Getting Started with CreativeStudio™

CreativeStudio™ User Manual

by Patricia C. Barry for Gammill, Inc.

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AutoSketch™ is a registered trademark of Autodesk

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 contricuted to countless hours towrards the development of CreativeStudio™.

We also wish to thank the following individuals who have digitized patterns photographed for this manual.

Anita Schackelford, Thimbleworks www.anitaschackelford.com
Anne Bright, Simply Continuous, www.annebright.com
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Kim Diamond, Sweet Dreams Quilt Studio, www.sweetdreamsquiltstudio.com
Todd Brown, Legacy Quilting, www.legacyquilting.com
Tammy Finkler, TKQuilting, www.tkquilting.com

Part I
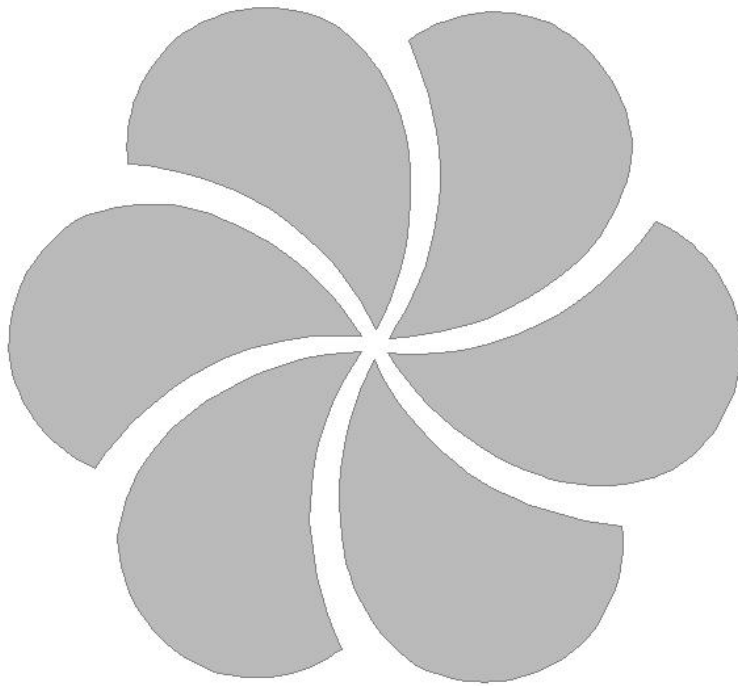
1   Introduction

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' 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 key 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 blue, 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 Micosoft 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
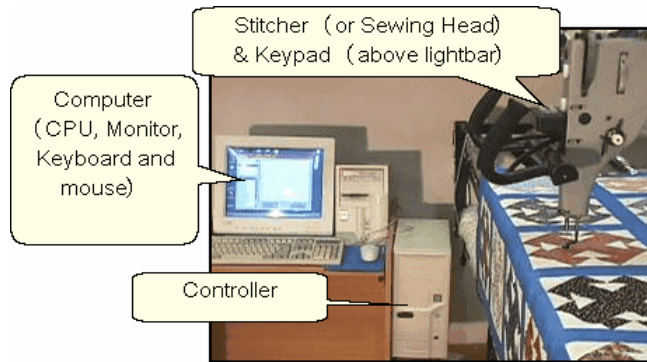
The Statler Stitcher system comes with the following computer equipment:

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 bunch 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 54 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 (lots of them) 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:
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.

Removable media also known as:
Jump Stick
Thumb Drive
Travel Drive
Portable Drive

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" [62] 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" [58] 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.

"**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!.

Precision Stitch p.s.	*Tip:* This is a tip for people who know Precision Stitch. Some features work differently in CS than in PS. To avoid frustration, these Precision Stitch p.s. (post script) notes have been added. Someday they will go away.
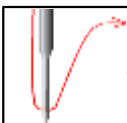
	Tip: These are tips that explain how to use the software to resolve real life quilting issues. After all, this is about quilting !

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. (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.

"**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 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. 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.

Tip: *Techniques (with an icon) can be initiated using the keypad instead of the mouse. To do this, press the MODE button until the desired icon is highlighted, and then Press OK to begin the technique.*

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:
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 – *or undo the undo*
Esc		Escape from a command sequence
Ctrl+✓		Selects multiple items
Del		Delete the highlighted text
↑ ↓ ← →		Navigate up / down / left / right

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 flexibilty. 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 <u>Computer</u> holds all the files needed to run the Statler Stitcher.

2. <u>Disk drive</u> **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 <u>file drawer</u> contains file folders that are similar in nature. (Patterns Precision Stitch)

4. The <u>file folder(s)</u> group items that go together. (Alphabets)

5. The <u>filename</u> 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 .qli and .dxf and .pat file extensions, and very little else.

Tip: *Statler has included hundreds of quilting patterns, all with the file extension of ".qli". In addition to this, Statler has provided us with multiple versions of these same 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. Click on the Start button (on the task bar in the lower left corner of the screen) and a pop-up box appears. Click on "Explore" to begin working with the files.
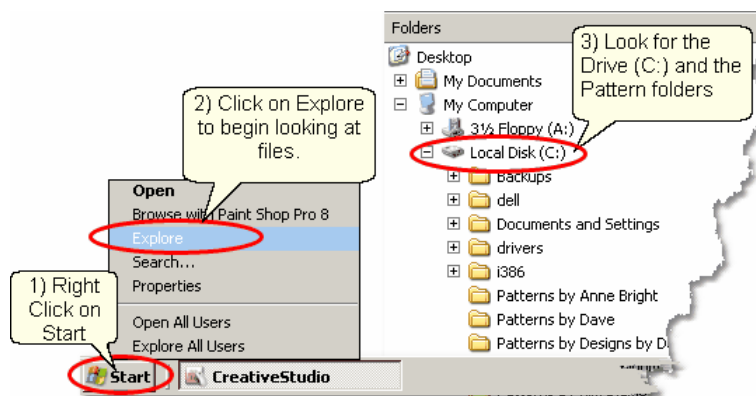
1) Right Click [14] on Start
2) Click on Explore
3) Look for the C: drive
The screen appears with two panes. Single click the folder name (in the left pane) to select it and display the contents of the folder (in the right pane). Use the icons to navigate the folders and files.
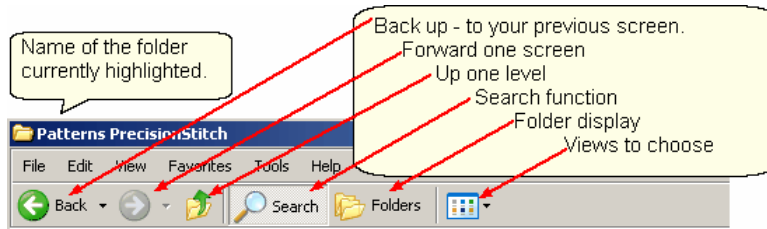
Drill down ⌐14⌐ and back up using clicks and the icons. The drill-down path ⌐17⌐ is shown on the left (how to get to the selected folder, Stick Alphabet). The lowest detail level is listed on the right (what is inside the selected Stick Alphabet folder).
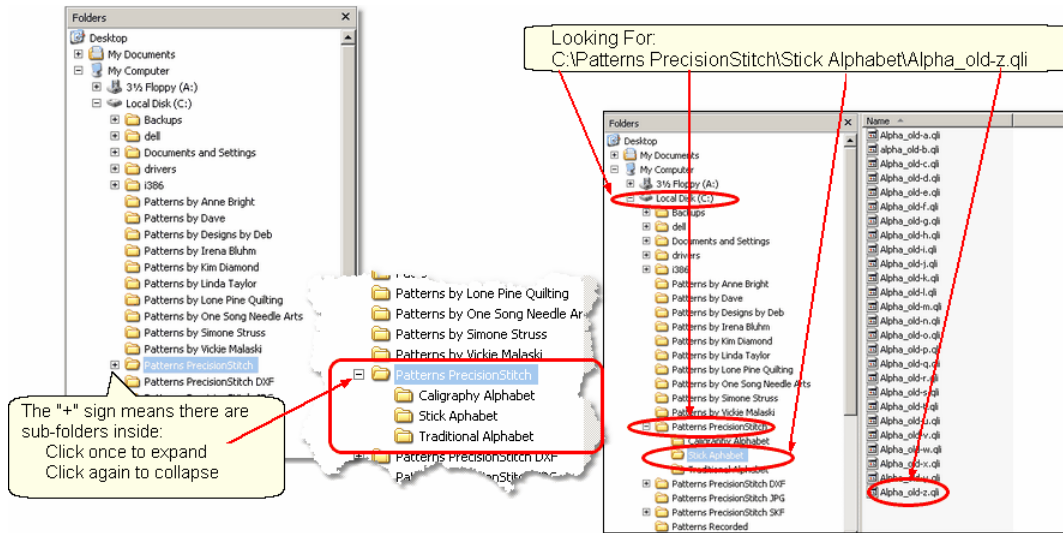

Searching Folders and Files

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.
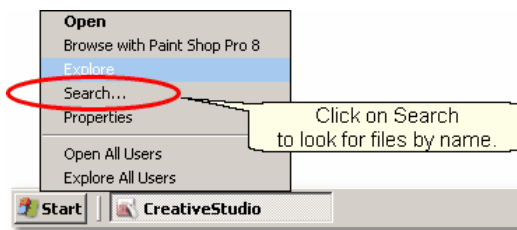
Let's look for a Daisy pattern. A very helpful animated character will guide you through the process. Since we are looking for a daisy pattern, we might start by searching for a pattern file with the word 'daisy' in the name. There could be other daisy pattern files that don't use the word 'daisy' in the name but this is a good place to start.
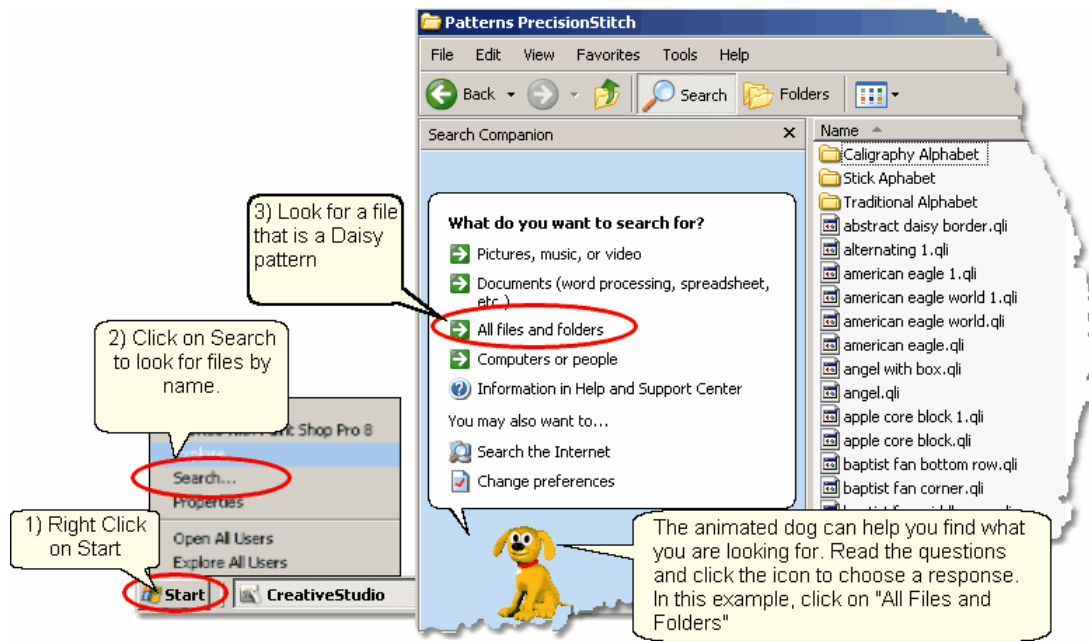
1) [Right Click] [14] on Start
2) Click on Search
3) Click on All Files and Folders
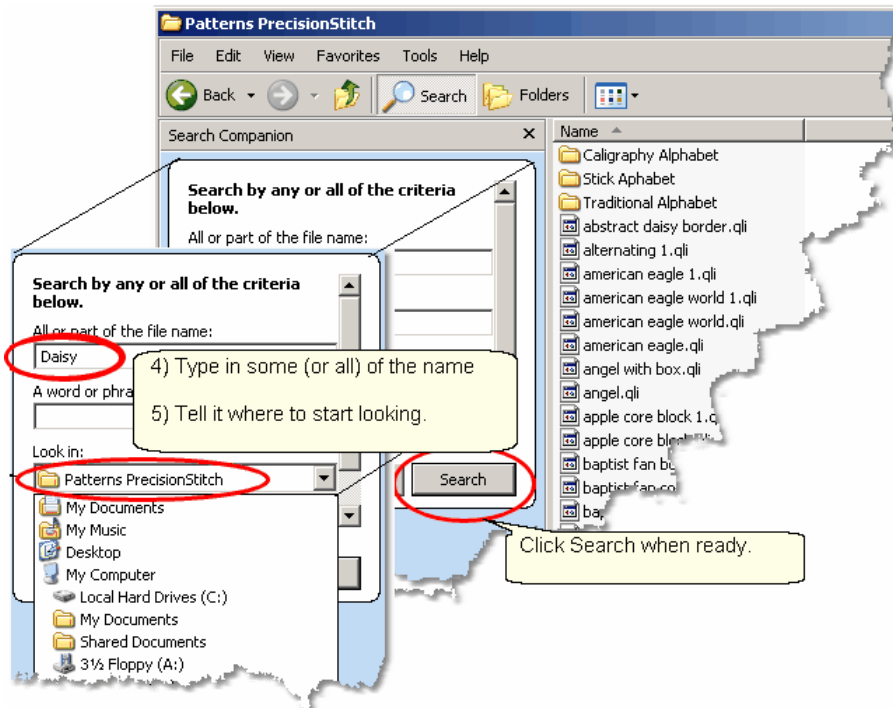
4) Type in some (or all) of the file name, as prompted.
5) Tell the system where to start looking, by [selecting] [12] the correct folder name as prompted.
Click on "Search" when ready.
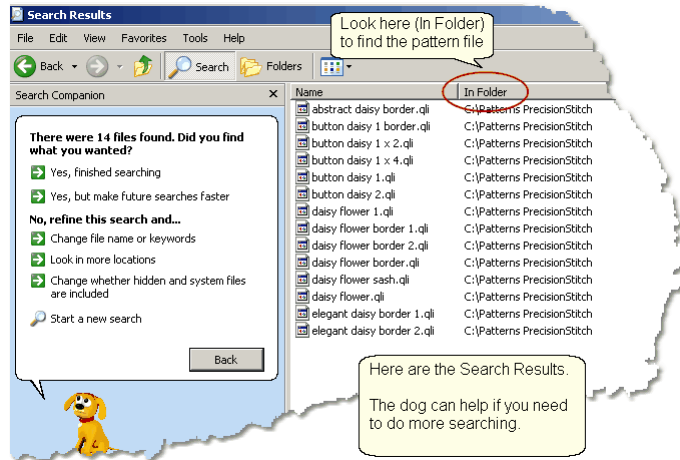
All the files with the word 'daisy' that were found in the Precision Stitch folder are listed.If you need to search more, let the dog help! If this is what you wanted to know, jot down the path 17 so you can find the file in the correct folder using CreativeStudio.
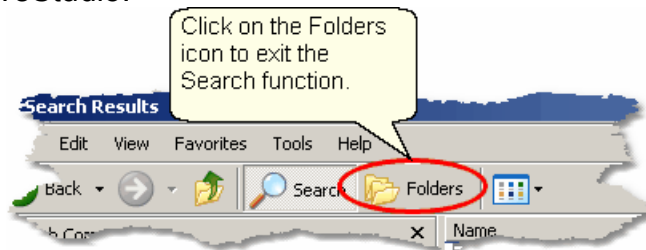
Creating a New Folder

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 own patterns. This separates the patterns you have purchased from the ones that came with your system. When new software versions are released, the patterns are often updated and re-released too. If you put your personal pattern collection in the same file folders as the Statler collection, it is possible to write over your personal patterns.

First, use Windows Explorer 18 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
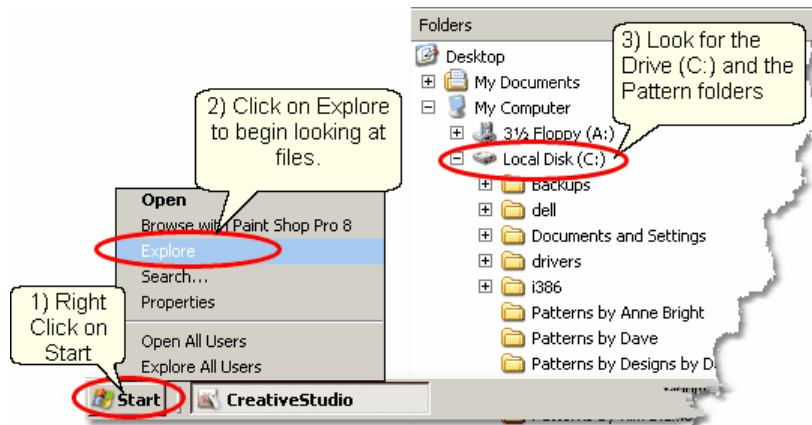
The following steps show how to create a new folder:
1) Right Click [14] on the Start button.
2) Click on Explore .
3) Look for the C: drive. Click once on the "Local Disk (C:)" to select it.
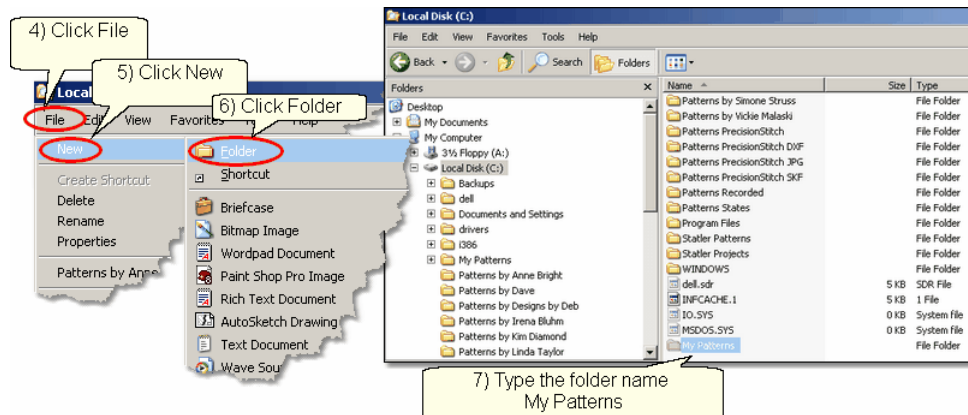
4) Click on the Command bar's "File" command.
5) Click on "New" on the drop down box [12].
6) Click on "Folder" on the next drop down box [12].
7) Type the name of the new folder: "My Patterns" and press the enter key.

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 [18] is used here because it is easy to use.

As described earlier, files have a path [17] (the disk drive, folder and subfolders), a filename [17] (hopefully it is descriptive) and a type called a file extension [18]. CreativeStudio can read the following types of files:
   .qli is the Quilting Language format that Statler Stitcher recognizes.
   .dxf is a format used by CAD systems (like Autosketch) that the Statler recognizes
   .pat is a Pattern File that has been encrypted to run only on a specific Statler machines.

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 [18]. Search [19] the folder structure and find the removable media.

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.
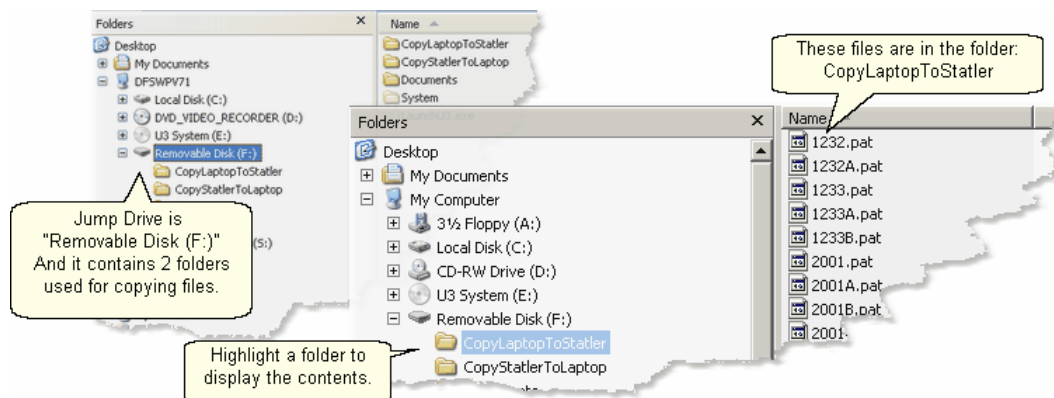
Copying Files

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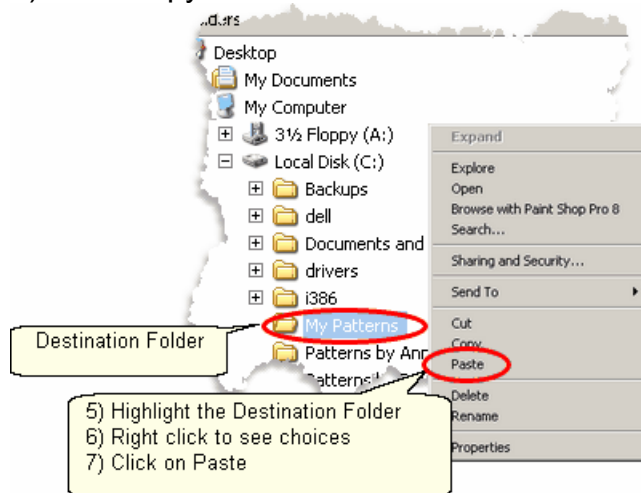
too.
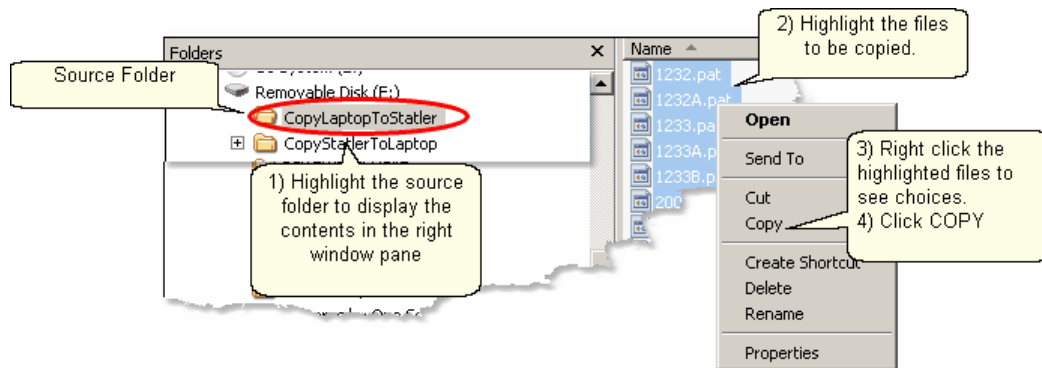
1) Click on the source folder, and the content will be displayed in the right window pane.
2) Select ⌐15⌐ the files to be copied.
3) Right click ⌐14⌐ the selected (highlighted) files
4) Click Copy

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 copied. If they are in different paths, they are moved.

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.
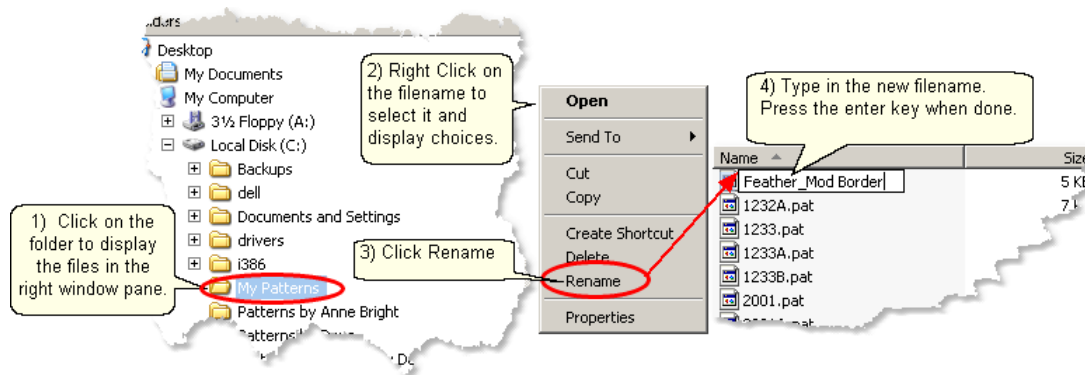
Managing Recorded Files

One of the outstanding features of CreativeStudio is the ability to use the stitcher to create an original design by [recording]₁₅₁ 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 St. Patrick's Day, shortly after noon might be named
C:\Patterns Recorded\RecordedQLI_2008Mar17_120345.qli.
It can be found in the folder C:\Recorded Patterns.

If a fish pattern had been recorded on St. Patrick's Day and it turned out so well that it is sure to be used again, it is a good idea to rename the recorded file, giving it a descriptive name. Then it should be moved from the 'Patterns Recorded' folder into 'My Patterns' folder. Using the steps above.

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. Logon 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.

Use a different computer (your home computer) to access the internet when downloading files. All software upgrades are announced on the Statler Stitcher website and on several internet discussion groups. Current owners can download new versions of the software from the site www.StatlerStitcher.com. It requires some setup so call the Statler Stitcher Tech Support people first.

When there is a new version of the software issued, the Statler Tech Support people always create a manual on how to download and install the new software. So, download this manual first and read it thoroughly before attempting to download new software yourself.

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.
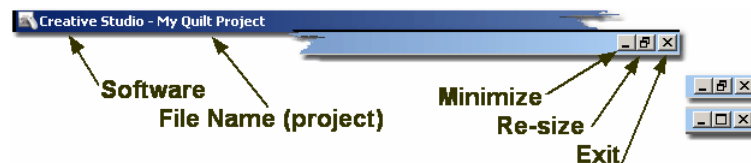
Part II
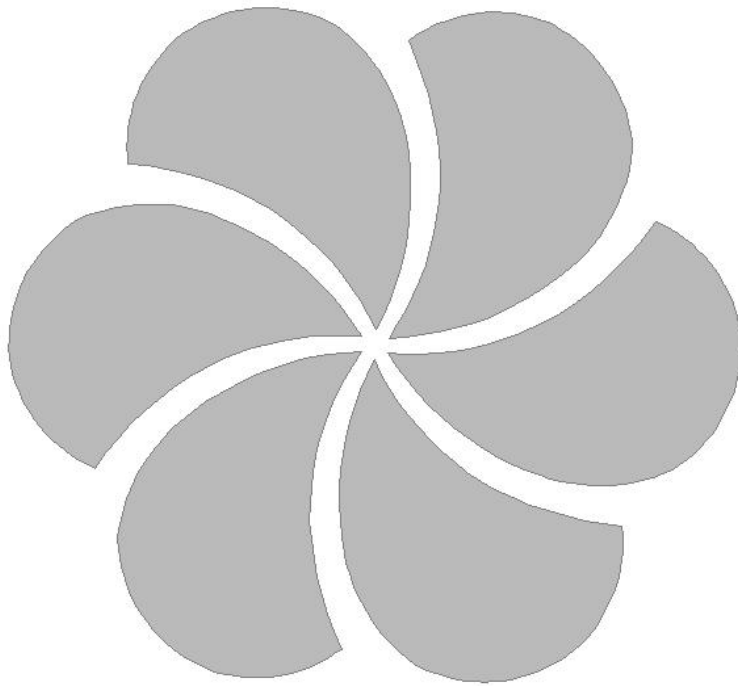
2 Main Screen Layout

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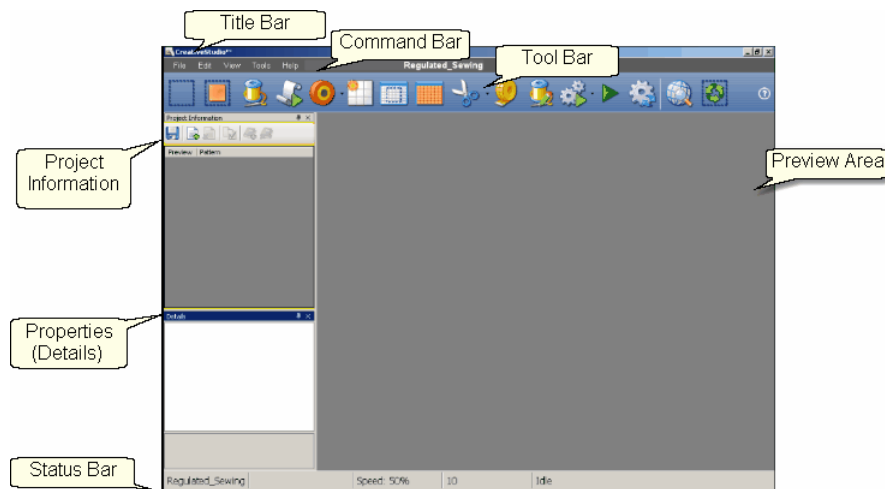
2.1 Title Bar

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 the quick 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 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.
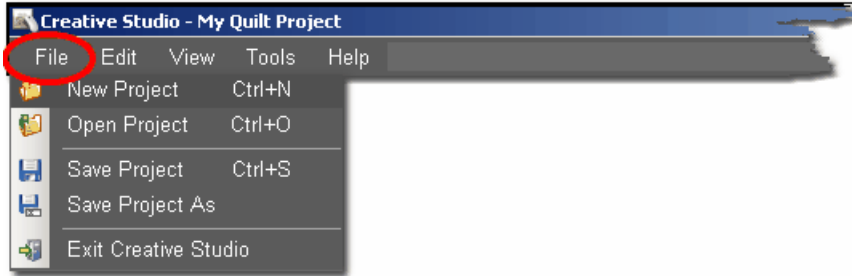
New Project - is used when starting a new quilt. (Ctrl+N is the keyboard shortcut).
Open Project - is used when the project already exists. (Ctrl+O is the keyboard shortcut).
Save Project - saves all of the elements of the project together using the current project name. Save Often!   (Ctrl+S is the 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 date, customer, 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. If you backup too far, Redo will "Undo the Undo" or go forward again. This does not apply to measurement changes, just commands.
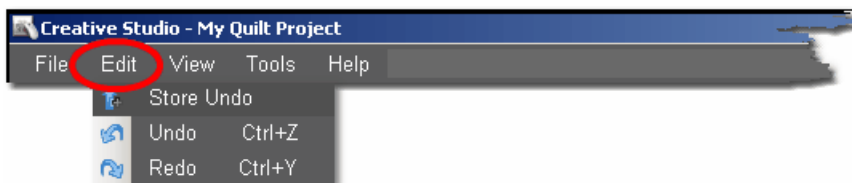
Store Undo will store the current state (this is for the techie people).
Undo will reverse the previous command.
Redo will re-execute the previous command.

2.2.3 View Command

CS can include (or exclude) certain windows which contain some of the operating details.
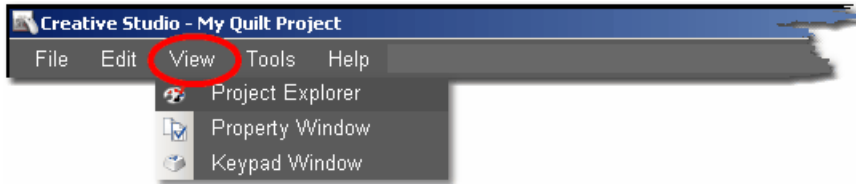
View **Project Explorer** means to display a dialog box that lists the details of the current project. Generally this means showing all of the patterns chosen for the current project.

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.

2.2.4 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.
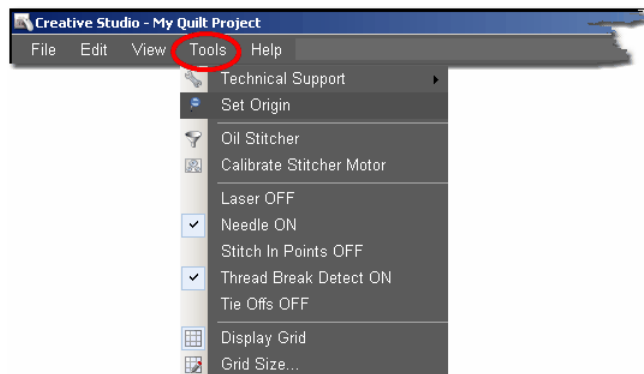
Technical Support- There are many mechanical, electrical, and numeric settings that are required to run CS. Some of the settings are defaults that can be changed to suit the quilter's preferences. These default settings 157 are defined in the Controller Definition Form and are explained in detail in the chapter on Utility Functions.

Technical Support also covers Diagnostics - which are metrics that are used to run diagnostic tests. The Diagnostics are considered a Restricted Area - Do not modify

any of the values without the explicit instructions from one of the Statler Stitcher support staff.

Set Origin [160] - 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).

Oil Stitcher [161] – 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 for complete details.

Calibrate Stitcher Motor [161] - 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)

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.

Tie Offs OFF (or ON) - Tie Offs 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.

 Display Grid - 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 planning pattern positioning.

 Grid Size - 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.

> *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.*

2.2.5   Help Command

Help is an integrated system that provides information about CreativeStudio. Help can be derived by viewing the Table of contents, by using the Index of key words, by searching 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.
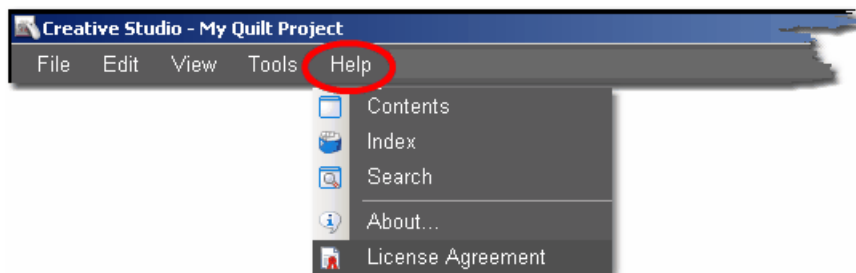
This new 'Help' window will look very familiar to people who have used other help systems. It is a split screen that allows navigating by topic on the left, and full explanations of the selected topic on the right. It is possible to search for something by browsing the table of contents, by browsing 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.
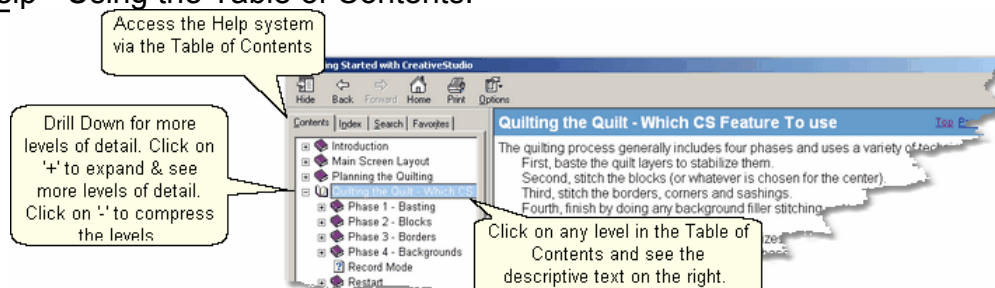
The Table of Contents provides a convenient way to scan the content of the manual quickly. The table of contents can be expanded to display all levels or compressed to show just the major sections. Any time a title is highlighted in the table of contents on the left, the text associated with that title appears on the right.

<u>Help - Using the Index.</u>
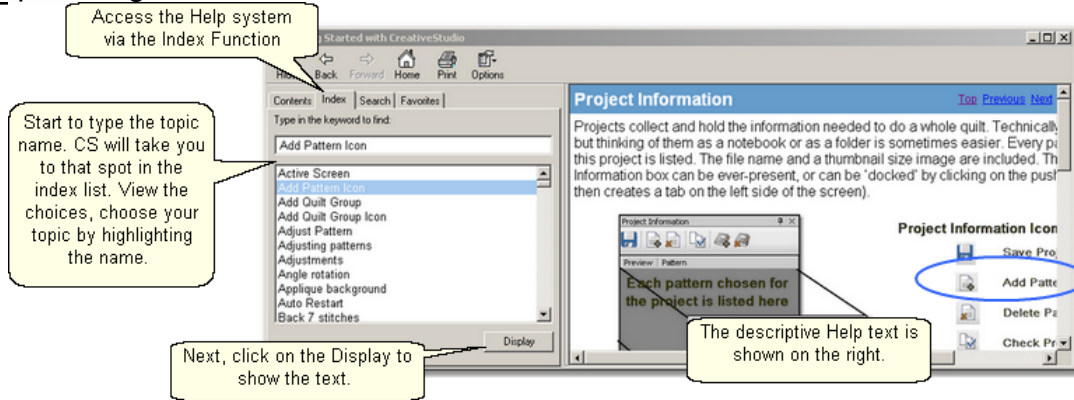
The Index provides a convenient way to look for a word and any variations of that word. For example, typing in a general term like the word 'Repeat' would point to the place in the index that would precede repeat pattern icon, repeat pattern setup, repeat setting details, repeats and rows, etc. Highlighting 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.

