HOW PATTERNS WORK

The Fundamental Principles of Pattern Making and Sewing in Fashion Design

ASSEMBIL BOOKS

How Patterns Work:
The Fundamental Principles of Pattern Making and Sewing in Fashion Design

Assembil Books

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About Assembil

Assembil is a fashion innovation company.

We believe that the fashion industry needs a rethink, and that every step in the creation of fashion has the potential to be reimagined using new techniques and new technology. Future Assembil projects will examine the way that fashion is taught, designed, manufactured, distributed, consumed and appreciated, and offer alternative solutions to traditional models.

Unlike other creative industries, fashion has been slow to embrace the agile nature of digital products and services. We believe that one of the ways that technology can be better utilised in the fashion industry is in the way that people learn about the design and construction of fashion.

We believe in the power of great design, but professional quality design has traditionally been expensive or out of reach for most people. We want to change this. We're passionate about helping people of all abilities to design and make their own high quality fashion by giving them access to the necessary skills and knowledge to create beautifully crafted clothing.

For this reason, our first project begins in the world of fashion education, with our first product being a streamlined pattern making book developed specifically for digital devices. We hope that you enjoy reading "How Patterns Work".

www.assembil.com

Introduction

This book has been created to approach the principles of pattern making in a different way. Some pattern making texts and courses will give you very specific instructions to follow from beginning to end in order to reach a finished garment, however these instructions can leave you at a loss when you want to create your own variation of the pattern.

There are also many common mistakes that people make when learning to pattern make, mistakes that all stem from a basic misunderstanding of the principles behind how patterns work. This book aims to address this problem so that rather than learning hundreds of separate pattern making processes, you will build your knowledge of basic pattern making principles step by step.

This book is in fact designed to start from absolutely zero assumed knowledge, building in complexity to cover basic concepts and terminology before moving into an array of basic pattern examples. These pattern examples have been built like a library of reference guides, complete with step by step instructions and clear diagrams so that you can adopt or change them to use to suit your own design work.

The main aim of this book is not just for you to be able to follow pattern making instructions, but for you to actually fundamentally understand why patterns work within the fashion industry. After reading this book, you won't just be able to follow the pattern making instructions of other books and courses - you will actually understand how and why pattern making works and be able to adapt the principles for yourself.

By learning about pattern making in this way this book acts as a companion guide to other more technical books and courses on pattern making and sewing. In a way, it is the ideal prequel, if you are just about to embark on a course about fashion design, pattern making or sewing, that will allow you to digest and consider the key terms and concepts of pattern making in your own time.

Not just for beginners to sewing or pattern making, this book has also been designed with the more experienced sewer or pattern maker in mind. By thinking about traditional pattern making processes and concepts in a simplified form, more advanced sewers and pattern makers may be able to pinpoint any previous mistakes that they have made, or improve the efficiency and accuracy of their own work.

The main idea to take away from this introduction is that sewing and pattern making processes can sometimes be presented in very complicated processes but ultimately these processes can often be reduced back to simple relationships, such as between the 2D and the 3D, or between fabric and the curves of the body. The complex measurements and processes in pattern making will always be meaningless until you can find a way to make them feel more tangible and relevant. It is hoped that by reading and understanding this book the concepts behind pattern making will be easier for you to visualise and truly comprehend, in order to allow you to make your own decisions and choices in

your own work.

Chapter 1

The Basics

Chapter Overview

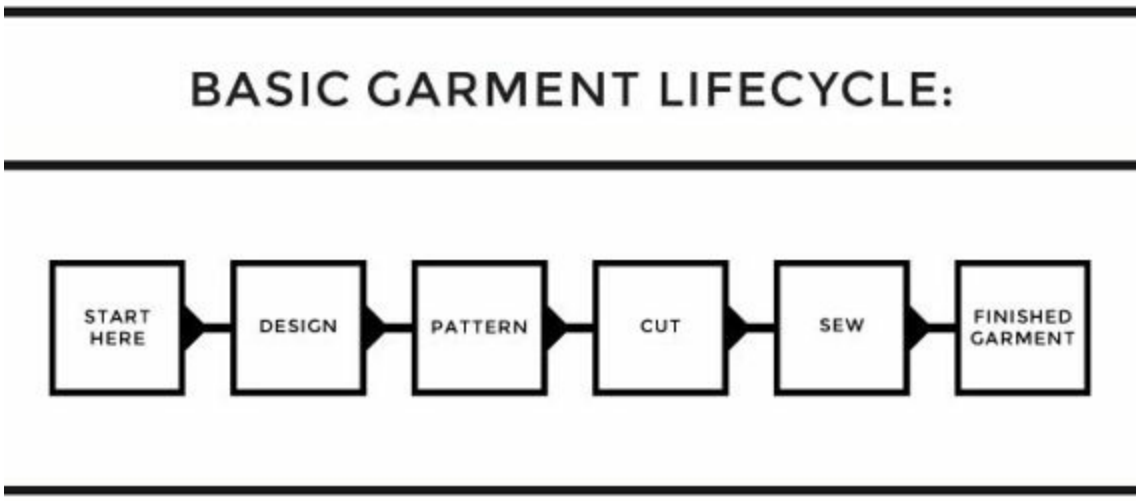
In this chapter we will begin by examining the roles of sewing and pattern making in the broader context of garment construction. This chapter will include an overview of the basic lifecycle of a garment and will also give a basic overview of the roles of pattern making and sewing within this process.

Basic Garment Lifecycle

In order to understand the relationship between pattern making and sewing let us first look at the basic lifecycle of a new garment:

1. The designer creates a sketch of a design.
2. The pattern maker creates a 2D pattern that represents the design.
3. The cutter cuts the fabric to match the shape of the pattern.
4. The sewing machinist sews the fabric together according to the pattern to create a 3D garment.

The following diagram shows a summary of this basic process:



The role of the sewing machinist in this process is generally fairly well understood. Many people entering the fashion industry for the first time will understand that in the process of constructing a garment, sewing is essentially the process through which two or more pieces of fabric are joined together using a needle and thread. The sewing machinist will generally assemble the garment with a sewing machine, including all fastenings and trims, and press the garment.

The process of pattern making in the context of the fashion industry is generally less understood. Pattern making, or pattern cutting as it is also known, allows a designer's idea to be represented in a 2D form and provides a vital step in the lifecycle of a garment. A completed pattern must be clear and accurate and be a true representation of the design without room for misinterpretation.

A pattern is a vital tool for communicating a design idea from the designer to the cutter and sewing machinist. For this reason patterns must be completed with any relevant markings and instructions that will allow the pattern maker to communicate the designer's idea in a way that the cutter and sewing machinist can easily follow. If the patterns are well made, and followed correctly, they will result in a 3D garment.

What Are Patterns?

Patterns are essentially a 2D template that represents the shape that will be cut out in fabric. A pattern is normally laid on top of the fabric, and the fabric is cut to follow the outline of the pattern.

Patterns for home sewing are often made from fine tissue paper but design studios will normally make patterns out of lightweight cardboard so that they are more durable. In some design studios, and often for manufacturing, the patterns are created as a digital file for longevity and so that they can be reprinted onto paper when needed. The process of making a paper pattern into a digital file is often referred to as "Digitising".

The pattern for each garment of clothing is normally made up of a group of individual pattern pieces, so for example there will be a template for each piece of the garment such as the front, back, sleeve, lining, facings etc. The pattern outline of each of these individual pieces will represent the outline to be cut into the fabric.

While the outline of a pattern represents the cut line, other pattern markings and pattern instructions are used to provide information to the cutter and the sewing machinist about how the piece is to be cut and sewn.

The names and uses of pattern markings are covered in more detail later in this book but by way of example, common pattern markings include stitching lines to mark out seam allowance values as well as notches, drill holes, grain lines and other guidelines.

Examples of clear pattern instructions will also be covered in more detail later in this book (Chapter 16: Pattern Information and Cut Instructions) but by way of example, pattern instructions may include information about what pattern the pattern piece belongs to, and other information to help identify the pattern piece, as well as information about how many times the pattern piece is to be cut out in fabric.

Patterns Make Design Ideas Repeatable

Patterns are so useful and important because they allow a designer's idea to become repeatable. Patterns allow for a correct result to be reached time and time again, and it is important to think of them in this way. Whether you are writing instructions and markings on patterns for yourself to use in the future or for someone else to follow, they must be easy to understand so that the same result can always be reached without any mistakes.

Any garment that will need to be made again will be represented in the form of a pattern at some point, but it is best to approach all pattern making as though it is a tool for indefinitely recording the construction of the garment. This means that you should use the shape of the pattern, pattern markings and any instructions on the pattern as a record of any information about the garment that may otherwise be forgotten.

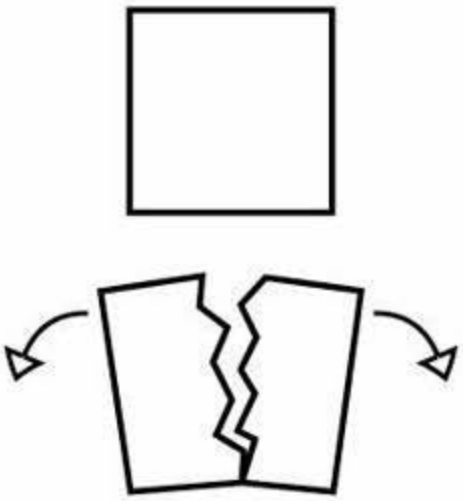
Don’t ever assume that you or anyone else will remember later on what you have done to create a pattern or how you have gone about sewing a garment as even small but vital details can be easily forgotten.

The Relationship Between Patterns and Fabric

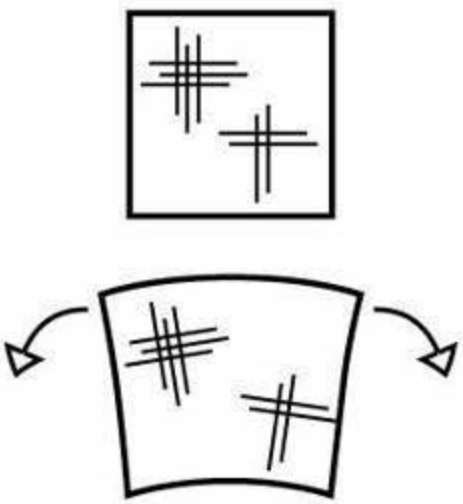
Patterns are intentionally created on paper and cardboard because of the fact that these materials are generally fairly rigid, for example if you were to draw a perfect square on a piece of paper, it would remain as a perfect square. You can only change the 2D shape of the square by distorting the paper with folds or tears – you can't stretch the lines of the square without tearing the paper. This makes it an ideal material for a reusable template because paper and cardboard will show quickly if it has been distorted in any way.

Fabric is not at all like paper or cardboard and if you were to cut a perfect square into fabric it will almost instantly stretch and skew out of shape. The minute that you cut into fabric you have instantly altered the way that the yarns are joined together and this means that the shape of any piece of fabric can become quickly distorted once it is cut.

WHY ARE PAPER & CARD USED FOR PATTERNS?



PAPER & CARD ARE RIGID, SO IT WILL BE OBVIOUS IF A PATTERN HAS DISTORTED.



FABRIC IS FLEXIBLE & DISTORTS EASILY, MAKING IT UNRELIABLE AS A TEMPLATE.

Pattern Measurements vs. Garment Measurements

When we consider how to treat measurements when comparing a pattern to a finished garment, we must keep in mind that paper is rigid but fabric is easily distorted. Imagine if you were to cut a 10cm x 10cm square into a piece of paper to use as a pattern. If you were to cut this pattern out of a variety of different fabrics you will find that each fabric will treat the 10cm x 10cm measurement in a different way.

For example, in some rigid fabrics the shape may remain almost exactly the same maintaining the 10cm measurement, but in stretch fabrics the fabric may stretch out to 11cm. If a garment is washed and then measured, then it may have shrunk and will no longer match the measurement of the pattern. Though the pattern measurement remains as a constant amount, the fabric will react differently each time.

With this in mind it is important to know that the pattern does not represent the exact measurements of the finished garment. The pattern is just the shape that you cut into the fabric. Once the fabric is cut it will change shape, and the pattern must be designed to take any fabric growth or shrinkage into account.

It is part of the role of the pattern maker to keep in mind how fabric will react, and though this is something that can be better anticipated with experience in the fashion industry, the only way to really know how a fabric will behave is through careful testing, garment fitting and pattern revisions that take each new fabric into account.

First Attempts

There is a good chance that if you have ever tried to sew a design of your own then you will have been quite discouraged on the first attempt. Maybe the pattern didn't fit quite right, or the fabric didn't hang the way you imagined, or you had trouble finishing the seams. In fact there are a number of ways that your first attempt at sewing up any new garment will not work out quite the way that you had planned.

The truth is that this is a completely normal experience, and this is also an experience that happens at even the highest levels of the fashion industry. There is nothing wrong with having a garment that doesn't seem to work the first time around. In fact the odds are that you would be incredibly lucky if a new garment in a new fabric with a new pattern happened to work perfectly the very first time that it was made.

There are in fact a number of stages where a design may require some problem solving - whether it is the fabric choice, the pattern or the sewing methods that have been used. As there is no possible way of being able to anticipate every single problem, it is best to adopt a process that allows the time and space for trial and error in order to resolve any issues.

In the next chapter we will borrow from the processes of the professionals and distil their system for garment construction into a step by step process of testing and problem solving. You don't need to have years of experience in the fashion industry before you can follow the systems of professionals. You just need the time to test your way through problems and to know what to look for when you are trouble shooting any issues.

Chapter Summary

At the end of each chapter in this book we will overview the main points that have been covered to form a checklist. This will give you the opportunity to ensure that you have understood all the key principles before moving forward to the next chapter.

In this chapter we learnt that:

- The basic garment lifecycle follows the steps: Design, Pattern, Cut, Sew.
- Patterns are a template that is cut into the fabric.
- Patterns make design ideas repeatable, and so must be clear and accurate for future use by yourself or another person.
- Patterns are rigid, while fabric will change shape as soon as it is cut.
- Pattern measurements will not always match finished garment measurements.
- Patterns may need to be adjusted for different fabrics.
- Patterns are a 2D representation of a 3D garment.
- New patterns rarely produce perfect results on the first attempt.

Chapter 2

Professional Systems: From Design Sketch to Finished Sample

Chapter Overview

In this chapter we will look at garments and patterns in a more professional context in order to gain a greater understanding of the roles of sewing and pattern making within the fashion industry.

As part of this chapter we will look at the professional systems that are used within the design studios of some high-end ready-to-wear labels. As part of this insight into professional studios we will examine the definition and uses of toiles, muslins and sample garments. From this information we will discuss how you can adopt processes from professional design studios to achieve excellent results in your own fashion garments.

Repeating and Refining

The truth is that the key ingredient to success that is common in the way that many professional fashion designers work is simply - persistence.

If you spend time in a professional design studio and get a chance to observe garments being developed you will learn very quickly that the best results are achieved through consistently improving a design by revising the design details and altering the fit of the garment. This often means that a garment needs to be remade multiple times in order to reach a truly perfect result.

What Is a Toile or Muslin?

When a new design is being sewn up for the first time it will not necessarily be sewn up in the final fabric straight away. By sewing up a new design in a cheaper alternative fabric first, before using the final fabric, it enables the designer to work with the pattern maker to refine the fit and proportion of the garment.

These test garments are often referred to as “toiles” or “muslins” depending on the country that you are based in but both are essentially a type of garment prototype for the purpose of fitting the pattern and refining the design.

Choosing Toile Fabric

Toiles are normally constructed in a simple, cheap fabric such as calico or muslin. They will often be in a light colour so that it is easy to draw any fitting notes onto the toile in pen or pencil. You do not have to use only calico or muslin to make your toile, and in fact it is best to always toile in a fabric that is as similar as possible to the feel of the final fabric that you will use, as this will give you the best indication of how the final pattern will react to the final fabric.

You can judge if the toile fabric is a suitable representation of the final fabric by considering if the toile fabric and final fabric are similar in the following ways:

- Fibre content (e.g. cotton, silk, wool)
- Drape and handle (e.g. soft or stiff, flowing or papery, heavy or light)
- Similar weave structure (e.g. straight weave or a knit fabric)

Essentially based on these factors you will need to decide if your toile fabric behaves in a similar way to your final fabric. For example, there is no point in making a toile in stiff calico for a finished garment that is meant to be in stretch jersey, as the fabrics will respond to the pattern in completely different ways.

Using Toiles in Stages

The toiles are normally built up in stages of complexity to allow the designer and pattern maker to resolve one issue of the garment at a time. They will normally begin with the overall shape and fit of the garment, before moving into resolving finer details.

For example, a first toile may be sewn with simply the main body sections of the garment with no fastenings or special seam finishes. The second toile may then add in the main garment fastening, such as a zip, and add in a pocket to test the pocket pattern.

Fitting the Toile

Designers and pattern makers will fit the toile on a mannequin or on the body of a fit model to decide if they are happy with the silhouette of the garment, the proportion of all the elements of the design, the hem length, the fit of the armhole etc.

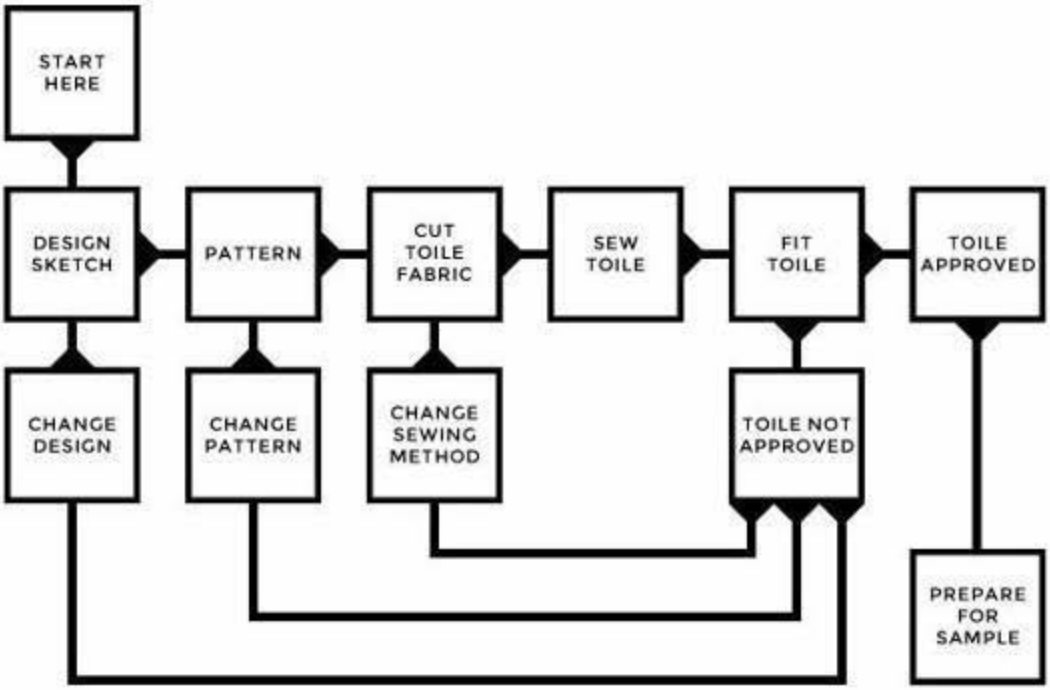
The designer and pattern maker will usually make any adjustments by pinning the garment while on the fit model in order to imagine how any changes to the pattern would improve the fit of the toile. By pinning these changes when the garment is on a fit model, this allows the designer and pattern maker to see how these pinned changes work while the body is in movement – which cannot be tested on a rigid mannequin. The designer and pattern maker may also mark some of these changes onto the toile in pen or pencil in case the pins are to fall out while the fit model is taking off the garment.

