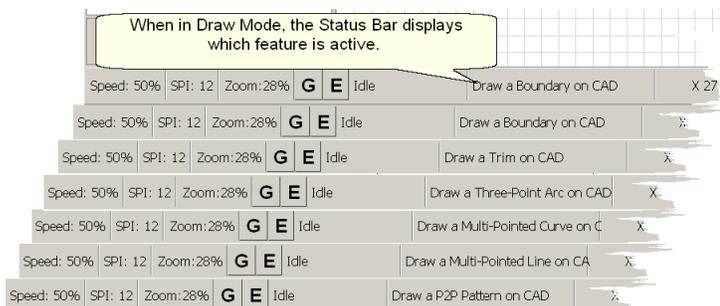
- * To stop the Virtual Stitchout process, press the Esc - escape key.
- * To change the speed of this process, press the + or = key to increase the speed and the - or _ key to decrease it. A 'boink' sound happens when maximum speed has been reached. *Note: In normal typing, the + sign requires using the shift key, and the = sign does not. For our purposes, either key sequence will work. This applies to - and _ also.*
- * Only patterns that are 'unsewn' will be checked. So, if there are many patterns on the CAD/Preview Area, but only a few need to be checked, toggle the other patterns as sewn first. Then press F2, and the unsewn pattern(s) will be checked. Remember to change back the sewn status if needed.
- * Designer Pauses and No-Sew Lines are not considered breaks in the sewing path.

3.5.3 Draw Options

Draw Options - A remarkable feature of CS is the ability to draw patterns from scratch; the power comes from the many choices available to make this very easy. Quilters don't have to be pattern designers to create a customized pattern for a quilt. This section describes the options available as part of the 'DRAW' command. The following sections ([Record Options](#)^[140] and [Text Options](#)^[119]) describe additional tools to make pattern creation fast and easy.



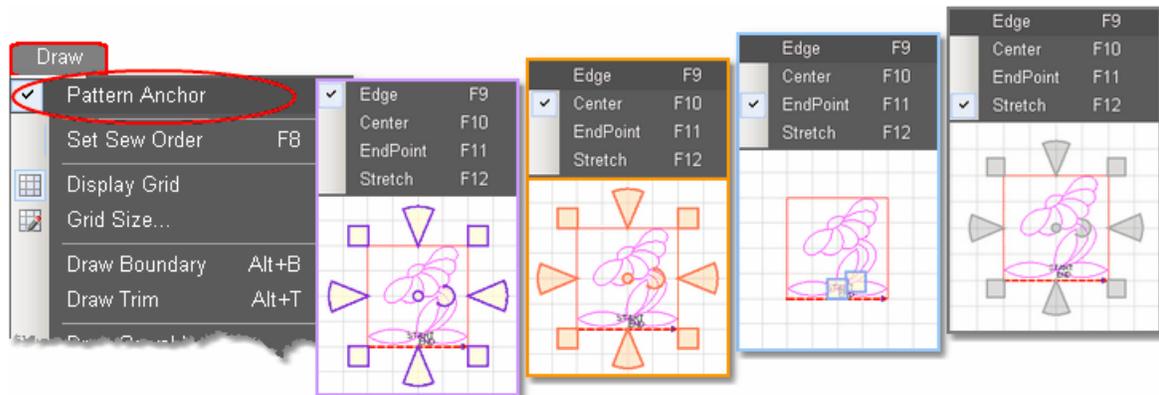
Design It Yourself: These Draw functions are the keyboard shortcuts referred to in these DIY tips throughout this manual.



TIP: Keyboard shortcuts for the Draw command are toggles. (they will turn a feature on and off). When one of the Draw mode features is active, the cursor becomes a crosshair "+", and the feature name appears on the status bar.

3.5.3.1 Pattern Anchor

Pattern Anchor - is the first option in the Draw Command menu. This was described in detail in a previous section on [adjusting patterns](#)^[78]. As a refresher, the pattern anchor determines how it will behave when it is being modified using the resizing handles.



Double click the selected pattern to switch to the next anchor type.

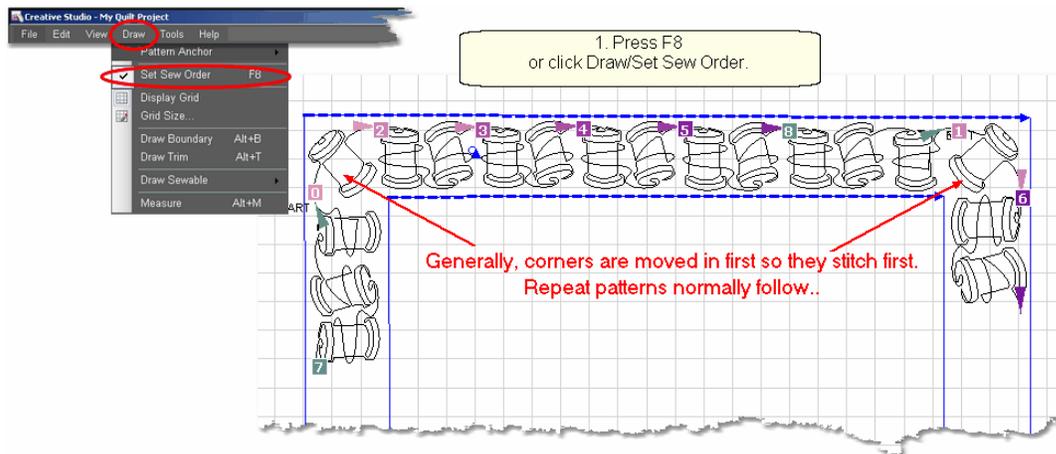
The Pattern Anchor choices are:

- * Edge (F9) The re-sizing handles are purple. When one handle is moved, the opposite edge (or corner) remains fixed or anchored.
- * Center (F10) The re-sizing handles are orange. When any of the handles are moved, the center remains anchored.
- * Endpoint (F11) The re-sizing handles are 2 blue squares, at just the beginning and end of the pattern. When one of the two handles is moved, the other is anchored.
- * Stretch (F12) The re-sizing handles are gray. When any handle is moved, the opposite handle is anchored in place. The Stretch Pattern Anchor is special because it allows portions of the pattern to be stretched. This essentially warps the pattern, and sometimes that is needed when seam lines are not accurate.

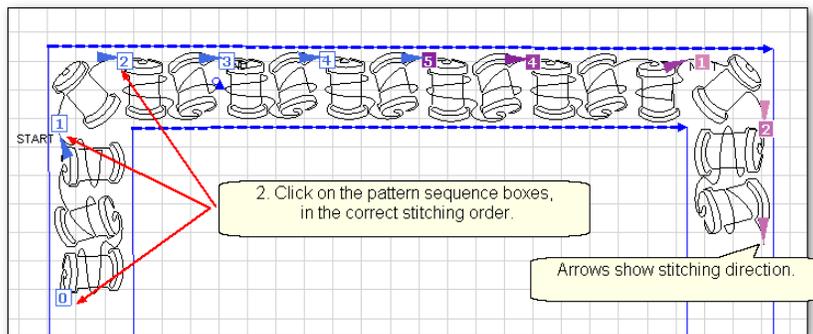
3.5.3.2 Set Sew Order

Set Sew Order - By default, CS will stitch patterns in the same order that they are moved on to the preview area. The Set Sew Order feature is used to check and change the pattern stitching sequence. This feature also allows the pattern stitching direction to be checked (and changed if needed). The following example shows how corner patterns will stitch first (because they are placed first) and repeat patterns follow. This can cause unnecessary tieoffs, so resequencing the sew order eliminates many of them.

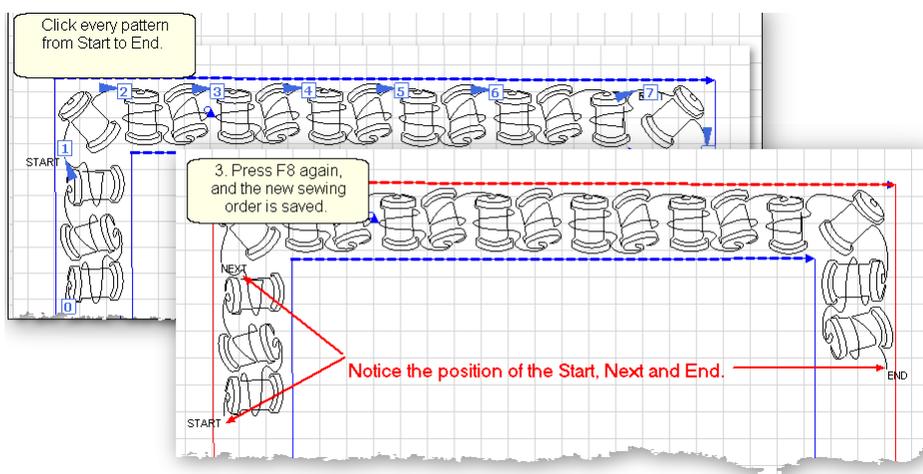
1. Click on Draw command and choose Sew Sew Order (or press F8). All the patterns in the preview area will have numbered boxes at the beginning of each pattern and will show a directional arrow at the end of each pattern. The color of the pattern's number and directional arrow match, so it is clear which arrow belongs to which pattern.



2. Start clicking on the number boxes in the order you want them to stitch. (The first number is 0, not 1.) The box background color changes temporarily to white and the related arrow turns navy blue to show which patterns have already been changed.



3. Right click any pattern or Press F8 when done, and the new order is saved. Or, press Esc at any time to cancel this operation.



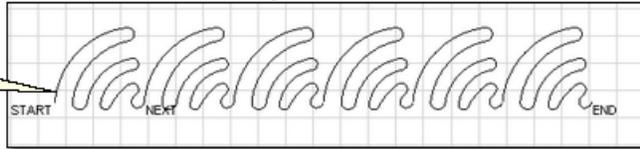
TIP: Patterns (that have not stitched out yet) are labeled "Start", "Next" and "End". These labels change as needed while the patterns are stitching.

Here is another example of Set Sew Order only this time the stitching direction will change (reverse).

Reverse is very useful when patterns have been rearranged to create new, more interesting designs. The patterns are rearranged, the sewing sequence checked, and the start/end reversed as needed.

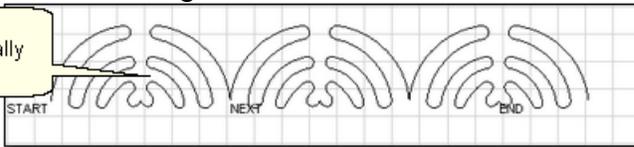
1. Choose a pattern and move several copies to the Preview area.

1. Choose a pattern and move several repeats into the Preview area.



2. Rearrange them to create something different.

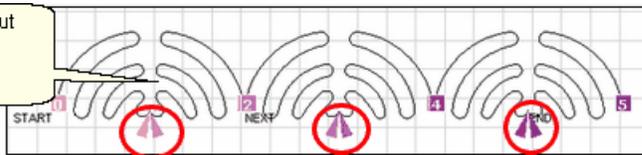
2. For interest, every other pattern is Flipped Horizontally



3. Press F8 (or Click the [Draw command](#)^[124] and choose [Set Sew Order](#)^[125]).

- The order (the numbered square) appears at the beginning of every pattern.
- The direction (the arrow with the matching color) appears at the end of every pattern.

3. The sewing order is right, but the directions are wrong.

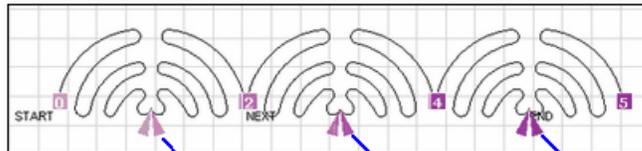


Whenever two arrows are pointing at each other, the group of patterns will not sew in a continuous line.

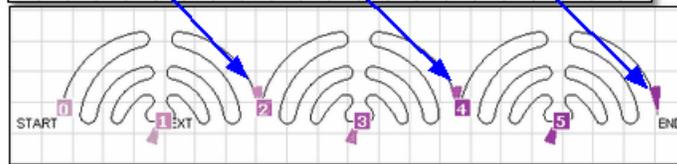
4. Reverse the start/end points if needed.

Click the arrow to Reverse the start/end points.

Before

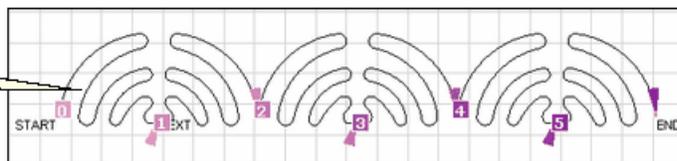


After



5. Press F8 to update the sewing order.

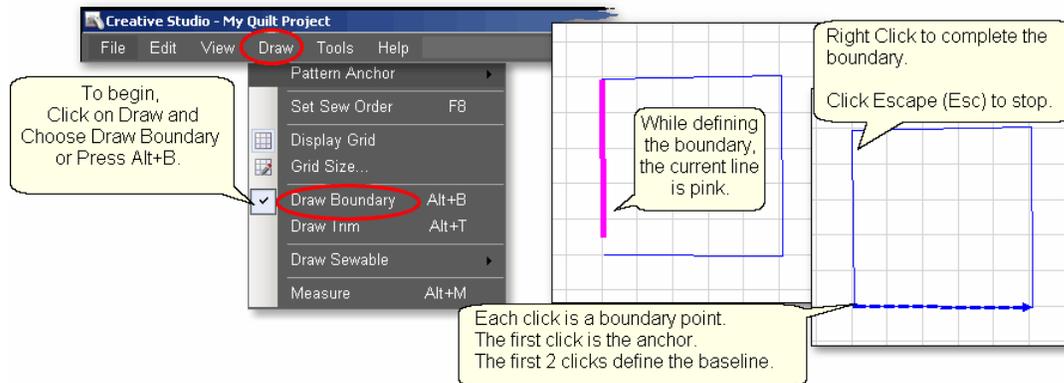
5. The sewing order and the pattern sewing direction are now correct. Press F8 to save.



When done with any pattern manipulation, it is a good idea to double check both the sewing order and the stitching direction. Then quilt!

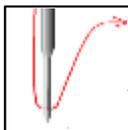
3.5.3.3 Draw Boundary

Draw Boundary command uses the mouse and screen to draw a boundary created for general reference and for receiving and resizing patterns. As explained earlier, [boundaries](#)⁷⁵ are often defined using the sewing head because that is the best way to create a true image of the block. Boundaries can also be drawn on the screen using the mouse, as shown here. Whole cloth quilts are good examples of when to use the mouse to define a boundary.



To use Draw Boundary,

- * Click Draw and choose Draw Boundary. (*The keyboard shortcut for drawing a boundary is Alt+B*). This mode assumes you will be creating multiple boundaries, so it stays active until you turn it off. The checkmark on the choice indicates that it is active. Plus a message appears on the status bar and the cursor changes to a crosshair.
- * Start clicking boundary points on the preview area of the screen. CS assumes you know the process and does not display instructions on the screen. Just like boundaries created using the [Boundary Icon](#)³⁹, the first point is the anchor, the first 2 points define the baseline.
- * Click as many points as needed to define the space.
- * Press Escape to cancel the current boundary if needed.
- * Right Click anywhere in the preview area to complete the boundary. CS will join the last click with the first, enclosing the area. The point identified by the Right click is NOT one of the boundary points.
- * To exit from the Draw Boundary mode, press Escape, or Alt+B, or right click the screen.



TIP: If the Icon bar stays 'grayed out', you are probably still in 'Draw Boundary' mode. The Status Bar will confirm this. Press Alt+B (or Esc) to return to normal operation.

Using Snaps - The term 'snap' is used to describe a feature that forces a click point to a certain alignment. CS offers two different types of snaps; [Gridpoint](#)¹²⁹ and

[Endpoint](#)¹³⁰. These features can be turned on/off by clicking on the "G" or "E" button in the status bar at the bottom of the screen. *They can also be turned on/off by pressing the "G" or "E" letter on the keyboard.* The buttons on the status bar appear depressed when they are 'on'. Click the "G" or "E" button (or pressing the letter) again to turn it off. In the example above, there were no 'snaps' on the click points.

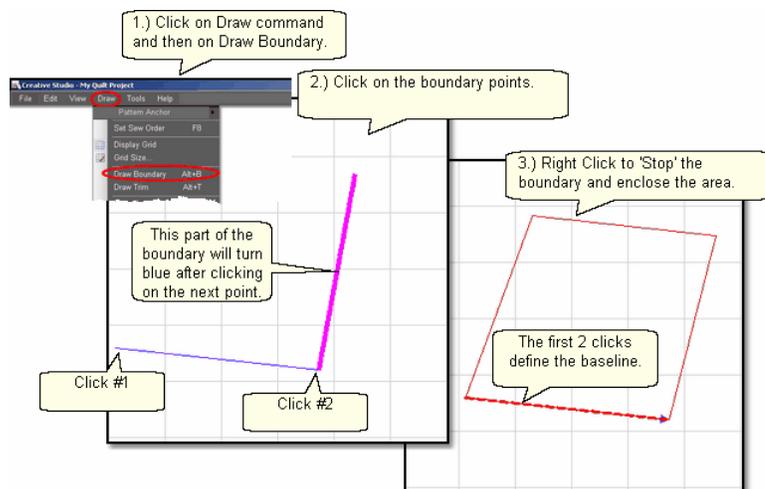
CS makes a snapping sound when the cursor crosses over a place where it could snap to. CS makes a popping sound when the boundary points are actually clicked.

3.5.3.3.1 Gridpoint Snaps

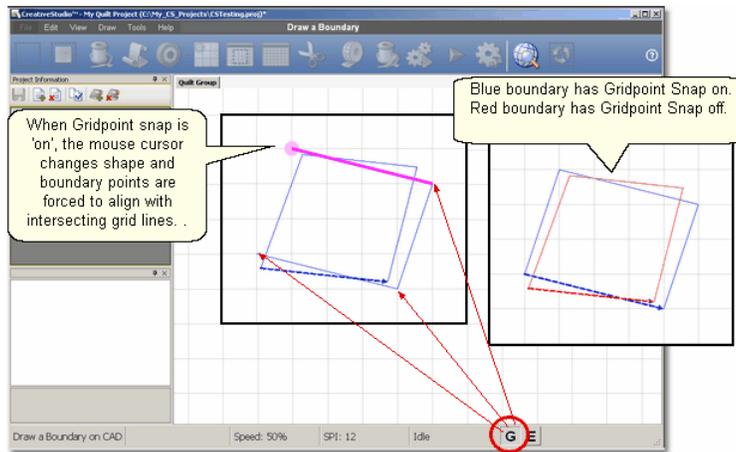
Gridpoint Snaps force a selected pattern, pattern segment or boundary point to align with the background grid.

When defining a boundary using gridpoint snaps, boundary click points are forced to align with the [gridpoints](#)⁹³ on the screen in the preview area (which are the points where two lines in the background grid intersect). To activate the gridpoint snap, click the "G" button in the status bar, or press the "G" key on the keyboard. Do the same to de-activate. A pink dot appears on the screen showing where the closest grid point would be. CS makes a snapping sound as the cursor moves across the screen from one gridpoint to the next. CS makes a popping sound when the point is actually clicked.

To demonstrate the difference using gridpoint snaps, look at the example below of a boundary defined without using any 'snaps'.



In the next example, the same boundary was attempted but this time Gridpoint Snap was turned 'On' and the Gridsize was 1 inch. Instead of duplicating the first boundary (shown in red below), CS forced each boundary point to the closest gridpoint, and the result is different (shown in blue below).

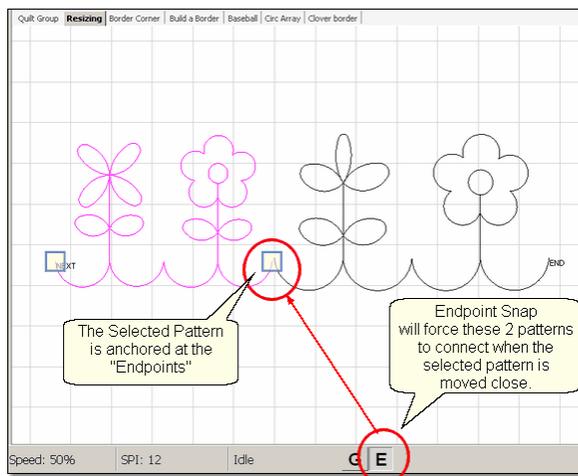


***TIP:** If the background grid is not already showing, CS turns it on automatically. The size of the grid can be changed by clicking on "Draw" then choosing ['Grid Size'](#)⁹³.*

3.5.3.3.2 Endpoint Snaps

Endpoint Snaps force a selected pattern or boundary to align with the beginning or ending point of another pattern. To activate the endpoint snap, click the "E" button in the status bar, or press the "E" key on the keyboard. Do the same to de-activate. A pink dot appears on the screen showing where the closest endpoint would be. CS makes a snapping sound as the cursor moves across the screen from one endpoint to the next. CS makes a popping sound when the point is actually clicked.

When using some of the more advanced features to create new patterns, endpoint snaps are very useful, especially when connecting different patterns or pattern segments.



3.5.3.4 Draw Trim

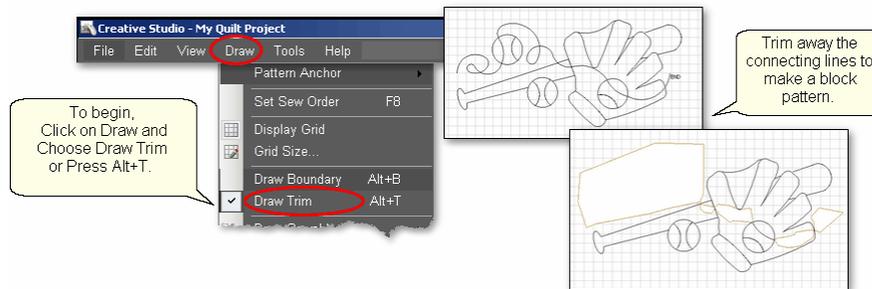
Draw Trim - Trims are a special type of boundary that mark an area on the screen (and on the quilt) where no quilting should happen. It makes the patterns appear to

have parts removed. This is a temporary change to the copy of the pattern(s) on the screen. It does not permanently affect the originals, it just prevents the trimmed portion of the pattern from stitching out. Patterns can be trimmed using the Icon [Trim Inside](#)¹⁹⁴ or [Trim Outside](#)¹⁶¹ or by using the mouse.

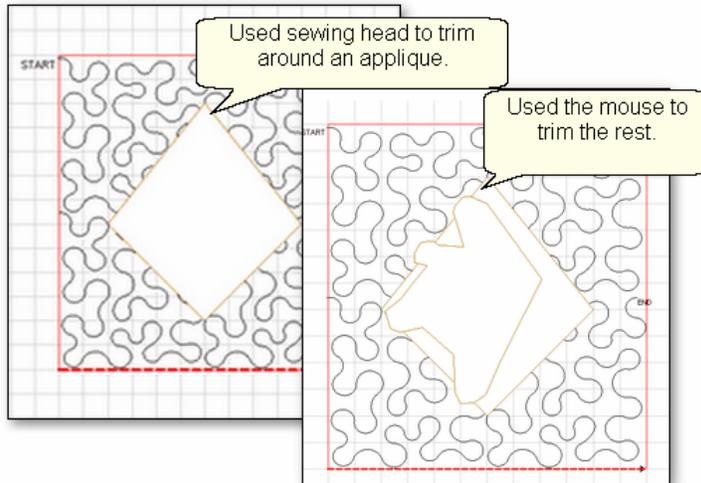


First choose which type of trim to use: .

The following shows how a [continuous pattern](#)⁶⁹ was trimmed to become a [block pattern](#)⁶⁸.



- * Click Draw and choose Draw Trim. (*The keyboard shortcut for drawing a boundary is Alt+T*). This mode assumes you will be creating multiple trims so it stays active until you turn it off. The check mark on the choice indicates that it is active, and a message appears on the status bar.
- * Start clicking trim points on the preview area of the screen. CS assumes you know the process and does not display instructions on the screen.
- * Click as many points as needed to define the area to be trimmed.
- * Press Escape to cancel the current boundary if needed.
- * Right Click anywhere in the preview area to complete the boundary. CS will join the last click with the first, enclosing the area. The point identified by the Right click is NOT one of the boundary points. As soon as you complete the trim boundary, the results appear in the preview area.
- * Use as many trims as needed to complete the task. Trims can overlap and they remain active for the duration of the project or until they are deleted. Therefore, if patterns are added and/or moved to where a trim is - even after the trim boundary is defined - they will still be trimmed.
- * * To exit from the Draw, Trim mode, press Escape, or Alt+T, or right click the screen.



 *Design It Yourself: Draw Trim is one of the keyboard shortcuts referred to in these DIY tips throughout this manual.*

It is possible (and sometimes necessary) to trim using both the machine head and the preview area. An example might be stitching a background area, in a block, behind an applique.

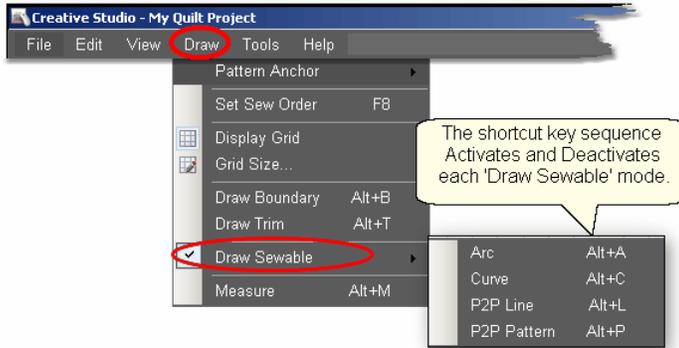
The first trim would use the [Trim Inside](#)^[194] icon and the sewing head to get as close to the applique area as possible.

The second trim would use the mouse in the preview area to trim away the pattern segments that are too big to be ignored, but too small to add anything to the design.

 *Design It Yourself: Consider using competitive Tieoffs when stitching a trimmed pattern. (See Tools/Tech Support/Configuration Form) These tieoffs can be tiny and well suited for trims, or any area that will have visible start/stop points.*

3.5.3.5 Draw Sewable

Draw Sewable is probably the most powerful feature of CS for people who want to create original patterns quickly and easily. Instead of moving patterns onto the Preview area and then stitching them on the quilt, this feature will draw on the Preview area and then stitch it on the quilt. The sewable designs are all positioned using the mouse instead of the sewing head. These designs can be used with other patterns or independently. The sewable drawing choices are arcs, curves, lines and patterns. Each has a shortcut, and each remains active until it is turned off (using the Escape key or the same shortcut key sequence). Like other Draw modes, the cursor becomes a crosshair "+" when one of the modes is active.

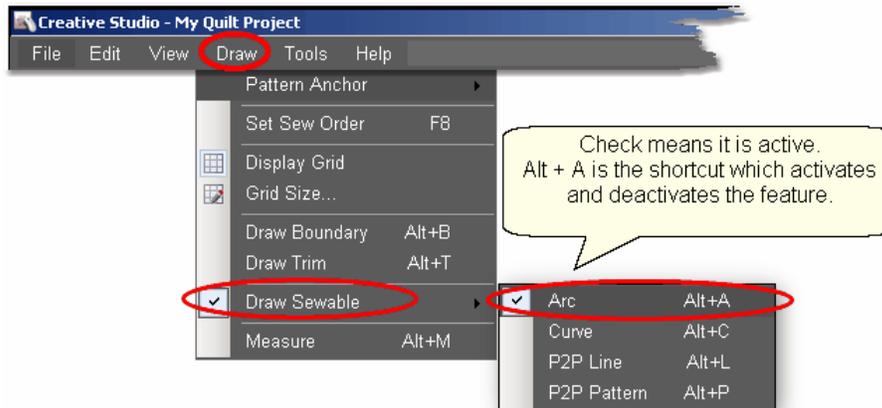


Design It Yourself: Draw Sewable choices are some of the keyboard shortcuts referred to in these DIY tips throughout this manual.

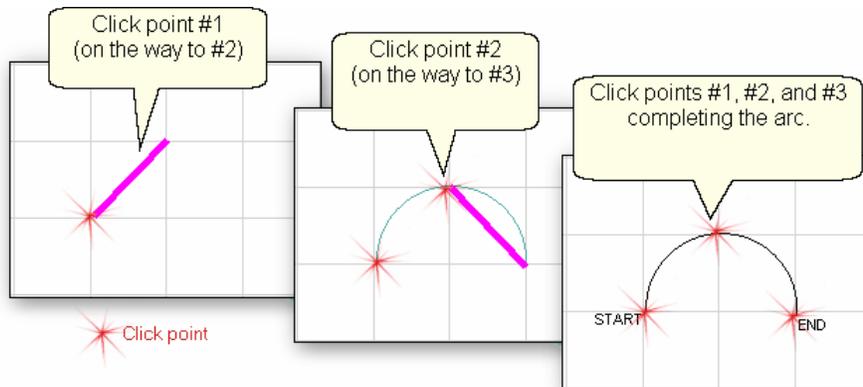
3.5.3.5.1 Draw Arc

Draw Arc - Arcs are precise curves that are drawn on the screen using the mouse. They are defined with three clicks, identifying the arc start point, the midpoint (peak) and the end point. Experienced pattern designers use arcs extensively to create new patterns. CS beginners will probably use them more often to connect existing patterns. When doing this, simple block patterns can be connected with arcs to create borders or more complex blocks.

Design It Yourself: Draw Arc is one of the keyboard shortcuts referred to in these DIY tips throughout this manual.

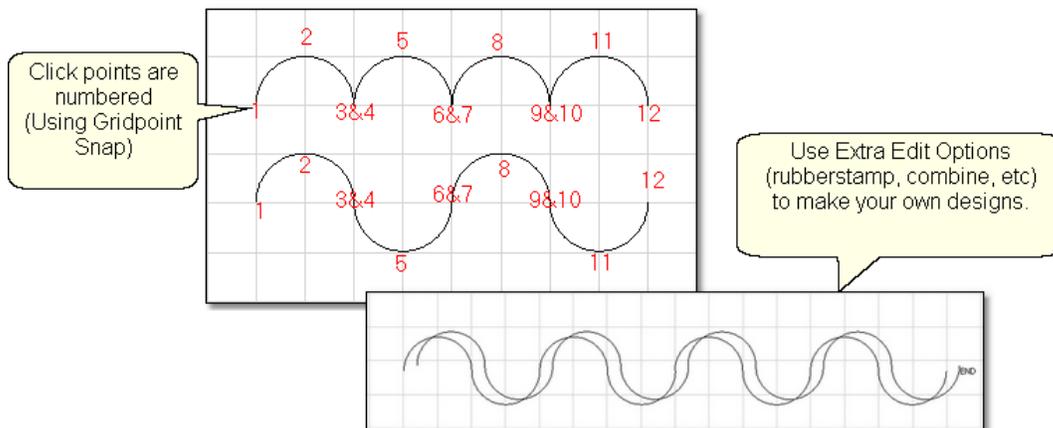


To draw an arc,
* Press Alt+A (or Click Draw, choose Draw Sewable, choose Arc)



- * With the mouse, click 3 times:
 - #1 is the start point of the arc.
 - #2 is the middle of the arc (which will be the peak) of the arc .
 - #3 is the end point of the arc.
- ** To exit from the Draw Arc mode, press Escape, or Alt+A, or right click the screen.

Alt+A is the shortcut for
drawing sewable 3-point arcs



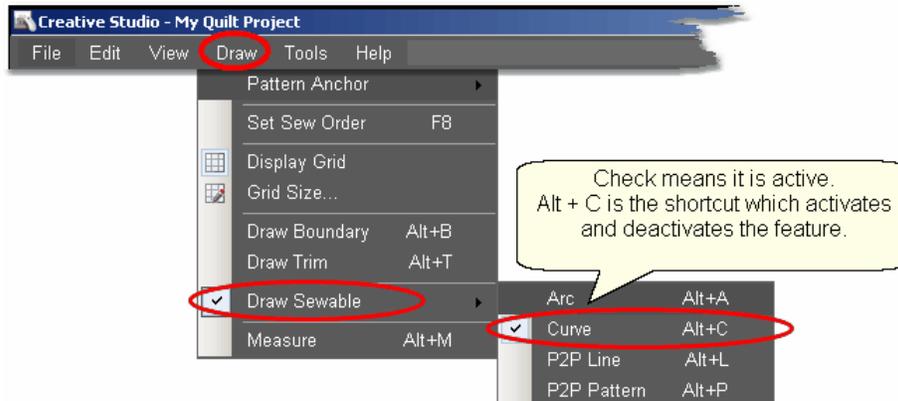
This is a great choice for quilting scallops or continuous curves as shown above. Each scallop is a separate pattern, so they can be adjusted individually. Or group the curves (use as many as the quilt needs) and place them - twice - and offset a little bit, for a ribbony effect.

3.5.3.5.2 Draw Curve

Draw Curve - The Draw (sewable) curve feature provides the ability to create longer continuous curves using any number of clicks. The shapes will be different because they are Cardinal Splines (the position of the last 2 clicks determines the shape of the curve defined by the last 3 clicks). Sounds complicated but actually it is easier and less rigid (which means it is also less precise). Again, CS beginners will probably use them more often to connect existing patterns.

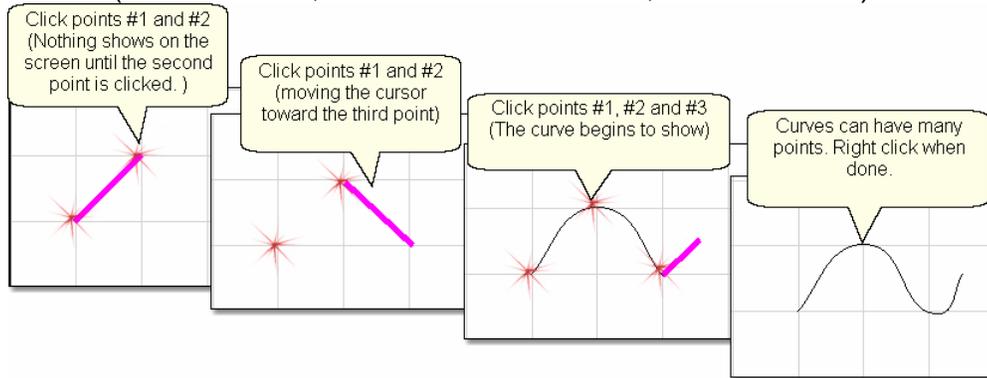


Design It Yourself: Draw Curve is one of the keyboard shortcuts referred to in these DIY tips throughout this manual.



To draw a curve,

* Press Alt+C (or Click Draw, choose Draw Sewable, choose Curve)



* With the mouse, click as many times as needed:

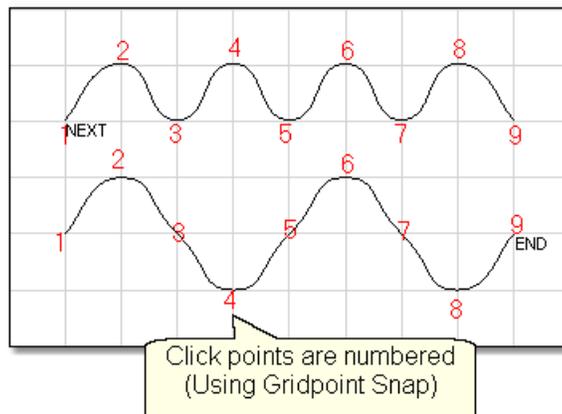
#1 will not appear on the screen immediately, but it is there.

#2 will show the location of #1, but does not begin to curve yet.

#3 will begin to show the curvature.

* To exit from the Draw Curves mode, press Escape, or Alt+C, or right click the screen.

Alt+C is the shortcut for drawing sewable curves.

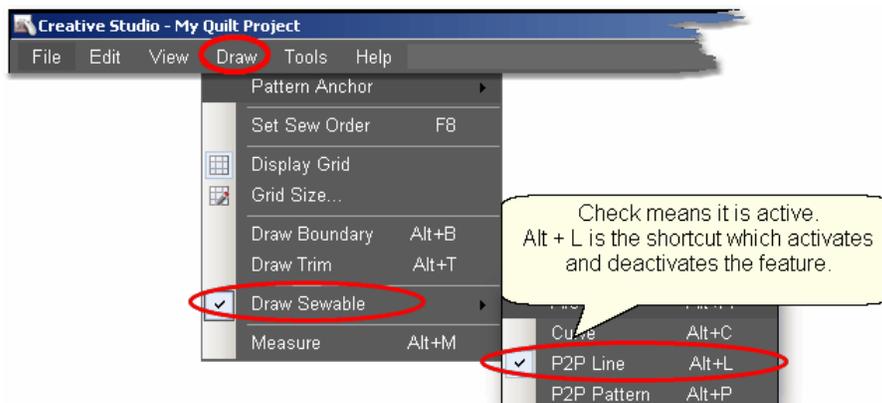


It is possible to get nice curves, if you avoid placing 3 (or more) points in a line. Notice how points (2,3,4), (4,5,6) and (6,7,8) are all in a relatively straight line - not the best flow for quilting patterns.

3.5.3.5.3 Draw P2P Line

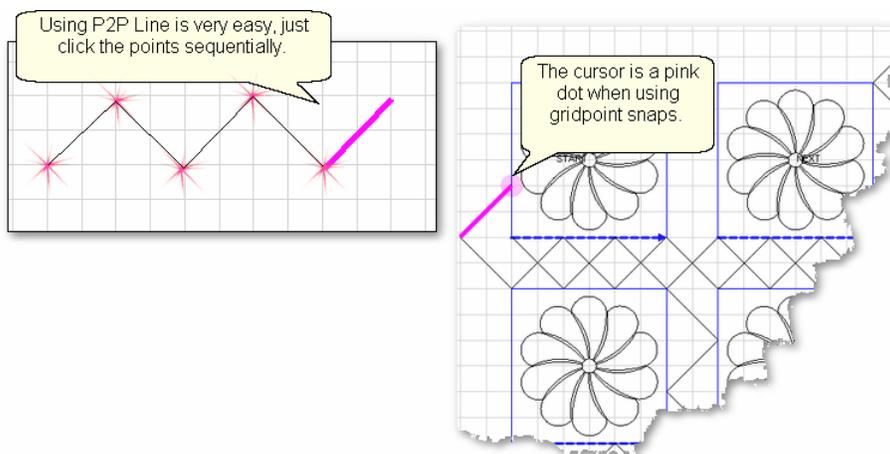
Draw P2P Lines -The Draw (sewable) Line feature allows sewable lines to be drawn on the screen. Use the mouse to identify points on the screen. CS will stitch a straight line between every sequential pair of points. This is similar to [Point-to-Point Line icon](#)¹⁵¹ feature, but it uses the mouse to place the clicks instead of the machine head.

Design It Yourself: Draw P2P Line is one of the keyboard shortcuts referred to in these DIY tips throughout this manual.

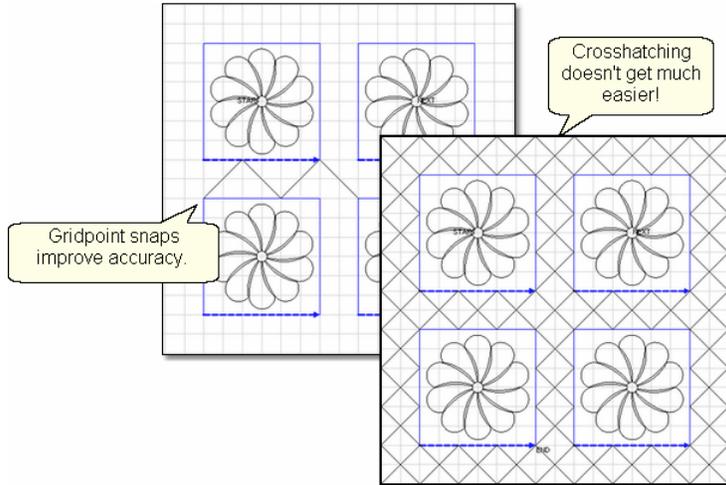


To begin the line drawing,

* Press Alt+L (or Click Draw, choose Draw Sewable, choose P2P Line)



- * Click each point sequentially. Set gridpoint snaps 'on' if desired.
- * Right click to complete the design.
- * Continue to define more crosshatching lines as needed.

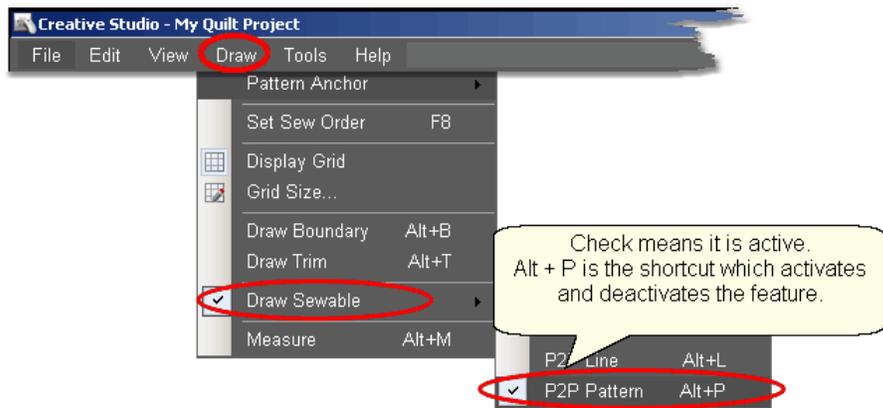


* To exit from the Draw Line mode, press Escape, or Alt+L, or right click the screen.

3.5.3.5.4 Draw P2P Pattern

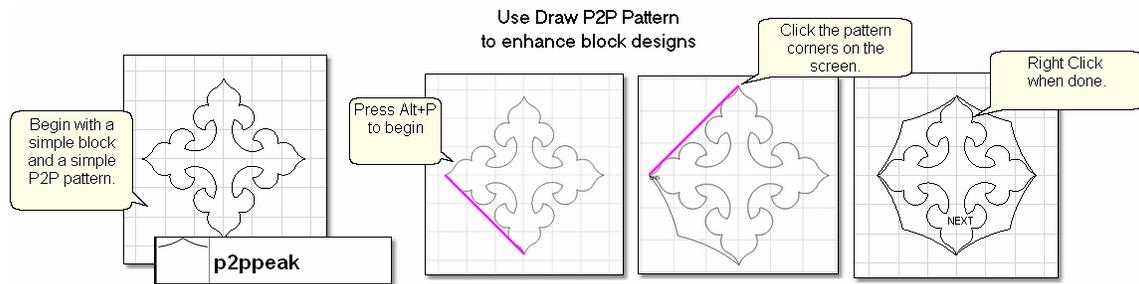
Draw P2P Patterns can also be used with the Draw features. Like the [Point-to-Point-Pattern icon](#)^[190] feature, clicks are used to position the pattern's start and endpoints. (The end of one pattern is the start of the next.) CS will stitch one copy of a pattern between every sequential pair of points. Instead of using the machine head, this feature uses the mouse and records the points in the preview area on the screen.

Design It Yourself: Draw P2P-Pattern is one of the keyboard shortcuts referred to in these DIY tips throughout this manual.



The following demonstrates how to make new patterns by enhancing existing ones using Draw - P2P Pattern.

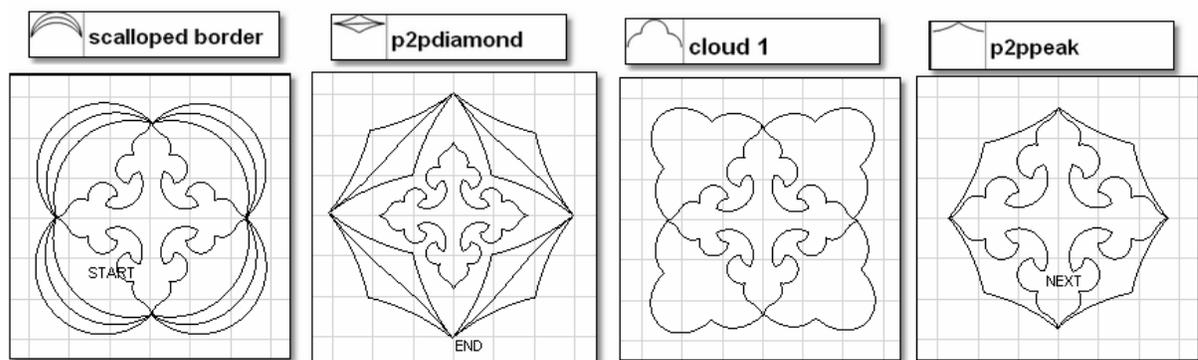
- * Choose a simple block design & move it to the preview area.
- * Choose a simple P2P pattern (Freeze aspect = On is a good idea).
- * Press Alt+P (or Click Draw, choose Draw Sewable, choose P2P Pattern)



- * Click each point sequentially. Set gridpoint snaps 'on' if desired.
- * Right click to complete the pattern.

The following shows some of the possibilities using the same basic design, and adding different P2P patterns to it.

New Patterns using Draw with P2P-Pattern

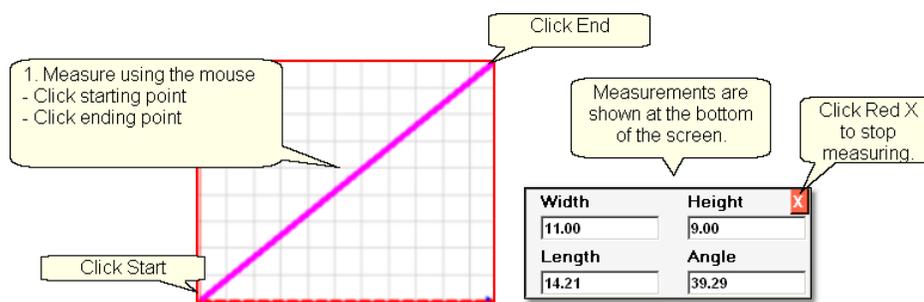


- * To exit from the Draw Pattern mode, press Escape, or Alt+P, or right click the screen.

3.5.3.6 Draw Measure

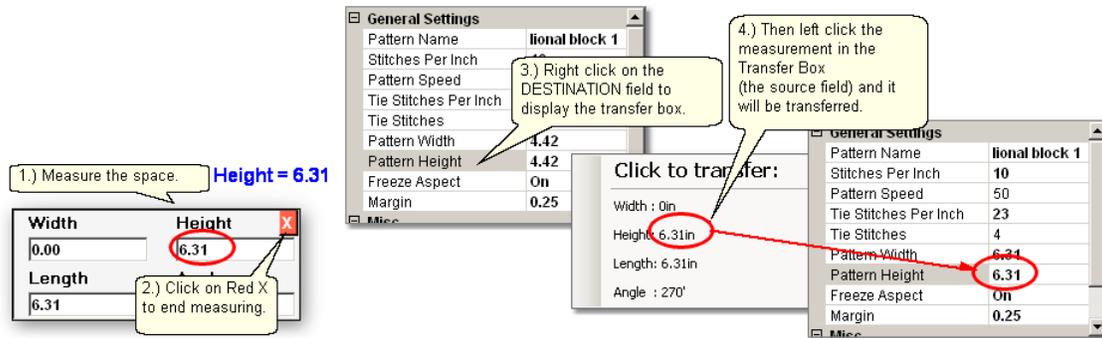
Draw Measure uses the mouse to measure the image of the quilt.