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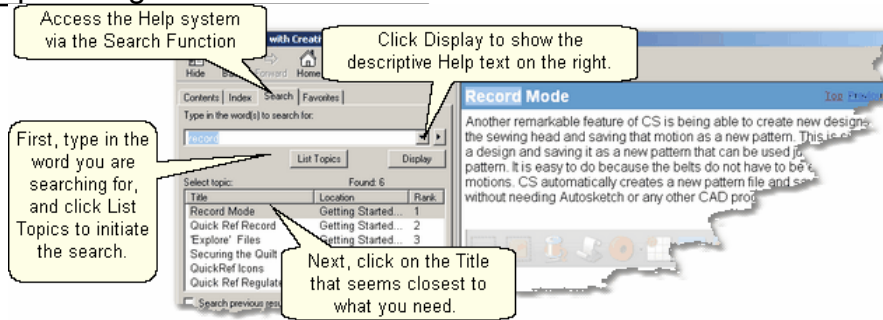
The search function will search the entire CS User Manual database looking for a match. Instead of displaying all of the matches, CS displays a list of titles (section titles) and locations (chapter names) to help you choose the right match. Click on 'Display' to show the actual text from the CS User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

<u>Help - About your Statler Stitcher System.</u>
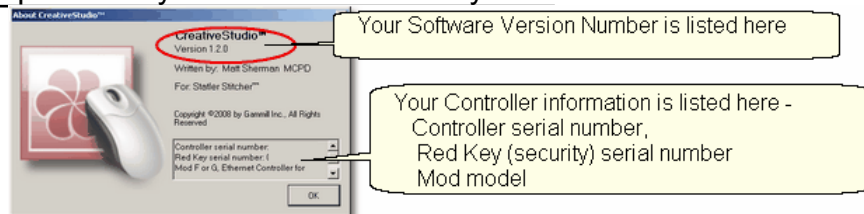
Some day you are going to call the Support Team and they are going to ask you

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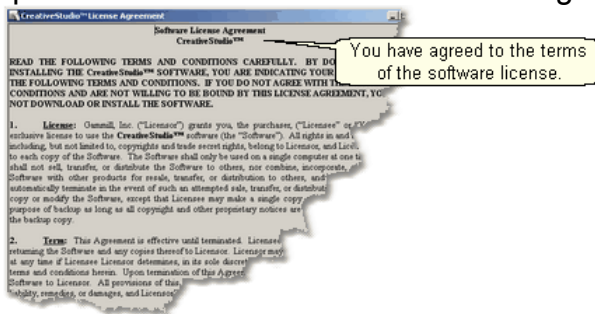
Like all proprietary software companies, Statler Stitcher has certain terms you agree to when you buy and install the CreativeStudio software. Basically it says that Statler has done its due diligence in providing a world class software program, and that the user (you) promise not to do anything illegal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

2.3   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. Each of the 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.*

Boundary Icon [95] **-** 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. The boundary can be any shape but is always a closed area and is limited in physical size since the sewing head is used to define the points. The maximum size of the boundary depends on the length of the table and the size of the sewing head. 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.

Pattern to Boundary Icon [96] **-** Clicking on this icon will move the selected pattern into the selected boundary. If the pattern and/or boundary is not selected (highlighted), CS will display a reminder. Numerous boundaries can be defined for one quilt group which makes it easy to place different patterns together to see how they look.

Quilt Icon [67] **-**This icon initiates the stitching process, and is used in

conjunction with all the other icon features. The sewing head will move to the start point of the first pattern, take a single stitch and show a prompt to pull up the bobbin thread. Clicking OK/Select will begin the stitching, starting with the tie-off stitches (if enabled). When the quilting is done, CS will again show 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.

Edge-To-Edge Continue Icon [141] - is a subset of Edge-to-Edge

and it is not used until the first portion of the quilt is complete and has been rolled. (The Edge-to-Edge feature determined the pattern sizes, repeats, rows, placement and stitched the first section). Edge-to-Edge Continue will prompt for the boundary of the next section, and will provide prompts for completing that section. It is used multiple times, until the quilt is done.

Point to Point Icon [167] - 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 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.

Repeat Pattern Icon [98] - 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 settings but more flexible especially with composite design elements.

Border Corner Icon [111] - This function is extraordinarily 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 'tweaked' to fit the space exactly, and the settings are saved as their own Quilt Group.

Edge To Edge Icon[180] **-** The Edge-to-Edge function works with

E2E Continued.   The first steps perform the calculations and resize the pattern if needed so that the repeated pattern fits the quilt exactly. 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 Edge To Edge Continue after rolling the quilt the first time.

Trim Icon[178] **-** The Trim function uses boundaries to define a space, and then will trim away the excess quilting pattern.

The trim can be done to the pattern inside[178] or outside[179] 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.

Measure Icon[71] **-** 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.

Restart Quilting Icon[153] **-** 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 Icon[165] There are several modes for stitching with the stitch regulator (Original, Plus, Smooth). To choose a mode, click on the arrow to the right of the icon and a drop-down box appears with the following:

Click here
to display the choices

Original
Plus
Smooth

* **Original** refers to the original stitch regulator action, which did not keep the needle running around the corner. Its design was based on people who upgraded from non-stitch regulated machines, and pause at points or corners then continue quilting without taking much time to get back up to speed.
* **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.

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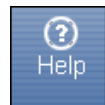
Help ? Icon is context sensitive help. Just in case you have forgotten the purpose of some icon, you can click on the Help?, the cursor turns into a question mark, which can be moved to the icon in question. By clicking again, a dialog box will appear that will briefly explain the icon.

2.4   Work Area

Work Area is divided into three distinct parts - like panes within this window.
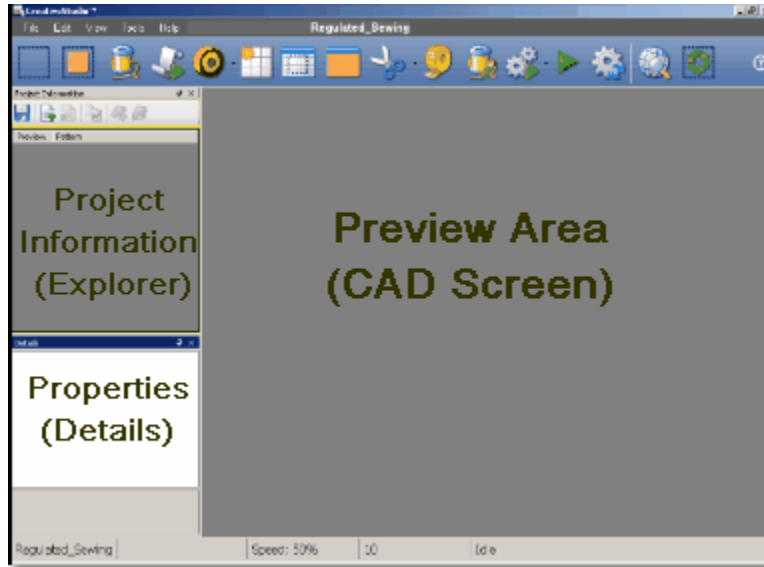
Project information is also known as the Project Explorer.

Properties window will list the settings and other details.

Preview Area is also called the CAD Screen by techy types. The images of the quilting designs appear here.

2.4.1 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. Every pattern chosen for this project is listed. The file name and a thumbnail size image are included. 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).
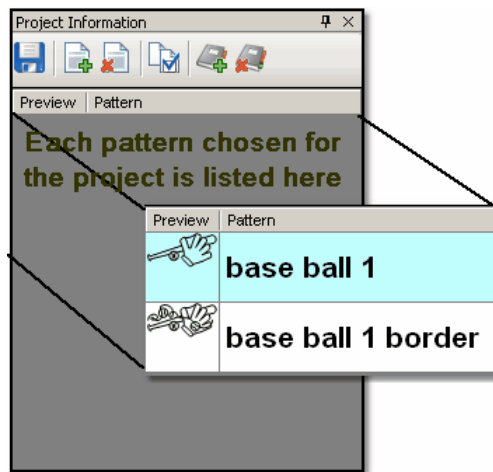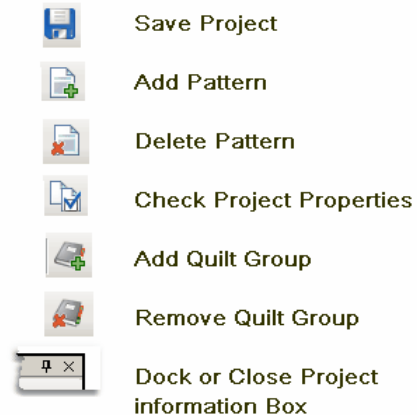
Throughout the quilting process, the Project icons can be used.
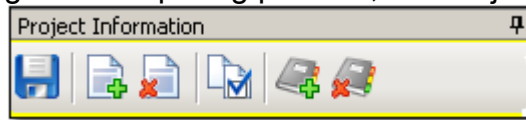
Save Project 60 - saves the project file. If a name has not been given to the file, CS will prompt for one.

Add Pattern 68 - initiates the process of looking, previewing and choosing a pattern for this project.

Delete pattern 71 - will remove a pattern from this project.

Check Project Properties 43 - will display some of the project details in the Properties window.

Add Quilt Group 62 - 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 62 - will delete the current tab. CS will ask for confirmation before deleting the tab because it can't be retrieved.

2.4.2   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 [62] (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.
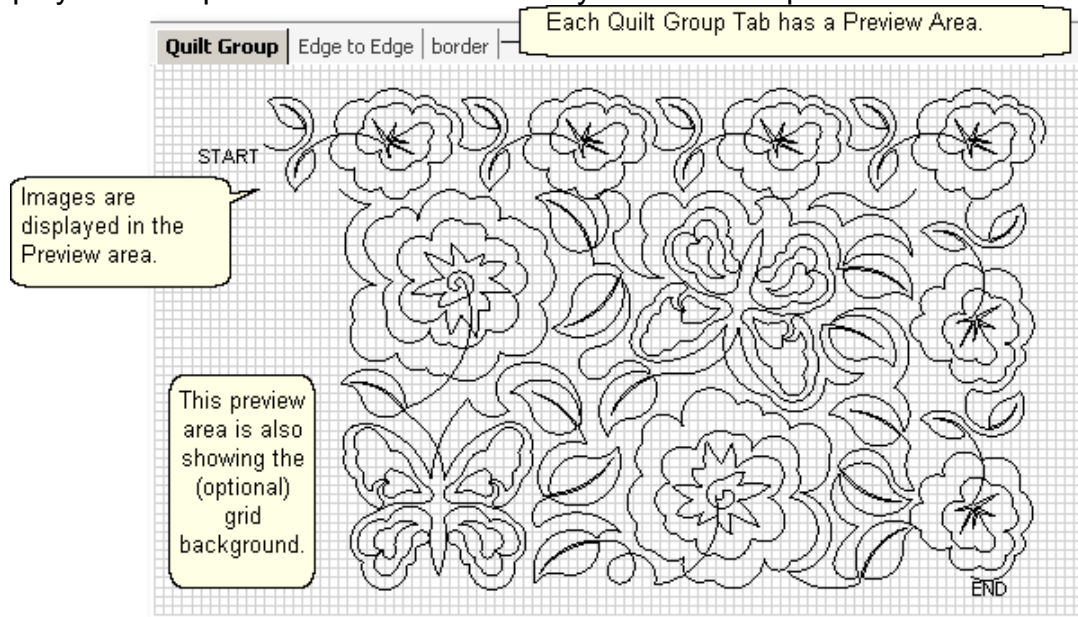
Every quilt has at least one quilt group, and custom quilts will have many. Some of the CS features need a quilt group of their own, so they are created automatically.

It is possible to select multiple patterns and position them in the Preview area to see how they work together. Not only do you see how the patterns work together, but the pattern size / scale can be previewed also.

Tip: *Use the first tab (called Quilt Group) to preview your patterns together. This is a fast and easy way to audition patterns with the customer. When the patterns are chosen and previewed, save the project (with the customer's name) so all the details are readily available when it is time to "Quilt As Desired".*

2.4.3 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 [43] (yellow frame), a pattern [46] (blue frame), or a selected pattern [48] (magenta frame). The frame around the details area is color coded to help differentiate between which details are being displayed.
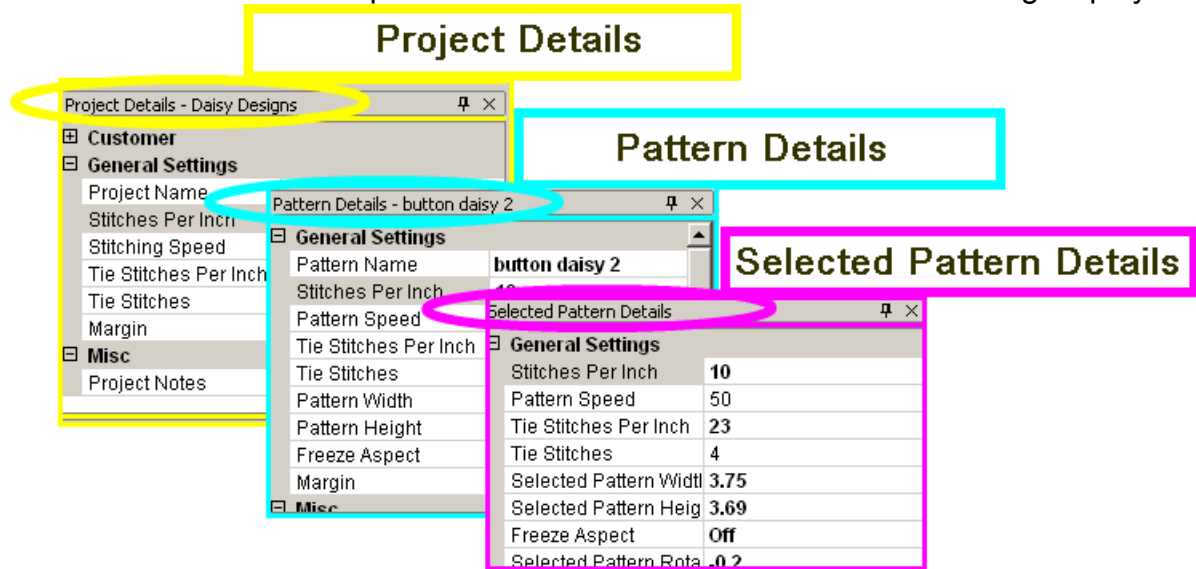
Settings can also apply to a process. Several important quilting features (Edge To Edge [50], Repeat Patterns [50] and Border/Corner [50]) require a series of steps and additional information. Process [50] settings provide the extra information.
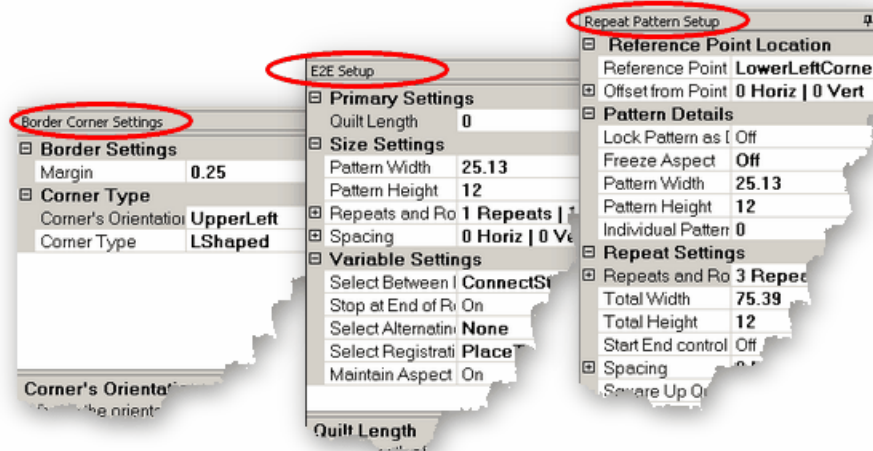
2.4.3.1   Project Details - Yellow Frame

Project Details - appear in the Property Window and are framed with a yellow line, just like the Project Information 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.
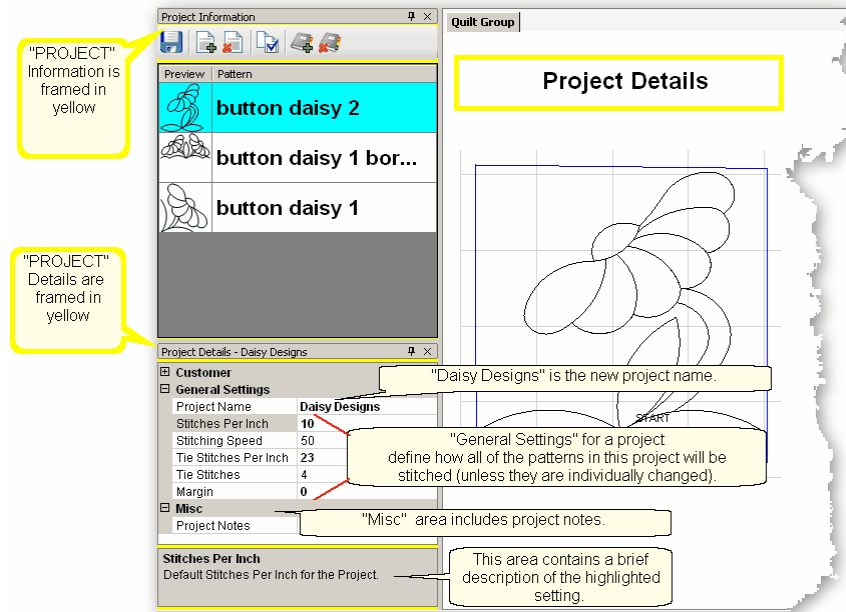
Changing the Project Details:

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.
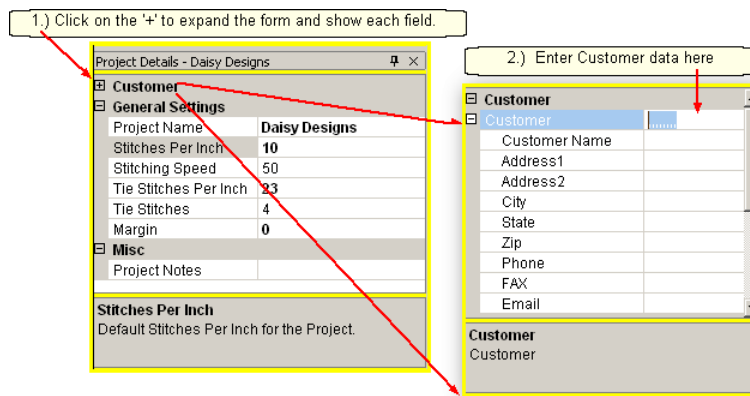
Project Name ⌕ – The default name for all projects is "My Quilt Project". To change this, highlight the default name and then type in the new project name. Choose a friendly name that describes the quilt or the patterns being used. If you forget th change the project name, CS will remind you when you first click 'Save'. to save the

project file. This project name is not the same as the project's FILE name (which includes that goofy file extension; .proj or .projx)

The remaining **General Settings** have values that are inherited from the <u>default settings</u>|157| (on the configuration form). If any setting is changed here, all patterns selected for this project **after the change** will use the new setting.
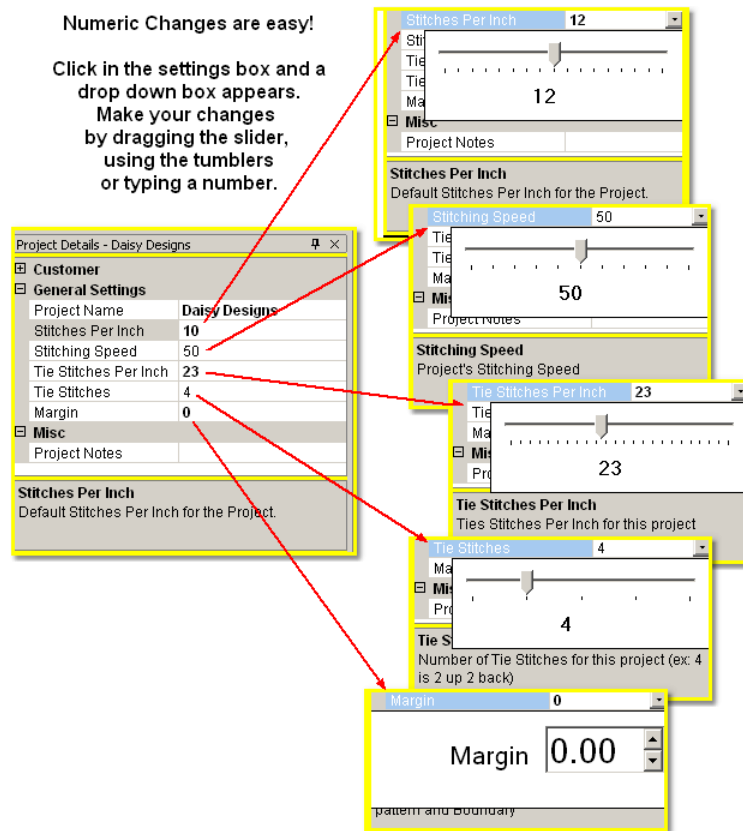
<u>Stitches per Inch</u> (SPI) setting will apply to all the patterns selected for the project.
<u>Stitching Speed</u> is measured as a percentage of maximum motor speed.
    '50' means 50% of the maximum speed.
<u>Tie Stitches Per Inch</u> is the size of the stitches taken when doing tie-off stitches.
<u>Tie Stitches</u> is the number of stitches taken when doing Tie-off knots. Half are taken
    in the direction of the pattern and the other half are in the opposite direction.
<u>Margin</u> is the distance between the stitch lines and the boundary lines.

> *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.*
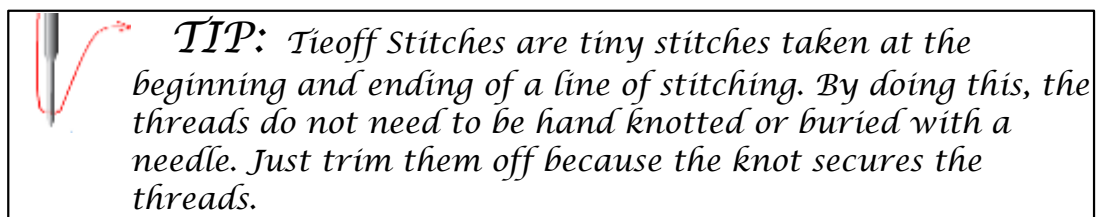
Miscellaneous information (like Project Notes) is listed here.

1.) To begin, click on the Project Notes field, and the memo area pops up.
2.) Type in the information you wish to keep with this project.
3.) Click OK when done.

Project Details - Daisy Designs	⚲ ✕
⊞ **Customer**	
⊟ **General Settings**	
Project Name	**Daisy Designs**
Stitches Per Inch	**10**
Stitching Speed	50
Tie Stitches Per Inch	23
Tie Stitches	4
Margin	**0**
⊟ **Misc**	
Project Notes	

Stitches Per Inch
Default Stitches Per Inch for the Project.

Enter Project Notes here

Ok

Project Notes

Project Notes
Enter any notes to be saved with Project.

2.4.3.2   Pattern Details - Blue Frame

Pattern Details appear in the Property Window and are framed with a blue line. They display settings that apply to the pattern selected in the project information area. Pattern Details are framed in blue (to match the blue highlighting in the Project info).
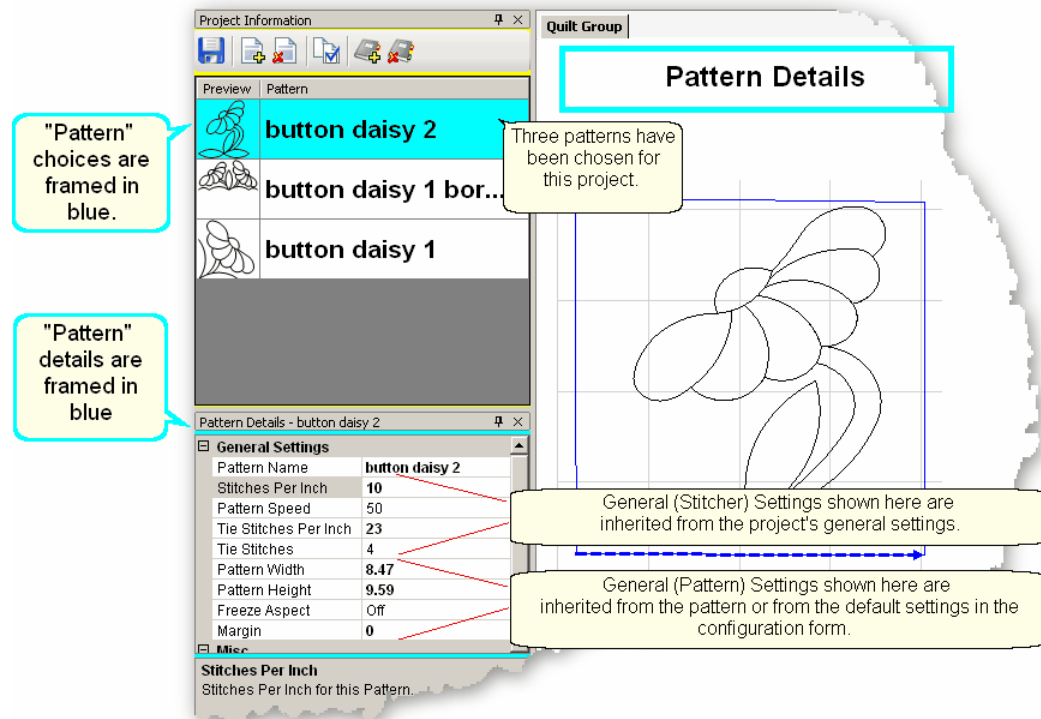
Changing the Pattern Details:
Pattern Name – This relates back to the selected pattern above.

General (Stitcher) Settings for this pattern have values that are inherited from the project settings[44] (which were inherited from the current defaults[157]). 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.

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 tie-off stitches.

Tie Stitches is the number of stitches taken when doing Tie-off knots. Half are taken in the direction of the pattern and the other half are in the opposite direction.

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.
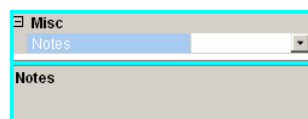
2.4.3.3   **Selected Pattern Details - Magenta Frame**

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 (not the one highlighted in the project information area). The magenta color was chosen to match the highlighting in the Preview area.
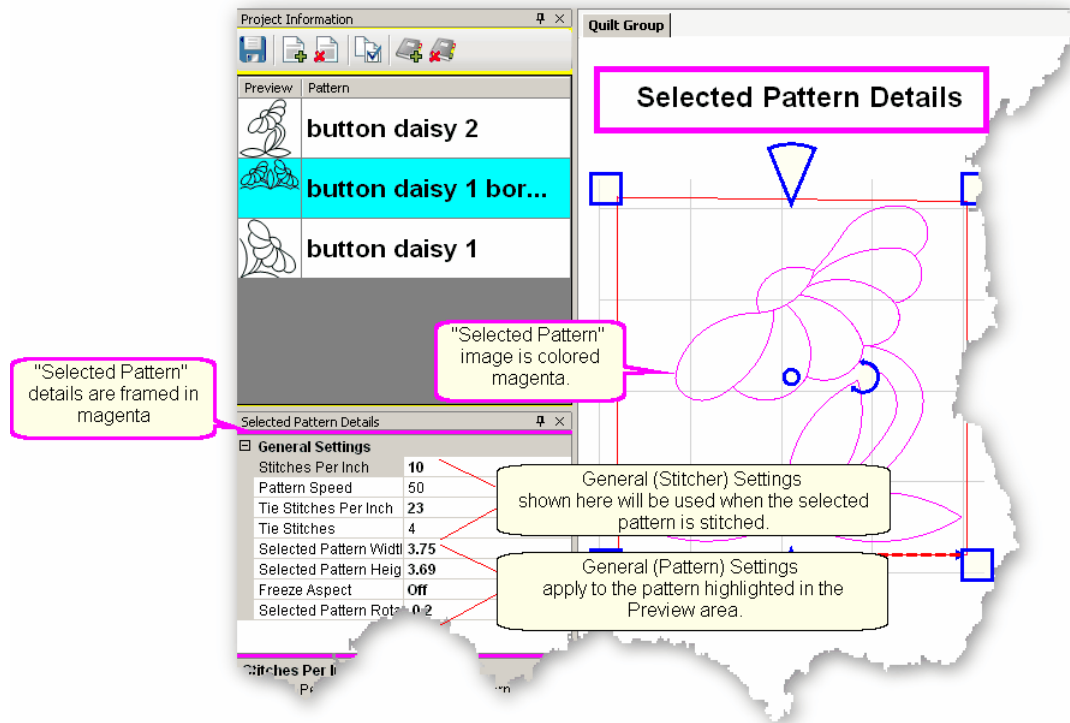
Changing the Selected Pattern Details

General (Stitcher) settings have values that apply to the highlighted pattern and were inherited from the pattern settings ⁴⁶ (which were inherited from the Project Settings ⁴⁴ which were inherited from the default settings) ¹⁵⁷.

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.

General (Stitcher) Settings
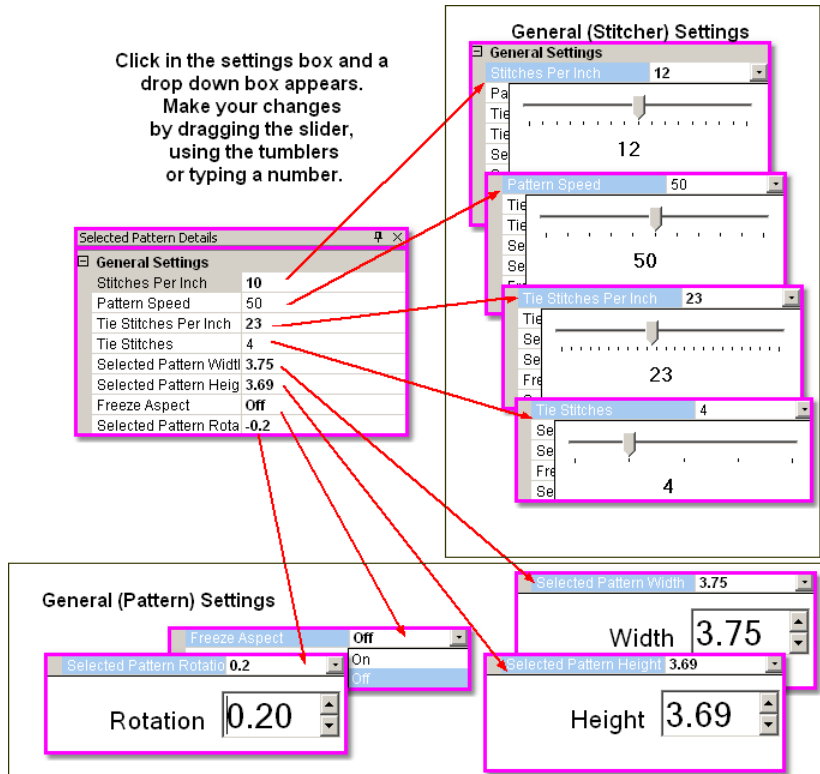
Stitches per Inch applies to this pattern.

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 tie-off stitches.

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

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.

2.4.3.4   **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, Border Corner Settings and Edge-to-Edge. 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.
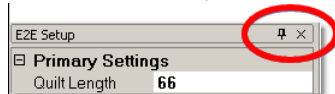
Separate quilt groups are created for Border-Corner and Edge-To-Edge.

1.) The Repeat Pattern Setup controls the positioning and placement of repeated patterns. The 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. The settings are introduced here and will be explained in detail when used in context.

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 border, which starts some distance away. This distance is measured in two

directions, moving Horizontally and Vertically (not diagonally).

Pattern Details refer to the pattern selected in the Project Information area.
Lock Pattern As Designed means changes to the pattern are not allowed.
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 automatically determined based on the pattern size and the number of repeats/rows. If needed, the reverse can be true: the individual pattern Width and Height can be automatically determined based on total size. If the total width and height of the area to be quilted are input, CS will adjust the size of the individual patterns to make it fit.
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 are 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 patterns can be nested if needed, to avoid excess spacing between rows or repeats. Or, CS can add extra space between patterns. CS automatically includes the spacing adjustment when it calculates the Total Width and Total Height of the area to be quilted - which means, No Math!
Square Up Quilt - is the number of degrees that the set of repeated patterns is angled.
Select Between... - is what CS will do between the blocks; Bobbin PullUp means it will stop and prompt for the bobbin thread to be pulled to the top before continuing on. Connect Start and End means CS will not pause between blocks but will continue to stitch the entire row. This requires that the end point of one pattern is touching the start point of the following pattern.

2.) The Border Corner 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 move in the corner patterns. The settings are introduced here and will be explained in detail when used in context.

The Outer Boundary is defined first (blue) and the Inner Boundary is defined next (red).
CS can tell if this is an upper or lower border by the distance between the two boundaries.

The Border Corner Settings refer to the Corner Pattern being used which determines:
* Corner orientation (Upper Left in this case)
* Corner shape (L shaped)
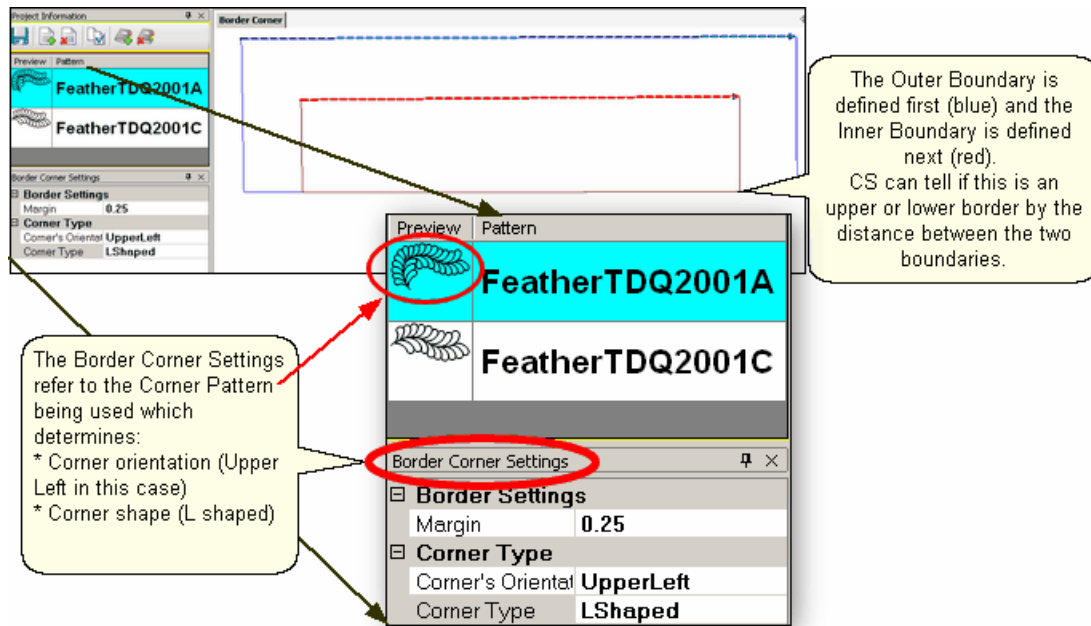
Border Settings:
Margin is the distance between the pattern and the boundary.
Corner Types:
Corner's orientation refers to the shape of the original design. Make a choice based on the original design; does it look like the corner would fit in the Upper Left corner? UR? LR? LL?
Corner Type refers to the 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.
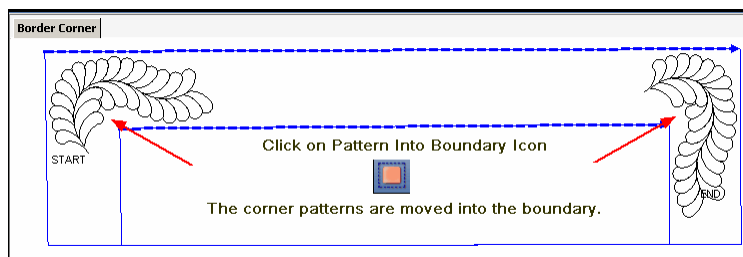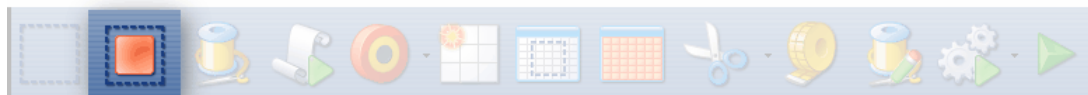
3.) The Edge To Edge Settings control the placement of repeated patterns. The process defines all the repeats required to fill an area of the quilt top. It works in

conjunction with the Edge To Edge 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 tie-offs and bobbin pullups).

Stop at End of Row tells CS to stop and tie-off 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.

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

<u>Maintain Aspect</u> - 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.

> *Tip:*   *If you close the details box, you will not get it back again, so be sure you are done with editing the Process details.*

2.4.3.5   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 |157| (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 |31| 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 |44| 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 |46| 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 don't affect other projects but they can be saved with the project.

         L5 Settings |48| 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   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.