Basic toile fittings can sometimes be used as stepping-stones to more complex designs. For example, the designer and pattern maker will sometimes fit a very simple and basic toile shape first and then once the toile is on a mannequin or fit model, they can draw on the toile the best placement of panel lines, pockets, and darts to ensure that they are nicely in proportion with the rest of the body.

Once the toile is taken off the fit model, the pattern maker will then use the markings on the toile as guidelines to make any adjustments to the pattern that are needed before another toile is sewn. This process is repeated until the designer and pattern maker feel confident that they are ready to test the pattern and trims in the real fabric.

The following diagram shows an overview of this process in the form of a flow chart. From this diagram you can see that the professional process is much less linear than the diagram of the “Basic Garment Lifecycle” that was seen in the previous chapter.

PROFESSIONAL SYSTEMS:
FROM SKETCH TO FINISHED TOILE



Testing Construction Finishes

In addition to sewing up a toile the designer and sewing machinist can also resolve further issues by sewing up small test swatches of different aspects of the construction of the design. These are often done using small swatches of the real fabric as well as any of the real threads and trims that will be used in the final garment.

The designer and sewing machinist will select the finishes according to the fabric being used or sometimes they will test unusual finishes that would normally be used on different materials all together. This testing stage gives the designer and sewing machinist a chance to develop details that enhance the ideas and concepts that have inspired a collection. Sometimes these small construction details go on to become part of the recognised “handwriting” of the label or designer.

Testing of special finishes at the pattern stage is important as it allows the designer and pattern maker to really build the design details into the structure of the design, rather than having to try to add them on top of a finished garment later as an afterthought. If you have a look at the details of the garments from catwalk collections, you will begin to see how the high-end designers build clever details into the pattern stage of their designs, that could not simply just be added superficially onto the final garment.

Using Toiles and Construction Tests in Your Own Projects

If you are simply sewing your own garments at home, completing at least a single basic toile to ensure that your pattern works correctly will make a significant improvement to your finished garment. If you want to achieve a higher quality level of construction in your own work, or if you are a fashion design student developing more complex garments, you may need to add in more detail to your toiles before you commit to cutting out the pattern in the final fabric and you can adopt the process of building up toiles in stages.

When you are learning pattern making it is always wise to test all the pieces of your pattern to ensure that you have not made any mistakes. This means that you should even test the pattern pieces that you think are completely correct. For example, if your garment requires a lining pattern it is wise to sew these pieces into your final toile to make sure that the lining has enough space to move with the body and does not pull on the rest of the garment.

Though testing and developing new finishes is a professional technique to help achieve a high quality garment, it is a technique that is also easy to adopt for fashion design students and home sewers. There are many wonderful sewing books that give instructions for different techniques that you can test and try to give your own unique look to the construction details of your garments and the toile stage is the perfect time to test them. By completing these tests it will enable you to picture how the finished garment will come together and will give you the chance to make small changes to any trims and finishes that you don't like the look of or that simply do not work.

Remember that the more complete that you make your toiles and small sewing tests, the more of your design that you will have tested and refined before you move into the real fabric. The toile stage is where you can make all your mistakes and be able to learn from them before wasting expensive fabric and trims.

What Is a Sample Garment?

Once the designer and pattern maker are happy with the toile, the pattern and the sewing tests that they have done, then they will ask the cutter to cut the pattern in the real fabric and the sewing machinist will sew up a finished garment. These finished garments are referred to as samples and are normally sewn up in the final fabric with all the fastenings, trims, lining and pockets that are needed to complete the design.

The first sample that is made in the real fabric will not necessarily be perfect at first either, even after an extensive period of toile adjustments. The pattern maker and designer will fit the first sample garment on a fit model to check that the fabric, garment fastenings and trims are reacting in the way that they had hoped. The pattern maker will again make any adjustments to the pattern before another sample is sewn and this process will again be repeated and refined until the designer is happy with the outcome of the finished sample.

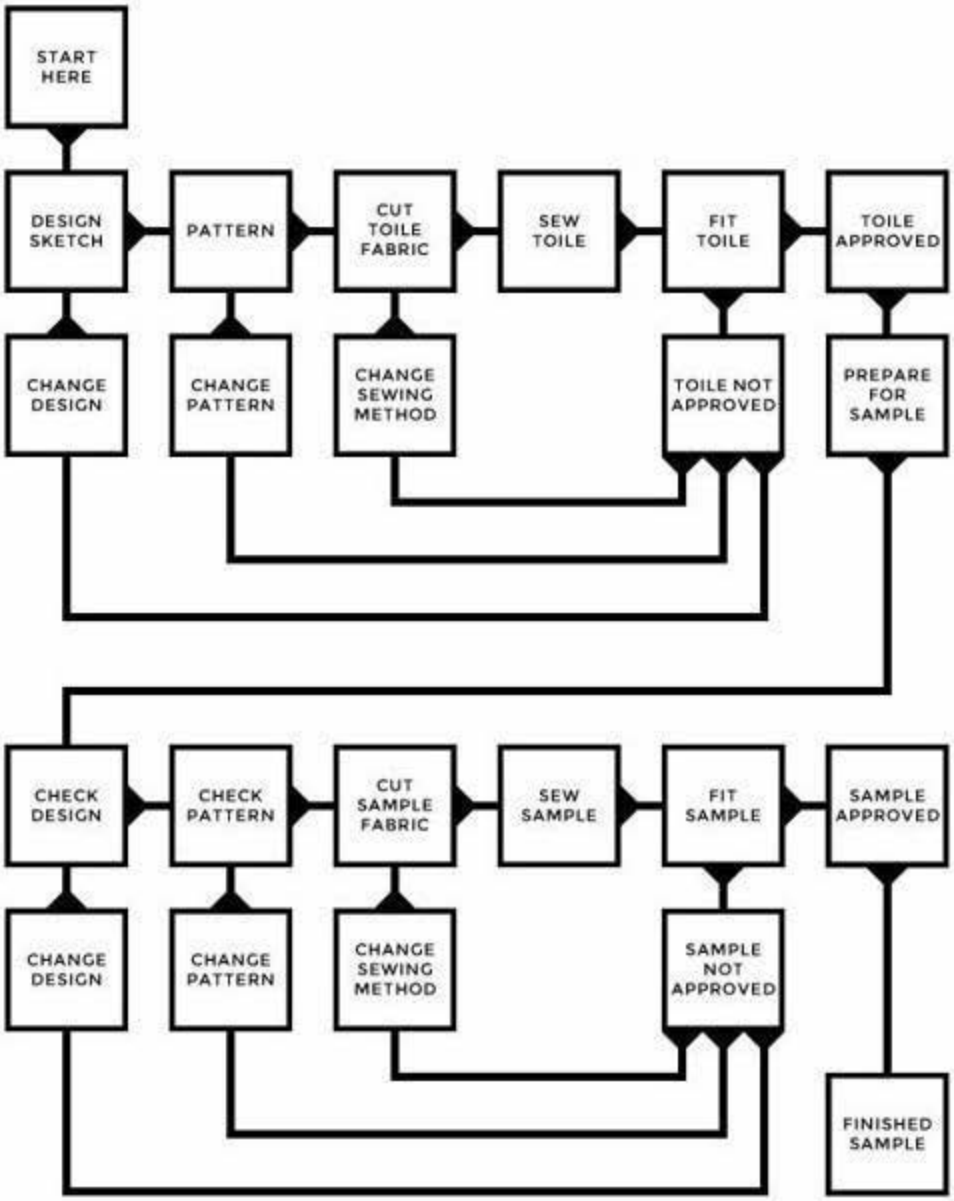
When you are studying fashion design or sewing at home and complete a finished garment in the real fabric to a professional standard then this is the equivalent of having completed a “first sample”. If you were in industry you may need to complete a second or third sample to achieve a really perfect result before you consider the sample to be completely finalised. Home sewers sometimes adopt a similar process when they find a pattern that they really like, as they may make the pattern up multiple times in different fabrics or with different trims giving them the chance to make slight improvements to the fit or construction of the pattern each time.

From Design Sketch to Sample Garment

By looking at the way that designers, pattern makers and sewing machinists work together on the fit and finish of toiles and samples you can see that it can take quite some time to really refine a design idea to make sure that it is perfect.

The following diagram (Professional Systems: From Sketch to Sample) provides a summary of the design room process from sketch to sample garment. This builds on the process shown in the previous diagram (that described the toile process (Professional Systems: From Sketch to Finished Toile).

PROFESSIONAL SYSTEMS:
FROM SKETCH TO SAMPLE



Though the diagram describes the process of a professional system, you can see that the steps are basic enough that they could be easily adopted for simple fashion design projects to achieve a high quality result.

The number of repetitions that you should complete of the following cycle will depend on the complexity of the project that you are attempting, the time that you have to complete the project and essentially how much of a perfectionist you are.

Chapter Summary

In this chapter we learnt that:

- Professional designers repeat, adjust and refine their ideas.
- Professional systems can be adopted to improve simple design projects.
- Toiles and muslins are a form of garment prototype.
- Sewing small swatch tests in the final fabric helps to avoid construction problems in your final garment.
- Samples are garments that are made from the final fabric with all the final details to create a complete garment.

Chapter 3

Communicating Design Ideas

Chapter Overview

The first step in the life of a new design is the communication of the design idea between the designer and the pattern maker. In this chapter we will briefly discuss the tools that a designer uses to record their concept and communicate their ideas to their team.

We will also look at how technical drawings can be used to flesh out the construction of a garment and how technical drawings can be used as tools to clarify the details of a garment to the pattern maker and the sewing machinist.

Clarifying the Concept

All designers have very different ways of working, and there are a variety of approaches to the way that fashion designers get their ideas out onto paper. Before a designer can even begin to communicate their ideas to somebody else they first need to clarify their ideas to themselves. There is no formula for how this is done and most designers will find a system that works for them personally through a process of trial and error.

Mood Boards

Many fashion designers work by collecting together some of the images that inspire them and collating them onto a board that they can have in their studio to refer to while they are designing. These boards are often referred to as mood boards and may contain photos, photocopies, fabric swatches and colour references.

These boards help the designer to stay on track during the design process as the mood board serves as a reminder of their original concept throughout their work on the collection. The mood board may be altered over time if the designer feels that the concept has evolved, but in most cases the mood board will remain as a constant.

The process of compiling a mood board can also help the designer to work out how dynamic their concept really is. If they struggle to find enough strong imagery to illustrate their concept, or if they find that they become stuck on a single idea once they start sketching from the mood board, the designer may find that the idea was only superficially exciting, and did not have enough depth to really inspire a full collection worth of work.

If you are adopting the mood board technique you should strive to build your mood board with enough depth to sustain you throughout the length of the design project - whether it is a one-off project or a collection of many garments.

A really strong mood board will sometimes help make all your decisions for you, from informing your silhouettes and garment proportions through to influencing your colour palette, trims and fastenings.

Fabric Boards

Some designers prefer to start by using fabrics to inspire them and may create a board of fabric swatches to help to refine their colour palette and to use as a reference when explaining their ideas to their pattern maker or other members of the design team. Some designers may also use swatches of fabric manipulations on their boards as part of their design process. For example, if the designer is going to use permanent pleating, screen printing, or digital prints in their collection they may use small swatches of these techniques on their fabric board.

Music

Some designers are heavily influenced by music in their collections and may clarify their ideas by compiling playlists or mix tapes as a form of aural mood board. These playlists may be able to convey cultural references that cannot be entirely expressed with pictures alone. They can also be very important reference tools in preparation for catwalk shows, where the songs that inspired the collection may affect the music that is chosen to accompany the presentation of the clothes.

Avoid Distracting Elements

Mood boards, fabric boards and playlists can be incredibly useful tools to use alongside design sketches when conveying the mood and feeling of your collection to your design team. The only thing to be aware of when you are adopting these techniques yourself is to consider if you are presenting distracting elements to your design team or others around you. For example, if you are studying fashion design you should gauge the reaction of your teachers and fellow students to see if you are presenting misleading images.

Be aware of the reactions of those around you to elements on your mood boards and fabric boards and consider how these same elements will play out when actually used in your designs. The elements that are distracting on the mood board or fabric board could also turn out to be unnecessarily distracting when referenced in the clothes, so showing your inspiration tools to other people is a good way of gauging what people will become fixated on in the final garments.

Design Sketches

Many of you will have seen illustrative sketches that are done by great designers to show their design team the garments that they are about to create. Design sketches are another wonderful way of representing the mood of a collection, as well as showing the specific shapes of individual garments. There are many different ways of sketching up designs and many designers develop a style that is as particular to them as their handwriting.

There is no single right way of sketching up your designs – some like to develop a style that relates to a specific collection concept while others will carry a consistent style across many collections. Some prefer to sketch only by hand, while others may be more comfortable working directly on a computer.

One thing to be aware of when drawing your sketches is that the way that you are drawing can sometimes affect what you design. For example if you find it easier to trace over a template of the human body in order to get your proportions right, check that you are not becoming too dependant on that template. If you find yourself always drawing the exact same silhouettes and proportions, then you may benefit from trying a different technique of drawing in order to evolve your designs.

Like a professional songwriter who may be influenced to write different styles of songs depending on what instrument they are playing, a designer can also try using different techniques to free up their inspiration. If you normally draw then why not try collage or using inks or paint? If you normally use the computer why not try drawings first before manipulating the design on the computer?

Technical Drawings

While the majority of a designer's vision for a garment can be conveyed to a pattern maker through a design sketch and a mood board, the real construction details of a design may not be so easily documented through these images alone. Technical drawings or line drawings are a less glamorous version of the design sketch that aim to document more concrete garment details such as panel lines, darts, pocket shapes and topstitching.

These drawings are also sometimes referred to as "flats" because they are normally drawn as though the garment has been laid flat on a table. Technical drawings are usually drawn as front and back views of a garment, though some designs may also require a side view, or a close-up and zoomed in view of a more intricate detail. These images are normally done without any colour so that the drawing will focus on the details of the garments.

Depending on the working relationship between the designer and the pattern maker, the first pattern of a design may actually be based purely on a design sketch, without a technical drawing. However if you are a fashion design student or sewing at home and are about to pattern make a garment from your own design sketch you may find it useful to redraw your design as a technical drawing with all your construction notes before you begin to pattern make the garment. This will help you to work out the details of the garment and to picture how the garment will be constructed.

Chapter Summary

In this chapter we learnt that:

- Mood boards, fabric boards and music can be used alongside design sketches to convey an idea to a design team.
- Reference tools should keep you inspired throughout the whole design process.
- Be aware of any distracting elements that you place on mood boards.
- Changing your design sketch style can also free up your designs.
- Technical drawings can be used to describe the details of a garment, and will help to clarify the construction details of your design before you begin to pattern make.

Chapter 4

Key Body Guidelines

Chapter Overview

A large part of creating innovative and yet still achievable garment designs is to understand how garments are constructed. This is why great fashion design often goes hand in hand with a solid understanding of pattern making and sewing methods.

The next step in the life of a new design is to create a pattern that represents the design idea in a 2D form, so in this chapter we will begin to look at the principles behind pattern making, discussing how patterns must be built from the shape and measurements of the body.

In this chapter we will look at how pattern makers break the body down into different areas in order to map out the curves of the body. We will examine the key pattern making guidelines in relation to a mannequin, examining the location of lines such as the bust, waist, hips, centre front, centre back and side seams as well as the bust point and other key guidelines that may be used.

Body Measurements

The very first step in pattern making any garment is to consider the size and shape of the body that you are designing for. Since there are many books on pattern making that devote whole chapters to the correct way to take measurements on the body, and many books that also explain the various different body types that people have, we aren't going to go over these methods in detail here.

Rather than focusing on specific body measurements we are going to talk about parts of the body in more general terms. This will allow us to learn the basic principles without getting too preoccupied by the mathematics of specific pattern making examples.

If you sew or pattern make at home and are designing for body shapes and sizes outside of a narrow commercial size range, then learning pattern making by principles rather than through specific measurements will be especially helpful.

The same basic fundamental ideas of pattern making apply no matter what shape or size you are designing for, and the following ideas are applicable whether you are designing women's wear, men's wear or clothes for children. Once you have a firm grasp of the key pattern ideas in these simple forms then you will feel more comfortable experimenting with major pattern alterations on any type of body.

Dress Forms and Mannequins

Many fashion design schools use padded versions of the human body to work on that are often referred to as mannequins, dressmaker's dummies or dress forms. If you have seen videos and documentaries of designers working in their studios you may have seen these mannequins, and you may also have noticed that they are sometimes marked out with guidelines that resemble a grid shape.

The following sections will explain some of the key lines that you may see marked on a mannequin.