Using the mouse, click on Draw Command and choose Measure (or use the Alt+M shortcut). This uses the mouse and screen to take measurements of the items (boundaries and patterns) you have moved to the preview area. These are real measurements, but they are measuring approximations of the quilt, not the real quilt block measurements.



CS is ready to make as many measurements as needed - just keep clicking start &

end points. When done, Press Esc key or click on the Red X. CS remembers the four numbers (width, height, length, angle) from the last measurement made, and will transfer them for you. This 'transfer' feature is one of the many special Right Click shortcuts.



1. Make the measurement. Be sure the destination field is not selected.
 - Move the machine head to the start point and click OK.
 - Move the machine head to the end point and click OK.
2. Click on the Red X to stop measuring.
3. Right click on the Destination field (where you want the measurement to go).
 The Transfer box appears.
4. Click on any of the measurements and the number will be moved to the destination.

3.5.4 Record Options

Record is another remarkable feature of CS. It is easy to create new designs by moving the sewing head and saving that motion as a new pattern. This is similar to tracing a design and saving it as a new pattern. It is easy to do because the belts do not have to be engaged to record the motions. CS automatically creates a new pattern file and saves it for repeated use, without needing Autosketch or any other CAD program.

The Record Mode is a subset of the Regulated Sewing feature.

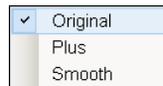


Tip: Record mode can be used without the belts being engaged. The belts need to be engaged when stitching the newly recorded pattern however.

Steps to follow:

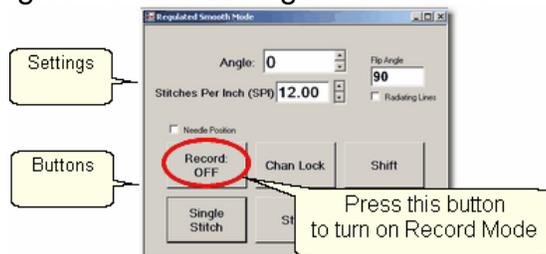
1. Choose a style of Regulated Sewing

Click on the small black arrow to the right of the Regulated Sewing icon to see the choices. Original, Plus and Smooth vary only in the speed of the needle moving up & down.



2. Click on the Regulated Sewing icon.

A Dialog box shows settings and buttons:



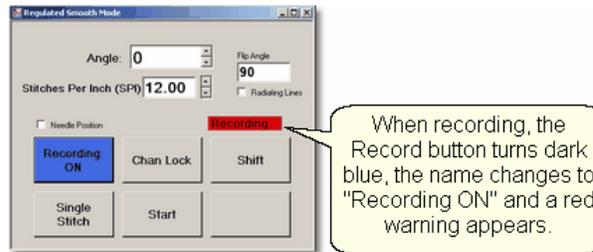
All the functions in Regulated Sewing work the same way when the Record mode is active. Move the sewing head to the beginning of the pattern to be recorded.

Tip: The machine does not need to be stitching to record a pattern. It is the movement of the stitcher that is being captured, not the movement of the needle. If stitching while recording is desired, just press the Start button after pressing the Record button.

3. Move the machine to the place where the pattern will begin. If you will be stitching while recording, pull up the bobbin thread and take a few tieoff stitches before you

start to record.

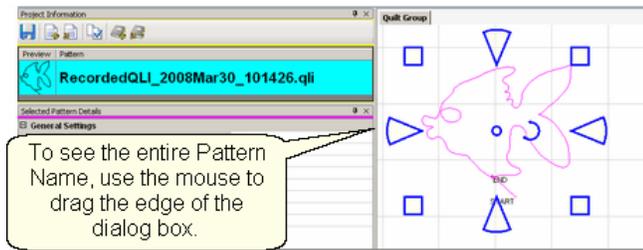
4. Press Record to begin.



Move the stitcher to create a new pattern.

Tip: There is a limit of recording for 8 minutes only, so plan accordingly.

5. Press Record again to end. If you are stitching while recording, pressing Stop will also end the recording.



CS automatically creates a pattern, gives it a name, and saves it to a special folder called C:\Patterns Recorded. The format for the pattern name is:

C:\Patterns Recorded\RecordedQLI_yyyyMonddhhss.qli

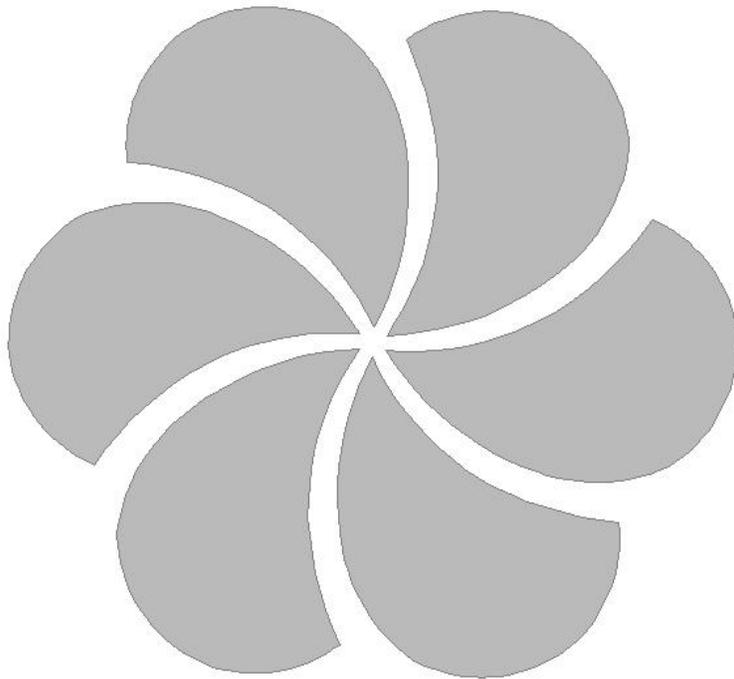
where yyyy = the year
 Mon = alpha abbreviation of the month
 dd = the day
 hh = the hour
 ss = the second
 .qli is the file type needed by CS.

When a recorded patterns is sure to be used again, it is a good idea to [Export](#)¹⁰³ the file, giving it a descriptive name, putting it in your 'My Patterns' folder and saving it as a .csq file. The .csq format is preferred because it is saved as arcs, not polylines which results in a smoother stitch line.

Press Shift (to see additional keypad choices) and Exit to exit the Regulated Sewing feature.

[Quick Reference Record](#)²⁶⁵

Part IV



4 Quilting the Quilt - Which CS Feature To use

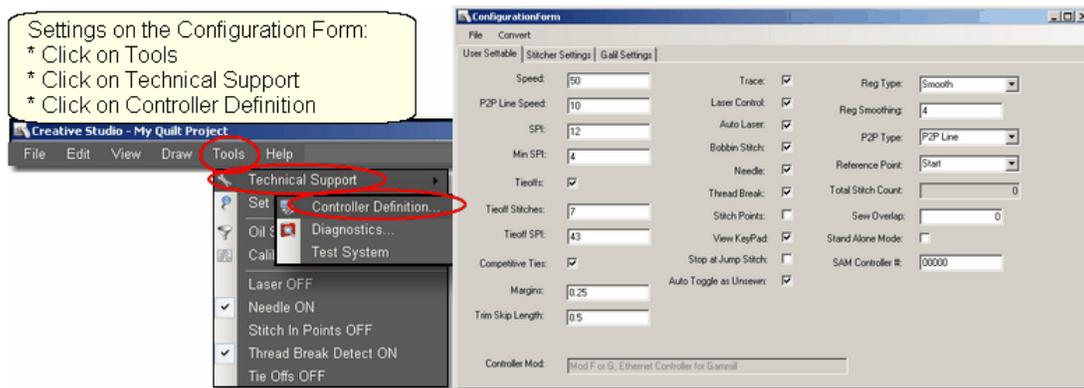
The quilting process generally includes four phases and uses a variety of techniques.

1. Baste the quilt layers to stabilize them.
2. Stitch the blocks (or whatever is chosen for the center).
3. Stitch the borders, corners and sashings.
4. Finish by doing any background filler stitching.

The sequence is suggested because it minimizes the risk of distorting the fabric and getting pleats or tucks. Not all quilts need all phases and the phases aren't always done in this sequence – each quilt is unique. Each CS feature is described in detail in one of these four phases. But first, it is a good idea to modify your default settings and choose the settings that suit the quilt.

4.1 Set Stitching Defaults

Set Stitching Defaults - Every quilter develops preferences over time regarding the stitching settings. These preferences can be set as system defaults, as explained in detail in the [Utility Functions](#) ²²⁵ Section. These preferences will change to reflect what is best for an individual quilt, and that is what is described here.



First let's describe the most commonly used stitching settings.

- **Tieoffs** – are small stitches taken before the start, and after the end of each line of quilting. They are extra stitches that create a knot and prevent the thread from coming loose. Half of the tieoff stitches are taken going forward, and half are taken going backward, so these will stitch over the last stitch or two of the quilting line.
- **Tieoff Stitches** – This is the total number of stitches taken by the tieoff feature at the start and/or the end of the quilting line.
- **Tieoff SPI** – This is the size of the stitches taken by the tieoff feature.
- **Competitive Ties** - If this is checked, CS will do the tieoff stitches as it starts and ends the pattern, not stitching forward and backward creating a knot. The stitch size is usually smaller (higher SPI) which secures the threads so they can be trimmed. Since they are part of the pattern instead of stitching over the pattern, the knot is far less noticeable. This is preferable for custom quilts.
- **Bobbin Stitch** – Check means CS will help bring all the threads to the top of the quilt by stopping at each Start and End, taking a single stitch, and prompting the

quilter to pull up the bobbin thread. This is normally on (checked) and the manual has been written as if it were always on. Unchecking this will make the sewing happen non-stop - dragging the thread as needed.

- Needle – Check means the needle is 'on' and will stitch as expected. Turning the needle 'off' is a great feature if the stitch placement needs to be verified before it is stitched.
- Stop at Jump Stitch – Check means CS will stop at any pattern segment that has a 'no sew' line segment of any kind. These can occur in patterns, text patterns, trimmed patterns, etc. Normally a jump stitch is secured with competitive tieoff stitches.
- Sew Overlap – On block patterns, sometimes it is desirable to stitch beyond the actual End point, and overlap the stitchline onto the Start point. This closes the gap sometimes found between the Start and End points which is caused by shrinkage. For this to be effective, the Sew Overlap length must be larger than the Competitive Ties length.

The most common setting changes relate to the way the quilting patterns start and stop. There are several methods which require combinations of settings to change.

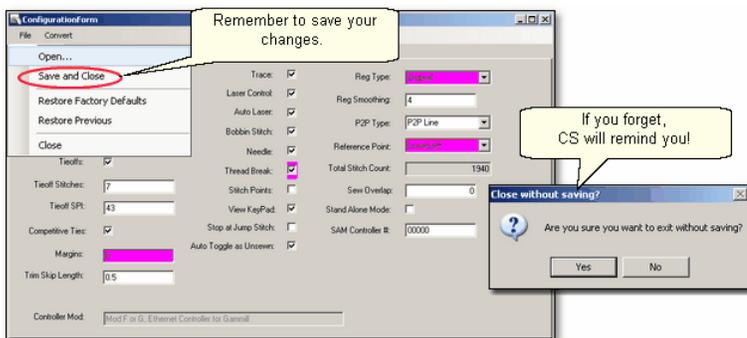
1. Simple Tieoffs. This method is often used for Edge-to-Edge background designs. There are several stitches taken before the start and after the end of the pattern.
2. Fast Simple Tieoffs. This method is used for any quilting where speed is important. Tieoffs are used (assume competitive ties are chosen) and the machine does not stop to wait for the threads to be clipped - it just moves to the next stitch line, dragging the thread along.
3. Competitive Tieoffs. This method is often used for Custom quilting, especially when the Trim feature is used. The tieoff stitches are part of the pattern and less noticeable. Sew Overlap setting should be larger than the competitive tieoff length.
4. No Tieoffs. This method is often used for competition quilts. Instead of securing the threads with tieoff stitches, the quilter prefers to tie the threads by hand, and bury them with a needle, just like hand quilters bury their knotted threads. These are virtually invisible, and judges like that.

The following shows some typical settings for each of the methods listed. The setting values can change of course, but the combinations of settings is important. In the chart below, competitive tieoffs have been set for 8 stitches at 43 stitches per inch, which is 0.186 inches. Therefore the Sew overlap should be > 0.2 inches.

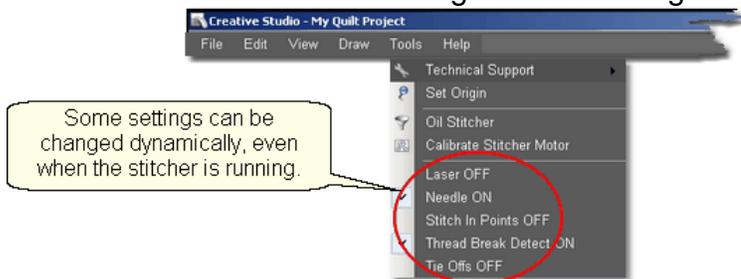
	<u>Simple</u>	<u>Fast</u>	<u>Competitive</u>	<u>None</u>
Tieoff	Yes	Yes	Yes	No
Tieoff Stitches	6	8	8	n/a
Tieoff SPI	23	43	43	n/a
Competitive Ties	N	Y	Y	No
Bobbin Stitch	Y	N	Y	Y
Needle	Y	Y	Y	Y
Stop at Jump Stitch	Y	N	Y	Y
Sew Overlap	any	0.2	0.2	n/a

*Tip: Regular Tieoff stitches will be more secure if the TieSPI is not evenly divisible by the SPI. Example:
If SPI = 10, TieSPI should not be 10, 20 or 30. It can be 21, 22, 23 ... 29, 31, 32, etc.
If SPI = 12, Tie SPI should not be 12, 24 or 36. It can be 25, 26, 27... 35, 37, 38, etc.*

To Save Changes, Click on the File tab, and click Save and Close.



Remember that some of the settings can be changed using the Tool bar.



Now that the preferences are set, let's quilt!

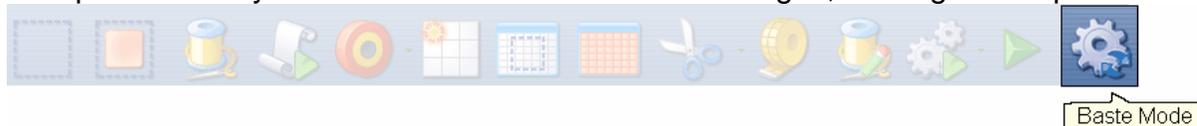
4.2 Phase 1 - Basting

Basting is a fundamental process that is used during the initial loading of a quilt and throughout the quilting process as the quilt is stitched and rolled. There are several methods for basting. Each method is useful under different circumstances.

Simple quilts may only need to have the three layers secured on the outer edges only, and basting is adequate. Complex quilts may need to have many areas of the quilt stitched together to prevent the fabrics (especially the backing) from shifting and pulling. Taking the time to stabilize the quilt will result in a flatter, straighter quilt. Stitch in the ditch (SID) is commonly used in complex quilts because it secures the fabrics, and can disappear into the seams.

4.2.1 Securing the Quilt using Baste

For quilts that only need to be secured on the outer edges, basting is adequate.



Feature: Baste Stitch

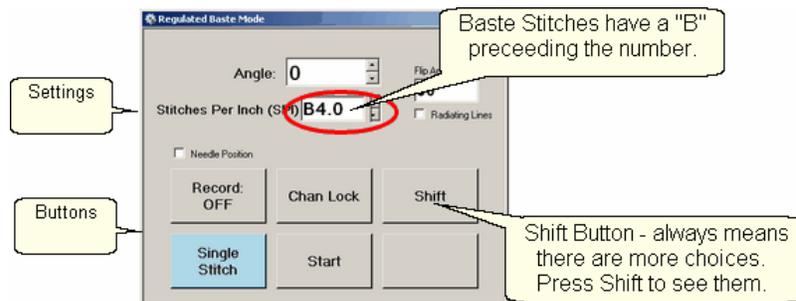
The basting stitch is a long stitch and is often temporary. It is commonly used around the outer edges of a quilt. It might be viewed as being a series of single stitches rather than continuous stitches. The difference is the amount of pressure the hopping foot exerts on the fabric. The benefit is that less fabric gets 'pushed' forward in the direction of the sewing. This is very valuable when trying to prevent stretching and/or ease in extra fullness.

Assumptions: The quilt is loaded, bobbin is full, machine is threaded and the belts are (probably) detached. Free motion quilting is usually done without the belts that control the sewing head which allows the sewing head to move freely in all directions.

Steps to follow:



1. Click on the Baste Sewing icon.
A Dialog box shows settings and buttons.



Settings:

Angle: This is the current angle that will be used when Channel Lock is turned on.

Stitches Per Inch - Are really "Inches Per Stitch" in Baste Mode. Basting stitch size ranges from 1/2" long (B.5) to 4 inches long (B4). Change with up/down arrows or use mouse & keyboard.

Flip Angle: If Radiating Lines is not checked, this angle will replace the current angle. This is intended to be used with the channel lock feature. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

Radiating Lines - When checked, CS uses a 2-button sequence to increase the current angle by the number of degrees shown in Flip Angle. To increase the current angle, press and hold the Shift Button on the keypad, and press the Chan Lock Button. Repeat this to increase it again.

Needle Position - If checked, the sewing head works like the 'Gammill Plus' machines, allowing a half stitch to be taken instead of a full single stitch. Press the button once and the needle goes down & stays there. Press again to bring the needle back up. If it is down when stitching starts, it goes back down when it stops.

Buttons:

Record Off means the motions are not being recorded, The [Record function](#)^[140] is explained in depth, in a later section.

Chan Lock (on/ off) locks the sewing head so it stitches a straight line at one angle.

This requires that the belts be engaged.

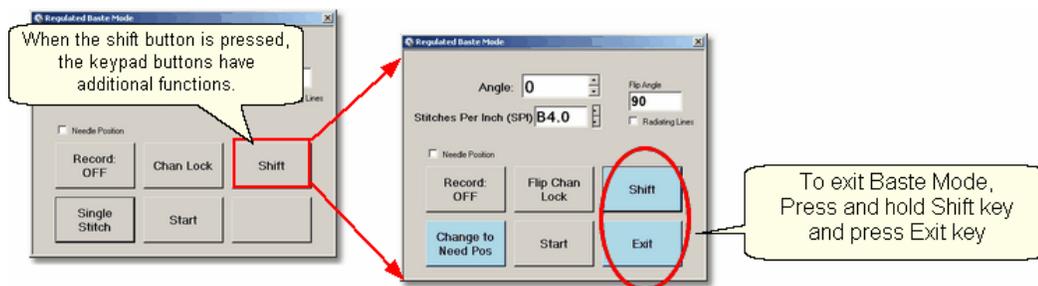
Shift - Press this once and additional keypad functions appear & stay for a couple seconds. This is for reference only - each blue button requires a 2-button sequence.

Single Stitch - press this to take a full single stitch. If the Needle Position box is checked, this button is labeled 'Needle Position', and pressing it takes a half stitch.

Start - starts the stitching process, and STOP ends it.

Tip: Wondering when/why you will ever use these buttons and settings in Baste Mode? You probably won't use them here but you will need them in Regulated Sewing Mode. To maintain consistency, the settings and buttons for Baste and Regulated modes are the same.

Shift Key Additional Functions: These functions (light blue buttons) are initiated by using a 2-button sequence; press and hold the Shift button and then press the second button.



Flip Chan Lock - Changes the current angle.

* If Radiating Lines is not checked, this will change the current angle to whatever the Flip Angle is set at. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

* If Radiating Lines is checked, CS increases the current angle by the number of degrees shown in Flip Angle. To increase the angle, press and hold the shift button on the keypad, and press the Chan Lock button. Repeat to increase it again. It will go up to 90 degrees and return back to 0 degrees.

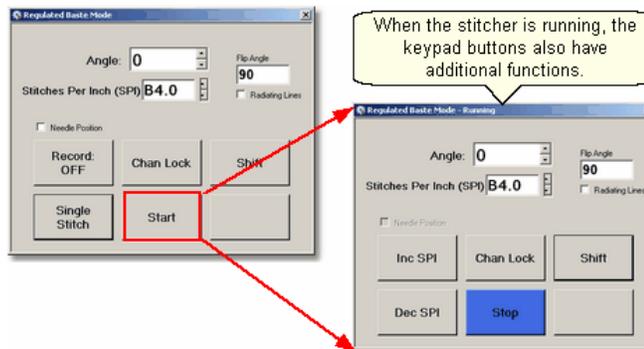
Shift - used to display additional functions (light blue buttons) and to execute them.

Change to Need Pos - is used to 'check' (or choose) the Needle Position option, making the Lower Left button change to 'Needle Position'. Press and hold the Shift button and press Change To Need Pos button. Repeat the 2-button sequence to return to Single Stitch.

Start - starts the stitching process, and STOP ends it.

Exit - To exit regulated mode, press and hold the Shift button and press the Exit button. Using the mouse & screen works too.

3. Press Start on keypad when ready to sew and the button label changes to Stop. The dark blue button means the stitcher is running.



Notice that the two buttons on the left have changed in meaning.

Inc SPI means Increase the stitch size.

Dec SPI means decrease the stitch size.

4. Press Shift and Exit on keypad when ready to exit Baste mode.

Tip: Try using the single stitch basting method when easing in excess fullness on borders. If you can't ease and baste the fabric without tucks, you probably can't quilt it without tucks either.

4.2.2 Securing the Quilt using Regulated_Sewing

Securing the quilt is generally hand-guided, done in regulated mode after the belts have been disengaged. CS uses a stitch regulator to provide even, consistent stitches.



Feature: Regulated Sewing

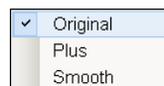
There are three choices for the regulated stitching process: Original, Plus and Smooth. These are very similar, but each has a little different 'feel' giving the quilter greater flexibility to match their personal free-motion style.

Assumptions: The quilt is loaded, bobbin is full, machine is threaded and the belts are (probably) detached. Free motion quilting is usually done without the belts that control the sewing head which allows the sewing head to move freely in all directions.

Steps to follow:

1. Choose a style of Regulated_Sewing

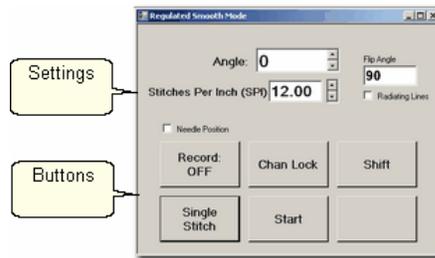
Click on the small black arrow to the right of the Regulated Sewing icon to see the choices. Original, Plus and Smooth vary only in the speed of the needle moving up & down. Try them all and choose the one that you like best.



2. Click on the Regulated Sewing icon.



A Dialog box shows settings and buttons.



Settings:

Angle: This is the current angle that will be used when Channel Lock is turned on.

Stitches Per Inch - Change with up/down arrows or use mouse & keyboard.

Flip Angle: If Radiating Lines is not checked, this angle will replace the current angle.

This is intended to be used with the channel lock feature. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

Radiating Lines - When checked, CS uses a 2-button sequence to increase the current angle by the number of degrees shown in Flip Angle. The belts must be engaged for this to work! To increase the current angle, press and hold the Shift Button on the keypad, and press the Chan Lock Button. Repeat this to increase it again.

Needle Position - If checked, the sewing head works like the 'Plus' machines, allowing a half stitch to be taken instead of a full single stitch. Press the button once and the needle goes down & stays there. Press it again to bring the needle back up. If it is down when stitching starts, it will go back down when it stops.

Buttons:

Record Off means the motions are not being recorded, The [Record function](#)^[140] is explained in a different section.

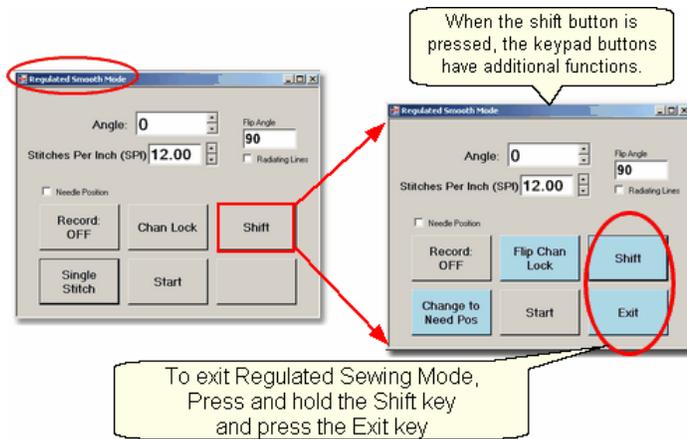
Chan Lock (on/ off) locks the sewing head so it stitches a straight line at one angle.

Shift - Press this once and additional keypad functions appear & stay for a couple seconds. This is for reference only - each blue button requires a 2-button sequence.

Single Stitch - press this to take a full single stitch. If the Needle Position box is checked, this button is labeled 'Needle Position', and pressing it takes a half stitch.

Start - starts the stitching process, and STOP ends it.

Additional Functions: These functions (light blue buttons) are initiated by using a 2-button sequence; press and hold the Shift button and then press the second button.



Flip Chan Lock - Changes the current angle.

- * If Radiating Lines is not checked, this will replace the current angle to whatever the Flip Angle is set at. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.
- * If Radiating Lines is checked, CS increases the current angle by the number of degrees shown in Flip Angle. To increase the angle, press and hold the shift button on the keypad, and press the Chan Lock button. Repeat to increase it again. It will go up to 90 degrees and return back to 0 degrees.

Tip: The belts **MUST** be engaged when using the channel lock.

Shift - used to display additional functions (light blue buttons) and to execute them.

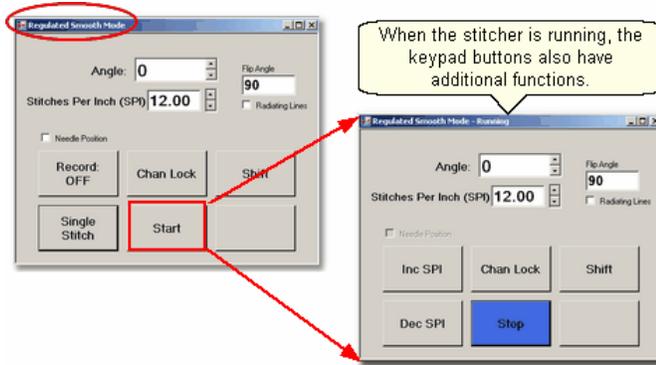
Change to Need Pos - is used to 'check' (or choose) the Needle Position option, making the Lower Left button change to 'Needle Position'. Press and hold the Shift button and press Change To Need Pos button. Repeat the 2-button sequence to return to Single Stitch.

Start - starts the stitching process, and STOP ends it.

Exit - To exit regulated mode, press and hold the Shift button and press the Exit button. Using the mouse & screen works too.

Tip: The **LEFT** handle button does the same thing as the lower left button on the keypad. The **RIGHT** handle button does the same thing as the lower center button on the keypad. This means Regulated Mode works with the handle buttons the same way as the Gammill Plus machines.

3. Press Start on keypad when ready to sew and the button label changes to Stop. The dark blue button means the stitcher is running.



Notice that the two buttons on the left have changed in meaning.

Inc SPI means Increase the stitches per inch to get a shorter stitch length.

Dec SPI means decrease the stitches per inch to get a longer stitch length.

4. Press Shift and Exit on keypad when ready to exit regulated mode.

[Quick Reference Regulated Sewing](#) ²³⁹

4.2.3 Stitch in the Ditch using Point_to_Point-Line

Stitch_in_ditch (SID) is a technique where the stitch line follows the seam line resulting in a virtually invisible stitching line. With practice, SID can be done exactly on the seam line. Stitch_near_ditch (SND) is a technique where the stitch line is very near, but not on the seam line. Both SID and SND use normal length stitches and are not removed. They become part of the overall quilting design. Some quilters prefer to do SID free-motion but CS offers another option.



Feature: Point To Point - Line

Point to point describes a CS process where a series of connected line segments are positioned and stitched. Remember Dot-To-Dot coloring books? The same concept applies. The quilter supplies the dots and CS stitches a perfect line between each contiguous pair. Each 'dot' is identified by moving the sewing head to each point (in order) and pressing the OK button. The spot where the needle would enter the fabric is the 'Dot' or 'point'.

Assumptions: The quilt is loaded, bobbin is full, machine is threaded, bobbins wound, the speakers are on and the belts are engaged.

Tip: When the seam allowance is pressed toward one side it becomes higher (thicker) than the other side. Doing SND on the lower side of the seam allows the stitching to sink down and disappear too.

Steps to follow:

1. Choose P2P-Line -

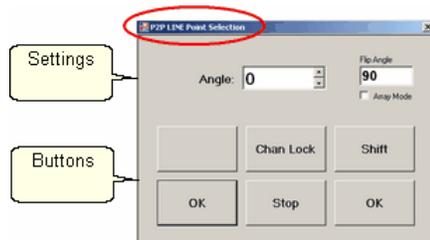


This is one of the choices presented when clicking on the black arrow to the right of the P2P icon.

2. Click on the P2P icon -



A dialog box appears with options.



Settings:

Angle: This is the current angle that will be used when the Channel Lock is turned on.

Flip Angle: If array mode is not checked, this angle replaces the current angle. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

Array Mode - When checked, CS uses a 2-button sequence to increase the current angle by the number of degrees shown in the Flip Angle. To increase the current angle, press and hold the shift button on the keypad, and press the Chan Lock button. Repeat this to increase it again.

Buttons:

Chan Lock - locks the head so it stitches along one fixed angle.

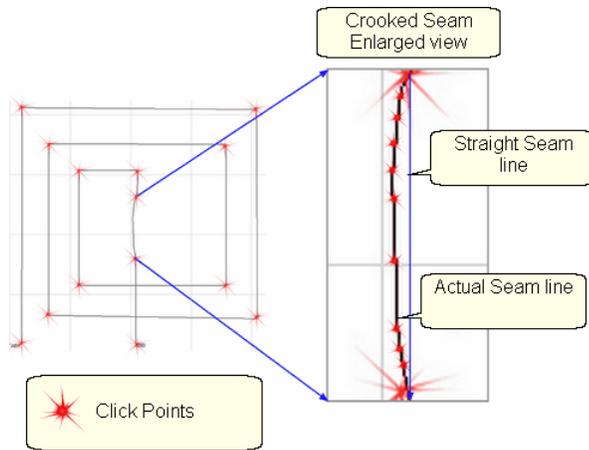
Shift: Press this and hold it down, and then press Chan Lock to Flip (or increase in array mode) the current lock angle.

OK (either button) selects the point, based on the position of the needle.

Stop indicates the end of the P2P-line segment. If more points are clicked, they will be detached from the first segment by a 'jump stitch'. This is like turning the needle off, moving to the next P2P point, to resume stitching.

3. Press OK to define the path. Move the machine head from one point to the next, clicking OK on each one. The machine makes a popping sound every time the OK button is pressed. This sound confirms that the point has been registered. The lines connecting the points also appears in the preview area of the screen after each click.

4. Press 'Shift' and 'Exit' to complete the line segments. It is always a good idea to check the images in the preview area before stitching.



Tip: P2P-Line is an accurate way to follow a seam. When the seam has a curve in it, the P2P click points can be very close together, following the curve of the seam. If it is straight, the click points can be further apart.

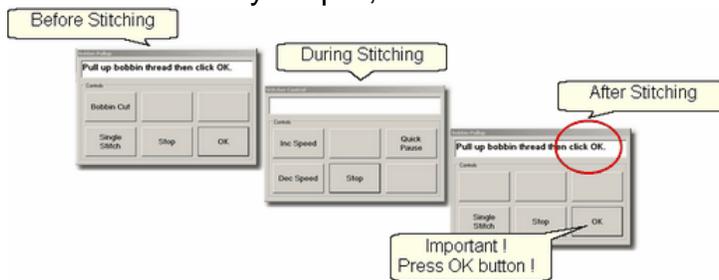
5. Click on Start_Quilting



and the sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread.

Tip: P2P-Line has its own motor speed control (found in the configuration form). It is a good idea to stitch P2P-Line very slowly. the default value is 10% motor speed but this can be increased or decreased while stitching, using the keypad. SPI and tieoff setting are inherited from the project.

6. Press OK when ready to quilt,



7. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Design It Yourself - It is possible to use the P2P - Line feature using the mouse and working directly in the preview area on the screen. See [Draw P2P Line](#)¹³⁶.

[Quick Reference P2P Line](#)²⁵⁰

4.3 Phase 2 - Blocks

After stabilizing the quilt, the blocks are stitched. In custom quilting the blocks are usually the dominant design being used. The outline of each block is identified (called a boundary) and CS uses the boundary as a template for the sizing and positioning of the quilt patterns. Both the boundary and the pattern image are previewed before being stitched.

4.3.1 Define the Block using Boundary

This is a process where the quilt block shape is traced with a series of points, using the sewing head. During this process, CS displays an image of the boundary in the preview area of the screen.

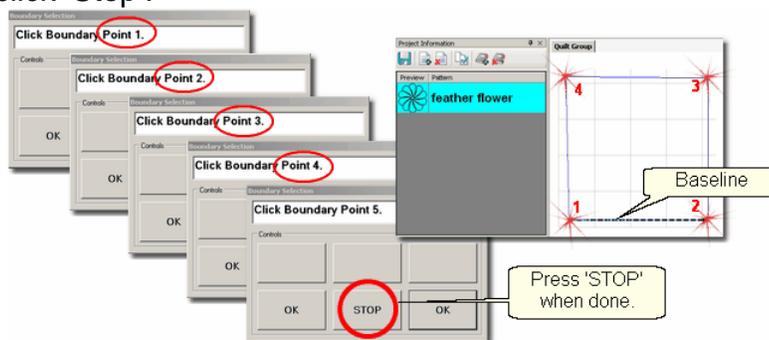


Feature: Boundary

Assumptions: Quilt is loaded and stabilized, machine is threaded, bobbins are wound, belts are engaged and patterns have been chosen.

Steps to follow:

1. Click on the Boundary icon. 
2. CS will prompt for the points that define the boundary. Use as many 'click points' as needed to define the block boundary precisely. When done defining the bounded area, click 'Stop'.

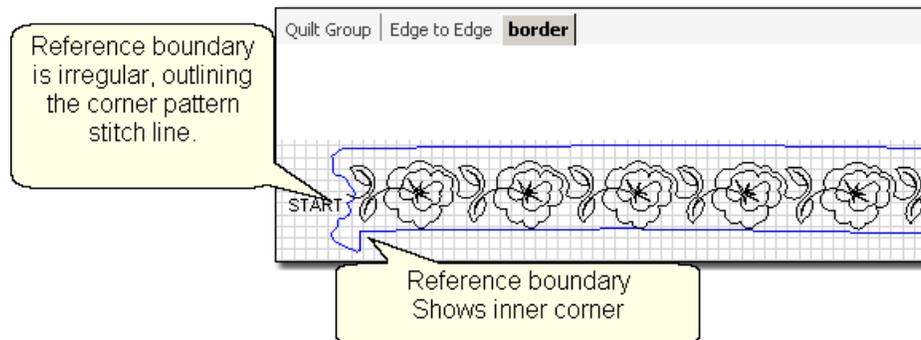


3. An image of the bounded area appears in the preview area. The first two points define the baseline and the pattern will be squared up to this. The square block boundary shown required 4 clicks to define it. Pressing the Stop button completed and enclosed the area. Create multiple boundaries at the same time if desired.

Tip: The fewest number of clicks for a boundary is 3 which defines a triangle. There is no upper limit to the number of clicks required to define a boundary and no limit to the number of boundaries.

4. Click [View All icon](#)³⁹  to adjust the screen so that all boundaries can be seen. Check it before continuing. Add a background grid if desired.

Reference boundaries are boundaries that mark points, edges, seamlines, designs or any other reference used for pattern placement. They might be used to contain a pattern, or they might just be used to help when trying to place a pattern so it fits precisely.



 **Tip:** Reference boundaries are extremely useful! They can be used to essentially trace blocks or seams on the quilt top, showing them on the screen and ensuring accurate pattern placement.

 **Design It Yourself** - It is possible to draw a boundary using the mouse and working directly in the preview area on the screen. See [D. I. Y. Draw Options - Boundaries](#)¹²⁸.

4.3.2 Stitch a Single Pattern using Pattern_To_Boundary

Once a boundary is defined, this feature will move a pattern into the boundary, resizing and repositioning it to fit the boundary.

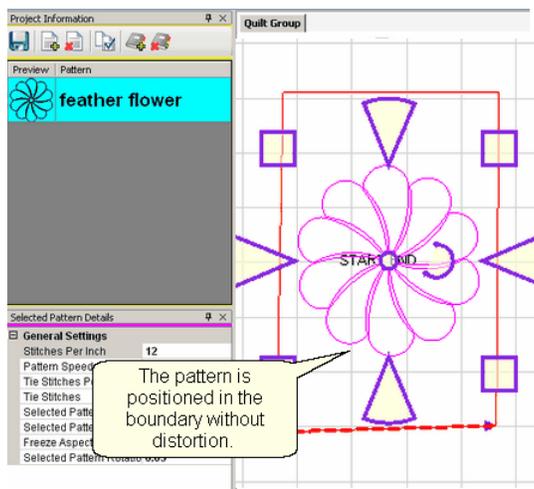


Feature: Pattern_to_Boundary

Assumptions: Quilt is loaded and stabilized, machine is threaded, bobbins are wound, belts are engaged, patterns have been chosen, boundaries have been defined. Choose the preferred method of moving a pattern into the boundary; Standard (shown first) or Stretch (shown next).

Steps to follow for Standard fit method:

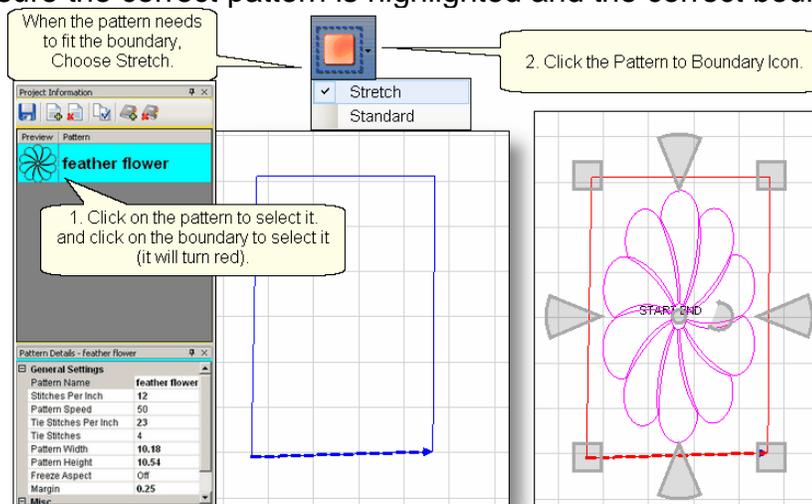
1. Be sure the correct pattern is highlighted and the correct boundary is selected. If the boundary was just created, it is already highlighted (red). If it wasn't the most recently defined boundary, just click it once.



2. Click on Pattern Into Boundary icon  and the pattern will appear inside the boundary in the preview area. Freeze Aspect = ON prevents distortion.

Steps to follow for Stretch fit method:

1. Be sure the correct pattern is highlighted and the correct boundary is selected

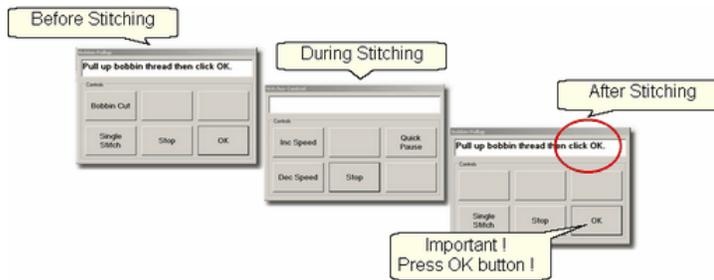


2. Click on Pattern Into Boundary icon  and the pattern appears in the selected boundary. Since 'stretch' was chosen, CS will turn off Freeze Aspect. the pattern is reshaped to fit the boundary.

3. Regardless of the fit method, click on the pattern in the preview area to select it.

4. Edit the size or placement of the pattern inside the bounded area and make changes if needed. [Save the project](#)  often.

5. Click on Start_Quilting  and the sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread. Press OK when ready to quilt.



At the end of the quilting sequence, CS prompts to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

[Quick Reference Single Block](#)²⁴¹

4.3.3 Stitch Multiple Patterns using Repeat_Patterns

Repeat Patterns will move a series of patterns (any type) into the preview area. Continuous line patterns will be connected so they stitch in one continuous path. Individual block patterns are placed in a row, but are stitched individually.

[Boundaries](#)¹⁵⁴ are nice to have as a reference, but not necessary.



Feature: Repeat_Patterns

Assumptions: Quilt is loaded and stabilized, machine is threaded, bobbins wound, belts engaged and patterns have been chosen. Boundaries are not needed but they can be helpful so define them if desired.

Steps to follow:

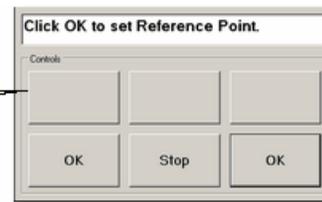
1. Be sure the correct pattern is highlighted.



2. Click on Repeat_Patterns icon



CS asks for a Reference Point. You can click on that now, or change the Repeat Settings first and then choose the reference point.

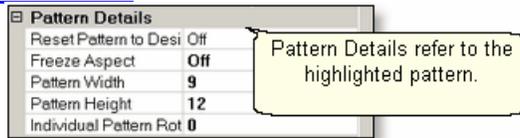


Tip: It is easier (but not essential) to make changes to the settings before clicking on the reference point. If you forget, CS will move only one repeat into the preview area and it will be the size of the default dimensions. Don't worry, you can still change the size, the

number of repeats and rows.

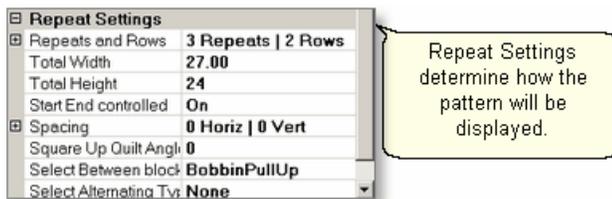
3. Make changes to the settings if desired. The example shows changes to the pattern size and to the repeat settings (3 repeats, 2 rows).

Pattern Details ⁵⁴

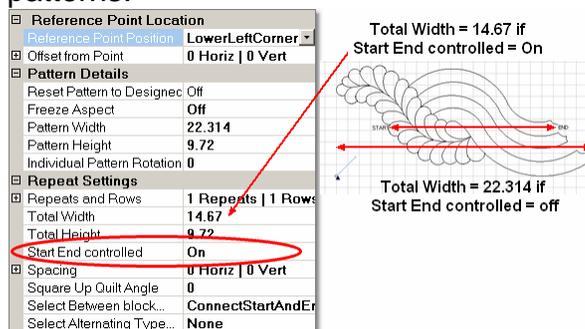


- * Reset Pattern to Designed - means using the Designer's original dimensions.
- * Freeze Aspect - means keep the pattern proportionate when re-sizing.
- * Pattern Width - is the actual width in inches.
- * Pattern Height - is the actual height in inches. If the height is entered as a negative number, the pattern is flipped upside down. The Freeze Aspect is also turned off automatically.
- * Individual Pattern Rotation - is the number of degrees that each pattern is rotated. This applies to each pattern individually, not collectively.

Repeat Settings ⁵⁴

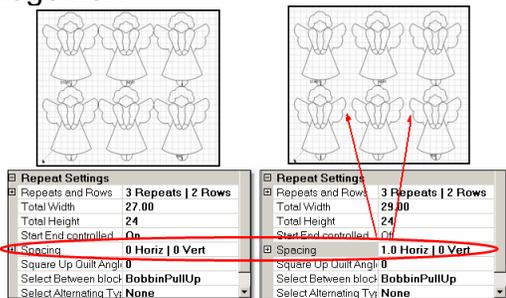


- * Repeats and Rows - is the number of repeats (across) or rows (down) desired.
- * Total Width - is the width of all the repeats, based on their placement as defined by the settings described below.
- * Total Height - is the height of all the rows, also based on their placement as defined by the settings described below. If the height is entered as a negative number, the patterns are flipped upside down and Freeze Aspect is turned off automatically.
- * Start End Controlled ¹⁸⁷ (ON / OFF) means the total width/height is measured between the start / end points rather than the outer edges of the patterns.

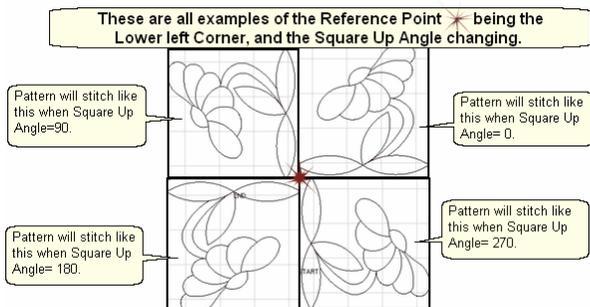


- * Spacing (Horiz / Vert) is the distance between patterns. Positive numbers

spread the patterns further apart and negative numbers bring them closer together.

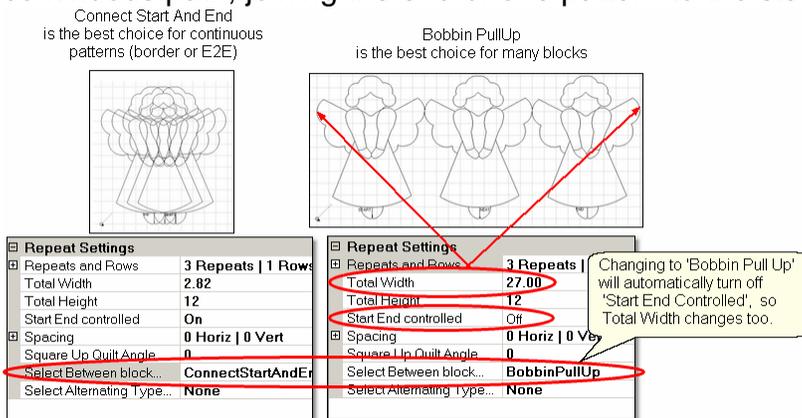


* **Square Up Quilt Angle** - is the number of degrees of rotation applied to the pattern group. This applies to patterns grouped together.

