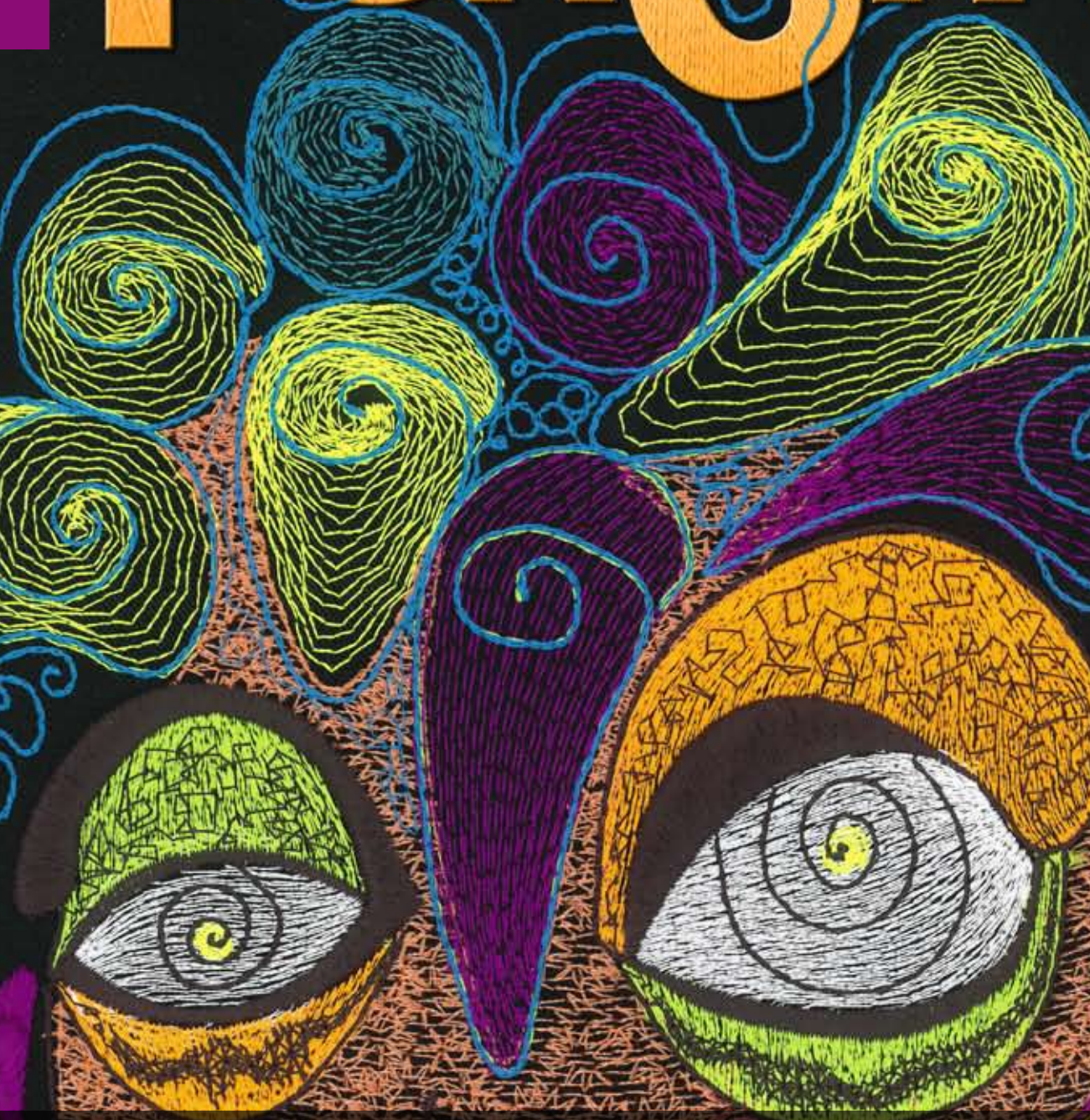
Bonnie Nielsen

PUNCH



Digitizing for Embroidery Design

Index

Biography: 6
Introduction: What is Punching? 10
Chapter 1: Software 13
Chapter 2: The embroidery machine 21
Thread tension theory 31
Chapter 3: Art work 37
Chapter 4: Puncher check list 45
Chapter 5: Basic stitch types 49
Chapter 6: Punching parameters 59
Chapter 7: Punching effectively 73
The embroidery sequence 74
Stitch directions 86
How to punch circles and squares 96
Punching corners 102
How to punch shapes with complex fill 108
Chapter 8: The challenge of different fabrics 117
Chapter 9: Hooping techniques and tips 123
Chapter 10: Stabilizers 129
Chapter 11: Embroidery threads 133
Getting a grip on Supertwist 136
Thread mixing 140
Chapter 12: Lettering and embroidery 149
Punching letters on your own 154
Chapter 13: The baseball cap challenge 165
Chapter 14: Color blending 175
Basic color blend 176
Color blending with different base colors 184
Color blending with fill stitches 190
Color blending expressively 198
Chapter 15: Curved filling stitches 203
Chapter 16: Stencils 211
Chapter 17: Macros 217
Chapter 18: Dimensional embroidery 225
Chapter 19: Fringe 237
Chapter 20: Appliqués 243
Chapter 21: Cording and Looping 255
Chapter 22: Punching sequins 261
Chapter 23: Chenille 269
Chapter 24: Madeira's film technique 277
Chapter 25: Problem solving 289

Biography

Growing up on a small farm in New England / USA, I had no idea that my life would turn out to be anything but interesting. My first job I ever had was working in a graveyard, mowing the grass in the summer months to have money for school clothes. There was only one thing which I had a strong interest for and that was art. As a small child I kept myself entertained by drawing and creating things and throughout my school years I studied art. It was at Plymouth state college where I learned how to paint. It became my favorite form of self-expression. After leaving school, I moved to Laconia / New Hampshire, where I studied under a professional landscape painter in the evenings after work. After working for a number of different companies, who mostly went out of business, it became a joke that every time I got a new job, how long would it be before that company was bankrupt. When the last company I worked for went out of business in 1985, I did not know that the next job would change my life. It was only by chance that I got a job at Madeira USA in 1985 in the punching center. I am very thankful to my boss David Perkins and the puncher Dave Lewis who helped me in my learning process about how to draw and punch embroidery designs. In the early nineties (after five years), I started to work for ZSK USA, demonstrating punching software and creating designs for exhibitions. During this time, I punched for customers and also did technical support. Always learning new things and experimenting with new techniques, I wrote many magazine articles about embroidery during my time at Madeira and ZSK. In the first ten years, I had developed my own punching and design style, which has been nicknamed the 'Bonnie' style. I had incorporated my painting skills into my embroidery work, using light densities and color blending effects. Probably this is why I got a job offer from the company CYRK, a promotional company. There I had