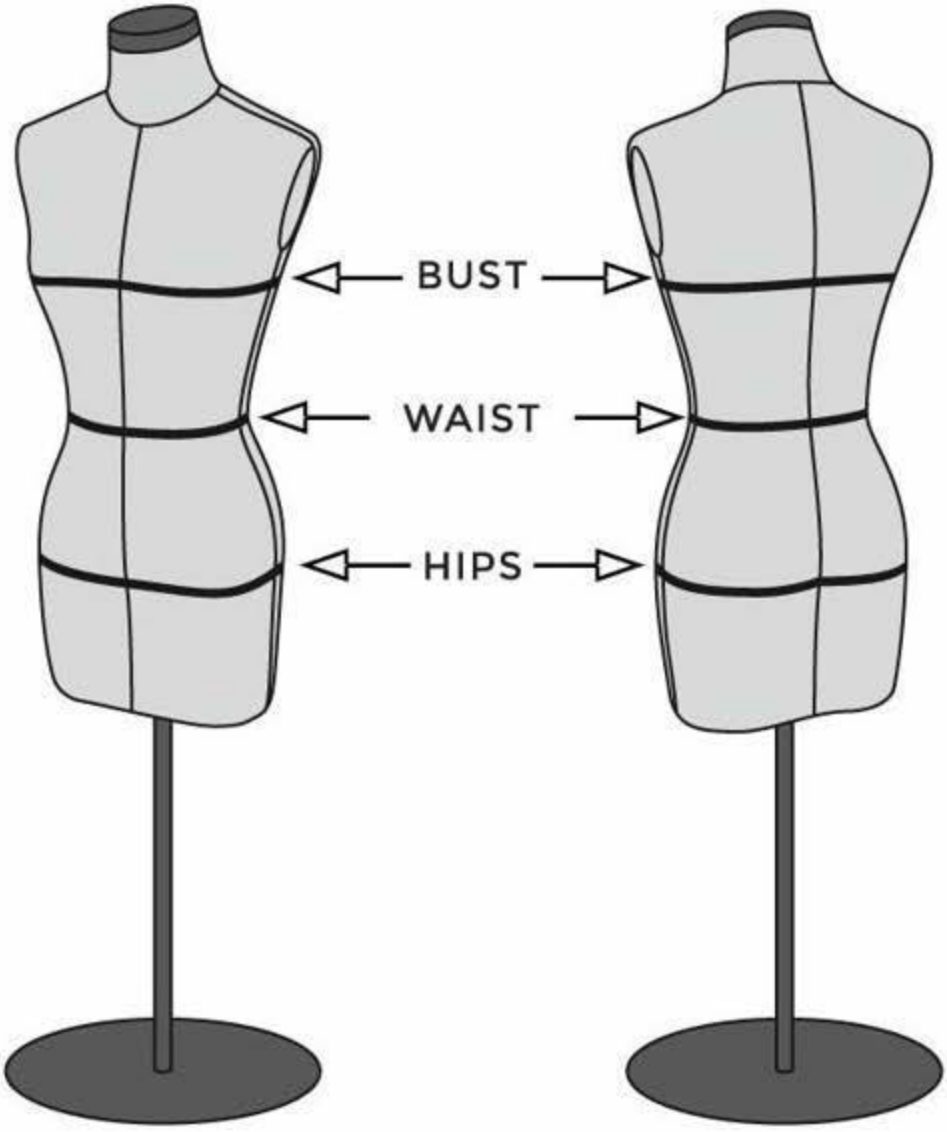
Bust, Waist, Hips

For the purpose of understanding how patterns are built we are only going to concentrate on three key horizontal lines around the body:

- Bust
- Waist
- Hips

These lines are marked in the following diagram and essentially run like three horizontal rings around the body.

KEY HORIZONTAL GUIDELINES:
BUST, WAIST & HIPS



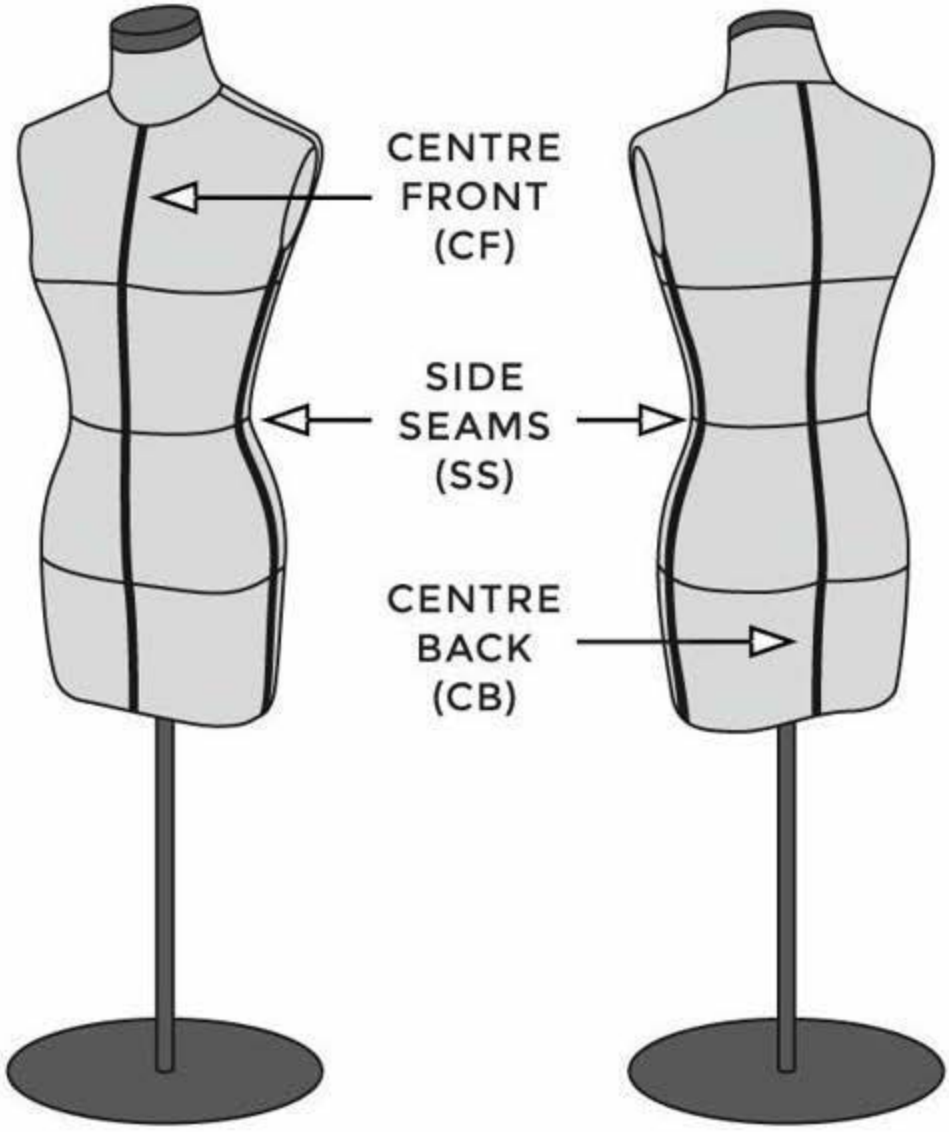
Centre Front, Centre Back and Side Seams

We are also only going to concentrate on the following key vertical lines on the body:

- Centre Front (CF)
- Centre Back (CB)
- Side Seams (SS)

The centre front and centre back lines are simply the lines that run up the middle of the body at the front and back, often abbreviated as “CF” and “CB”. The side seams are simply the lines that run directly down both sides of the body. They are often abbreviated as “SS”.

KEY VERTICAL GUIDELINES:
CENTRE FRONT & BACK, SIDE SEAMS



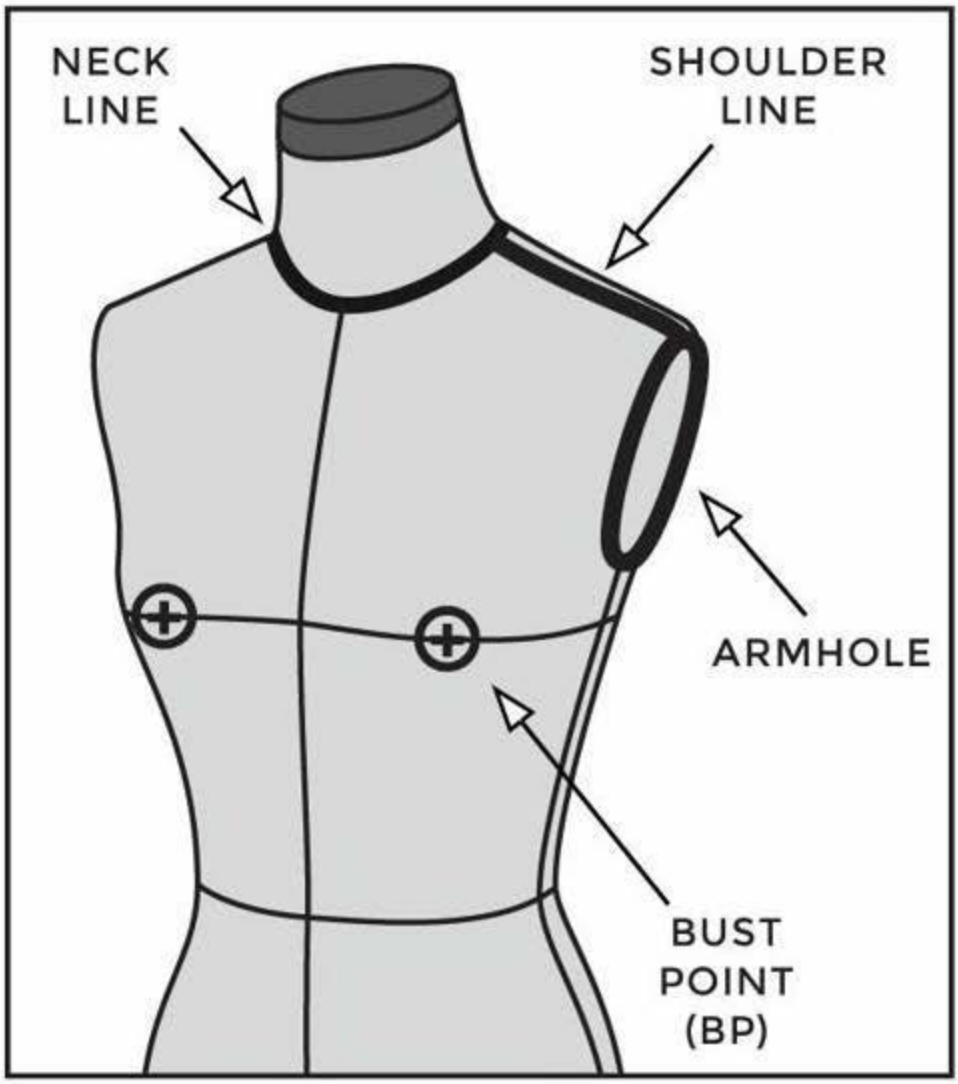
Bust Point and Other Guidelines

The bust point is another key reference point that pattern makers often use in their patterns. The bust point is the apex of each breast and is often abbreviated on patterns with the letters “BP”.

The naming of other guidelines around the body is normally very straight forward as the guideline names simply relate to the body part that they are nearest to. For example, neckline, shoulder line and armhole guidelines are fairly self-explanatory.

As an example, the bust point and other guidelines have been marked onto a mannequin in the following diagram:

KEY GUIDELINES:
BUST POINT & OTHER GUIDELINES



FRONT OF MANNEQUIN

Purpose of Key Guidelines

Key body guidelines are used for a couple of different reasons in garment construction. One of the main reasons that they are used is that they will be marked on patterns so that the pattern maker has a reference point for when they are making the patterns and for making any adjustments.

As you can imagine, plain pattern pieces without any markings on them can all look like they are simply just plain pieces of paper, so by marking the location of body guidelines onto the pattern pieces, the pattern maker is able to understand how the pieces fit together. This also gives the pattern maker reference points to understand how the pattern pieces relate to the body.

Body guidelines also help to map out the curves of the body, almost in the same way that a topographic map will chart out the hills and valleys of a landscape. For example, the main purpose of the 3 horizontal lines, the bust, waist and hip lines, is to highlight the widest and narrowest parts of the body. The key vertical lines, seen in a previous diagram as centre front, centre back and side seams, serve to effectively divide the body into vertical quarters.

If you were designing patterns for a different body type, and the widest and narrowest parts of the body were different from the diagrams previously shown in this chapter, then you may find it more helpful to adjust the position and names of your lines to represent the widest and narrowest parts of the body.

By breaking the body down into a grid, the pattern maker can deal with each section of the body in different ways making the patterns curve to the shape of the body.

Naming Conventions of Guidelines

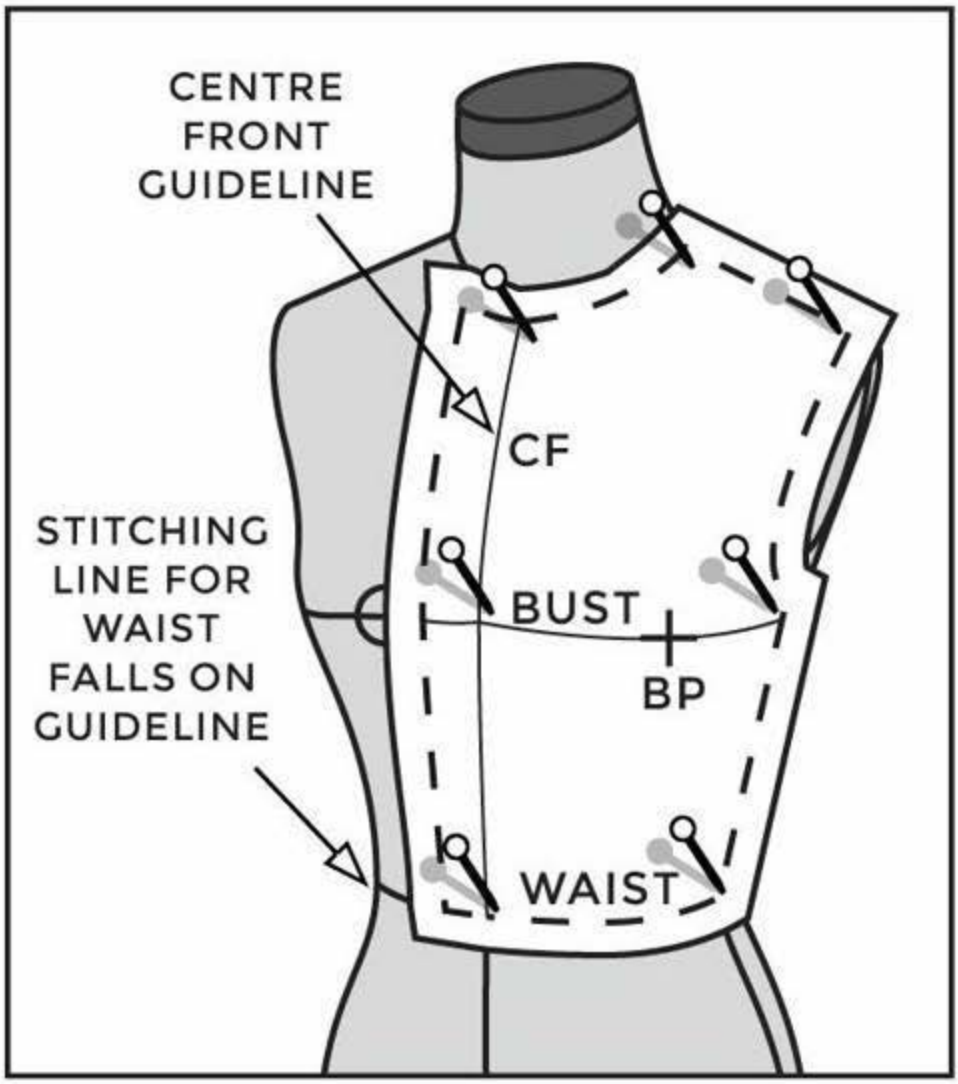
The basic naming convention of the body guidelines means that you can use the terms to name a specific seam that follows that body guideline, or use the same name for a guideline that goes through the middle of a pattern piece.

For example, if a pattern has a seam that follows the exact line of the centre front of the body, then the stitching line of the seam may be named as “CF”.

If the centre front line fell mid-way across a pattern, and did not follow a seam or stitching line, then a guideline could be marked on the pattern to show the position of the centre front line, and would be again marked as “CF”.

In the following diagram, a piece of fabric has been draped onto the front of a mannequin and pinned into place. The approximate stitching line has been marked with a dashed line, and the waist stitching line has been named to show the fact that the stitching line falls on the waist guideline of the mannequin. The position of the bust line, bust point and centre front line have also been marked to show that these guidelines fall at midpoints through the piece of fabric.

KEY GUIDELINES:
NAMING CONVENTIONS



EXAMPLE OF GUIDELINES ON FABRIC

Marking Guidelines on a Mannequin

These guidelines are often marked onto the mannequin using a narrow cotton tape in a dark or bright colour. The reason for using a contrasting colour is to allow you to see the tape easily through any paper patterns or fabric that you have on the mannequin. It also helps if the tape is raised, rather than a flat ribbon, as this will help you to feel the edge of the guideline through thick fabrics.

The guidelines are a tool to help you achieve your patterns, so you can also add in any other guidelines onto the mannequin that you feel you may need while you are designing or pattern making. For example, you could mark out a specific underbust guideline or neckline that suited one specific design idea if you were going to need to refer to that line while pattern making and sewing a garment.

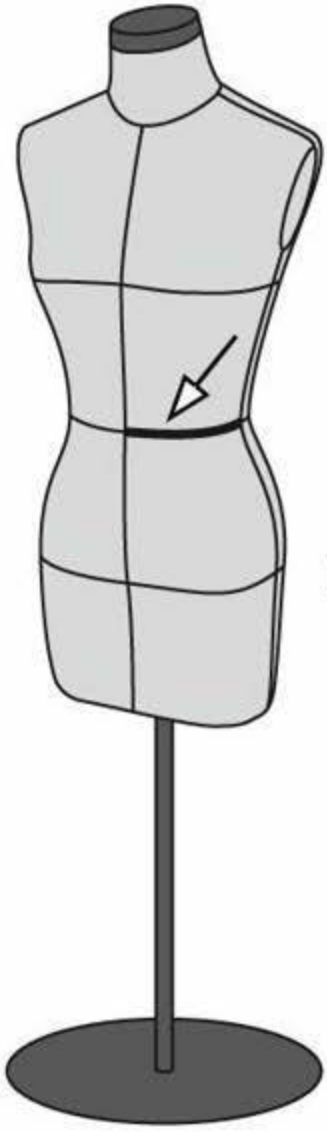
Guidelines and Body Measurements

If you are marking up the guidelines yourself onto a bare mannequin, remember that these guidelines ultimately represent body measurements that you will also use in your patterns so you should take care to mark these guidelines accurately and evenly. Ideally your mannequin should be perfectly symmetrical so take care to check that your centre front, centre back and side seam guide tapes are dividing the body into even segments.

You can check this by comparing the measurements of the right and left sides of the body. For example, if you measure along the waistline with a tape measure, your measurement from your centre waist to your right side seam should be exactly equal to the measurement from the centre front waist to your left side seam. You should also check these measurements at the bust and hip lines for both the front and back of the mannequin.

An example of checking for symmetrical measurements is shown in the following diagram:

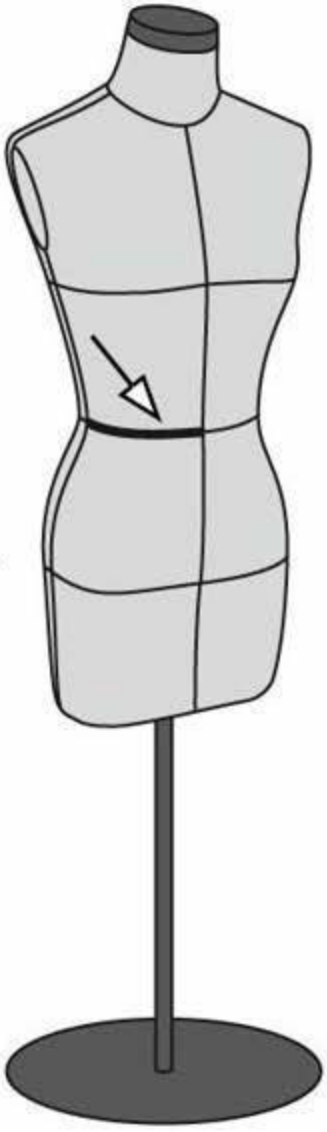
MARKING GUIDELINES:
SYMMETRICAL MEASUREMENTS



LEFT FRONT
WAIST

EQUALS

RIGHT FRONT
WAIST



FRONT LEFT

FRONT RIGHT

When you are pattern making, you have to remember that the guidelines that you mark on the mannequin represent body measurements, and when that same line is transferred to a pattern then it must also relate to that same body measurement.