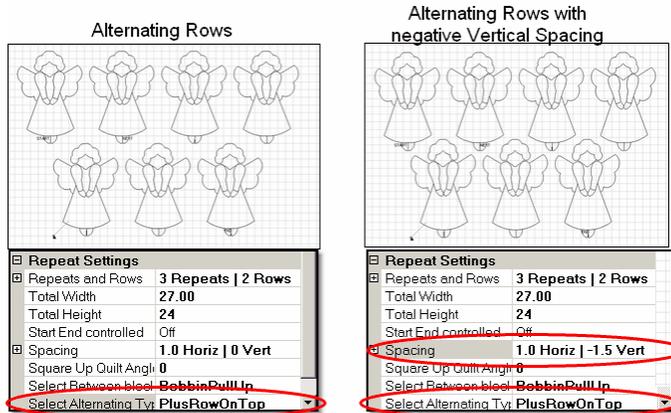


* **Select Between blocks** - what to do between each pattern.

- **BobbinPullUp** treats each pattern individually and will pause to allow the bobbin thread to be pulled up and trimmed.
- **Connect Start/End** treats the patterns as a group, stitching them in a continuous path, joining the end of one pattern to the start of the next.



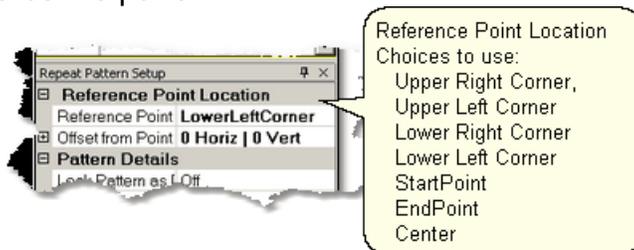
Select Alternating Type... - allows the rows to be staggered. This is done by adding an extra repeat to every other row (called the Plus Row). The following example also shows the effect of negative, Vertical spacing.



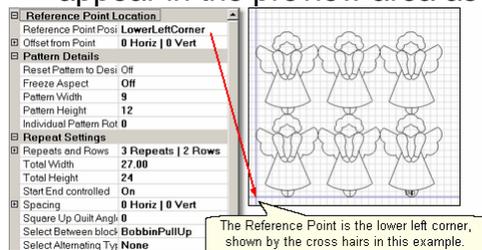
4. Click on the point on the quilt top that you will use as your reference point and the images are moved into the preview area.

Reference Point Location ⁵³

Reference Point Selection is specific to the pattern, BEFORE the Square Up angle rotates the pattern.



* Reference Point Position is how CS knows where to put the pattern image. It will appear in the preview area as a small blue circle with an arrow.



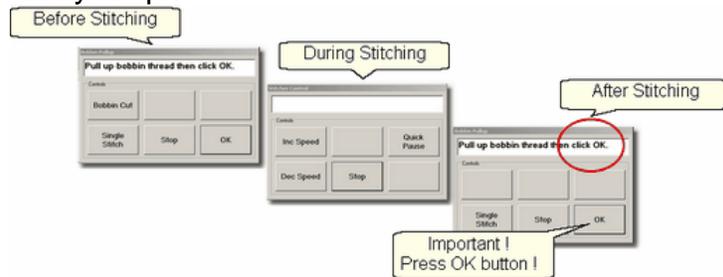
* Offset from Point - is the distance (H and V) between the clicked reference point and what the pattern will use as a reference point.

Reminder: Any of the process details (Repeat Pattern Setup) can be changed until you exit setup mode and begin to edit the patterns in the preview area. Once you start to edit patterns, returning to change numbers in the process details will erase any editing you have done. [Save Project Settings](#) ⁶³ often.

Exit Setup mode by 1) closing the Repeat Pattern Setup dialog box, 2) changing to a different quilt group (tab) 3) opening another project. The individual patterns in the preview area can now be edited as needed.

5. Click on Start_Quilting  and the sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread and choosing OK when

ready to quilt.



At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Tip: It is possible to re-stitch a pattern that is in the preview area. After a pattern is stitched, it turns red and is tagged as 'sewn'. To re-use this pattern, it needs to be tagged as 'unsewn'. To do this, right-click on the pattern, choose the "toggle as unsewn", reposition the pattern if needed and click on Quilt icon to stitch it again.

4.3.4 Stitch Partial Patterns using Trim-Outside

Block patterns can be customized to fit areas by trimming away part of the block. For example, square blocks can be trimmed to fit side setting triangles or any other odd shaped block.



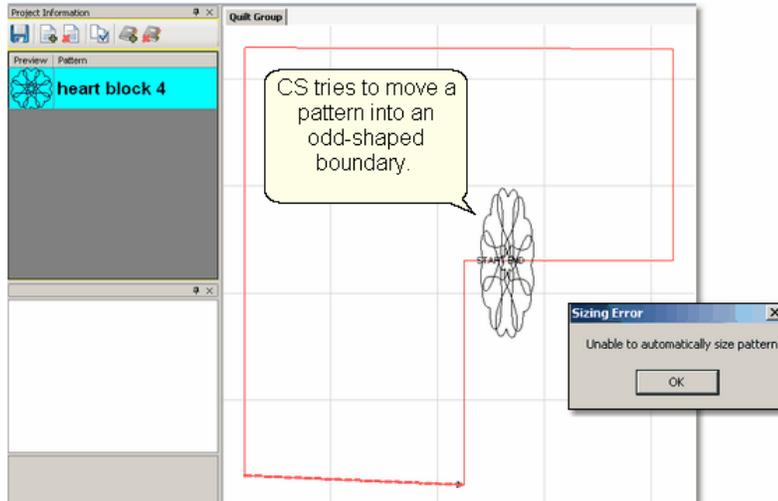
Feature: Trim Pattern - Outside

Assumptions: This assumes that the following preparation steps have been completed.

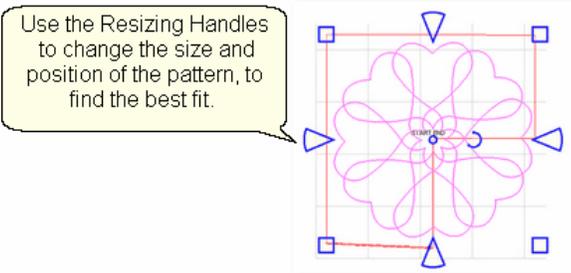
Prep Step #1. [Define the boundary](#)¹⁵⁴. Highlight it if needed (it turns red).

Prep Step #2. Highlight the pattern to be used (it turns cyan).

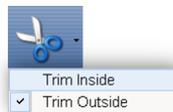
Prep Step #3. Click on Pattern into Boundary icon. When the boundary is odd shaped, CS may have trouble automatically resizing the pattern to fit the space. It will generate a warning message, but will still try to resize the pattern. Click OK to clear the Sizing Error box.



Prep Step #4. Click on the pattern and resize using the handles until satisfied.



Steps to follow:



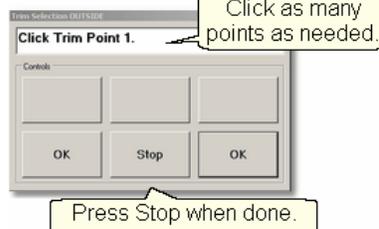
1. Specify Trim Outside.

This is one of the choices presented when clicking on the black arrow to the right of the Trim icon.

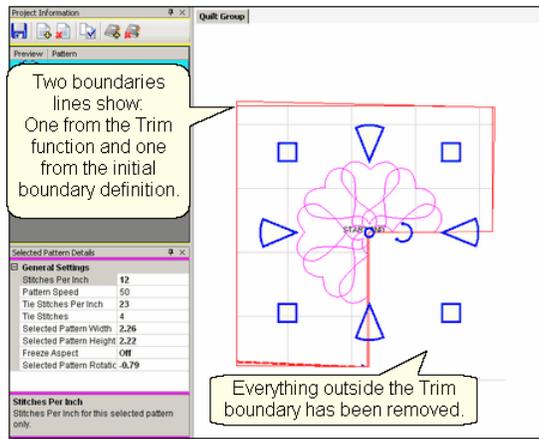
2. Click on the Trim icon.



CS will prompt for a Trim boundary.

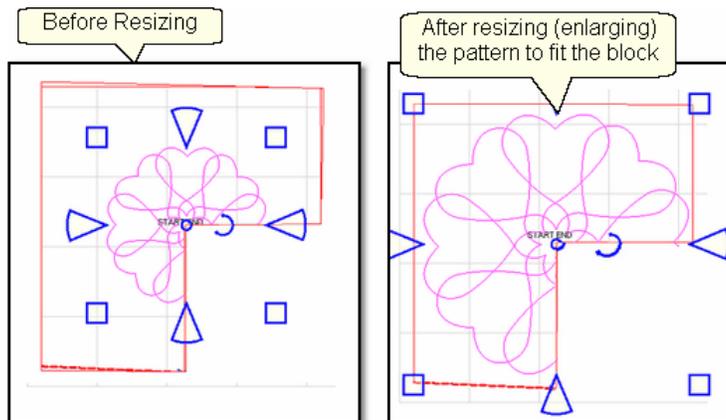


3. Click Stop when done and CS will erase everything outside the boundary.



Design It Yourself - Steps 2 & 3 above could have been done using the 'Draw' command, 'Draw Trim'¹³⁰ choice. These Draw Options¹²⁴ don't include step-by-step prompts, but perform the same function.

4. Reposition the pattern image. Click on the pattern(s) to select if needed. Use the resizing handles to re-size, rotate and reposition the pattern so it aligns to the Trim boundary. Save the project⁶³.



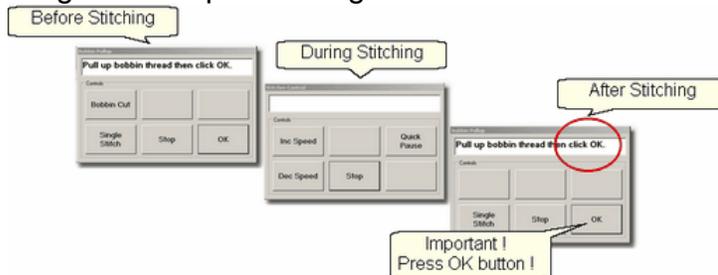
Tip: CS hasn't really deleted any of the pattern. It just won't sew outside of your boundary. Therefore, you can click inside your boundary to select the pattern and reposition it or resize it until it fits perfectly.

5. Click on Start_Quilting 

6. The sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread and will begin stitching.

The Trim function eliminates some of the pattern so the thread needs to be secured

at each edge of the trim boundary, as it 'jumps' from the end of one stitch line to the beginning of the next. To avoid thread breaks at these jump stitches, CS will finish a segment and instead of moving directly to the beginning of the next pattern segment it goes past about 1/4" and comes back to the correct spot. This pulls just enough extra thread to reduce the stress on the thread and this improves accuracy when starting the next pattern segment.



Tip: Some quilters prefer to skip the tieoff stitches and hand-tie the threads and bury them. CS can stop and do the Bobbin Pull-up routine instead of doing tieoff stitches. The settings are found in the Controller Definition - Configuration Form.

At the end of the quilting sequence, you will be prompted to pull up the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

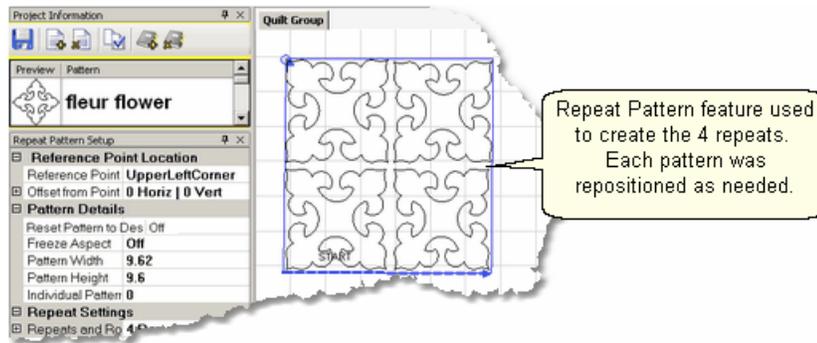
Tip: Multiple "Trim-Inside" boundaries are possible in one quilt group but only one "Trim-Outside".

[Quick Reference Trim Outside](#)²⁵⁵

4.3.5 Stitch a Composite Pattern

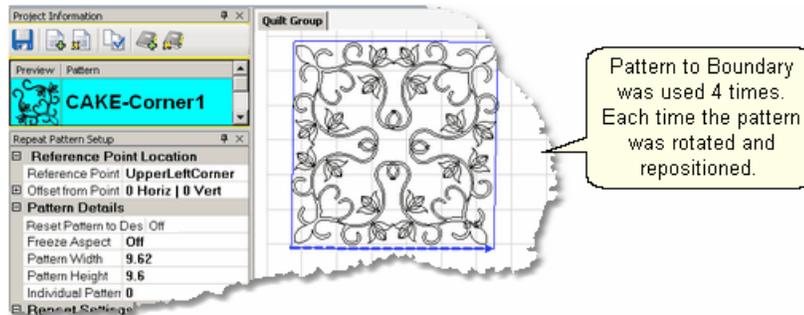
Composite patterns can be created using any patterns but [block patterns](#)⁶⁸ and [P2P patterns](#)⁶⁹ work best. Composite patterns are recommended when a block is large and needs more than one pattern to fill the space. Sometimes composite patterns are created to fit unusual shapes.

Example 1: Simple patterns are often the best choice for quilts because they add curves and motion without detracting from the piecing. Large areas may need multiple copies to provide consistent density.



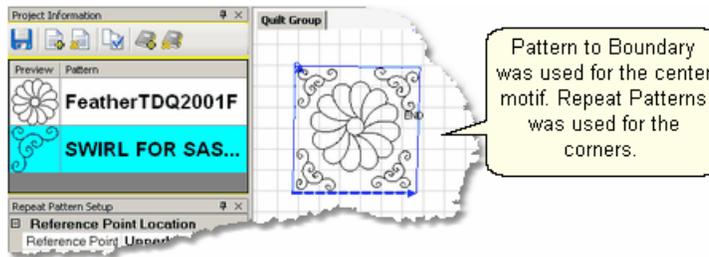
In the example above, the pattern was rotated 45° to fit the space. To move the patterns into the preview area, [Repeat Patterns](#)^[157] was used (notice the [reference point](#)^[160] mark in the upper left corner of the block). The patterns are easy to individually reposition inside the block. If this composite pattern is going to be used repeatedly in this project, it may be a good idea to group the four patterns, making it one pattern. To do this, select the group, right click them and choose '[Combine Group](#)'^[98]. If it is worth saving for other projects, use [Export](#)^[103].

Example 2: Sometimes the patterns need to overlap to provide consistent density. The individual patterns are harder to identify when they overlap too.



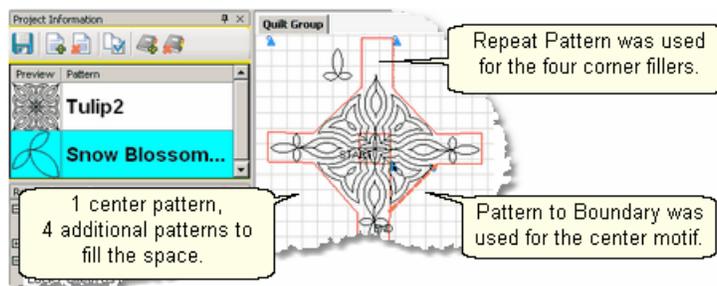
Multiple copies of the pattern were placed by defining the boundary first, then using [Pattern to Boundary](#)^[155] four times. Each pattern was moved into the boundary, then selected, repositioned, resized and rotated to fit one of the four quadrants. After all four patterns were placed and then they were carefully resized so the overlaps appear seamless. Again, if this composite pattern is going to be used repeatedly, it may be a good idea to group the four patterns, making it one pattern. Select the four patterns, right click the selection and choose [Combine Group](#)^[98] or [Export Pattern](#)^[103].

Example 3: Round patterns placed in square quilt blocks can be problematic. Filling the corners with a small pattern will improve quilt density. Keeping the corner pattern simple prevents detracting from the center motif.



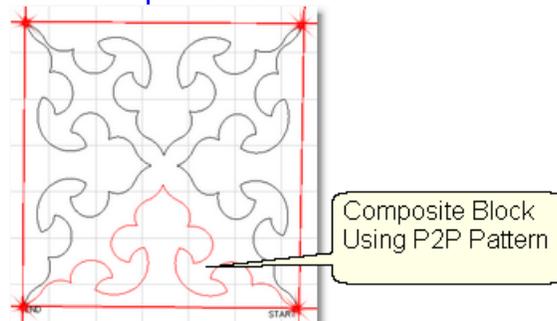
In this example, [Pattern to Boundary](#)¹⁵⁵ was used for the center motif. [Repeat Patterns](#)¹⁵⁷ was used for the corners. Each corner was rotated, resized and repositioned individually to fit the space. If these patterns will be used repeatedly and the piecing is very accurate, this would be a good set of patterns to [rubber stamp](#)⁹⁸. The 5 patterns would be grouped automatically, so the rubber stamped copy would be a single pattern.

Example 4: Odd shaped spaces are challenging too. In this example, a small triangular pattern was chosen because it had curvature that was very similar to the center block. When the triangular pattern touches the center pattern, it gives a very custom look.



The center pattern was rotated and placed first. The four triangles were sized next and then rotated to the correct orientation. (The top triangular pattern is detached to demonstrate how the patterns fit.) This might be a good set of patterns to rubber stamp too.

Example 5: Point To Point patterns can be used to fill a block. In this example, one of the four [P2P patterns](#)¹⁹⁰ has been stitched so it is red.

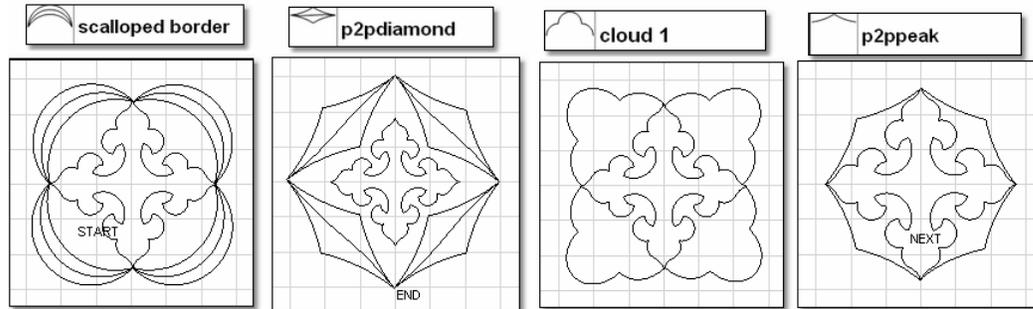


The pattern's shape was triangular, and the P2P clicks were done at the corners of the square block. It took five clicks to complete this design. (Use [Endpoint snaps](#)¹³⁰ to be sure the last click and the first click are on the same point.) Originally, because the patterns were triangular they touched at the center point, and looked too dense. Since each P2P pattern is editable, they were individually selected and the height

reduced so they do not touch in the center. The result demonstrates better balance. Because the composite pattern needs to stitch into the corners of the block (and blocks are rarely square) it might be better not to group these patterns.

Example 6: Point To Point patterns can also be used to enhance a block. The examples below used [P2P pattern](#)^[190] combined with a simple pattern to create new designs that all really work well together because they all contain a common element.

New Patterns using
Draw with P2P-Pattern



Design It Yourself - It is possible to use the mouse and keyboard shortcuts to do many of the steps above. See [Draw Options](#)^[124].

4.4 Phase 3 - Borders

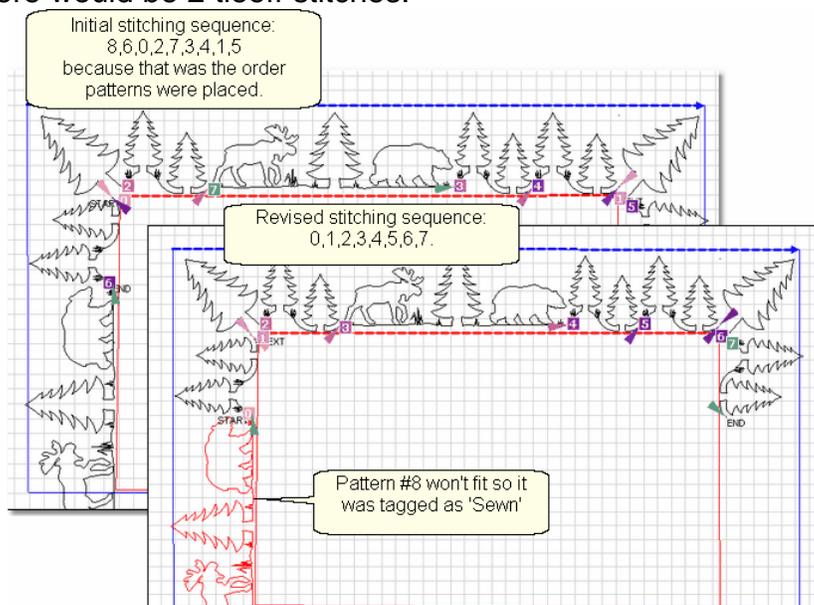
Borders are (usually) continuous line patterns designed to be stitched repeatedly across an area. Corner patterns are usually placed in the preview area first, and then the repeated border patterns are placed and connected.

The following sections explain several layouts for positioning border and corner patterns. Each of these techniques will be explained in detail, but regardless of the layout used, the pattern stitching direction and sequence is important. [Set Sew Order](#)^[125] is one of the Draw options used to check and change the sequence. No matter which border/corner layout is used on a quilt, it is a good idea to check the sewing order.

In the following example, the patterns were placed in the preview area by doing:

- * Corners first ([Border/Corner](#)^[174] feature with the single pine tree) Pattern #0-1.
- * Border pattern next ([Repeat Pattern](#)^[157] feature with 5 repeats of double pine tree) Patterns #2-6.
- * Additional border patterns last (Repeat Pattern feature with 2 repeats of 'Bear, pine & moose') Pattern #7-8.

The first diagram shows the original stitching sequence. The two corners would be stitched first, followed by the double pine trees, followed by the bear, pine & moose patterns and there would be 16 tieoff stitches. The second diagram shows the revised sequence, working from the left border, across the top to the right border. there would be 2 tieoff stitches.

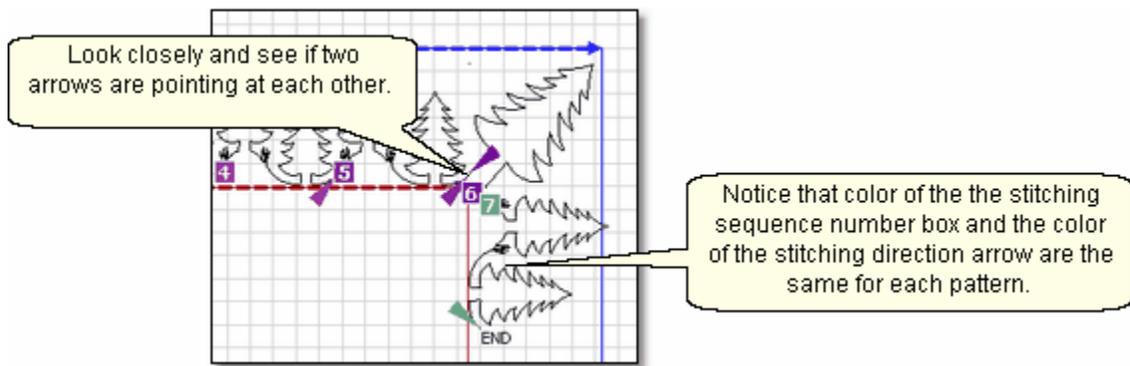


To change the stitching sequence:

- * Click Draw, choose [Set Sew Order](#)^[125] (or press F8)
- * Click on each pattern in the order you would like them to be sewn. The color of the number box changes to a white background and a blue number, so you know which patterns you have already included.
- * To end and save your changes, Click Draw, choose Set Sew Order (or press F8). Press Esc if you wish to cancel your changes.

Notice that one of the patterns in the left border is tagged as being sewn. It really isn't sewn yet but we tagged it as sewn so the machine won't hit the front (belly) bar. This first part of the border will be stitched and after the quilt is rolled, side border boundaries will be defined, and the moose, pine & bear pattern will be repositioned, and then quilted. With certain designs, it might be better to remove the quilt from the frame, rotate it and re-load so the side borders (which are now at the top and bottom) can be done in one pass.

Examine the sewing path carefully. The pattern sequence number is always at the beginning of the pattern. The sewing direction arrow is always at the end of the pattern. A sure sign of a problem is two arrows pointing at each other. Simply click the arrow on one of them to reverse the start/end points if needed.



 *Design It Yourself:* With experience you will be comfortable making corner patterns using your own border patterns. The [Draw Options](#)^[124] and [Extra Edit Options](#)^[95] are used to modify them and [Export Pattern](#)^[103] will save them in a re-useable format.

 *Tip:* Develop a plan and draw a diagram of the entire quilt top for reference. Include the shape of the corner treatments. Accurately measure each border area noting the maximum size of the border. Subtract the space required for the margins and bindings and the remainder is the area to be stitched. Use the remainder as the target border dimensions for planning the initial pattern size, the number of rows and repeats.

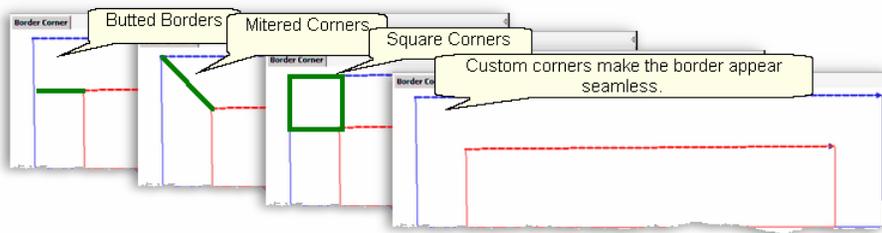
4.4.1 Border Planning

Border patterns that are large, open or non-symmetrical can usually be done while the body of the quilt is being done. They can be complicated however because the size of repeated patterns along the top border may be different than the size of the repeated patterns along the side borders. Calculating this difference, planning for the variations, and stitching a section at a time (every time the quilt top is rolled) is a more advanced topic.

***D. I. Y.** Design It Yourself - True beginners might prefer to skip this section, and return to it after reading the rest of the manual and becoming familiar with quilting terms, features and functions.*

The shape of the corner will have an impact on your plan.

1. [Butted borders](#)^[177] have no corner. They stop at the edge of the quilt or at the edge of the border.
2. [Mitered Corners](#)^[179] use the angled ends of the border pattern to create a mirror image.
3. [Square Corners](#)^[183] are like cornerstones where a separate pattern is used to fill the space.
4. [Custom corners](#)^[186] are designed to let the pattern flow continuously around the corner. This is possible when a pair of patterns (border and corner) are designed together.



Butted Borders and Mitered corners do not use the Border/Corner feature of CS. Borders with square corners or custom corners do use the Border/Corner feature.

Make a Plan - Draw the quilt on the screen using the CS Draw capabilities. This step is optional - but recommended if the border pattern is very wide, or complicated (like cables).

1. Measure the quilt. Begin by taking measurements including the border height, the outer edge (-out), and along the border seamline (-in). Later you will measure the distance between corner patterns. These would be good things to save in the Project Notes !

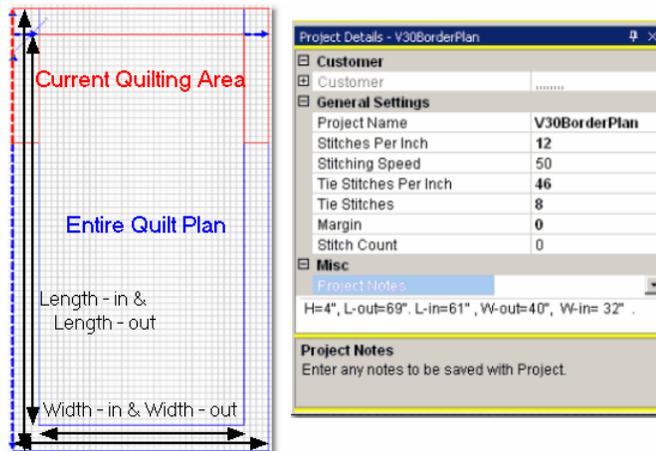
Length: L-in _____ L-out _____ L-between _____
 Width: W-in _____ W-out _____ W-between _____
 Height: _____

***D. I. Y.** Design It Yourself - If you set the origin to the upper left corner of your quilt, the background grid will be exactly aligned with your quilt.*

2. Draw the Entire Quilt.

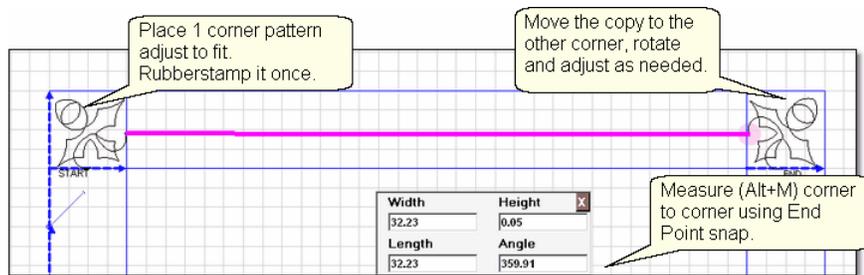
- Add the pattern: *PatternsPrecisionStitch/Geometric Square.qli* to the list.
- Highlight this pattern, and change the pattern details to reflect the outer border length and width.
- Click on Repeat Pattern icon.
- Set Reference Point=UpperLeftCorner, 1 Repeat, 1 Row.
- Move the machine to the upper left corner (outer edge) of the quilt and click OK. This has now defined the outer edge of your quilt.
- Convert this pattern to a boundary.
- Close the Repeat Pattern Details dialog box.
- Using the same pattern, change the pattern details to reflect the inner border length and width.
- Click on Repeat Pattern icon.
- Set Reference Point=UpperLeftCorner, 1 Repeat, 1 Row.
- Move the machine to the upper left border seam inside corner (inner edge) of the quilt and click OK. This has now defined the inside edge of your quilt.
- Convert this pattern to a boundary.

3. Mark the Current Quilting Area. With the machine head and Boundary Icon, mark the boundary around the upper and side borders, covering as much as possible.



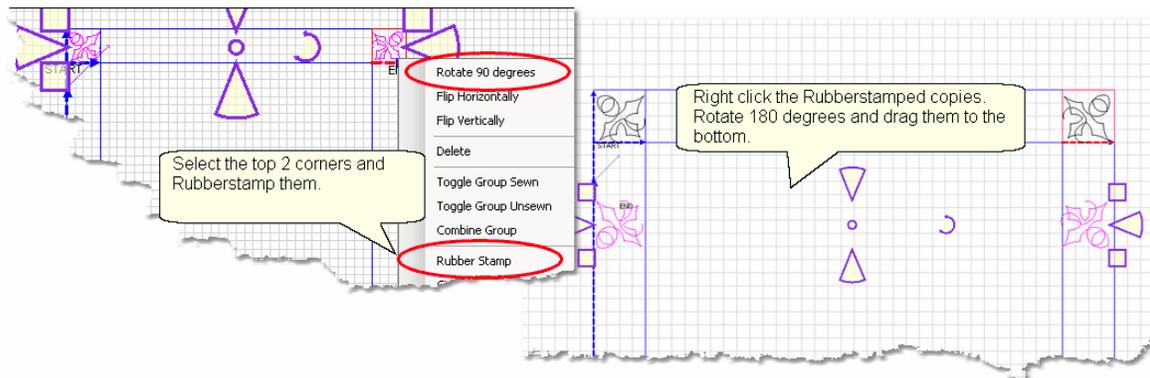
Tip: Change the grid size to a larger number when drawing the whole quilt. EX: a quilt 80"x 90" is hard to draw with a small grid size, but if the size is 10", it is easy.

4. Place the top corners. Choose the corner pattern and place one repeat on the screen. Adjust the pattern until it fits the corner. Create an additional reference boundary around the corner if desired. Remember to leave margins at the inside border seam and the outer binding line.



- Right click the corner pattern, choose Rubber Stamp.
- Move the copy to the opposite corner.
- Right click this pattern, Rotate 90° until the orientation is correct.
- Use Draw Measure (Alt+M) to measure the distance between the corner patterns. End Point Snap makes this easy.

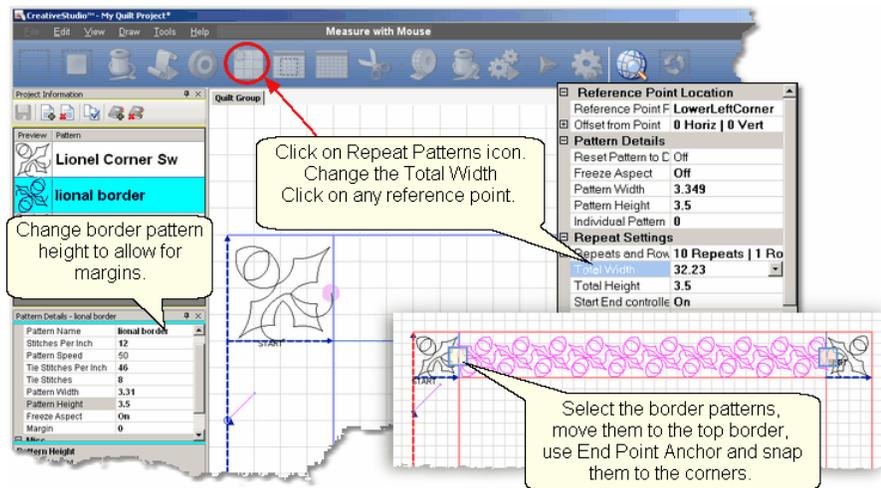
5. Place the bottom corners. Our plan assumes the bottom border patterns are the same size as the top, so we can duplicate the top patterns for the bottom border.



- Select the two top corner patterns,
- Right click the selection, and click Rubberstamp.
- Right click the rubberstamped copy and Rotate the pattern 180°.
- Drag the copy to the bottom border area.
- Use Draw Measure (Alt+M) to measure the side border (corner-to-corner) using End point snaps.

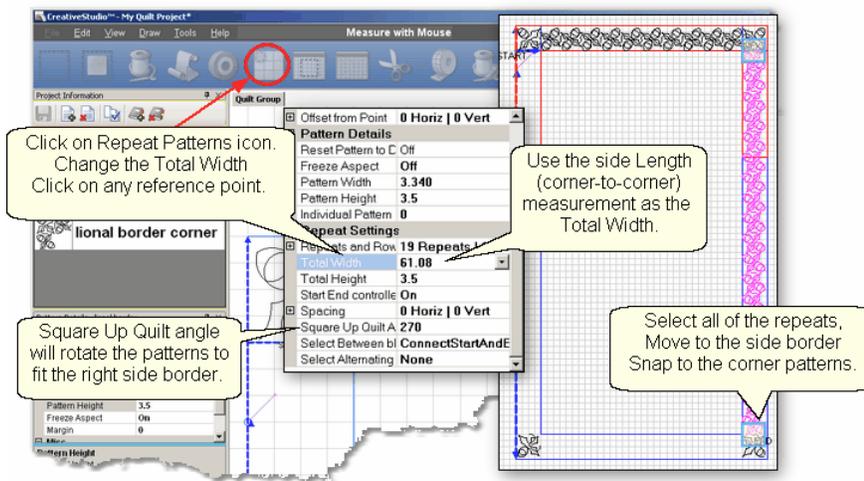
Tip: Directional border patterns should be rotated and not flipped H or V. Flipping a pattern creates a mirror image and the direction changes.

6. Place the top border patterns. In this step, we will have CS calculate the size and number of repeats needed for the top border. Select the border pattern and change the pattern height to fit the border space. Most people allow a 1/4" margin on both sides of the quilted design. Be sure Freeze Aspect=On so the pattern is not distorted.



- Click on the Repeat Pattern Icon, and change the total width to the top corner-to-corner measurement.
- Click on any reference point, and CS calculates how many repeats are needed and they appear on the screen.
- Select them all and move them to the border area.
- Use End Point Anchor (F11) and End Point Snap (E) to connect them to the corner patterns.

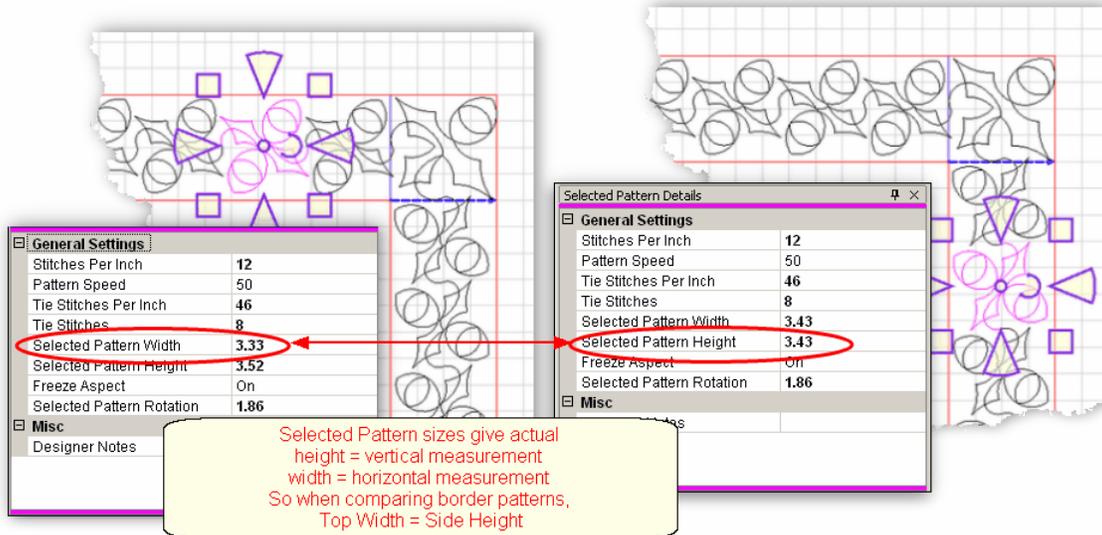
7. Place the side border patterns. Side borders are the same as the top borders (but they are rotated by 90° or 270°) so the process is the same. The Repeat Pattern Icon will be used again, and we will use the Length corner-to-corner number for the calculations.



- Click on the Repeat Pattern Icon, and change the total width to the side corner-to-corner measurement.
- Set the Square Up Quilt Angle to 270° for the right side, and 90° for the left.
- Click on any reference point, and CS calculates how many repeats are needed and they appear on the screen.
- Select them all and move them to the side border area.
- Use End Point Anchor (F11) and End Point Snap (E) to connect them to the corner

patterns.

8. Note the pattern sizes. Our objective was to see what size the pattern needs to be for the top and side borders. We knew they would be a little different, and they are. If we had not made this minor adjustment, and used the top measurement for the side borders too, the side border would have been off by almost 2 inches (19 repeats * 0.1 difference - 1.9 inches total difference).



Planning the quilt shows us that the side border size needs to be a little different than the top/bottom border size. This doesn't seem too significant here but when a border design is very wide (like a feather) the size becomes very significant. By having a plan, you can preview the sizes (top and side) and see if the differences will be noticeable. You may want to switch patterns!

9. Rename the quilt group "Plan", and save the project.

4.4.2 Corners using Border_Corner

When a separate pattern is used for the corner, they are generally placed first. This feature will resize and position that pattern into the corners.

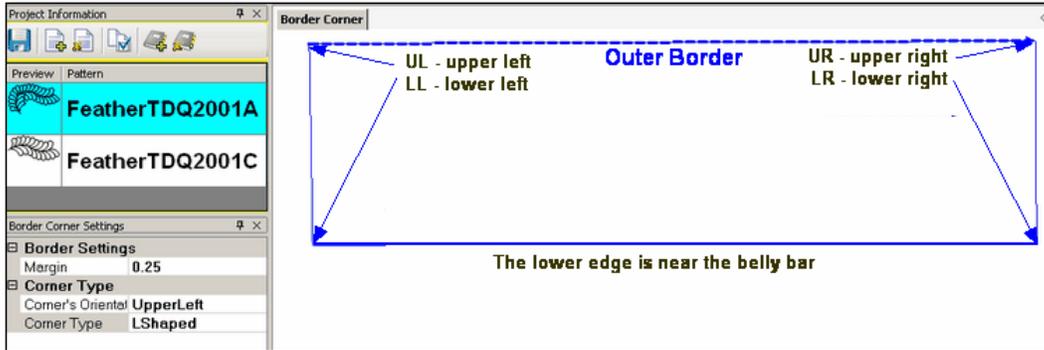


Feature: Border_Corner

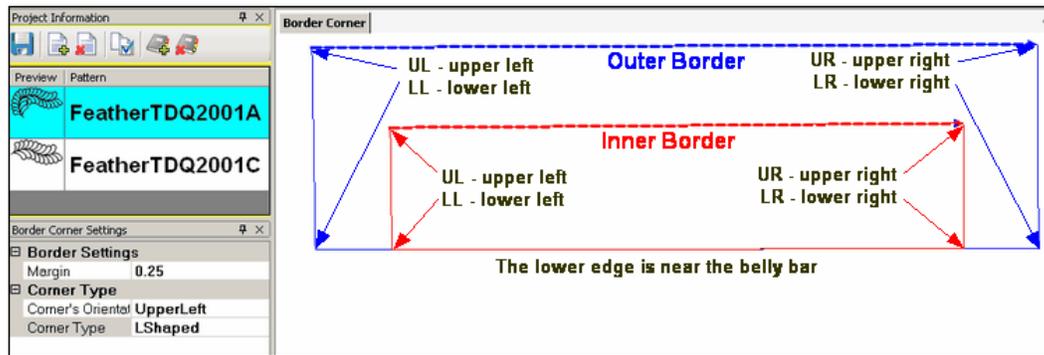
Assumptions: Quilt is loaded and stabilized, machine is threaded, bobbins wound, belts engaged, and patterns have been added to the project. The Corner pattern should be highlighted so the Pattern Details are displayed in the Properties box. Most corner patterns need to retain their original shape so Freeze aspect ON might be a good idea.

Steps to follow:

1. Click on the [Border_Corner icon](#) 
2. CS prompts for the border boundaries:
Click Outer border first (UL, UR, LR, LL corners).

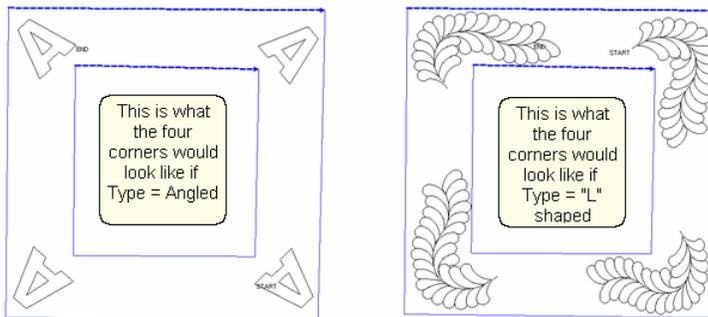


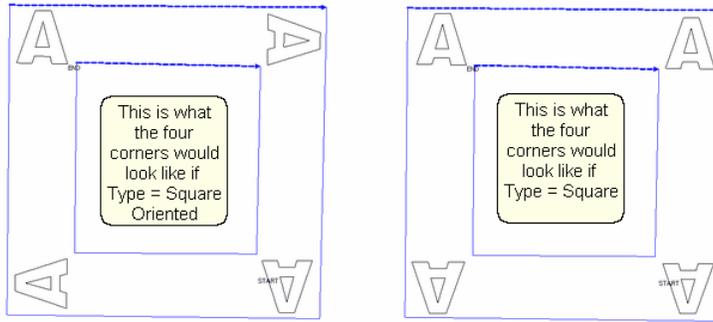
Click Inner border next (UL, UR, LR, LL corners).



The image of the Outer Boundary is blue and the Inner Boundary is red. CS can tell if this is an upper or lower border by the distance between the two boundaries. If the bottom edges are very close, it is an upper border. Conversely, if the top edges are very close, it is a bottom border.

3. Edit the Border Corner settings, choosing the type and orientation that best fits the corner pattern. Here are some examples of corner types.

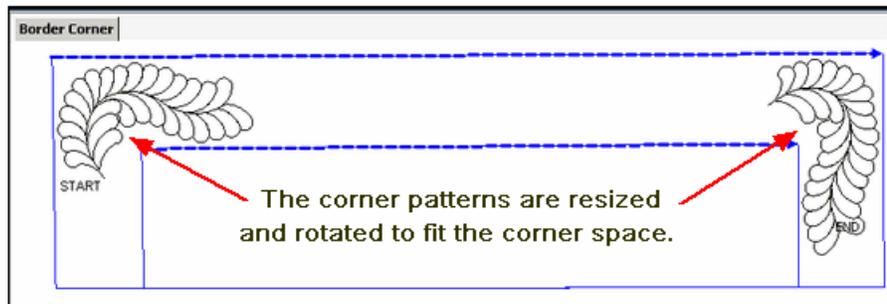




Corner Types:

- * "L" shaped corners extend past the corner into the border area.
- * Square corners have the top upright and the bottom upside down.
- * Square oriented corners are rotated in 90 degree increments.
- * Angled corners are angled toward the inside at each of the four corners.

4. CS moves the corner pattern into the preview area.



If adjustments are needed, click on the pattern to select it (pink) and then resize and/or repositioned as needed. Don't forget to [save the project](#) ⁶³.

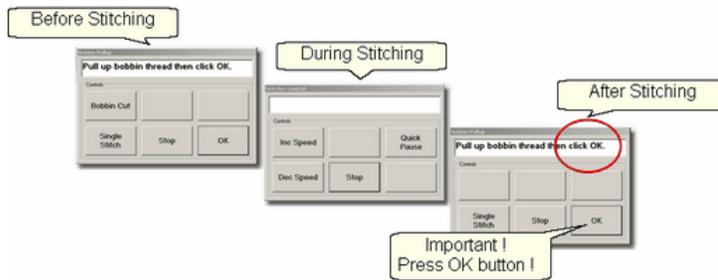
*Tip: It is fine to stitch the two corner patterns first **IF** you are sure that the repeat pattern for the border area will fit without further adjustments. A safer method is to develop a plan to see how they fit.*

Tip: If you decide you don't like the corner pattern and want to try something else, just highlight the new corner pattern, click Pattern to Boundary icon, and CS will switch the patterns.

5. Click on Start_Quilting



and the sewing head will move to the Start of the first pattern. CS will prompt for pulling up the bobbin thread and choosing OK when ready to quilt.



At the end of the quilting sequence, you will be prompted to pull up the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

The Border Corner process is repeated at the bottom edge. CS will know from the boundaries that it is the bottom edge and will position the corners properly.