a dream job, being in charge of research and development for embroidery, creating new looks. So I experimented on a daily basis with stitch types and appliqués and other techniques. My portfolio of embroidery was shown around the States as a tool to attract new customers. During this time I learned more about embroidery production. Any new looks that I created had to work in production and be time saving. Our customer list contained well known companies such as Dream Works, Caterpillar and Pepsi Cola, with high profile customers like baseball player Shaquille O'Neal. These were just a few of the many large companies we supplied. After my five years with CYRK, which seems to be my standard time period I stay with companies (wanted or unwanted), my life made another very big turn, I got the chance to move to Germany. Well, everyone thought I was crazy to move to a country, where I could not speak the language. What one does for love, crazy but it is so. I was very lucky to get a job with an embroidery software company, called GIS. There, I tested and demonstrated software and continued my embroidery art work. Those first few years in Germany were very hard, mostly because of the different German dialects and the different ways of thinking. But now I can communicate and I have adjusted to the German lifestyle, although I haven't lost the American within me. Whilst I worked at GIS, I started writing for an industry magazine named TVP. Every issue contained an article about embroidery and here in Germany, the market was growing fast with newcomers, who had no knowledge about the industry. Because of these articles, I was asked by TVP to write a book. It was translated into German and was the first book about punching in German language, called "Die Kunst des Punchens", meaning the art of punching. The book was very successful, selling out at 1500 copies here in Europe. After my five years with

GIS were over, I then moved to Freiburg/ Germany, where I work once again within a designer team, this time for the headquarters of Madeira, creating new looks with Madeira threads. Presently, I give seminars about punching and help with embroidery problem solving. For the last ten years I have continued to make designs for ZSK / Germany, where my work is displayed around the world at different exhibitions. Well, life did not turn out like I had expected, but so far for me it has been every interesting and I am still doing what I love. It's a wonder how embroidery can change a life.

Introduction

What is Punching?

The term punching comes from the old way in which embroidery designs were created and produced for many years up until the invention of the computer. The original systems where hand-guided and each movement was recorded by punching a hole into a paper card. This card was later fed through the machine to produce the embroidery. It was in 1985, when I began my career in the embroidery industry; the company I was working for had old punching systems that outputted to paper tape. The art work referred to as cartoon was drawn by hand at a 6 times enlargement of the original size with stitch marks and colors all laid out for the puncher just like a road map.