> *Precision Stitch p.s.*
>
> *Tip:* *The keypad buttons are very similar to P.S. so feel free to hide the keypad window and maximize the space in the Preview Area.*
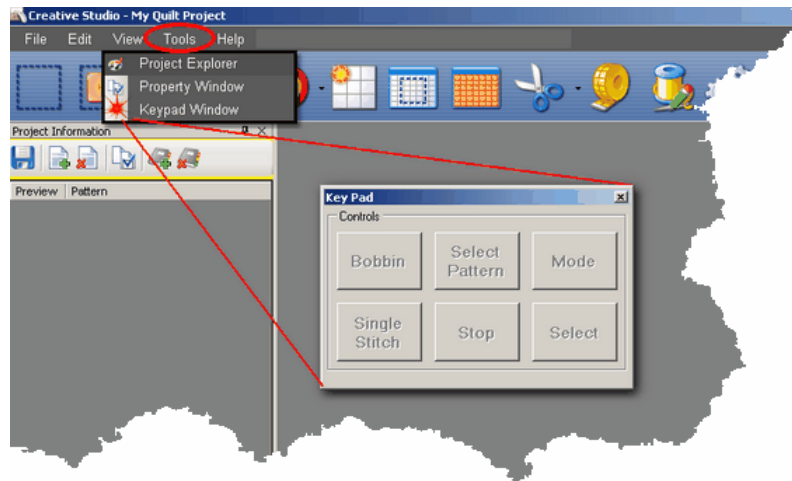
Keypad Controls can be used instead of the mouse in certain situations.

Bobbin - will initiate the bobbin pull-up sequence.

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

Mode - will rotate through each of the icons on the Tool Bar, highlighting each sequentially. To rotate backwards, press and hold the Stop button while pressing 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 tie-offs.

> *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.*

The keypad controls change, depending on the CS tasks being performed.

When the sewing head is stitching, the keypad buttons (or controls) change to include features that are useful while sewing.
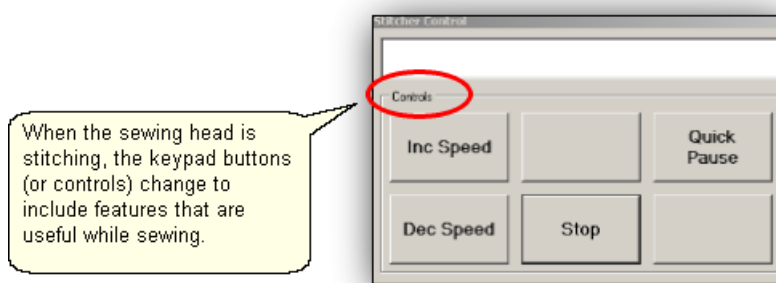
Stitcher Control Window shows the choices when the machine is sewing.

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.

2.6   Status Bar

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

The Status Bar provides information about what is currently happening.
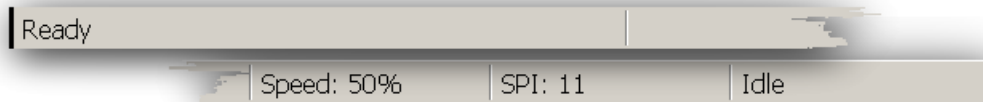
The left section gives a status of the machine's operation. Other info listed may be error messages, Motor speed, Stitches per inch and more.

2.7   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
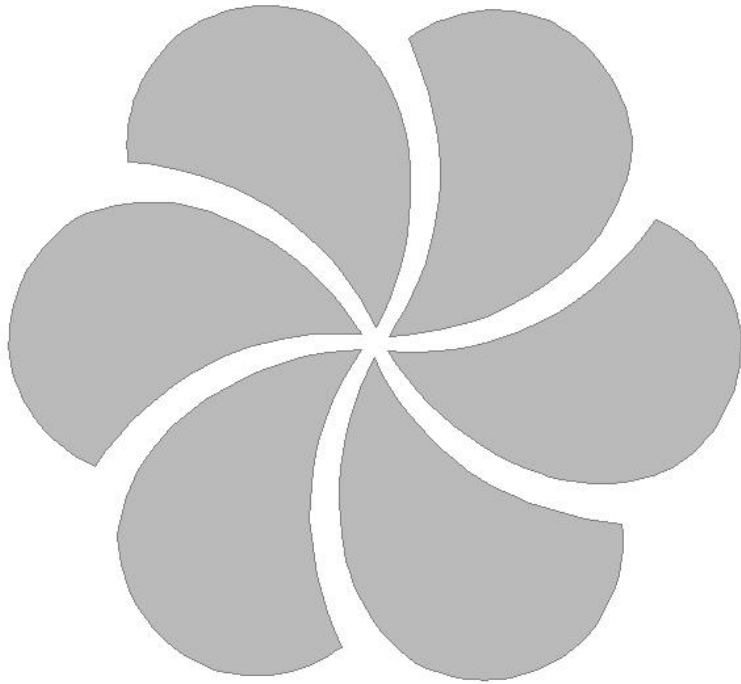
3   Planning the Quilting

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

* **See it**   Pick, Position and Preview the quilting patterns before stitching them.
* **Stitch it**   What You See Is What You Quilt!   (WYSIWYQ)
* **Save it**   Save all the patterns, positioning, & settings for future use.
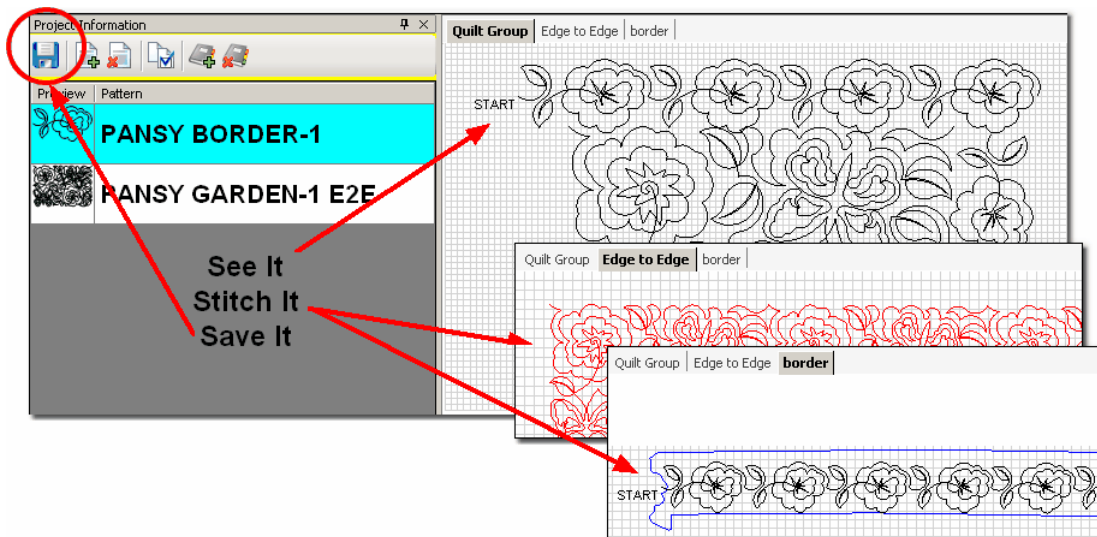
Planning the quilting is easy now because the quilter can select, combine and preview quilting patterns, and see (or show the customer) what they look like together. The preview can be saved until the quilt is ready to finish. The entire project can be saved for future reference or repeats.

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 40 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.
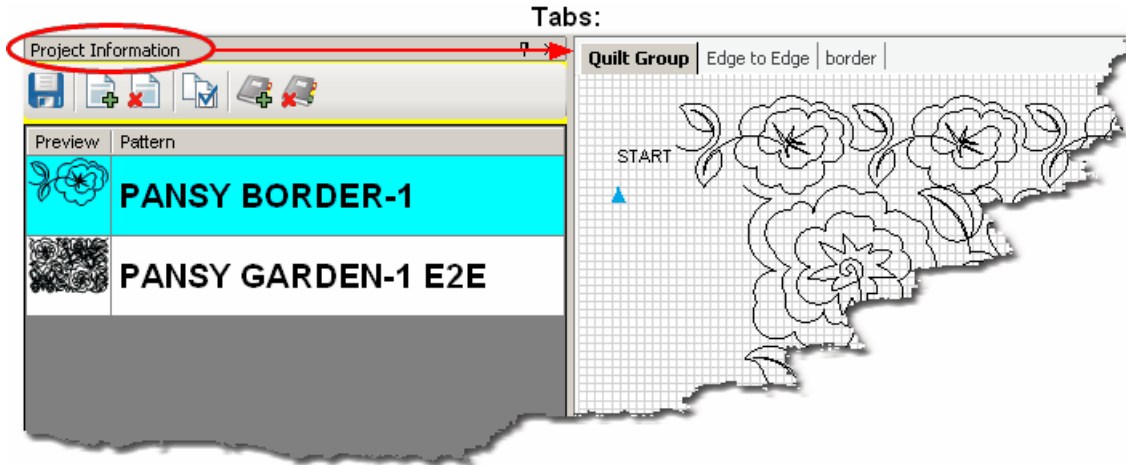
Save your project often!
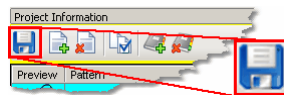
3.1.1 Origin Point

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. It is important to use the same point every time if possible. Otherwise, the project may not be easy to re-use.
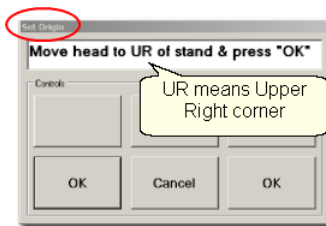
"Move head to UR of stand & Press OK" is the very first step to do. Although this dialog box asks for the Upper Right corner, it could be Upper Left or any other point that is reliable and repeatable.

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 without re-adjusting the patterns after CS has been shut down (everyone needs to sleep occasionally). ***This is worth repeating - choosing a reliable and repeatable origin every time means the quilting sessions can be interrupted, and restarted without having to redefine boundaries and readjust the patterns.*** This will save you time.

When a quilt is planned, previewed, stitched and saved, the Origin is saved with it. Repeating this quilt without having to duplicate the calculations and planning is only possible if the same Origin point can be identified. Think of how the pattern designers could increase the number of predefined panels and whole cloth quilts!

3.1.2   Project Names

CS creates a project every time the software is used. By default, the project is named "My Quilt Project" but you can (and should) save this under a different name. Project names are different than the Project File Names.

Renaming a project is easy. Just click on Project Properties icon, and look at the general settings in the Project Details. Highlight the current project name (My Quilt Project) and type over it.
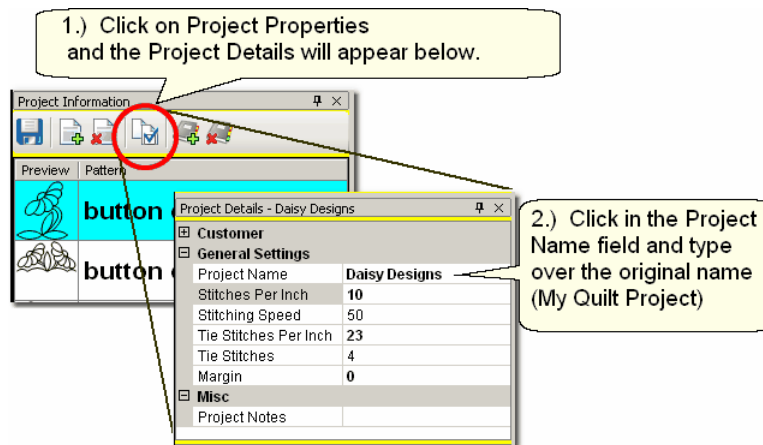
Saving a project file is easy too. Just click File, click Save Project As, and the Save As dialog box appears. CS will try and help by using the Project Name as the File Name but it can be changed to something else if desired. Change the path 17 if needed and click SAVE.
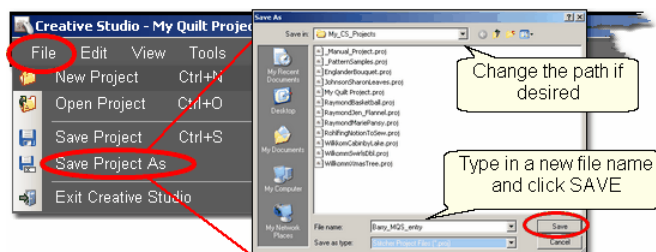
CS saves projects with a file extension 18 of .proj or .projx. The difference is based on the type of patterns used. If your project includes only patterns that came with your Statler Stitcher, the file extension will be "proj". If your project includes patterns you purchased from a designer who encrypted them to run on your machine only, the file extension will be "projx".

 Save your project file often!

CS will remind you to save your project file before it opens a new project or closes the software.
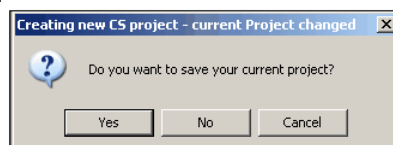
By clicking on the "Yes" button, the Save As dialog box appears. CS will try and help by using the Project Name as the File Name but change it and the path if desired. Click SAVE to complete the process.

> *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.* **Remember: Project Names are different than the Project File Names.**

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 and Borders/Corners. Individual quilt groups can be created for different sections of the quilt, like the Center Medallion, or Side Triangles, or Sashings, etc.

Each quilt group has a tab which appears in the preview area 41 of the screen. Some quilts require only one quilt group (like E2E), and others have many (like custom quilting). The following diagram 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.
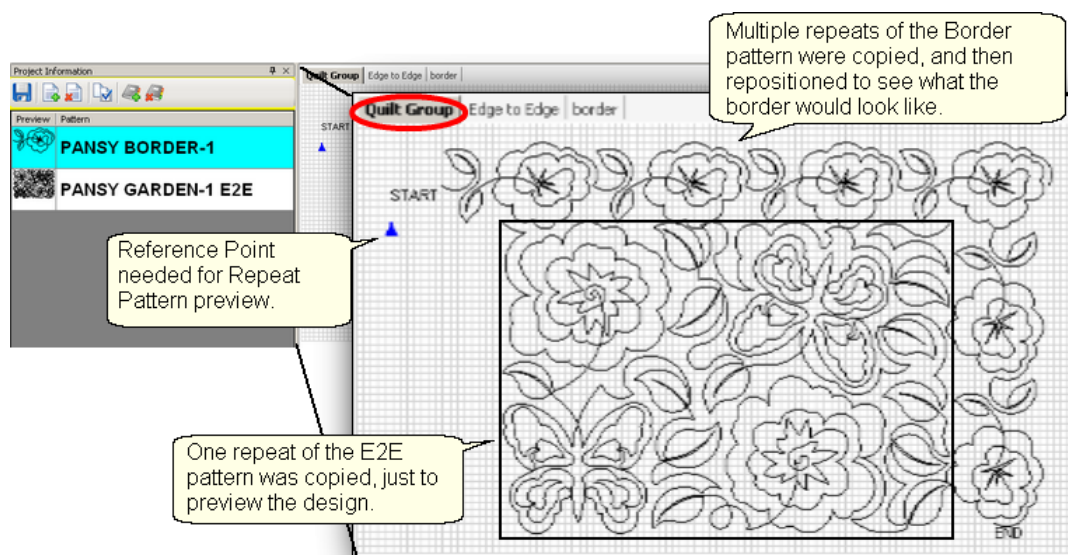
3.2.1 Creating a Quilt Group

New quilt groups can be added easily. Just click on the AddQuiltGroup icon located in the Project Information window. Type a unique name in the pop-up box..
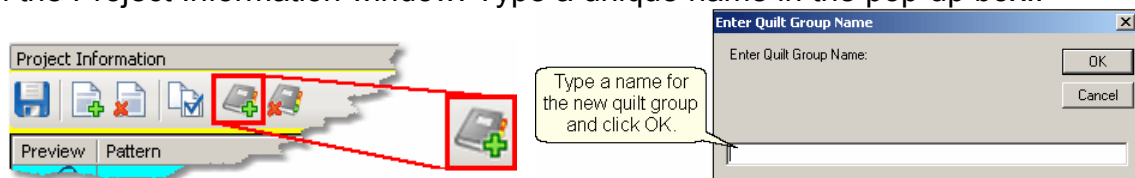
A tab is created with the new quilt group name. Each tab has its own preview area.

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.

3.3 Quilt Patterns

There are a mattilion different quilting patterns available today. Good choices are continuous curves, also called continuous line designs. By definition, a continuous-line design has only one start and one stop.
Block patterns 65 are usually a single pattern and frequently have the start and stop at the same point. Continuous line patterns 65 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 66 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.
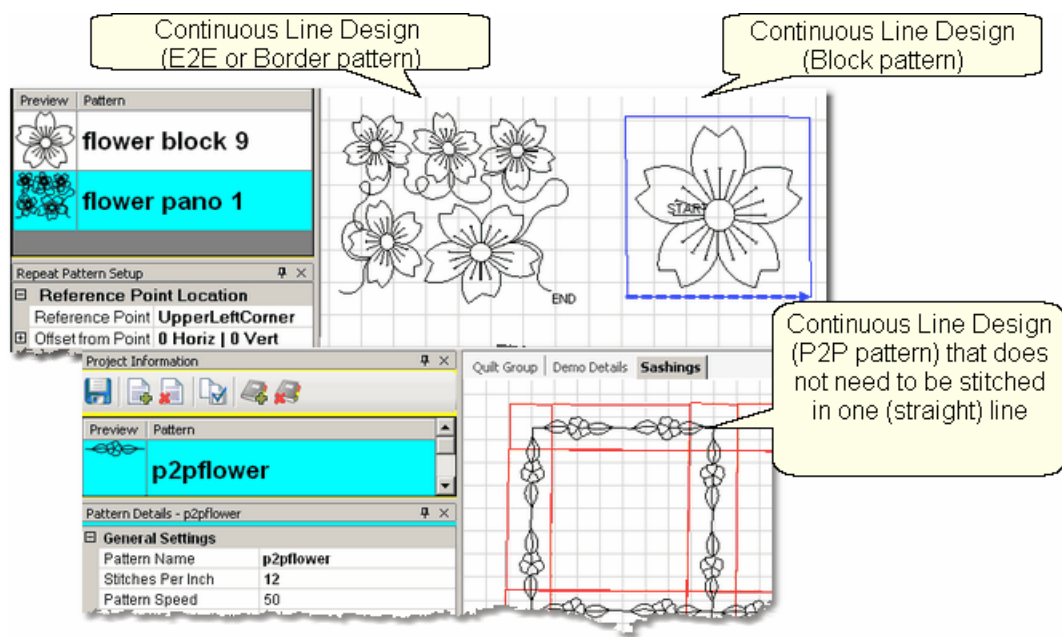
Choosing the right pattern for each section of the quilt is important. CS has several features that can create new patterns too.
   * Record function uses the movement of the machine head to create a new pattern.
   * Circular Array uses one pattern & repeats it in a circular fashion to create a new pattern.
   * The Group function allows individual patterns to be positioned, and then combined so the group of patterns now acts like a single pattern.
   * Text can be inserted as a pattern using any standard Windows font.

The record function is part of Regulated Stitching. The Circular Array and Group Patterns are both (right click) Edit functions.

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:
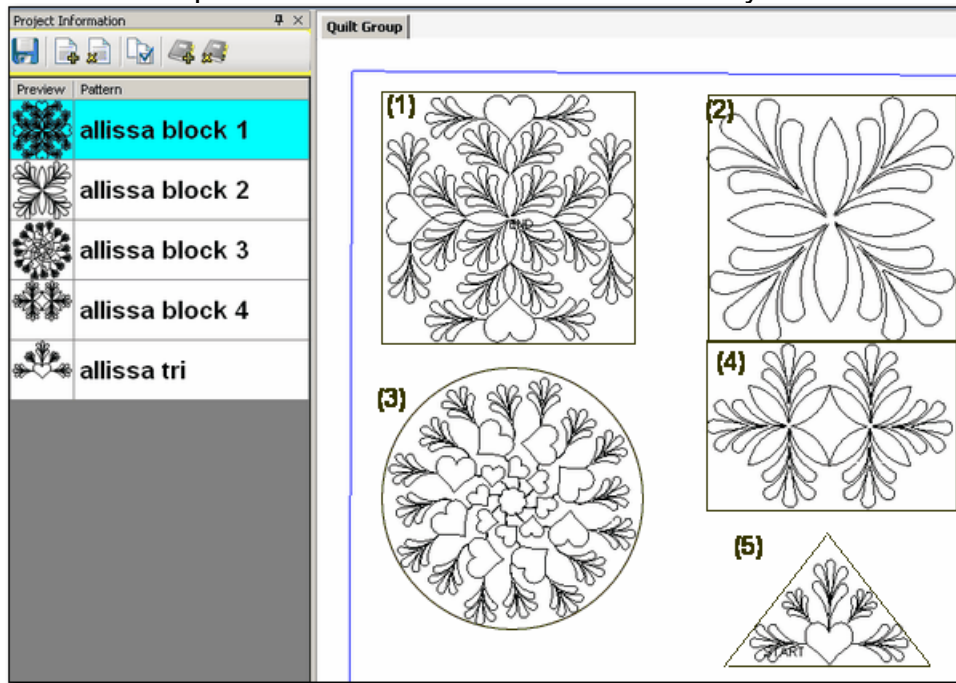
(1) Allissa block 1 – is very detailed with a square-ish shape.
  Is very dense – Good for larger blocks.
  Has symmetry (and heart shapes) – suggest freeze aspect = ON
  Shape – square, circle maybe octagon
(2) Allissa block 2 - is a simpler design with a square shape
  Is not dense – Could fit many 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:
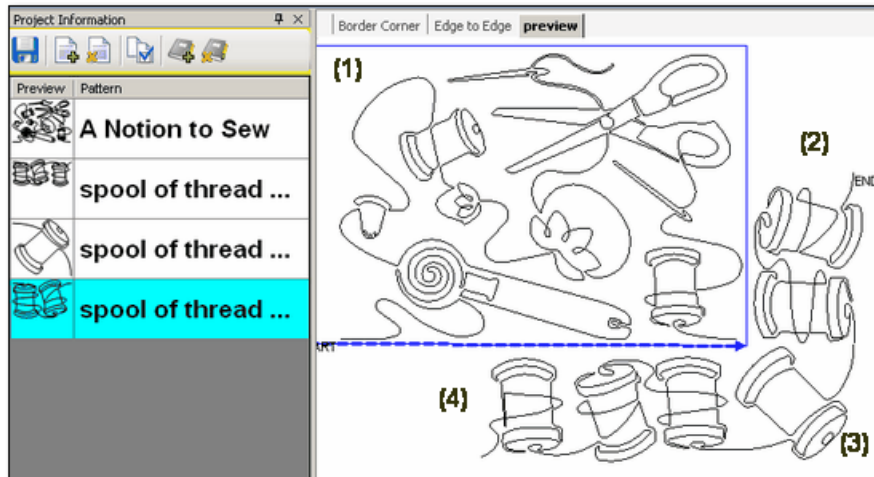
(1) A Notion To Sew – is a pantograph pattern that can be repeated across and down the entire quilt, Edge To Edge (E2E). Pantographs can also be used on the inside of the quilt, from border to border - sometimes called B2B. The outer edges of this pattern are relatively linear, making it a good candidate 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 pattern. This one has been designed to work with the border, 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 patterns must be continuous because the end of one pattern is connected to the beginning of the next. They can be stitched with the Freeze Aspect setting ON or OFF, for very different results.
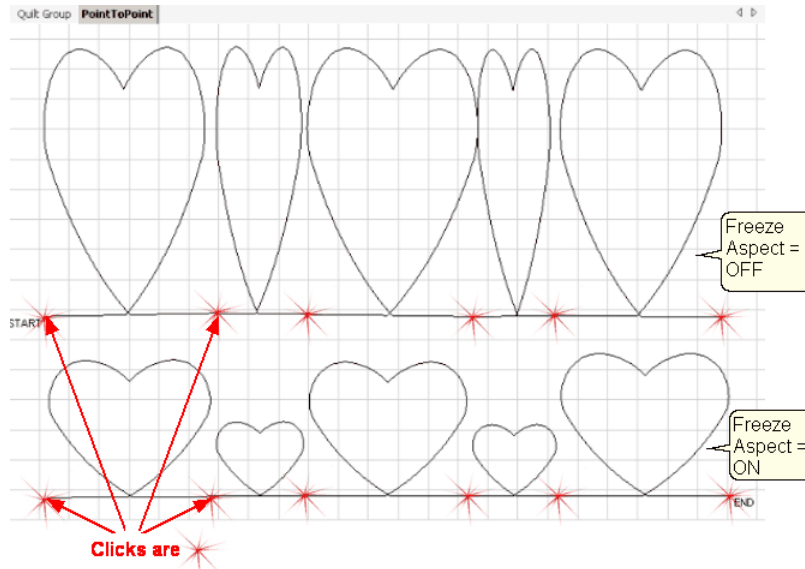
In the example above, Clicks were made at varying intervals, 6", 3", 6", 3", 6". The top row shows the resulting pattern when the Freeze Aspect is OFF. The bottom row shows the results when the Freeze Aspect is ON. These hearts were stitched along one straight line but they didn't have to be.

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 patterns. In Setup mode, the descriptive details are set and this must be done first. In Edit mode, the visual details are set and this is done last. Edit mode changes are lost if Setup mode details are modified last.

The following section will explain the general steps of Setup Mode and Edit Mode. Color coding is used to distinguish the mode. Blue is for Setup Mode and magenta is Edit Mode. Other parts of the manual will use the highlighting also.

The choice of highlight colors is not accidental. The colors blue and magenta were chosen because they relate back to color coding the 'details' in the Property Window.
Blue 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.

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. 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.

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 blue, the step is part of the Setup mode. Steps highlighted in magenta are part of the Edit mode. The following is an example of the format.

Feature: Quilting a Single Block
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).
Note: The Open Pattern File dialog box appears every time a project is created. This is a nice shortcut that you will enjoy having but close it now (click Cancel) so you can learn how to open patterns on your own.

Steps to follow:
Step 1. Choose a pattern
Step 2. Change the pattern details
Step 3. Measure
Step 4. Define a boundary in the preview area
Step 5. Move the pattern into the boundary
Step 6.Save (and name) your project.
Step 7. Adjust the pattern in the boundary.

3.4.1 Setup Mode

Setup Mode enables the quilter to change the settings that define how the patterns should stitch.

 Step 1: **Choose a pattern.** Choosing and editing 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:
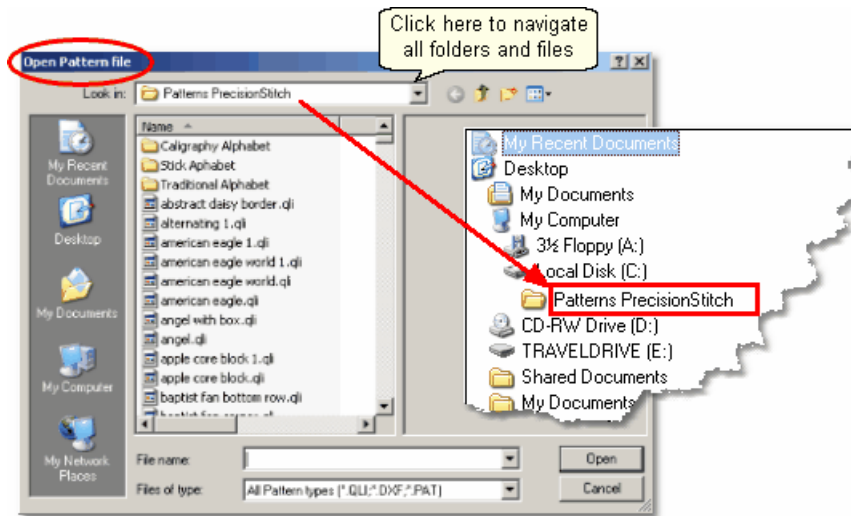
* Navigate the folders and files, previewing and selecting patterns. The current folder name is shown in the "Look In:" selection. In this example, it is called "Patterns Precision stitch".

* 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.
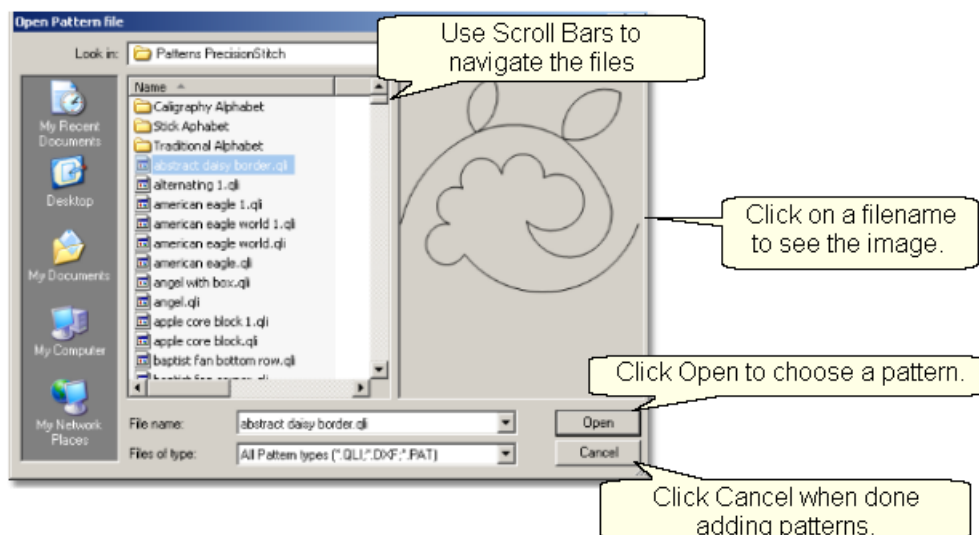
* Once the first file is selected, the keyboard 16 navigation buttons are activated:
    The down arrow will move down one file at a time.
    The Up arrow moves up one at a time.
    The Right arrow moves sideways, showing details associated with each pattern file.

* 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:
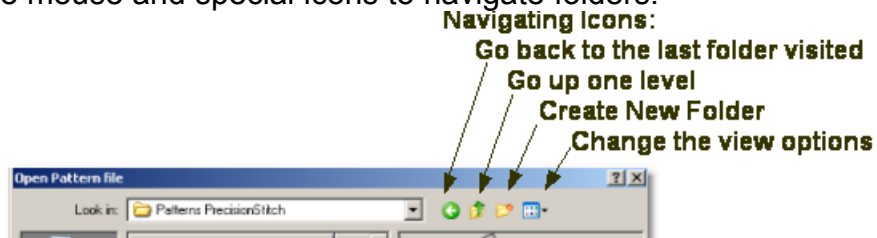
* To find a specific file, begin to type in the name of that file in the FileName box. A list of filenames appear in a drop-down box, showing the filenames that match that criterion. If many files match, there will be scroll bars in the drop-down box that allow you to scroll through the list looking for the correct file.
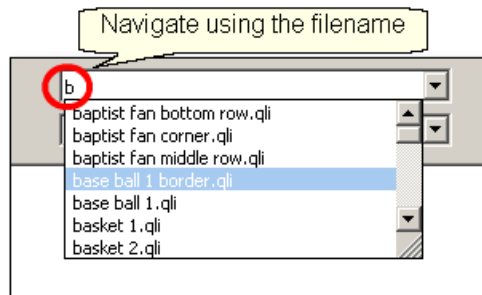
* The more letters that are typed in, the more specific the search criterion and fewer files are returned.
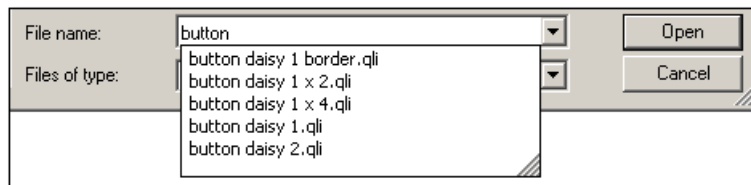
* Click on the filename to select it and an image of the pattern will appear in the preview area.

Click Open to choose this pattern.
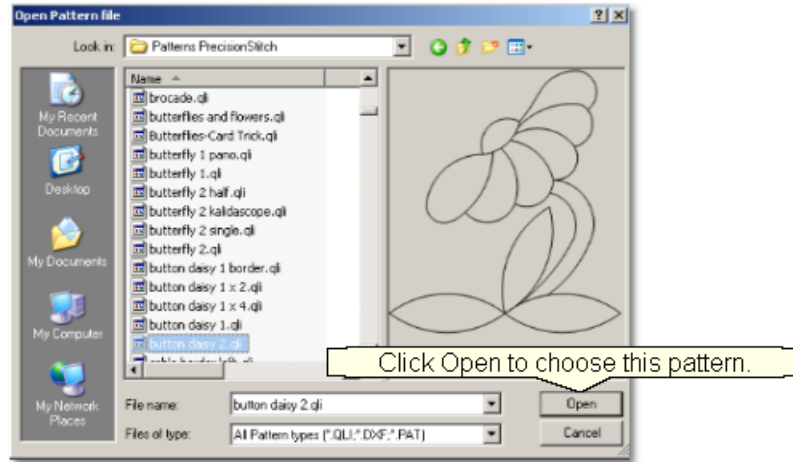
* Click Open to choose this pattern. CS is ready to choose more patterns so repeat the file selection process as needed. When done, click Cancel to exit.

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.

CS will verify the pattern removal
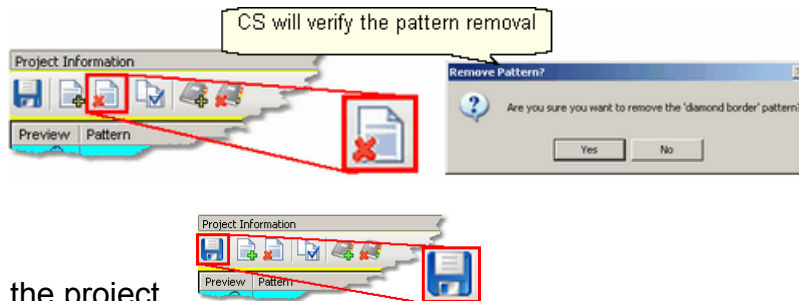
* Save the project.

Step 2: Measure

CS provides a Measure function which can be used throughout the entire quilting process. Stitching a single pattern in a boundary does not require the Measure function but most other features do use it. Click the icon to begin the measure process.

CS prompts with the "Perform measurements" dialog box. Move the stitcher to the beginning of the line and press OK. Move the stitcher to the end of the line and press OK again.
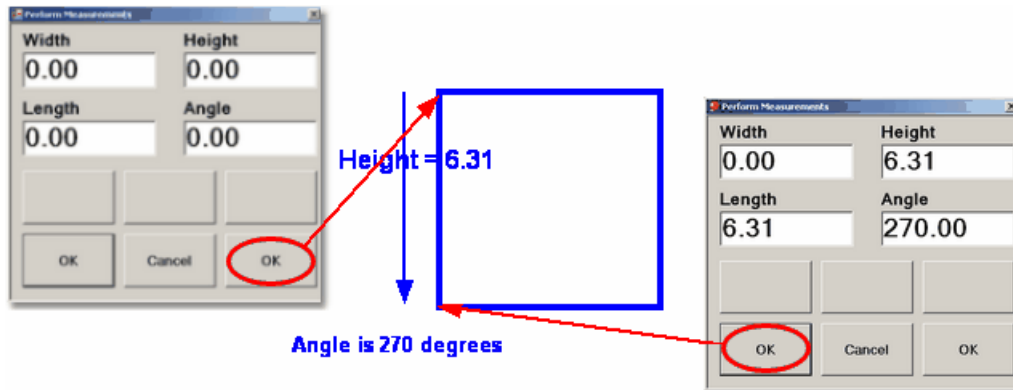
* Remember to measure in the same direction that the pattern will be sewn. The measure function calculates the angle automatically, so use that angle as the squaring angle.
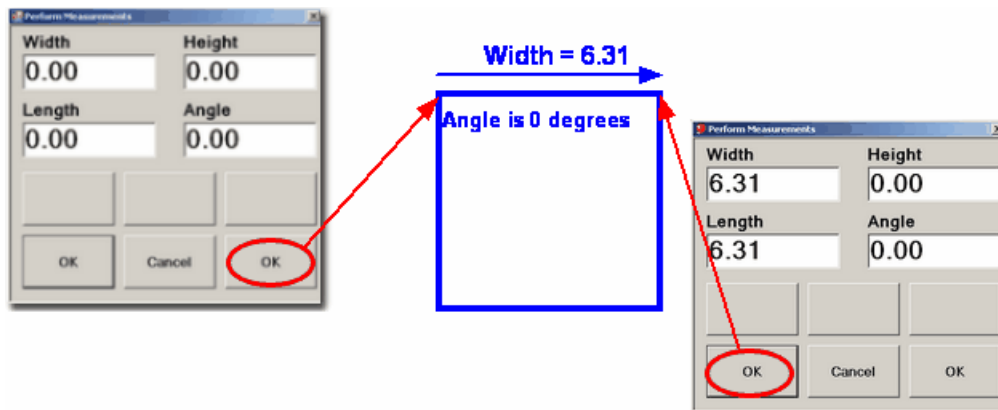
* Measuring the block diagonally will give the height, width, length and the angle of the diagonal.
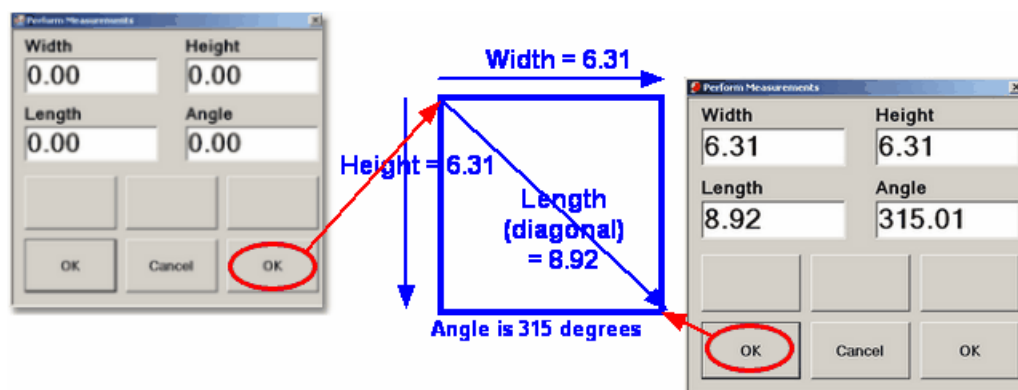
* It is important to understand how the angle rotations are defined. CS measures the angles by rotating counterclockwise.
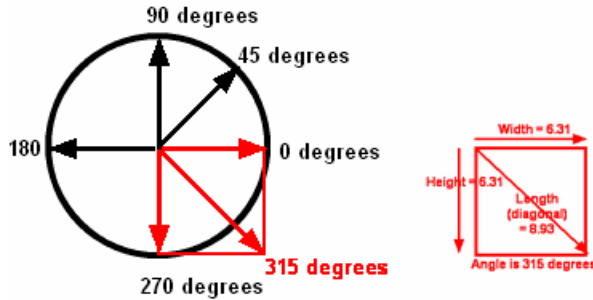
> *Tip:* *The stitcher will measure dynamically too. Press OK the first time, and move the sewing head. The Measure dialog box shows the measurements as it moves. Press OK again at the end of the line, and the exact measurement is displayed.*

CS is ready to make as many measurements as needed - just keep clicking start & end points. Press Cancel when done measuring.