[Quick Reference Border-Corner](#)²⁴³

4.4.3 Borders - Butted

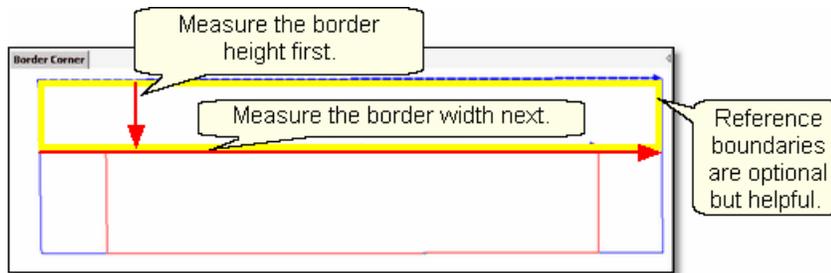
There is no corner pattern required for Butted borders. The top and bottom borders stop at the outer edge of the quilt. The side borders stop at the edge of the border (where the sides meet the top and bottom). Sometimes the quilting patterns overlap but usually they are butted too, as our example will show.



Feature: Repeat Pattern

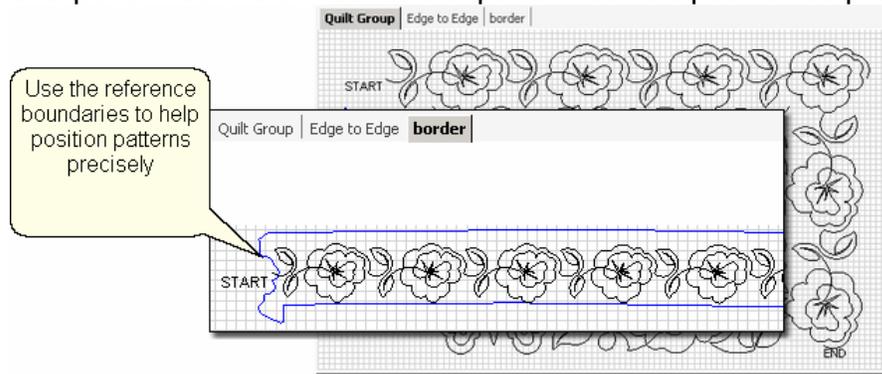
Assumptions: Quilt was measured, a diagram is drawn and the target border dimensions have been determined. The quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged, and patterns have been added to the project.

1. Click on the pattern to be used. This highlights it (cyan) in the Project Info area.
** CS defaults to Freeze Aspect ON initially so a height change (to fit the border) will change the width proportionately. CS then turns off Freeze Aspect so you can make minor changes to fit the space.*
2. Measure the top border height first and determine the height of the pattern. (Maximum border size less margins). Transfer the height measurements into the pattern height field of the [pattern details](#)¹⁵⁸.
3. Measure the top border width next, using the border seamline as the baseline. Be sure to measure in the direction you will be stitching because the measure process will also determine the square-up angle of the border. Write down these numbers on the diagram for use later.



Tip: It is always a good idea to see if opposite borders are the same size. Minor differences (< 5%) can be handled easily. Significant differences require that each border be planned separately.

4. [Boundaries](#)¹⁵⁵ are optional but very helpful because they will show (in the preview area) any curvature in the seamlines. Reference boundaries can also trace the edge of a pattern so the butted border pattern can be positioned precisely.



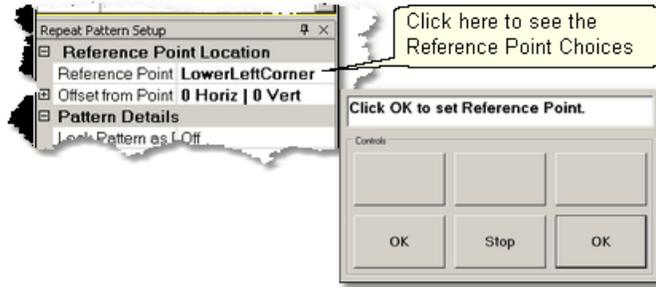
5. Click on [Repeat Patterns](#)¹⁵⁷ icon.  CS asks for a Reference point.

Tip: Before providing the reference point, be sure the [Repeat Pattern Setup](#)⁵³ dialog box is expecting the Reference point you plan to provide. Also change all the [Pattern Details](#)⁴⁹ and Repeat Settings as needed - It is easier to do this now, before the patterns are moved to the preview area.

6. Change the repeat settings.

* Transfer the border width measurement into the Total Width field, and CS will calculate the number of repeats needed.

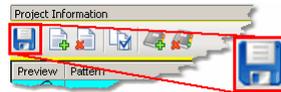
7. [Choose a Reference point](#)¹⁶⁰.



Move the machine head to that reference point and press OK to set it. CS moves the pattern(s) to the area anchored by the reference point. The position of the pattern repeats can be changed easily.

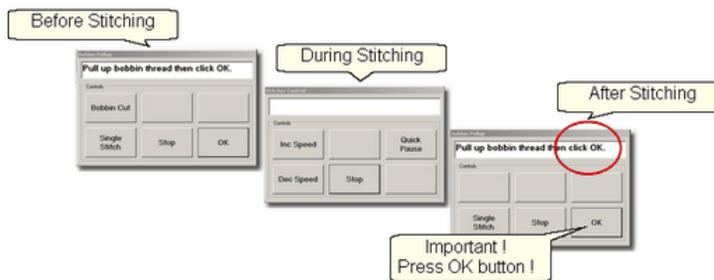
8. Edit the size and repeats using the [Pattern Details](#)¹⁵⁸ or [Repeat Setting Details](#)¹⁵⁸ first.

When done, [Save the project](#)⁶³.



9. Make final adjustments in the preview area last. This includes checking the [sewing order](#)¹²⁵.

10. Click on [Start_Quilting](#)  and CS moves the sewing head & prompts for bobbin pull-up.



11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

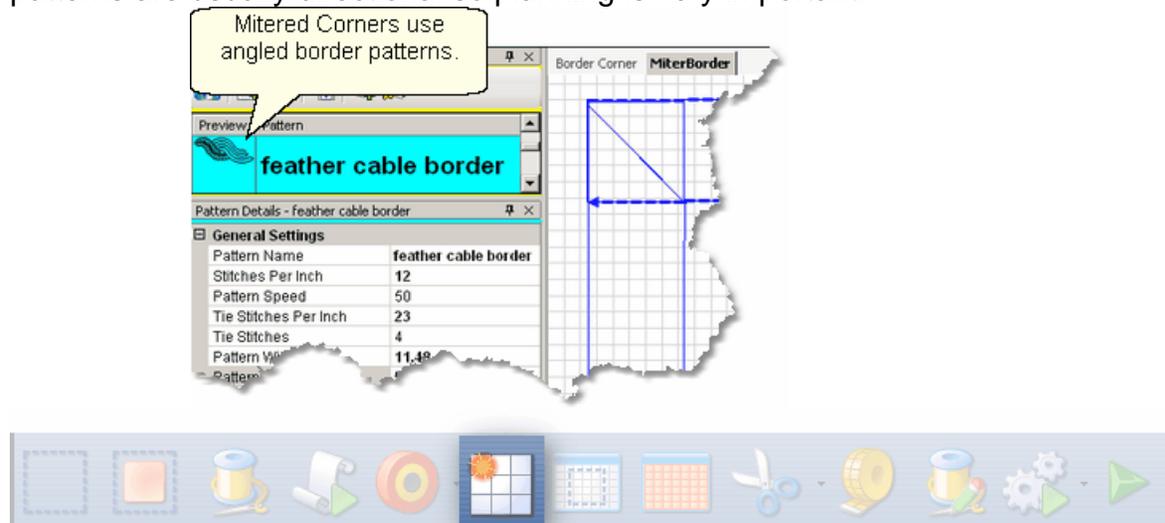
Tip: If the continuous line of the stitching was interrupted by the re-positioning of the individual pattern placement, CS may do tieoff stitches between the patterns. However, if the space is less than one stitch length, there will be no extra tieoff.

[Quick Reference Border-Corner](#)²⁴³

4.4.4 Borders - Mitered

Border patterns that have angled ends can eliminate the need for a corner pattern when they are positioned to fit the miter, creating a mirror image. This technique requires [repositioning the patterns](#)⁹⁵ to create the mirror images. These border

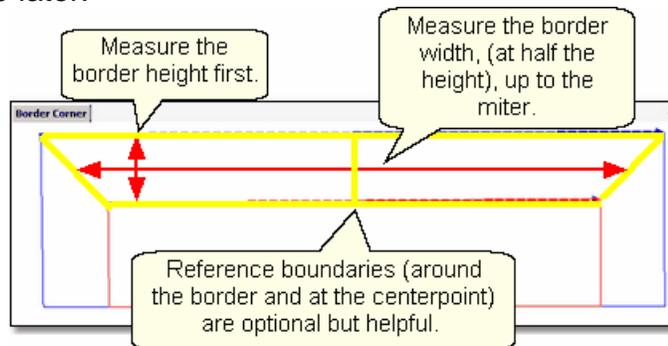
patterns are usually directional so planning is very important.



Feature: Repeat Pattern

Assumptions: Quilt was measured, a diagram is drawn and the target border dimensions have been determined. The quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged, and patterns have been added to the project.

1. Click on the pattern to be used. This highlights it (cyan) in the Project Info area.
* *CS defaults to Freeze Aspect ON initially so a height change (to fit the border) will change the width proportionately. CS then turns off Freeze Aspect so you can make minor changes to fit the space.*
2. Measure the top border height first and determine the height of the pattern. (Maximum border size less margins). Transfer the height measurements into the pattern height field of the [pattern details](#)¹⁵⁸.
3. Measure the top border width next. This measurement is just approximate because the true width depends on how the pattern fits into the angled sides. Measure the width across the center of the border piece. Write down these numbers for use later.



4. [Reference Boundaries](#)¹⁵⁵ are optional but very helpful because they will show (in the preview area) any curvature in the seamlines. When using directional border patterns, the centerpoint becomes very important so add a boundary there too.

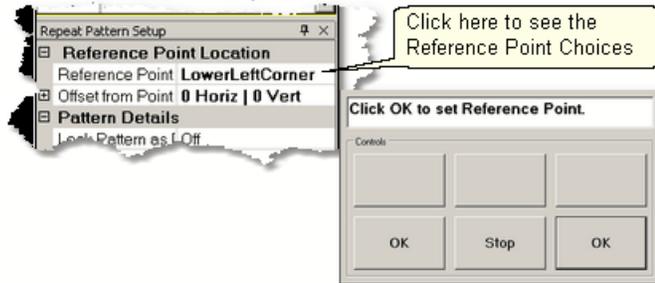
5. Click on [Repeat Patterns](#)¹⁵⁷ icon.  CS asks for a Reference point.

Tip: Before providing the reference point, be sure the Repeat Pattern Setup dialog box is expecting the Reference point you plan to provide. Also change all the Pattern Details and Repeat Settings as needed - It is easier to do this now, before the patterns are moved to the preview area.

6. Change the repeat settings.

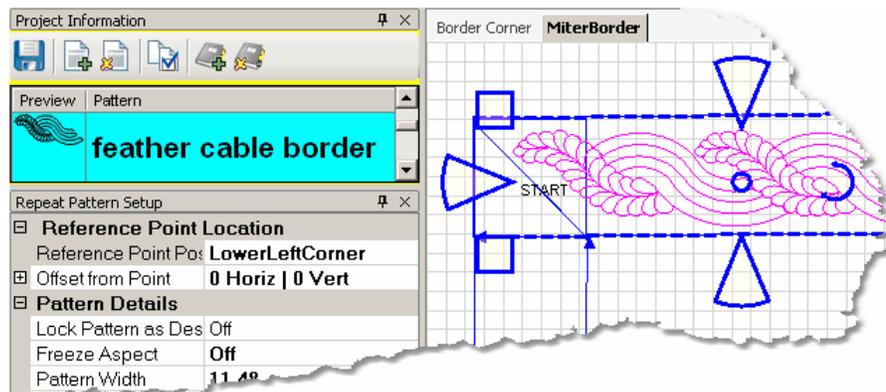
- * Change the Total Width to your measurement and CS will calculate the number of repeats needed.
- * Measure the border seamline and transfer the Angle to the [Square Up Quilt Angle](#) in the Settings.

7. Choose a Reference point¹⁶⁰.



Move the machine head to that reference point and press OK to set it. CS moves the pattern(s) to the area anchored by the reference point. If the reference point clicked (on the quilt) is not the point being requested by the screen, just change the screen choice and the patterns will change.

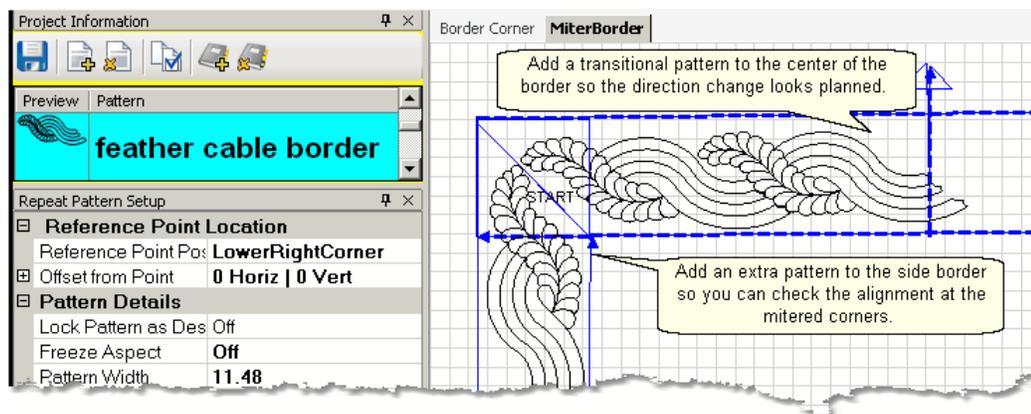
8. Change the size and repeats using the [Pattern Details](#)¹⁵⁸ or [Repeat Setting Details](#)¹⁵⁸ first. When using a directional pattern like the one shown, it is a good idea to have an even number of repeats because half of them will be flipped to go in the opposite direction.



Tip: To reposition all the patterns together, they must be selected as a group. To do this press and hold the Control key while clicking on the individual patterns. Once they are all selected, click on the group and the resizing handles appear.

9. Make final adjustments in the preview area last. This includes checking the [sewing order](#) ¹²⁵.

D.I.Y. Design It Yourself: Directional patterns need a transition pattern in the center of the border, making the direction change a design element. Place the transitional pattern in the preview area first. Remove any overlapping pattern segments using either trim function ([Trim Inside Icon](#) ¹⁹⁴ or [Draw Trim](#) ¹³⁰)

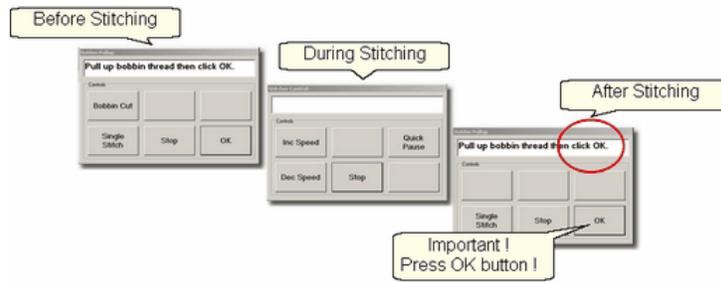


Tip: When working with mitered corners, it is a good idea to position the side border patterns, and check the fit at the miters. The sides don't have to be quilted yet, but seeing how the patterns align will make the final results better.

When done, [Save the project](#) ⁶³.



10. Click on [Start_Quilting](#)  and CS moves the sewing head & prompts for bobbin pull-up.



11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

[Quick Reference Border-Corner](#)²⁴³

4.4.5 Borders with Corner Squares

Border patterns don't always fit corner spaces so choosing a separate corner pattern is common. The corner should complement, but not necessarily match the pattern chosen for the border.



Feature: Repeat Pattern

Assumptions: Quilt was measured, a diagram is drawn and the target border dimensions have been determined. The quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged, and patterns have been added to the project. Corner patterns have been placed and stitched as follows:

- Prep Step #1. Click on Boundary Icon and define a boundary in the left corner.
 - Prep Step #2. Click on the Corner pattern to highlight it.
 - Prep Step #3. Click on Pattern To Boundary icon & CS moves the pattern in.
 - Prep Step #4. Adjust if needed.
 - Prep Step #5. Stitch.
- Repeat for the right corner.

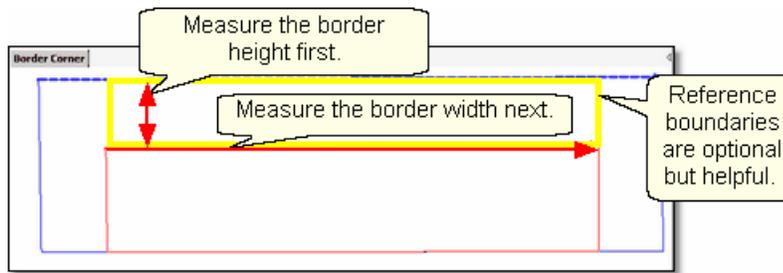
1. Click on the border pattern to be used. This highlights it (cyan) in the Project Info area.

* CS defaults to Freeze Aspect ON initially so a height change (to fit the border) will change the width proportionately. CS then turns off Freeze Aspect so you can make minor changes to fit the space.

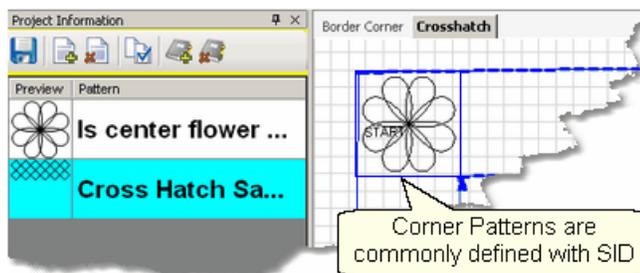
2. Measure the top border height first and determine the height of the pattern. (Maximum border size less margins). Transfer the height measurements into the pattern height field of the [pattern details](#)¹⁵⁸.

3. Measure the top border width next, using the border seamline as the baseline. Allow for a margin at the corners if desired. Be sure to measure in the direction you will be stitching because the measure process will also determine the

square-up angle of the border. Write down these numbers on the diagram for use later.



4. [Reference boundaries](#)¹⁵⁵ are optional but very helpful because they will show (in the preview area) any curvature in the seamlines. The Corner Square patterns are usually done before the borders are stitched. The corner blocks are often defined with outlining or [SID](#)¹⁵¹ so do this if desired.



5. Click on [Repeat Patterns](#)¹⁵⁷ icon.  CS asks for a Reference point.

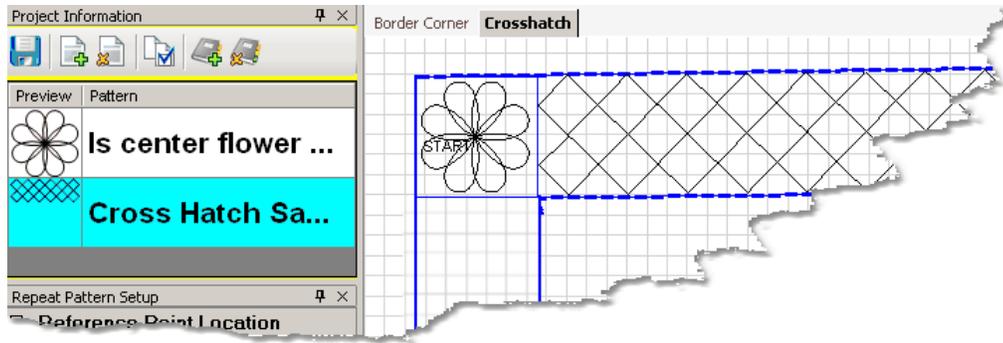
6. Change the repeat settings:

- * Change the Total Width to your measurement and CS will calculate the number of repeats needed.
- * Change the Square Up Quilt Angle, using the angle rotation number from the width measurement.

Tip: Sometimes it is a good idea to repeat the Measure step to get the Square Up Angle, especially if the quilt has been tightened or adjusted in any way..

7. Choose a [Reference point](#)¹⁶⁰.

- * Move the machine head to that reference point and press OK to set it. CS moves the pattern(s) to the area anchored by the reference point. The position of the pattern repeats can be changed easily, using the reference boundaries as the guide.

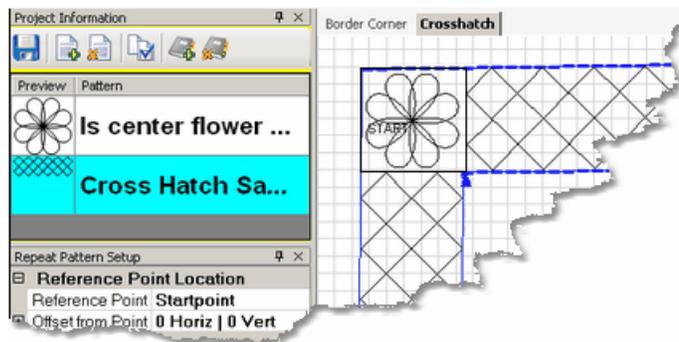


8. Change the pattern size (in [Pattern Details](#)¹⁵⁸) and/or repeats (in [Repeat Setting Details](#)¹⁵⁸) first.

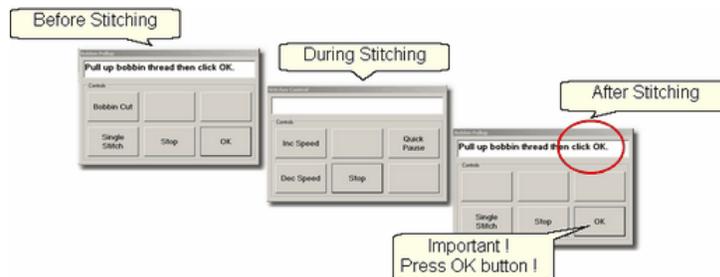


When done, [Save the project](#)⁶³.

9. Make final adjustments in the preview area last. This includes checking the [sewing order](#)¹²⁵.



10. Click on [Start_Quilting](#) and CS moves the sewing head & prompts for bobbin pull-up.



11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

[Quick Reference Border-Corner](#)²⁴³

4.4.6 Borders with Custom Corners

To get a visually seamless continuous flow around corners, customized corners are needed. The corner and border patterns are designed to fit together. The best results happen when the patterns can maintain their original proportions, so Freeze Aspect is important.

Cable and Feather patterns can be difficult to position, depending on how they were designed. It is a good idea to preview the corners with the border patterns using both the top dimensions and the side dimensions to make sure the quilt dimensions don't skew the feathers or cables excessively.

To do this:

- * Start with the Border/Corner feature, using the actual top border width.
- * Place the corner patterns on the preview area but don't stitch them yet.
- * Continue with the Repeat Pattern feature also using the top border width.
- * Place the border patterns on the preview area but don't stitch them yet.
- * Look carefully at the preview area. Do the patterns still look good together?
- * If the patterns look good, draw a sketch and make notes of the measurements.



Tip: Sometimes border patterns that are much wider than they are tall, will have to stretch or shrink to fit the actual border area. This will distort the shape of the feather (or cable) so they don't visually match the corners. Beginners might be better off choosing a different pattern.

Repeat the process using the actual side border dimensions instead of the top border dimensions. When you use the Border Corner feature a second time, you will be prompted for a new quilt group name - make it descriptive like 'Check Side Borders'. By repeating the process using the side border dimensions, you can check that the side patterns will look like the top patterns.



Design It Yourself: With experience you will be comfortable making corner patterns using your own border patterns. The [Draw Options](#)^[124] and [Extra Edit Options](#)^[95] are used to modify them and [Export Pattern](#)^[103] will save them in a re-useable format.

- * Extend the sketch to include the side border placement. Be sure the border pattern fits the side borders as well as the top/bottom borders.
- * **SAVE the project !**



Feature: Repeat Pattern

Assumptions: Quilt was measured, a diagram is drawn and the target border dimensions have been determined. The quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged, and patterns have been added to the

project. Patterns have been previewed, and the sizes noted. Place the custom corners using [Border/Corner](#)¹⁷⁴ as follows:

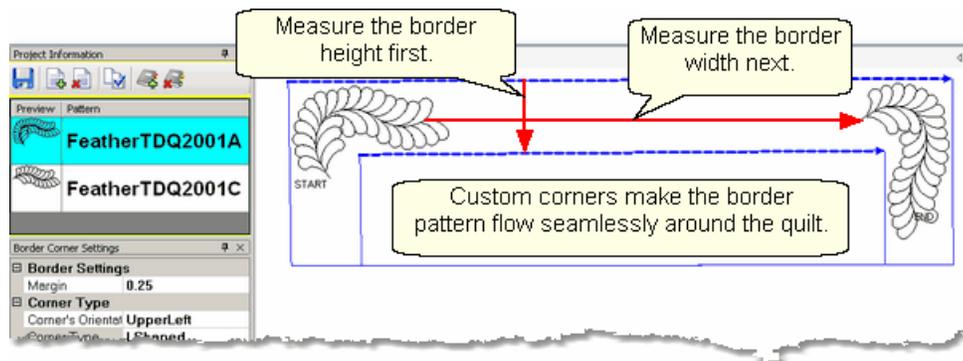
- Prep Step #1. Click on Border Corner Icon:
- Prep Step #2. Click the Outer Border boundary as prompted.
- Prep Step #3. Click the Inner Border boundary as prompted.
- Prep Step #4. Choose the Corner type ("L", Square, Square Oriented, Angle).
- Prep Step #5. Choose the Orientation (the pattern image looks like which corner?)
- Prep Step #6. Click Pattern To Boundary if CS hasn't automatically done it.
- Prep Step #7. Adjust size and placement if needed.
- Prep Step #8. Stitch the two corners.

1. Click on the border pattern to be used. This highlights it (cyan) in the Project Info area.

* CS defaults to Freeze Aspect ON initially so a height change (to fit the border) will change the width proportionately. CS then turns off Freeze Aspect so you can make minor changes to fit the space.

2. Measure the top border height first and determine the height of the pattern. (Maximum border size less margins). Transfer the height measurements into the pattern height field of the [pattern details](#)¹⁵⁸.

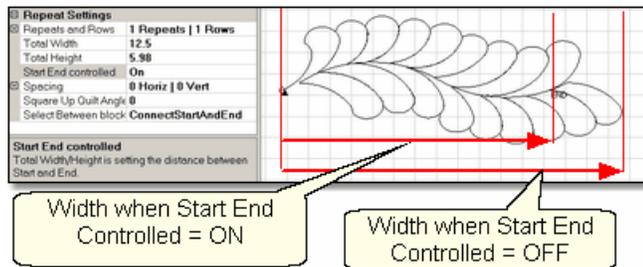
3. Measure the top border width next, starting at the endpoint of the left corner, ending at the startpoint of the right corner (knot to knot). Be sure to measure in the direction you will be stitching because the measure process will also determine the square-up angle of the border. Write down these numbers on the diagram for use later.



5. Click on [Repeat Patterns](#)¹⁵⁷ icon.  CS asks for a Reference point.

6. Change the repeat settings.

* Change Start End Controlled to = ON. CS will measure the width between the Startpoint and Endpoint instead of using the outside edges of the pattern.

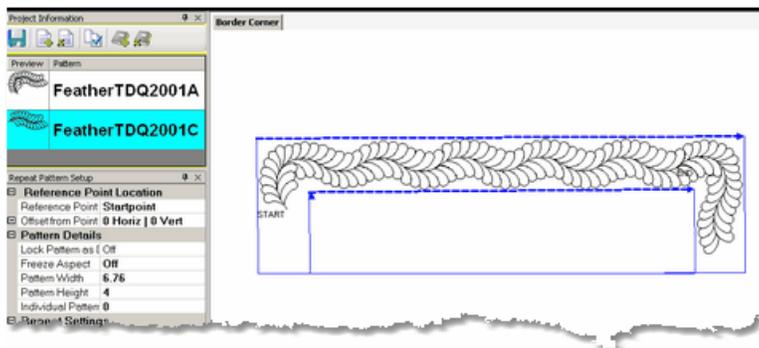


- * Change the Total Width to your measurement and CS will calculate the number of repeats needed.
- * Change the Square Up Quilt Angle, using the angle rotation number from the width measurement. Both of these changes can be done by transferring measurement iff the last thing measured was the width, from the endpoint of the left corner to the startpoint of the right corner.

7. Choose a [Reference point](#).¹⁶⁰

- * Move the machine head to that reference point and press OK to set it. CS moves the pattern(s) to the area anchored by the reference point. The position of the pattern repeats can be changed easily, using the reference boundaries as the guide.

8. Change the pattern size (in [Pattern Details](#)¹⁵⁸) and/or repeats (in [Repeat Setting Details](#)¹⁵⁸) if needed.



9. Make final adjustments in the preview area last. This includes checking the [sewing order](#).¹²⁵

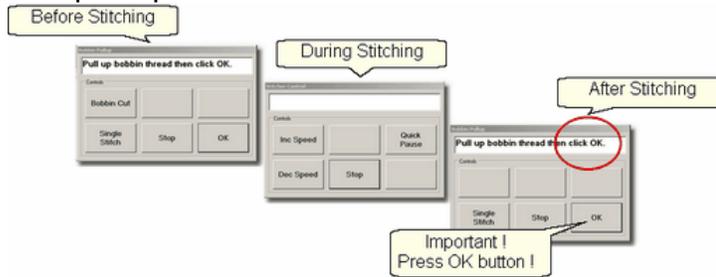
When done, [Save the project](#).⁶³



Tip: Be careful when adjusting the repeated patterns. If the start/end points become separated by more than 1 stitch, CS will stitch them as if they were individual patterns.

10. Click on [Start_Quilting](#)  and CS moves the sewing head & prompts for

bobbin pull-up.



11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

[Quick Reference Border-Corner](#) ²⁴³

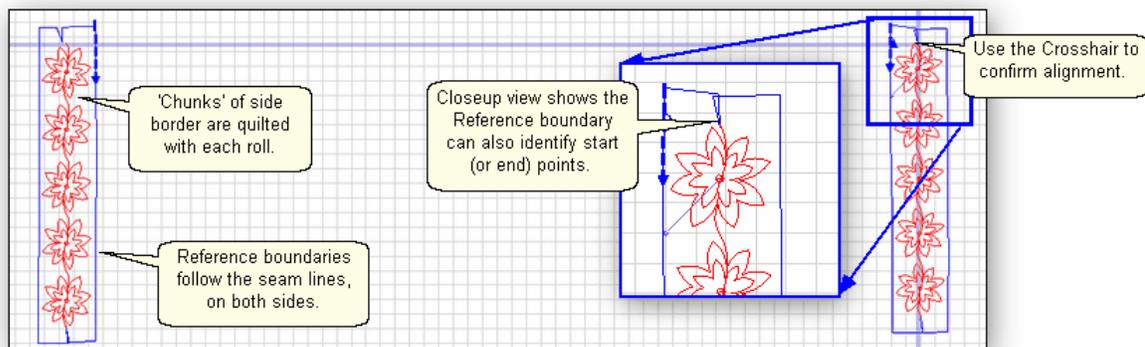
4.4.7 Side Borders

Border patterns that are large, open or non-symmetrical can usually be done while the body of the quilt is being done. A section (or chunk) of both side borders is stitched every time the quilt top is rolled.

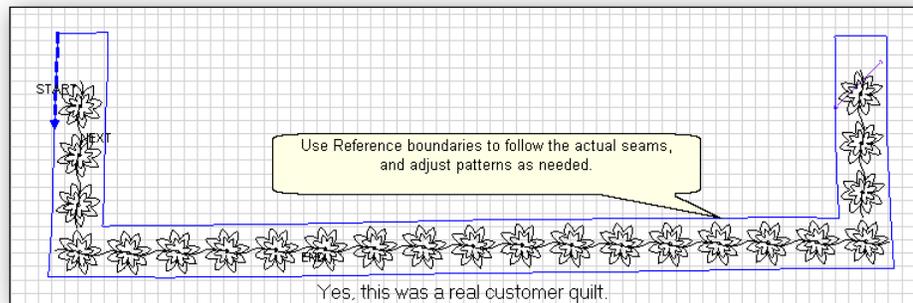
Border patterns that are very detailed or contain pattern segments that are double stitched might look better if the quilt is reloaded sideways. This is a personal preference. Patterns that are very complicated or detailed (cables or feathers are good examples) don't hide size variations well, so do the main part of the quilt first (including the four corners, top and bottom borders) and turn the quilt.

Quilt border sections as you quilt the center.

This is the most expedient method of doing the borders and it works well on most quilts. Essentially, the top border and corners are done first, the quilt is rolled, and sections of the borders are done, using reference boundaries to mark the border areas and to help align the new patterns with the previously quilted patterns.



It is wise to include some side border pieces even when doing the bottom border. As you can see from the picture, not all quilts are square or straight, and positioning corners is easier if side border pieces are included.



Turning the Quilt

When it is really important to get the perfect fit, turning the quilt to do the side borders makes sense. The four corners and top borders are done when the body of the quilt top is being quilted. Be sure to baste the side edges of the borders as you roll the quilt. Securing the [border seams with SID](#)¹⁴⁸ is often a good idea too because it helps prevent the layers from shifting.

When ready to remove the quilt, find the halfway point of the side borders, and mark it on both sides with a safety pin. This point will be aligned to the center point of the table leaders when it is reloaded. Carefully remove the quilt from the table leaders. Rotate the quilt and re-load, attaching just the backing to the leaders. The side borders have been moved to the top and bottom edges and can now be measured and stitched as a unit.

Tip: Dense background fillers should be stitched last, after the borders have been completed. Any dense quilting in the background around custom quilt designs can make the fabric shrink. When this happens next to a border it can cause the border fabric to pucker and tucks are likely. A better method is to wait until all the blocks and borders have been completed and do the background fillers last.

[Quick Reference Border-Corner](#)²⁴³

4.4.8 Sashings using Point_To_Point - Pattern

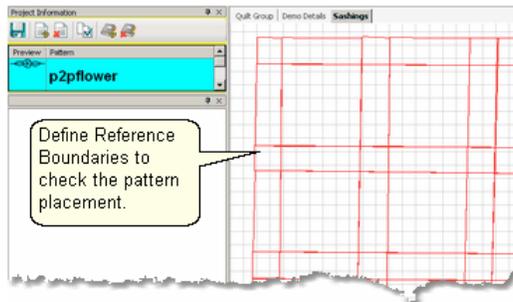
Sashings are mini-borders with an additional design requirement; they need to intersect each other and still look attractive. Placing border patterns (using Repeat Pattern feature) in sashing areas is possible but each sashing strip needs to be measured and squared up individually. The Point To Point technique using the right pattern makes quilting the sashings easy.



Feature: Point to Point - Pattern

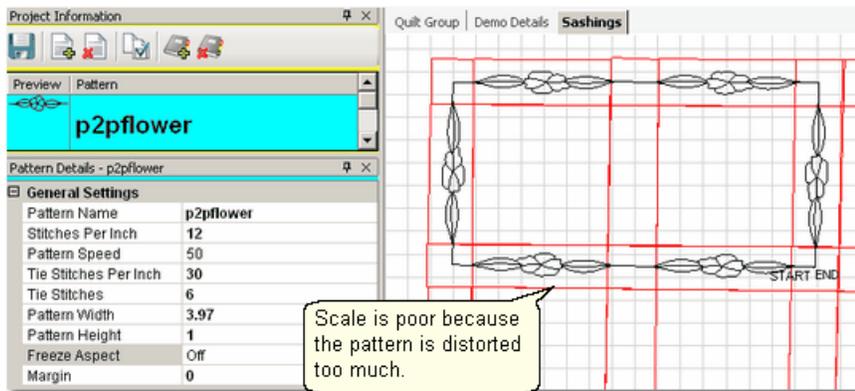
Assumptions: Quilt was measured, a diagram is drawn, the quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged and patterns have been added to the project. Block patterns have probably already been stitched (and the sashing will be stitched around these blocks).

Prep Step #1 - Optional - Define [Reference boundaries](#)¹⁵⁵ to check the P2P placement. To do this, click on the Boundary icon and CS prompts for the points that define the boundary. Make as many as needed to check the placement.



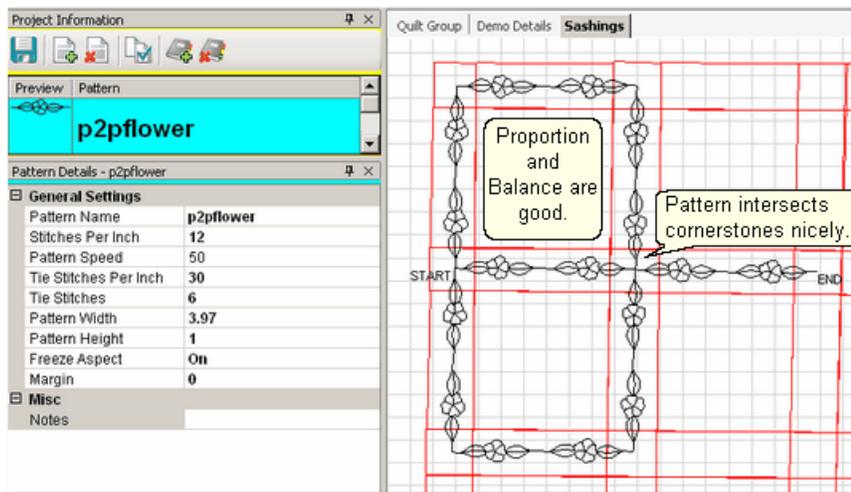
Prep Step #2. Choose a pattern. Select a pattern with the startpoint on the left, the endpoint on the right and both points on the same horizontal line. [P2P patterns](#)⁶⁹ must stitch from left to right.

Prep Step #3. Change [pattern details](#)⁴⁹ if needed. Be aware of the pattern size, proportion and any margins. Measure the size of the sashing strips and choose a pattern size that fills the space but stays contained in the sashing. Use the Preview area to audition the size and placement of the patterns if desired.



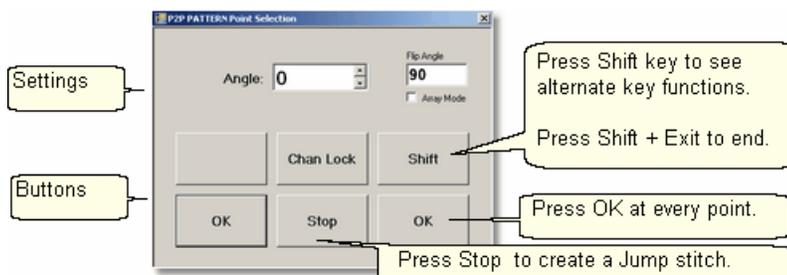
Prep Step #4. Plan the 'Point Layout' before beginning. Most patterns look the best when they maintain their original proportion (Freeze aspect= On), but this means you need to have P2P intervals that also allow the pattern to fill the space. Other patterns

need to have one consistent dimension even if the other varies (Freeze Aspect=Off). For example, a pattern being stitched inside a sashing area should have one of the dimensions fixed so it doesn't stitch outside of the sashing.



Steps to follow:

1. Click on the P2P icon



A dialog box appears with Settings and Buttons:

Settings:

Angle: This is the current angle that will be used when the Channel Lock is turned on.

Flip Angle: If array mode is not checked, this angle can replace the current angle when the channel lock is on. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

Array Mode - when checked, CS uses a 2-button sequence to increase the current angle by the number of degrees shown in the Flip Angle. To increase the current angle, press and hold the shift button on the keypad, and press the Chan Lock button. Repeat this to increase it again.

Buttons

Chan Lock - locks the head so it stitches along one fixed angle.

Shift: Press this AND Chan Lock to Flip the lock angle.

OK (either button) identifies the points.

Stop indicates the end of the P2P-pattern sequence. If more points are clicked after pressing Stop, they will be detached from the first segment by a 'jump stitch'.

This is like turning the needle off, and moving to the next click to resume.

2. Press OK to define the path. Move the machine head from one point to the next, pressing OK on each one. The machine makes a popping sound every time the OK button is pressed. This sound confirms that the point has been registered.

Tip: Using the laser light to help identify the P2P points is very helpful but if the light is not positioned properly, it can be deceiving. Each click is registering the position of the needle, not where the light is shining.

3. Press 'Shift' and 'Exit' to complete the P2P setup process.

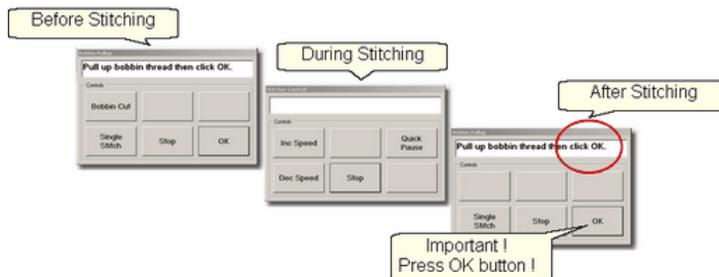
* P2P isn't stitched immediately - it shows up on the screen first.

Tip: Each P2P pattern is considered an individual pattern and can be modified if needed. Just click on the pattern to select it (pink) and use the resizing handles to change it.



When done, [Save the project](#) ⁶³.

4. Click on Start_Quilting  and the sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread. Press OK when ready to quilt.



At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

When the patterns are all stitched, the screen will display them with red lines instead of black. This is a visual reminder that they are tagged as having been sewn already.

Design It Yourself - It is possible to use the P2P - Pattern feature using the mouse and working directly in the preview area on the screen. See [Draw P2P Pattern](#) ¹³⁷.

[Quick Reference P2P Pattern](#) ²⁵²

4.5 Phase 4 - Backgrounds

A Pantograph pattern is a very simple form of background quilting. The pattern is stitched both across (multiple repeats) and down (multiple rows) the area. For custom quilting, background fillers are frequently used. This is dense quilting around an applique or quilted motif. The filler compresses the background allowing the applique or motif to be framed and highlighted.

CS has two methods for for doing pantographs;

- * Edge-to-Edge is a simple method for pantographs. CS maintains control during most of this process.

- * Repeat Patterns is a different method for pantographs, which allows other design options to be performed simultaneously. The quilter maintains control during this process.

CS has two methods for doing background fillers;

- * Trim (inside or outside) uses special boundaries that are excluded from the background filler. The pattern will stitch up to the trim boundary and stop, do a Jump stitch over the trim boundary, and resume stitching once past the trim boundary. At every Jump Stitch, there are either tie-off stitches, or the quilter hand ties the threads and buries them with a needle. This method might be the best choice for quilts that will not get much use/abuse.

- * Fill (inside or outside) uses standard boundaries to define the space. The background patterns are actually modified to stitch up to the boundary, and stitch along the edge of the boundary until it can reconnect with the background pattern and then resumes stitching. The Fill method produces a stronger stitch line because it does not have jump stitches, so it does not start and stop, and does not do tie-off stitches.

4.5.1 Background Fillers using Trim - Inside

Applique blocks are good examples of the need to stitch the background down, allowing the applique to 'pop'. The background pattern is usually a dense filler pattern. The Trim-inside feature allows the background pattern to be positioned over the entire block boundary. On top of that, the boundary of the applique shape is defined and the boundary is trimmed away from the inside of the applique area so it won't be stitched over.



Feature: Trim Pattern - Inside

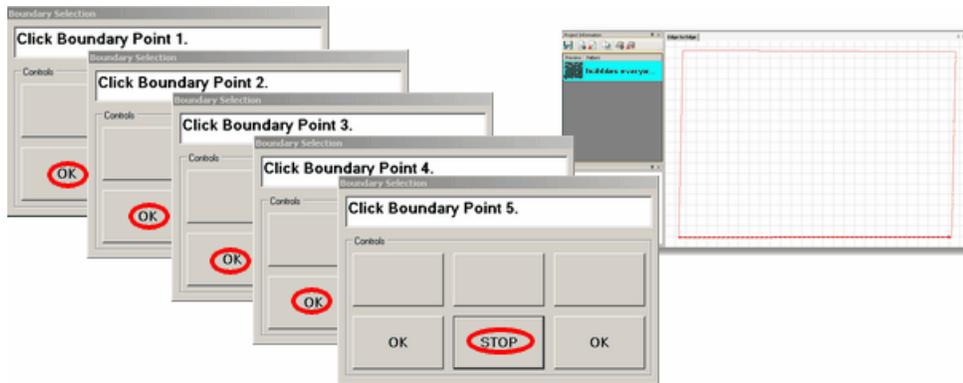
Assumptions: The quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged and patterns have been added to the project.

In this example, a large area will be quilted using a background filler pattern

(bubbles). The quilt has some nautical creatures that are appliqued and will not be quilted with bubbles.

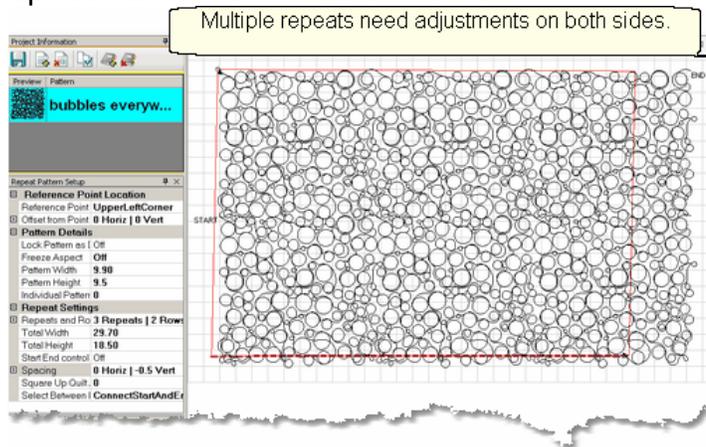
Steps to follow:

1. Click on the [Boundary icon](#)  and follow the prompts to define the boundary of the background area. If the project were to fill the background of an appliqued block, this would be the outer boundary.



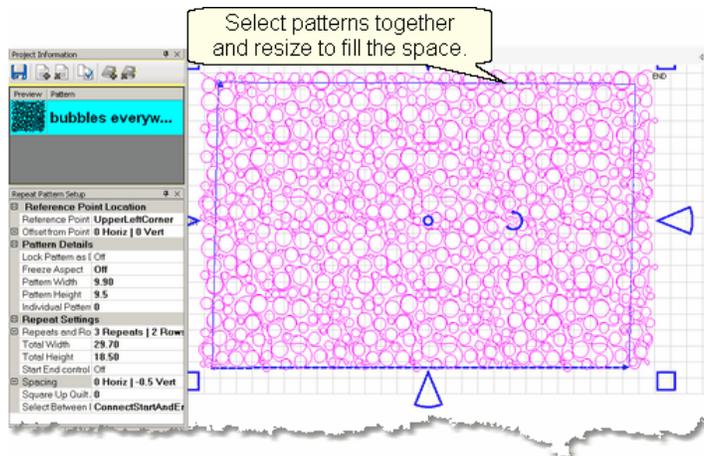
2. Move the background filler pattern in.