For example the guideline that runs round the bust on the mannequin represents the bust measurement on a human body, which must also relate to the bust measurement on the pattern. All three measurements of body, mannequin and pattern are linked.

This seems fairly straightforward, but is actually very easy to forget when you are in the act of pattern making a design. You can get so caught up in making the pattern measurements work as a pattern that you will sometimes forget that what you are doing actually relates to the human body.

As an example, if the waistline measurement on your pattern is much smaller than the waistline measurement on your body then when you sew up the garment and put it on, you will have to stretch the fabric and squeeze in your waist to be able to put on the skirt.

For another example, if the bust line measurement on your pattern is 10cm bigger than the bust line on your mannequin, then when you sew up the garment and put it on the mannequin, you will have 10cm of extra space around the bust line. Or otherwise this extra fabric volume will be draping or collapsing in a way that closes up this space.

There are times where you want the pattern to be smaller or bigger than the body measurement, but you need to make sure that you are making these adjustments as a conscious choice rather than by mistake.

Mannequins vs. Human Bodies

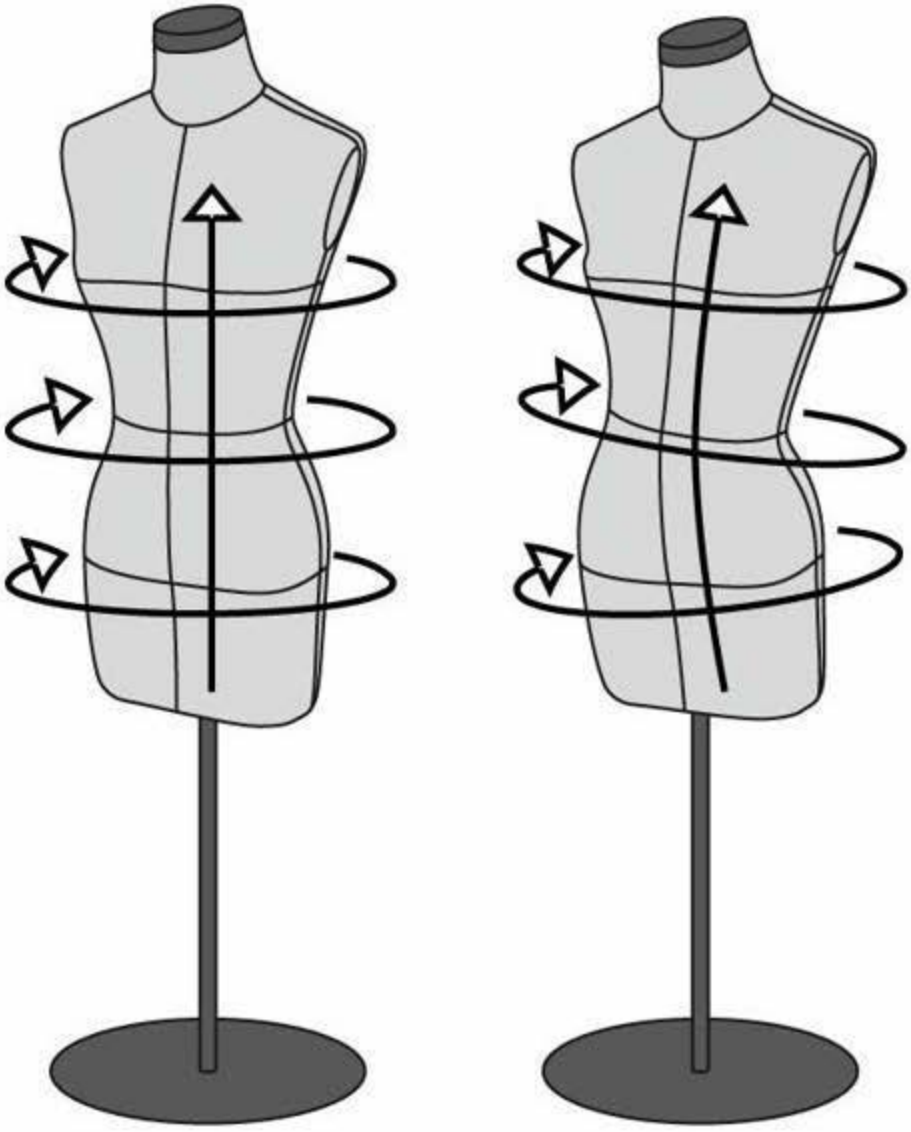
On a mannequin the guidelines of the body should be very even, representing an idealised form of the human body for making mathematically accurate patterns. On a mannequin the horizontal guidelines of bust, waist and hips will run like three rings around the body that run parallel to the floor. The centre front, centre back and side seam lines will also run directly straight up and down the body. Evenly placed guidelines will mean that the mannequin body is equally and symmetrically broken into an even grid of segments.

On a human body these guidelines will not necessarily be even and you should take this into account when performing fittings on a real body.

For example, on a real body the bust, waist and hip lines may tilt forwards or backwards depending on the body of the person, rather than running like rings that are parallel to the floor. In the same way, the centre front, centre back and side seams may also twist slightly on the body, or be longer or shorter on one side compared to the other.

These differences between a mannequin and a human body are the reasons why that, even if your patterns are mathematically sound and perfectly accurate, you may still need to make additional pattern adjustments to ensure that you have taken into account the quirks of an individual body shape.

KEY GUIDELINES:
MANNEQUIN VS. HUMAN BODY



MANNEQUIN

HUMAN BODY

Chapter Summary

In this chapter we learnt that:

- Guidelines are used as reference points between the body and the pattern.
- Bust, waist and hip lines are three of the key horizontal guidelines used in women's wear.
- Horizontal guidelines map the hills and valleys of the body, so if necessary you should decide on your own guideline positions if you are pattern making for different body shapes.
- Centre front (CF), centre back (CB) and side seams (SS) are three of the key vertical guidelines.
- You can also have guidelines that represent other parts of the body such as the neckline, shoulder line and armhole as well as any design lines that you need.
- The bust point apex on the pattern is abbreviated to BP.
- Guidelines ultimately represent body measurements.
- All three measurements of body, mannequin and pattern are linked.
- Mannequins are made to be symmetrical and can be evenly segmented with guidelines.
- The human body is typically uneven and asymmetrical and this must be taken into account when adjusting patterns to fit the body of an individual person.

Chapter 5

Understanding Darts

Chapter Overview

In order to understand how pattern makers work with the curves of the body, you will first need to understand a few key ingredients that are used by pattern makers to create patterns. In this chapter we will begin by explaining the basic concept behind darts. As well as including a simple exercise for you to create your own basic dart, in this chapter we will discuss the different aspects of darts such as dart points, dart arms and dart value.

What Is a Dart?

The first technique in a pattern maker's arsenal for turning a 2D piece of paper into a 3D piece of paper is by using a dart. On a paper pattern, a dart is basically a triangle that is folded out of the paper, causing the paper to mould into a slight cone shape. When the dart shape in a pattern is cut out onto a piece of fabric, the dart will cause the fabric to mould more closely to the body.

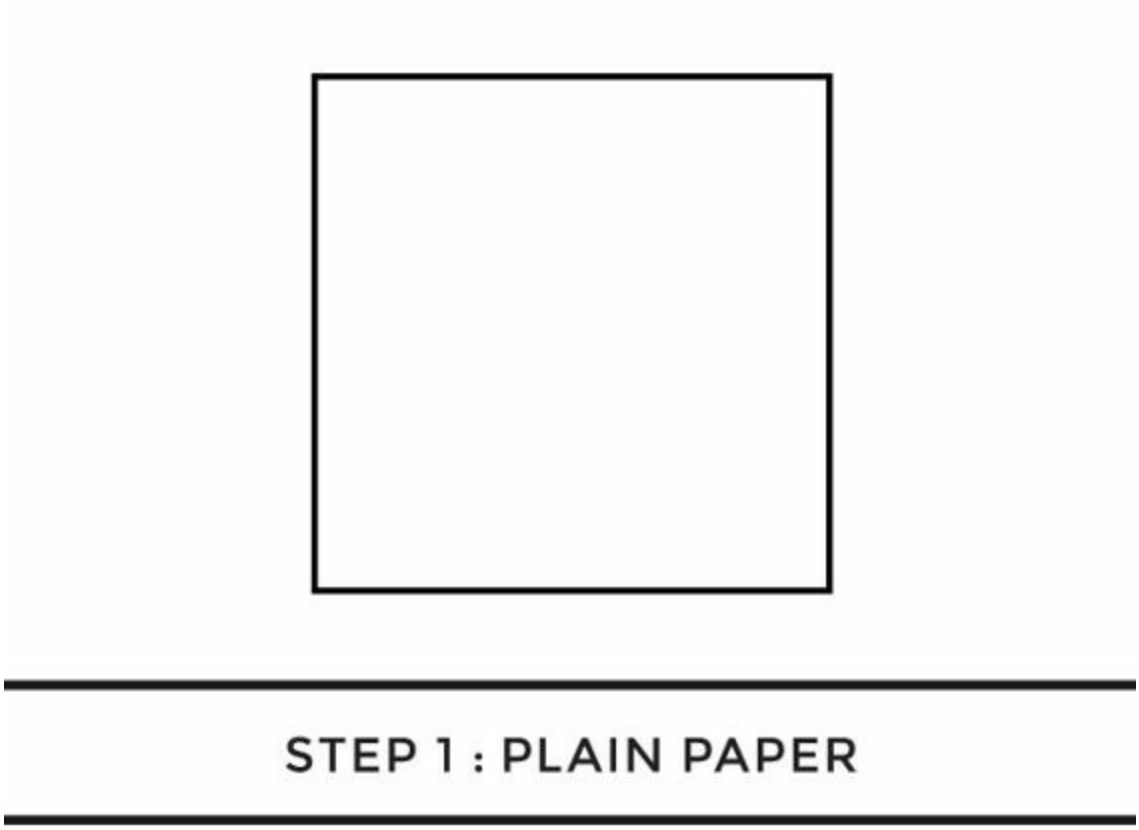
To put it another way, the dart should act almost as though the excess fabric of a garment has been pinched out of the garment and then sewn shut, so that the rest of the garment will sit smoothly across the curves of the body without large wrinkles of excess volume in the fabric.

An Exercise in Making a Dart in Paper

The easiest way to understand what a dart is, and to see how it affects patterns and fabric, is to make one for yourself. The basic principle behind darts can be demonstrated without any previous sewing or pattern making experience with just a small sheet of paper and a pen.

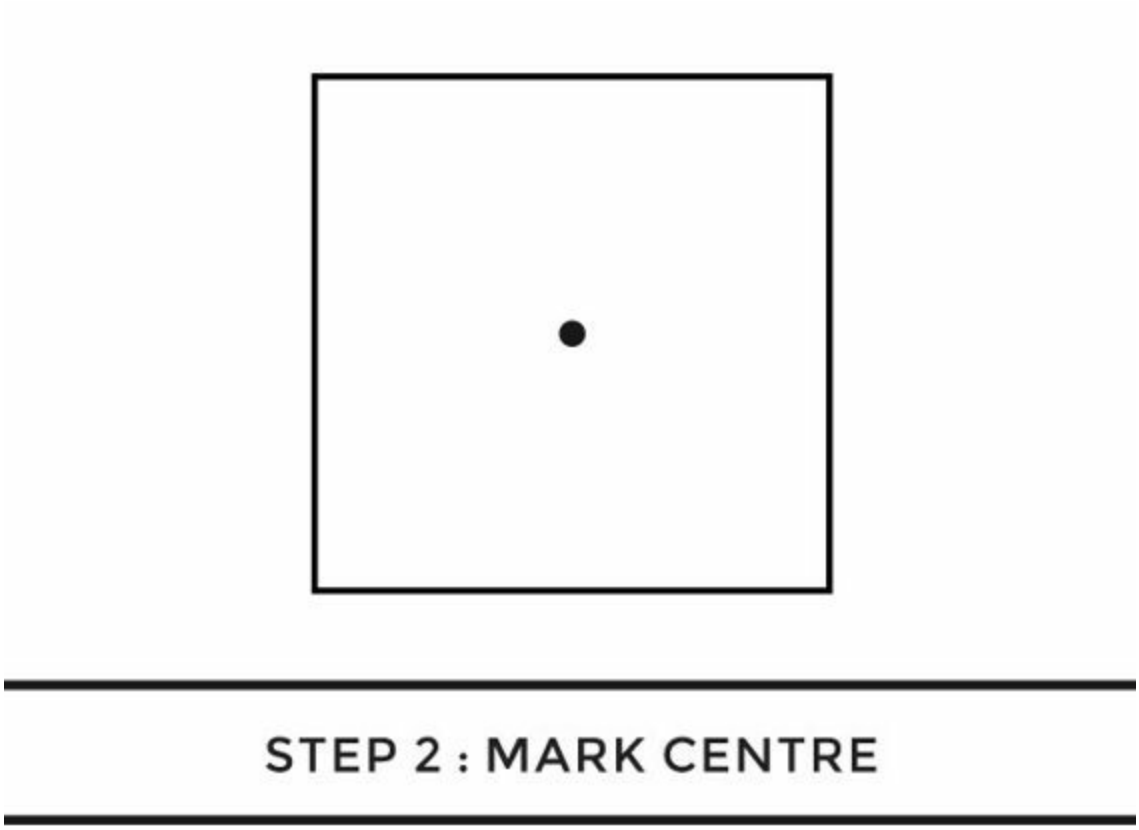
If you want to follow the exercise through you can follow the process step-by-step, but there is also an overview at the end so that you can understand the fundamentals even without trying the exercise for yourself.

Step 1: Plain Paper



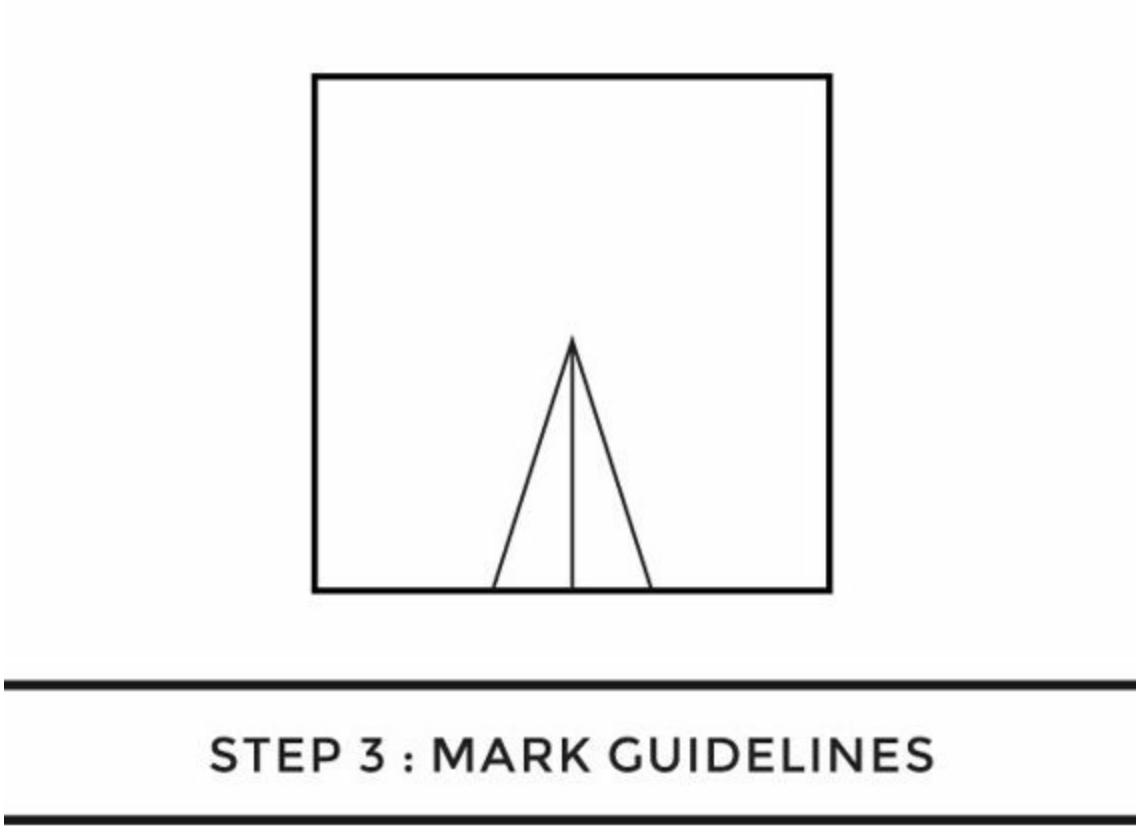
Start with a plain piece of paper that is relatively easy to fold and crease.

Step 2: Mark Centre



Mark the centre of the paper with a dot using a pen or pencil.

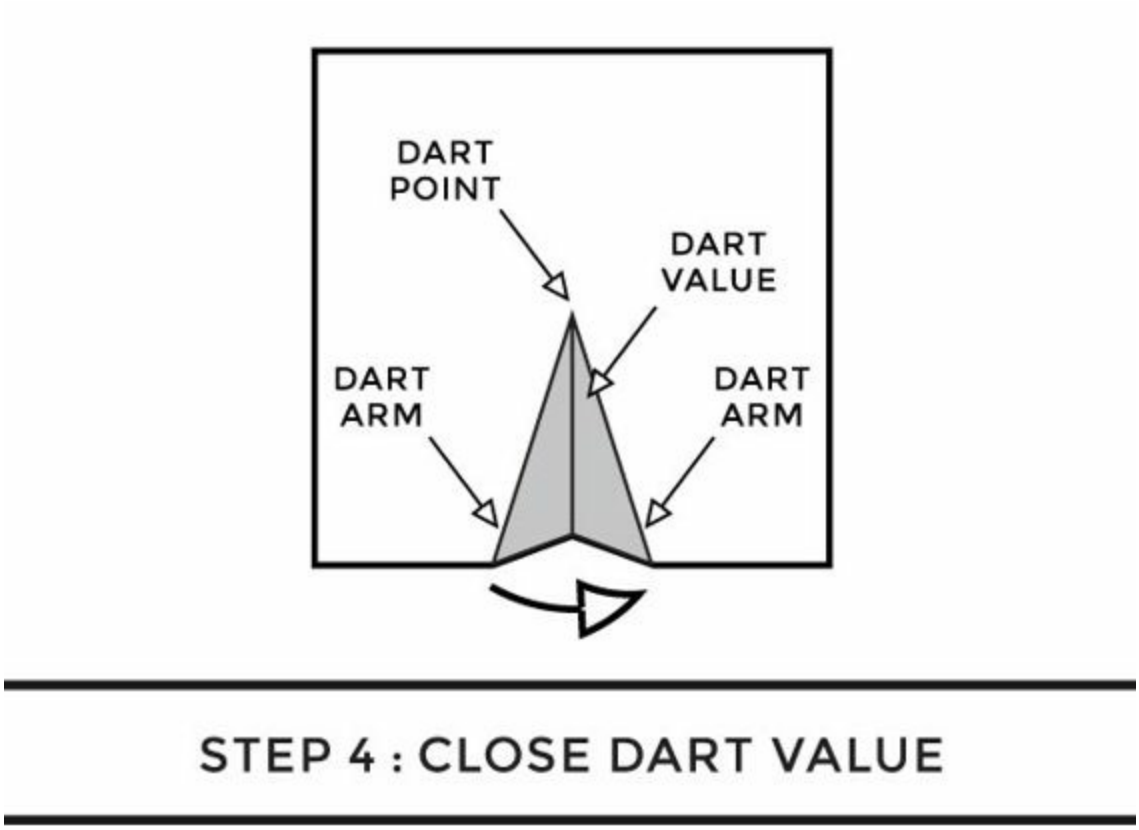
Step 3: Mark Guidelines



Mark a line from the centre dot, directly down to the bottom edge of the paper.