* It is possible to automatically transfer your most recent set of measured values.

First, make the measurement. Click on Cancel to stop measuring.
Next, Right click on the field you want to transfer the measured value into. The Transfer box appears.
Finally, Click on one of the measurements and it will be transferred.

Save the project.

Step 3: Change the **Pattern Details** 46
* Click on the first pattern. The pattern image and filename are highlighted in blue and the details below are framed in blue. The Title bar also includes the filename.
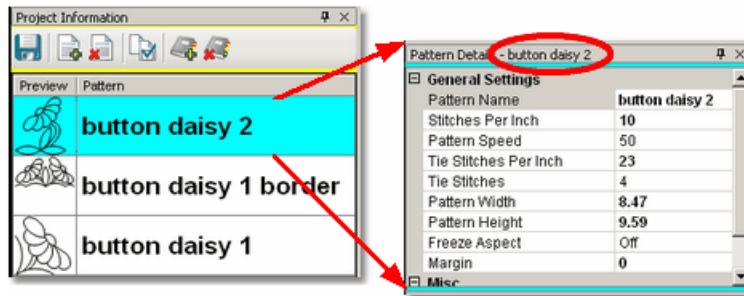
General Stitcher Settings [46] - The first several settings refer to how the pattern will be stitched. These settings are based on the current CS default settings.

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

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 tie-off stitches.

Tie Stitches is the number of stitches taken when doing Tie-off knots. Half are taken in the direction of the pattern and the other half are in the opposite direction.

General Pattern Settings [46] - 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 the closest distance between the stitch lines and the boundary lines.

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 [60].

Step 4: **Defining a 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. This works for patterns and trim boundaries also.

Step 5: 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 blue)
* Click on the Pattern_To_Boundary icon to move the pattern in. The pattern is moved into the bounded area and resized to fit.

Note: At this point, you are still in Setup mode and you can (and should) change the general settings as needed.

Click on the image in the Preview area to enter the Edit Mode.
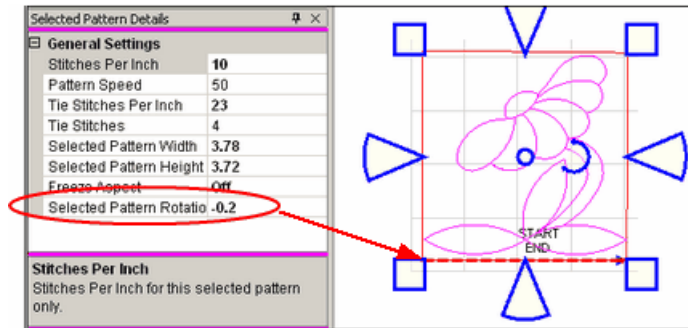
When a pattern is moved into a boundary, it will be aligned to the baseline so if it slopes up (or down) the pattern will be rotated accordingly. The slope is displayed in the Selected Pattern Rotation field of the details.

Exit Setup mode by 1) closing the Settings dialog box, 2) changing to a different quilt group (tab) 3) opening another project. The individual patterns can now be edited in the Preview area as needed.

* The Preview area is focused on the pattern most recently used. To see all patterns

and boundaries, click View All icon.

Save the project.

3.4.2 Edit Mode

Edit Mode means changing the pattern images, not the settings.

Step 6: Adjusting Patterns.
* Click on the pattern within the preview area and resizing handles appear surrounding the pattern. The size and rotation of this pattern is now displayed in the

Selected Pattern Details area (framed in magenta) and the title bar says specifically " Selected Pattern Details". Do Not make any more changes to the original pattern details (framed in blue).

Pattern Size BEFORE being moved into the boundary.

Pattern Size AFTER being moved into the boundary.
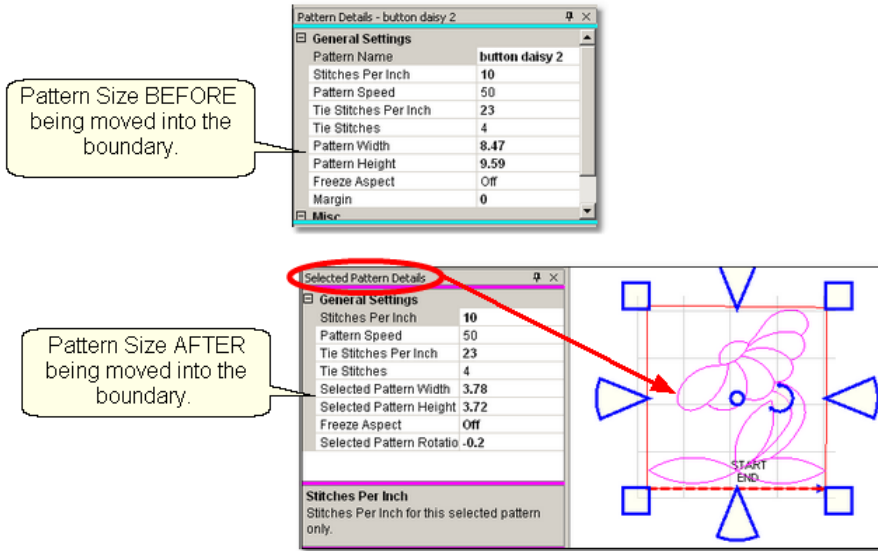
Tip: The pattern details (blue) and the Selected Pattern details (magenta) can be confusing. Be sure to notice the colors and read the title bar to see which details are being displayed.

When a pattern is highlighted in the Preview area, the shape can be changed by using the blue re-sizing handles. The handles have different shapes, depending on their function.

Resize Patterns with square or wedge shaped handles.
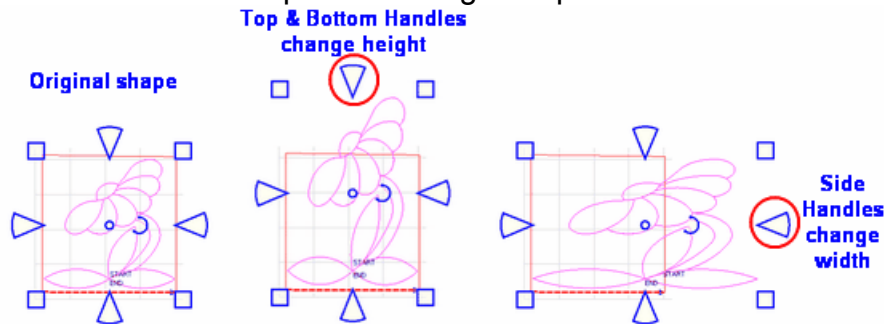
* The wedge shaped handles change one dimension (height or width). When one handle is being dragged, the opposite is the anchor. So, moving the top wedge handle will stretch (or shrink) the shape's height without moving the position of the bottom. Moving the right wedge handle will stretch (or shrink) the shape's width without moving the left side, etc.
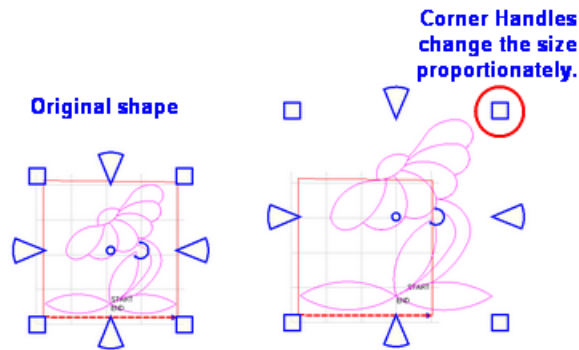
* The square shaped handles will change both dimensions proportionately. Again, when one handle is being dragged the opposite is the anchor. So, moving the upper right corner will stretch (or shrink) the shape proportionately without moving the position of the lower left corner.

Reposition Patterns by grabbing the center circle and dragging the pattern.
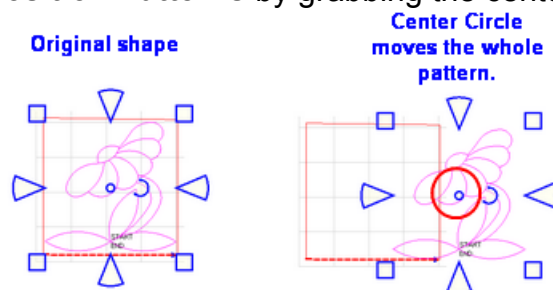
* The center circle will move the entire pattern. When the cursor is over the center circle, it becomes a '+'. Hold the left mouse button down and drag the pattern to the new location.

Rotate Patterns using the curved arrow.
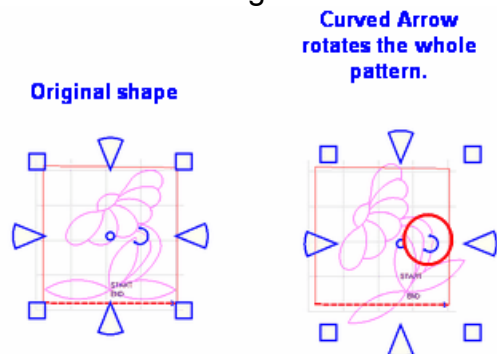
* The curved arrow will rotate the pattern. Move the cursor over the curved arrow and press down on the left button; the center of the curved arrow turns blue. Hold the left mouse button down and rotate the shape.
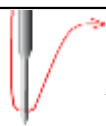
> *TIP: Rotating a pattern works best if the cursor stays away from the center circle. So, click the curved arrow, drag the cursor away (to the right) and then rotate the shape.*

Editing mode is easy as well as powerful. Always remember that "What You See Is What You Quilt", so edit until the pattern looks the way you like.
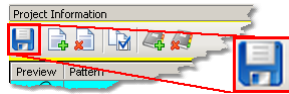
Save the project.

3.5   Quilt Pattern Creating
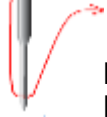
Quilt Patterns can be stitched, restitched, resized, repositioned, rotated, twisted, twirled, tweeked, combined and copied, all of which essentially create new patterns. These powerful options require right clicking the selected pattern(s). It is also possible to use any Windows font to create patterns enabling words or phrases to be stitched.

Review of Selecting Patterns.
    * To select a single pattern, (left) click on it once and it turns pink.
    * To select multiple patterns, press and hold the Control Key down then (left) click on the individual patterns. If the re-sizing handles don't appear immediately, (left) click once on any of the patterns just selected, and the handles will appear.
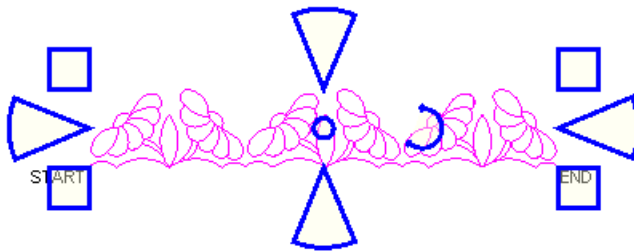
* To deselect pattern(s), click on a different pattern or on any open space in the preview area. Deselecting can also be done by pressing the Escape (Esc) key on the keyboard.

> $\mathcal{TIP}$: It is a good idea to select the patterns in order. Begin with the pattern closest to the 'Start' point and click in sequence toward the 'End' point. Some of the more advanced features of CS stitch the patterns in the order they were selected, so selecting patterns in sequence is a good habit.

3.5.1   Right Click Options

Once the pattern(s) have been selected, right click anywhere inside the re-sizing handles. A dialog box appears that provides more choices for Rotations, Sewing Status and Creating New Patterns. The choices in the dialog box will vary depending on the number of patterns selected. If the right-click options don't appear as shown, left click the selected patterns first, then right click them.
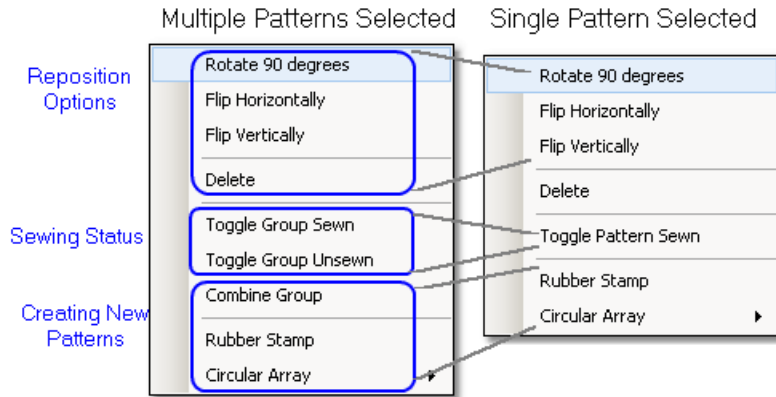
Multiple Patterns Selected   Single Pattern Selected

Reposition Options

Sewing Status

Creating New Patterns

Reposition Options.
 * Rotate 90 degrees - rotates the pattern counterclockwise 90 degrees.
 * Flip Horizontally - turns the pattern sideways.
 * Flip Vertically - turns the pattern upside down.
 * Delete removes the pattern from the preview area.

More Reposition Options
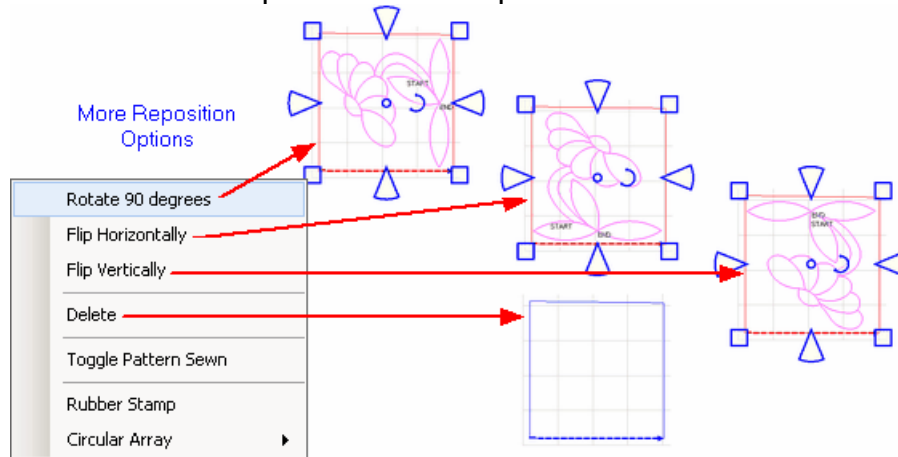
Sewing Status.
 * Toggle Pattern Sewn (or Toggle Group Sewn) means it won't stitch out again.

Sewing Status
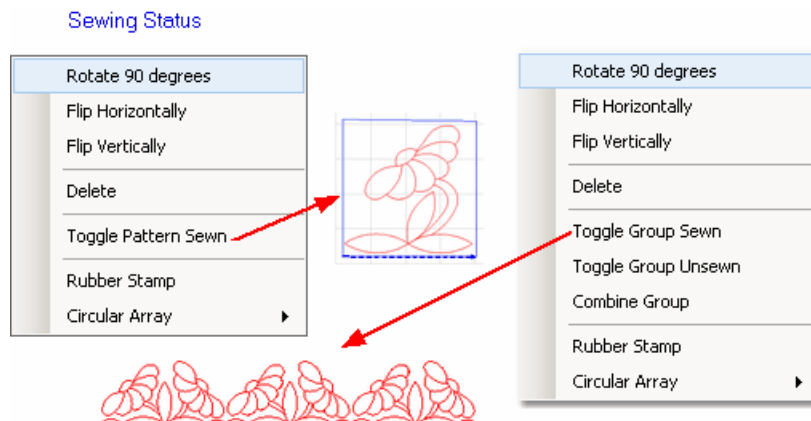
When a selected pattern is changed using "Toggle Pattern Sewn", it

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).

Moving or resizing an individual pattern will change the Sewn Status automatically, from Sewn to Unsewn. This does not happen with groups of patterns however.

> *TIP: Sometimes the last pattern sewn will appear red, but CS wants to stitch it again. This happens when the 'Stop' button is pressed instead of the 'OK' button after the pattern was stitched the first time. To fix this, just click on the last pattern, then right click it, then choose 'Toggle Pattern Sewn'.*

Creating New Patterns.
* 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. This is very handy for sashings and border areas. Be sure to select the patterns in their proper stitching order. Once the patterns are grouped, they can not be un-grouped without using the Undo command (which will undo everything you have changed, not just grouping the patterns).

* 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.

4. Drag the duplicate off of the original pattern and position it as needed.
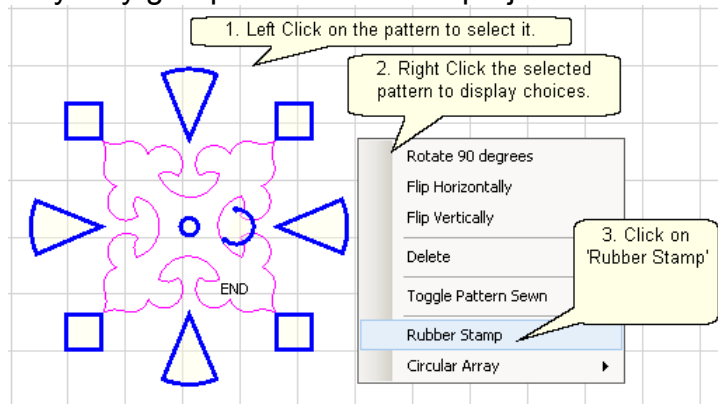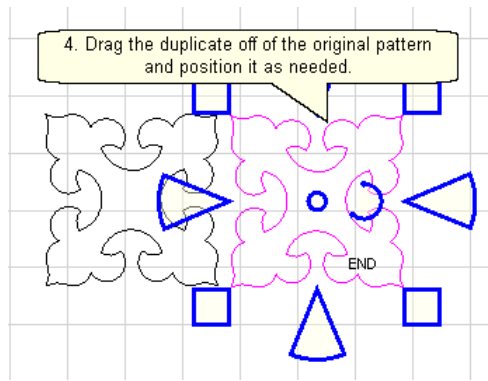
> **TIP:** *If CS tries to stitch a rubber stamped pattern twice, there are probably extra copies on top of the original. Just move the extras and delete them.*

* 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.
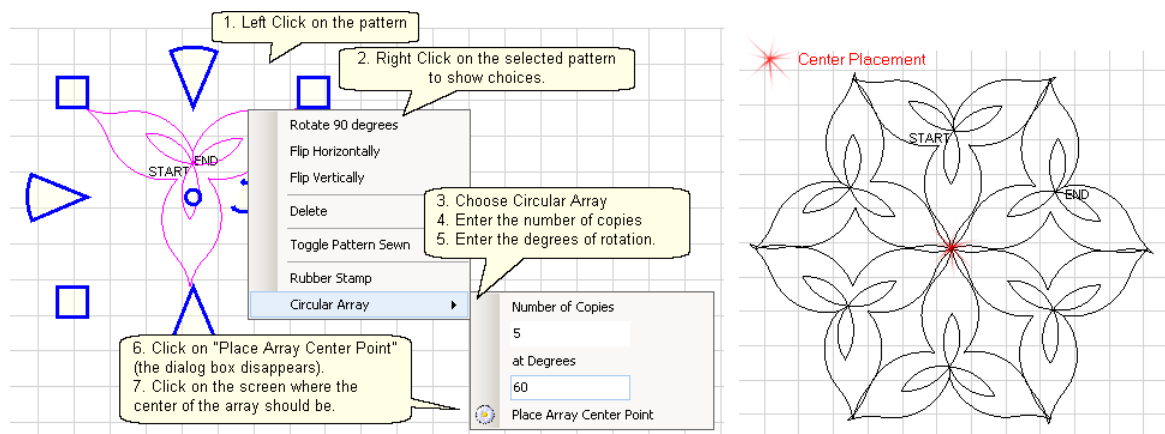
First get a single pattern image onto the preview area using Boundary/Pattern to Boundary or Repeat Patterns.Choose a design that is simple, and will fill a circular space evenly. Dense quilting at the center can make the quilt pucker. Remember that each of the patterns will stitch individually, without stopping between each pattern.

> **TIP:** *Use block patterns for circular arrays. Edge to Edge patterns will work but there will be numerous unconnected starts and/or stops. Once you create a design you like, it is a good idea to group the patterns together.*

Part IV
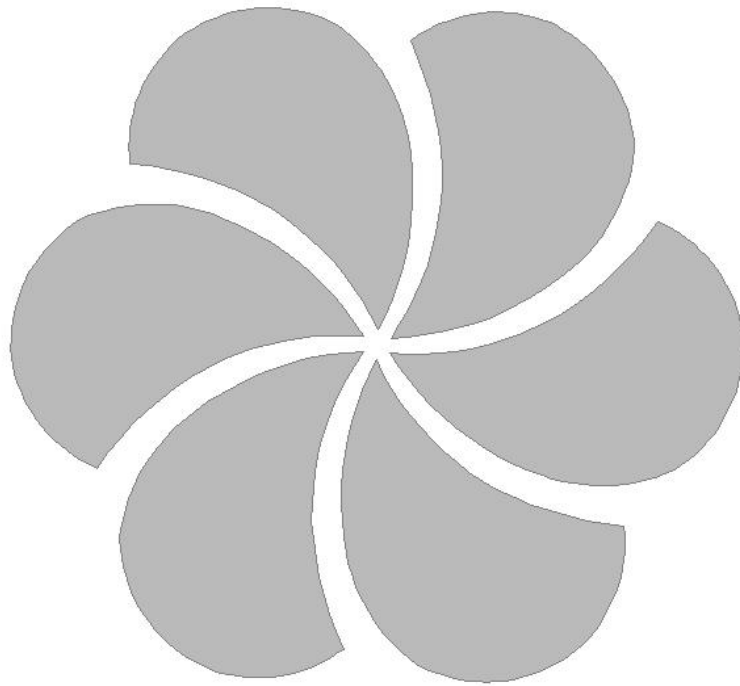
4   Quilting the Quilt - Which CS Feature To use

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.

4.1   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 together 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.

4.1.1   Securing the Quilt using Baste

Securing the quilt is generally hand-guided, done in regulated mode after the belts have been disengaged (regulated mode is explained in the next section). For quilts that only need to be secured on the outer edges, basting is adequate.

Baste Mode
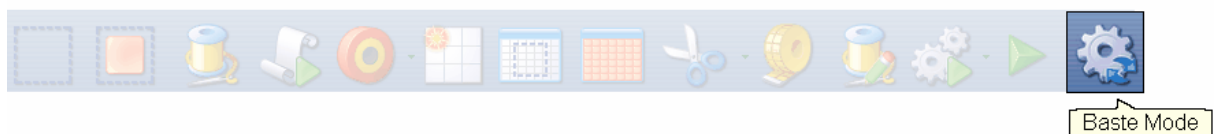
Feature: Baste Stitch
The basting stitch is a long stitch and is often temporary. It is commonly used around the outer edges of a quilt. It might be viewed as being a series of single stitches rather than continuous stitches. The difference is the amount of pressure the hopping foot exerts on the fabric. 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

Quilting the Quilt - Which CS Feature To use
Phase 1 - Basting
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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.
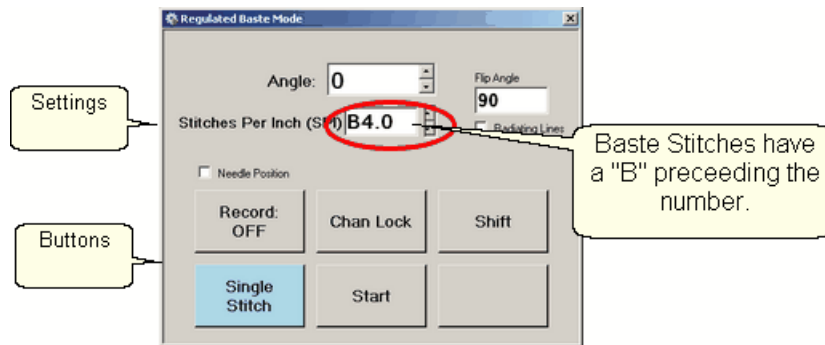
Settings:

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 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 <u>Record function</u> [151] 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.*

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.

When the shift button is pressed, the keypad buttons have additional functions.

To exit Baste Mode, Press and hold the Shift key and press the Exit key

<u>Flip Chan Lock</u> - 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.
<u>Shift</u> - used to display additional functions (light blue buttons) and to execute them.
<u>Change to Need Pos</u> - 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.
<u>Start</u> - starts the stitching process, and STOP ends it.
<u>Exit</u> - To exit regulated mode, press and hold the Shift button and press the Exit button. Using the mouse & screen works too.

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

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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.*

4.1.2   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.
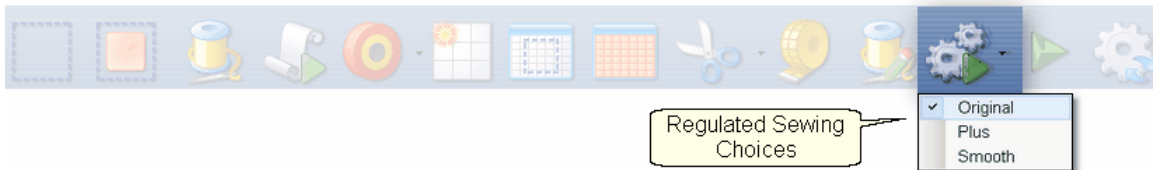
Feature: Regulated Sewing

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[151] 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.

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:* *Generally Regulated Sewing refers to hand guiding the machine after the belts have been disengaged. However, if the path to be sewn is horizontal or vertical, the belts don't have to be disengaged. The sewing head is a bit harder to move with the belts engaged, but it tracks very well horizontally or vertically.*

Additional Functions: These functions (light blue buttons) are initiated by using a

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2-button sequence; press and hold the Shift button and then press the second button.

When the shift button is pressed, the keypad buttons have additional functions.

To exit Regulated Sewing Mode, Press and hold the Shift key and press the Exit key
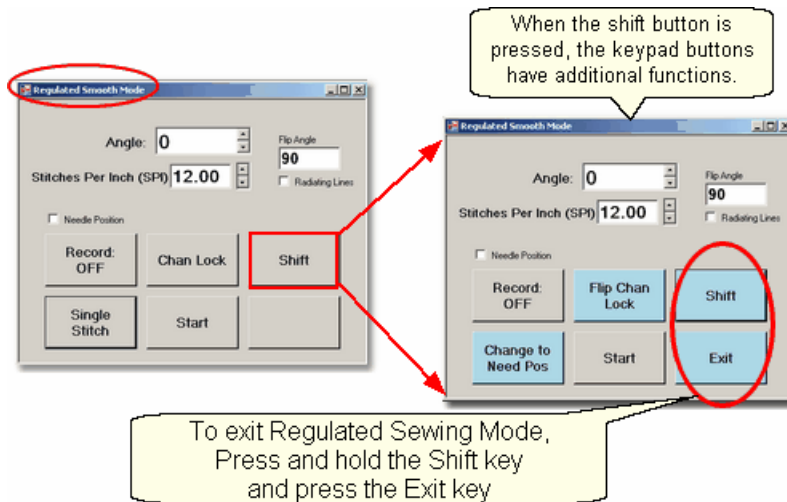
Flip Chan Lock - Changes the current angle.
* If Radiating Lines is not checked, this will replace the current angle to whatever the Flip Angle is set at. To flip the angle, press and hold the shift button on the keypad, and press the Chan Lock button. To flip it back again, repeat the 2-button sequence.
* 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 <u>Start</u> on keypad when ready to sew and the button label changes to <u>Stop.</u>
The dark blue button means the stitcher is running.

When the stitcher is running, the keypad buttons also have additional functions.
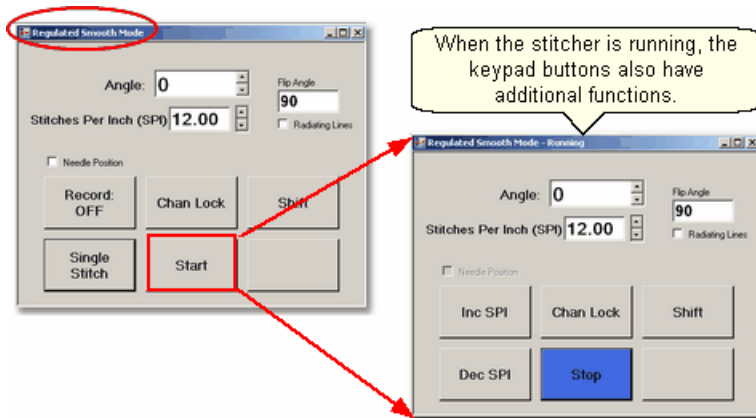
Notice that the two buttons on the left have changed in meaning.
> <u>Inc SPI</u> means Increase the stitch size.
> <u>Dec SPI</u> means decrease the stitch size.

4. Press <u>Shift</u> and <u>Exit</u> on keypad when ready to exit regulated mode.

Quick Reference Regulated Sewing ¹⁶⁵

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4.1.3   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.
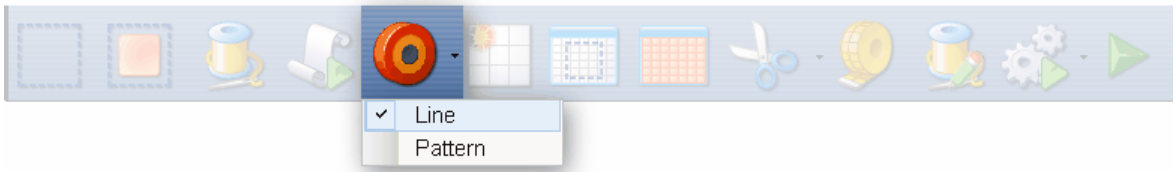
Feature: Point To Point - Line

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** -
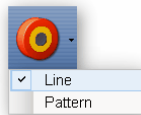
This is one of the choices presented when clicking on the black arrow to the right of the P2P icon.

2. **Click on the P2P icon -**
A dialog box appears with options.
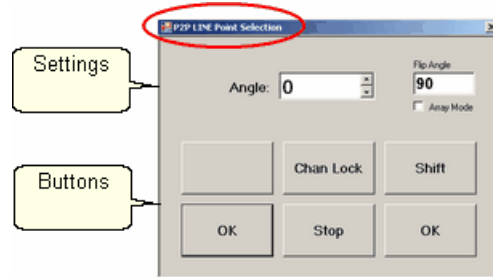
Settings:
Angle: This is the current angle that will be used when the Channel Lock is turned
     on.
Flip Angle: If array mode is not checked, this angle replaces the current angle. To flip
     the angle, press and hold the shift button on the keypad, and press the Chan
     Lock button. To flip it 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-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 'doink' noise every time the OK
button is pressed. This sound confirms that the point has been registered. This also
appears in the preview area of the screen.

4. **Press 'Stop' to complete the line segments**. The images appear in the preview
area. Check it before stitching.

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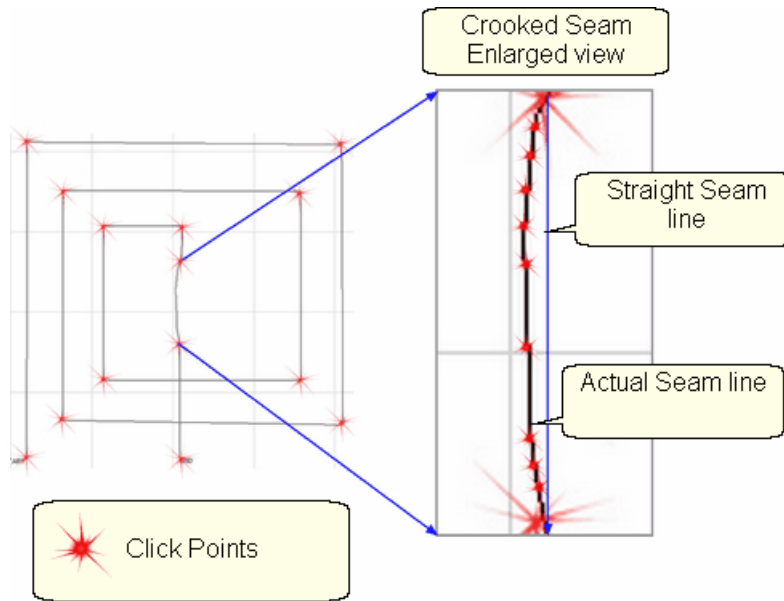
Tip: *P2P-Line is an accurate way to follow a seam. When the seam has a curve in it, the P2P click points can be very close together, following the curve of the seam. If it is straight, the click points can be further apart.*

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 decreated while stitching, using the keypad. SPI and Tie-off setting are inherited from the project.*

6. Press OK when ready to quilt,
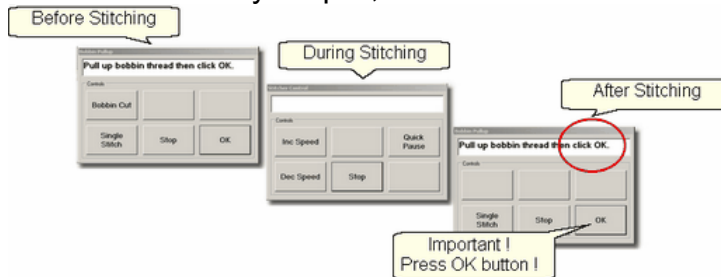
7. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Precision Stitich p.s.	*Tip:* *At the end of the stitching, pull up the cut the bobbin thread and be sure to press the OK button, not the STOP button. 'OK' means the stitching is done completely. 'Stop' means the process was stopped before it was finished.*

Quick Reference P2P Line [167]

4.2   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.

4.2.1   Define the Block using Boundary

This is a process where the quilt block shape is traced with a series of clicks, 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'.
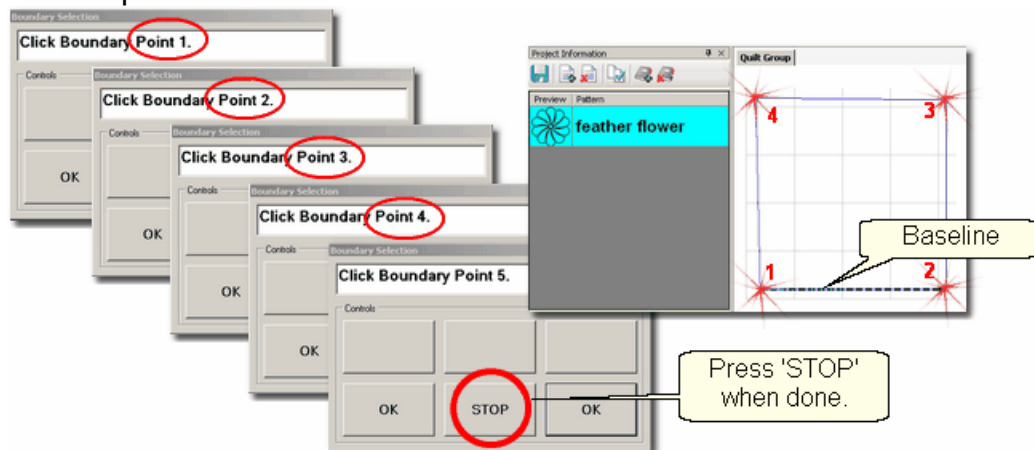
3. An image of the bounded area appears in the preview area. The first two points define the baseline 75 and the pattern will be squared up to this. The square block boundary shown required 4 clicks to define it. Pressing the Stop button completed and enclosed the area. Create multiple boundaries at 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. There is no limit to the number of boundaries either.*

4. Click View All icon   to adjust the screen so that all boundaries can be seen. Check it before continuing. Add a background grid 31 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.
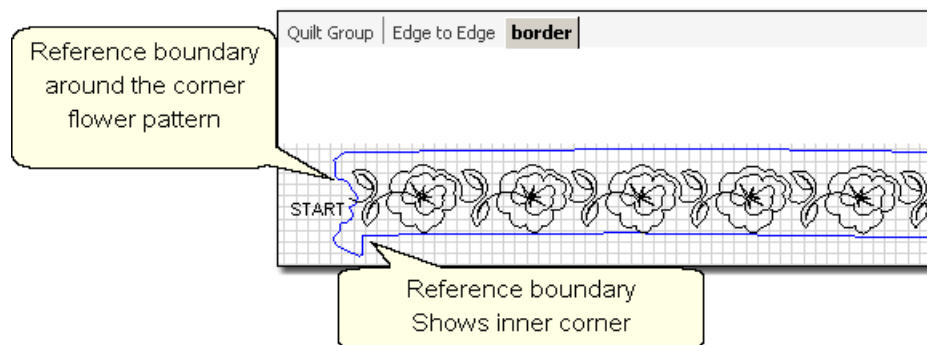
> *Tip:*   Reference boundaries are extremely useful! They can be used to essentially trace the quilt top on the screen, to guarantee accurate pattern placement.