Use [Pattern_to_Boundary](#)  [or Repeat Patterns](#)  depending on how many repeats are needed to fill the area.



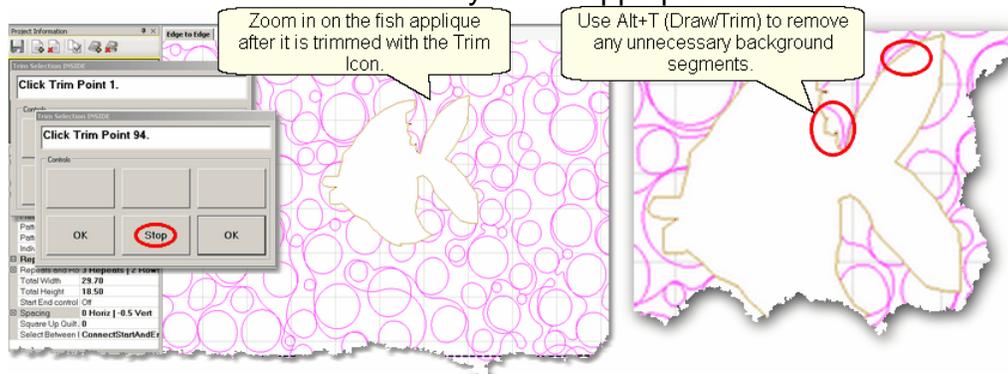
This example shows 3 repeats and 2 rows that were nested vertically by -.5". There is a gap on one side border and an overlap on the other which need to be [adjusted](#) .

3. Select all the patterns together  before adjusting the size and position. This prevents the individual patterns from becoming separated from the whole row. If the pattern doesn't fit exactly, let it extend past the outer boundary. The excess can be trimmed off before stitching.



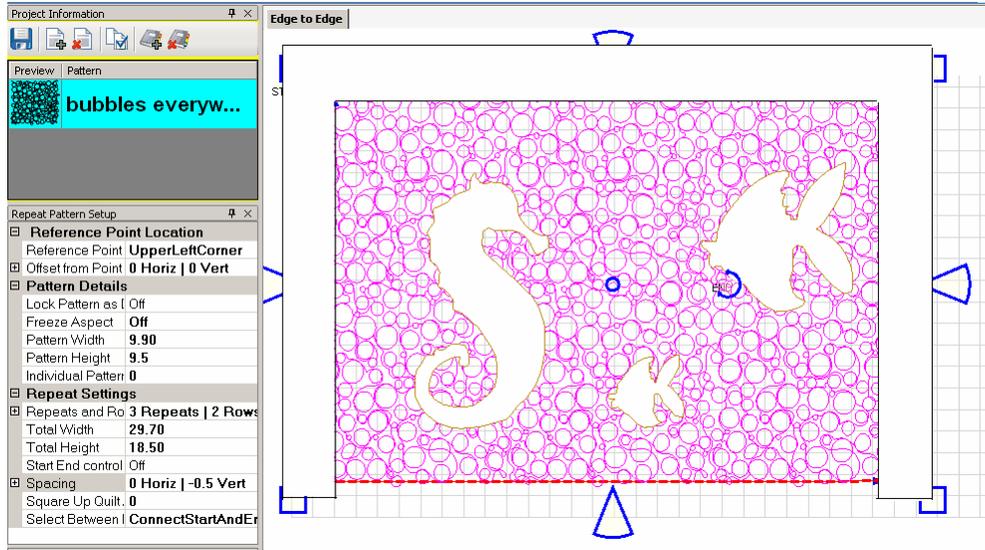
4. Specify Trim Inside.

5. Click on the Trim icon. CS will prompt for a boundary. Use as many points as needed to define the boundary of the applique.



6. Click **Stop** when done and CS will erase everything inside the trim boundary, leaving the filler pattern in the background. Zoom in closely and look for any unnecessary pattern fragments in the background. These are easily removed with the mouse by using the Draw/Trim method, which allows additional trimming of the pattern in the Preview Area.

Tip: If tieoff stitches are being used, make them tiny and use the competitive Tieoffs. For people who prefer to hand tie knots and bury threads, change the Configuration form to uncheck 'tieoffs', and check 'Bobbin Stitch' and 'Stop at Jump Stitch'. Now CS will stop and you can leave longer thread tails to hand tie and bury.



Continue with additional Trims as needed.

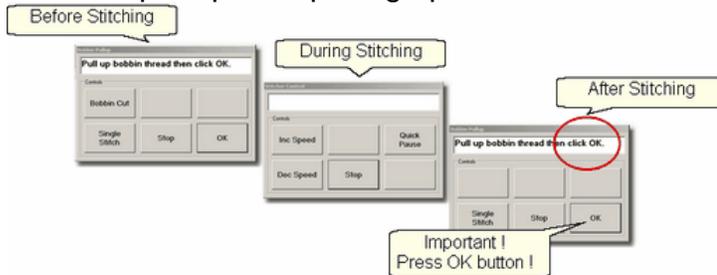
When done trimming the applique, trim the outer edges if needed. In this example, the bottom edge fit well so only the top and sides were trimmed. This is done using the same Trim-Inside feature, and creating a boundary around the outer edges as shown. Be sure the boundary around the outer edge covers all of the background filler. If any of the bubbles peek out, they will be stitched.

7. Save the Project.



Tip: Multiple "Trim-Inside" boundaries are possible in one quilt group (but only one "Trim-Outside") so trim until the pattern is customized to fit the space, even if it takes multiple trims.

8. Click on Start_Quilting and CS moves the sewing head to the start of the pattern and prompts for pulling up the bobbin thread.



9. Click OK when ready to quilt. If multiple patterns were moved into the boundary, they will stitch in the order they were moved. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Optional final step: After the background patterns are stitched, some people like to do an outline stitch around the applique. It is possible to convert the trim boundaries into

patterns so the outline stitching can be done. Be sure to convert only the trim boundaries that were done using the machine head, not the little trim boundaries done using the mouse.

[Quick Reference Trim Inside](#)²⁵⁴

4.5.2 Background Fillers using Fill

The Fill option delivers a result similar to the background fillers using Trim Inside, but without the tieoff stitches. Again, applique blocks are good examples of the need to stitch the background down, but stitching behind a quilting pattern (as shown in this example) is another example of having the focus pattern 'pop'. Fill will create a new pattern derivative that excludes the area behind the focus pattern but connects all the pattern segments so it stitches without stopping.

Feature: Fill (with background pattern).

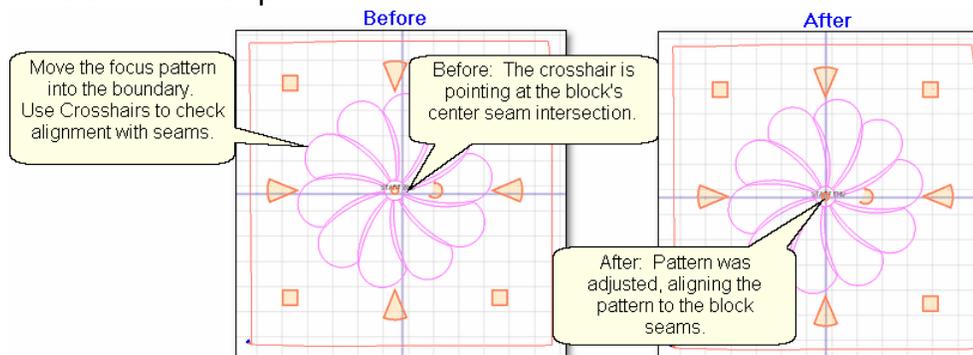
Assumptions: The quilt top is loaded and stabilized, machine is threaded, bobbins wound, belts engaged and patterns have been added to the project.

In this example, a focus pattern will be quilted in the center of a block, and the background will be filled with a meander pattern. There will be no tieoffs around the center pattern.

Steps to follow:

1. Click on the [Boundary icon](#)⁷⁵  and follow the prompts to define the outer boundary of the quilt block. Use as many clicks as needed to follow the seamlines around the block.

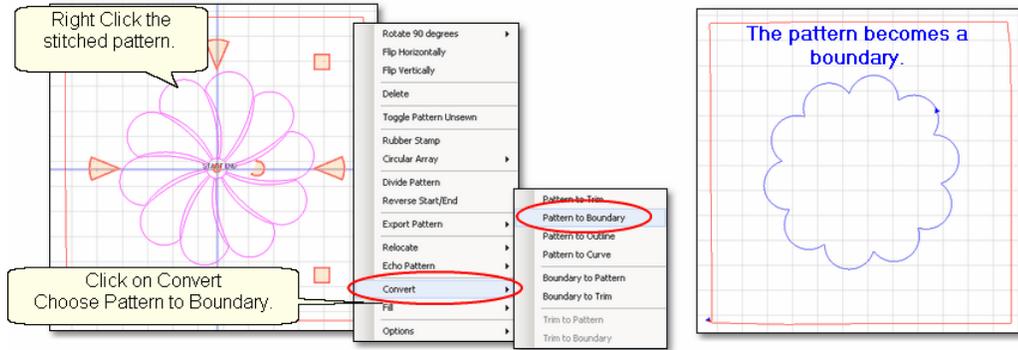
2. Use [Pattern to Boundary](#)⁷⁷  and Freeze Aspect = 'ON' to preserve the proportions of the focus pattern.



Check the positioning of the focus pattern. If needed, adjust the positioning of the block so it aligns with any key seamlines.

3. Click on Quilt icon.  and stitch the focus pattern. It turns red..

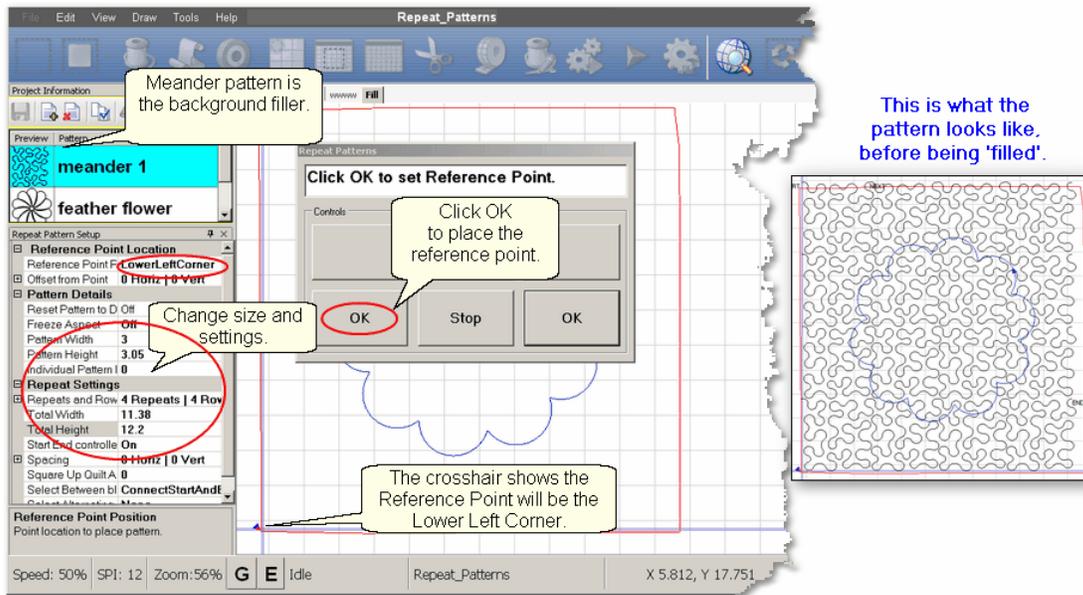
4. Convert the stitched pattern to a boundary.



- * Right click the focus pattern. It turns magenta.
- * Click on Convert
- * Choose Pattern to Boundary. The boundary is blue. In the example, the outer boundary is 'selected' so it is red.

5. Choose & move in the background filler.

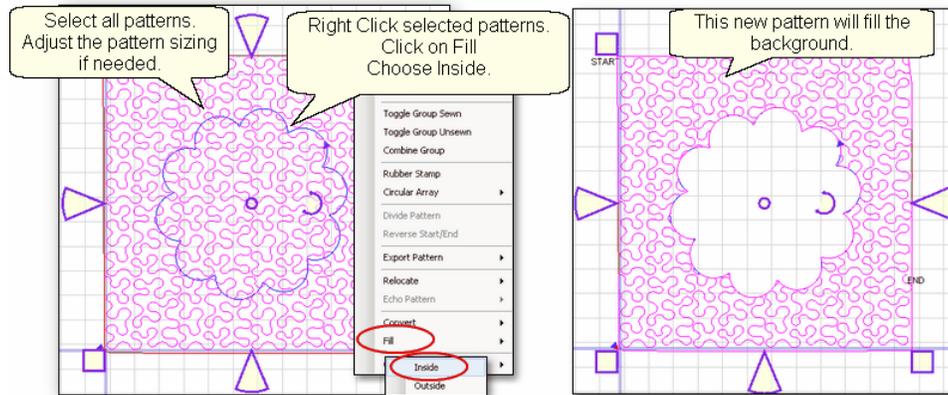
Choose the filler pattern, and change the settings if needed to get an appropriate quilting density.



Use [Repeat Patterns](#) ¹⁵⁷  to fill the block boundary.

- * Choose the Reference Point (lower left corner in this example).
- * Position the machine head at the lower left corner of the block (see crosshair).
- * Change the Pattern Details to get the quilting density set.
- * Change the Repeat Settings to choose the number of repeats and rows.
- * Adjust Total Width and Total Height if needed.
- * Click OK button to move the patterns onto the preview area.

6. Fill the Background. Select all the background patterns together.



* Right Click the selected patterns.

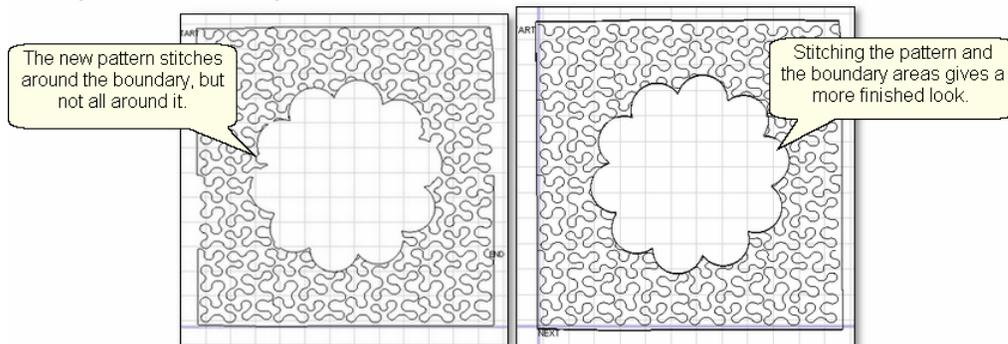
* Click on Fill.

* Choose Inside, and be patient, this may take a couple minutes.

The result of this process is a new pattern that is customized to fit the background filler density and the two boundaries.

7. Click on Quilt icon.  and stitch the pattern.

The pattern will stitch in one continuous line. When it encounters a boundary, instead of doing tieoff stitches, it will stitch along the boundary until it reaches the next portion of the pattern to be stitched.



As shown above, after the new fill pattern has been stitched, it might be a good idea to convert the two boundaries to patterns, and stitch them out also. It will look more like outline quilting.

7. Save the Project.



4.5.3 Pantographs using Edge_To_Edge

Edge To Edge pantographs are continuous line designs stitched repeatedly across the quilt. Many pantographs span the entire quilt but they can also be confined to an inside area or even a border. Aligning the rows of a pantograph can be tricky, especially after rolling the quilt so CS has a special feature (E2E Continue) to help do that successfully.



Feature: Edge to Edge (E2E)

Assumptions: The machine is threaded, bobbins wound, belts engaged and patterns have been added to the project.

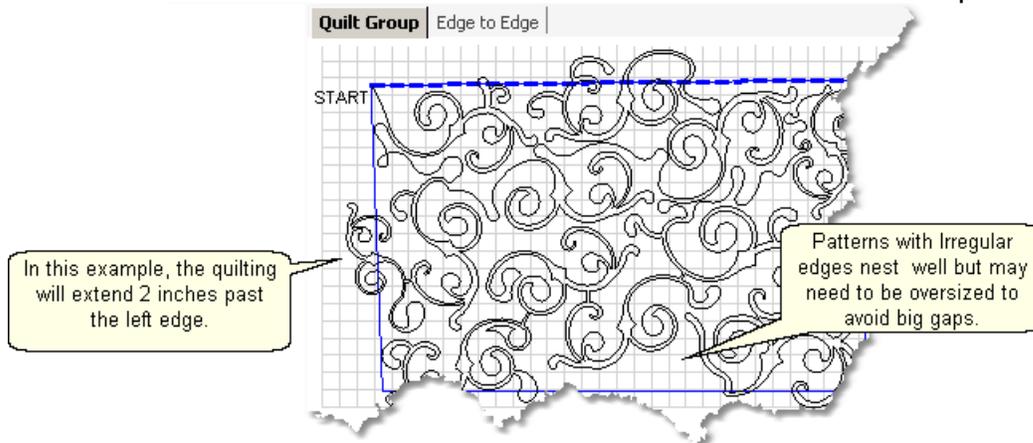
Prep Step #1.) Measure the quilt length and width accurately before loading the quilt. If you are leaving a margin at the top and bottom, be sure to reduce your total quilt length by this amount. Also it is a good idea to reduce the length a little to accommodate shrinkage caused by the quilting. This could be from 1% to 5%, depending on the fabrics, batting and quilting density.

Prep Step #2) Load the quilt and baste the outer edges.

Prep Step #3) Choose a pattern and think about the scale. Large scale, open quilting results in a more supple quilt and small scale, dense quilting is a bit stiffer.

Prep Step #4) Change the pattern details (height and width) to reflect the scale you prefer.

Pantograph patterns with irregular outer edges are designed to nest together. This often puts gaps at the edges. If needed, plan on oversizing the first E2E boundary so the quilting extends past the edges of the quilt to eliminate gaps. Use the Trim function or [Draw Trim](#)¹³⁰ as needed to remove the excess on the top and sides.

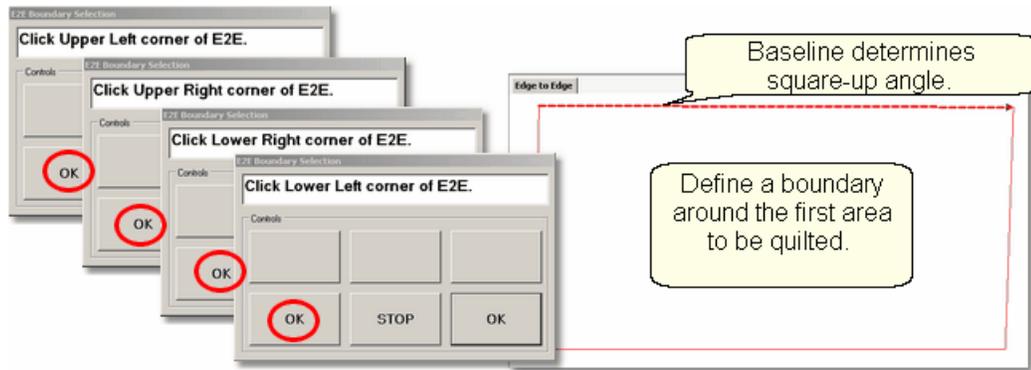


Tip: Use the grid to determine how much a pattern needs to extend beyond the quilt edges.

Steps to follow:

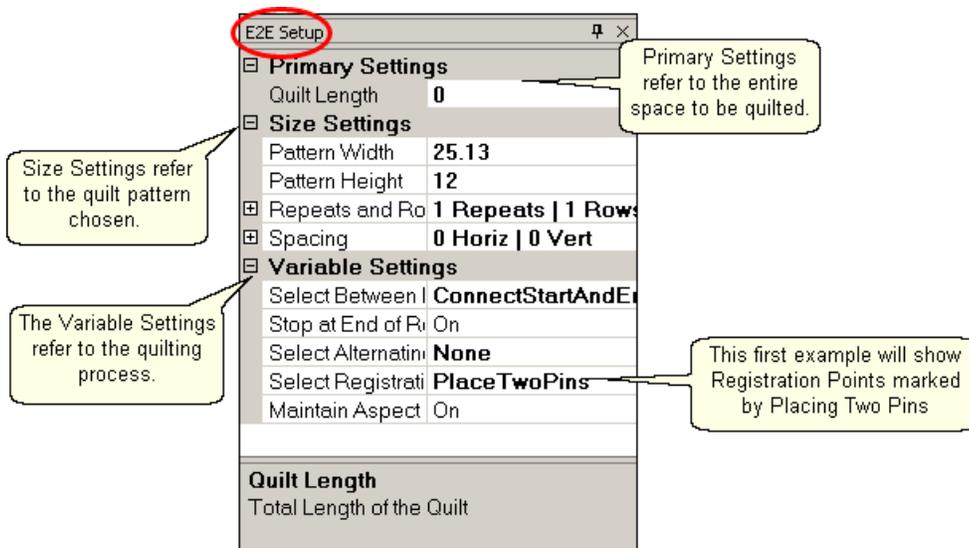
1. Click the E2E icon.

CS prompts you to click the four corners of the first boundary. Make this as large as possible to minimize the number of times the quilt must be rolled. CS also will create a new Quilt Group named Edge to Edge. (If this quilt group name is already taken, it will prompt you to type in a new, unique name.)



The first two clicks define the baseline, just like the boundary of a block. Use the Horizontal channel lock if needed, to keep the baseline as 'square' as possible. If there is any slope in this baseline, the patterns will be rotated according. This is called the Square-up Angle.

2. Enter the quilt length in the [Primary Settings](#) ⁵⁶ area. Increase the actual measurement if the pattern will be stitching off the top & bottom edges of the quilt. Decrease the actual measurement to adjust for top and bottom margins and shrinkage (if needed).



CS measured the width in step 1, and gets the length from the Primary Settings. It now has enough information to automatically calculate the number of repeats and rows required. This is just a suggestion! All settings can be changed in Setup mode (but not in Edit mode).

3. Check the E2E Setup Details -

[Size Settings](#) ⁵⁶ ⁵⁶

* Pattern Width and Pattern Height may be different from what you started with because CS may need to adjust each individual pattern size to accommodate the total measurements.

* Repeats and Rows have been set but can be changed if you do it in the setup mode (which means don't close the E2E Setup box until you are sure adjustments are done).

* Spacing refers to the amount of space between patterns, both horizontally and

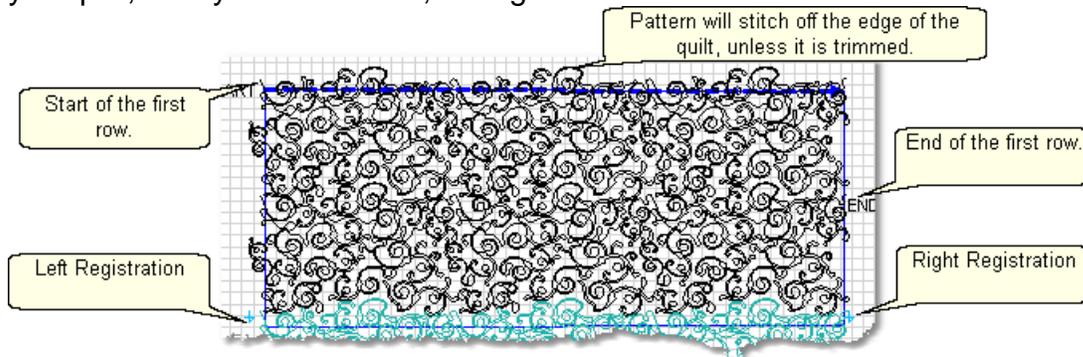
vertically. Negative numbers reduce the space between patterns (rows or repeats) and positive numbers increase it.

Variable Settings⁵⁷:

- * Select Between Blocks describes what you want CS to do between blocks.
 - Connect Start And End is preferred for pantographs. This connects the start of one pattern to the end of the previous pattern.
 - Bobbin Pullup is used if each repeat is a separate block pattern. CS automatically switches to Bobbin Pullup if the repeated patterns are not connected.
- * Select Alternating type – allows staggered rows. Complete instructions are included in the next section.
 - None means don't stagger the rows.
 - Plus Row On Top means one extra repeat will be added to the first row and every other row.
 - Minus Row On Top means one repeat is taken away from the first row and every other row.
- * Select Registration refers to the method of spacing the rows properly every time the quilt is rolled. There are three choices:
 - * Place Two Pins means CS will pick the registration points and you need to mark them (with pins or a marker). This is the default choice.
 - * Use Start Point and End Point means CS will use the start and end point of the previous row as the registration points.
 - * EndOfSet means CS will use the last stitch of the previous row as the registration point.
- * Maintain Aspect means CS will try to keep the adjusted pattern ratio (length:height) the same as the original pattern. This can't always be done however because the pattern dimensions may not share common factors with the quilt dimensions. For quilters who 'don't do math', this just means it won't fit without a little stretching.

Tip: When using "Start Point and End Point" or "End of Set" be sure the last stitch of the pattern is at the bottom of the pattern so it is accessible after rolling the quilt.

4. Look at the image in the preview area. WYSIWYQ - What you see is what you quilt, so if you don't like it, change it now.



The top edge is the baseline shown as a thicker, dashed line on the screen. The pattern in the example has irregular edges which make it nest nicely. However, the pattern will stitch off of the edge when positioned to eliminate the gaps. Make sure to add the extra space to the "Quilt Length" dimension . The Trim-Inside function can be used to trim off the excess using the machine head ([Trim Icon](#)³⁹) or the mouse (

[Draw Trim](#) ¹³⁰).

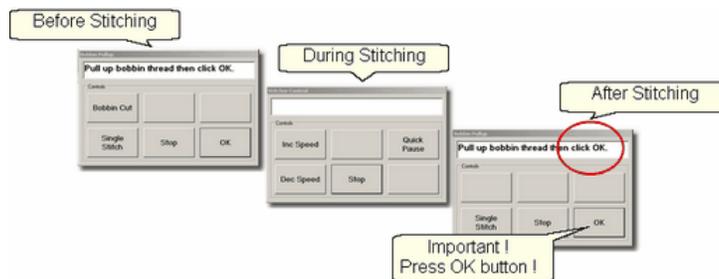
Pattern colors indicate the sewing status. **Red** means the pattern has already been sewn. **Black** means the patterns have not been sewn. **Teal green** means the patterns won't fit in the current quilting space so CS can't quilt them yet.

Adjusting patterns that nest can be done before any quilting begins. Just select all the patterns at once ([Select All icon](#)) ⁴³ and reposition as needed. If adjustments are needed after the first rows have been completed, the non-quilted patterns need to be selected together. This can be done by holding down the Ctrl key and clicking on each pattern that needs to be adjusted, or selecting a group of them with the [Click-and-Drag method](#) ⁷⁸.

When it looks good, [Save the project](#) ⁶³.



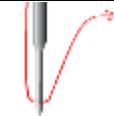
5. Click Quilt  The machine moves to the start of the first pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row now begins.



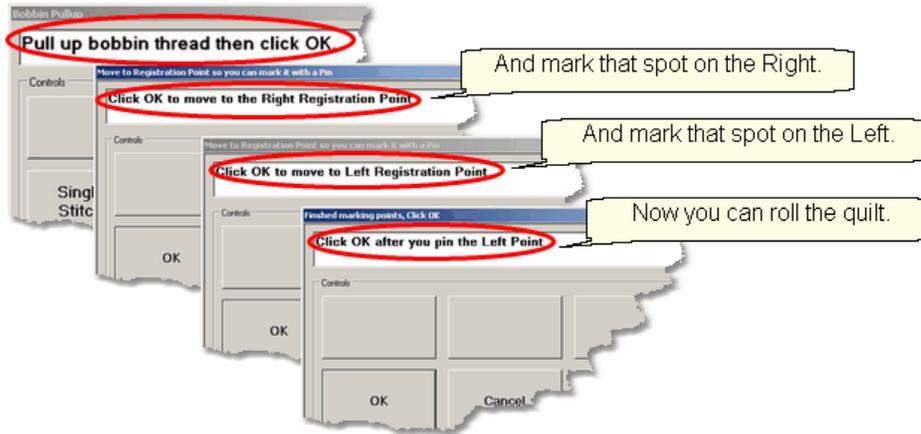
6. At the end of the row, CS stops and prompts you to cut the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

6A. IF you have room for another row *the machine will move to the beginning of the next row, take a stitch, prompt for Bobbin pull-up and click OK to quilt the next row. Repeat these steps until all the rows for the current section are complete.*

7. When CS finishes the last row that fits, you will be prompted to cut the bobbin thread. The process varies, depending on the Registration chosen.

 *Tip: To check which registration was chosen, Right Click any open area (not on a pattern) of the preview area, and choose E2E Settings. This lists all the current settings.*

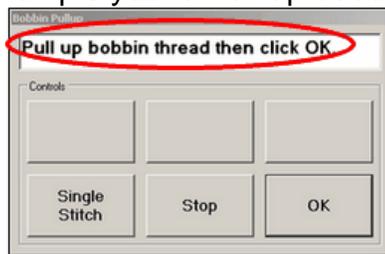
7a. Registration: Place Two Pins:



- * CS prompts you to Pull up bobbin thread, and Click OK to complete stitching.
- * CS prompts you to click OK when ready to mark the Right registration point.
Click OK and the stitcher moves to the first registration point.
Place a pin in Registration Point #1 (where the needle would enter the fabric).
- * CS prompts you to click OK to move to the second registration point.
Click OK and the stitcher moves to the second registration point.
Place a pin in Registration Point #2 (where the needle would enter the fabric).
- * Click OK to complete the process.

7b. Registration: End Of Set:

- * CS prompts you to Pull up bobbin thread, and Click OK to complete stitching.

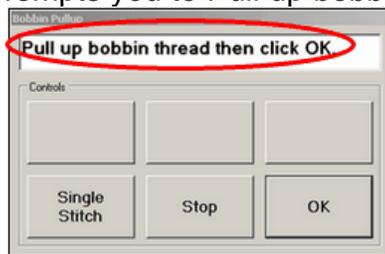


There are no additional prompts because this method uses only the end point of the last row completed.

Note: As shown in the 'E2E Continue' section, after the quilt is rolled, and the E2E Icon is pressed, CS will verify that the sewing head is positioned on the end point. It will not prompt for any other registration points. CS does not adjust the pattern square-up angle.

7c. Registration: Use Start and End:

- * CS prompts you to Pull up bobbin thread, and Click OK to complete stitching.



There are no additional prompts to mark registration points because this method uses the start point and end point of the last row completed.

Note: As shown in the 'E2E Continue' section, after the quilt is rolled and the E2E Continue icon is pressed, CS will ask for registration points. The left registration point is the Start point, and the right registration point is the End point. By using two registration points, CS can determine if there is any change in the pattern square-up angle, and adjust the remaining patterns accordingly.

8. Roll the quilt (baste the sides, check the bobbin, etc.) It is also a good idea to check that the quilt is still square. Use the channel lock to check that both registration marks are on the same horizontal line.

Tip: When rolling the quilt top, leave extra space above the registration points if your patterns are nested. The space between the pickup roller and the registration points is used when patterns are nested, so be sure there is enough room.

[Save the project](#)  63.

Now finish the quilt by using the Feature: Edge To Edge Continue

Feature: Edge To Edge - Continue



Edge-To-Edge Continue is a special feature that aligns pantograph rows together properly after the quilt has been rolled.

Assumptions:

This assumes the first section (or more) is done, the registration points have been marked and the quilt has been rolled.

9. Click EdgeToEdge_Continue

The process for marking the boundary varies, depending on registration marks.

10a. Select Registration = Place Two Pins:

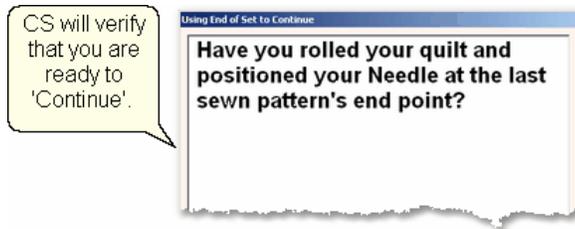


- * CS prompts for left registration mark. Move the machine head to the Left registration point & Press OK.
- * CS prompts for right registration mark. Move the machine head to the Right registration point & Press OK.

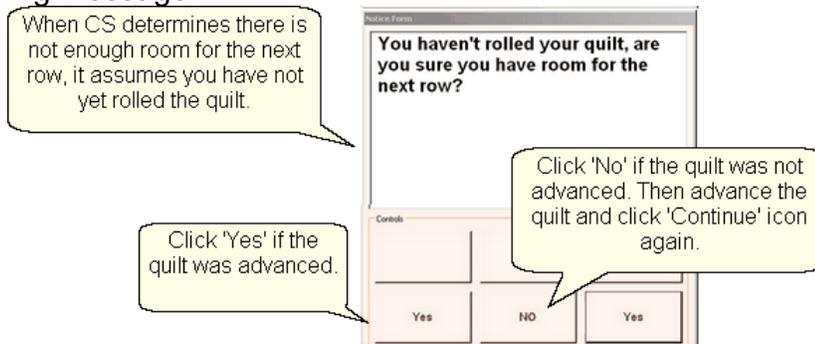
CS remembers where the lower edge was so you don't need to click those points.
Continue to Step 11.

10b. Select Registration = End Of Set:

- * CS verifies that you have rolled the quilt and have the machine positioned over the last stitch of the last row (which is the registration point).



CS can tell how much the quilt has been rolled because it knows the XY coordinates of the current machine head position, and it knows the XY coordinates of the endpoint of the last pattern sewn. If the quilt has not been rolled enough, you will get a warning message:



One nice feature about End of Set Continue is that the 'continue' process can be run as many times as needed to get the patterns advanced as needed.

Continue to Step 11.

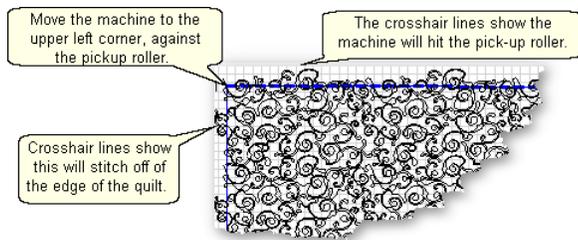
10c. Select Registration = Use Startpoint and Endpoint.



- * CS prompts for left registration mark which is the Startpoint.
Move the machine head to the first stitch of the previous row & Press OK.
 - * CS prompts for right registration mark which is the Endpoint.
Move the machine head to the last stitch of the previous row & Press OK.
- CS remembers where the lower edge was so you don't need to click those points.

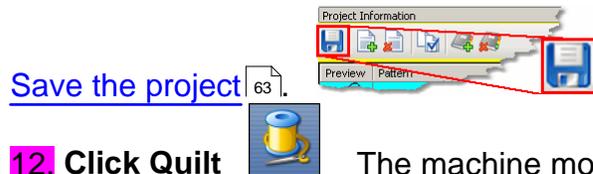
11. Use the crosshair and do the following checks:

1. Move the machine head back as far as it will go (against the pick-up roller). Now look at the screen. Do any of the black patterns extend above the crosshair line? If so, use the 'Edit / Undo' command (Ctrl+z) to backup prior to clicking E2E Continue. By doing this, you can roll back the quilt so it is positioned properly, and start back at step 9.



2. Check the other three edges of the quilting space. Move the machine head to the left margin, the right margin and forward to the belly bar. Check the screen, comparing the (black) pattern position and the crosshair line. If the pattern lines extend past the crosshair, the pattern can be trimmed or resized. If you allow the pattern to stitch off the edge of the quilt, be sure to secure the sides of the quilt so the hopping foot does not get caught by the edge of the fabric.

WYSIWYQ - What you see is what you quilt, so be sure you like it.



[Save the project](#)

12. Click Quilt



The machine moves to the start of the pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row of the new section now begins.

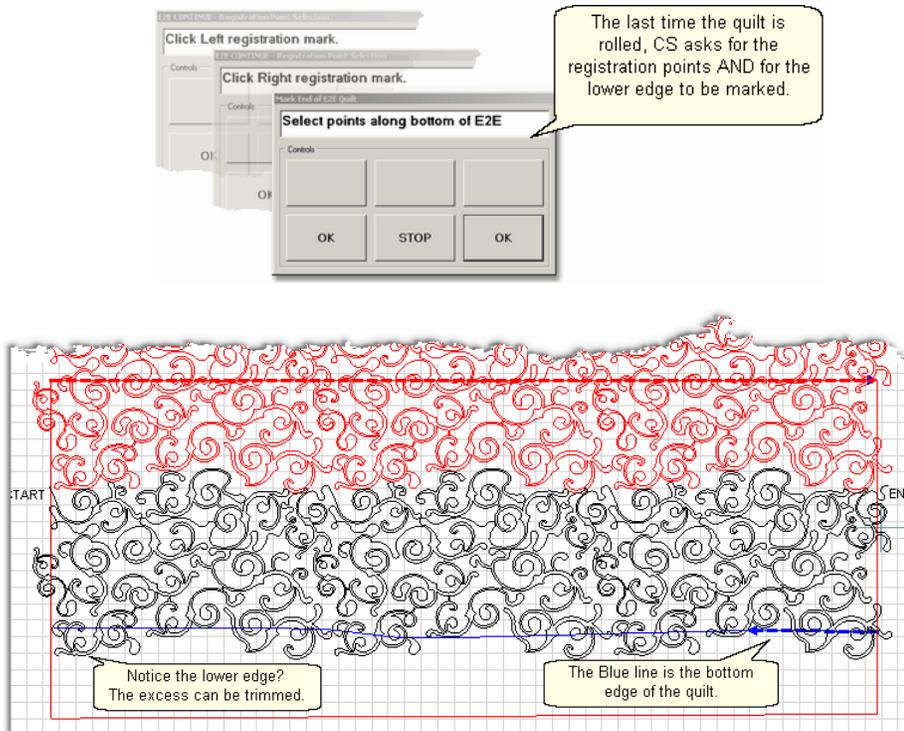
13. At the end of the row, CS stops and prompts you to cut the bobbin thread and click OK.

IF you have room for another row, The machine moves to the beginning of the next row and begins again. Continue quilting until the entire current section is done.

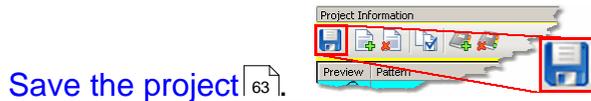
14. When done with the last row that will fit the current area, CS will again prompt for marking registration points. Repeat steps #7 - #14 until the last section - when bottom edge of the quilt makes its way up to the current quiltable space.

15. Last Section adjustments are often necessary so the last time you roll the quilt, the prompts are a little different.

- * Click the Left registration mark
- * Click the Right registration mark.
- * Select points along bottom of E2E. This means click along the bottom edge of the quilt, following the actual contour of the quilt, even if the bottom edge is irregular.
- * Press 'Stop' button when done with the bottom edge. The bottom edge is displayed on the screen as a blue line.
- * If the pattern needs to be adjusted or trimmed, now is the time to do it.



Tip: If you notice that the bottom corners of the quilt flare out or pull in, you can include the sides when you 'Select points along bottom of E2E'. Just be sure that the 2 registration marks are clicked first, and then it doesn't matter how many other points are clicked. Press 'Stop' when done. Adjust or trim the side patterns if needed.



[Save the project](#) 63.

16. Click Quilt  The machine moves to the start of the pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row of the new section now begins.

17. At the end of the last row, CS stops and prompts you to cut the bobbin thread and click OK.

When something goes wrong - The E2E feature needs to have the steps executed in the correct order. Fortunately CS keeps a sequential list of the executed steps in a 'stack'. By using the Edit / Undo command (Ctl+Z), you can actually backup in the stack of executed steps, often to a point where you can correct a user error, and continue quilting without interruption. This does not help if the quilt has been rolled however.

The two most common mistakes are made when rolling the quilt.

1. The quilt is up too far and the machine hits the pick-up roller causing an 'Abort Due To Obstacle' error. When this happens, the quilt must be repositioned and the project origin must be relocated, to synchronize the quilt and the CAD screen. There

is a good explanation of this in the [Relocate Patterns](#)^[105] section of this manual.

2. The quilt is rolled before the registration points are marked. When this happens, the quilt and the screen become out of synch.

* Roll the quilt back to its previous position.

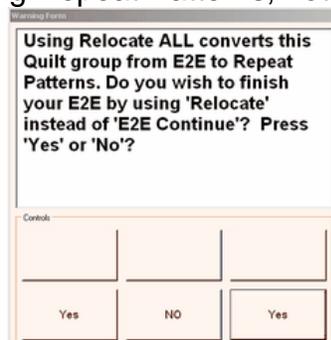
* Verify the position using the crosshair. To do this, move the machine head until the crosshair on the screen is positioned at the last stitch sewn as shown on the screen. Now adjust the quilt until the needle is directly over the last stitch sewn on the quilt.

* [Restart](#)^[221] the last pattern of the last row, about 2-3 stitches from the end. This will force CS to go through the process of identifying the registration points again, and then the quilt can be rolled normally.

If this doesn't work, use the Relocate function to realign the screen with the quilt.

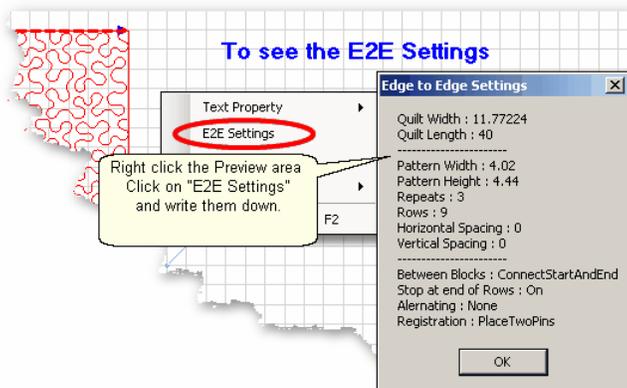
Relocating the Project Origin (or Relocate ALL to 1 or 2 points) will force the process to be changed to E2E using Repeat Patterns, not the standard E2E.

Pantographs can be done using E2E or using Repeat Patterns.



This is explained in the next section.

When all else fails - On occasion it seems easier to start over than to try and figure out what happened, and take steps to correct it. When that happens, you can recreate the E2E process, but you need to know a few measurements, in order to match the pattern size.



Now you have enough information to start a new E2E Quilt group. Some people prefer to begin back at the first row, and others prefer to begin in the middle, pretending that a middle row is actually the top of the quilt. If you choose to do this, be sure adjust the quilt length accordingly. Also be sure to verify the pattern placement by using the Crosshairs. This will enable you to move the machine to various positions on the quilt top, and then see if the crosshair on the screen is at the same spot.

[Quick Reference E2E](#)²⁴⁷

4.5.4 Pantographs using Repeat Pattern

Background patterns (pantographs) can be stitched using the Repeat Pattern features. The benefit is that Repeat Pattern is a more flexible feature, allowing additional boundaries and patterns to be placed in the quilt group along with the background pattern. The nice feature about E2E is the way CS controls the sizing and repositioning of the patterns automatically when the quilt is rolled. With Repeat Patterns, you do this yourself using [Relocate](#)¹⁰⁵ (Extra Edit Option).



Feature: Repeat_Patterns for Pantographs

Assumptions: The machine is threaded, bobbins wound, belts engaged and patterns have been added to the project.

Prep Step #1.) Measure the quilt length and width accurately before loading the quilt. If you are leaving a margin at the top and bottom, be sure to reduce your total quilt length by this amount. Also it is a good idea to reduce the length a little to accommodate shrinkage caused by the quilting. This could be from 1% to 5%, depending on the fabrics, batting and quilting density.

Prep Step #2) Load the quilt and baste the outer edges.

Prep Step #3) Choose a pattern and think about the scale. Large scale, open quilting results in a more supple quilt and small scale, dense quilting is a bit stiffer.

Prep Step #4) Change the pattern details (height and width) to reflect the scale you prefer.

Steps to follow:

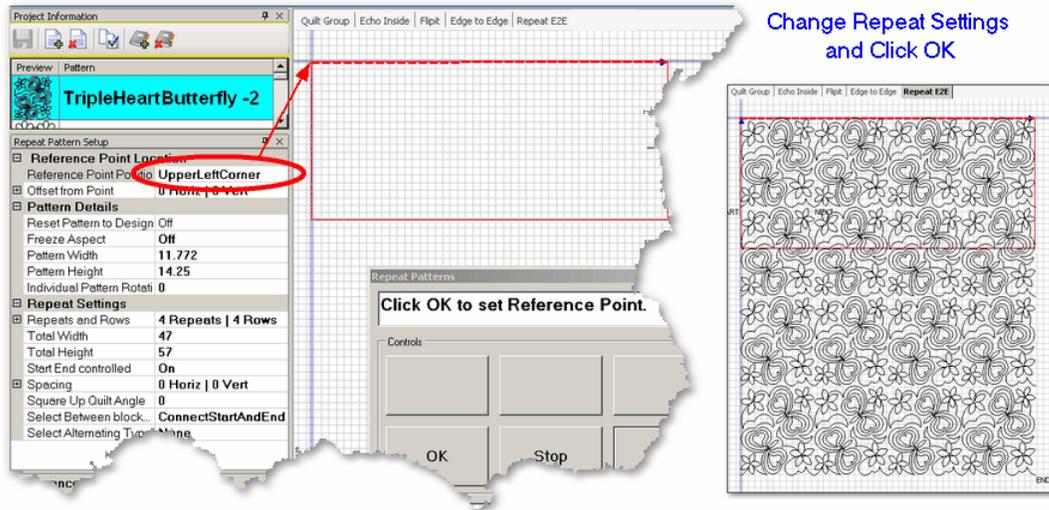
1. Click Boundary icon and click on the UL, UR, LR, LL corners. Like E2E, this shows how much area can be quilted at one time.