From the centre mark, draw two more lines out to either side of the centre line. These angled lines should be drawn out to either side at equal distance from the centre, so that the centre line becomes the half way point of the triangle as seen in the diagram above.

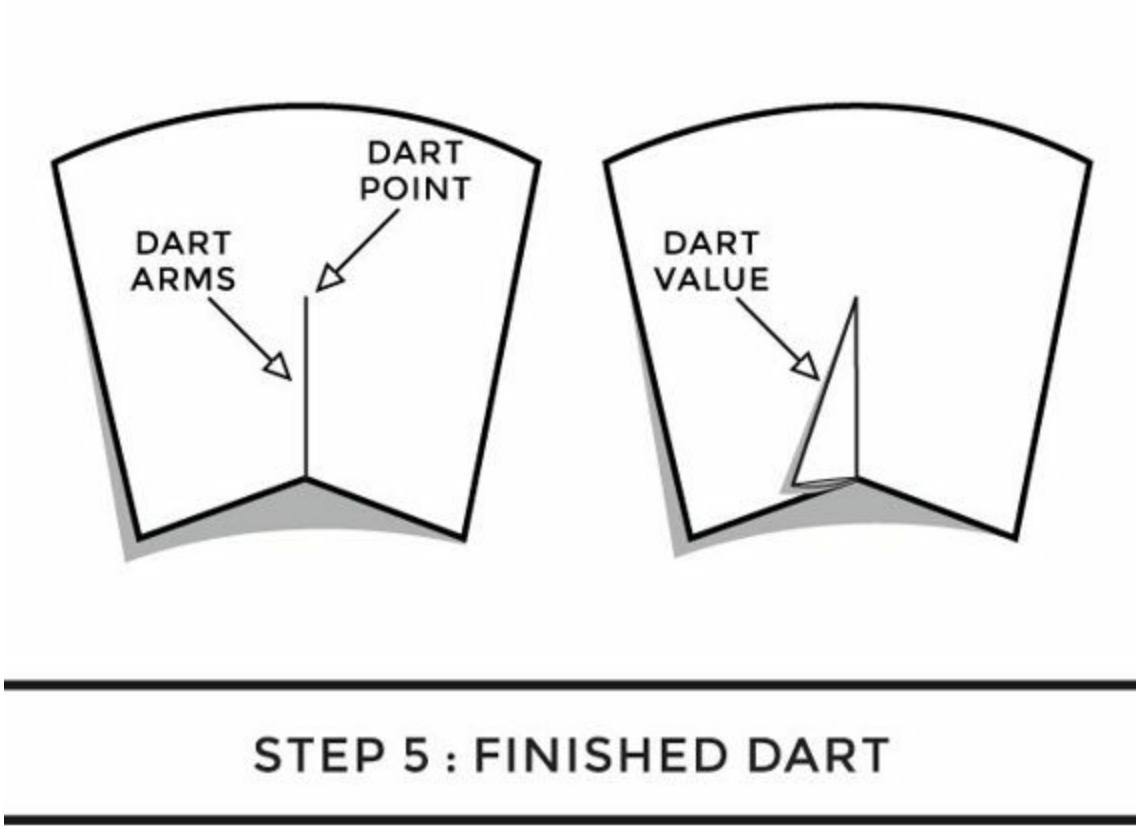
Step 4: Close Dart Value



Fold the dart down the centre so that one dart arm matches the other dart arm. You will need to crease the paper in folds along the dart arms, so that the triangle between the two dart arms can collapse and close.

The area between the two dart arms is called the dart value. Secure the dart arms together using tape, staples or pins so that the dart value is closed.

Step 5: Finished Pattern

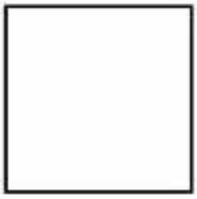


In the diagram above, the diagram on the left represents the top view of the paper with the dart arms joined together to make a line ending at the dot that was originally marked in the centre of the paper. If the dart is completed correctly, the paper will sit up off the table, making a slight cone shape in the paper.

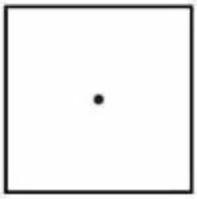
The diagram on the right shows how the paper will look from underneath. There should be a triangle of paper that is only visible from the underside of the paper, and this is the dart value.

The following is an overview of this process:

UNDERSTANDING DARTS:
BASIC DART EXERCISE



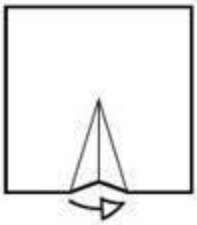
PLAIN PAPER



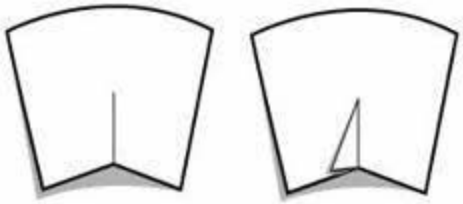
MARK CENTRE



MARK GUIDELINES



CLOSE DART VALUE



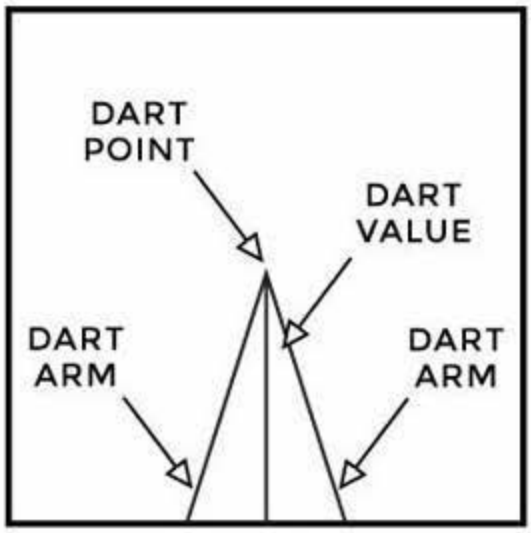
FINISHED DART

Essentially you are pivoting the paper around the dart point, to close out the dart value. You may also find it easier to create the creases along the dart arms by putting the dart point on the corner of a table to crease out the dart arms on either side of the dart value.

By folding out darts on the corner of a table this will help to give you the space for the paper to curve out over the edge of the table, and it will be easier to work the dart value closed, rather than trying to fold out the dart flat on the table.

The process above is a very brief example of a basic dart shape that helps to illustrate how a flat piece of paper can be turned into a 3D paper cone. The use of darts will make more sense once we see them in the context of the body in the next chapter, but first we will examine the terminology used to describe the different aspects of a dart.

Dart Terminology



DART TERMINOLGY

Dart Point

The dart point is the dot that we originally drew in the middle of our piece of paper. In terms of the human body, the dart point of a dart often shows the location of an apex of the body, and by apex this means the parts of the body that are the widest or the fullest.

If you think of the curves of the body in terms of “hills” and “valleys” then the dart points will often point towards the top of the bodies “hills”.

There are exceptions to this relationship between apexes and dart points that are discussed later in this book (Chapter 6: Darts and the Body).

Dart Arms

The dart arms are the two lines that we drew on the piece of paper from the dart point out to either side. The dart arms are the two sides of the dart that come together to close out the dart value. Your dart arms should always be the same length, as they will need to match when they come together. If dart arms are different lengths you will need to correct them using the techniques of truing and blending to correct patterns as discussed later in this book.

Dart Value

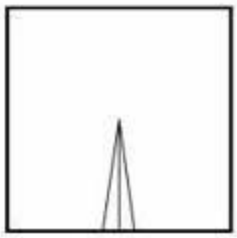
The dart value is the amount that needs to be pinched out of the fabric. You can vary the dart value on patterns to take out more or less fabric to change the fit of the garment.

By taking out more paper in the dart value, you will make the hill of the garment steeper and by taking out less fabric you will make the hill shallower. You can get a better understanding of this concept if you try making different size darts with paper, following the same basic steps that were covered in the previous exercise.

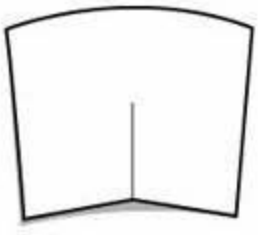
By using wider darts you will pinch out more fabric and get steeper hills, and with narrower darts you will pinch out less fabric and get shallower hills.

The basic effect of different dart values is shown in the following diagram:

UNDERSTANDING DARTS:
VARYING THE SIZE OF DART VALUE



NARROW DART VALUE



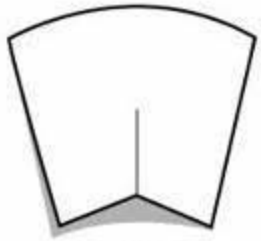
TOP VIEW



SIDE VIEW



WIDE DART VALUE



TOP VIEW



SIDE VIEW

NARROW DART
=
SHALLOW "HILL"

WIDE DART
=
STEEP "HILL"

Chapter Summary

In this chapter we learnt:

- Darts are used to turn 2D paper into 3D shapes.
- Darts are triangular amounts of excess that are pinched out of the pattern.
- Dart points often represent the apexes of the body, or point towards the fullest parts of the body.
- Dart arms are the lines on either side of the dart.
- Dart arms must be equal in length, as they must match when they are sewn together.
- The dart value is the amount that is being pinched out of the fabric, the triangular value between the two dart arms.
- Narrower dart value pinches out less fabric, creates shallow “hills”.
- Wider dart value pinches out more fabric, creates steeper “hills”.

Chapter 6

Darts and the Body:
Skirt and Bodice Exercises

Chapter Overview

Now that we understand the basic principle behind darts, and also understand the key guidelines on the body, we will begin to look at how darts are used in relation to the curves of the body. We will cover two exercises in this chapter using some pattern paper, masking tape, pins, a pen and a mannequin.

You will get the most from these exercises if you can follow along at the same time, but if you don't have a mannequin to use, then you will still be able to understand the principles of the exercises by looking at the diagrams.

Using Quick Exercises in Pattern Making

Please note that these exercises are not designed to take the place of actual pattern making. While pattern making should be a careful and accurate process, these exercises are the opposite as they are rough, fast and inaccurate. Rough exercises such as these are an excellent way to achieve quick results that allow you to visualise the way that 2D patterns relate to the 3D body.

Paper Skirt Exercise

We are going to start by imagining that you want to build a skirt for the female form made entirely from paper. We are focusing on the straight skirt shape first because it is one of the simplest shapes to start with and is basically just shaped like a tube around the body.

By following along through the following exercise you are going to aim to construct a paper skirt that will:

- Fit your mannequin at the waist
- Fit smoothly over the hips
- Fall straight to the bottom of the skirt from the hipline

The instructions for each step are accompanied by a diagram, which illustrates the process for you to follow.

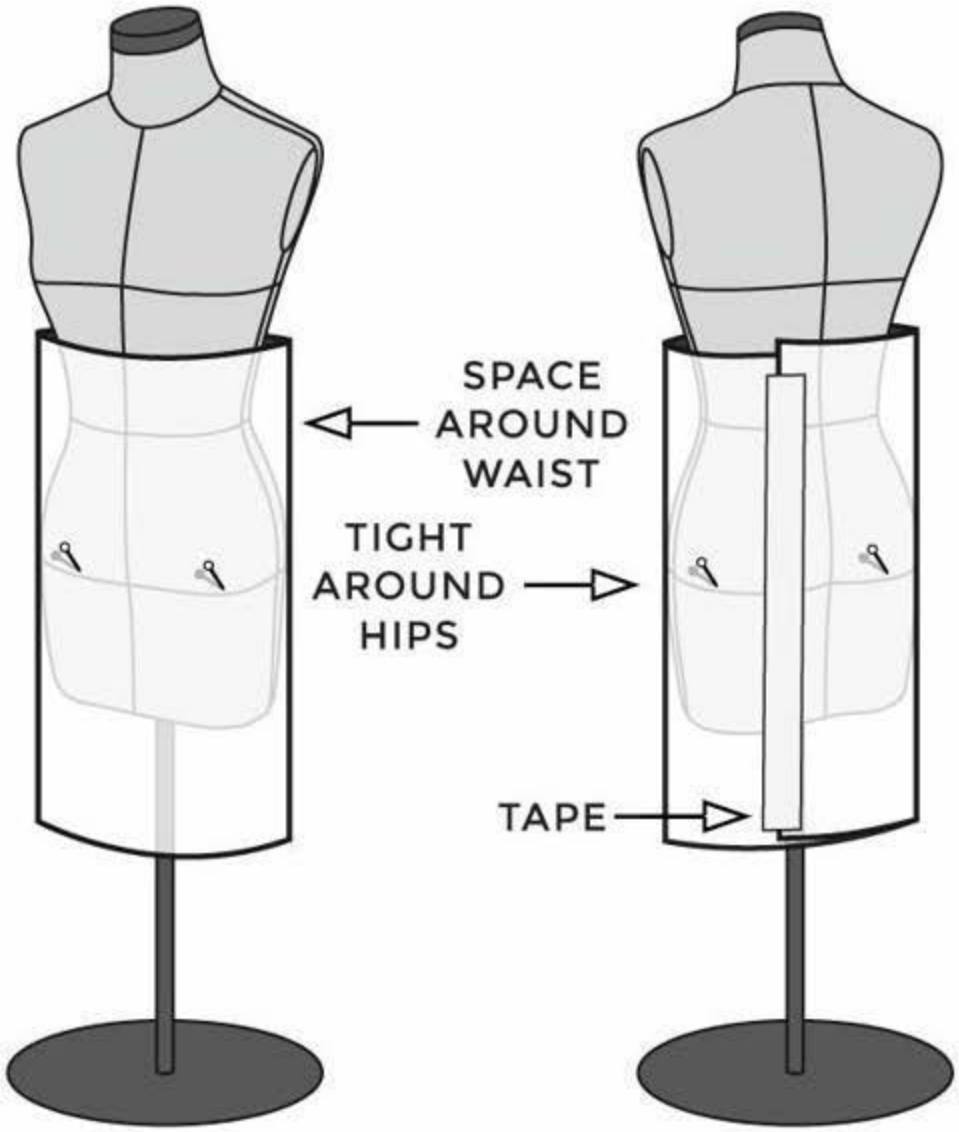
You will get the best results if you use pattern paper that is white or a light colour that allows you to see the guidelines of your mannequin through the paper.

Step 1: Create Paper Tube

Start by making a tube of paper that fits around the hips of your mannequin. You should do this so that the tube is nice and straight, and doesn't flare out at an angle. You should use pins to hold the paper tube in place as needed along the hipline.

Next you can close up the vertical edge of the paper tube with some tape. Wider tapes may make this task a little easier. Your tube should now fit snugly around the hips, with a wide gap around the waistline between the paper and the body of the mannequin.

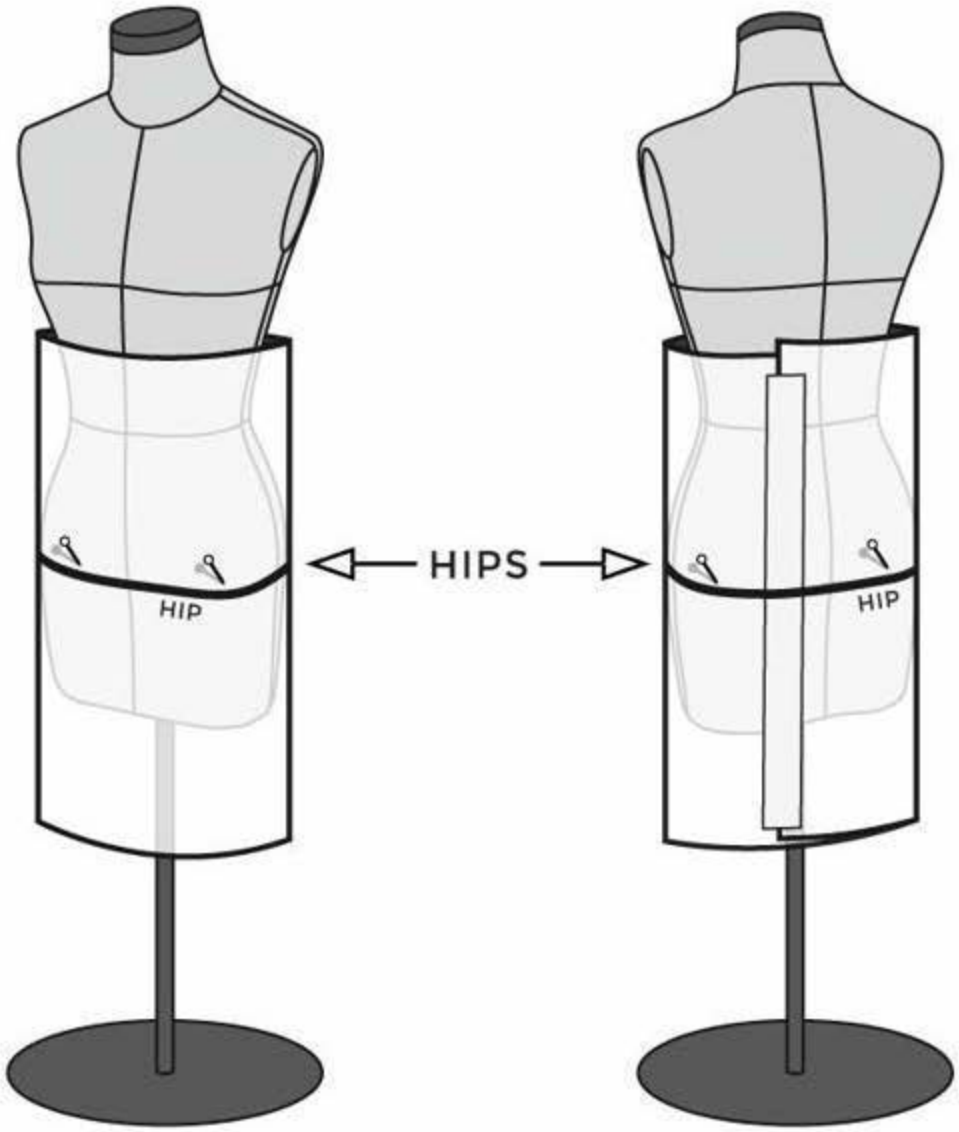
STEP 1 : CREATE PAPER TUBE



Step 2: Mark in Hip Guideline

You can now roughly draw in your hip guideline using a pen. Your hipline should be a straight line, parallel to the floor, and should go the whole way around the body. Write “Hip” on the line at the front and back of the skirt to name the guideline.