4.2.2   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.

Steps to follow:
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.

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Click on the pattern image to select it. The Pattern Details appear below (framed in blue).

Click on the boundary to select it. (It will turn red).

These settings define how the pattern will be stitched.
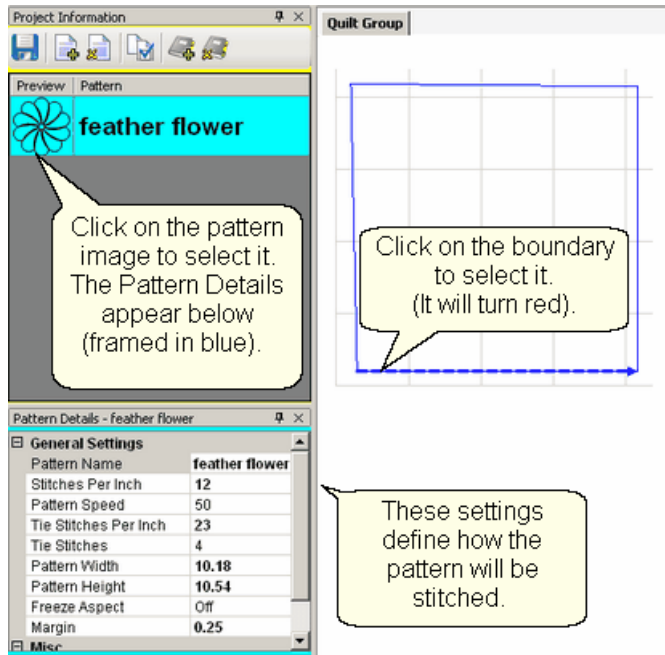
2. Click on Pattern Into Boundary icon and the pattern will appear inside the bounded area in the preview area.

3. Click on the pattern in the preview area to select it.

The Settings show the size and rotation changes.
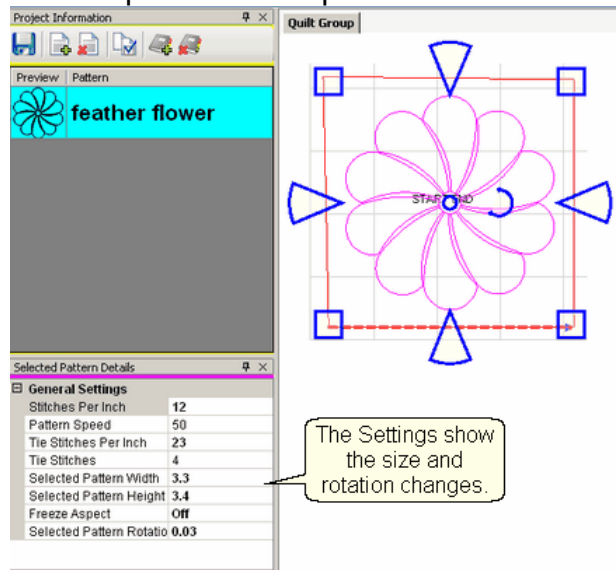
In this example, CS resized the pattern to fit the bounded space:
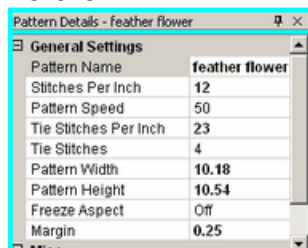
Before: After:
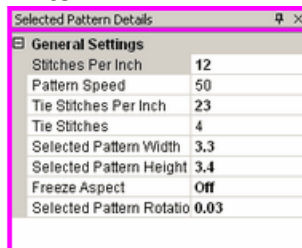
The original pattern (step #1) was 10.18" x 10.54".
The bounded pattern (step #3) is (3.3" by 3.4").
Notice that the margin 73 of .25" was maintained.

* CS rotated the pattern to align to the baseline 75 of the bounded area. The new rotation is tiny so it is not noticeable. At this point, we are still in Setup Mode 68 so any change to the Selected Pattern Details 48 will be reflected in the preview area.

4. Edit the size or placement of the pattern inside the bounded area and make changes if needed. Save the project 60 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.
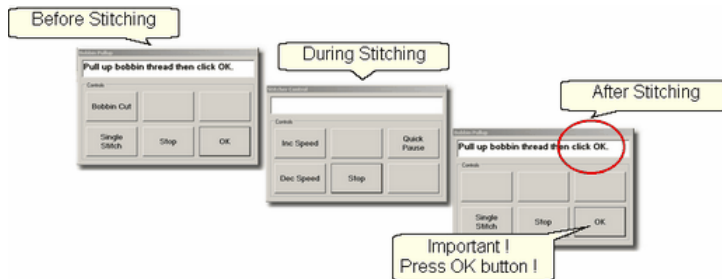
At the end of the quilting sequence, CS prompts to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Quick Reference Single Block 171

4.2.3   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 95 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.

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Steps to follow:

1. Be sure the correct pattern is highlighted.
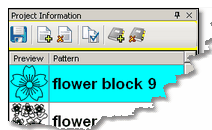
2. Click on Repeat_Patterns icon

CS asks for a Reference Point.
You can click on that now, or change the
Repeat Settings first and then choose the
reference point.

Click OK to set Reference Point.

Controls

OK   Stop   OK

.
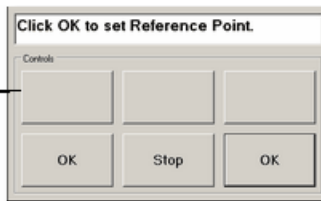
Tip: *It is easier (but not essential) to make changes to the settings before clicking on the reference point. If you forget, CS will move only one repeat into the preview area and it will be the size of the default dimensions. Don't worry, you can still change the size, the number of repeats and rows.*

3. Make changes to the settings if desired. The example shows changes to the pattern size and to the repeat settings (2 repeats, 1 row).

Pattern Details 51

Offset from Point	0 Horiz	0 Vert
Pattern Details	
Lock Pattern as [	Off
Freeze Aspect	Off
Pattern Width	2.36
Pattern Height	4
Individual Pattern	0
Repeat Settings	
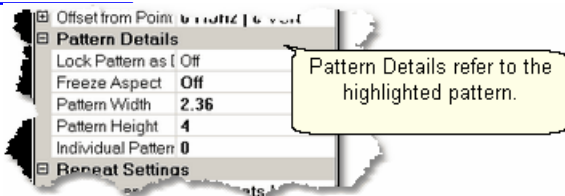
Pattern Details refer to the
highlighted pattern.

* Lock Pattern as 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.
* Individual Pattern Rotation - is the number of degrees that each pattern is rotated.
    This applies to each pattern individually, not collectively.

Repeat Settings 51

Individual Patte...	
Repeat Settings	
Repeats and Ro	2 Repeats	1 Row
Total Width	5.72
Total Height	4
Start End control	Off
Spacing	1.0 Horiz	0 Vert
Square Up Quilt.	0
Select Between		BobbinPullUp
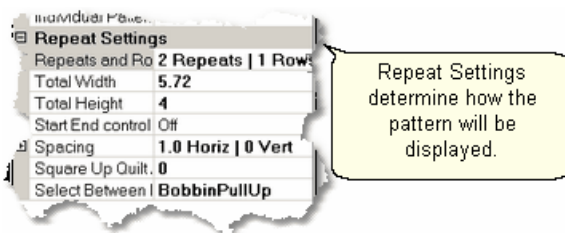
Repeat Settings
determine how the
pattern will be
displayed.

* Repeats and Rows - is the number of repeats (across) or rows (down) desired.

* <u>Total Width</u> - is the width of all the repeats (measured from either the start/end points or measured from the outer edges of the patterns - see below).
* <u>Total Height</u> - is the height of all the rows (measured from either the start/end points or measured from the outer edges of the patterns - see below).
* <u>Start End Controlled</u> [125] (ON / OFF) means the total width/height is measured between the start / end points rather than the outer edges of the patterns.
* <u>Spacing (Horiz / Vert)</u> is the distance between patterns. Positive numbers spread the patterns further apart and negative numbers bring them closer together.
* <u>Square Up Quilt Angle</u> - is the number of degrees of rotation applied to the pattern group. This applies to patterns grouped together.
* <u>Select Between blocks</u> - 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.

Reference Point Location [50]

Reference Point Selection is specific to the pattern, BEFORE the Square Up angle rotates the pattern.
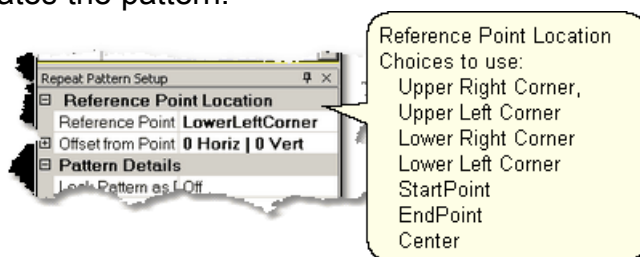
* <u>Reference Point Position</u> is how CS knows where to put the pattern image. It will appear in the preview area as a small blue circle with an arrow.
* <u>Offset from Point</u> - is the distance (H and V) between the clicked reference point and what the pattern will use as a reference point.

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These are all examples of the Reference Point being the Lower left Corner.

Pattern will stitch like this when Square Up Angle= 270.
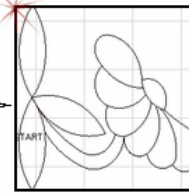
Pattern will stitch like this when Square Up Angle= 180.
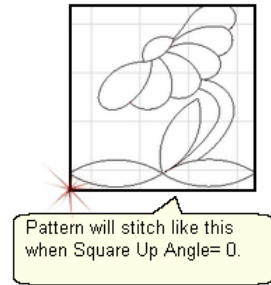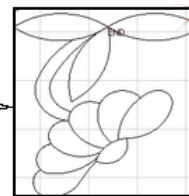
Pattern will stitch like this when Square Up Angle= 0.

Pattern will stitch like this when Square Up Angle=90.

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.

Reminder: Any of the process (Repeat Pattern Setup) details can be changed until you exit Setup Mode. Then, none of them is accessible, and all changes have to be done in Edit Mode which means the changes are made to the image in the preview area. Save Project Settings 60 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 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.
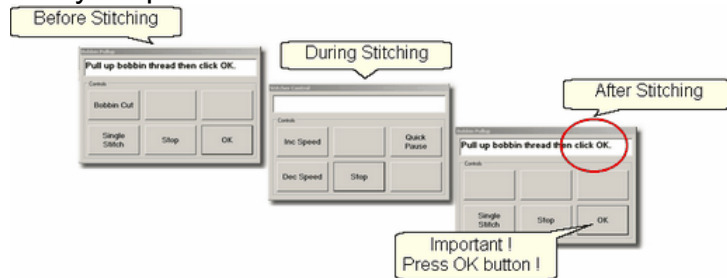
At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

> *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, and choose the "toggle as unsewn". Reposition the pattern if needed and click on Quilt icon to stitch it again.*
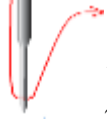
4.2.4   Stitch Partial Patterns using Trim-Outside

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.
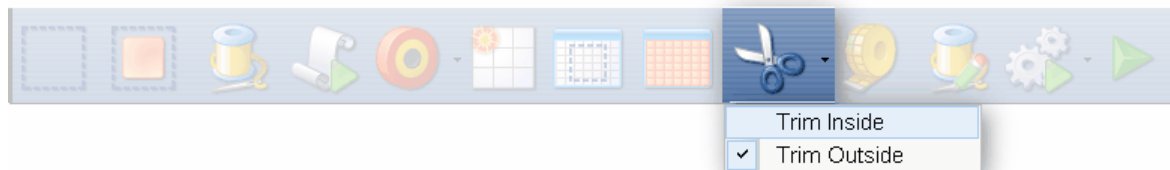
Feature: Trim Pattern - Outside

Assumptions: This assumes that the following preparation steps have been completed.
Prep Step #1. Click on Boundary icon. Define the boundary 95 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.
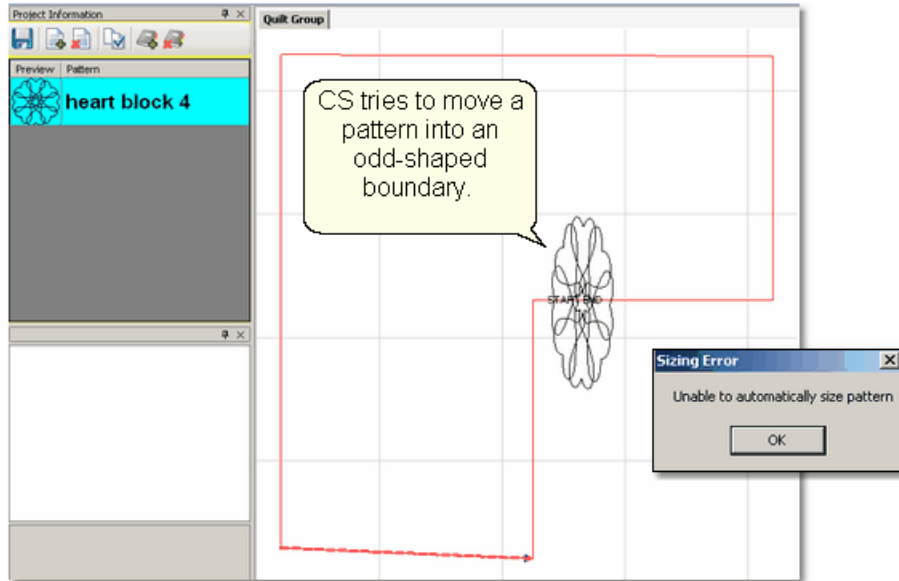
It will generate a warning message, but will still try to resize the pattern. Click OK to clear the Sizing Error box.
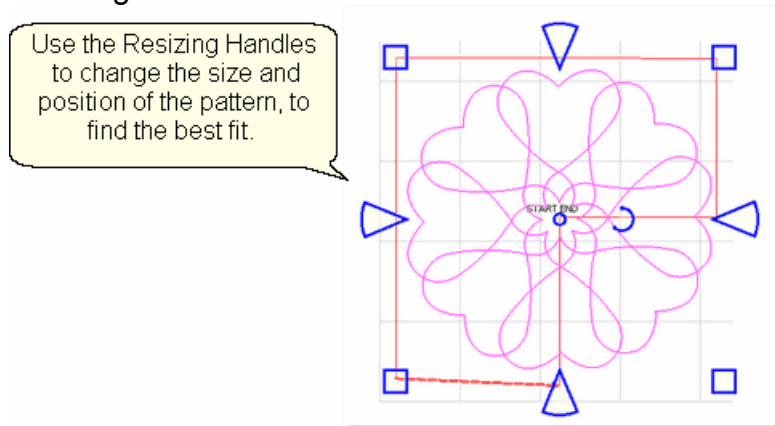
Prep Step #4. Click on the pattern and resize [77] using the handles until satisfied.

Steps to follow:
1. Choose Trim Outside.
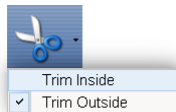
This is one of the choices presented when clicking on the black arrow to the right of the Trim icon.

2. Click on the Trim icon.   CS will prompt for a Trim boundary.

Click as many points as needed.

Press Stop when done.

3. Click Stop when done and CS will erase everything outside the boundary.

Two boundaries lines show: One from the Trim function and one from the initial boundary definition.

Everything outside the Trim boundary has been removed.
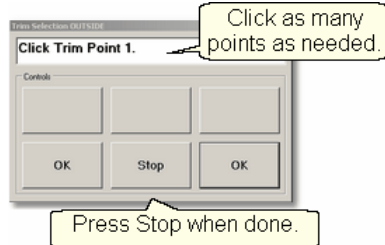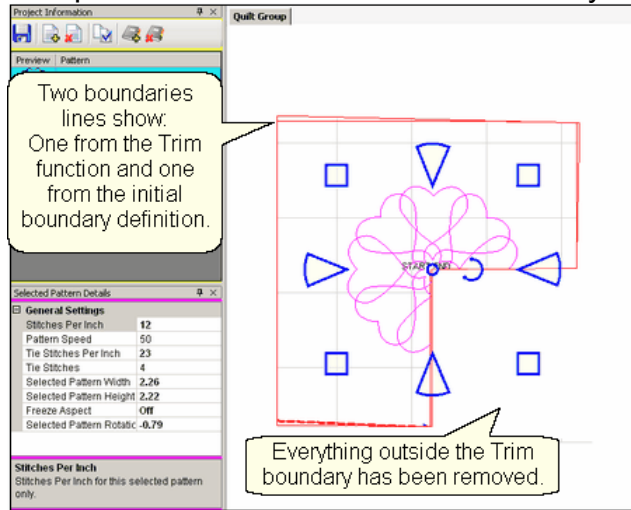
Tip: CS hasn't really deleted any of the pattern. It just won't sew outside of your boundary. Therefore, you can click inside your boundary to select the pattern and reposition it or resize it until it fits perfectly.

4. Reposition the pattern image. Click on the pattern(s) to select if needed. Use the handles (blue) to re-size ⌐77⌐, rotate ⌐78⌐ and reposition ⌐78⌐ the pattern so it aligns to the Trim boundary. Save the project ⌐60⌐.

Before Resizing

After Resizing
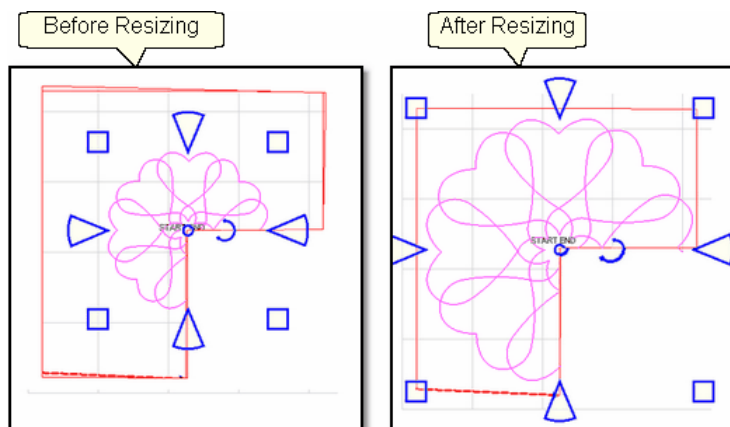
5. **Click on Start_Quilting**

> *Tip: Be Patient!* CS takes a little time before it moves to the beginning of the pattern and starts to quilt. CS needs to examine every TRIM boundary and identify where each additional tie-off goes.
> *Be Patient when doing a restart too* - it takes time.

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 eliminated some of the pattern so tie-offs will be done at the beginning and end of each of the remaining pattern segments. To avoid thread breaks at these extra tie-offs, CS will finish a segment with a tie-off, and instead of moving directly to the beginning of the next segment it goes past about 1/4" and comes back to the correct spot. This pulls just enough extra thread to reduce the stress and prevent thread breaks when doing the next tie-off.
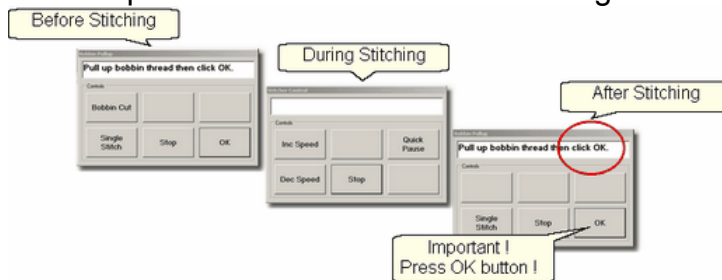
At the end of the quilting sequence, you will be prompted to pull up the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

> *Tip: Multiple "Trim-Inside" boundaries are possible in one quilt group but only one "Trim-Outside".*

[Quick Reference Trim Outside](#)¹⁷⁹

4.2.5   Stitch a Composite Pattern

Composite patterns can be created using any patterns but [block patterns](#)[65] and [P2P patterns](#)[66] 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.

Repeat Pattern feature used to create the 4 repeats. Each pattern was repositioned as needed.
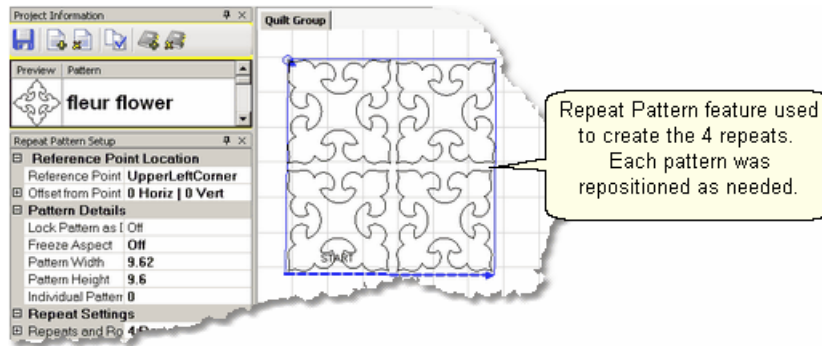
In the example above, the pattern was rotated 45° to fit the space. To move the patterns into the preview area, Repeat Patterns 98 was used (notice the reference point 100 mark in the upper left corner of the block). The patterns are easy to individually reposition 78 inside the block. If this composite pattern is going to be used repeatedly, it may be a good idea to group the four patterns, making it one pattern.

Example 2: Sometimes the patterns need to overlap to provide consistent density. The individual patterns are harder to identify when they overlap too.

Pattern to Boundary was used 4 times. Each time the pattern was rotated and repositioned.
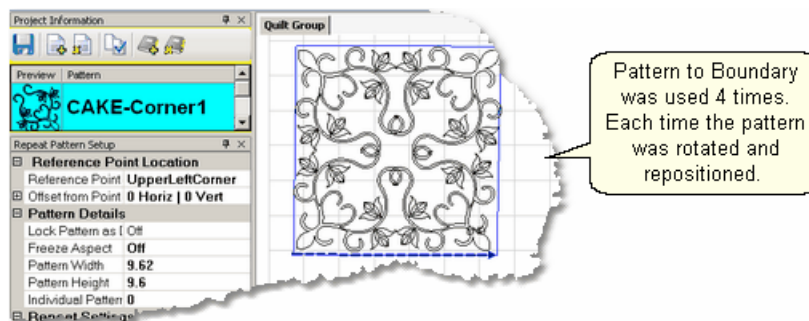
Multiple copies of the pattern were placed by defining the boundary first, then using Pattern to Boundary 96 four times. Each pattern was moved into the boundary, then selected, repositioned 78, resized 77 and rotated 78 to fit one of the four quadrants. After all four patterns were placed and then they 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.

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.

Pattern to Boundary was used for the center motif. Repeat Patterns was used for the corners.
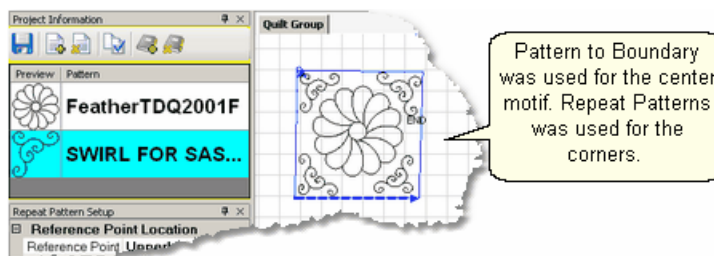
In this example, Pattern to Boundary 96 was used for the center motif. Repeat Patterns 98 was used for the corners. Matching the scale of the two patterns meant

that the center one was reduced a bit to make more space available for the corners. Each corner was rotated, [78] resized [77] and repositioned [78] individually. If these patterns will be used repeatedly and the piecing is very accurate, this would be a good set of patterns to rubber stamp. 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.
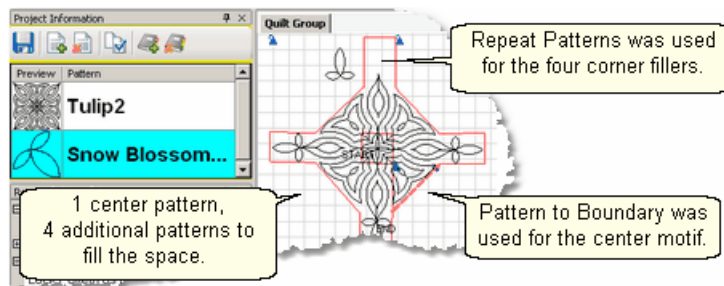
The center pattern was rotated and placed first. The four triangles were sized next and then rotated to the correct orientation. (The top triangular pattern is detached to demonstrate how the patterns fit.) This might be a good set of patterns to rubber stamp too.

Example 5: Even Point To Point patterns can be used to fill a block. In this example, one of the four P2P patterns [128] has been stitched so it is red.
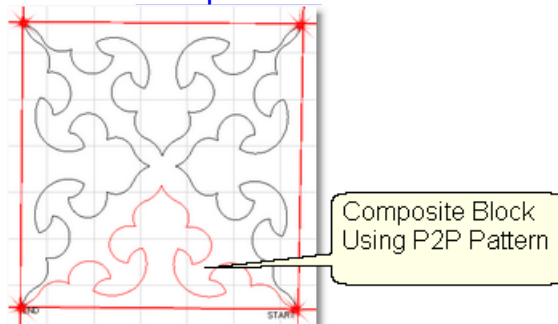
The pattern's shape was triangular, and the P2P clicks were done at the corners of the square block. It took five clicks to complete this design; the last click and the first click were on the same point which connected the patterns. Originally, because the patterns were triangular they touched at the 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.

4.2.6 Creating Text Blocks

Another composite pattern is created using the Text Property, which is a Right Click Option. This will allow text to be typed, placed, and stitched. This feature is done in the preview area in an open space, not on an existing pattern. Text patterns let you personalize your quilts with logos, dates, names or greetings.

Feature: Creating Text Blocks

Assumptions: Quilt is loaded and stabilized, machine is threaded, bobbins wound, belts engaged and patterns have been chosen. Reference boundaries are recommended.

Steps to follow:

1. Right Click in an open area of the preview area. It is a good idea to have created 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. Remember that CS will treat each phrase as a pattern, so if your phrase needs two (or more) lines, you need to create 2 (or more) text patterns.

4. Click on 'Place Text' when done, and the Font dialog box appears.
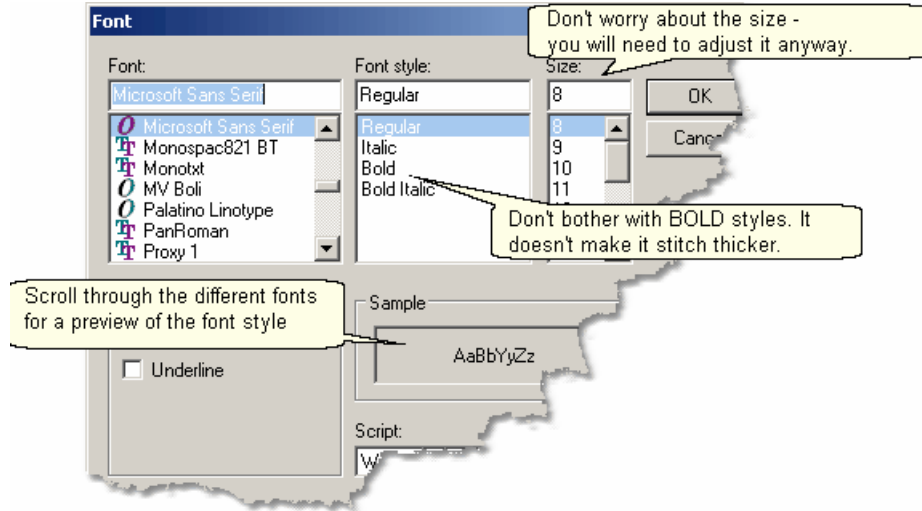
5. Choose the font style you like. By scrolling through the choices, you can see what the style looks like in the 'Sample' box. Add italics if desired, but don't bother with a bold style - its not like the thread can get thicker for you. Choose any font size because you will need to modify it to fit your boundary anyway.

6. Click 'OK' when ready and the pattern is moved into the preview area of the screen. Resize as needed.
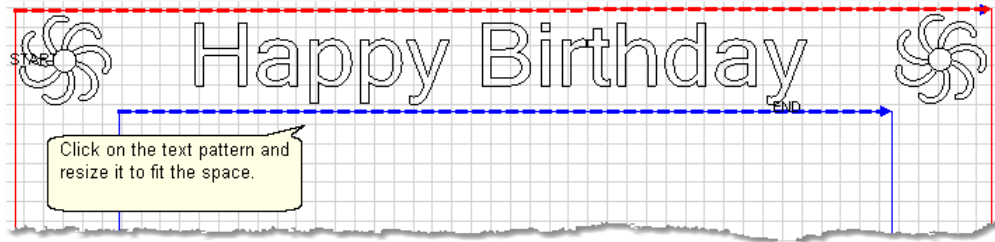
TIP: CS will stitch the first letter and move to the next without stopping and prompting for a bobbin pull-up, so be sure to set the tie-off stitches (and stitch length) appropriately.

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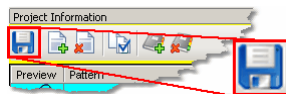
8. Click on Start_Quilting and the sewing head will move to the Start of the first pattern. CS will prompt for pulling up the bobbin thread and choosing OK when ready to quilt.
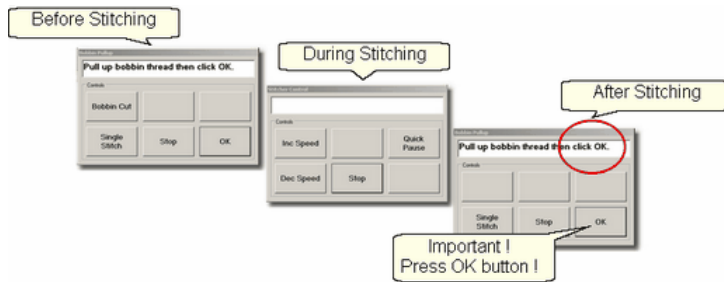
At the end of the quilting sequence, you will be prompted to pull up the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

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 in a favorite quilt.

4.3   Phase 3 - Borders

Borders are (usually) continuous line patterns designed to be stitched repeatedly across an area. When patterns are used for the corners, they are usually stitched first. Then, the border pattern is then stitched multiple times, in one continuous line, connecting the corners.
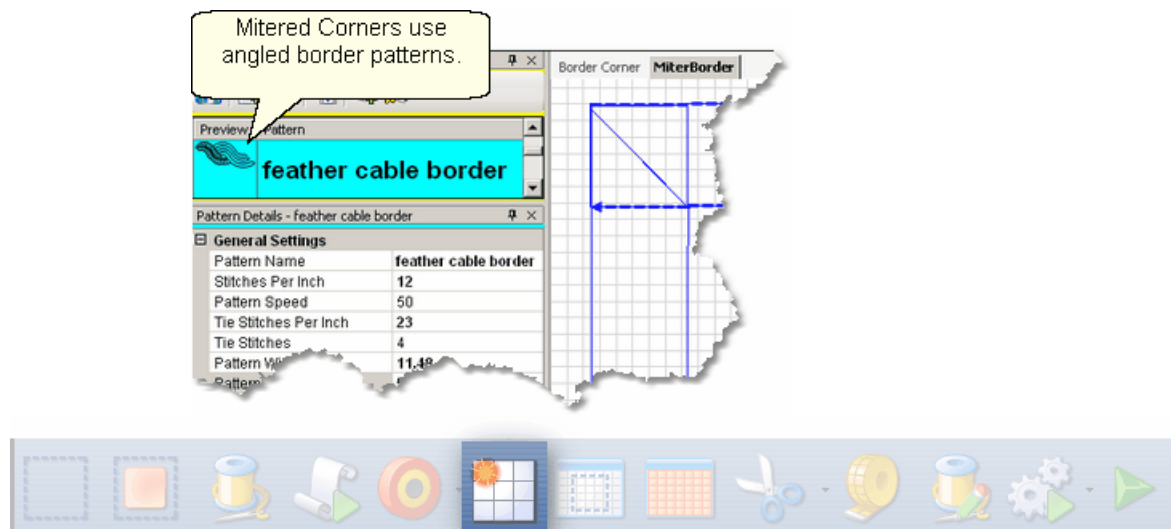
The top and bottom borders can be done in one pass, but the side borders can't always be done in one pass. When the side borders are longer than the quiltable surface area, they can sometimes be done in sections. With certain designs, it might be better to remove the quilt from the frame, rotate it and re-load so the side borders (which are now at the top and bottom) can be done in one pass.

Border designs need to be planned with the corner in mind. Sometimes the piecing and seam lines will suggest a method but the final decision probably depends on the available patterns.

Four examples will be shown in the following section.
1. Butted borders [115] have no corner. They stop at the edge of the quilt or at the edge of the border.
2. Mitered Corners [118] use the angled ends of the border pattern to create a mirror image.
3. Square Corners [121] are like cornerstones where a separate pattern is used to fill the space.
4. Custom corners [124] 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.
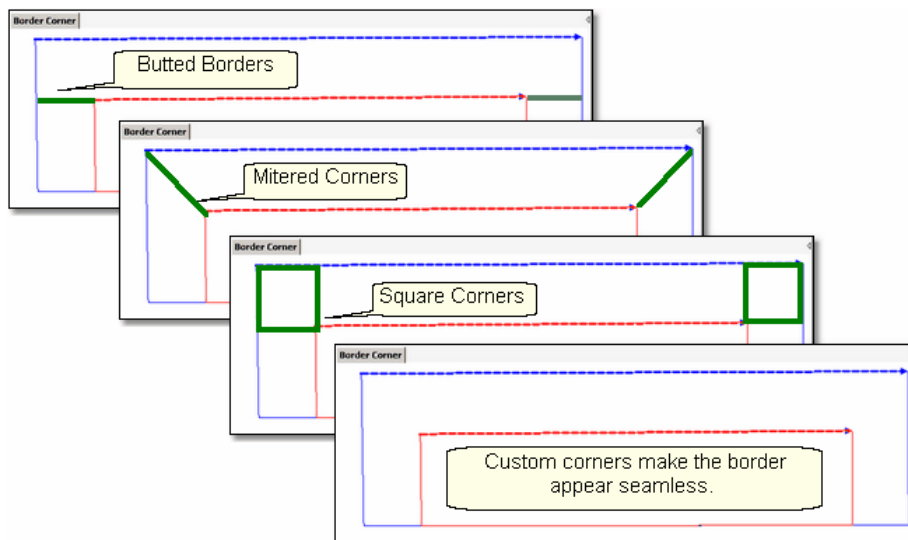
Butted Borders and Mitered corners do not use the Border/Corner feature of CS. Borders with square corners or custom corners do use the Border/Corner feature.

Tip: 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.*

The pattern placement sequence and stitching direction is also important. Patterns will stitch out in the same sequence as they were placed, and they always stitch from Startpoint to Endpoint.
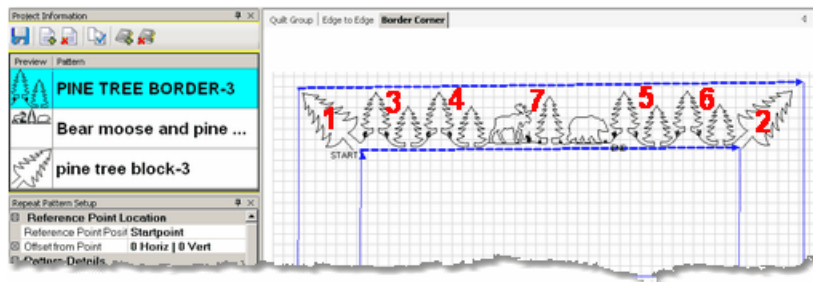
In this example, the patterns were **placed** in the top border by doing:
* Corners first (Border/Corner 112 feature with 'Pine tree block-3') Pattern #1-2.
* Border pattern next (Repeat Pattern feature with 4 repeats of 'Pine Tree Border-3') Patterns #3-6.
* Additional border pattern last (Repeat Pattern feature with 1 repeat of 'Bear moose and pine'). Pattern #7.
The patterns will stitch out in the sequence noted (in the diagram above) which will result in lots of tie-offs or dragged threads. A better method is to change the sequence by turning off (toggle as sewn) some of the patterns.

To do this:
1. Turn off #5, #6 and #2 (toggle as 'Sewn').
2. Quilt #1, #3, #4 and #7.
3. Turn on #2 (toggle as 'unsewn')
4. Quilt #2.
5. Turn on #5 and #6 (toggle as 'unsewn')
6. Re-measure the distance between the end of pattern #7 and the start of #2.
7. Change the width of the last 2 patterns to fit that space.
8. Quilt #5 and #6.