2. Click on Repeat_Patterns icon 

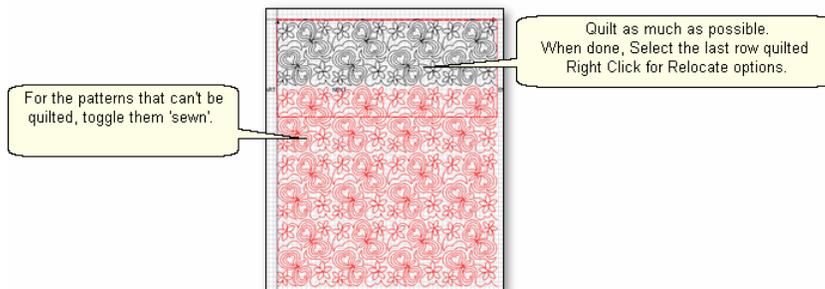
3. Change the Repeat Settings following these steps:

- * Turn Freeze Aspect=On
- * Enter Total Width (=47 in this example)
- * Turn Freeze Aspect=Off
- * Enter Total Height (=57 in this example)
- * Set Reference Point = Upper Left Corner
- * Move machine to Upper Left Corner

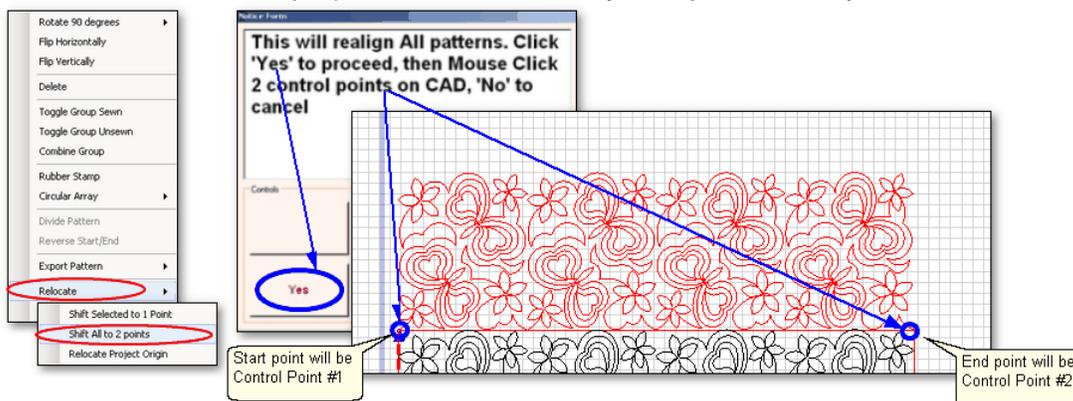
4. Click OK. An image of your entire quilt appears in the Preview area. This method for doing pantographs does not monitor how much area can be quilted at one time, so you need to do it by toggling rows of patterns as sewn or unsewn.



5. Select all the patterns that can't be quilted in the first section, toggle them sewn. Quilt as much as possible.



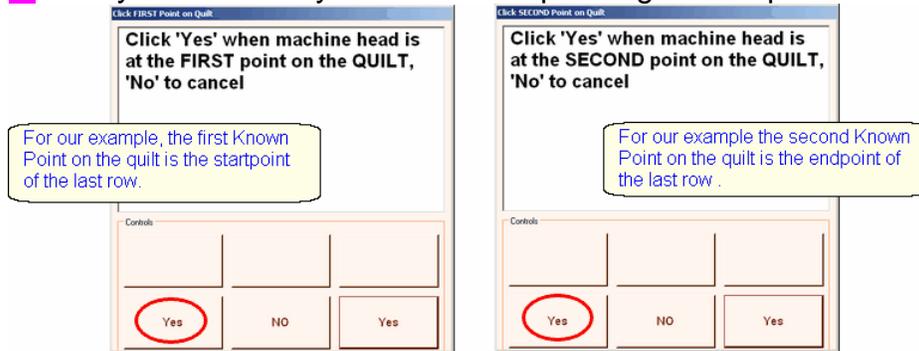
6. Roll the quilt. Think about which two points are easily identifiable on both the Preview area of the computer screen, and on the quilt top. These will be your Control Points which are used to synchronize the computer screen with the quilt top. The start and end points of the last row quilted often are the best choices (and they will be used in this example), but it could be any two points that you like.



Select the last row quilted, Right Click these patterns.

- Choose "Relocate" and Choose "Shift All to 2 Points".
- A dialog box appears, giving instructions.
 - Click 'Yes' button to remove the dialog box.
 - Use the mouse to click 2 Control Points on the screen.
 - Another dialog box appears, with more instructions.

7. Now you will identify the two corresponding control points on the quilt.



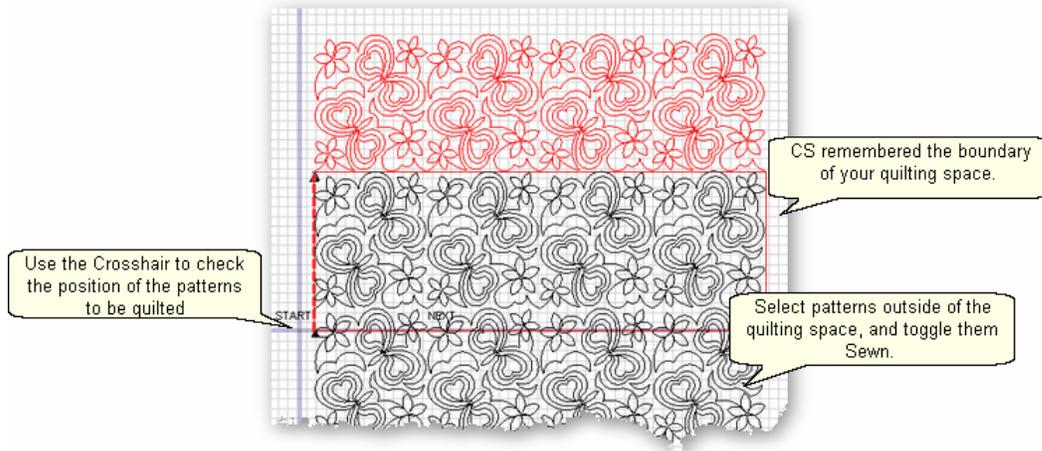
Follow the instructions in the dialog box:

- Move the machine head to Control Point #1 (start of the last row quilted).
- Click Yes.

Follow the instructions in the next dialog box:

- Move the machine head to Control Point #2 (end of the last row quilted)
- Click Yes.

8. Check the positioning by using the machine crosshairs.



9. Continue until the entire quilt is done.

 *Design It Yourself: Using Repeat Patterns to do pantographs means you can reverse pattern start/end points, change the sewing order, and even replace patterns randomly throughout the quilting.*

4.5.5 E2E Alternating Patterns

Edge To Edge pantographs look less structured when alternating pattern is used. Not all patterns look good using the Alternating Pattern option, but CS makes it easy to audition them. The Alternating option will always have sides that are irregular but CS will automatically Trim the sides to fit the quilt.



Feature: Edge to Edge - Alternating

Assumptions: The machine is threaded, bobbins wound, belts engaged and patterns have been added to the project. The Prep Steps here are the same as a standard E2E.

Prep Step #1.) Measure the quilt length and width accurately before loading the quilt. If you are leaving a margin at the top and bottom, be sure to reduce your total quilt length by this amount. Also it is a good idea to reduce the length a little to accommodate shrinkage caused by the quilting. This could be from 1% to 5%, depending on the fabrics, batting and quilting density.

Prep Step #2) Load the quilt and baste the outer edges.

Prep Step #3) Choose a pattern and think about the scale. Large scale, open quilting results in a more supple quilt and small scale, dense quilting is a bit stiffer.

Prep Step #4) Change the pattern details (height and width) to reflect the scale you prefer.

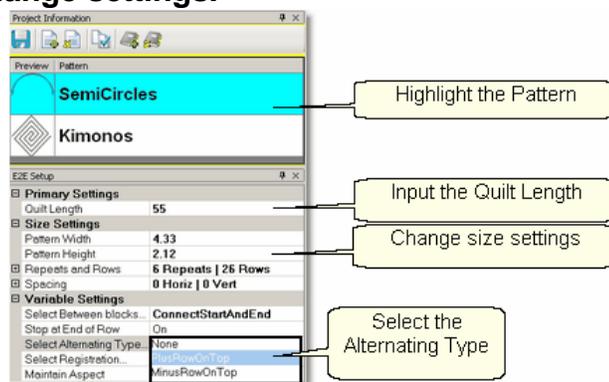
Steps to follow:

1. Click the E2E icon.



CS prompts you to click the four corners of the first boundary. Make this as large as possible to minimize the number of times the quilt must be rolled. Press Stop when done.

2. Change settings.



Choose a pattern, change the size for the scale needed, input the total quilt length and choose the Alternating Type. CS measured the width in step 1, and gets the length from the [Primary Settings](#)⁵⁶. It now has enough information to automatically calculate the number of repeats and rows required.

3. Check the [E2E Setup Details](#)⁵⁶: These were described before, but it is worth repeating.

[Size Settings](#)⁵⁶:

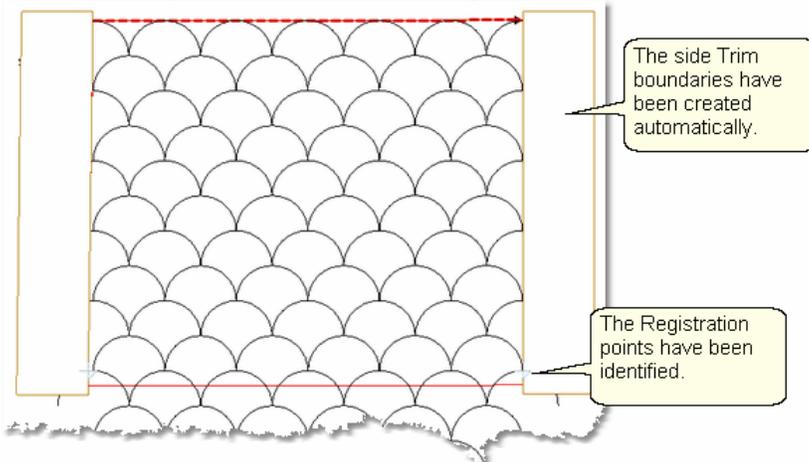
* Pattern Width and Pattern Height may be different from what you started with.

- * Repeats and Rows have been set but can be changed if you do it in the setup mode (which means don't close the E2E Setup box until you are sure adjustments are done).
- * Spacing refers to the amount of space between patterns, both horizontally and vertically. Adjust these numbers if needed to add or remove space between patterns, especially between the rows.

Variable Settings ⁵⁷:

- * Select Between Blocks describes what you want CS to do between blocks.
Connect Start And End is preferred for pantographs.
Bobbin Pullup is used if each repeat is a separate block pattern. CS automatically switches to Bobbin Pullup if the repeated patterns have become disconnected.
- * Select Alternating type – allows staggered rows.
None means don't stagger the rows.
Plus Row On Top means one extra repeat will be added to the first row and every other row.
Minus Row On Top means one repeat is taken away from the first row and every other row.
- * Select Registration refers to the method of spacing the rows properly every time the quilt is rolled. Place Two Pins means CS will pick the registration points and you need to mark them (with pins or a marker). Use Start Point and End Point means CS will use the start and end point of the previous row as the registration points. Due to variations in patterns, Place Two Pins is the safest (and the default).
- * Maintain Aspect means CS will try to keep the adjusted pattern ratio (length:height) the same as the original pattern. This can't always be done however because the pattern dimensions may not share common factors with the quilt dimensions. For quilters who 'don't do math', this just means it won't fit without a little stretching.

4. Look at the image in the preview area. WYSIWYQ - What you see is what you quilt, so if you don't like it, change it now.



The Registration points have been calculated and marked. The pattern rows have been alternated and the excess on the sides has been trimmed automatically.

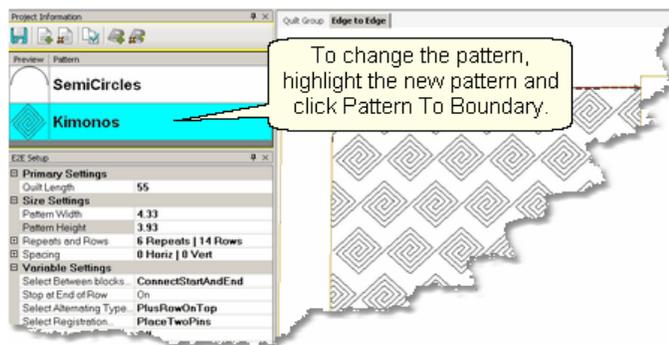
Tip: It is possible to delete the automatic trims and recreate your own if you choose. Just highlight the trim boundary (not any patterns) and press the delete key. Redraw the trim boundary using the Trim icon (defining the new trim with the machine head) or the Draw/Trim function (and define the new trim with the mouse).

It is possible

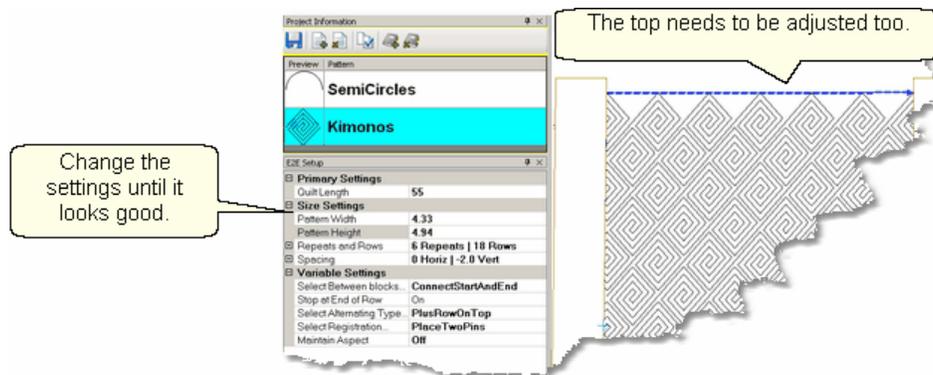
[Save the project](#) ⁶³.



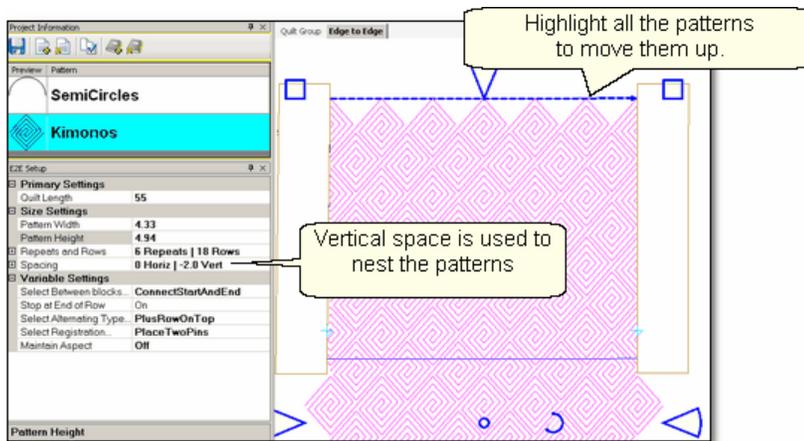
4 A. Let's say you don't like it and want to change the pattern. It is easy to try another one! Just highlight a different pattern and click Pattern To Boundary icon.



CS automatically adjusted the Registration points and the side edges. The pattern still needs to be adjusted however. Change settings as needed.

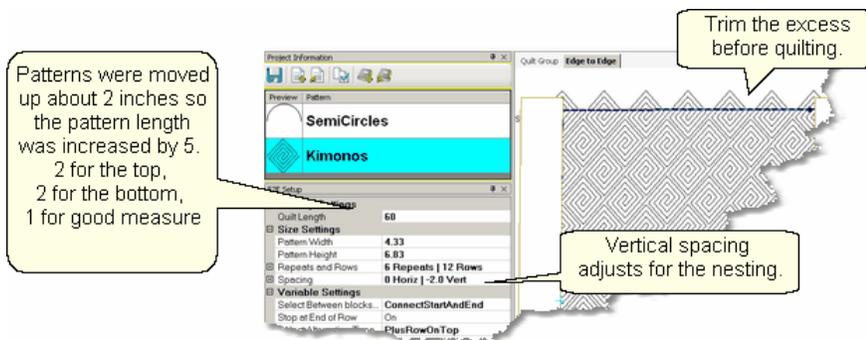


Notice that the upper edge will leave big gaps - the lower edge will too. To fix this, the total quilt length needs to be adjusted, then the patterns moved up to eliminate the gap. In this example, the vertical spacing is -2, so the patterns will be moved up 2 inches.



Increase the Quilt Length enough to allow the pattern to run off the edges at the top and bottom. Don't worry about the overlap because you can trim that off before

quilting. Select All the patterns together using the [Select All icon](#)⁴³.  Then move the group up to close the gap. CS may change the settings, so watch them.



Tip: Shifting the patterns up a little is not a problem but when the pattern needs to be moved up a lot, it might change the number of rows that can be quilted in the first section. To avoid this, start a new E2E quilt group and define the Upper Left and Upper Right corners as being above the upper edge of the quilt. Increase the quilt length to accommodate this space.

Before quilting, be sure to define another [Trim-Inside](#)¹⁹⁴ boundary at the top of the quilt. Use [Draw Trim](#)¹³⁰ if you want to trim the excess using the mouse.

When it looks good, [Save the project](#)⁶³. 

5. Click Quilt  The machine moves to the start of the first pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row now begins.

Repeat the steps listed in the previous section to complete the quilt. Be sure to trim the bottom edge to fit.

[Quick Reference E2E](#) ²⁴⁷

4.5.6 E2E Concatenating Patterns

Edge To Edge patterns can be concatenated giving a very custom look. These patterns must have been designed with identical structures - the same start point, end point, size, proportion and nesting shape - for them to work together.

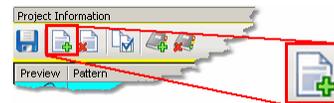
Feature: Edge to Edge - Concatenating

Assumptions: The machine is threaded, bobbins wound, the belts engaged, and you have patterns that are designed to work together. The Prep Steps here are a little different than a standard E2E, but the stitching steps will be the same.

Prep Step #1.) Measure the quilt length and width accurately before loading the quilt. If you are leaving a margin at the top and bottom, be sure to reduce your total quilt length by this amount. Also it is a good idea to reduce the length a little to accommodate shrinkage caused by the quilting. This could be from 1% to 5%, depending on the fabrics, batting and quilting density.

Prep Step #2) Load the quilt and baste the outer edges.

Steps to follow:



- 1. Add the patterns.** Using the Add Pattern icon, find and select the patterns, adding them to the project. If any pattern needs to appear more than once in the quilting sequence, it needs to be added more than once.
- 2. Select the patterns in order** by holding the control key down, and then clicking on each pattern, in the sequence they are to appear. You will be able to scroll up and down the list of patterns without breaking the sequence. This sequence is very important as you will see.

Project Information

Preview	Pattern
	ride into the sunset 1
	ride into the sunset 1
	ride into the sunset 1
	ride into the sunset 7
	ride into the sunset 6
	ride into the sunset 5
	ride into the sunset 3

Patterns that are included more than once must be added more than once.

Add as many patterns as you would like to concatenate together.

The sequence of selecting patterns is the same as the sequence of stitching them.

3. Click the E2E icon.  and follow the prompts to define the boundary.

Click Upper Left corner of E2E.

Click Upper Right corner of E2E.

Click Lower Right corner of E2E.

Click Lower Left corner of E2E.

Baseline determines square-up angle.

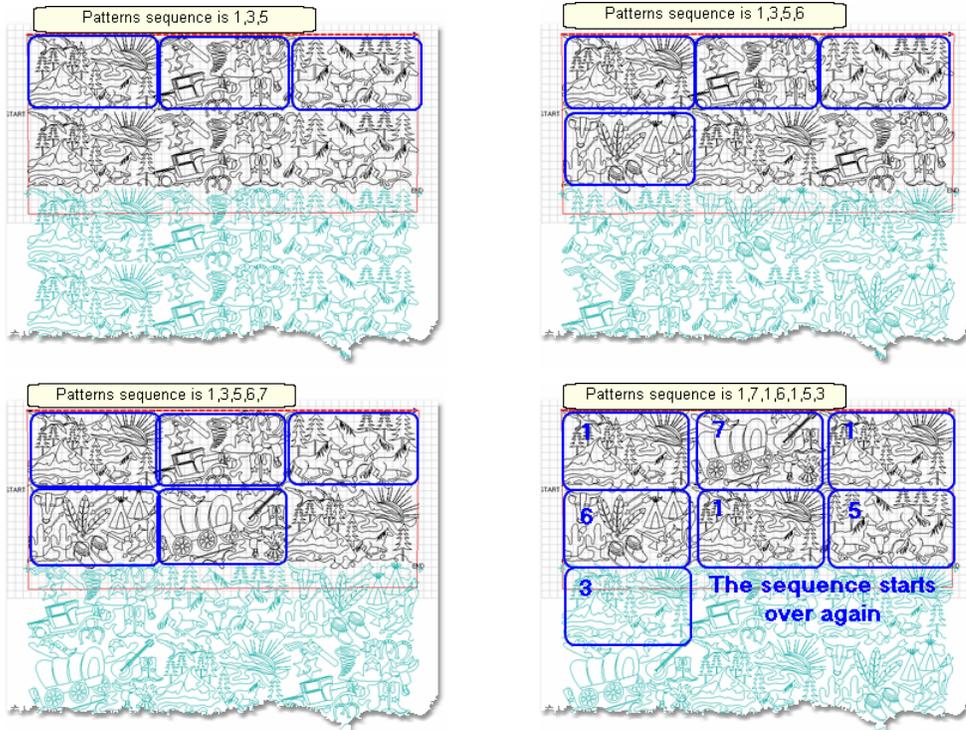
Define a boundary around the first area to be quilted.

4. Enter the quilt length in the [Primary Settings](#) ⁵⁶ area and CS will display the patterns.

Here are examples of different combinations of the Ride Into The Sunset patterns.

Only Pattern 1 was chosen

Patterns sequence is 1,3



Tip: If you don't like the way your patterns look on the screen, you can change them easily, without having to re-create the E2E quilt group and boundaries. Just reselect the patterns in a different sequence, and click on Pattern to Boundary icon. Voila! The new sequence appears.

[Save the project](#) .

Follow the same steps as defined in the previous sections to stitch them. Begin at Step 5 of Pantographs using Edge-To-Edge. This will guide you through the steps of quilting each row (and advancing the quilt) until done.

4.6 Restart

Restarts are needed for a variety of reasons:

- * The thread break sensor stops the machine.
- * The quilter presses the Stop button.
- * The machine stops because it hit an obstacle.

Whatever the reason, this feature makes restarting easy.



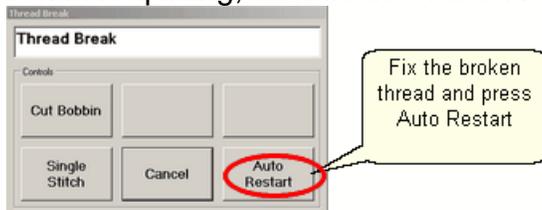
4.6.1 Thread Break Restarts

Feature: **Restart** (when a thread break has been detected)

Assumptions: The machine stopped and the thread break was fixed.

Steps to follow :

1. To continue quilting, choose the "Auto Restart" option.



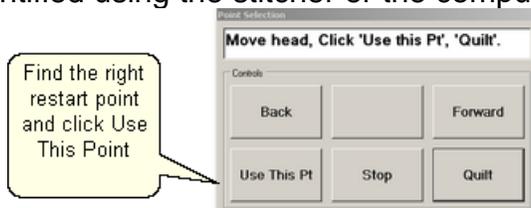
Pressing this button moves the machine back to where the break was detected.

2. CS asks if you want to confirm or move the Restart Point.



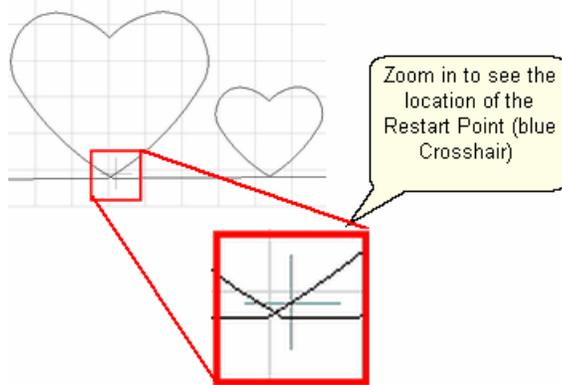
If the "Auto Restart" point is close, use **Back** and/or **Forward** to move the sewing head 7 stitches at a time until the sewing head is positioned properly. **Press Quit** when ready, and continue to sew.

3. Because there is a delay between the thread breaking and the sensor stopping the machine, the Restart Point probably needs to be moved. Press "**PickNewPoint**" to release the sewing head so you can move it to a different spot. The new point can be identified using the stitcher or the computer screen.



3A. Find the restart point using the sewing head - Move the machine until the needle is just above the point where you want to continue stitching. **Press “Use This Pt”** on the keypad. CS moves to the closest stitch and waits for another response. If it looks good, **Press Quilt** and continue to sew. If not, try again by pressing “Use This Pt” until the right spot is found.

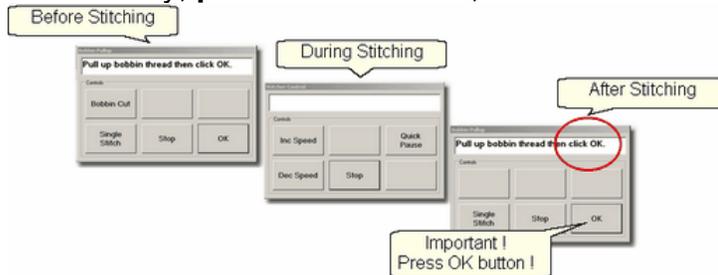
3B. Find the restart point using the computer screen - Look at the image on the screen and find the crosshair mark - it is a long, skinny blue plus “+” sign. Zoom in and out using the roller on the mouse. Find the spot on the screen that corresponds to the correct restart point on the quilt, and click that spot with the mouse. The blue crosshair will move to this location on the screen and the stitcher will move to that location on the quilt. Be very careful not to move the pattern on the screen, and if it is moved by accident, be sure to choose 'Pick a Point' restart, and not 'Auto' restart.



If it looks good, **Press Quilt** and continue to sew. If not, try clicking a different point on the screen until the right spot is found.

Tip: The color of the pattern image on the screen can help you locate the crosshair. Red means CS thinks that part of the pattern has been stitched. Black means CS thinks that part of the pattern needs to be stitched.

4. When ready, **press Quilt**  , and continue to sew.



At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

[Quick Reference Restart](#) ²⁶⁷

4.6.2 Manual Stops and Restarts

Feature: **Restart** (when a manual stop occurred).

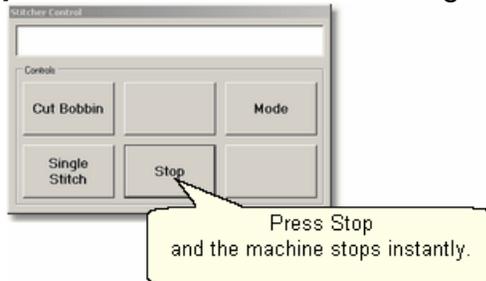
Manual Stops and Restarts are easier to do.

Tip: For people who can hear when the bobbin needs to be changed, this is very useful. When it sounds like it is time to change the bobbin, watch the stitching until it gets to a place where knots will be hidden, and press Stop. The machine stops instantly, and the sewing head can be moved to the side of the quilt and the bobbin can be changed. Restart remembers where it stopped and returns to that spot accurately.

Assumptions: The machine stopped and the reason is resolved.

Steps to follow :

1. Press **Stop** and the Stitcher Control dialog box appears.



Press **Stop** again to end the stitching completely if needed and use the stitcher to secure the threads.



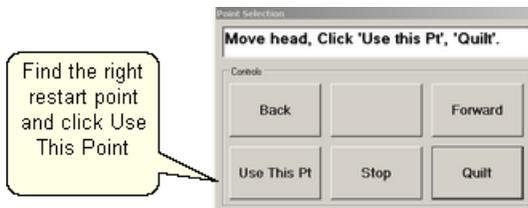
2. Click Restart_Quilting when ready to resume quilting. The sewing head goes back to the spot where it detected the 'Stop' command and the "Pick a Restart Point" box appears.



3. Since this is usually the correct spot, chances are good that you can press **Quilt** and continue on.

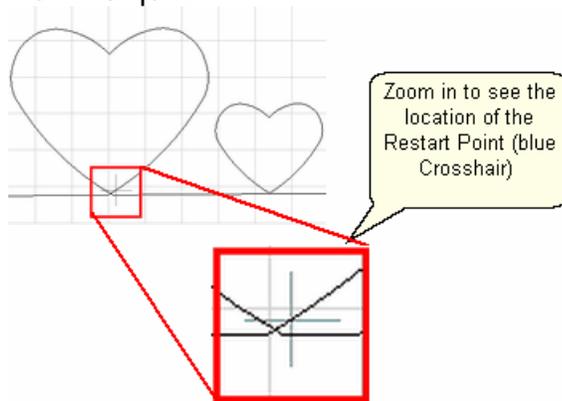
* If this is not true, but it is close, use **Back** and/or **Forward** to move the sewing head 7 stitches at a time until the sewing head is positioned properly. **Press Quilt** when ready, and continue to sew.

* If it isn't close, Press "**PickNewPoint**" to release the sewing head so you can move it to a different spot. The "Point Selection" dialog box appears.

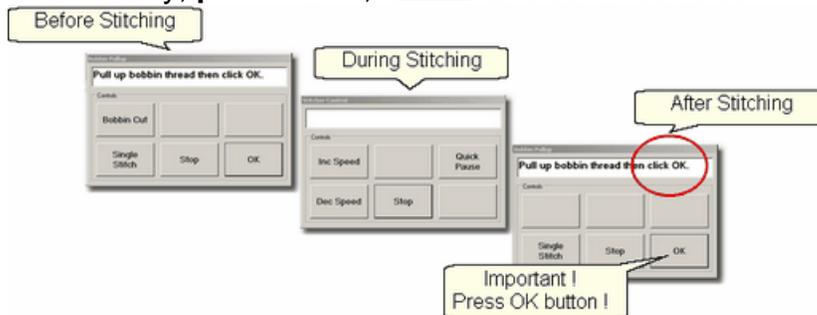


3A. Find the restart point using the sewing head - move the machine until the needle is just above the point where you want to continue stitching. **Press “Use This Pt”** on the keypad. CS moves to the closest stitch and waits for another response. If it looks good, **Press Quilt** and continue to sew. If not, try again by pressing **“Use This Pt”** until the right spot is found.

3B. Find the restart point using the computer screen - look at the image on the screen and find the crosshair mark - it is a long, skinny blue plus “+” sign. Zoom in and out using the roller on the mouse. Find the spot on the screen that corresponds to the restart point on the quilt, and click that spot with the mouse. The blue crosshair will move to this location on the screen and the stitcher will move to that location on the quilt.



4. When ready, **press Quilt**,  and continue to sew.

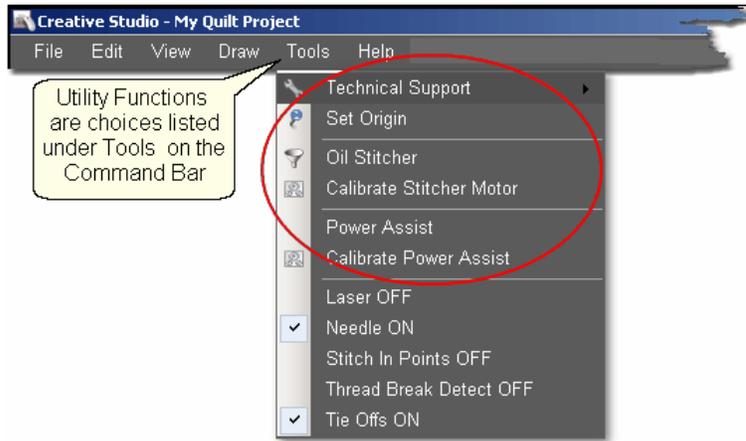


At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

[Quick Reference Restart](#)²⁶⁷

4.7 Utility Functions

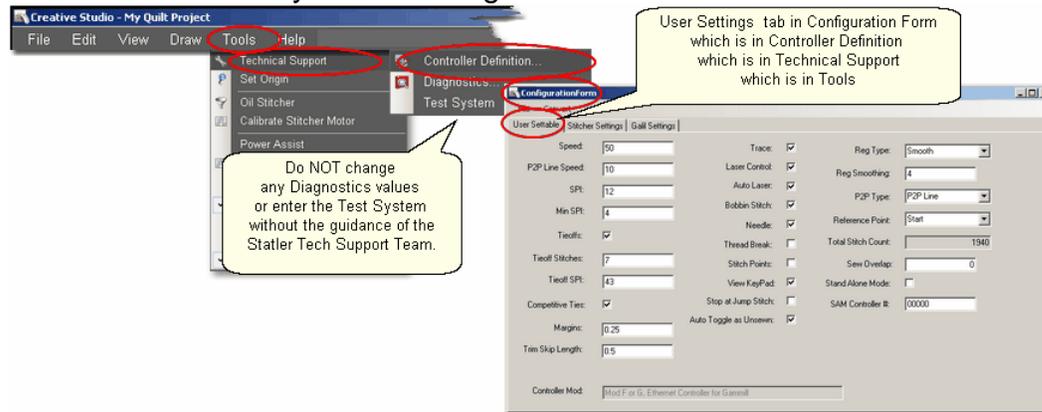
Utility Functions are used in many different techniques. They are very important, but not used on a regular basis.



4.7.1 Set Defaults

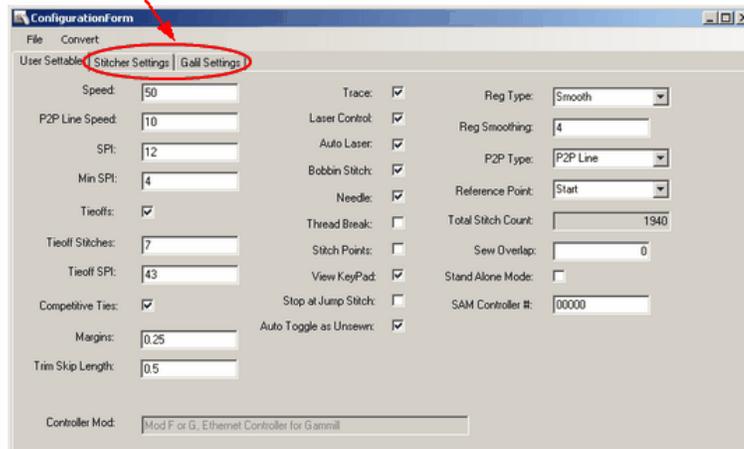
There are many mechanical, electrical, and numeric default settings that are required to run CS. The defaults are the initial values that are set every time CS starts up. Many of these values can be [changed as needed](#)¹⁴³ during the quilting session. Others are considered Restricted Areas and should not be modified without the help and guidance of the Statler Stitcher Technical Support staff. The user controlled values are described in the following text.

To find the defaults you can change:



- * Click Tools,
- * Click Technical Support,
- * Click Controller Definition
- * User Settable Tab contains your default values.

**Do NOT Change
any Stitcher Settings
or Galil Settings.**



The Configuration Form has three tabs; User Settable, Stitcher Settings (which controls the stitcher) and Galil Settings (which control the motors). DO NOT make changes to either the Stitcher Settings or the Galil Settings without the guidance of the Statler Tech Support Team.

Each setting in the configuration form is explained below. Some of the settings affect each other however, and this is explained in the section "Quilting The Quilt" , [Set Stitching Defaults](#)¹⁴³.

The Stitcher Settings:

Left Column contains the following default values–

Speed – This is the default motor speed, in percentage. A value of 50 means 50% of the motor capacity.

P2P Line Speed - This is the default motor speed when using the P2P Line feature.

SPI – is the initial setting for stitches per inch (SPI)

Min SPI – is the minimum stitches per inch allowed by CS.

Tieoffs – Check means CS will do tieoff stitches at the beginning and end of each stitching line.

Tieoff Stitches – This is the number of stitches taken by the tieoff feature.

Tieoff SPI – This is the size of the stitches taken by the tieoff feature.

Competitive Ties - If this is checked, CS will do the tieoff stitches in a row, as it starts the pattern. Otherwise, the tieoff stitches are done with half moving forward (as defined by the pattern), the other half moving backward, and then the pattern stitching begins.

Margins – This is the default margin size in inches.

Trim Skip Length - After a pattern is trimmed, any tiny pattern segments (less than this length) will be skipped.

Controller Mod - is for your own information. This is an important bit of information, so it is included here for convenience.



Tip: Sometimes an empty bobbin will trigger a thread break message. This is because when the bobbin is empty, the machine can't complete a stitch so the top thread stops being drawn off the spool/cone, the sensor stops turning and the machine will stop.

Center Column contains defaults using check boxes (check = ON, blank = OFF)

Trace – Do Not Change please. This setting allows advanced debugging, by doing a more comprehensive log of the Statler performance.

Laser Control – Check means you control the laser.

Auto Laser – Check means CS controls the laser and will turn it on/off automatically.

Bobbin Stitch – Check means CS will help bring all the threads to the top of the quilt by stopping at each Start and End, taking a single stitch, and prompting the quilter to pull up the bobbin thread. Unchecking this will make the sewing happen non-stop - dragging the thread as needed.

Needle – Check means the needle is 'on' and will stitch as expected. Turning the needle 'off' is a great feature if the stitch placement needs to be verified before it is stitched.

Thread Break – Check means the thread break sensor is on, and the machine will stop if a thread break is detected. The thread break sensor is a cylinder in the top thread path. The thread wraps around it so when the machine is stitching, the thread is being drawn off the spool/cone, through the tension disks and around the sensor, making the sensor turn. If it stops turning for a few seconds, the machine assumes the thread has broken and it will stop moving.

Stitch Points – Check means CS will take an extra stitch in every point of a pattern. This produces very sharp, distinct points.

View Keypad – Check means an shaded image of the stitcher keypad will be displayed on the screen every time CS is started. This box is for convenience only, and can be closed at any time.

Stop at Jump Stitch – Check means CS will stop at any pattern segment that has a 'no sew' line segment of any kind. These can occur in patterns, text patterns, trimmed patterns, etc. Normally a jump stitch is secured with tieoff stitches. People who prefer to hand tie the thread knots and bury them should turn this 'on', turn the tieoffs 'off', and the Bobbin Stitch 'on'. Then CS will stop, prompt for a 'bobbin pull-up & OK' at the end of a stitched pattern segment, jump to the next pattern segment where stitching should begin, prompt for a 'bobbin pull-up & OK', and continue to stitch the pattern.

Auto Toggle As Unsewn - Check means CS will automatically toggle patterns as 'unsewn' if there was a thread break detected. It treats multiple repeats (as in an Edge-to-Edge) as a group, so regardless of where the break is, all the patterns will be toggled as unsewn.

Right Column contains some defaults that use drop-down boxes to list the choices for each default.

Reg Type refers to the stitch regulator when in regulated mode.

Reg Smoothing **Do Not Change**

P2P Type – is the default (line or pattern) for the Point To Point feature.

Reference Point – is the default for the reference point used in Repeat Patterns.

Total Stitch Count – is the grand total of all stitches taken since the software was

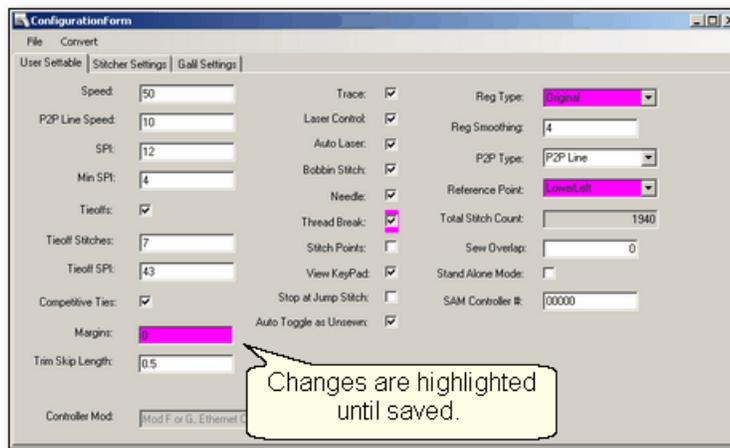
loaded. This counter includes the stitches done for computer controlled patterns, free motion, and even constant speed when the bobbin winder is running.

Sew Overlap - is a distance in inches, expressed as a decimal. If desired, CS can overlap the stitching in block patterns. Works well on an echo, or on a pattern that has the start and end points on a fairly straight line segment. Overlap stitches may show if the start and end points meet at a point or turn a corner.

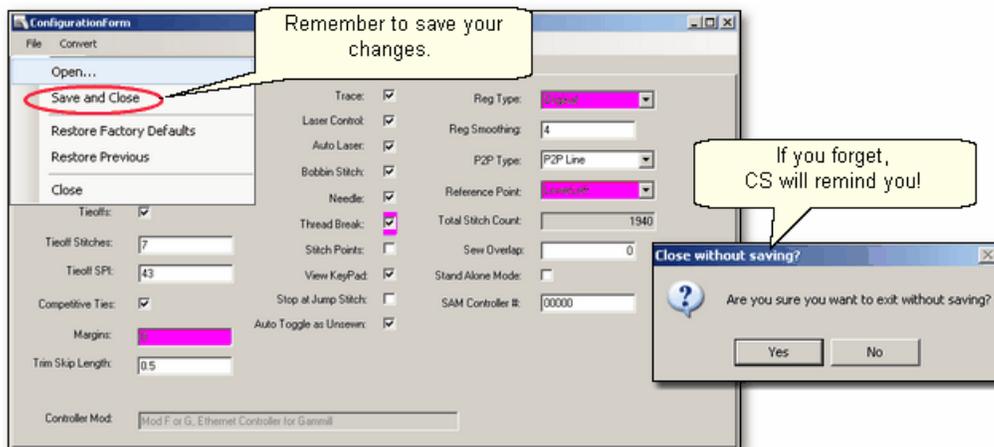
Stand Alone Mode - Check indicates CS is loaded on a computer, but the controller is not connected. This allows the software to be used for design work, but not for stitching the designs.

SAM Controller # - is saved here, so the Stand Alone Mode (SAM) can use encrypted patterns.

Changes are highlighted on the screen, but they will not change the defaults until they are saved.



To Save Changes, Click on the File tab, and click Save and Close.



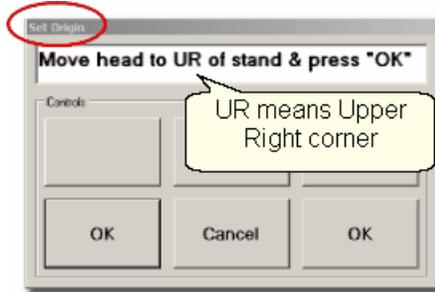
If you forget to save your settings, CS will remind you.

4.7.2 Set Origin

Every time the software is started, CS will ask for an origin point. The origin is an anchor for the system, and all movement is defined relative to that anchor.

Most graphics software uses one of three origin points: Machine origin (some

repeatable, reliable place like an upper corner), absolute origin (a fixed point, like the center) and relative origin (which changes by the block or project). (Precision Stitch used a relative origin.) CS uses the machine origin. Because the origin point can be [relocated](#)^[105], CS projects can be shared, re-used or restarted.

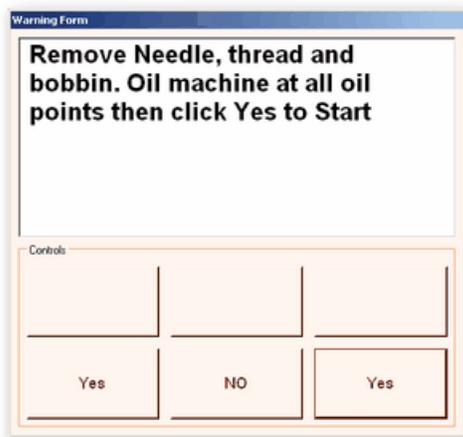


CS has the ability to set a specific origin point as well as relocate the origin using Control points. This allows projects to be started and stopped, and adjusted as needed. It also means that projects can be created for a whole quilt and the project can be sold / shared to others, just like a single pattern is sold / shared in PS.

Tip: Relocating the origin is occasionally needed when a quilt is shifted somehow, like reloading the quilt after some frog stitching (Rippit, rippit!). CS can realign one or all of the patterns on the screen - your choice of course. See Extra Edit Options for more details on [Relocating](#)^[105] patterns and the origin point.

4.7.3 Oil Stitcher Routine

This is a special routine that can be part of the weekly cleaning and maintenance. It runs the sewing head motor at varying speeds backwards so the oil has a chance to penetrate some places that are otherwise hard to reach. New machines and certain climates may require this to be done more frequently.



The process will take about 7 minutes to complete.

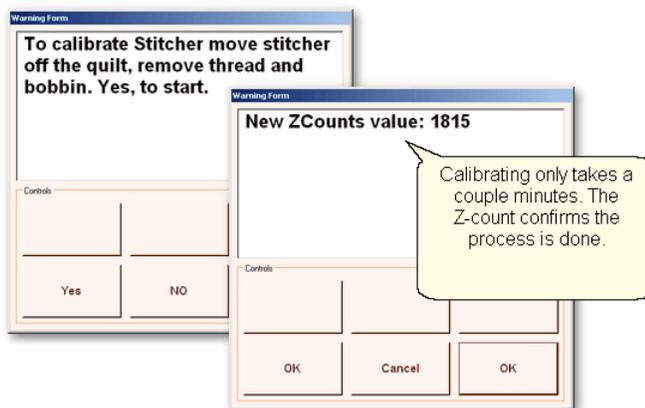
4.7.4 Calibrate Stitcher Motor

Calibrating the stitcher motors guarantees stitching accuracy. This doesn't need to be done often but can be performed as needed. It should always be done after loading new software versions or performing any significant maintenance.

1. Click on Tools
2. Click on Calibrate Stitcher Motor



3. Move the machine head off of the quilt, remove thread and bobbin case as prompted. Click OK when done. The needle will move as if it were stitching. When done, a dialog box appears with New Z-Counts. The value given will depend on the controller model being used.



4. Click OK to end this procedure and continue stitching.

4.7.5 Power Assist

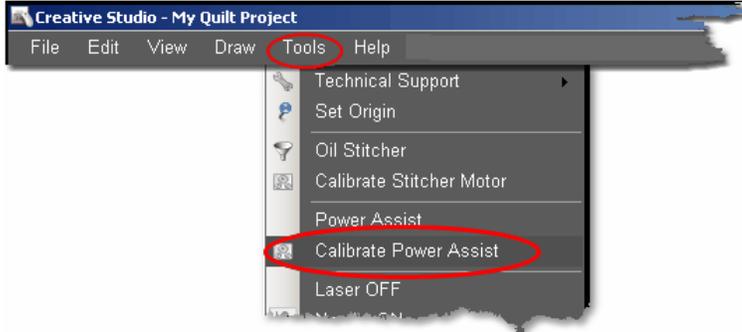
The Statler Stitcher has been installed on numerous different machine heads, which vary in weight and 'float' depending on the wheels and other mechanical devices. Power Assist makes the sewing head seem lighter because it adds a little 'motor power' making it easier to move.

Power Assist needs to be adjusted by each individual until the 'touch' is comfortable. There is a calibration utility that determines the initial default settings. It also allows additional adjustments, making it 'feel' right.