It was during this time that the first computerized punching systems were developed. This made the job of punching much easier and faster. With the computerized systems, the term punching changed to digitizing. In many European countries the term punching is still widely used to describe the original process. Other countries like the USA tend to use the term digitizing instead. To be honest, this was a problem for me to decide which term to use for my book. I chose the term "punching", not only as I have grown used to it over the years, but also because it is special to our industry, and it is a term that cannot be confused with other types of digitizing.

How is it really to learn how to punch? Even with all the great new developments in embroidery software, learning to punch takes time and practice and taking in a deep breath here and there. It is not as easy as many may think, there are many factors involved in producing an embroidered design.

The design size, the fabric that it will be sewn on, and the actual sewing process: all play a role in making good embroidery. Not all things that are done in printing will work for embroidery, that's the hard part. The highlight of punching is the creative side; there are so many effects that can be created with embroidery threads and the computerized generated stitch effects. And that, mixed in with a happy customer make the job worth while.

The intention for this book is to share information about punching from the basics to the creative aspects of embroidery for the beginner and intermediate puncher. This book will help you get a grip on the challenges that await you and get you started on the right path in how to make good quality embroidery.

Chapter 7

Punching effectively

The embroidery sequence

The embroidery sequence is to plan in which order the design elements should be punched. The goal of planning ahead is to sequence the design, so it will embroider on the machine in the most optimal way in order to save on production time. This is the most important time that you will spend on any design. If this time is not taken, you will find, that you will work your way into a corner or you may forget parts of the design. This could result in spending additional waste of time editing your work.

Planning the sequence

Logic

Logic and color will control how the design should be sequenced. Designs are made up of elements that either overlap one another or stand alone. When punching these elements they are treated as a line or as an enclosed shape. Logic is seeing how these lines and shapes relate to one another. Look to see where they sit in the design: Do they overlap each other or are they set apart. Normally the shapes or lines which are set in the background will need to be punched first and then you work your way forward to the elements sitting in the foreground. Next examine the colors: Look to see which shapes and lines share the same color. It is best to punch colors one at a time; the goal is to punch as much of the same color as you can, so you do not have to change back to the previous color. There are cases when punching for a stretchy fabric or finished baseball caps, where you may need to change back and forth between colors and complete a design section before moving to another. Although this creates more color changes the machine will have to perform, it ensures that your design will have good embroidery registration, which means that the design elements will line up where they meet or overlap.

Color

Trimming

Trimming: Once you have planned which sequence you will follow, make plans of where to place the trims. The trimming action should be used sparingly. Look to see where you can connect design elements by walking through another shape which will be punched later in order to get to the next one. By using this method, you can reduce the amount of trimming commands.

Running time

Running time: The number of color changes and trims will determine the speed in which a design is sewn on the embroidery machine. Too many of these machine commands will slow down the running time on the machine.

Tip

I find, when planning the sequence of a complex design, it is best to make notes on paper of the different steps of how you will punch the design. Then, as you work, you can use these notes as a check list in order to not forget any design elements as you punch.

Where to set the start point and end point of a design

Where to set the start point and end point of a design:

Placing the start point in the center helps when centering the design inside the hoop.

If you place the end point also at the center of the design, then you can begin the next set of embroidery right away. This is referred to as ´center- center´. The start and stop point can also be automatically set inside the punching software. The software also allows you to place the start point and the end point of the design at any location if the embroidery situation requires it.

Sample of sequencing a design:

Name of design: Protect
Difficulty: Intermediate design
Number of colors: 6
Fabric: tight woven
Size: 8 cm wide

Design made by: CWE Design Lad Christine Wilhelm.

Step 1

Break down 10 steps

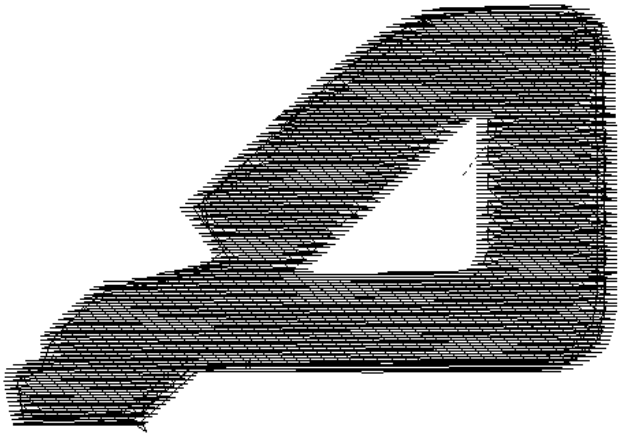
Color one: I started with the plant shapes in the background of the frog. The plants stem is punched using a running stitch, the top of the plants are made with single stitches called manual stitches.