STEP 2 : MARK HIP GUIDELINE

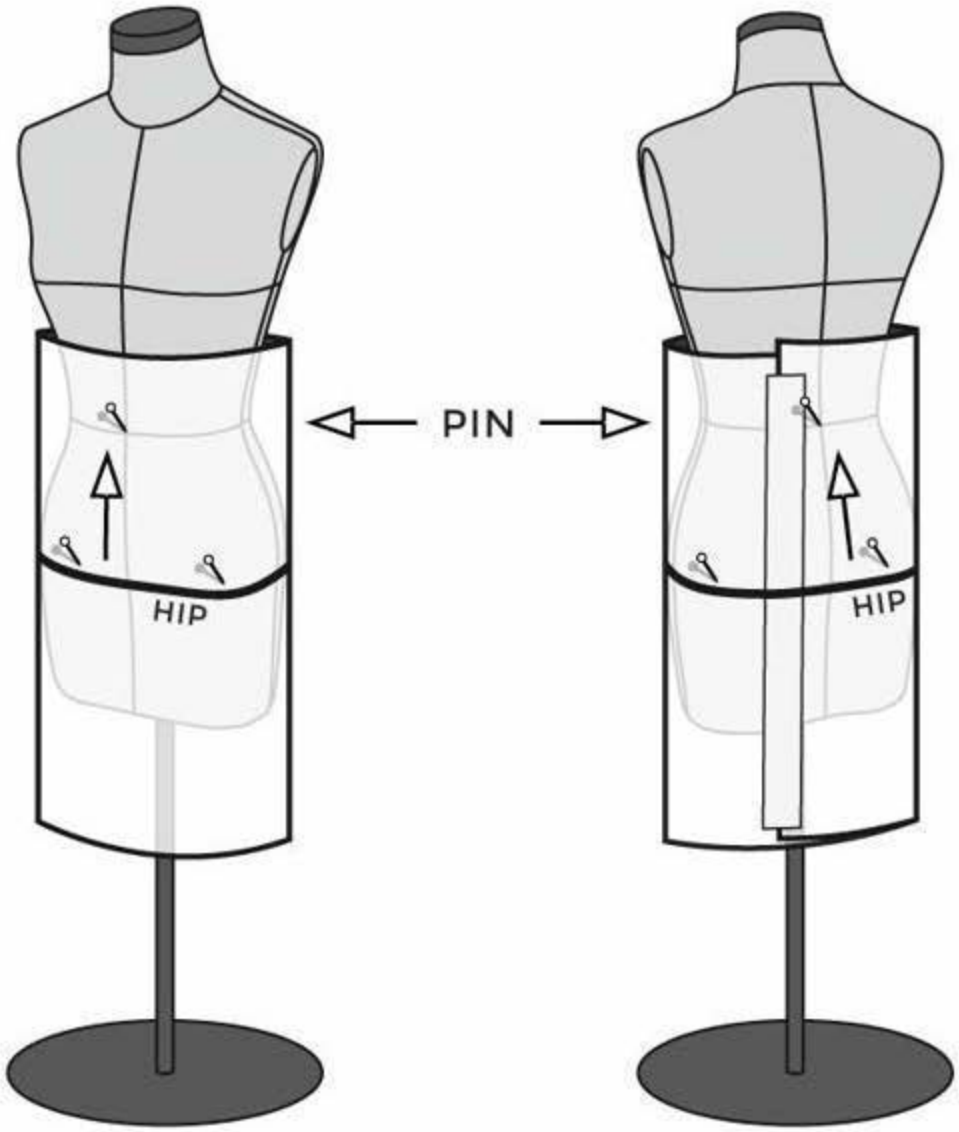


Step 3: Smooth and Pin Centre Front and Centre Back

At the front of the paper skirt, smooth the paper up from the hipline towards the waistline at the centre front and hold the paper in place with a pin at the point where the centre front line meets the waistline.

Repeat this process at the centre back line. Arrows have been used in the following diagrams to show you the direction that you should smooth the paper away from the hipline.

STEP 3 : SMOOTH & PIN CF CB



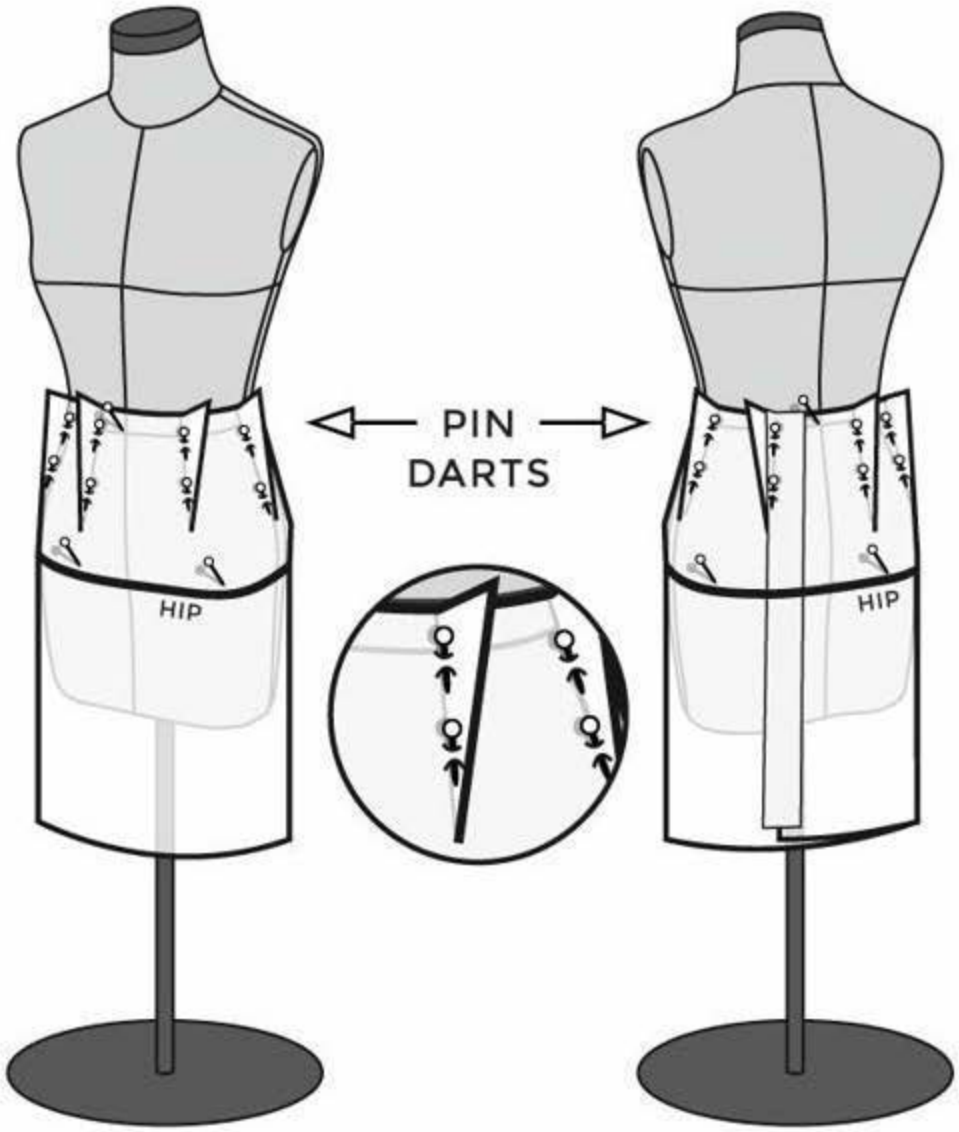
Step 4: Pinch Out Dart Value

Next you are going to pinch out some darts from the paper to make the paper fit at the waist. You should do one dart at each side seam, two at the front of the skirt, and two at the back of the skirt. You can smooth the paper together from either side, fold the shape of the dart in the paper and secure each dart with pins.

You don't need to be too perfect with your darts, as this is not intended to result in a real skirt pattern and the paper will be quite wrinkled, but you do want to make your darts so that the paper is distributed fairly evenly around the body. For example, you don't want to try to pull all of the paper into just one or two darts.

These triangular sections that you've pinched out represent the dart value. The ends of the darts that are currently pointing towards the hipline are the dart points.

STEP 4 : PINCH OUT DART VALUE

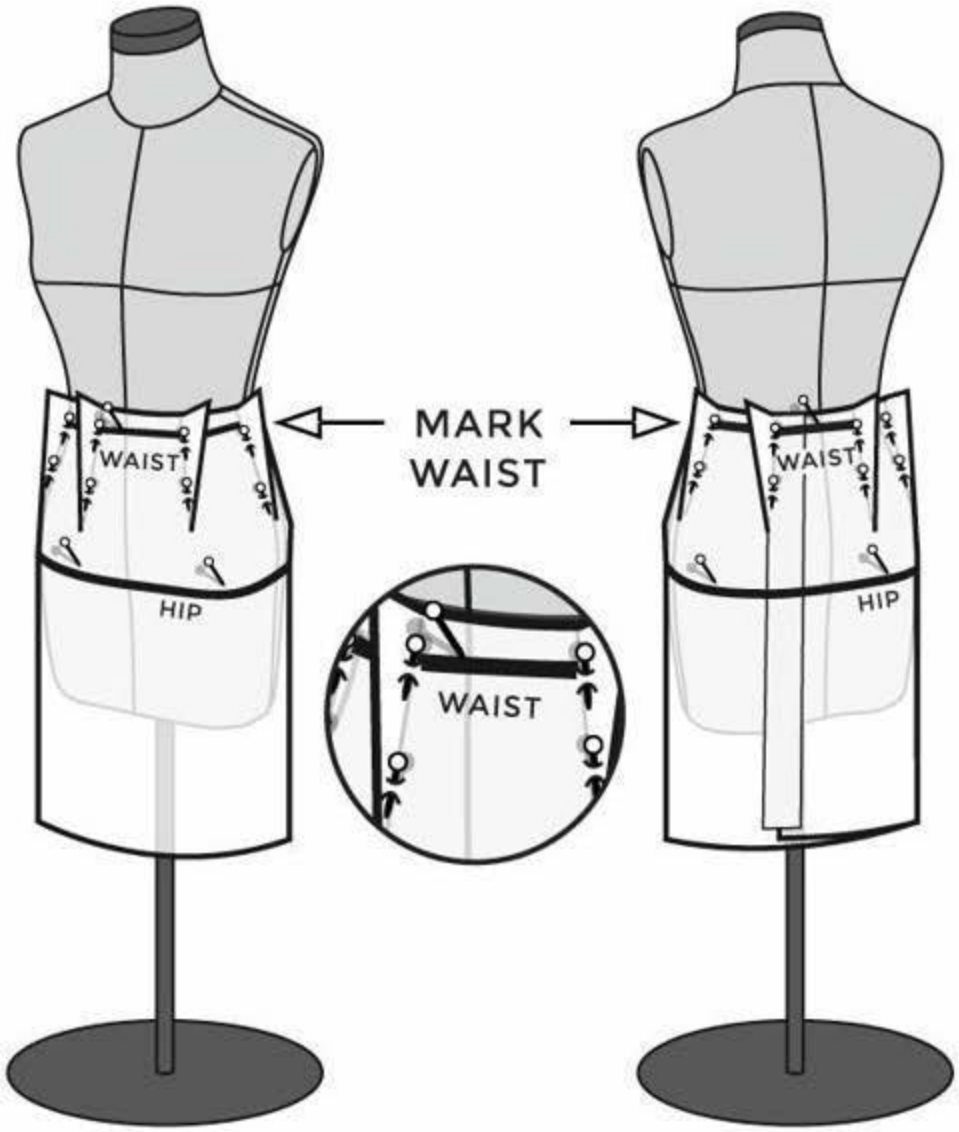


Step 5: Mark in Waist Guideline

Now you will use your pen to draw along the waistline, the same way that we drew in the hipline. Your waistline should be roughly parallel to the ground so that the waistline forms a horizontal line that goes right around the body.

Only trace in the sections of the paper that are touching the mannequin for the moment, not the extra paper that you pinched out as dart value. When you've finished, write "Waist" on the waistline at the front and back of the skirt underneath the line.

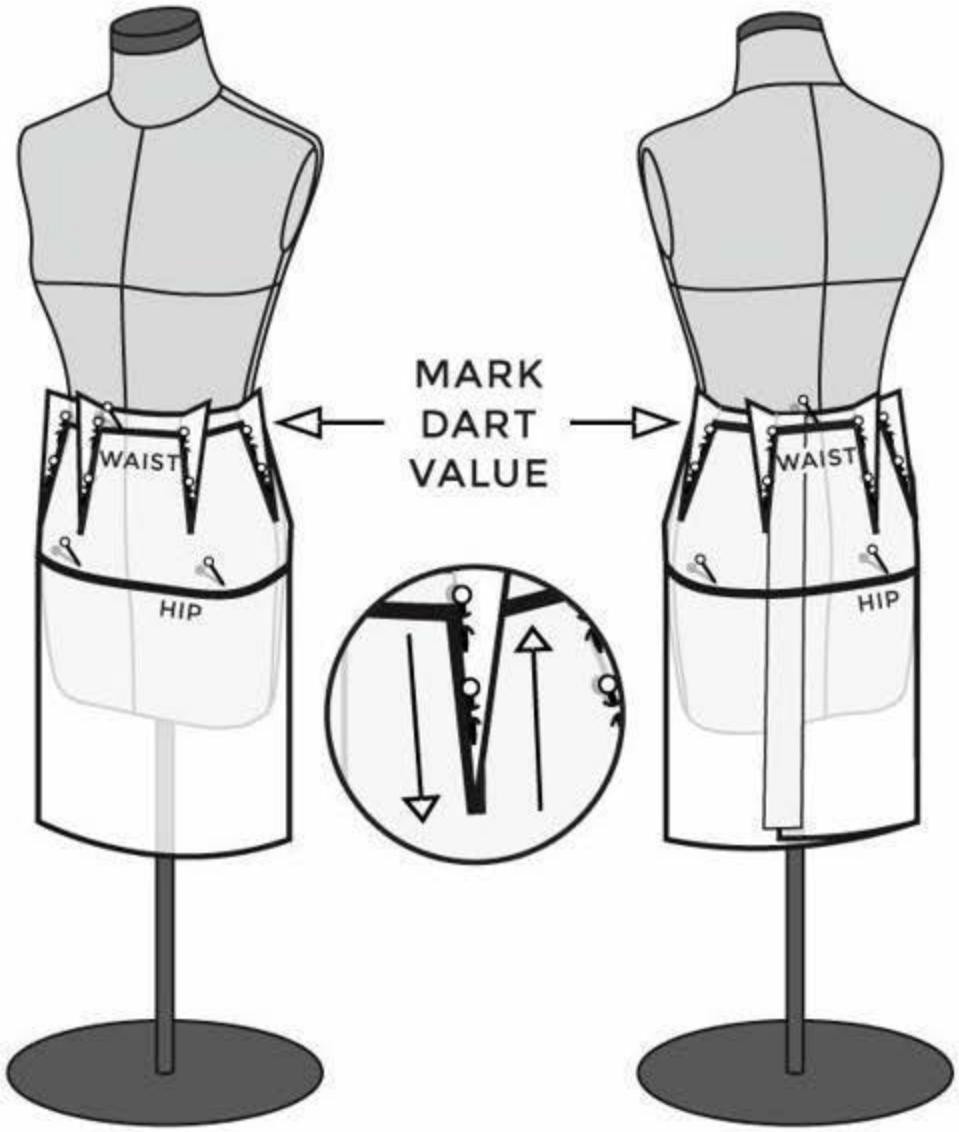
STEP 5 : MARK IN WAIST GUIDELINE



Step 6: Trace Around Dart Value

Now go around the skirt drawing in the shape of the darts. Whenever you reach a dart you should trace your pen from the waistline, down one dart arm to the dart point, and then back up the other dart arm.

STEP 6 : TRACE AROUND DART VALUE

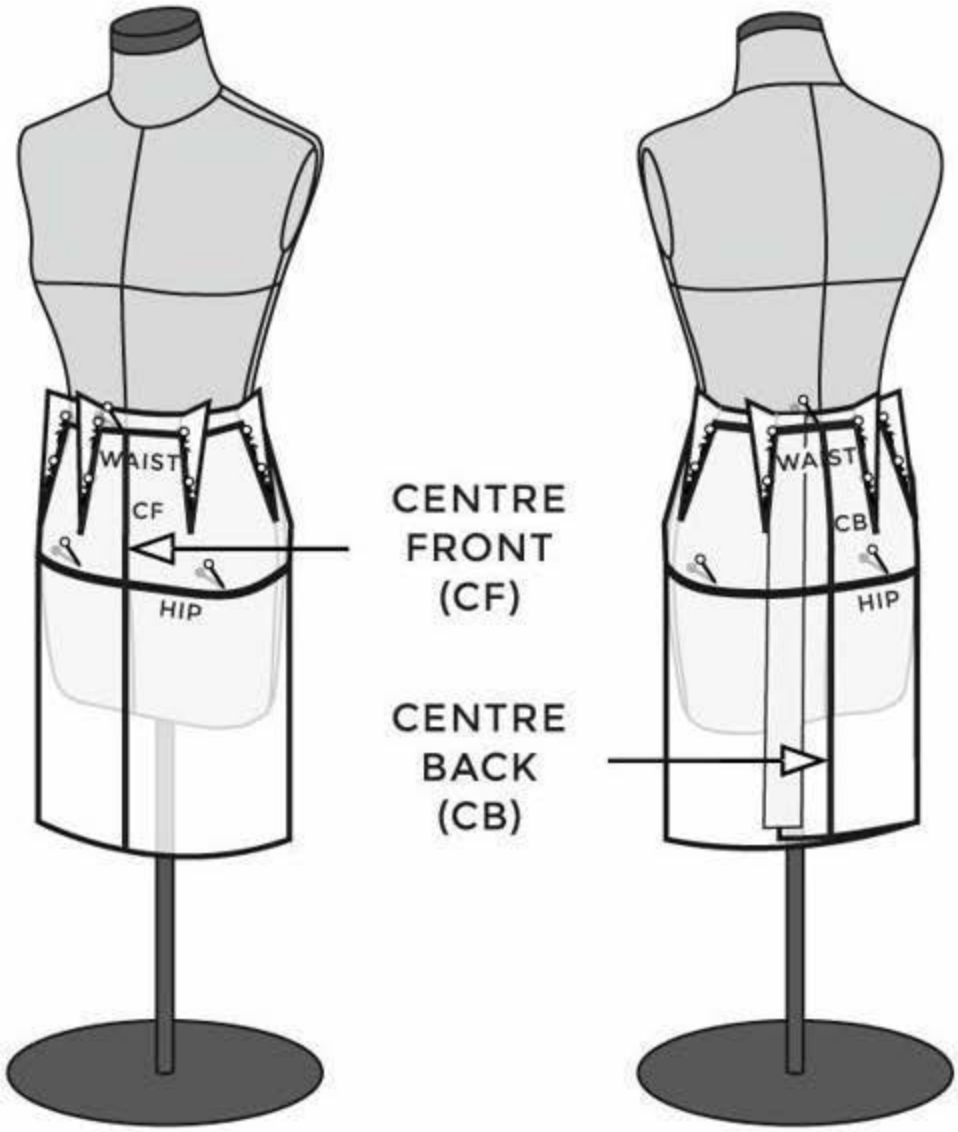


Step 7: Mark in Centre Front and Centre Back Guidelines

To mark in your centre front line, take your pen and draw a line straight down from the waistline to the bottom of the skirt. Write “CF” next to the line to remind you that this is the centre front line.