4.7.6 Calibrate Power Assist

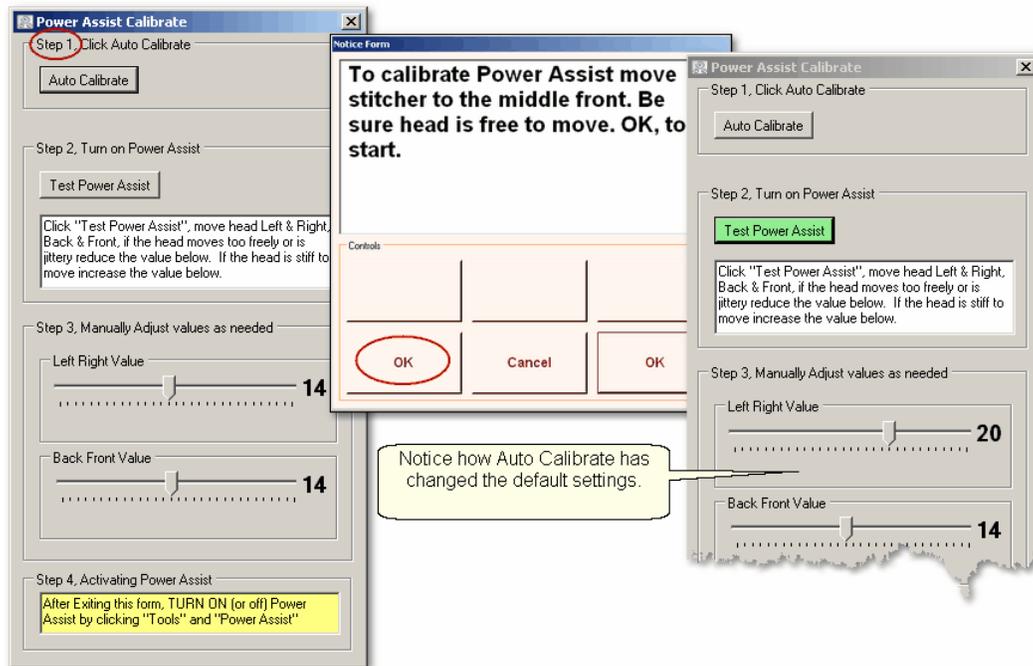
Calibrate Power Assist is a routine that allows the quilter to adjust the 'feel' of the sewing head to suit their own personal 'touch'.

Start by choosing Calibrate Power Assist (PA).

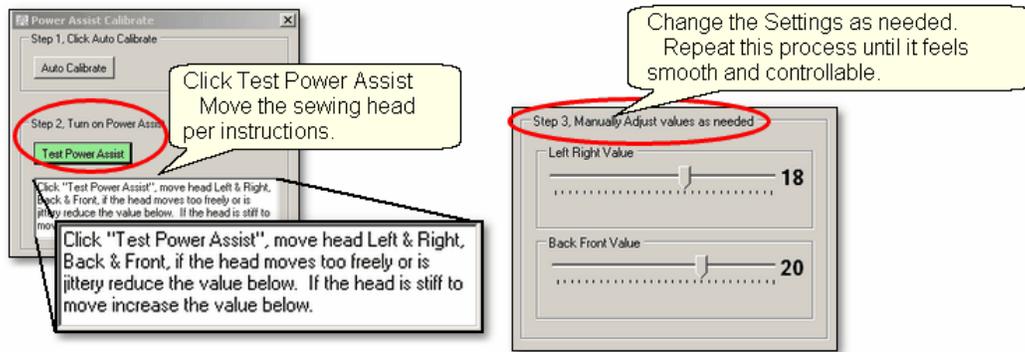


- * Click on 'Tools' from the command bar.
- * Choose 'Calibrate Power Assist'.

The Power Assist dialog box shows the 4 steps for setting and using Power Assist. Step 1. Click Auto Calibrate. (This only needs to be done once). The sewing head will move about 12 inches front to back, and side-to-side. CS suggests some default settings.

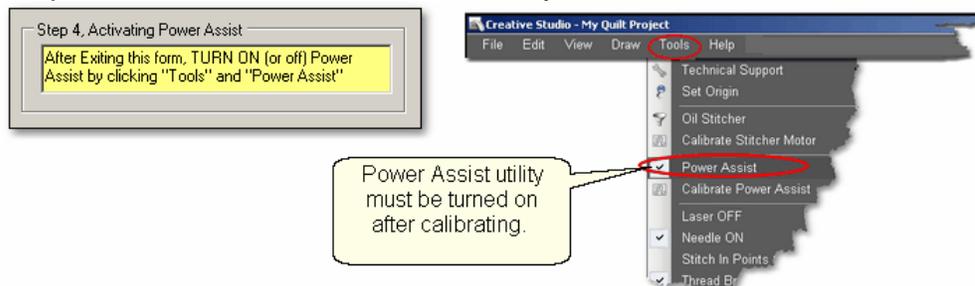


Step 2 and Step 3. CS has turned off PA, so click 'Test Power Assist' to continue. Follow the instructions, and adjust the settings to suit your personal preference. When the machine is difficult to move, the settings are too low. If the machine head continues to move or feels jerky at a stopping point, the settings are too high.



As a safety feature, CS turns off the Power Assist before it accepts the new settings. So, you will need to click the Test Power Assist button every time you want to adjust the settings.

Step 4. Activate the Power Assist Utility.



Calibrating the Power Assist does not turn it on automatically, so click on the Power Assist choice in the Tools section of the command bar. PA turns off automatically when doing Regulated Stitching or Baste stitching, and turns back on when exiting those functions. Except for these two times, PA will remain on until it is turned off, even if CS is shut down and restarted.

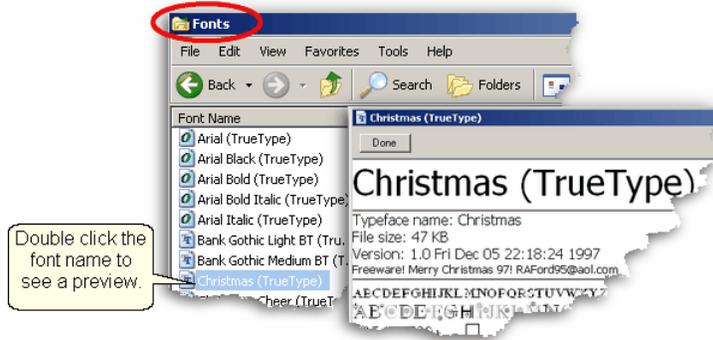
4.7.7 Add New Text Fonts

Adding additional fonts is possible and easy. Standard Microsoft fonts can be added by copying them from another computer to a thumb drive (jump stick) and installing them on the Statler computer. Free fonts can also be found and downloaded from the internet. It is a good idea to install and check these (do a virus scan) on a different computer before installing them on the Statler computer. Also, be sure CS is not open and running when installing new fonts.

1. **Find the new fonts** (probably using the computer you use to connect to the Internet):

* Click on Start button, click Settings, Click on Control Panel, Double click Font folder.

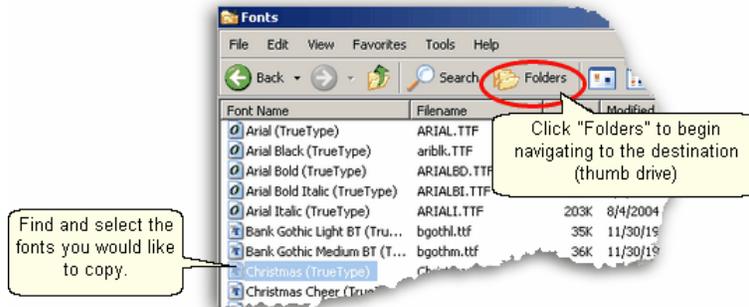
* Double click any font name to see what it looks like.



2. **Copy the new fonts** from the source computer to a thumb drive:

- * Highlight the fonts and copy them.
- * Click on Folders button to find the thumb drive.
- * [Navigate to the destination folder](#) on the thumbdrive
- * Click Edit command, Click Paste.

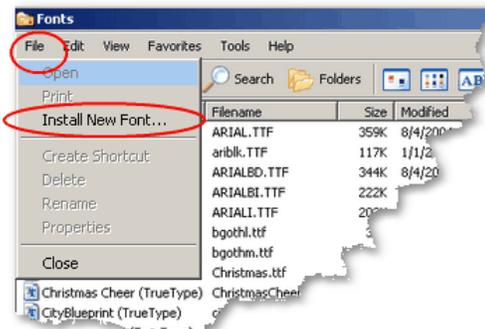
When done, "Safely Remove the Hardware" (eject the thumbdrive).



Tip: Scan the thumb drive with up-to-date Antivirus software before you move it to your Statler. It is wise to do this EVERY time you move media between computers. This protects your investment in your Statler Stitcher.

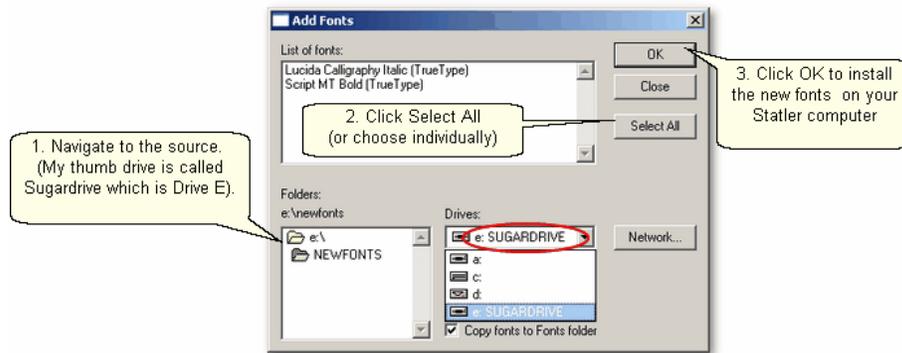
3. **Install the new fonts** from the thumb drive.

- * Insert the thumb drive into the Statler computer.
- * Click Start button, Click Settings, Click Control Panel, Double Click Fonts folder.
- * Click on File Command, Choose Install New Font.



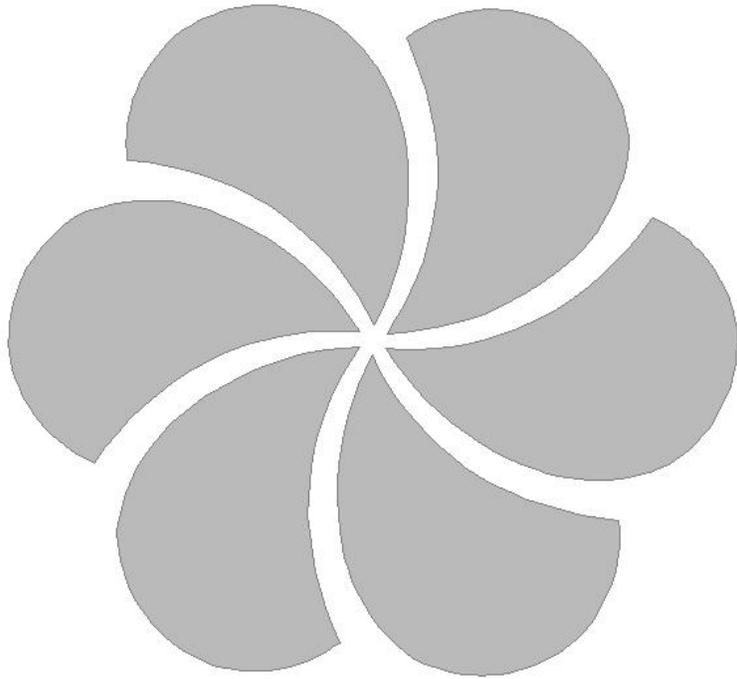
4. Navigate to the folder containing the new fonts.

- * Select the new fonts to install
- * Click OK.



TIP: CS can use any standard Windows font for text. Some fonts look great but sew poorly because they were created with polylines, so test all fonts before using them.

Part V



5 Quick Reference Sheets

5.1 Quick Ref Icons Shortcuts

CreativeStudio™ Quick Start Icons and Shortcuts

Toolbar Icons: ✓ is an abbreviation for 'click'

Icon	Icon Name - description & shortcut keystrokes included.
	Tip - Created for the documentation only
	DIY - Design It Yourself - Tips on pattern design and shortcuts.-
	Boundary - Begins the process to define a bounded area. Alt+B starts a boundary, Right ✓ will end it, Esc to cancel.
	Pattern_To_Boundary (Standard or Stretch) - Moves the selected pattern into the selected boundary, using either Standard mode or Stretch mode.
	Start_Quilting - Begins the quilting process
	Edge_To_Edge_Continue - Continues the Edge_To_Edge quilting sequence after the quilt is rolled
	Point_To_Point - (Line or Pattern) - Begins the P2P quilting process for lines or patterns Sh+Channel Lock = will change or Increment the channel lock angle. Sh+Exit will Exit.
	Repeat_Patterns - Begins the process for moving multiple copies of a selected pattern to the preview area
	Border_Corner - Begins the process of moving the corner patterns into the border boundary.
	Edge_To_Edge - Begins the setup process for doing E2E quilting.
	Trim - (Inside or Outside) - Begins the Trim process for Inside or Outside trims. Alt+T starts a trim, Right ✓ will end it, Esc to cancel.
	Measure - Starts the prompt sequence for using the sewing head to take measurements. Right ✓ - after measuring to transfer measurements.
	Restart_Quilting - Starts the process of finding the correct restart point, and restarting the stitching.

	Regulated_Sewing* - Sewing with the stitch regulator (Original, Plus, or Smooth) Sh+Channel Lock will change or Increment the channel lock angle. Sh+Exit will Exit.
	Baste* - Basting with the stitch regulator. Sh+Channel Lock will change or Increment the channel lock angle. Sh+Exit will Exit.
	Constant_Sewing* - Sewing without the stitch regulator. Sh+Channel Lock will change or Increment the channel lock angle. Sh+Exit will Exit.
	View All - Adjusts the Zoom distance so all patterns are viewable in the preview area.
	Select All Patterns - Selects all patterns in the preview area
	* Channel Lock and Record Mode are here.

Quick Reference Icons for Projects:

The project content can be changed using the following icons which are found on the Main Screen, Project Information Box:

Icon	Icon Name & location
	Save (Project) - Saves the current project
	Add Pattern - Starts the process for adding patterns
	Delete Pattern - Deletes the selected pattern
	Check Project Details - Displays the Project Details dialog box
	Add Quilt Group - Creates a new Quilt Group Tab
	Remove Quilt Group - Removes the current Quilt Group Tab

General Purpose Shortcuts:

KeySe	Is the same as:	What it will do:
q		
< >		Selects stacked patterns sequentially.
↑ ↓ ← →		Navigates from one quilt group to the next.
Alt + ↑ ↓ ← →		'Nudge' does tiny adjustments when in Editing. It moves the pattern in tiny increments to aid in pattern placement.
Esc		Escape from a command sequence or mode.

Del		Delete the highlighted object (pattern, line, text, etc.)
Ctrl+✓		Selects multiple items, Esc to deselect
Ctrl+A		Select All
Ctrl+N	✓File, ✓New Project	Create a new project.
Ctrl+O	✓File, ✓Open Project	Open an existing project
Ctrl+S	✓File, ✓Save Project	Save the current project
Ctrl+Z	✓Edit, ✓Undo	Reverse the most recent command
Ctrl+Y	✓Edit, ✓Redo	Re-execute the command – <i>or undo the undo</i>

Feature Specific Shortcuts:

Feature:	KeyS eq	What it will do:
Measure	Right✓	Transfer the measurement. Measure first, Right click the destination field, click on the number to transfer.
	F2	Virtual Stitchout - checks the path of a new pattern.+ to speed up, - to slow down.
	F5	Refresh Screen, resets stitcher connection and takes time - use only if needed.
Draw	F8	Set Sew Order, display and change pattern direction and sequence
Draw	F9	Pattern anchor is 'Edge'.
Draw	F10	Pattern anchor is 'Center'
Draw	F11	Pattern anchor is 'Endpoint'
Draw	F12	Pattern anchor is 'Stretch'
Draw	G	turn on (or off) the Gridpoint Snap
Draw	E	turn on (or off) the Endpoint Snap
Draw	Alt+B	begin a Boundary, Right✓ to end.
Draw	Alt+T	begin a Trim, Right✓ to end.
Draw	Alt+A	begin a Sewable Arc, Right✓ to end, Esc to cancel.
Draw	Alt+C	begin a Sewable Curve, Right✓ to end, Esc to cancel.
Draw	Alt+L	Begin a P2P Line. Stop will create a Jump Stitch, Shift+Esc will end the line.
Draw	Alt+P	Begin a P2P Pattern. Stop creates a Jump Stitch, Shift+Esc ends the pattern.
Draw	Alt+M	Begin to measure objects on the Preview area. ✓ start and end points. Esc to cancel.

5.2 Quick Ref Regulated

Feature: Regulated Baste Constant Speed sewing

There are three choices for the regulated stitching process: Original, Plus and Smooth. Constant Speed and Baste have their own icons but the screens and the process of stitching are the same as Regulated Sewing. Constant Speed runs the stitcher without a stitch regulator.

Baste is essentially a repeated single stitch. The basting stitch is a long stitch and is usually temporary. It is the most common technique used around the outer edges. The hopping foot actually applies less pressure than normal which prevents the fabric from being pushed and stretched. Stitch Length for basting begins with a 'B' and instead of the stitch size being measured in SPI (Stitches Per Inch), it is measured in IPS (Inches Per Stitch). With minor exceptions, the screens for Baste and Constant Speed are the same as Regulated, which are explained here.

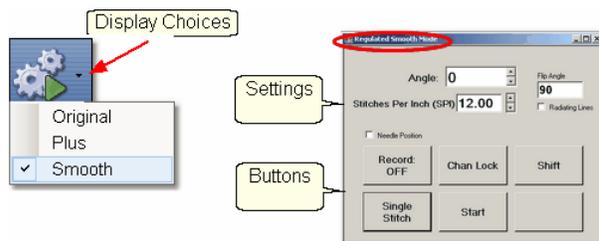
Steps to follow:

1. Choose a style of sewing.

Click on the small black arrow to the right of the Regulated Sewing icon to see the choices. Original, Plus and Smooth vary only in the speed of the needle moving up & down.

2. Click on the Regulated Sewing icon.

A Dialog box shows settings and buttons.



Regulated and Constant Speed Settings:

Angle: This is the current angle that will be used when Channel Lock is turned on.

Stitches Per Inch - Change with up/down arrows or use mouse & keyboard.

Flip Angle: If Radiating Lines is not checked, this angle can replace the current angle. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

Radiating Lines - When checked, CS increases the current angle by the number of degrees shown in Flip Angle. To increase the current angle, press and hold the Shift Button on the keypad, and press the Chan Lock Button. Repeat this to increase it again.

Needle Position - If checked, the sewing head works like the 'Plus' machines, allowing a half stitch to be taken instead of a full single stitch. Press the button once and the needle goes down & stays there. Press it again to bring the needle back up. If it is down when stitching starts, it will go back down when it stops.

Buttons:

Record Off means the motions are not being recorded,

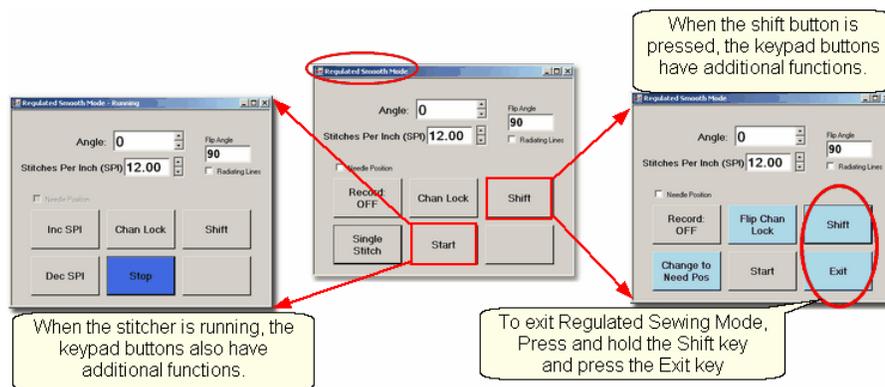
Chan Lock (on/ off) locks the sewing head so it stitches a straight line at one angle.

Shift - Press this once and additional keypad functions appear & stay for a couple seconds.

This is for reference only - each blue button requires a 2-button sequence.

Single Stitch - press this to take a full single stitch. If the Needle Position box is checked, this button is labeled 'Needle Position', and pressing it takes a half stitch.

Start - starts the stitching process, and STOP ends it.



Additional Functions: These functions (light blue buttons) are initiated by using a 2-button sequence; press and hold the Shift button and then press the second button.

Flip Chan Lock - Changes the current angle.

* If Radiating Lines is not checked, this will change the current angle to whatever the Flip Angle is set at. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.

* If Radiating Lines is checked, CS increases the current angle by the number of degrees shown in Flip Angle. To increase the angle, press and hold the shift button on the keypad, and press the Chan Lock button. Repeat to increase it again. It will go up to 90 degrees and return back to 0 degrees.

Shift - used to display additional functions (light blue buttons) and to execute them.

Change to Need Pos - is used to 'check' (or choose) the Needle Position option, making the Lower Left button change to 'Needle Position'. Press and hold the Shift button and press Change To Need Pos button. Repeat the 2-button sequence to return to Single Stitch.

Start - starts the stitching process, and STOP ends it.

Exit - To exit regulated mode, press and hold the Shift button and press the Exit button. Using the mouse & screen works too.

3. Press Start on keypad when ready to sew and Stop on keypad to stop. Dark blue buttons mean the stitcher is running. Notice that the two buttons on the left have changed in meaning.

Inc SPI means Increase the Stitches per Inch.

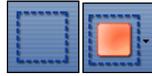
Dec SPI is decrease stitches per inch.

4. Press Shift and Exit on keypad when ready to exit regulated mode.

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CreativeStudio™ is a trademark of Gammill, Inc

5.3 Quick Ref Single Block

Feature: Single Block

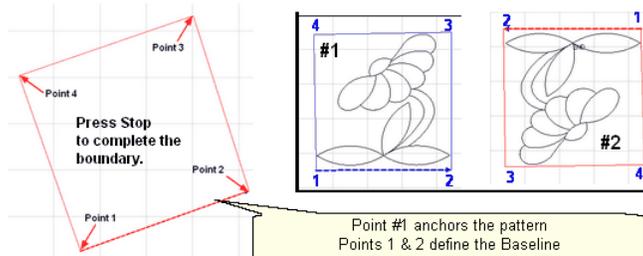


(using Boundary and Pattern_to_Boundary/Standard mode features)

Step 1: Define the Boundary

Boundaries are used in many of the CS techniques. They might be required by a technique (such as defining the quilting surface of an E2E design) or used as a convenient reference for guiding the placement of patterns. Either way, they synchronize the quilt top with the screen image.

* Click on the Boundary icon to begin defining the boundary. CS will prompt for points that define the area.

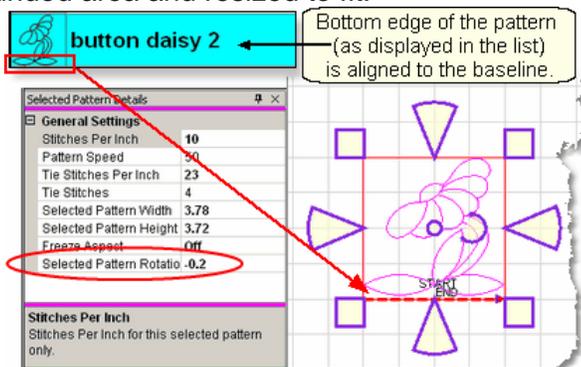


About boundaries:

- * A bounded area must have at least 3 points (a triangle) and can have hundreds.
- * The first point is considered the anchor. The lower left corner of the pattern will always be aligned to the first point clicked.
- * The first two points define the baseline which determines the pattern rotation.
- * Pressing Stop completes the boundary. CS will connect the first and last points, enclosing the area.
- * Choose the baseline and always click the points in a counter clockwise direction. Patterns are aligned to the baseline as shown:
- * Once a boundary is defined, it can not be changed. It can however be deleted and a new boundary defined.
- * To delete a boundary, first select it, then press the Delete key on the keyboard.

Step 2: Move Patterns into Boundary

- * Click on a boundary to select it. (It turns red).
- * Click on a pattern to select it. (it turns cyan)
- * Click on the Pattern_To_Boundary icon to move the pattern in. The pattern is moved into the bounded area and resized to fit.



When a pattern is moved into a boundary, it will be aligned to the baseline so if it slopes up (or down) the pattern will be rotated accordingly. The slope is displayed in the Selected

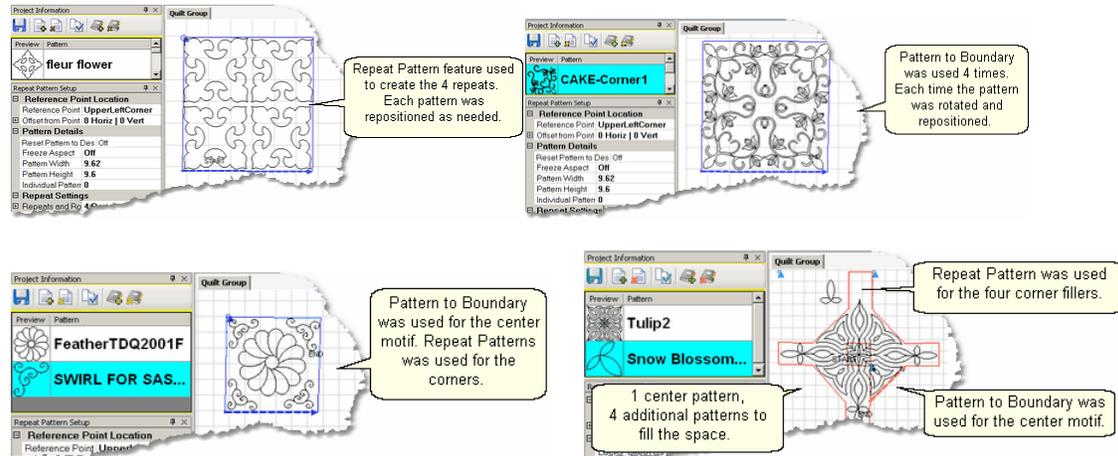
Pattern Rotation field of the details.

* The Preview area is focused on the pattern most recently used. To see all patterns and boundaries, click View All icon.

Step 3. Click on Start_Quilting and the sewing head will move to the Start of the pattern.

CS will prompt for pulling up the bobbin thread. **Press OK** when ready to quilt. At the end of the quilting sequence you will be prompted to pull up the bobbin thread and click OK. Be sure to click OK because it completes this process.

More elaborate designs can be stitched using combinations of single block patterns. Here are some examples:



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 CreativeStudio™ is a trademark of Gammill, Inc

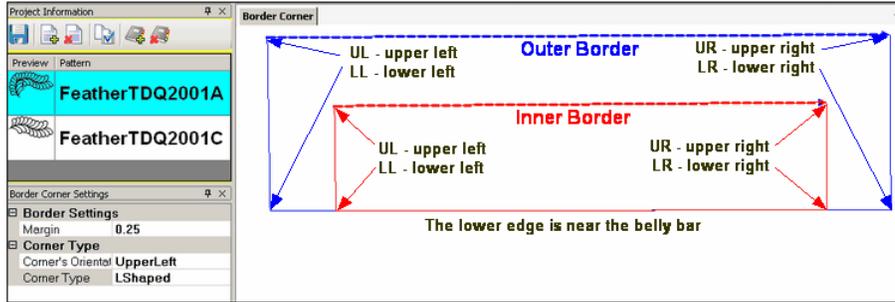
5.4 Quick Ref Borders and Corners

Feature: Borders and Corners

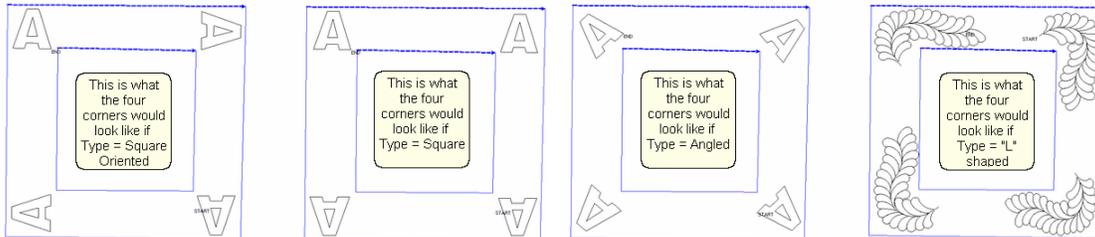


Using Border / Corner and Repeat Patterns features
Steps to follow for corners:

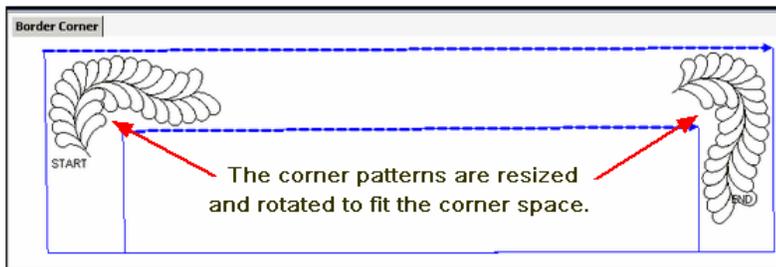
1. Click on the Border_Corner icon. CS prompts for outer border boundaries: Click (UL, UR, LR, LL corners). CS prompts for Inner border (UL, UR, LR, LL corners).



2. Select the corner pattern and edit the Border Corner settings, choosing a type and orientation that best fits the corner pattern.



3. Click Pattern to Boundary and CS moves the corner into the preview area. If adjustments are needed, click the pattern to select it (pink) and then resize and/or repositioned as needed.

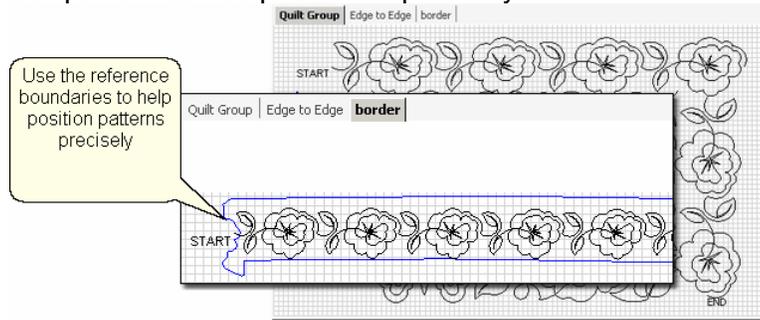


4. Click on Start_Quilting and the sewing head moves to the Start of the first pattern. CS will prompt for pulling up the bobbin thread and choosing OK when ready to quilt. CS will stitch the first pattern and move to the next, repeating the prompts for bobbin pull-ups. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread the last time and click OK. Be sure to click OK because it completes this process.

Feature: Borders (Repeat Pattern)

Steps to follow for borders:

1. Measure the top border height first and determine the height of the pattern. (Maximum border size less margins).
2. Measure the top border width next, using the border seamline as the baseline. Be sure to measure in the direction you will be stitching because the measure process will also determine the square-up angle of the border. Write down these numbers on the diagram for use later.
3. Boundaries are optional but very helpful because they will show (in the preview area) any curvature in the seamlines. Reference boundaries can also trace the edge of a pattern so the border pattern can be positioned precisely around the corners.



4. Click on the pattern to be used. This highlights it (cyan) in the Project Info area.
5. Click on Repeat Patterns icon, edit the pattern details, and choose a Reference point. Move the machine head to that reference point and press OK to set it. CS moves the pattern(s) to the area anchored by the reference point.
6. Edit the size and repeats using the Pattern Details or Repeat Setting Details first. When done, Save the project.
7. Make final adjustments in the preview area last. When done, Save the project.
8. Click on Start_Quilting, CS moves the sewing head & prompts for bobbin pull-up. Press OK when ready to quilt and OK again at the end of the quilting as prompted because this completes the process.



Tip: To audition E2E patterns for a quilt that has a border:

- * Draw a boundary the same height as the border.
- * Move multiple border patterns into the border boundary, using the correct sizing.
- * Move one (or more) E2E patterns into the preview area, and position them next to the border patterns.
- * Modify the size of the E2E pattern until the quilting density is reasonably close to the border.
- * Record the size (height and width) of one of the E2E patterns, and use this size as the beginning size when you begin the E2E process.

5.5 Quick Ref Panto using Repeats

Feature: Pantograph (E2E) using Repeat Patterns

Background patterns (pantographs) are stitched using the Repeat Pattern features to control the size and positioning. It uses Relocate for alignment after rolling the quilt.

Assumptions: The machine is threaded, bobbins wound, belts engaged and patterns have been added to the project.

Prep Step #1.) Measure the quilt length and width accurately before loading the quilt.

Prep Step #2) Load the quilt and baste the outer edges.

Prep Step #3) Choose a pattern and set the scale.

Prep Step #4) Change the pattern details (height and width) to reflect the scale you prefer.

Steps to follow:

1. Click Boundary icon and click on the UL, UR, LR, LL corners to show quilting space.

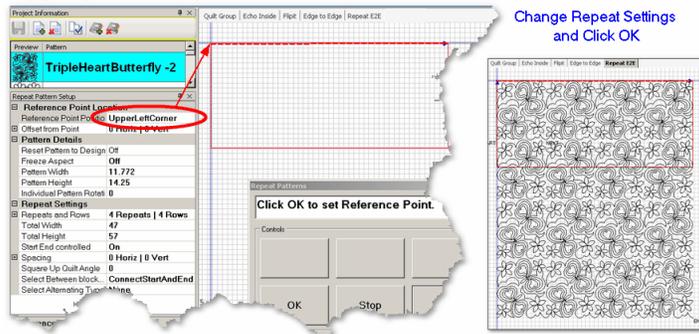


2. Click on Repeat_Patterns icon

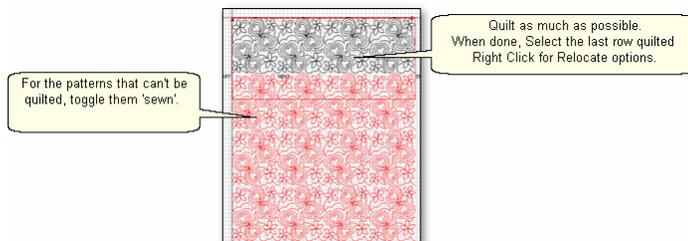
3. Change the Repeat Settings following these steps:

- * Turn Freeze Aspect=On, Enter Total Width
- * Turn Freeze Aspect=Off, Enter Total Height
- * Set Reference Point = Upper Left Corner, move machine to UL corner.

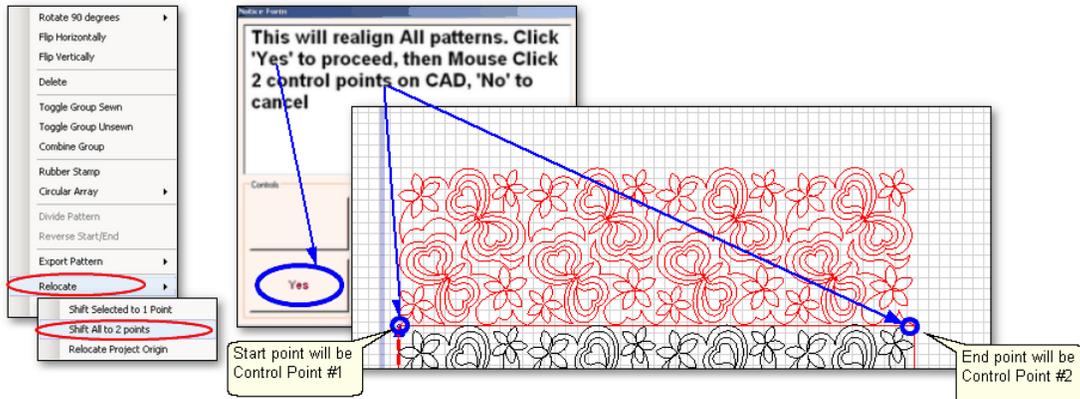
4. Click OK. An image of your entire quilt appears in the Preview area. This method for doing pantographs does not monitor how much area can be quilted at one time, so you need to do it by toggling rows of patterns as sewn or unsewn.



5. Select all the patterns that can't be quilted in the first section, toggle them sewn. Quilt as much as possible.

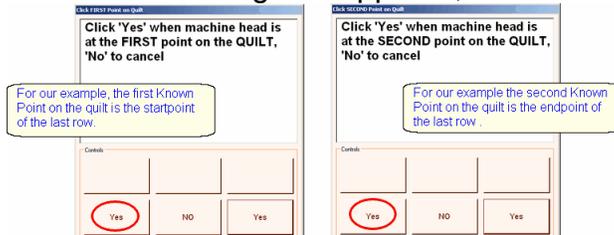


6. Roll the quilt. Choose 2 control points (easy to find on the screen and quilt) to use for alignment. This example uses the start and end points of the previously sewn row, but they could be any 2 points.

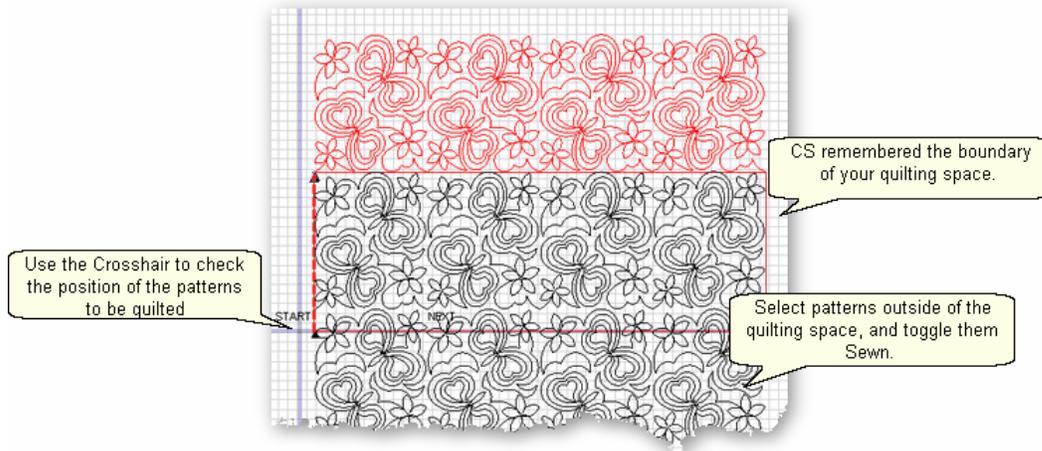


Select the last row quilted, Right Click these patterns.

- Choose "Relocate" and Choose "Shift All to 2 Points".
- A dialog box appears, giving instructions.
 - Click 'Yes' button to remove the dialog box.
 - Use the mouse to click 2 Control Points on the screen.
 - Another dialog box appears, with more instructions.

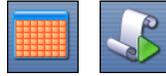


7. Now you will identify the two corresponding control points on the quilt. Following instructions, Move machine head to Control Point #1 and Click Yes. Following instructions, Move machine head to Control Point #2 and Click Yes.
8. Check the positioning by using the machine crosshairs.



9. Continue until the entire quilt is done.

5.6 Quick Ref Panto using E2E



Feature: Edge to Edge (E2E)

Assumptions:

Prep Step #1.) Measure the quilt length and width accurately before loading the quilt. If you need to stitch off the edge of the quilt, increase your total quilt length. If you are leaving a margin at the top and bottom, be sure to reduce your total quilt length by this amount. Also it is a good idea to reduce the length a little to accommodate shrinkage caused by the quilting. This could be from 1% to 5%, depending on the fabrics, batting and quilting density.

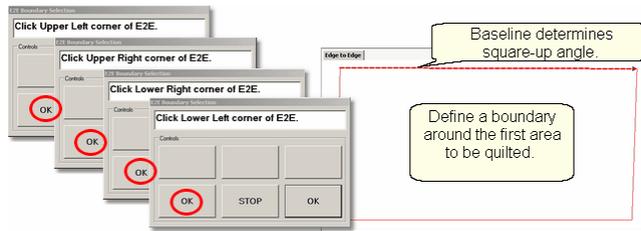
Prep Step #2) Load the quilt and baste the outer edges.

Prep Step #3) Choose a pattern and think about the scale. Large scale, open quilting results in a more supple quilt and small scale, dense quilting is a bit stiffer.

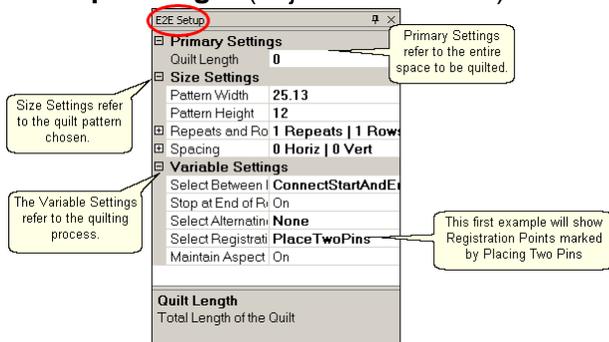
Prep Step #4) Change the pattern details (height and width) to reflect the scale you prefer.

Steps to follow:

1. Click the E2E icon. CS prompts you to click the four corners of the first boundary.



2. Enter the quilt length (adjusted if needed) in the Primary Settings area.



CS measured the width in step 1, and gets the length from the Primary Settings. It now has enough information to automatically calculate the number of repeats and rows required. This is just a suggestion! All settings can be changed in Setup mode (but not in Edit mode).

3. Check the E2E Setup Details:

Size Settings:

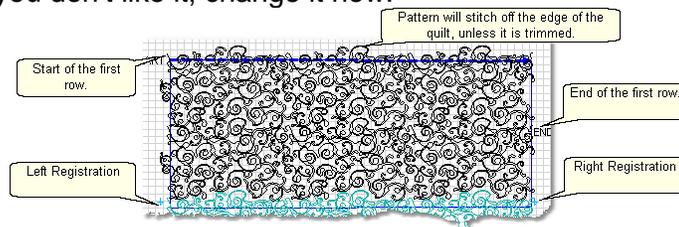
- * Pattern Width and Pattern Height may be different from what you started with.
- * Repeats and Rows have been set but can be changed if you do it in the setup mode.
- * Spacing refers to the amount of space between patterns, both horizontally and vertically. Adjust these numbers if needed to add or remove space between patterns, especially between the rows.

Variable Settings:

- * Select Between Blocks use Connect Start And End for pantographs
- * Select Alternating type – allows staggered rows.
- * Select Registration Place Two Pins is the default (& method shown here)
- * Maintain Aspect is similar to freeze aspect.

4. Look at the image in the preview area. **WYSIWYQ** - What you see is what you quilt, so

if you don't like it, change it now.



The top edge is the baseline which is used to square up the patterns. The pattern in the example has irregular edges which make it nest nicely. However, the pattern will stitch off of the edge when positioned to eliminate the side gaps. The Trim-Inside function can be used to trim off the excess - just make sure to include the extra space in the "Quilt Length" dimension. When it looks good, Save the project.

5. Click Quilt The machine moves to the start of the first pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row now begins.

6. At the end of the row, CS stops and prompts you to cut the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

6A. IF you have room for another row *the machine will move to the beginning of the next row, take a stitch, prompt for Bobbin pull-up and click OK to quilt the next row. Repeat these steps until all the rows for the current section are complete.*

7. When CS finishes the last row that fits, you will be prompted to cut the bobbin thread and mark the two registration points. Here is what will happen:



* CS finishes the last row that will fit, prompts you to cut the bobbin thread, and Click OK to complete the end-of-row process.

* CS prompts you to click OK when ready to mark the Right registration point. **Click OK** and the stitcher moves to the first registration point. Mark this spot (where the needle would enter the fabric).

* CS prompts you to click OK when ready to mark the Left registration point. **Click OK** and the stitcher moves to the second registration point. Mark this spot (where the needle would enter the fabric). **Click OK** to complete the process.

[Save the project](#) ⁶³.

8. Roll the quilt - baste the sides if desired and check the bobbin thread. It is also a good idea to check that the quilt is still square. Use the channel lock to check that both registration marks are on the same horizontal line.

Now finish the quilt by using the Feature: Edge To Edge Continue.

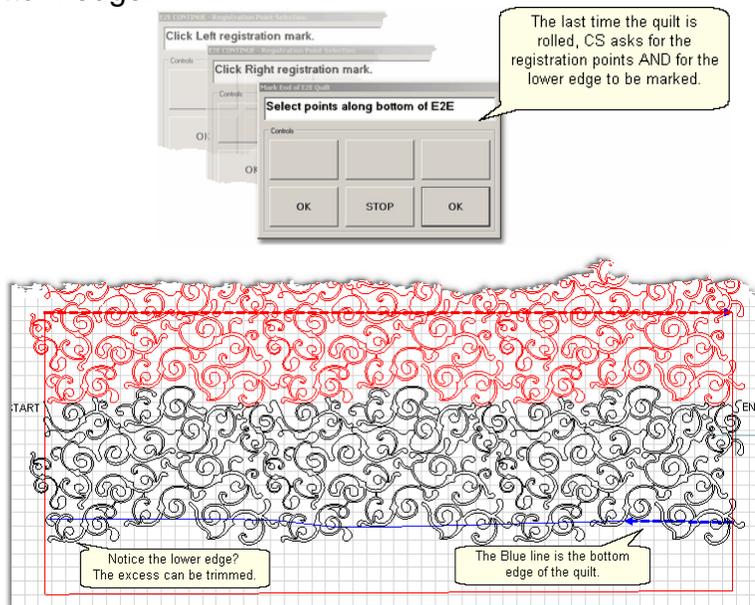
Feature: Edge To Edge - Continue



Assumptions: The first section (or more) is done, the registration points have been marked and the quilt has been rolled.

9. Click EdgeToEdge_Continue
10. CS prompts for left and right registration marks.
11. Check the screen and adjust if needed.
12. Click Quilt. The first row of the new section now begins.
 - At the end of the row, CS stops, prompts for bobbin pull-up, Click OK.
 - Repeat each row until the entire current section is done.
 - CS will again prompt for marking registration points.
 - Roll the quilt.
 - Repeat steps 9 - 12 until the last section - when bottom edge of the quilt makes its way up to the current quiltable space.

13. Last Section adjustments are often necessary so the last time you roll the quilt, the prompts are a little different. Click the Left registration mark, Click the Right registration mark, Click points along bottom of E2E, following the actual contour of the quilt, even if the bottom edge is irregular. Press 'Stop' button when done with the bottom edge.



If the pattern extends past the blue boundary line, adjust or trim now.

[Save the project](#) 

14. Click Quilt



The machine moves to the start of the pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row of the new section now begins.

15. **At the end of the last row**, CS prompts you to cut the bobbin thread and click OK.