4.3.1 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).
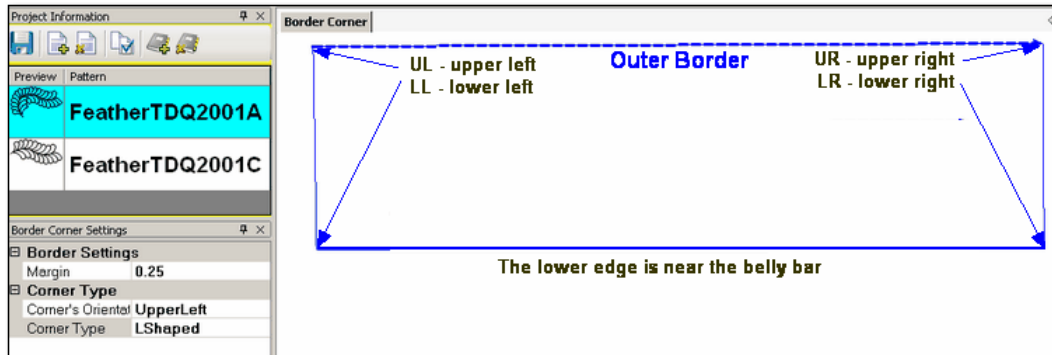
   Click Inner border next (UL, UR, LR, LL corners).
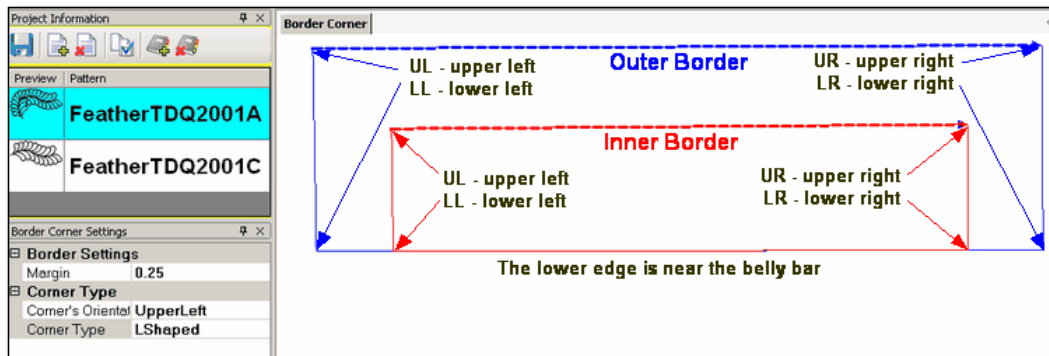
The image of the Outer Boundary is blue and the Inner Boundary is red. CS can tell if this is an upper or lower border by the distance between the two boundaries. If the bottom edges are very close, it is an upper border. Conversely, if the top edges are very close, it is a bottom border.

3. Edit the Border Corner settings, choosing the type and orientation that best fits the corner pattern. Here are some examples of corner types.
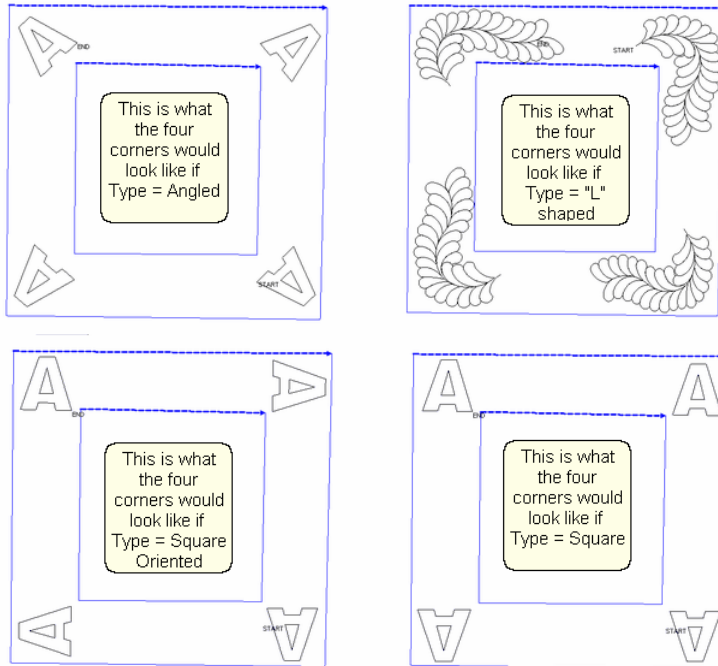
Corner Types:
* "L" shaped corners extend past the corner into the border area.
* Square corners have the top upright and the bottom upside down.
* Square oriented corners are rotated in 90 degree increments.
* Angled corners are angled toward the inside at each of the four corners.
4. CS moves the corner pattern into the preview area.
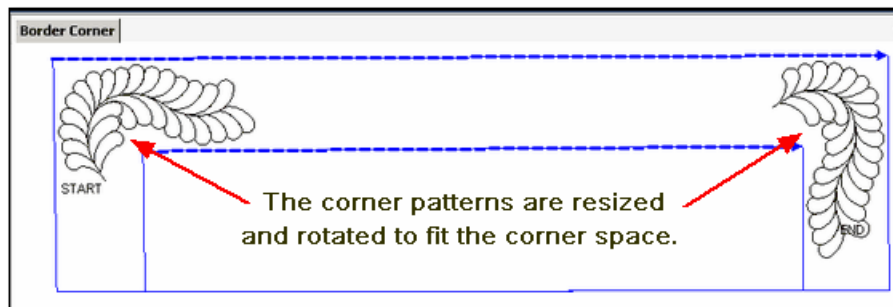
If adjustments are needed, click on the pattern to select it (pink) and then resize and/or repositioned as needed. Don't forget to save the project 60.

> *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 corner adjustments. A safer method is to add the images of the repeated border patterns into the preview area to see how they fit. Then you can stitch the corners.

> *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.
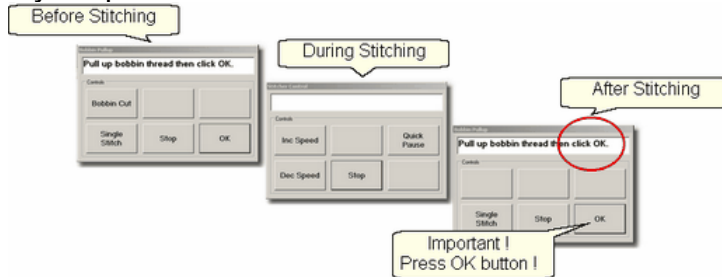
CS will stitch the first pattern and move to the next, repeating the prompts for bobbin pull-ups. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

> *Tip:* CS will stitch the patterns in the order they were moved into the preview area, so it will stitch the left corner, then the right corner, and then any connecting repeats that have been moved into the border area. If you toggle the right corner as being sewn, CS will start stitching the left corner and continue to stitch the connecting repeats. If shrinkage is not an issue, when CS is stitching the last repeat, toggle the right corner as being unsewn, and CS will continue, stitching the right corner too.

The Border Corner process is repeated at the bottom edge. CS will determine that it is at the bottom edge and will position the corners properly.

Quick Reference Border-Corner [176]

4.3.2   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 (blue) 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 71 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 99.

3. Measure 71 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 all four borders are the same size. Minor differences (< 5-10%) can be handled easily. Significant differences require that each border be planned separately.*

4. Boundaries 96 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.
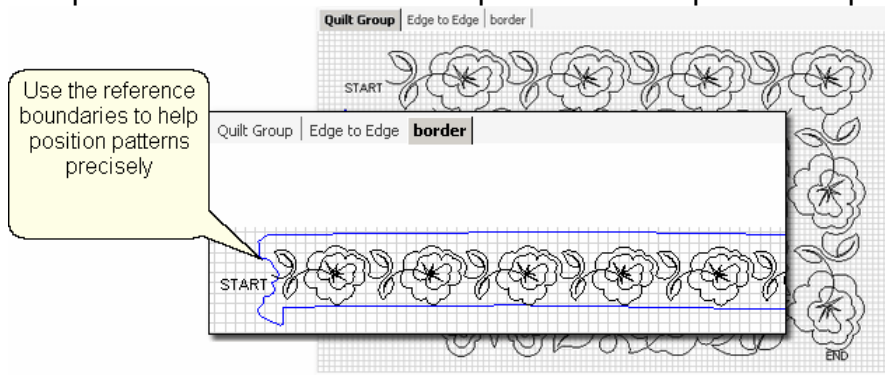
5. Click on Repeat Patterns 98 icon. CS asks for a Reference point.

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.
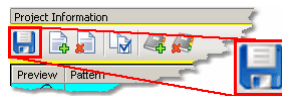* Transfer the border width measurement into the Total Width field, and CS will calculate the number of repeats needed.

7. Choose a Reference point [100].
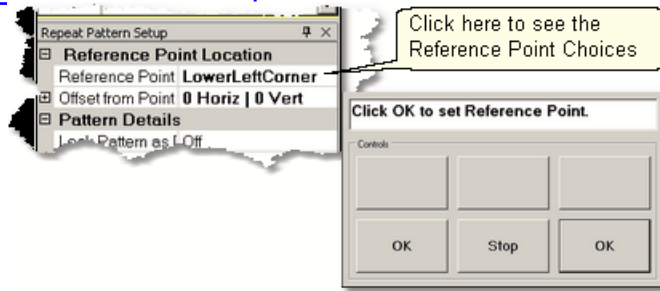
Move the machine head to that reference point and press OK to set it.
CS moves the pattern(s) to the area anchored by the reference point. The position of the pattern repeats can be changed easily.
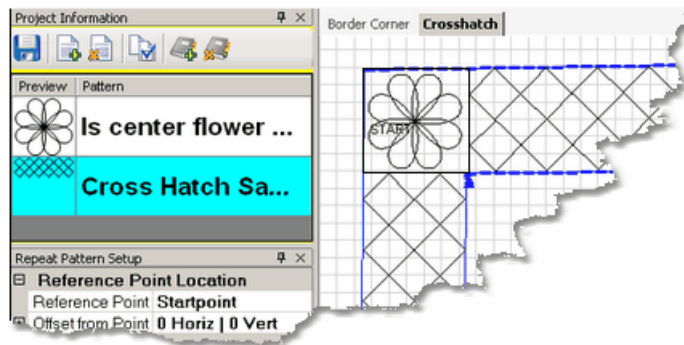
8. Edit the size and repeats using the Pattern Details [99] or Repeat Setting Details [99] first.
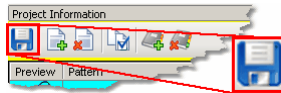
When done, Save the project [60].

9. Make final adjustments [76] in the preview area last.

10. Click on Start_Quilting and CS moves the sewing head & prompts for bobbin pull-up.
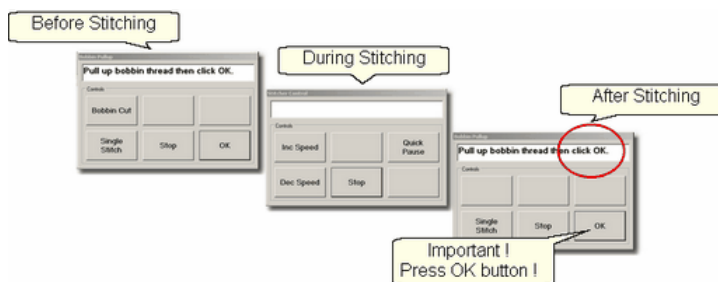
11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

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 tie-off.*

4.3.3 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 flipping the patterns horizontally and/or vertically 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 (blue) 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 [71] 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 [99].

3. Measure [71] 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.
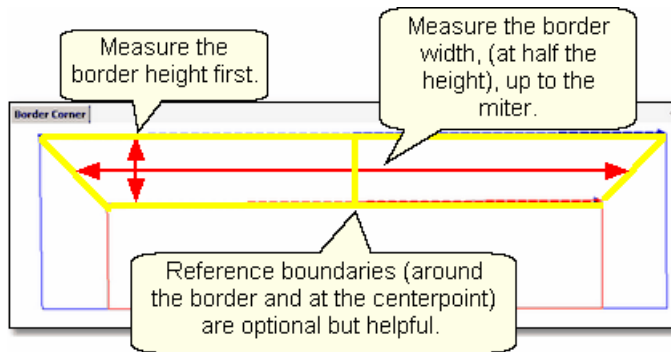
4. Reference Boundaries [96] are optional but very helpful because they will show (in the preview area) any curvature in the seamlines. When using directional border patterns, the centerpoint becomes very important so add a boundary there too.

5. Click on Repeat Patterns [98] 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.*

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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 point [100].
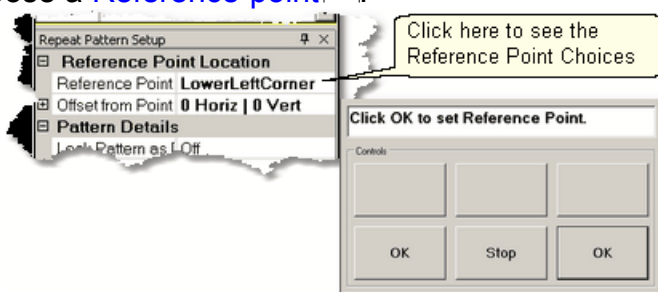
Move the machine head to that reference point and press OK to set it.
CS moves the pattern(s) to the area anchored by the reference point. If the reference point clicked (on the quilt) is not the point being requested by the screen, just change the screen choice and the patterns will change.

8. Change the size and repeats using the Pattern Details [99] or Repeat Setting Details [99] 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.
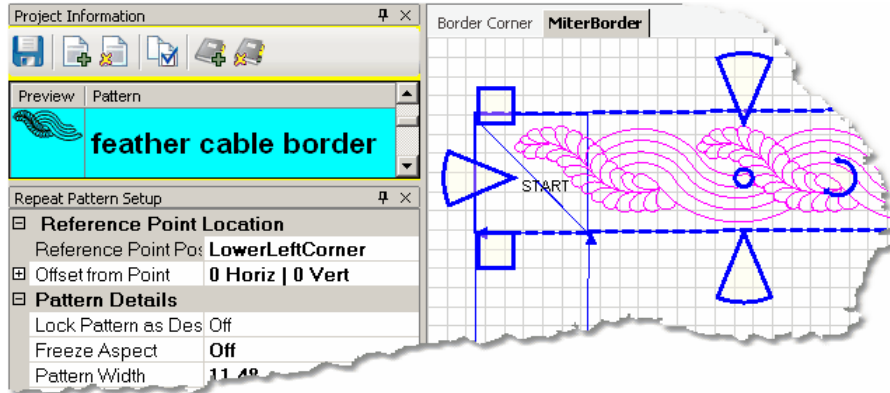
> ✏️ *Tip:* *To reposition all the patterns together, they must be selected as a group. To do this press and hold the Control key while clicking on the individual patterns. Once they are all selected, click on the group and the blue resizing handles appear.*

---

9. Make final adjustments ⌐76⌐ in the preview area last. Directional patterns like the one shown need to have a different pattern n the center of the border, to make the direction change appear planned and orderly. That additional pattern is not shown here, but should be included in the final adjustments, before quilting.
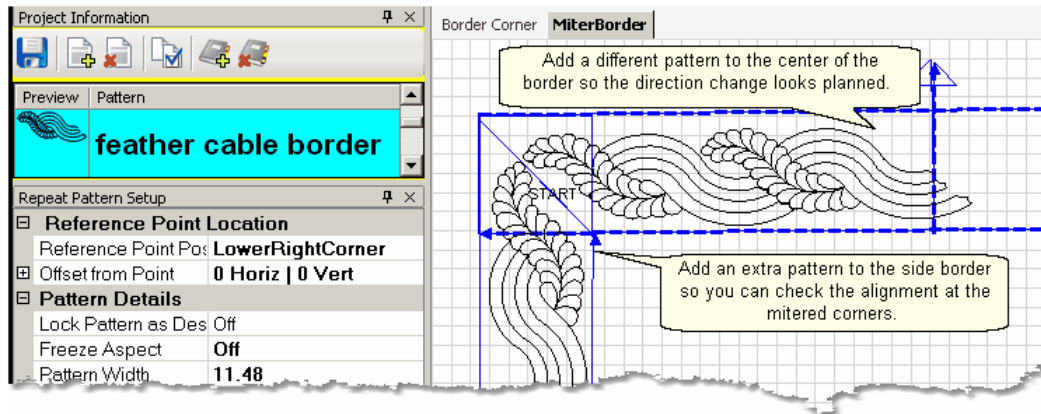
> ✏️ *Tip:* *When working with mitered corners, it is a good idea to position the side border patterns, and check the fit at the miters. The sides don't have to be quilted yet, but seeing how the patterns align will make the final results better.*

When done, Save the project ⌐60⌐.
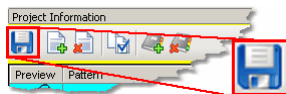
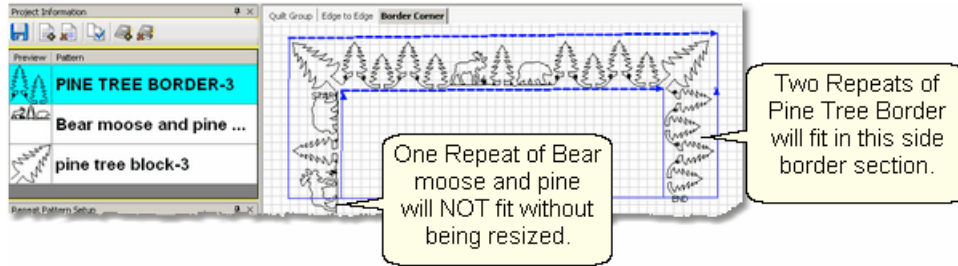10. Click on Start_Quilting and CS moves the sewing head & prompts for bobbin pull-up.
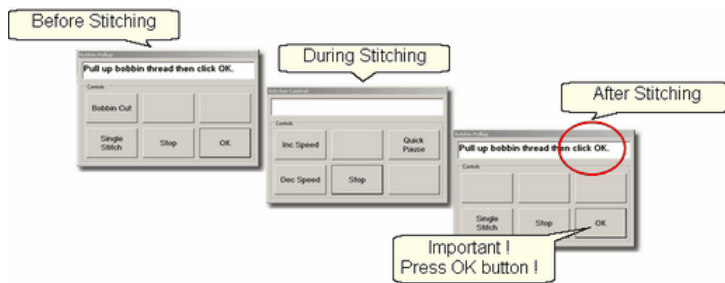
11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Quick Reference Border-Corner 176

4.3.4   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. Repeat for the right corner.

1. Click on the border pattern to be used. This highlights it (blue) 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 71 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 99 .

3. Measure 71 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.
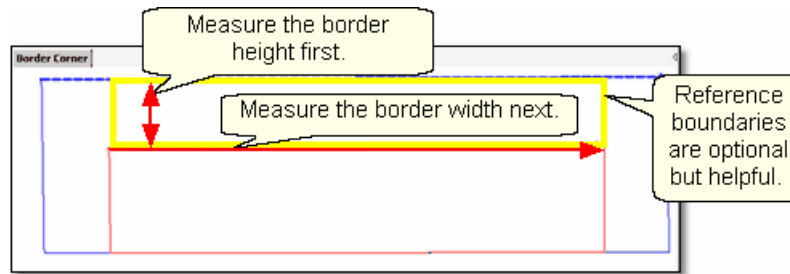
4. Reference boundaries [96] are optional but very helpful because they will show (in the preview area) any curvature in the seamlines. The Corner Square patterns are usually done before the borders are stitched. The corner blocks are often defined with outlining or SID [91] so do this if desired.
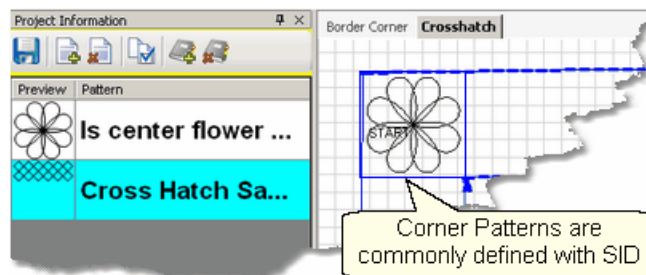
5. Click on Repeat Patterns [98] icon. CS asks for a Reference point.

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 [100].
* 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 99) and/or repeats (in Repeat Setting Details 99) first.

When done, Save the project 60 .

9. Make final adjustments 76 in the preview area last.

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 176

4.3.5 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.
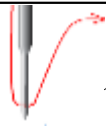
> *Tip:*   *It is a good idea to preview how the corners and border patterns will fit together before stitching anything.*
> ** Start with the Border/Corner feature, using the actual quilt measurements. Place the corner patterns but don't stitch them yet.*
> ** Continue with the Repeat Pattern feature also using the actual quilt measurements. Place the border patterns and check the size and alignment, but don't stitch them yet.*
> ** Draw a sketch and make notes of the measurements.*
> ** 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. You know the pattern repeats and corners will fit this quilt so Custom Corners have been stitched using Border/Corner [112] 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 (blue) 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 [71] 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 [99].

3. Measure [71] 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.
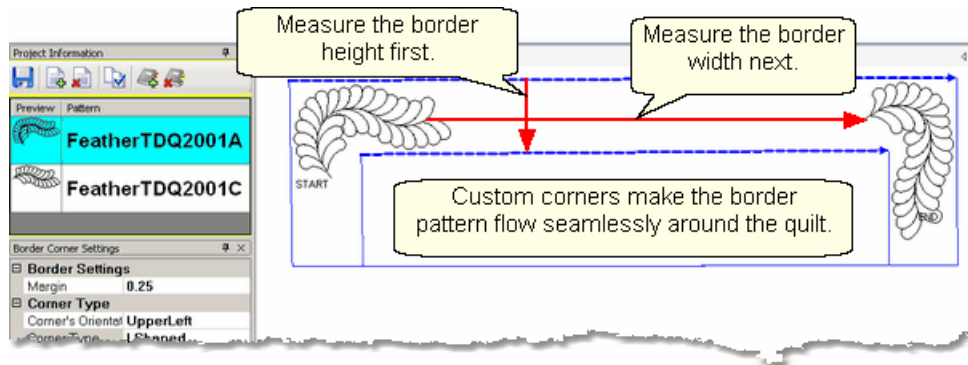
5. Click on Repeat Patterns [98] icon. CS asks for a Reference point.

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.
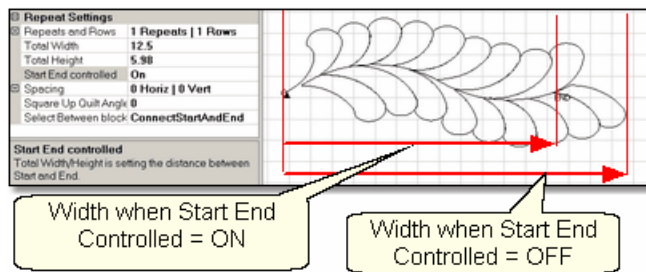
* Change the Total Width to your measurement and CS will calculate the number of repeats needed.
* Change the Square Up Quilt Angle, using the angle rotation number from the width measurement. Both of these changes can be done by transferring measurement iff the last thing measured was the width, from the endpoint of the left corner to the startpoint of the right corner.

7. Choose a Reference point. [100]
* 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 [99]) and/or repeats (in Repeat Setting Details [99]) if needed.
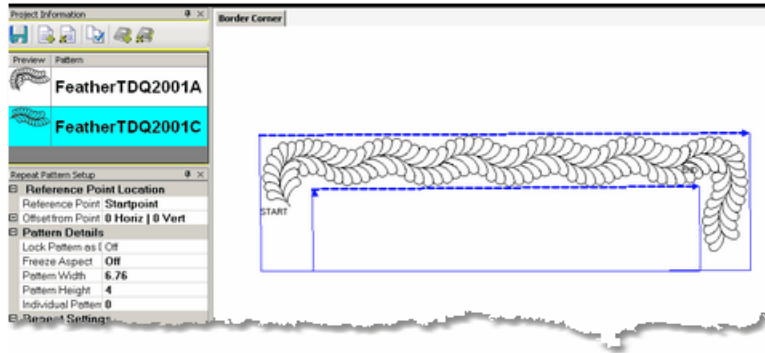
9. Make final adjustments [76] in the preview area last.

When done, Save the project [60].
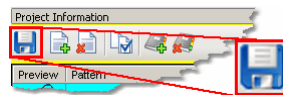
> *Tip:* *Be careful when adjusting the repeated patterns. If the start/end points become separated by more than 1 stitch, CS will stitch them as if they were individual patterns.*

10. Click on Start_Quilting and CS moves the sewing head & prompts for bobbin pull-up.
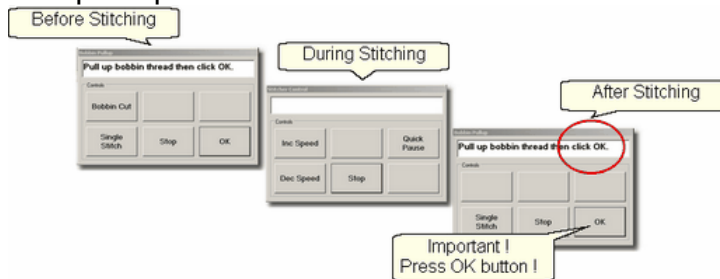
11. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

Quick Reference Border-Corner [176]

4.3.6 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. Planning is important so the number of repeats needed for the side borders is known and the target size is set at the beginning. The last sections (chunks) may need to be adjusted a bit but since the pattern is large, open or non-symmetrical, this difference won't be noticeable.

One Repeat of Bear moose and pine will NOT fit without being resized.

Two Repeats of Pine Tree Border will fit in this side border section.

Border patterns that are very detailed or contain stitch lines 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 (heirloom 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.

Here are some relevant *Tips* given in the previous sections about borders that are very important when doing side borders:

(Borders in general)

> *Tip: 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.*

(Stitch Sequence)

> *Tip: When doing side borders, be aware of the stitching sequence. Although it is tempting to 'flip' patterns so they fit the opposite side border, this can often reverse the stitch sequence. Grouping side patterns together and rotating them as a unit eliminates this problem.*

(Corners)

> *Tip: It is possible 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 add the images of the repeated border patterns into the preview area to see how they fit.*

(Butted Borders)

> *Tip: It is always a good idea to see if all four borders are the same size. Minor differences (< 5-10%) can be handled easily. Significant differences require that each border be planned separately.*

(Custom Borders)

> *Tip:* *It is a good idea to preview how the corners and border patterns will fit together before stitching anything.*
> ** Start with the Border/Corner feature, using the actual quilt measurements. Place the corner patterns but don't stitch them yet.*
> ** Continue with the Repeat Pattern feature also using the actual quilt measurements. Place the border patterns and check the size and alignment, but don't stitch them yet.*
> ** Draw a sketch and make notes of the measurements.*
> ** 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 !*

Turning the Quilt

When it is really important to get the perfect heirloom 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 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](#)▢176

4.3.7   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.
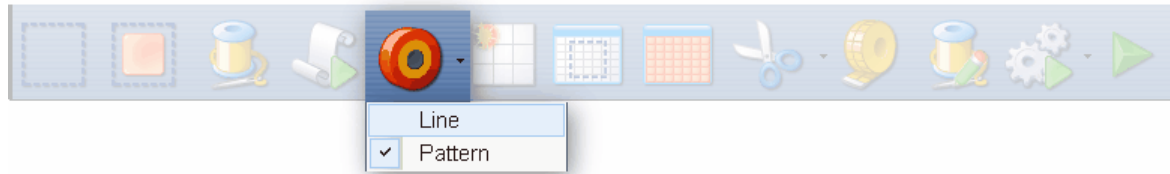
Feature: Point to Point - Pattern

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 96 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.
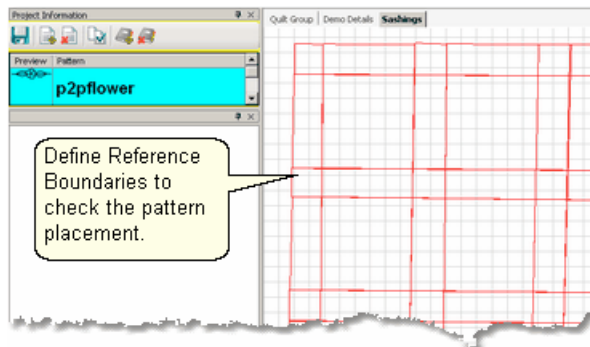
Prep Step #2. Choose a pattern. Select a pattern with the startpoint on the left, the endpoint on the right and both points on the same horizontal line. P2P patterns 66 must stitch from left to right.

Prep Step #3. Change pattern details 46 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.
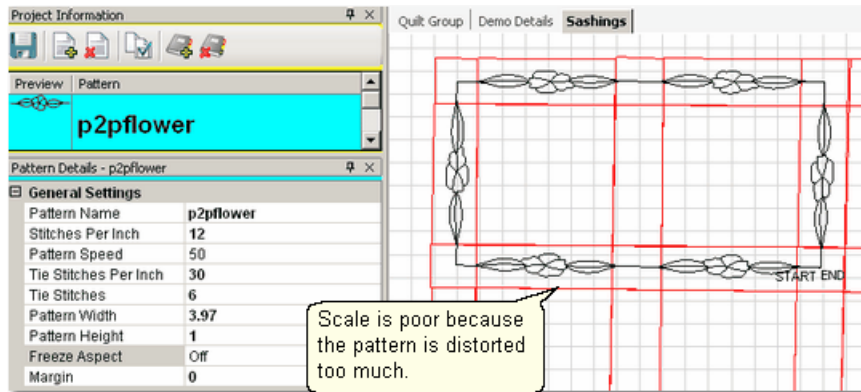
Prep Step #4. Plan the 'Point Layout' before beginning. Most patterns look the best when they maintain their original proportion (Freeze aspect= On), but this means you need to have P2P intervals that also allow the pattern to fill the space. Other patterns need to have one consistent dimension even 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.
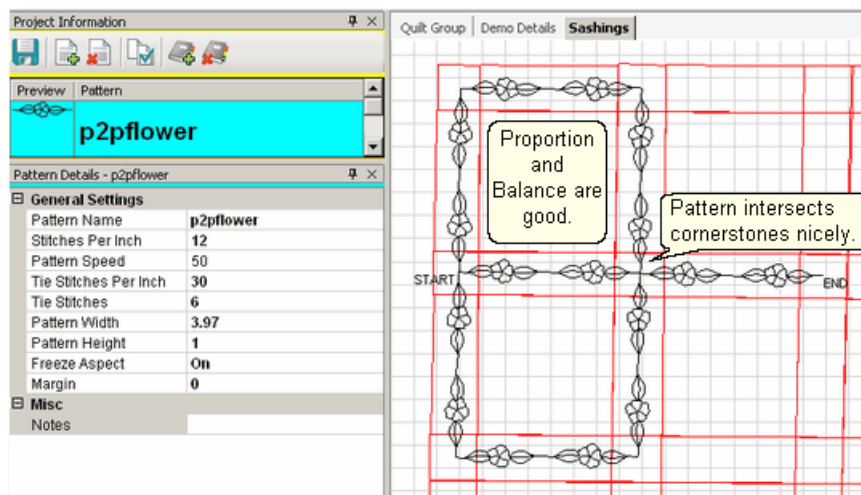
Steps to follow:

1. **Click on the P2P icon**
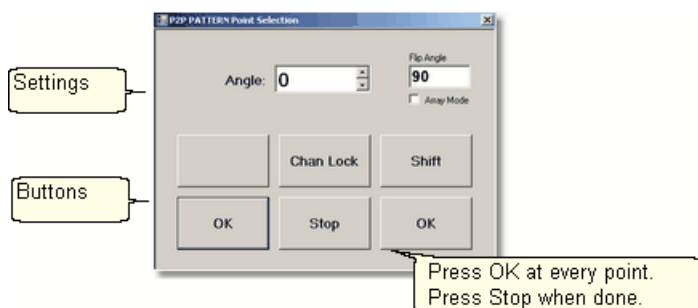
A dialog box appears with Settings and Buttons:
Settings:

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) selects the point, based on the position of the needle.
Stop indicates the end of the P2P-pattern sequence.

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 'doink' noise 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 'Stop' to complete the 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 blue handles to change it.*

When done, Save the project [60].
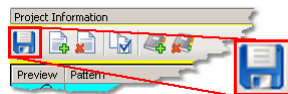
4. Click on Start_Quilting   and the sewing head will move to the Start of the pattern. CS will prompt for pulling up the bobbin thread. Press OK when ready to quilt.
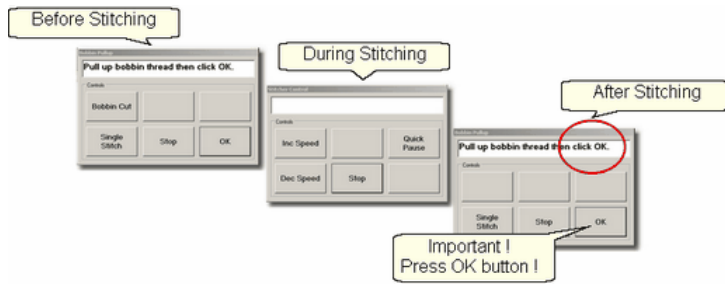
At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

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.

Quick Reference P2P Pattern 169

4.4   Phase 4 - Backgrounds

An Edge-to-Edge (E2E) quilting design 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.

4.4.1   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.
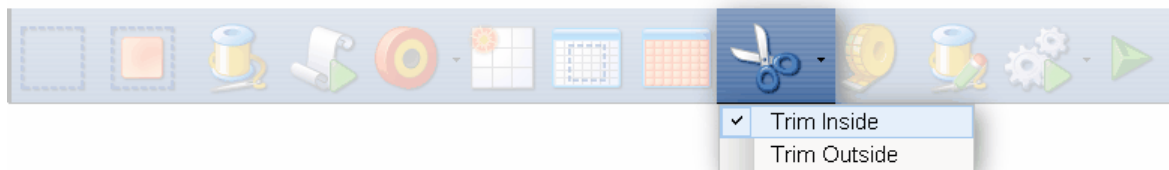
Feature: Trim Pattern - Inside

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.
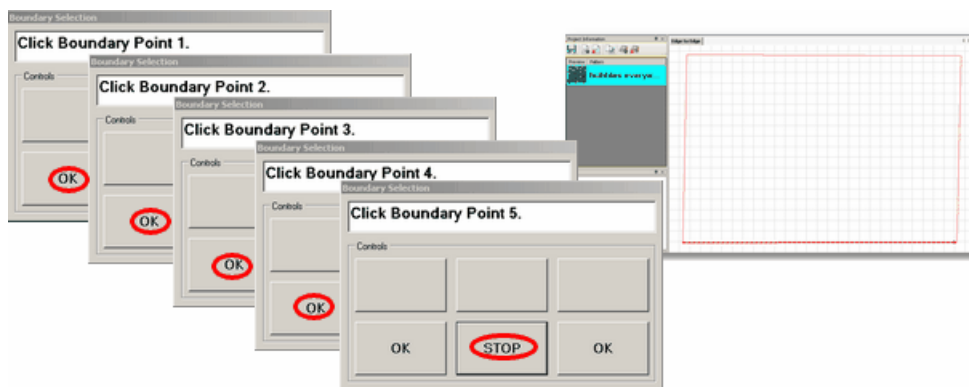
2. Move the background filler pattern in.

Use Pattern_to_Boundary 96 [image] or Repeat Patterns 98 [image] depending on how many repeats are needed to fill the area.
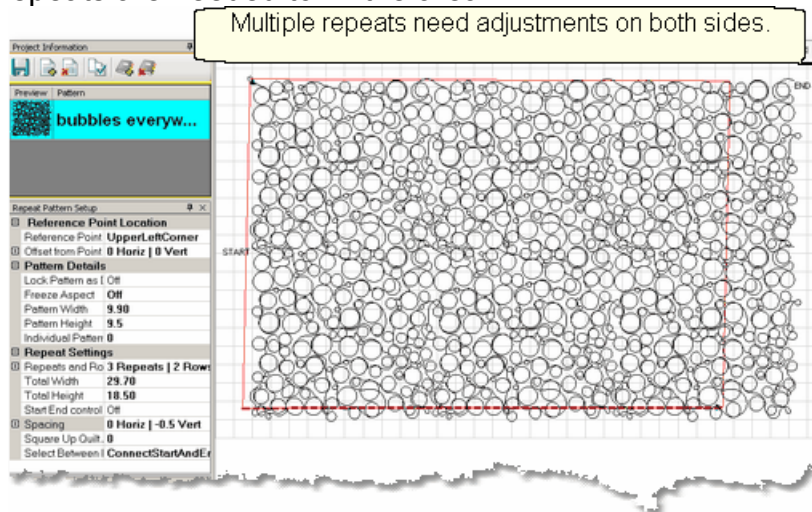
This example shows 3 repeats and 2 rows that were nested vertically by -.5". There is a gap on one side border and an overlap on the other which need to be adjusted.

3. . Select all the patterns together [image] 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.
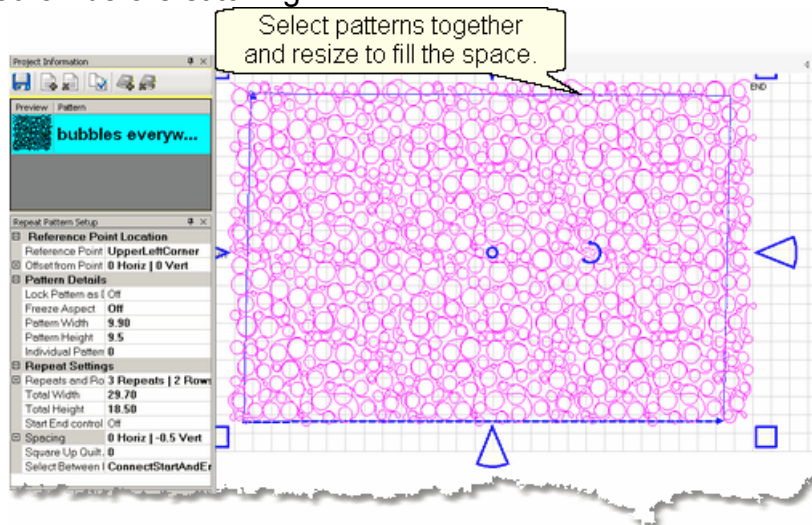
4. Choose Trim Inside.