Do the same for the centre back line, drawing from the centre back waist line down to the bottom of the skirt and write “CB” next to the line.

STEP 7 : MARK CF & CB GUIDELINES

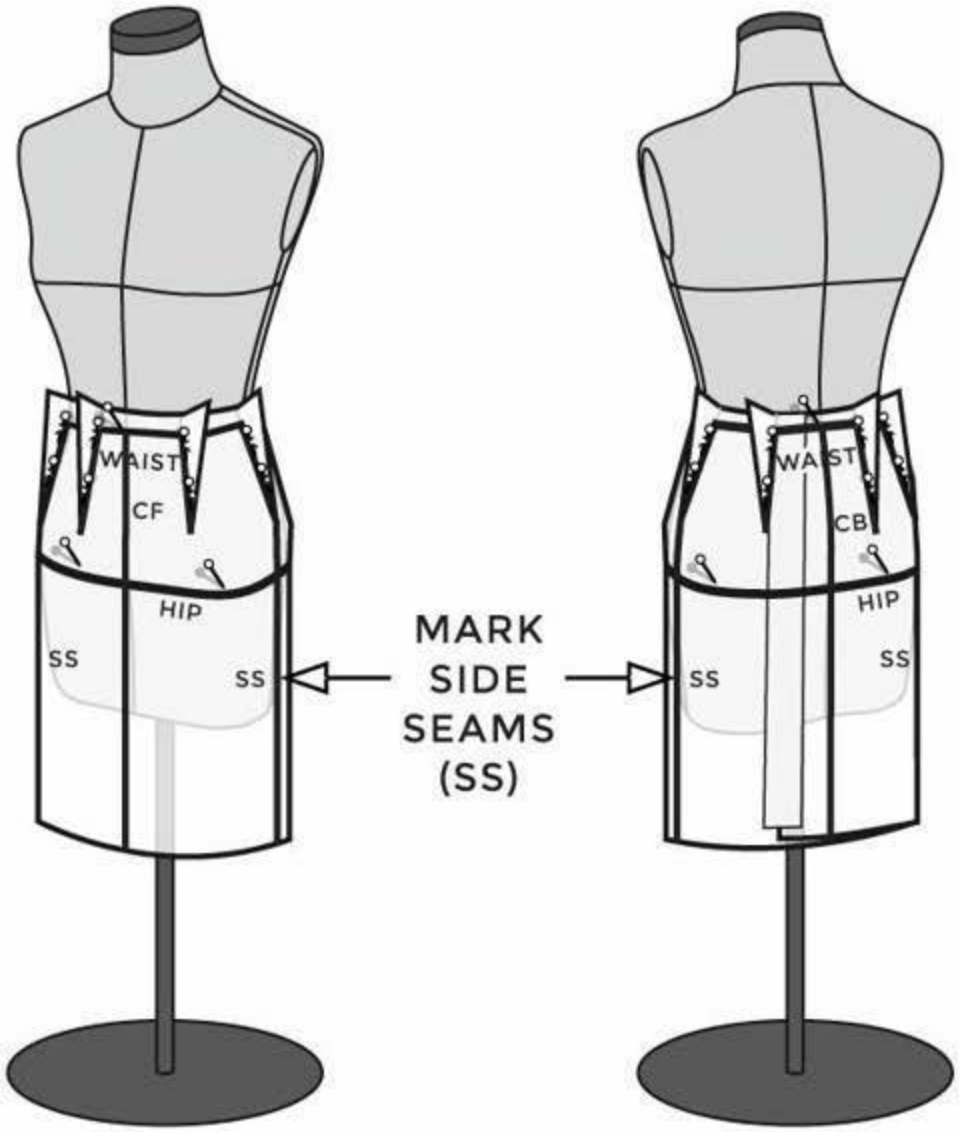


Step 8: Mark in Side Seams

Now we will mark in the side seams. Because you have done a dart on each side seam at the waist, instead of drawing the side seam lines from the waist, you will need to draw a line from the bottom of the side seam dart down to the bottom of the skirt.

Write “SS” for side seam on both sides of the line. Make sure you do this for both the right and left sides of the skirt.

STEP 8 : MARK IN SIDE SEAMS



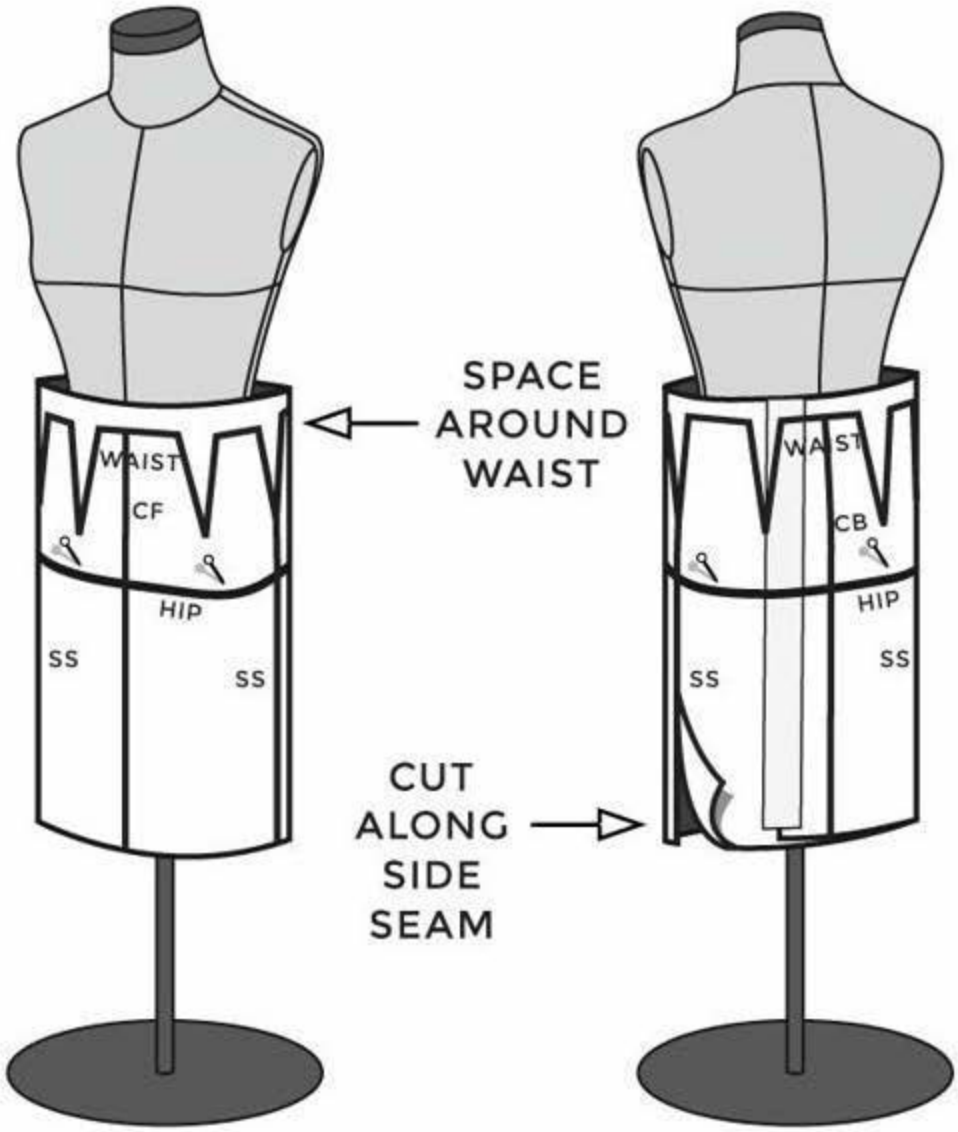
Step 9: Remove Pins and Cut Side Seams

Now that you have written all the information on your paper skirt you can prepare to take it off the mannequin. First you should remove all the pins from the darts and waistline. This will mean that the paper returns to a tube shape, with pins still holding the paper in place on the hipline.

To take the paper off the body you can cut straight up the side seam and along one side of the side seam dart. You can also cut straight up the side seam on the other side of the skirt as well, again following the line along one side of the dart.

Once you have removed the paper from the mannequin, you can trim up the other side of the dart arm for the side seam darts only to remove the excess triangles of paper.

STEP 9 : REMOVE PINS & CUT SS



Step 10: Flatten Paper Skirt

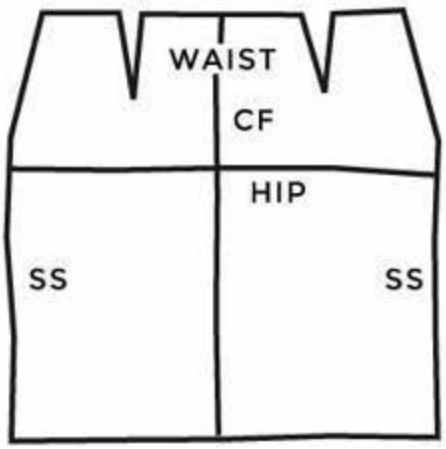
Now you should lay your patterns out flat so that you see all the markings. The basic shapes that you have created will probably look roughly like the shapes labelled as “Paper Exercise” in the following diagram “Step 10: Flatten Paper Skirt”.

The rough skirt pattern shape that you have created is actually the essence of the shape that forms the basis for a skirt block, which we will look at in more detail in the next chapter (Chapter 7: Basic Blocks).

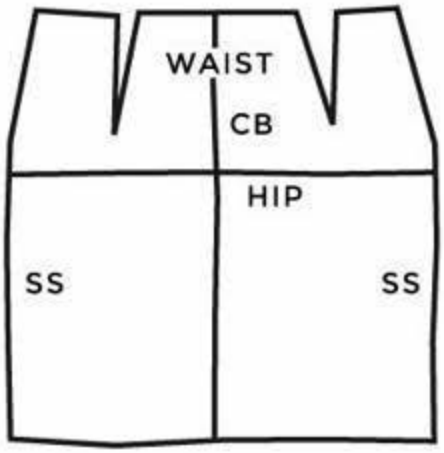
From doing this exercise you can now see more easily how body guidelines and darts have greater significance when you use them in relation to the body. Also note how the text that you wrote for the “Hip”, Waist”, “CF”, “CB” and “SS” helps you to make sense of your rough skirt shape when it is off the body.

You can also see how the darts are used to make the change in the shape of the paper, varying the width of the paper tube between the hips and the waist. Keep these thoughts in mind as we examine the same ideas on the top half of the body to create a paper bodice.

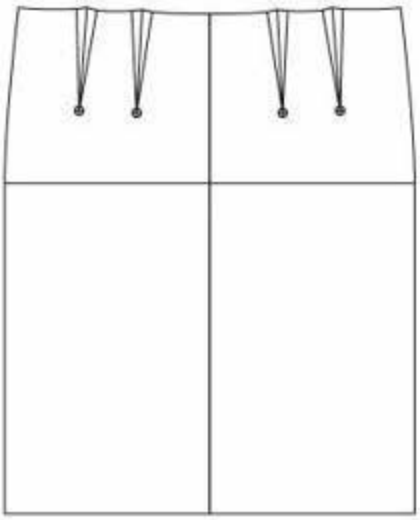
STEP 10 : FLATTEN PAPER SKIRT



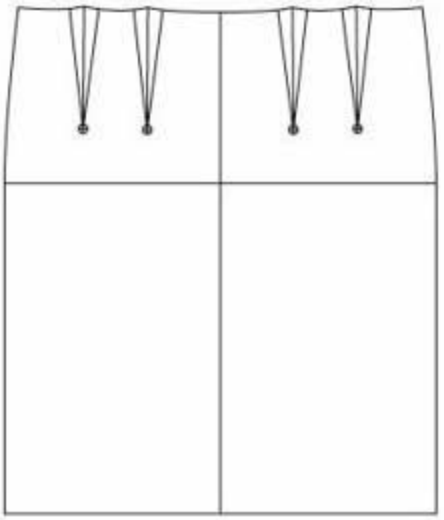
PAPER EXERCISE
SKIRT FRONT



PAPER EXERCISE
SKIRT BACK



BASIC BLOCK
SKIRT FRONT



BASIC BLOCK
SKIRT BACK

Paper Bodice Exercise

Now that you have seen this rough paper process in action on the bottom half of the body, we will use the same principles to make a paper bodice for the top half of the female form. We are using the female form again in this example because darts are often used around the bust area in order to created fitted garments for women.

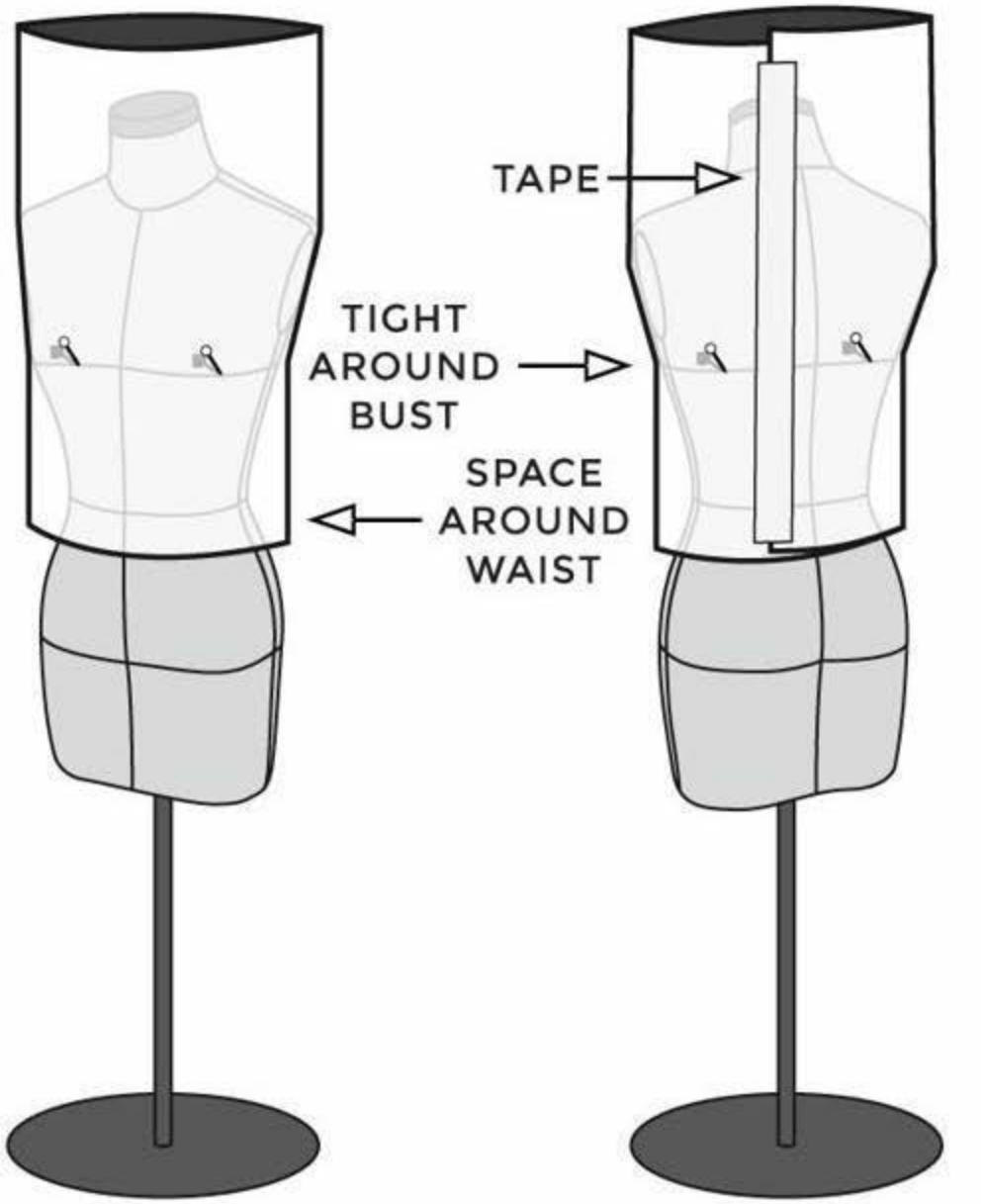
This exercise will lay the foundation for the next chapter where we will look at the shape of a bodice block.

Step 1: Create Paper Tube

We are going to start by making a tube of paper that fits around the bust of your mannequin. You should do this so that the tube is again as straight as you can make it though it will be a little harder to achieve on the top half of the mannequin as the shoulders may get in the way.

You should use pins to hold the tube in place as needed along the bustline at the front and back of the paper tube. Once secured you can close up the vertical edge of the paper tube with tape.