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5.7 Quick Ref P2P Line

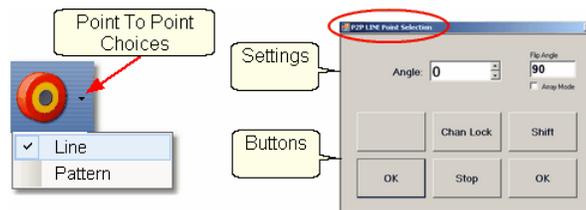


Feature: Point To Point - Line

Point to point describes a CS process where a series of connected line segments are positioned and stitched. The quilter clicks the points and CS stitches a perfect line between each contiguous pair. Each 'point' is identified by moving the sewing head to each point (in order) and pressing the OK button.

Steps to follow:

- 1. Choose P2P-Line** - (Click on the black arrow to the right of the icon).
- 2. Click on the P2P icon** - A dialog box appears with options:



Settings:

Angle: This is the current angle that will be used when the Channel Lock is turned on.

Flip Angle: Press Shift + Chan Lock button to use Flip angle.

Array Mode - Check Array to increase the angle (by flip angle) instead of replace it.

Buttons:

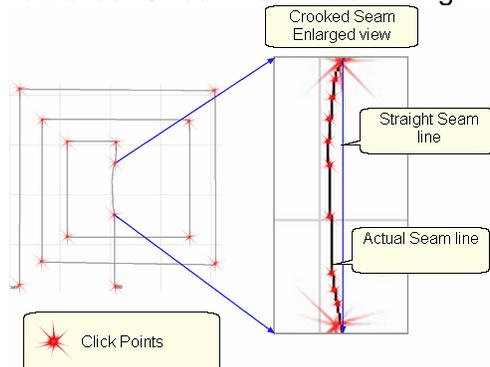
Chan Lock - locks the head so it stitches along one fixed angle.

Shift: Press this AND Chan Lock to change the current lock angle.

OK (either button) selects the point, based on the position of the needle.

Stop indicates the end of the P2P-pattern sequence.

- 3. Press OK to define the path.** Move the machine head from one point to the next, clicking OK on each one. The machine makes a 'pop' noise every time the OK button is pressed. This sound confirms that the point has been registered. The image appears in the preview area of the screen. Press Stop button to create a jump stitch.
- 4. Press 'Shift' and 'Exit' to complete the line segments.** The images appear in the preview area. Check it before stitching.



- 5. Click on Start_Quilting** and the sewing head moves to the Start of the pattern, prompts for bobbin pull up. **Press OK** when ready. At the end, pull up the bobbin thread and click OK to complete the process.



Design It Yourself - It is possible to use the P2P - Line feature using the mouse and working directly in the preview area on the screen.

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5.8 Quick Ref P2P Pattern

Feature: Point To Point - Pattern



Point to point describes a CS process where a series of patterns are positioned and stitched. The quilter clicks the points and CS stitches a pattern between each contiguous pair. Each 'point' is identified by moving the sewing head to a spot on the quilt top (in order) and pressing the OK button.

Prep Step #1 - Optional - Define boundaries to check the P2P placement.

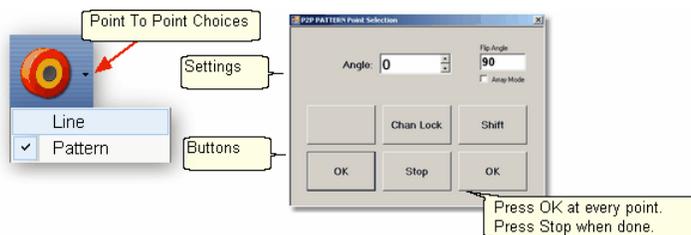
Prep Step #2. Choose a pattern. P2P patterns must stitch from left to right.

Prep Step #3. Change pattern details if needed. Be aware of the pattern size, proportion and any margins. Use the Preview area to audition pattern size and placement if desired.

Prep Step #4. Plan the 'Point Layout' before beginning. Most patterns look the best when they maintain their original proportion (Freeze aspect= On), but this means you need to have P2P intervals that also allow the pattern to fill the space.

Steps to follow:

- 1. Choose P2P-Pattern** - This is one of the style choices.
- 2. Click on the P2P icon** - A dialog box appears with options:



Settings:

Angle, Flip Angle and Array Mode - are available but not required.

Buttons:

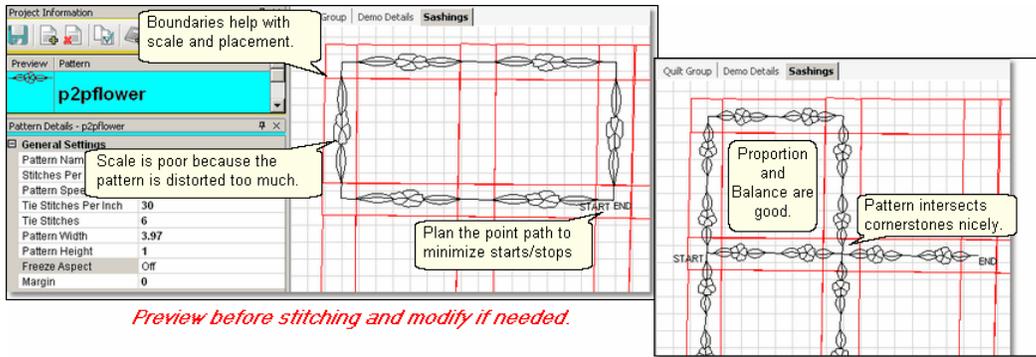
Chan Lock - locks the head so it stitches along one fixed angle.

Shift: Press this AND Chan Lock to Flip (or increase in array mode) the current lock angle.

OK (either button) selects the point, based on the position of the needle.

Stop indicates the end of the P2P-pattern sequence.

- 3. Define the path.** Move the machine head from one point to the next, clicking OK on each one. The machine makes a 'pop' noise every time the OK button is pressed. This sound confirms that the point has been registered. The image appears in the preview area of the screen.
- 4. Press 'Shift' and 'Exit' to complete the path.** The images appear in the preview area. Check it before stitching.



5. Click on **Start_Quilting** and the sewing head moves to the Start of the pattern and CS prompts for the bobbin pull-up. **Press OK** when ready to quilt. At the end of the quilting sequence you will be prompted to pull up the bobbin thread and click OK. Be sure to click OK because it completes this process.

 *Design It Yourself - It is possible to use the P2P - Pattern feature using the mouse and working directly in the preview area on the screen. See [Draw P2P Pattern](#)^[137].*

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5.9 Quick Ref Trim Inside

Feature: Trim Pattern - Inside



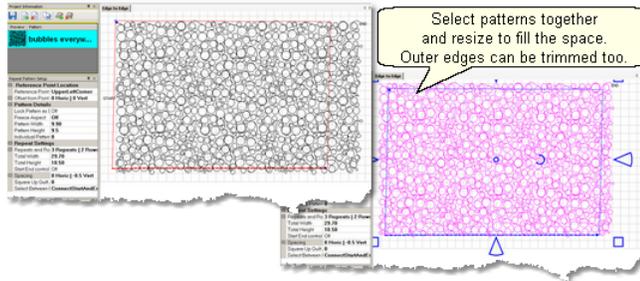
Steps to follow:

1. Click on the Boundary icon  and follow the prompts to define the boundary of the background area. If the project were to fill the background of an applied block, this would be the outer edges of the block.

2. Move the background filler pattern in.

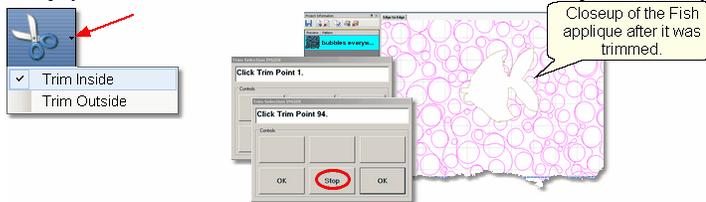


Use Pattern_to_Boundary or Repeat Patterns depending on how many repeats are needed to fill the area. This example shows repeat patterns, nested vertically by $-.5"$. There is a gap on one side border and an overlap on the other which need to be adjusted.



3. Group the patterns together before adjusting the size and position. If the pattern doesn't fit exactly, let it extend past the outer boundary, and trim the excess.

4. Choose Trim Inside and Click on the Trim icon. CS will prompt for a boundary. Use as many points as needed to define the boundary of the applique.



5. Click Stop when done and CS will erase everything inside the boundary, leaving the filler pattern in the background. Save the project often. Continue with additional Trims as needed.

6. Click on Start Quilting and CS moves the sewing head to the start of the pattern and prompts for pulling up the bobbin thread. **Click OK** when ready to quilt. If multiple patterns were moved into the boundary, they will stitch in the order they were moved. **Click OK** at the end of the quilting as prompted.

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5.10 Quick Ref Trim Outside

Feature: Trim Pattern - Outside



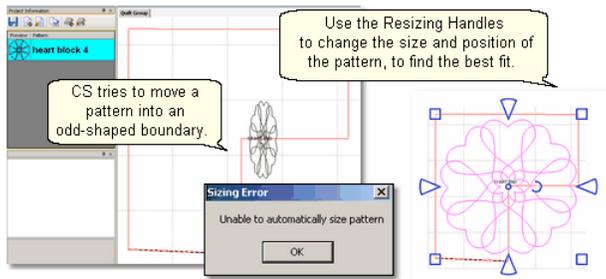
Assumptions: This assumes that the following preparation steps have been completed.

Prep Step #1. Click on Boundary icon. Define the boundary and finish by pressing Stop.

Prep Step #2. Highlight the pattern to be used.

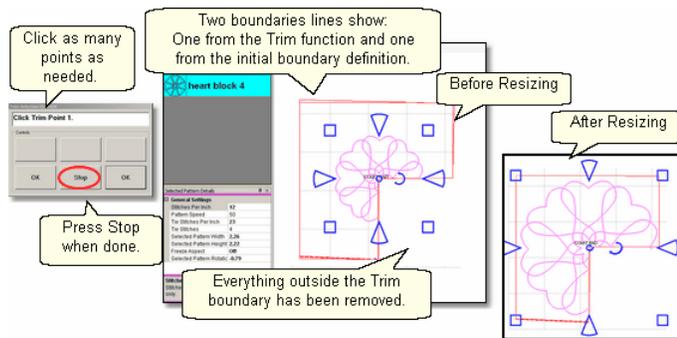
Prep Step #3. Click on Pattern into Boundary icon. When the boundary is odd shaped, CS may have trouble automatically resizing the pattern to fit the space. It will generate a warning message, but still try to resize the pattern.

Prep Step #4. Click on the pattern and resize using the handles until satisfied.



Steps to follow:

1. Click on the pattern image in the preview area to select it (pink).
2. Choose Trim Outside.
3. Click on the Trim icon. CS will prompt for a Trim boundary.
4. Click Stop when done and CS will erase everything outside the boundary.



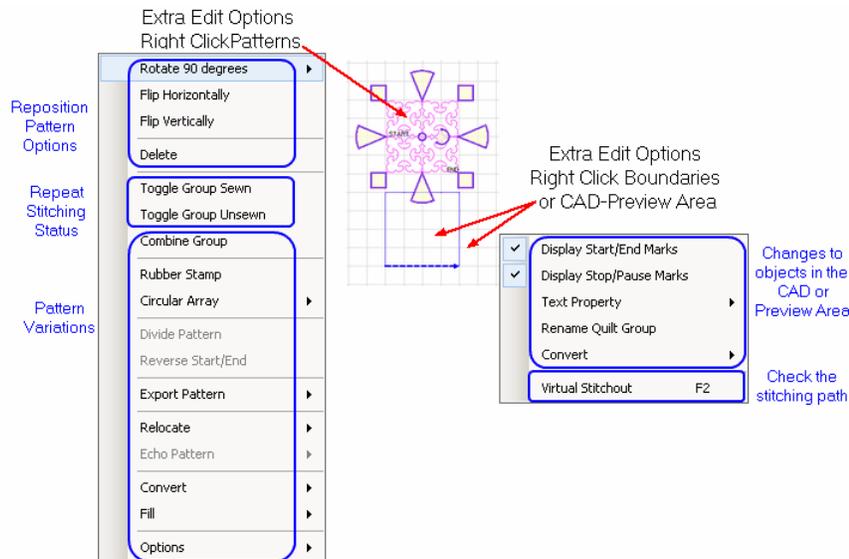
5. Reposition the pattern image. Click on the pattern(s) to select if needed. Use the handles to re-size and reposition the pattern so it aligns to the Trim boundary.

6. Click on Start_Quilting The sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread and choosing OK when ready to quilt. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK Be sure to click OK because it completes this process.

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5.11 Quick Ref Extra Edit Options

The Extra Edit Options appear when selected patterns are Right Clicked. Options presented depend on the patterns selected.



Reposition Options -

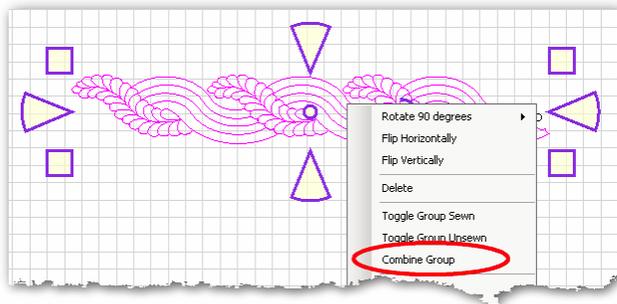
- * Rotate 90 degrees - rotates the pattern as many degrees as you like.
- * Flip Horizontally - turns the pattern sideways.
- * Flip Vertically - turns the pattern upside down.
- * Delete removes the pattern from the preview area.

Repeat Sewing Status -

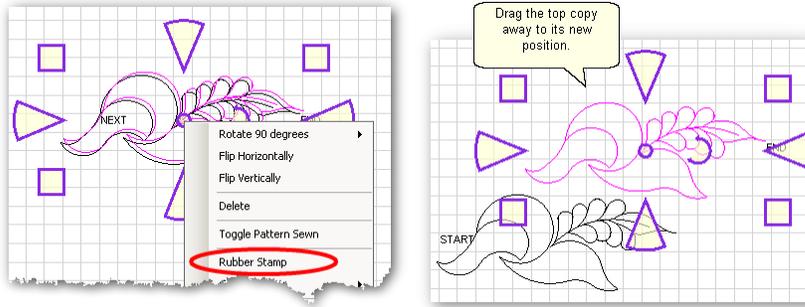
- * Toggle Pattern Sewn (or Toggle Group Sewn) means it won't stitch out again.
- * Toggle Pattern Unsewn (or toggle group unsewn) means it will stitch again.

Pattern Variations -

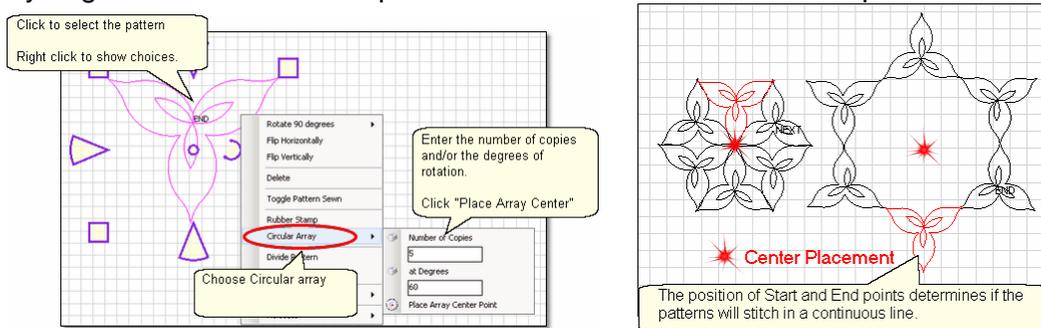
* Combine Group - will group together all the selected patterns, and treat them like a single pattern for the duration of your project, with no Bobbin Pull-up prompt between them. Be sure to select the patterns in their proper stitching order because that is how they will stitch out.



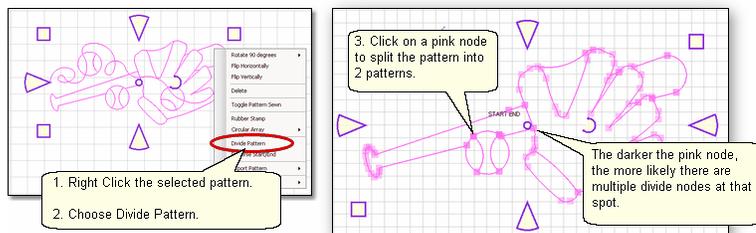
* Rubber Stamp - is a way to make an exact copy an existing pattern or group of patterns. When there are several patterns selected, CS will create a group pattern first, and then make a copy of the group, and tag it as being unsewn. Once several patterns are grouped together, there is no Bobbin Pull-up prompt between them and they stay grouped for the entire project. If patterns are stacked more than 2 deep, use <,> to select them.



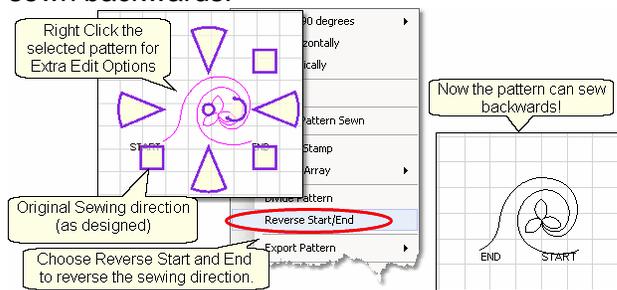
* **Circular Array** - is a way to make a new circular pattern by repeating and rotating a single pattern. CS only needs to know which pattern to use, how many repeats are needed, how many degrees between each repeat and where the center should be placed.



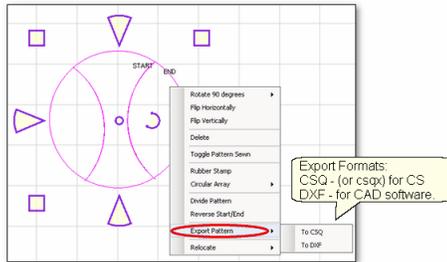
* **Divide Pattern** - allows elements of an existing pattern to be separated and used as single patterns. In the following example, the baseball can be isolated by repeating steps 1-3.



Reverse Start/End - will reverse the start and end points, essentially allowing patterns to be sewn backwards!



Export Pattern - allows a newly created pattern to be exported as a special CS file type.

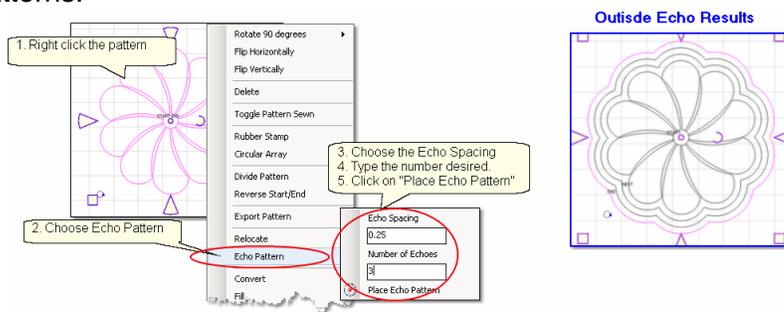


Selecting multiple patterns and then exporting them will result in one exported pattern, not multiples. (This does not combine the original patterns, just the exported one). Always check the sewing sequence and sewing direction (F8) before exporting to make sure the new pattern will stitch out in one continuous line design. When exporting patterns, it is helpful to give the pattern a descriptive name and to save it in a folder with your other personal patterns.

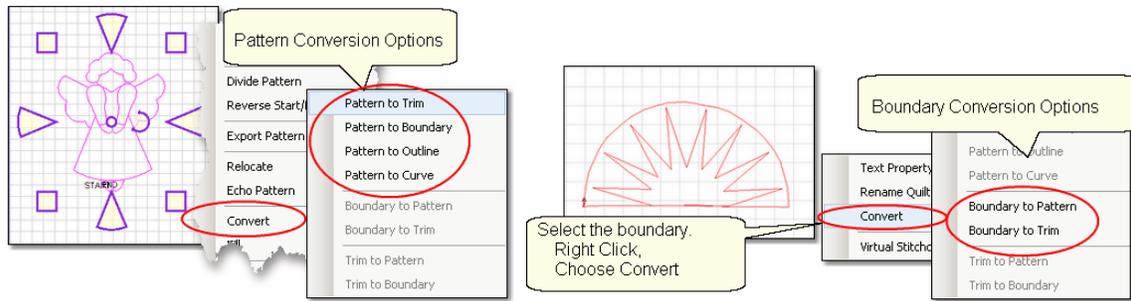
Relocate Patterns - means changing the alignment between pattern positioning on the screen and the quilt. CS has the ability to realign one, several, or all patterns.

- * Shift Selected to 1 Point - will relocate the selected pattern(s). When a quilt has been tightened, or loosened, or shifted for any reason the patterns won't always line up with the original placement, so shift the patterns to fit the quilt!
- * Shift All to 1 Point - will relocate all of the patterns in the active quilt group without changing the rotation angle.
- * Shift All to 2 Points - will relocate all of the patterns in the active quilt group. This makes it much easier to design a whole cloth quilt, and stitch sections out individually. Using 2 points allows the squareup angle to be determined.
- * Relocate Project Origin - is similar to shifting pattern(s) but it shifts the Point Of Origin to force all the patterns to fit the quilt. It uses the starting stitch of one pattern and all the other patterns are realigned automatically. When an E2E pattern becomes mis-aligned, this is the procedure for synchronizing the quilt with the patterns in the preview area.

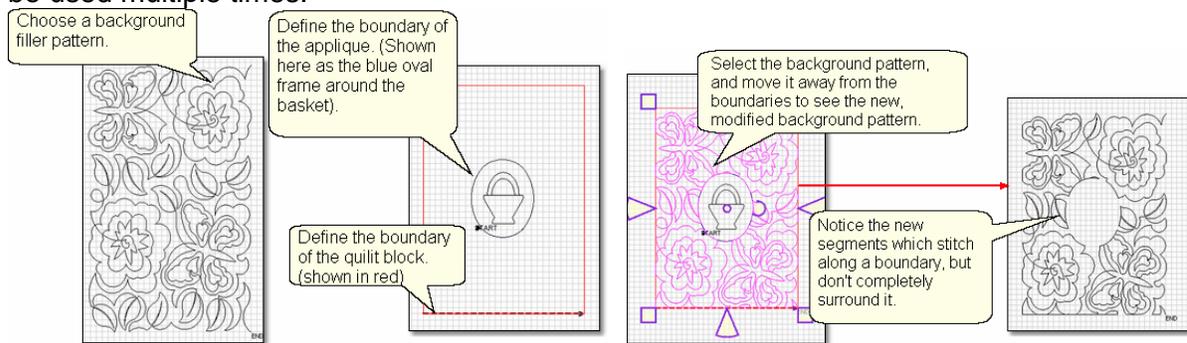
Echo Patterns - means CS creates a new pattern that is an outline of the original. The number of echoes and the spacing is easy. Negative spacing will create inside echo patterns.



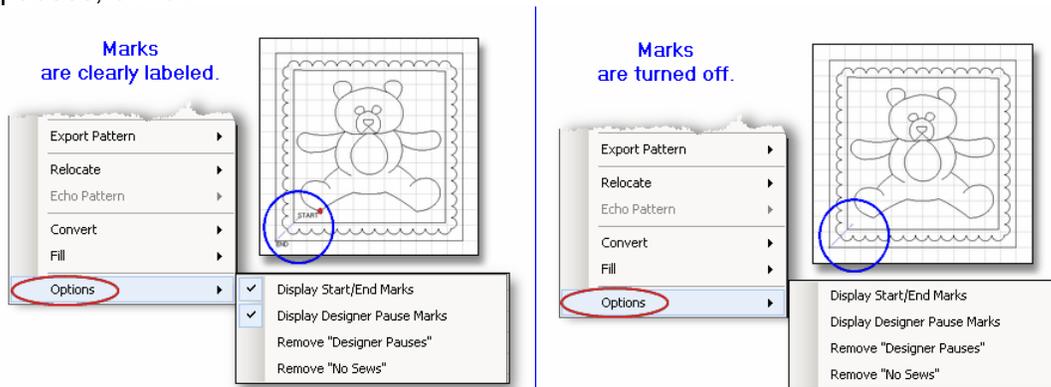
Convert¹¹² - can change the characteristics of patterns, boundaries and trims, making the virtually interchangeable. This minimizes time needed to define boundaries.



Fill ¹¹⁶ - is a special feature that uses boundaries and patterns to create a new pattern that stitches in the background. In the following example, the boundaries are the outer edge of the quilt block and the oval frame around a basket design. The background fill pattern is modified to fit inside the block, but not stitch over the oval frame. The resulting pattern can be used multiple times.



Options ¹¹⁸ - refer to how patterns are displayed or stitched. Designers can put special marks or pauses in their patterns, and quilters can choose to use those special marks and pauses, or not.



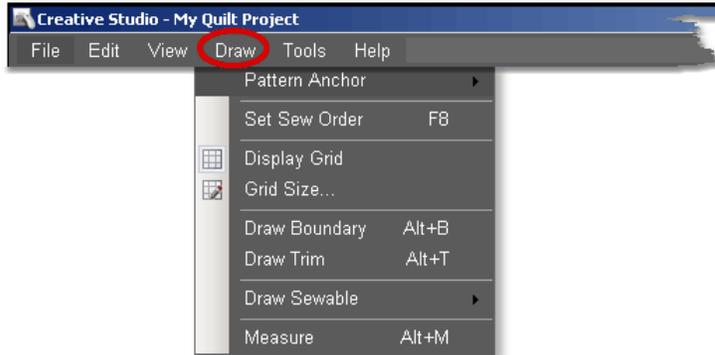
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5.12 Quick Ref Draw Options

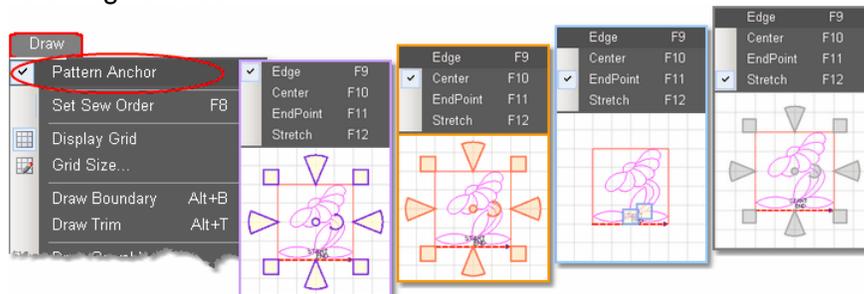


Design It Yourself: These Draw functions are the keyboard shortcuts referred to in these DIY tips throughout this manual.

A remarkable feature of CS is the ability to draw patterns from scratch, but the power comes from the many choices available to make this very easy.



Pattern Anchor determines how a pattern will behave when it is being modified using the re-sizing handles.



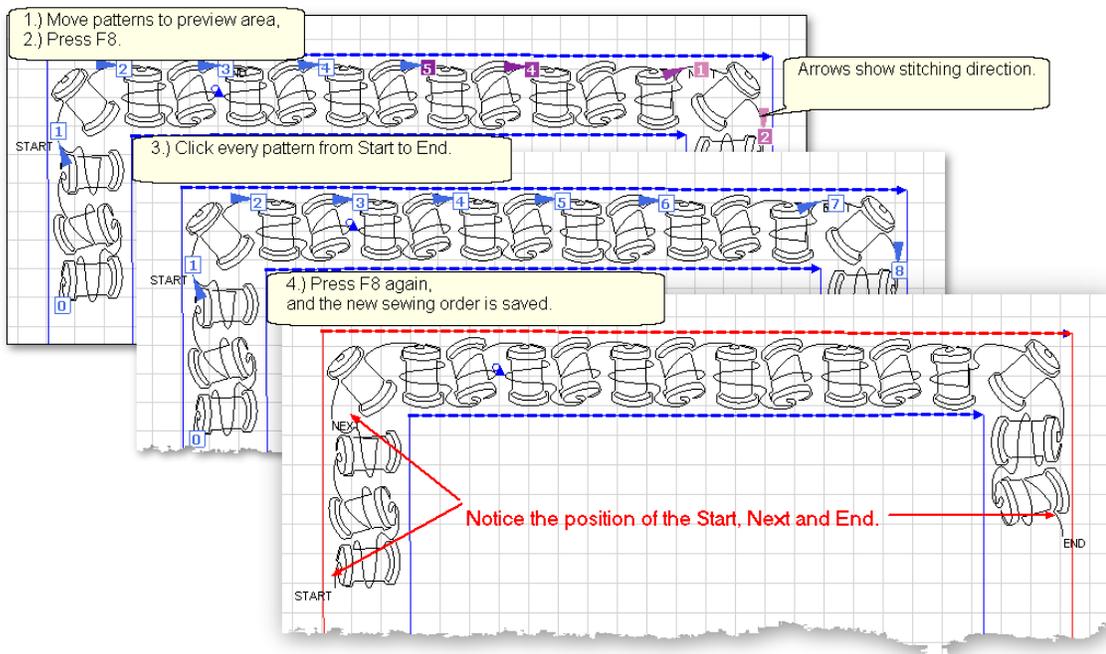
Double click the selected pattern to switch to the next anchor type.

The Pattern Anchor choices are:

- * Edge (F9) The re-sizing handles are purple. When one handle is moved, the opposite edge (or corner) remains fixed or anchored.
- * Center (F10) The re-sizing handles are orange. When any of the handles are moved, the center remains anchored.
- * Endpoint (F11) The re-sizing handles are 2 blue squares, at just the beginning and end of the pattern. When one of the two handles is moved, the other is anchored.
- * Stretch (F12) The re-sizing handles are gray. When one handle is moved, the opposite is fixed. The handle being moved is not limited to one direction, so pattern stretching is possible.

F8 - Set Sew Order

- * Click on Draw command and choose Sew Sew Order (or press F8). All the patterns in the preview area will be numbered (boxes at the beginning of each pattern) and will show a directional arrow (at the end of each pattern). The color of the pattern's number and directional arrow match, so it is clear which arrow belongs to which pattern.



- * Start clicking on the number boxes in the order you want them to stitch. The box background color changes temporarily to white and the arrows change to navy blue, to indicate which patterns have already been changed.
- * Click on the arrows to reverse the start and end of the pattern.
- * Press Esc at any time to cancel.
- * Press F8 when done, and the new order is saved.

Display Grid & Grid Size

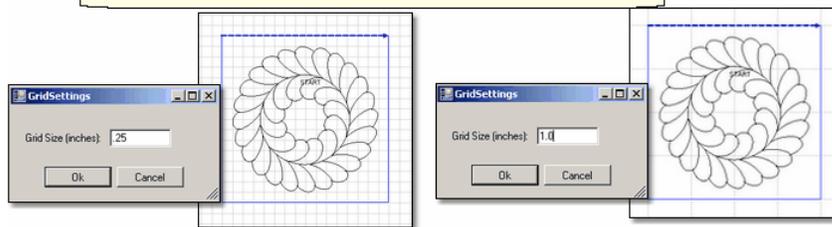
Having a grid really helps when comparing or aligning patterns.

- * Click Draw, Choose Display Grid. A background grid now appears.

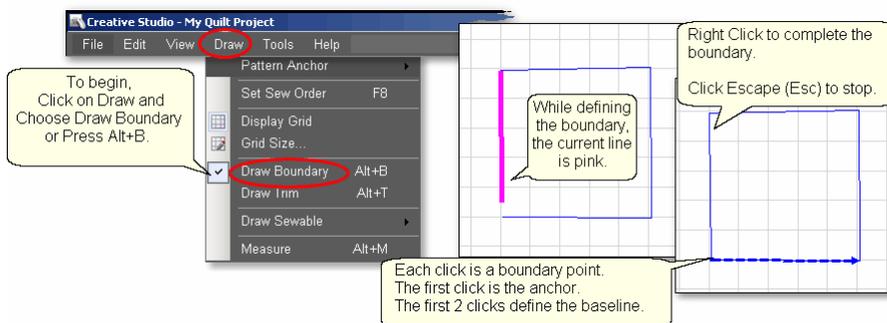
To change the size:

- * Click Draw, Choose Grid Size, Type in the size, in inches.

Changing the Grid Size can make visual adjustments easier.



Alt+B Draw Boundary

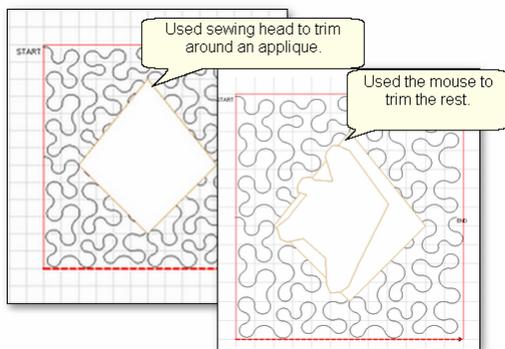


To use Draw Boundary,

- * Click Draw and choose Draw Boundary.
- * Start clicking boundary points on the preview area of the screen. CS assumes you know the process and does not display instructions on the screen. Just like boundaries created using the [Boundary Icon](#)³⁹, the first point is the anchor, the first 2 points define the baseline.
- * Click as many points as needed to define the space.
- * Press Escape to cancel the current boundary if needed.
- * Right Click anywhere in the preview area to complete the boundary. CS will join the last click with the first, enclosing the area. The point identified by the Right click is NOT one of the boundary points.
- * To exit from the Draw Boundary mode, press Esc or Alt+B again.

Alt+T Draw Trim

- * Click Draw and choose Draw Trim.
- * Start clicking trim points on the preview area of the screen. CS assumes you know the process and does not display instructions on the screen.
- * Click as many points as needed to define the area to be trimmed.
- * Press Escape to cancel the current boundary if needed.
- * Right Click anywhere in the preview area to complete the boundary. CS will join the last click with the first, enclosing the area. The point identified by the Right click is NOT one of the boundary points. As soon as you complete the trim boundary, the results appear in the preview area.

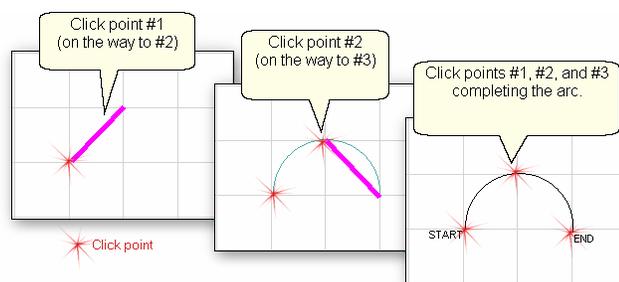


- * Use as many trims as needed to complete the task. Trims can overlap and they remain active for the duration of the project or until they are deleted. Therefore, if patterns are added and/or moved to where a trim is - even after the trim boundary is defined - they will still be trimmed.
- * CS stays in Trim mode, so to exit, press Esc or Alt+T again.

Alt+A Draw Sewable - Draw Arc.

To draw an arc,

- * Press Alt+A (or Click Draw, choose Draw Sewable, choose Arc)



- * With the mouse, click 3 times:

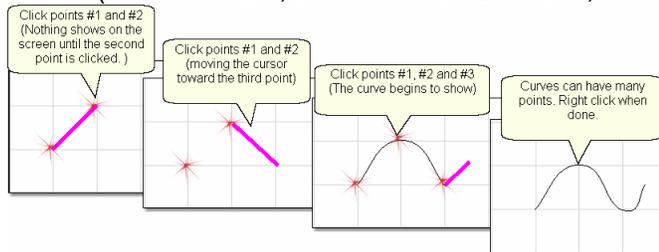
#1 is the start point of the arc, #2 is the middle of the arc (which will be the peak) of the arc, #3 is the end point of the arc.

* When done drawing curves, Press Esc or Alt+A.

Alt+C Draw Sewable - Draw Curve.

To draw an curve,

* Press Alt+C (or Click Draw, choose Draw Sewable, choose Curve)



* With the mouse, click as many times as needed:

#1 will not appear on the screen immediately, but it is there.

#2 will show the location of #1, but does not begin to curve yet.

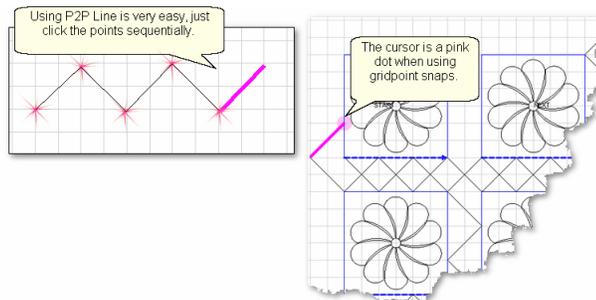
#3 will begin to show the curvature.

* When done drawing curves, Press Esc or Alt+C.

Alt+L Draw Sewable - Draw P2P Line.

To begin the line drawing,

* Press Alt+L (or Click Draw, choose Draw Sewable, choose P2P Line)



* Click each point sequentially. Set gridpoint snaps 'on' if desired.

* Right click to complete the pattern.

* Continue to define more crosshatching lines as needed.

* Press Esc or Alt+L again to end line drawing,

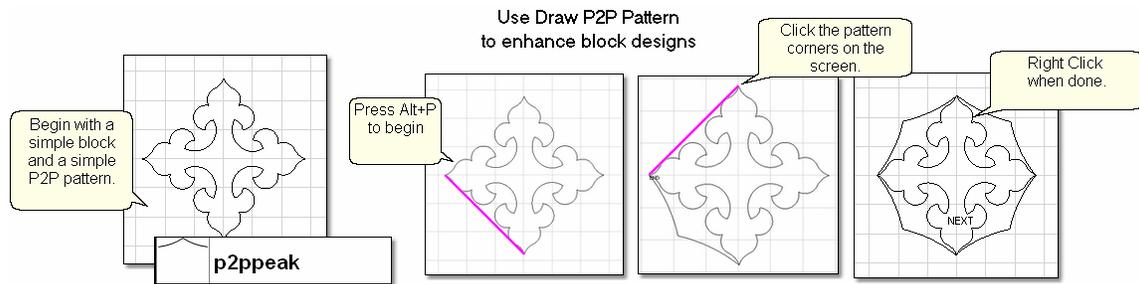
Alt+P Draw Sewable - Draw P2P Patterns.

The following demonstrates how to make new patterns by enhancing existing ones using Draw - P2P Pattern.

* Choose a simple block design & move it to the preview area.

* Choose a simple P2P pattern (Freeze aspect = On is a good idea).

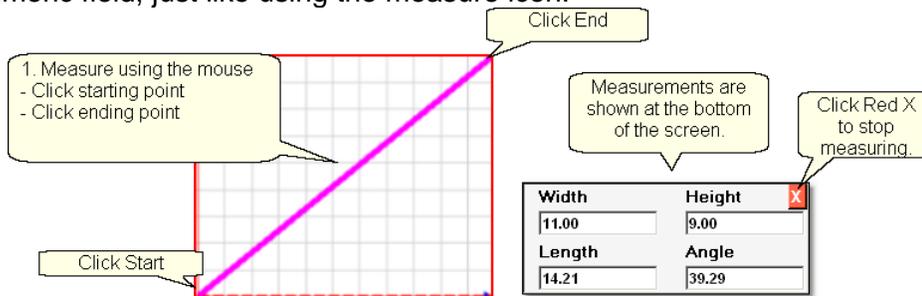
* Press Alt+P (or Click Draw, choose Draw Sewable, choose P2P Pattern)



- * Click each point sequentially. Set gridpoint snaps 'on' if desired.
- * Right click to complete the pattern.
- * Continue to define more designs as needed.
- * Press Esc or Alt+P again to end drawing P2P patterns

Alt+M Measure on the screen

Use the mouse to measure objects that are on the screen. The measurements will be displayed in a dialog box at the bottom of the screen. Measurements can be transferred to numeric field, just like using the measure icon.



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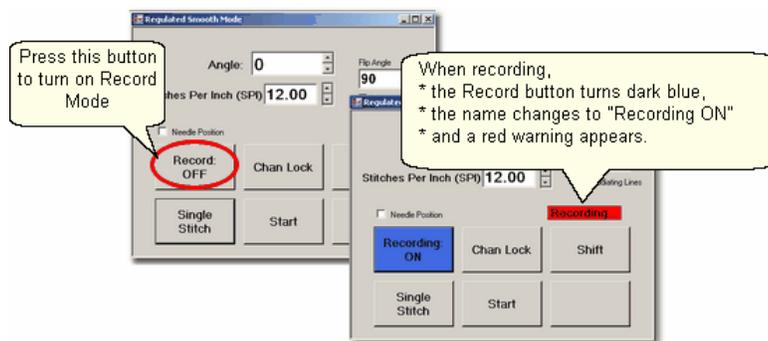
5.13 Quick Ref Record Patterns

Feature: Record mode (using Regulated Sewing feature)

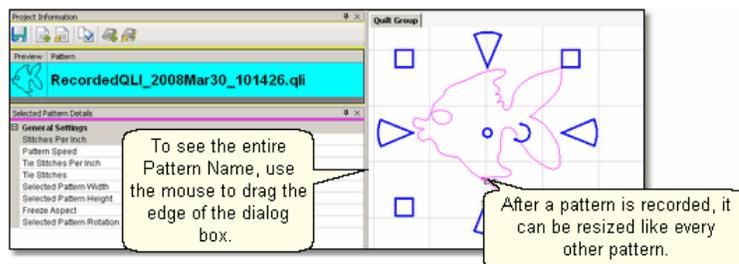
The Record Mode is a subset of the Regulated Sewing feature. All the functions in Regulated Sewing work the same way when the Record mode is active. Recording is possible without the belts being engaged. The belts need to be engaged when stitching the newly recorded pattern however.

Steps to follow:

1. Choose a style of Regulated_Sewing
2. Click on the Regulated Sewing icon. Move the sewing head to the beginning of the pattern to be recorded.
3. Press Record to begin. Move the stitcher to create a new pattern.



4. Press Record again to end. CS automatically creates a pattern, gives it a name, and saves it to a special folder; C:\Patterns Recorded\RecordedQLI_yyyyMondd_hhmmss.qli.



Record the design multiple times if needed. Choose the best and delete the rest. It is a good idea to rename the chosen pattern file if it will be kept for future use. Press Shift (to see additional keypad choices) and Exit to exit the Regulated Sewing feature.

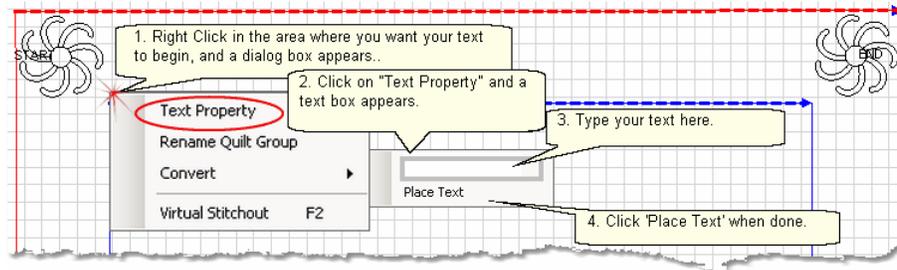
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5.14 Quick Ref Text Patterns

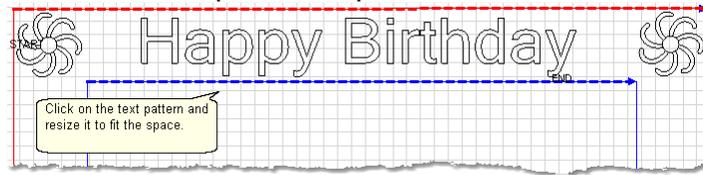
Feature: Creating Text Patterns

Steps to follow:

1. Right Click in an open area of the preview area.
2. Click on 'Text Property' in the dialog box that appears.
3. Click in the text box and type your message. Each message is a pattern that does NOT do word-wrap, but the text patterns can be divided to simulate word wrap.



4. Click on 'Place Text' when done, and the Font dialog box appears.
5. Choose the font style you like. See the 'Sample' box for a preview.
6. Click 'OK', the text pattern is positioned. Resize as needed.



Tip: Each letter in a text block is stitched individually. If you want to hand-tie all threads and bury them yourself instead of using tieoff stitches, change the settings in the configuration form to de-select 'tieoffs', select 'Stop at Jump Stitch' and select 'Bobbin Stitch'. Now CS will stop and prompt for a bobbin pull-up instead of doing tieoff stitches.

7. [Save the Project.](#) 

8. Click on Start_Quilting  and the sewing head will move to the Start of the first letter. CS stitches all letters continuously, dragging the thread between them, and only stops for the bobbin pull-up at the end of the phrase pattern. Remember to click OK because it completes this process.

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5.15 Quick Ref Restart

Feature: Restart



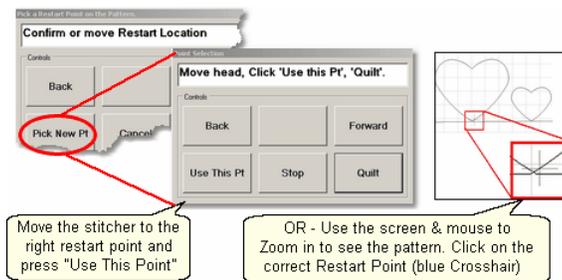
Restarts are needed for a variety of reasons. Either the thread break sensor stops the machine or the machine is stopped by the quilter or an obstacle.

1A. Thread Break: If the machine stopped because it detected a thread break, the pop-up box offers an '**Auto Restart**' option, so press that button. The machine head moves to where CS detected the thread break.

1B. Manual Stop: If the machine was stopped for any other reason, click the **Restart Quilting Icon**. The sewing head goes back to the spot where it detected the 'Stop' command.

2. CS asks if you want to confirm or move the Restart Point. If the stitcher is close to the right spot, use **Back** and/or **Forward** to move the sewing head 7 stitches at a time until the sewing head is positioned properly. **Press Quilt** when ready, and continue to sew.

3. Because there is a delay between the thread breaking and the sensor stopping the machine, the Restart Point probably needs to be moved. Press "**PickNewPoint**" to release the sewing head so you can move it to a different spot. The new point can be identified using the stitcher or the computer screen.



3A. To find the restart point using the sewing head - move the machine until the needle is just above the point where you want to continue stitching. **Press "Use This Pt"** on the keypad. CS moves to the closest stitch and waits for another response. If it looks good, **Press Quilt** and continue to sew. If not, try again by pressing "**Use This Pt**" until the right spot is found.

3B. To find the restart point using the computer screen - look at the image on the screen and find the crosshair mark - it is a long, skinny blue plus "+" sign. Zoom in and out using the roller on the mouse. Find the spot on the screen that corresponds to the restart point on the quilt, and click that spot with the mouse. The blue crosshair will move to this location on the screen and the stitcher will move to that location on the quilt.

4. When ready, **press Quilt**, and continue to sew.

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