5. Click on the Trim icon. [image] CS will prompt for a boundary. Use as many points as needed to define the boundary of the applique.

Closeup of the Fish applique after it was trimmed.
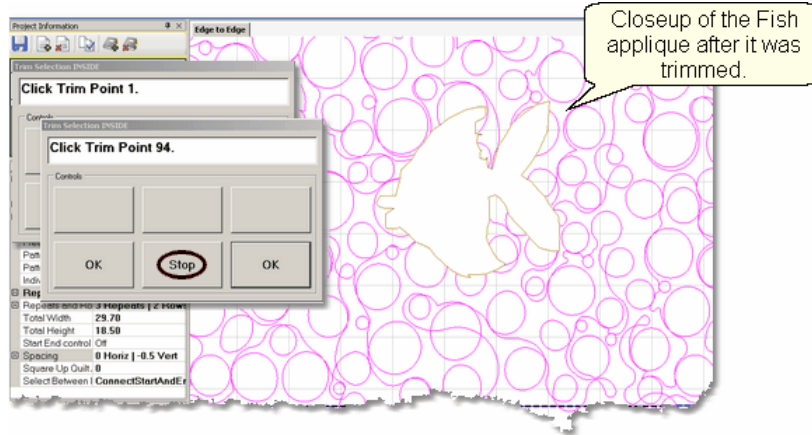
6. **Click Stop** when done and CS will erase everything inside the applique boundary, leaving the filler pattern in the background. Save the project often. Continue with additional Trims as needed.

> *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.*
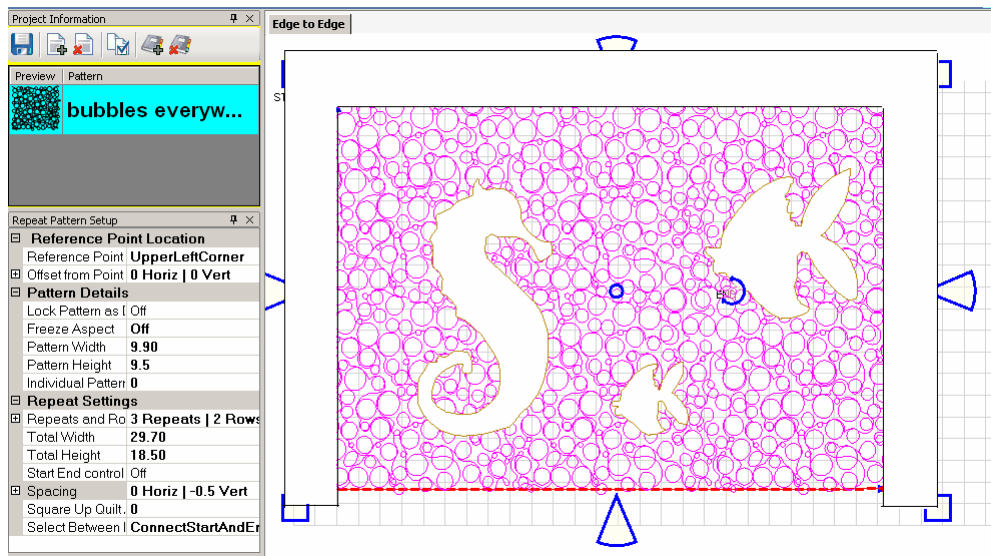
When done trimming the applique, trim the outer edges if needed. In this example, the bottom edge fit well so only the top and sides were trimmed. This is done using the same Trim-Inside feature, and creating a boundary around the outer edges as shown. Be sure the boundary around the outer edge covers all of the background filler. If any of the bubbles peek out, they will be stitched.

7. **Save the Project.**

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.
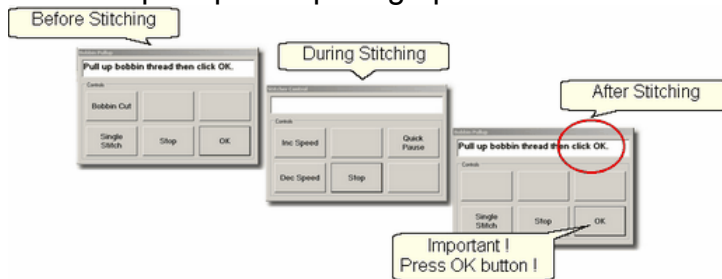
9. **Click OK** when ready to quilt. If multiple patterns were moved into the boundary, they will stitch in the order they were moved. At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or trimmed. Just be sure to click OK because it completes this process.

> *Tip: Be Patient!* CS will take a little time before it moves to the beginning of the pattern and starts to quilt. CS needs to examine every TRIM boundary and identify where each additional tie-off goes. Be Patient when doing a restart too - it takes time.

4.4.2   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 as needed to remove the excess on the top and sides.
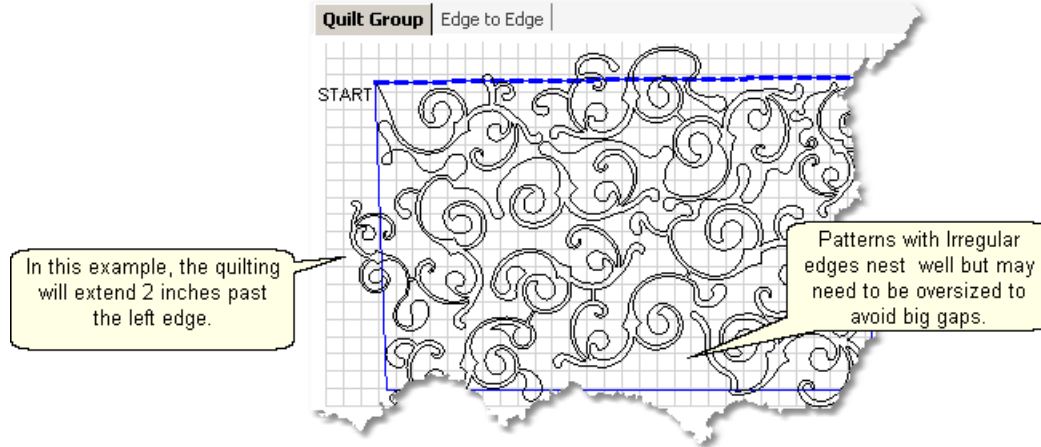
> *Tip:* To determine how much a pattern needs to extend beyond the quilt edges, move to a different quilt group, set the E2E pattern size to what you need, and use Repeat Patterns to move one single repeat into the preview area. Add a grid to the preview area so you can see (and measure) how much overlap you need.

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.
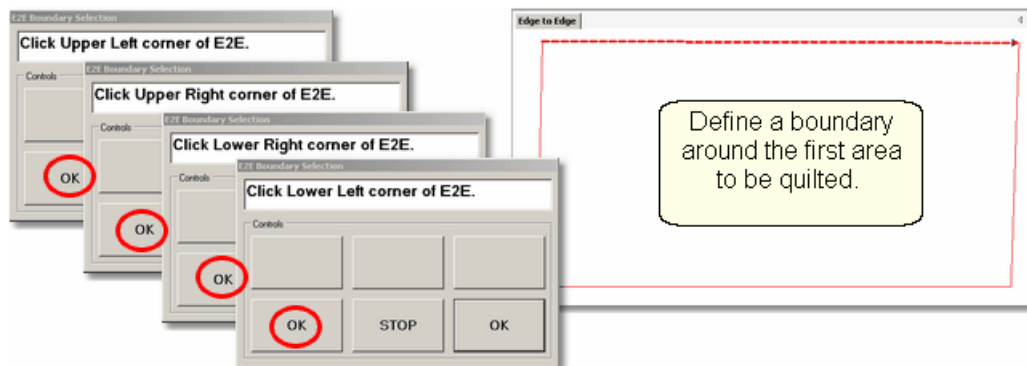
2. **Enter the quilt length** in the Primary Settings 53 area.   Increase the actual measurement if the pattern will be stitching off the top & bottom edges of the quilt. Decrease the actual measurement to adjust for top and bottom margins and shrinkage (if needed).
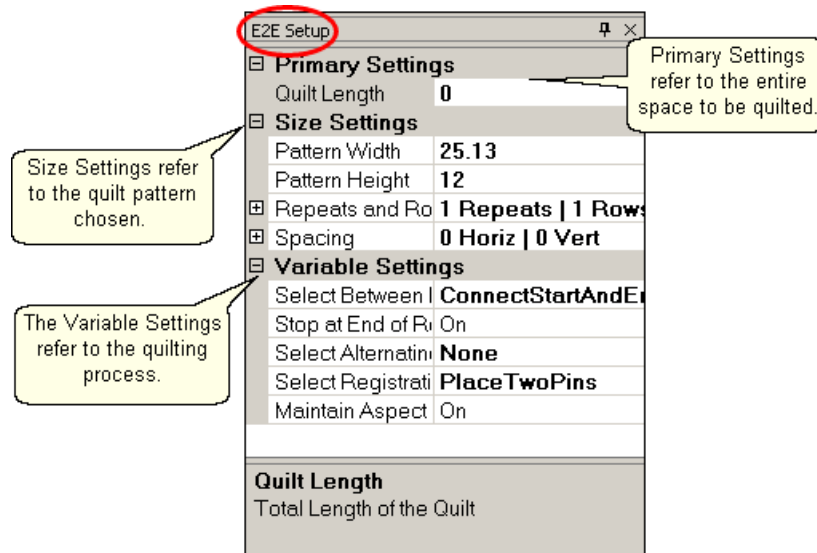
CS measured the width in step 1, and gets the length from the Primary Settings. It now has enough information to automatically calculate the number of repeats and rows required. This is just a suggestion! All settings can be changed in Setup mode (but not in Edit mode).

3. **Check the E2E Setup Details:**

Size Settings: 53

* Pattern Width and Pattern Height may be different from what you started with because CS may need to adjust each individual pattern measurements 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 Settings 53 :

* 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 have become disconnected.

* 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. 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).

* <u>Maintain Aspect</u> 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 top edge is the <u>baseline</u> [75] 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.

Pattern colors indicate the sewing status. Black means the patterns can be stitched before advancing the quilt. Teal green means the patterns won't fit in the current quilting space so CS can't quilt them yet. Red means the pattern has already been sewn.

<u>Adjusting patterns</u> [76] that nest can be done before any quilting begins. Just select all the patterns at once (<u>Group All icon)</u> [38] 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 is done by holding down the Ctrl key and clicking on each pattern that needs to be adjusted.

When it looks good, <u>Save the project</u> [60].

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. CS prompts you to **cut the bobbin thread**, so do that. **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. Place a pin in Registration Point #1 (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. Place a pin in Registration Point #2 (where the needle would enter the fabric). **Click OK** to complete the process.

Save the project 60.

8. **Roll the quilt** (baste the sides, check the bobbin, etc.)
Now finish the quilt by using the Feature: Edge To Edge Continue

> *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.

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.

Steps to follow: (all these steps are considered 'edit' mode because you can't return to the E2E Setup details).

9. **Click EdgeToEdge_Continue**

10.   **Mark the boundary** as prompted:

* CS prompts for left registration mark. Move the machine head to the UpperLeft registration point & Press OK.

* CS prompts for right registration mark. Move the machine head to the UpperRight registration point & Press OK.

11. **Look at the screen** and make adjustments if needed. WYSIWYQ - What you see is what you quilt, so be sure you like it.

> *Tip:* If you need to stop for any reason, be sure to use the Restart Quilting function to resume. If you forget and press E2E-Continue again, press Undo to correct this. E2E-Continue tells CS that the current E2E section was completed successfully and you are ready to move on.

Save the project [60].
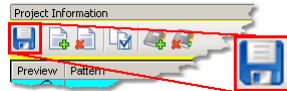
12. **Click Quilt**   The machine moves to the start of the pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row of the new section now begins.

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.
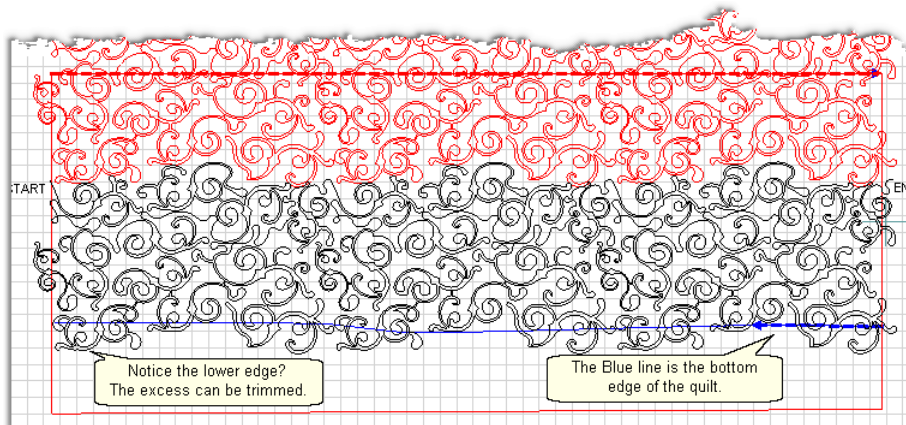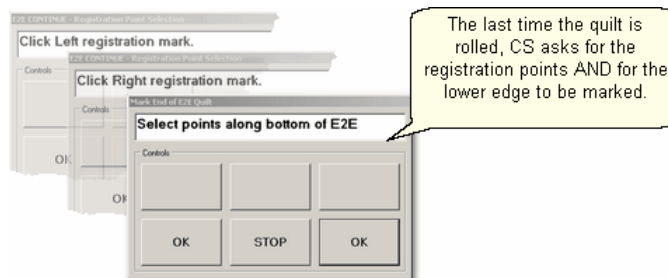
Save the project [60].
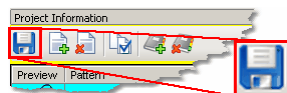
16. **Click Quilt**   The machine moves to the start of the pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row of the new section now begins.

17. **At the end of the last row**, CS stops and prompts you to cut the bobbin thread and click OK.

Quick Reference E2E 180

4.4.3   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.
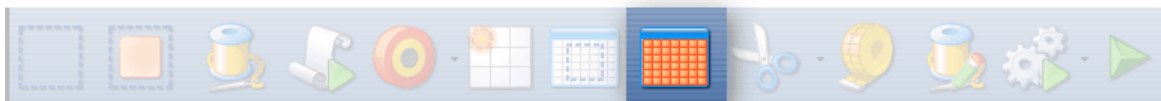
Feature: Edge to Edge - Alternating

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 53 . It now has enough information to automatically calculate the number of repeats and rows required.

3. **Check the E2E Setup Details** 52 **:** These were described before, but it is worth repeating.

Size Settings 53 **:**
* 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 53 **:**
* 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 pattern rows have been alternated and the excess on the sides has been trimmed automatically. The Registration points have been calculated and marked.

Save the project 60 .
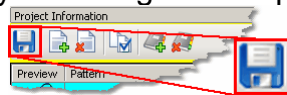
4 A. **Let's say you don't like it and want to change the pattern.** It is easy to try another one! Just highlight a different pattern and click Pattern To Boundary icon.
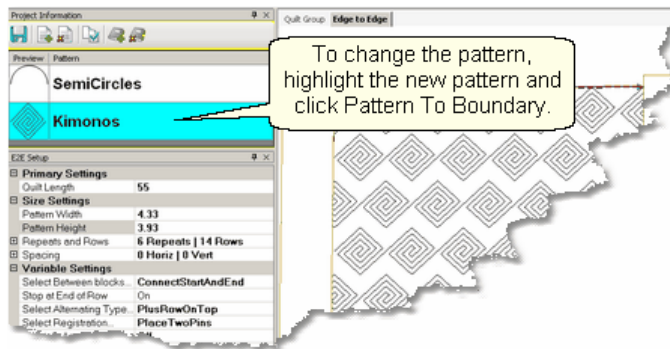
CS automatically adjusted the Registration points and the side edges. The pattern still needs to be adjusted 76 however. Change settings as needed.

The top needs to be adjusted too.

Change the settings until it looks good.
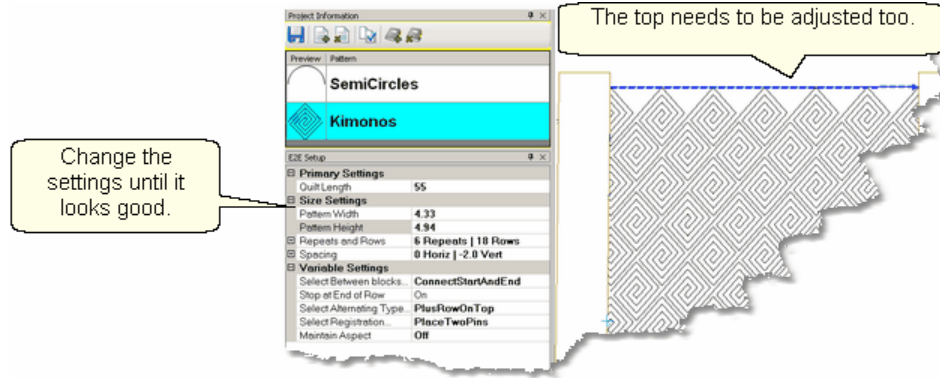
Notice that the upper edge will leave big gaps - the lower edge will too. To fix this, the total quilt length needs to be adjusted, then the patterns moved up to eliminate the gap. In this example, the vertical spacing is -2,so the patterns will be moved up 2 inches.

Highlight all the patterns to move them up.

Vertical space is used to nest the patterns
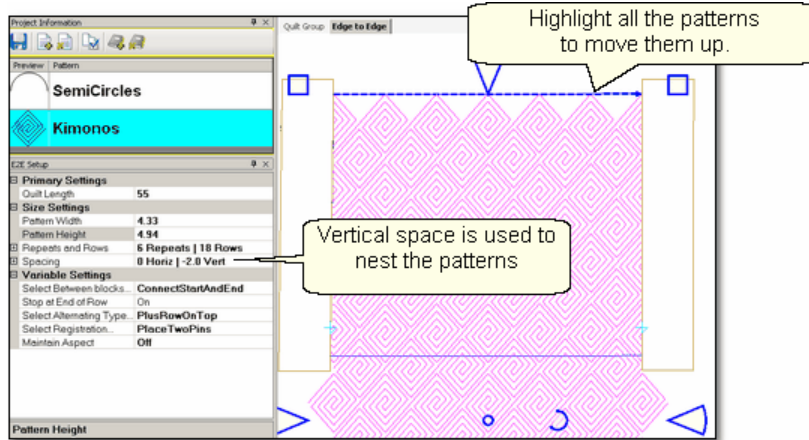
Increase the Quilt Length enough to allow the pattern to run off the edges at the top and bottom. Don't worry about the overlap because you can trim that off before

quilting. Group all the patterns together using the Group All icon 38 . Then move the group up to close the gap. CS may change the settings, so watch them.

Patterns were moved up about 2 inches so the pattern length was increased by 5. 2 for the top, 2 for the bottom, 1 for good measure

Trim the excess before quilting.

Vertical spacing adjusts for the nesting.
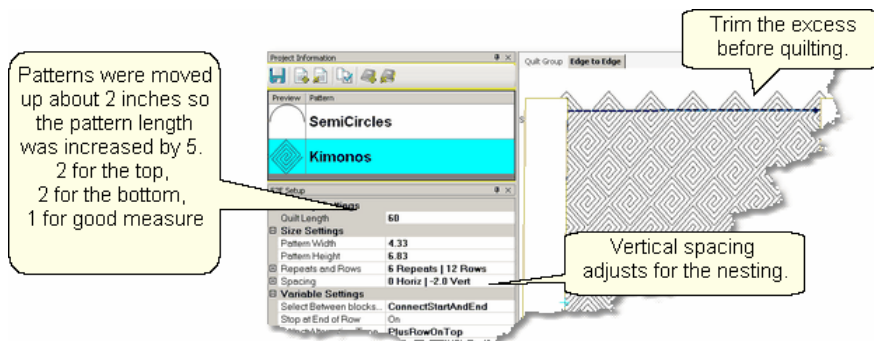
> *Tip:* *Shifting the patterns up a little is not a problem but when the pattern needs to be moved up a lot, it might change the number of rows that can be quilted in the first section. To avoid this, start a new E2E quilt group and define the Upper Left and Upper Right corners as being above the upper edge of the quilt. Increase the quilt length to accommodate this space.*

Before quilting, be sure to define another Trim-Inside [133] boundary at the top of the quilt.

When it looks good, Save the project [60].
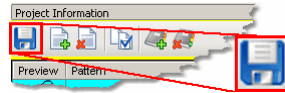
5. **Click Quilt** 	The machine moves to the start of the first pattern, takes a single stitch and prompts you to pull up the bobbin, so do that. Press OK on the keypad when ready. The first row now begins.

Repeat the steps listed in the previous section to complete the quilt. Be sure to trim the bottom edge to fit.

Quick Reference E2E [180]

4.4.4   E2E Concatonating Patterns

Edge To Edge patterns can be concatonated 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 - Concatonating

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 selected 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.

Patterns that are included more than once must be added more than once.

Add as many patterns as you would like to concatonate together.

The sequence of selecting patterns is the same as the sequence of stitching them.
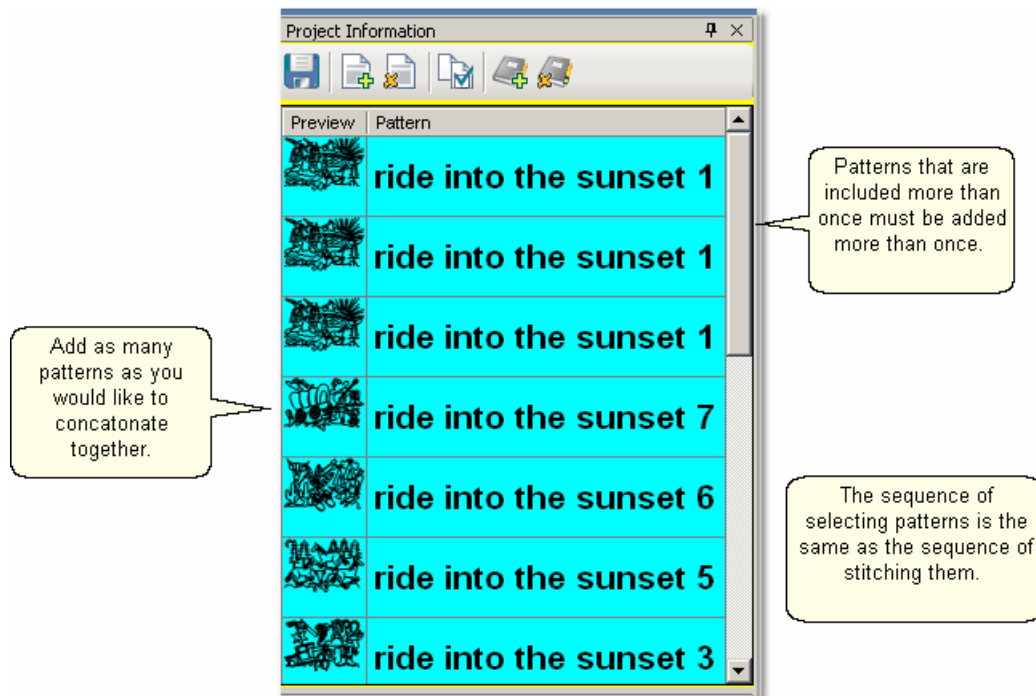
3. **Click the E2E icon**.   and follow the prompts to define the boundary.

Define a boundary around the first area to be quilted.
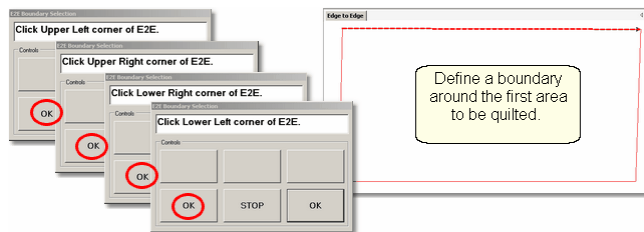
4. **Enter the quilt length** in the Primary Settings ⁵³ area and CS will display the patterns.

Here are examples of different combinations of the Ride Into The Sunset patterns.

Only Pattern 1 was chosen

Patterns sequence is 1,3

Patterns sequence is 1,3,5

Patterns sequence is 1,3,5,6

Patterns sequence is 1,3,5,6,7

Patterns sequence is 1,7,1,6,1,5,3
The sequence starts over again
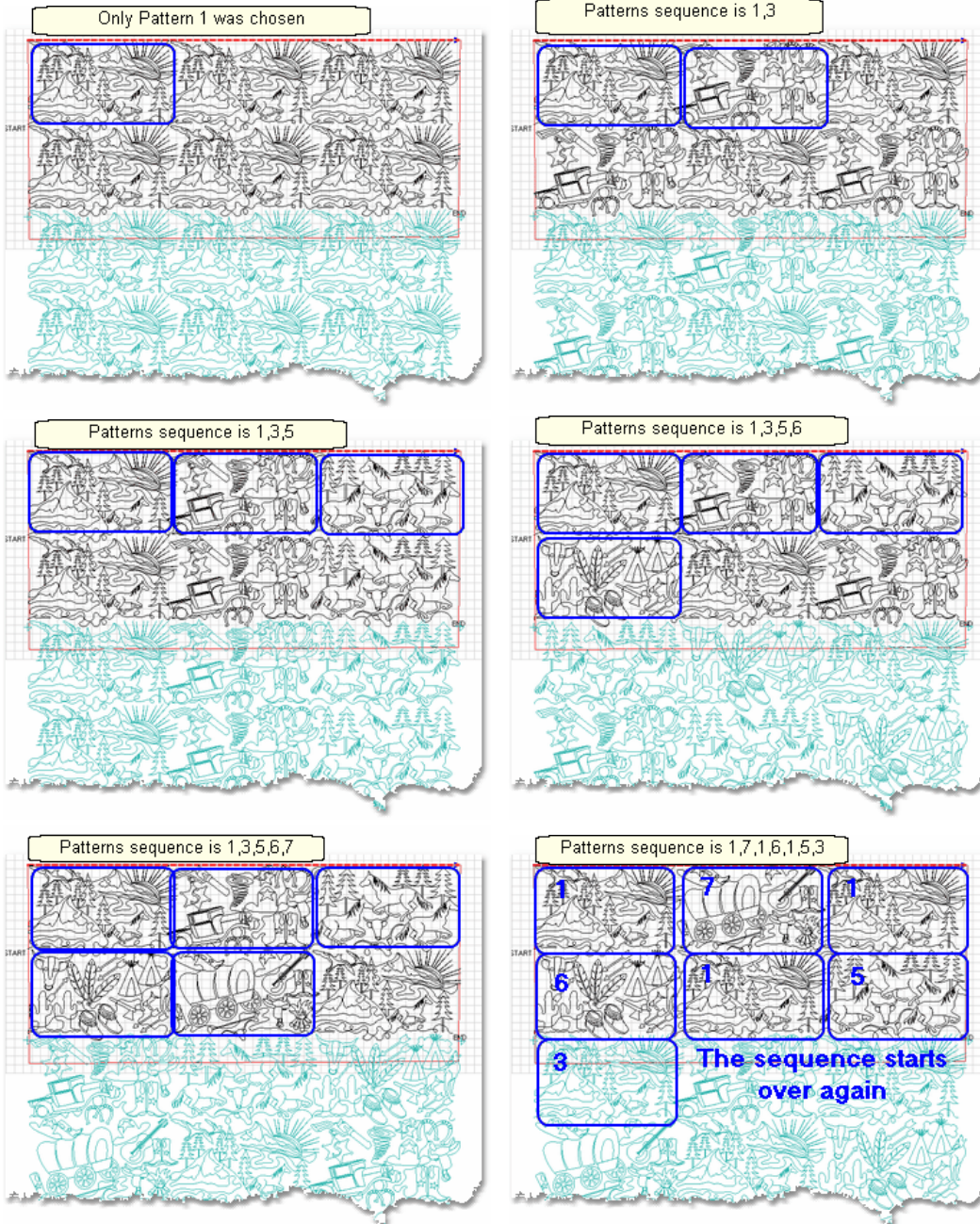
Tip: If you don't like the way your patterns look on the screen, you can change them easily, without having to re-create the E2E quilt group and boundaries. Just reselect the patterns in a different sequence, and click on Pattern to Boundary icon. Voila! The new sequence appears.

Save the project 60 .
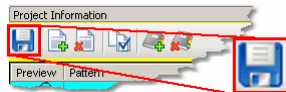
Follow the same steps as defined in the previous sections to stitch them. Begin at

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.

4.5   Record Mode

Another remarkable feature of CS is being able 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 that can be used just like every other CS 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.

Regulated Sewing Choices

✓ Original
Plus
Smooth

Feature: Record mode (part of the Regulated Sewing feature)
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.*

Assumptions: The quilt is loaded, bobbin is full, machine is threaded and the belts are (probably) detached. Recording the free motion quilting is usually done without the belts that control the sewing head. This allows the sewing head to move freely in all directions. Replaying the recorded pattern requires the belts to be engaged.

Steps to follow:

✓ Original
Plus
Smooth

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

Regulated Smooth Mode

Angle: 0   Flip Angle 90

Stitches Per Inch (SPI) 12.00   Radiating Lines

Needle Position

Buttons

Record: OFF   Chan Lock   Shift

Single Stitch

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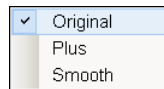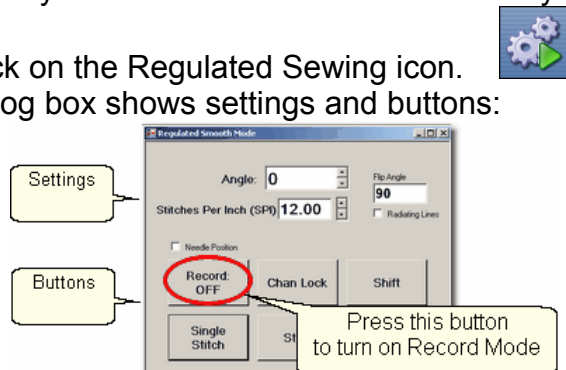
All the functions in Regulated Sewing work the same way when the Record mode is active. Move the sewing head to the beginning of the pattern to be recorded.

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*

3. Press Record to begin.

When recording, the Record button turns dark blue, the name changes to "Recording ON" and a red warning appears.
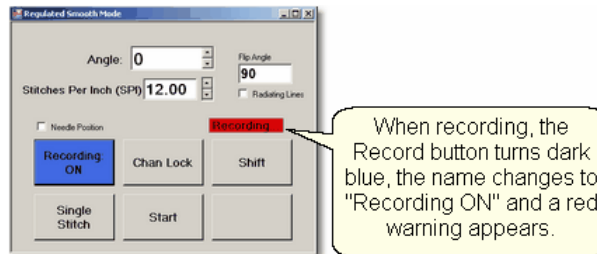
Move the stitcher to create a new pattern.

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

4. Press Record again to end.

To see the entire Pattern Name, use the mouse to drag the edge of the dialog box.
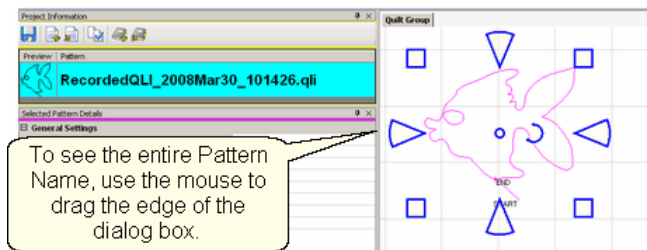
CS automatically creates a pattern, gives it a name, and saves it to a special folder called C:\Patterns Recorded. The format for the pattern name is:
C:\Patterns Recorded\RecordedQLI_yyyyMonddhhss.qli
where   yyyy = the year
         Mon = alpha abbreviation of the month
         dd = the day
         hh = the hour
         ss = the second
         .qli is the file type needed by CS.
It is a good idea to rename the pattern file if it should be kept for future use.

Quick Reference Record

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.
   * Only part of the pattern needs to be quilted. This is 'selective sewing' and is very useful when only one pattern element is needed. Just define a boundary, move the pattern to the boundary and resize / reposition the pattern so the selected portion is positioned as desired. Don't press Quilt, press Restart and choose your own restart position. Press Stop when the selective sewing is done.

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.
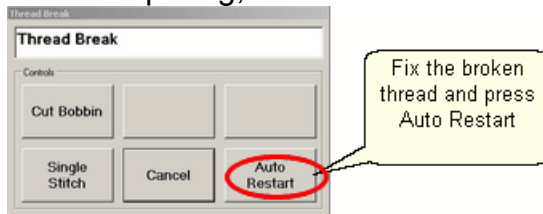
Pressing this button moves the machine back to where the break was detected.

2. CS asks if you want to confirm or move the Restart Point.
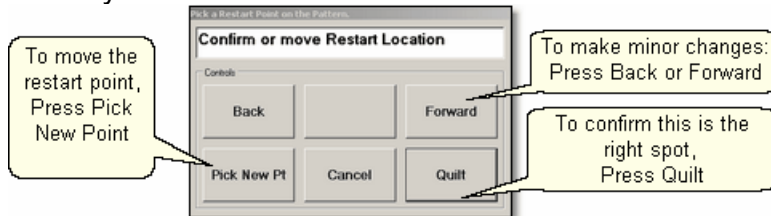
If the "Auto Restart" point is close, use **Back** and/or **Forward** to move the sewing head 7 stitches at a time until the sewing head is positioned properly. **Press Quilt** when ready, and continue to sew.

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. 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.
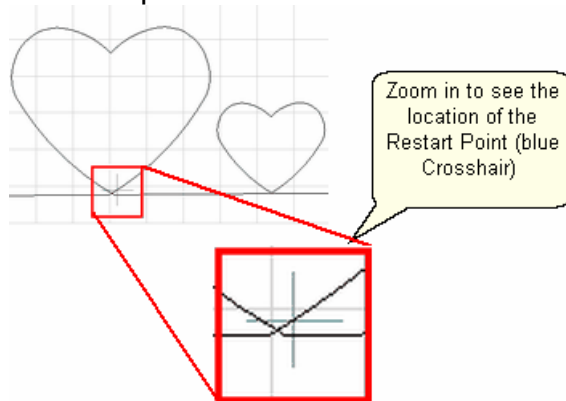
 If it looks good, **Press Quilt** and continue to sew. If not, try clicking a different point on the screen until the right spot is found.

> *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.
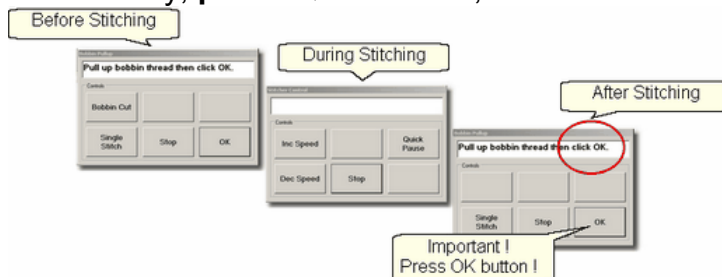
At the end of the quilting sequence, you will be prompted to pull up the bobbin thread and click OK. It doesn't matter how the bobbin thread is pulled up, secured or

trimmed. Just be sure to click OK because it completes this process.

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.
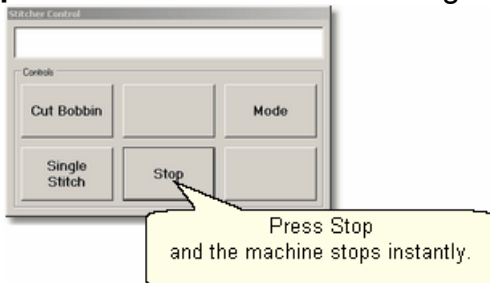
Press **Stop** again to end the stitching completely if needed and use the stitcher to secure the threads.

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.
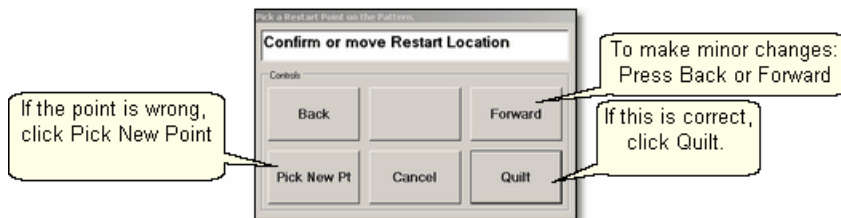
3. Since this is usually the correct spot, chances are good that you can press **Quilt** and continue on.
* If this is not true, but it is close, use **Back** and/or **Forward** to move the sewing head 7 stitches at a time until the sewing head is positioned properly. **Press Quilt** when ready, and 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 [184]

4.7 Utility Functions

Utility Functions are used in many different techniques. They are very important, but not used on a regular basis.