Step 2

Color two: Here I punched the next layer of plants with the second color. The plants are connected together at the base using single stitches which will later be covered up by the frog's body.

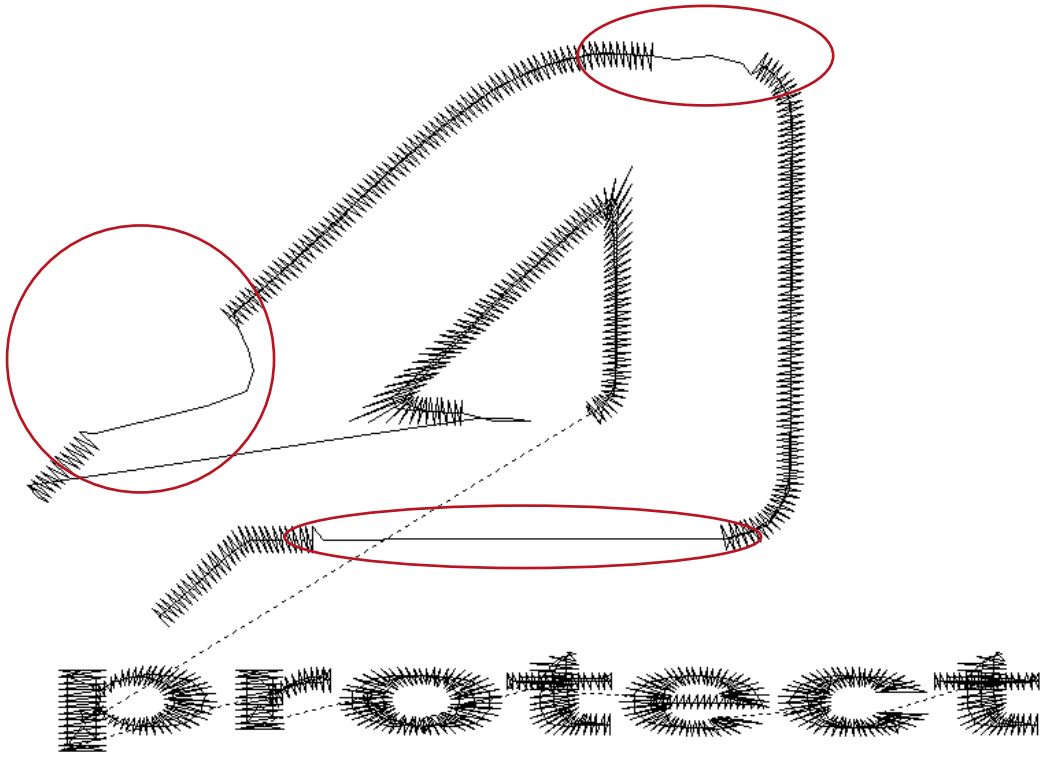
Step 3

Color three: The big ´A´ comes next, because the frog body overlaps the left side of the letter. The ´A´ is punched using a fill stitch.



Step 4

I'm still punching with color three after I filled the big letter ´A´. I then punched the satin stitch that borders the fill. This creates a nice crisp edge on the filled object. I did not punch the satin completely around the letter ´A´ because the frog's body will later be stitched on top. The areas marked in red show the connecting stitches between the broken parts of the satin border. This not only saves on trimming commands but saves on stitches and avoids thread build up. The letters ´protect´ were punched next, working left to right, with trimming commands between the letters based on the customers wish.



PUNCH – Digitizing For Embroidery Design

Explains in depth all aspects of the embroidery design process from the basics to advanced creative embroidery techniques. It is full of practical information and important tips about how to create good quality designs for industrial embroidery machines. Regardless of punching skill level and for anyone just interested in learning about the process of embroidery design, this book is a valuable source of inspiration and technical advice.

Bonnie Nielsen is an internationally known embroidery designer with more than 25 years of experience in the embroidery industry. She is recognized worldwide for her creative punching skills and is well known for her technical embroidery digitizing articles. Bonnie's work has been displayed on the covers of many embroidery trade and textile magazines. She now lives in Germany working at this time as a puncher for Madeira Garnfabrik, giving embroidery design seminars to international groups of punchers and designers. Bonnie Nielsen continues to write articles for trade magazines and also does design development for the embroidery fashion trends and corporate industries.

9 783000 300714

ISBN 978-3-00-030071-4

Verlagshaus Gruber

www.verlagshaus-gruber.de