Utility Functions are choices listed under Tools on the Command Bar
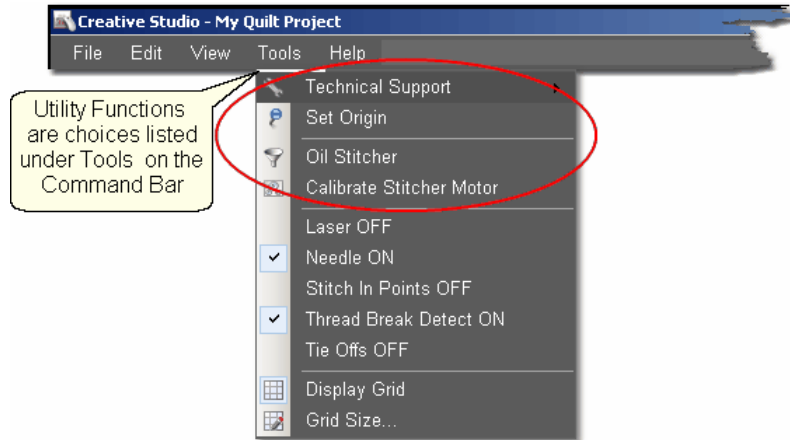
4.7.1 Set Defaults

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 during the quilting session. Others are considered Restricted Areas and should <u>not</u> 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:

User Settings tab in Configuration Form which is in Controller Definition which is in Technical Support which is in Tools

Do NOT change any Diagnostics values or enter the Test System without the guidance of the Statler Tech Support Team.
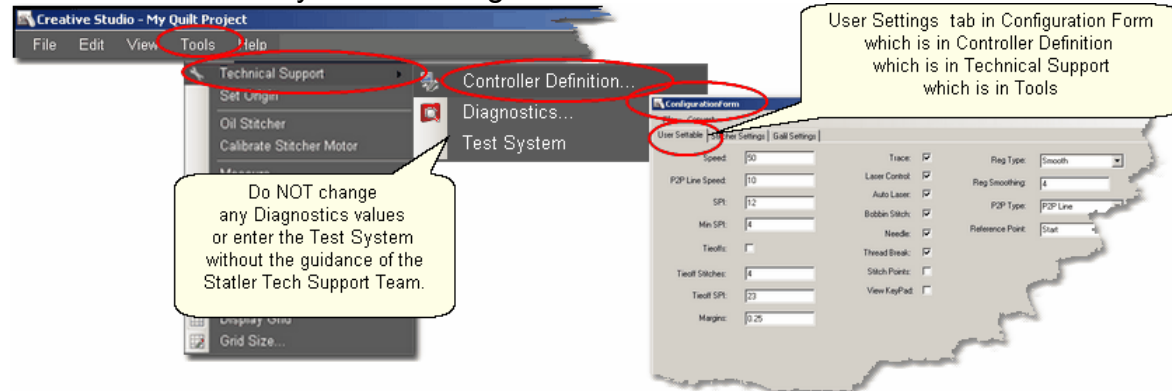
* Click Tools,
* Click Technical Support,
* Click Controller Definition
* User Settable Tab contains your default values.

The Configuration Form has three tabs; User Settable (sp?), 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.

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.

Margins – This is the default margin size in inches.

> *Tip:* *Tie-off stitches will be more secure if the TieSPI is not evenly divisible by the SPI. This means TieSPI divided by SPI should not be a whole number. 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.*

Center Column contains defaults using check boxes (check = ON, blank = OFF)

Trace – Do Not Change

Laser Control – Check means CS controls the laser and will turn it on when needed.

Auto Laser – Do Not Change

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.

> *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.*

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 position of the reference point used in Repeat Patterns.

Changes are highlighted on the screen, but they will not change the defaults until they are saved.

Changes are highlighted until saved.
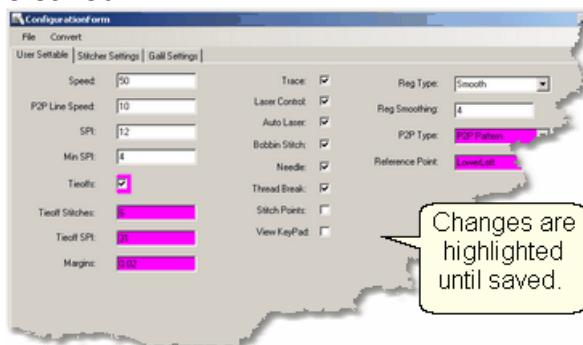
To Save Changes, Click on the File tab, and click Save and Close.
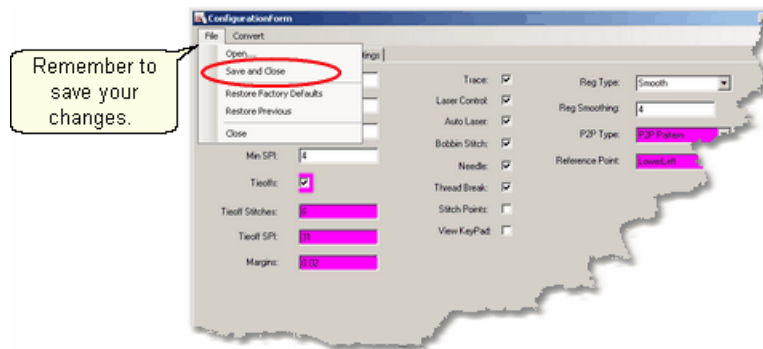
If you forget, CS will remind you.
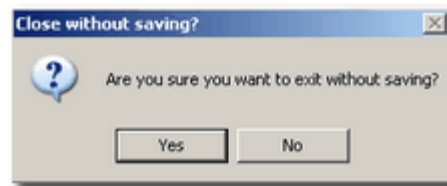
4.7.2 Set Origin

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). PS uses a relative origin. CS uses the machine origin. If the origin could not be reset, the CS projects could not be shared, re-used or restarted.
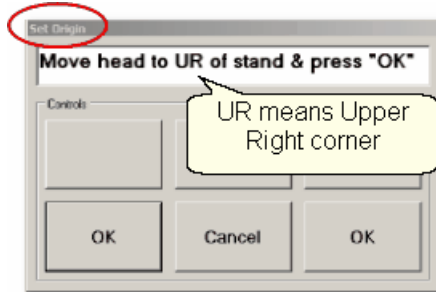
CS has the ability to set a specific origin point (in this case, the upper right corner) which enables the projects to be repeatable, across machines. This means that projects can be created for a whole quilt and the project can be sold / shared to others, just like a single pattern is sold / shared in PS.

Tip: When setting the origin, not only should you choose a reliable, repeatable location but you should handle the stitcher the same way also. This means if you are exerting pressure on the machine to get it into the corner, you should always exert that same pressure.

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.
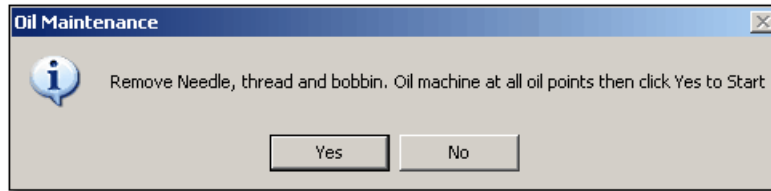
The process will take about 7 minutes to complete.

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
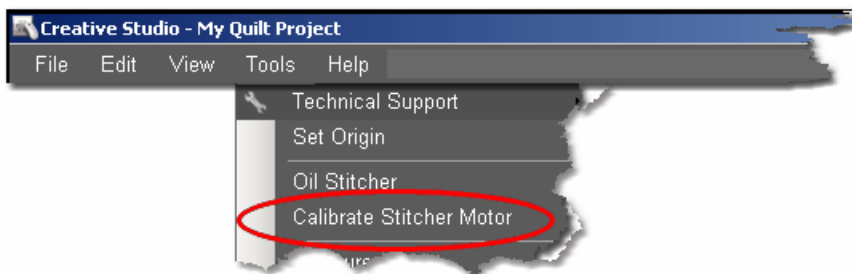
3. Move the machine head off of the quilt, remove thread and bobbin case as prompted. Click OK when done. The needle will move as if it were stitching. When done, a dialog box appears with New Z-Counts. The value given will depend on the controller model being used.

Calibrating only takes a couple minutes. The Z-count confirms the process is done.
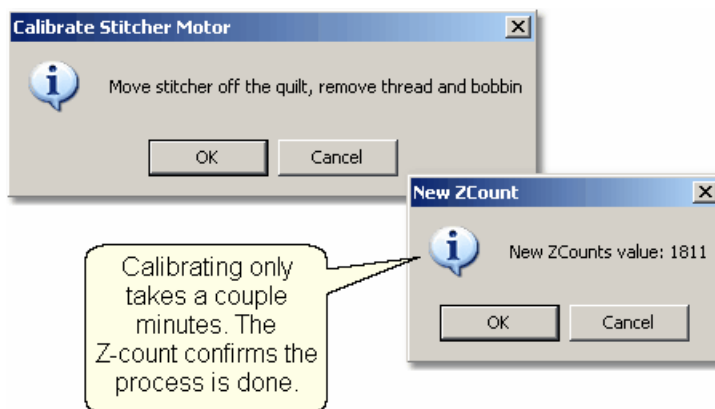
4. Click OK to end this procedure and continue stitching.

Part V
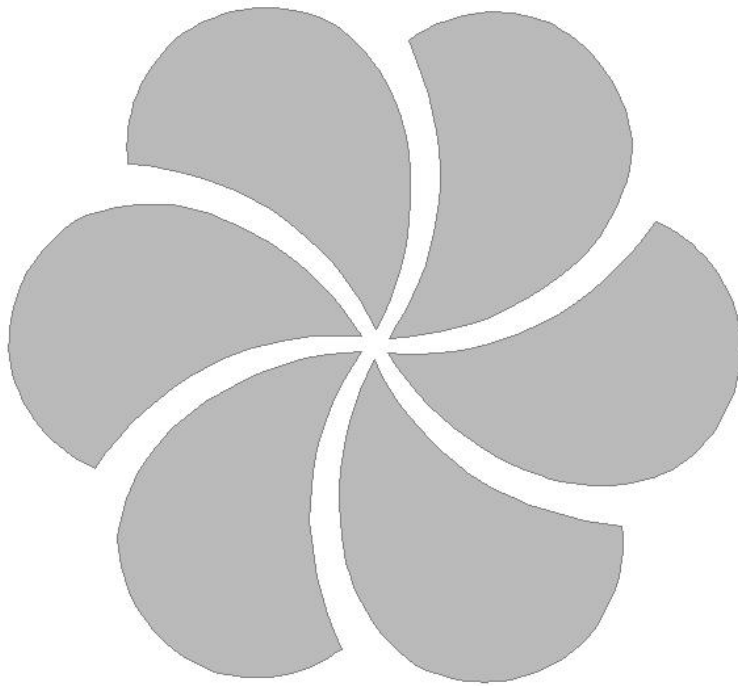
5 Quick Reference Sheets

5.1 QuickRef Icons

CreativeStudio™ Quick Start Sheet
Toolbar Icons:

Icon	Icon Name & location	Icon Description
	Tip	Created for the documentation only
	Precision Stitch post script	Tips for Precision Stitch Users - denoting the actions that are different in CS.
	Boundary Main Screen, Icon Bar	Begins the process to define a bounded area.
	Pattern_To_Boundary Main Screen, Icon Bar	Moves the selected pattern into the selected boundary
	Start_Quilting Main Screen, Icon Bar	Begins the quilting process
	Edge_To_Edge_Continue Main Screen, Icon Bar	Continues the Edge_To_Edge quilting sequence after the quilt is rolled
	Point_To_Point - Line **Point_To_Point – Pattern** Main Screen, Icon Bar	Begins the P2P quilting process for lines or patterns
	Repeat_Patterns Main Screen, Icon Bar	Begins the process for moving multiple copies of a selected pattern to the preview area
	Border_Corner Main Screen, Icon Bar	Begins the process of moving the corner patterns into the border boundary.
	Edge_To_Edge Main Screen, Icon Bar	Begins the setup process for doing E2E quilting.
	Trim - Inside **Trim - Outside** Main Screen, Icon Bar	Begins the Trim process for Inside or Outside trims.
	Measure Main Screen, Icon Bar	Starts the prompt sequence for using the sewing head to take measurements.
	Restart_Quilting Main Screen, Icon Bar	Starts the process of finding the correct restart point, and restarting the quilting at that point.

Icon	Icon Name & location	Icon Description
	Regulated_Sewing Main Screen, Icon Bar	Sewing with the stitch regulator (Original, Plus, or Smooth) **Channel Lock and Record Mode are here.**
	Baste Main Screen, Icon Bar	Basting with the stitch regulator. **Channel Lock and Record Mode are here.**
	Constant_Sewing Main Screen, Icon Bar	Sewing without the stitch regulator. **Channel Lock and Record Mode are here.**
	View All Main Screen, Icon Bar	Adjusts the Zoom distance so all patterns are viewable in the preview area.
	Group All Patterns Main Screen, Icon Bar	Selects all patterns in the preview area

Quick Reference Icons for Projects:
The project content can be changed using the following icons:

Icon	Icon Name & location	Icon Description
	Save (Project) Main Screen, Project Information Box	Saves the current project
	Add Pattern Main Screen, Project Information Box	Starts the process for adding patterns
	Delete Pattern Main Screen, Project Information Box	Deletes the selected pattern
	Check Project Details Main Screen, Project Information Box	Displays the Project Details dialog box
	Add Quilt Group Main Screen, Project Information Box	Creates a new Quilt Group Tab
	Remove Quilt Group Main Screen, Project Information Box	Removes the current Quilt Group Tab

5.2   Quick Ref Regulated

Feature: Regulated [icon] Baste [icon] Constant Speed [icon] 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.
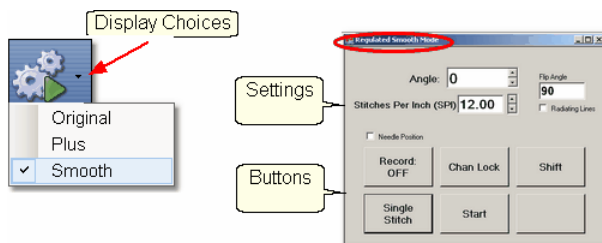
Regulated and Constant Speed Settings:
Angle:This is the current angle that will be used when Channel Lock is turned on.
Stitches Per Inch - Change with up/down arrows or use mouse & keyboard.
Flip Angle: If Radiating Lines is not checked, this angle can replace the current angle.To flip the angle, press 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.

When the shift button is pressed, the keypad buttons have additional functions.

When the stitcher is running, the keypad buttons also have additional functions.

To exit Regulated Sewing Mode, Press and hold the Shift key and press the Exit 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 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.

5.3 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:
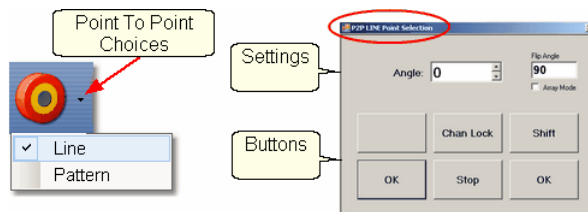
Settings:

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

Flip Angle: If array mode is not checked, this angle will 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.

Array Mode - when checked, CS can 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 (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. **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 'boink' 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 'Stop' 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 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.

5.4   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:
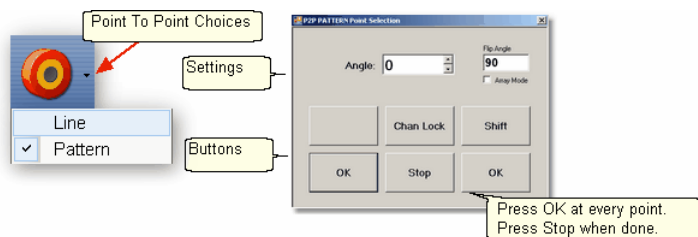
Settings:
Angle, Flip Angle and Array Mode - are available but not required.

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 'boink' 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 'Stop' to complete the path**. The images appear in the preview area. Check it before stitching.

Preview before stitching and modify if needed.
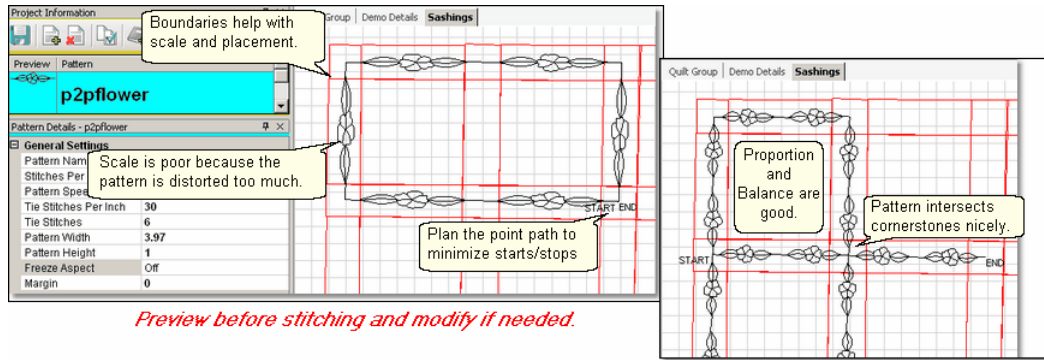
5. Click on Start_Quilting and the sewing head moves to the Start of the pattern and CS prompts for the bobbin pull-up. **Press OK** when ready to quilt. At the end of the quilting sequence you will be prompted to pull up the bobbin thread and click OK. Be sure to click OK because it completes this process.

5.5   Quick Ref Single Block

Feature: Single Block
(using Boundary and Pattern_to_Boundary 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 blue)
* Click on the Pattern_To_Boundary icon to move the pattern in. The pattern is moved into the bounded area and resized to fit.
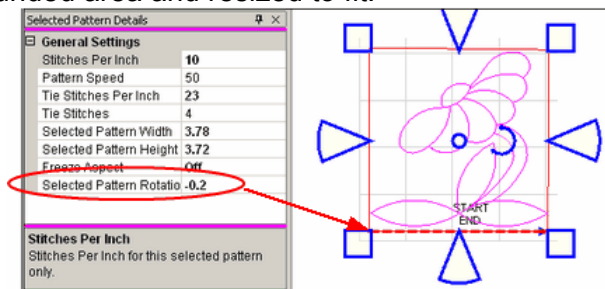
When a pattern is moved into a boundary, it will be aligned to the baseline so if it slopes up (or down) the pattern will be rotated accordingly. The slope is displayed in the Selected Pattern Rotation field of the details.
* The Preview area is focused on the pattern most recently used. To see all patterns 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.

5.6   Quick Ref Composite Blocks

Composite patterns can be created for a custom look, a large block or to fit an unusual space. The Right Click Editing options enable us to modify individual patterns to create that special look. Select multiple patterns or a single pattern, and right click it to see:
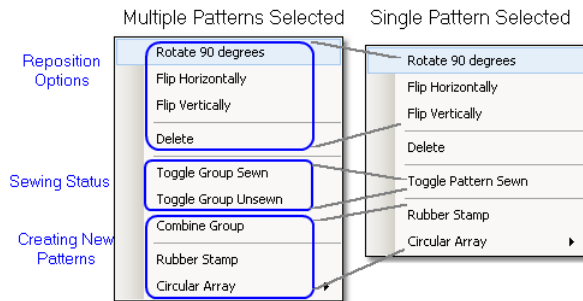
Reposition Options -
   * Rotate 90 degrees - rotates the pattern counterclockwise 90 degrees.
   * Flip Horizontally - turns the pattern sideways.
   * Flip Vertically - turns the pattern upside down.
   * Delete removes the pattern from the preview area.
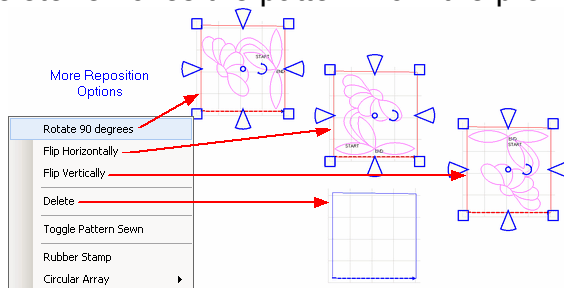
Sewing Status -
* Toggle Pattern Sewn (or Toggle Group Sewn) means it won't stitch out again.
* Toggle Pattern Unsers (or toggle group unsewn) means it will stitch again.

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. Once the patterns are grouped, they can not be un-grouped without using the Undo command (which will undo everything you have changed, not just grouping the patterns).

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.

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.
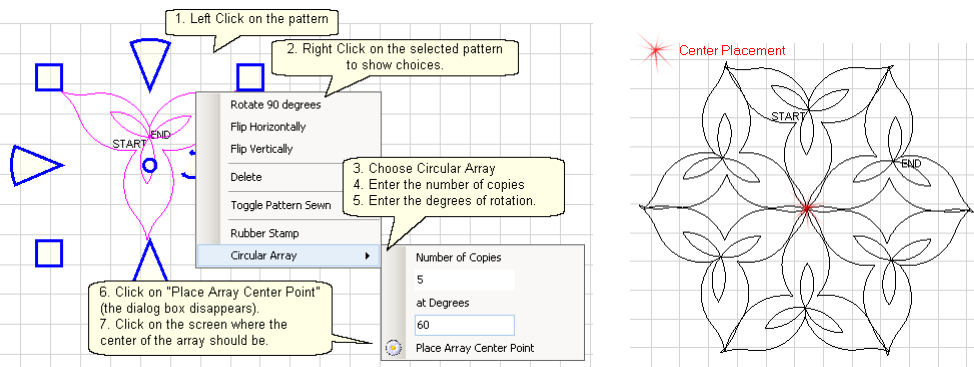
Here are some examples:
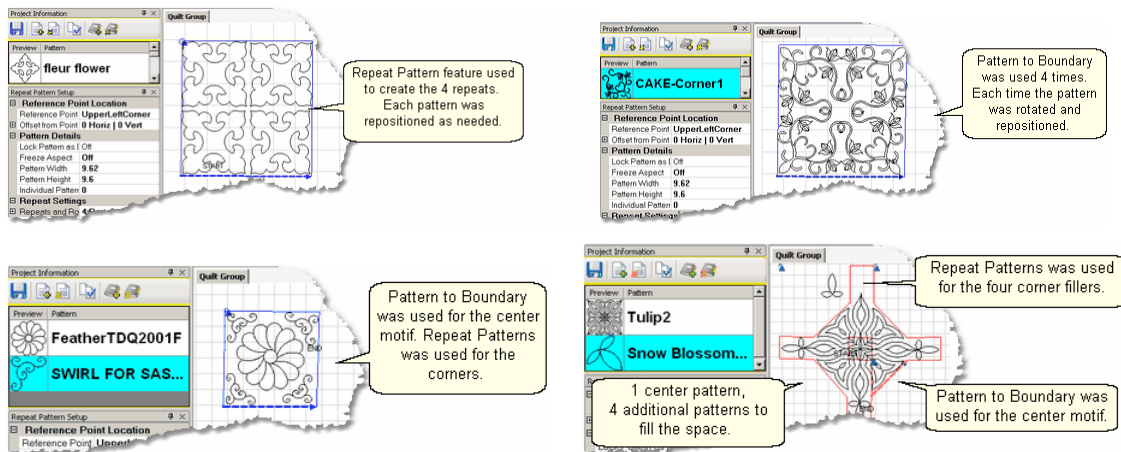
5.7   Quick Ref Text Blocks

Feature: Creating Text Blocks

Steps to follow:

1. Right Click in an open area of the preview area. It is a good idea to have created 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. Remember that CS will treat each phrase as a pattern, so if your phrase needs two (or more) lines, you need to create 2 (or more) text patterns.

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

5. Choose the font style you like. Preview styles in the 'Sample' box. Choose any font size because you will need to modify it to fit your boundary anyway.

6. Click 'OK', the text pattern is positioned. Resize as needed.
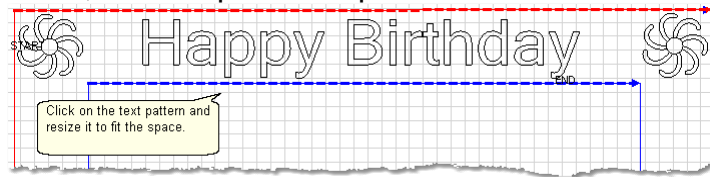
7. **Save the Project.** 60
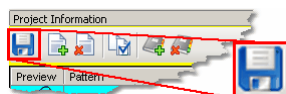
8. Click on Start_Quilting and the sewing head will move to the Start of the first letter. CS stitches all letters continuously, dragging the thread between them, and only stops for the bobbin pull-up at the end of the phrase pattern. Remember to click OK because it completes this process.

5.8   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).
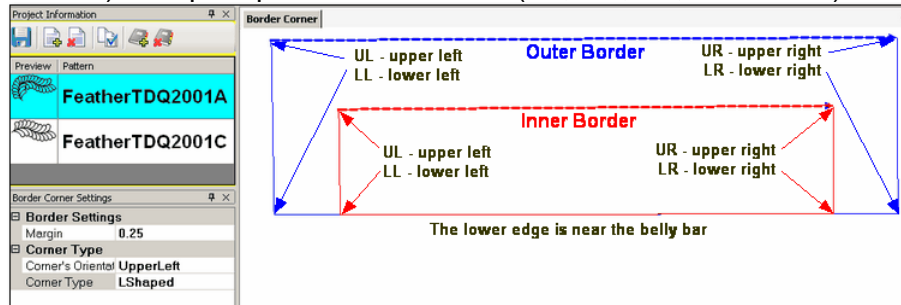
2. Select the corner pattern and edit the Border Corner settings, choosing a type and orientation that best fits the corner pattern.
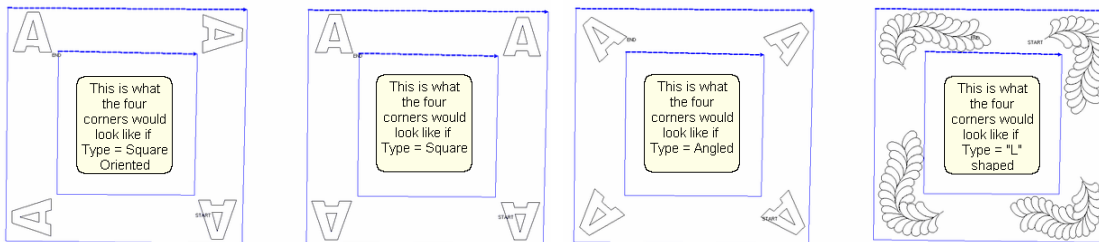
3. Click Pattern to Boundary and CS moves the corner into the preview area. If adjustments are needed, click the pattern to select it (pink) and then resize and/or repositioned as needed.
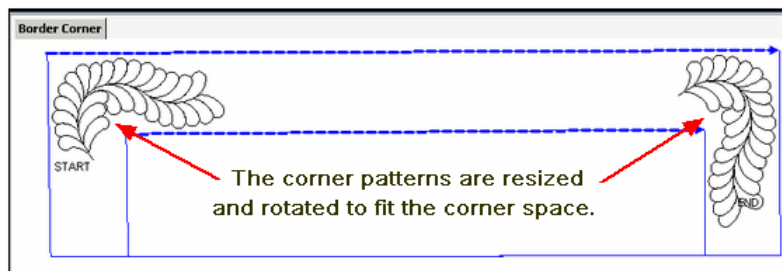
4. Click on Start_Quilting and the sewing head moves to the Start of the first pattern. CS will prompt for pulling up the bobbin thread and choosing OK when ready to quilt. CS will stitch the first pattern and move to the next, repeating the prompts for bobbin pull-ups. At the end of the quilting sequence, 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.
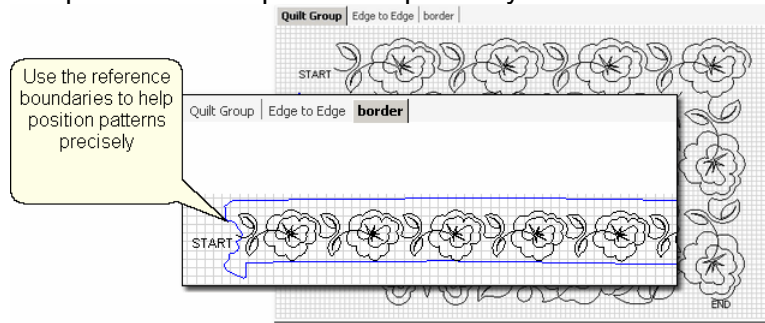
4. Click on the pattern to be used. This highlights it (blue) in the Project Info area.

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.

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 appliqued 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.

Select patterns together and resize to fill the space. Outer edges can be trimmed too.
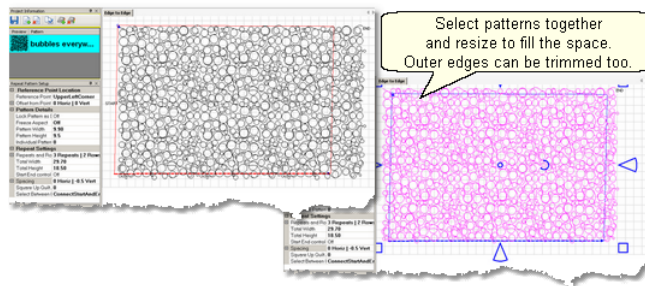
3. . Group the patterns together before adjusting the size and position. If the pattern doesn't fit exactly, let it extend past the outer boundary, and trim the excess.

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.

Closeup of the Fish applique after it was trimmed.
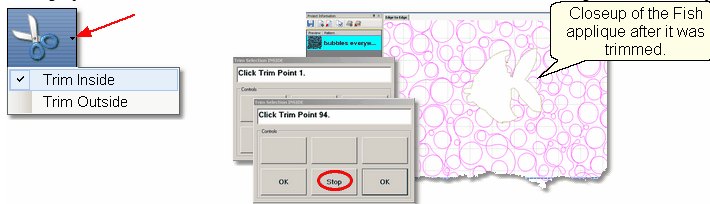
5. Click Stop when done and CS will erase everything inside the boundary, leaving the filler pattern in the background. Save the project often. Continue with additional Trims as needed.

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.

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.
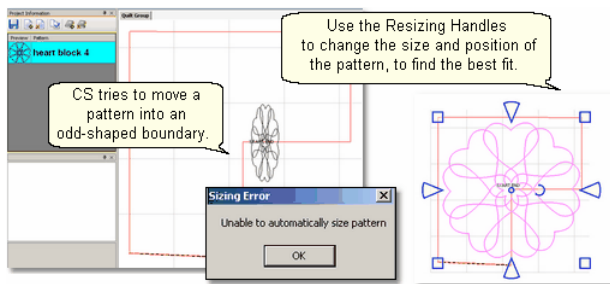
Steps to follow:

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.
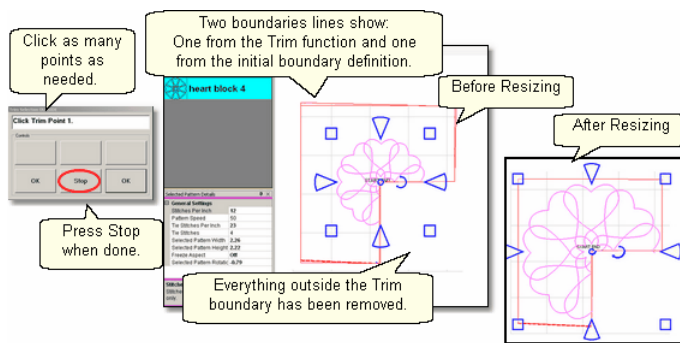
5. Reposition the pattern image. Click on the pattern(s) to select if needed. Use the handles (blue) to re-size and reposition the pattern so it aligns to the Trim boundary.

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.

5.11   Quick Ref Edge To Edge
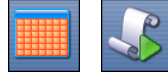
Feature: Edge to Edge (E2E)

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.
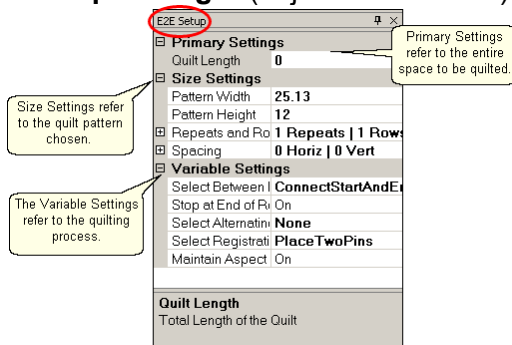
CS measured the width in step 1, and gets the length from the Primary Settings. It now has
enough information to automatically calculate the number of repeats and rows required. This
is just a suggestion! All settings can be changed in Setup mode (but not in Edit mode).

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 nere)
* 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.
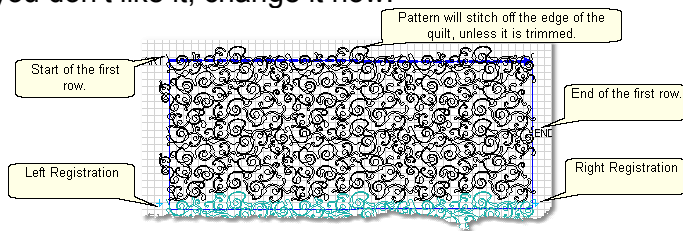
The top edge is the baseline which is used to square up the patterns. The pattern in the example has irregular edges which make it nest nicely. However, the pattern will stitch off of the edge when positioned to eliminate the side gaps. The Trim-Inside function can be used to trim off the excess - just 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 Clock 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. Place a pin in Registration Point #1 (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. Place a pin in Registration Point #2 (where the needle would enter the fabric). **Click OK** to complete the process.

Save the project [60].

8. **Roll the quilt** (baste the sides, check the bobbin, etc.)
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. Mark the boundary as prompted: CS prompts for left registration mark and right registration mark,

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.
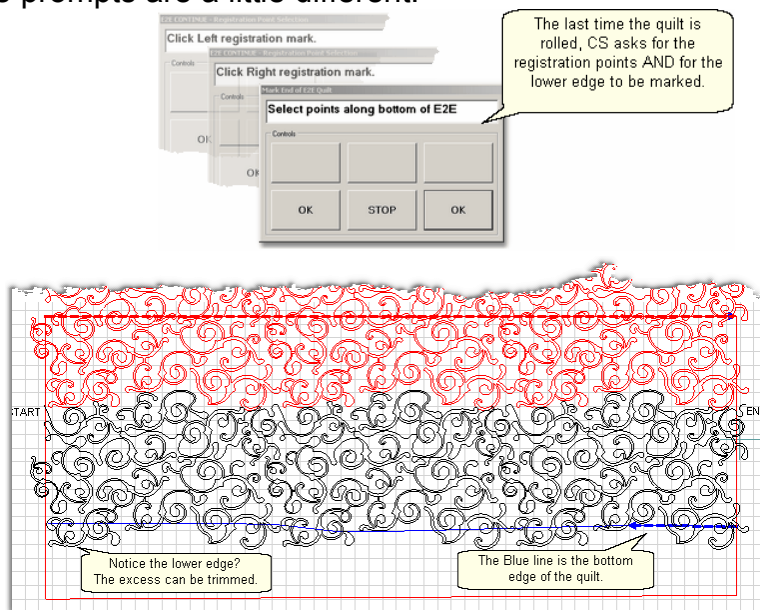
Save the project.

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 stops and prompts you to cut the bobbin thread and click OK.

5.12 Quick Ref Record

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.
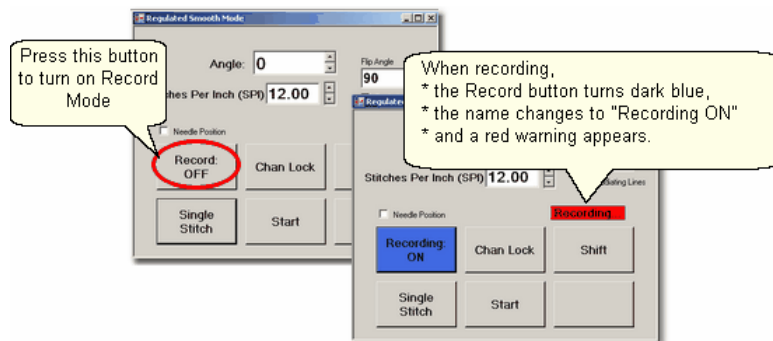
4. Press Record again to end. CS automatically creates a pattern, gives it a name, and saves it to a special folder; C:\Patterns Recorded\RecordedQLI_yyyyMondd_hhmmss.qli.
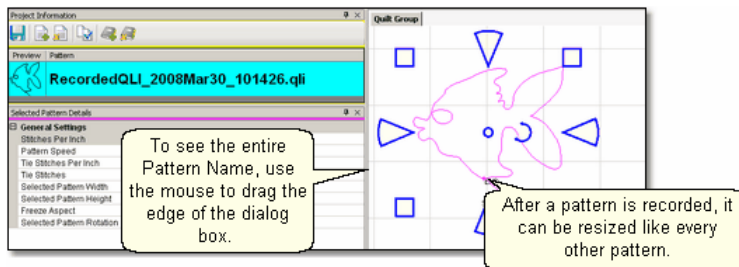
Record the design multiple times if needed. Choose the best and delete the rest. It is a good idea to rename the chosen pattern file if it will be kept for future use.

5.13 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.
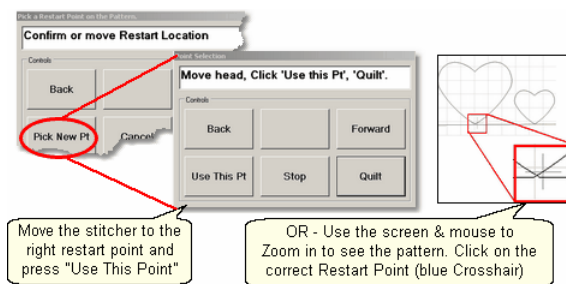
3A. To find the restart point using the sewing head - move the machine until the needle is just above the point where you want to continue stitching. **Press "Use This Pt**" on the keypad. CS moves to the closest stitch and waits for another response. If it looks good, **Press Quilt** and continue to 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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