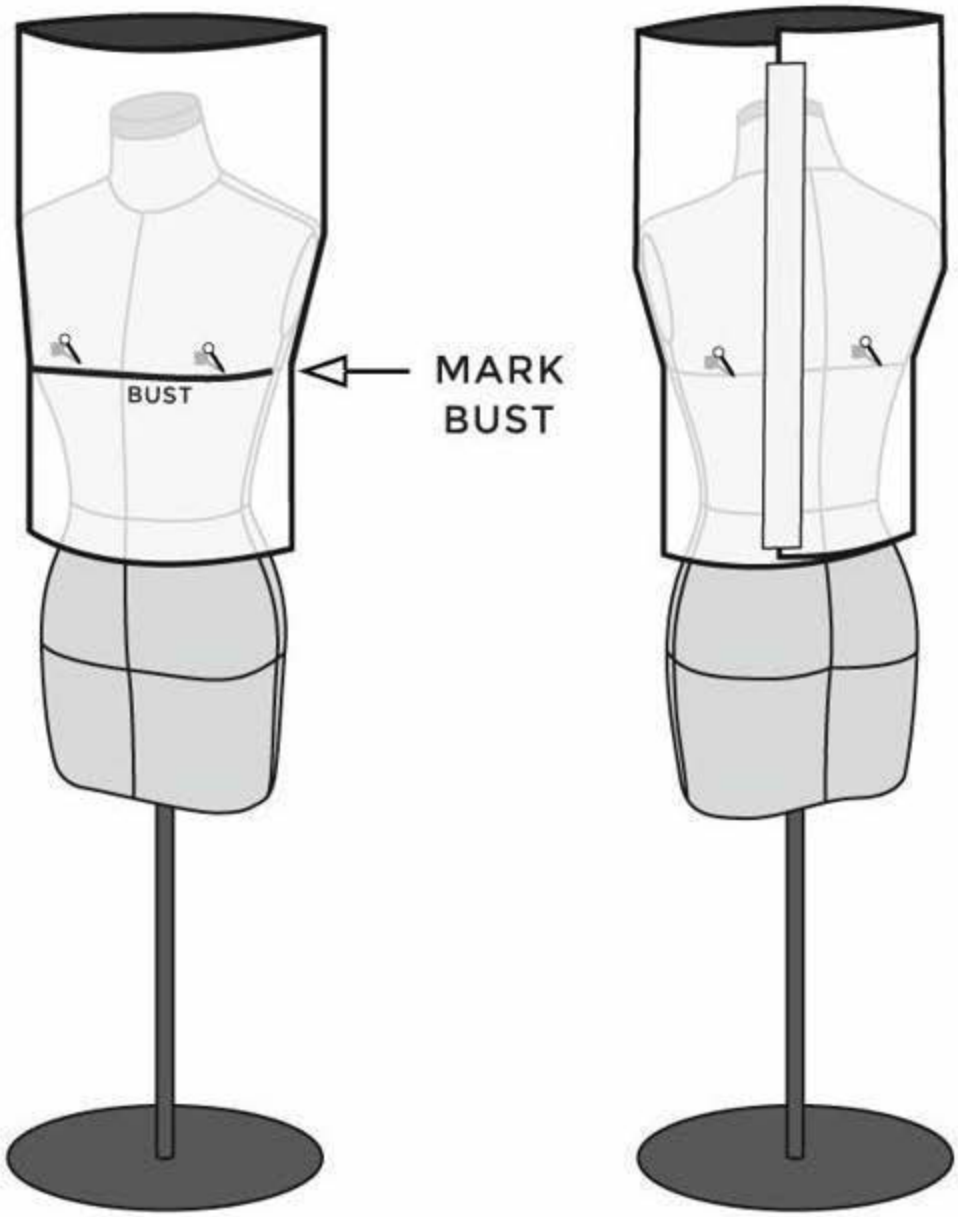
STEP 1 : CREATE PAPER TUBE



Step 2: Mark in Bust Guideline

We are going to start by drawing in the front half of the bust guideline in pen. You should draw a line from side seam to side seam, along the bustline at only the front half of the paper tube.

STEP 2 : MARK BUST GUIDELINE

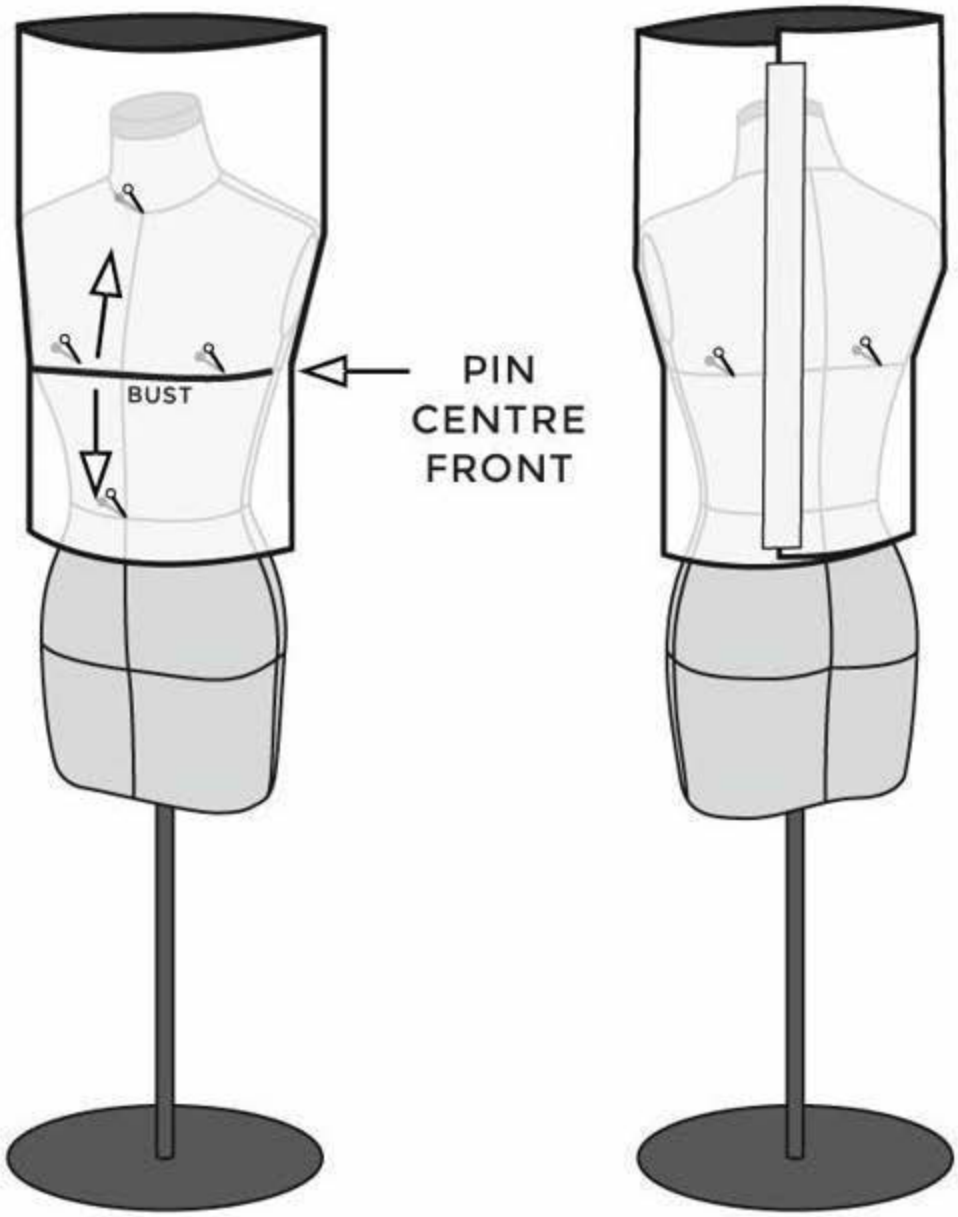


Step 3: Smooth and Pin Centre Front

Smooth the paper at the front upwards from the bustline to the neckline and secure the paper with a pin at the centre front neckline. Also smooth the paper at the front downwards from the bustline towards the waistline and secure the paper with a pin.

The arrows on the diagram show the direction that you should smooth the paper away from the bustline.

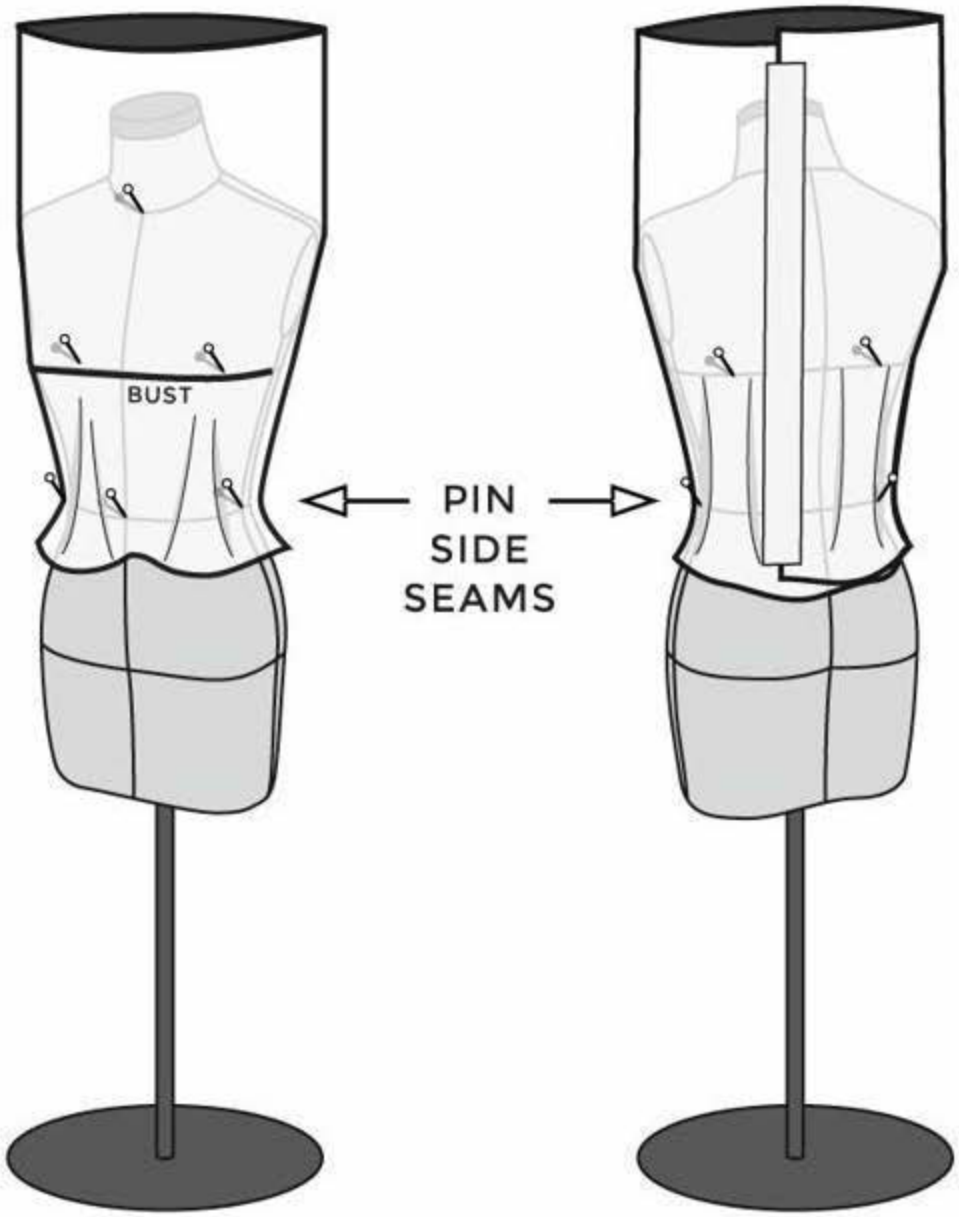
STEP 3 : SMOOTH & PIN CF



Step 4: Smooth and Pin Side Seams

Continue to work on the front of the paper bodice by anchoring the side seams with pins. To do this you need to smooth the paper directly down at the side seam from the bustline to the waistline and anchor the paper at the waist. You will need to do this for both side seams.

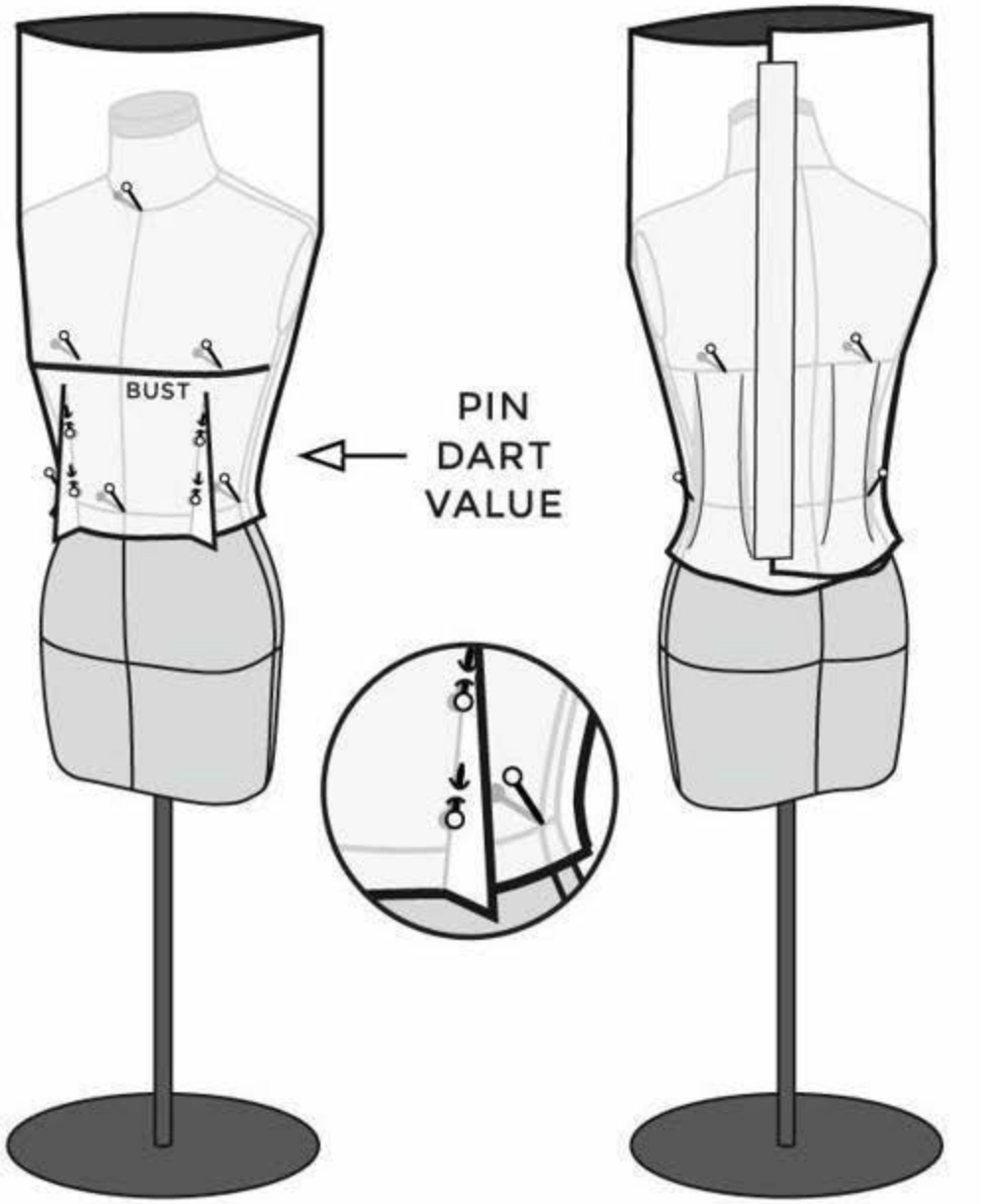
STEP 4 : SMOOTH & PIN SIDE SEAMS



Step 5: Pinch Out Front Dart Value

Anchoring the side seams should mean that you are now left with excess paper around the front waistline. Remove this excess paper by pinching out darts like we did for the skirt. Create two darts on the front of the bodice, each pointing from the waistline up to where the apex, or bust point, of each breast would be.

STEP 5 : PINCH OUT DART VALUE

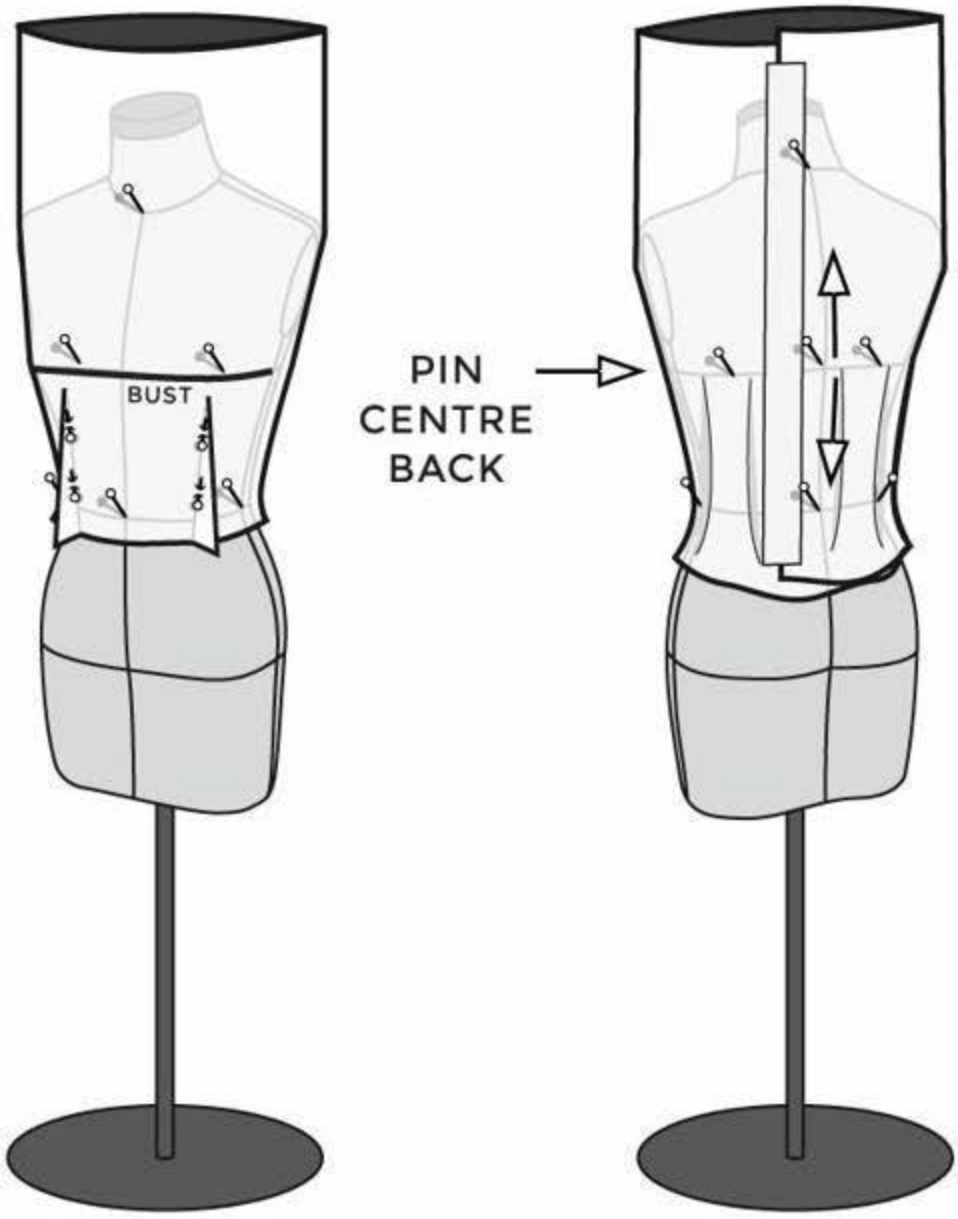


Step 6: Smooth and Pin Centre Back

Next we will move onto shaping the back waist. Start by anchoring the paper with a pin at the point where the centre back line meets the bustline. Smooth the paper at the back of the bodice upwards from the bustline to the centre back of the neck and secure the paper with a pin.

Next smooth the paper down from the bustline to the waistline and secure with a pin. This will keep the paper anchored while you work on your back darts.

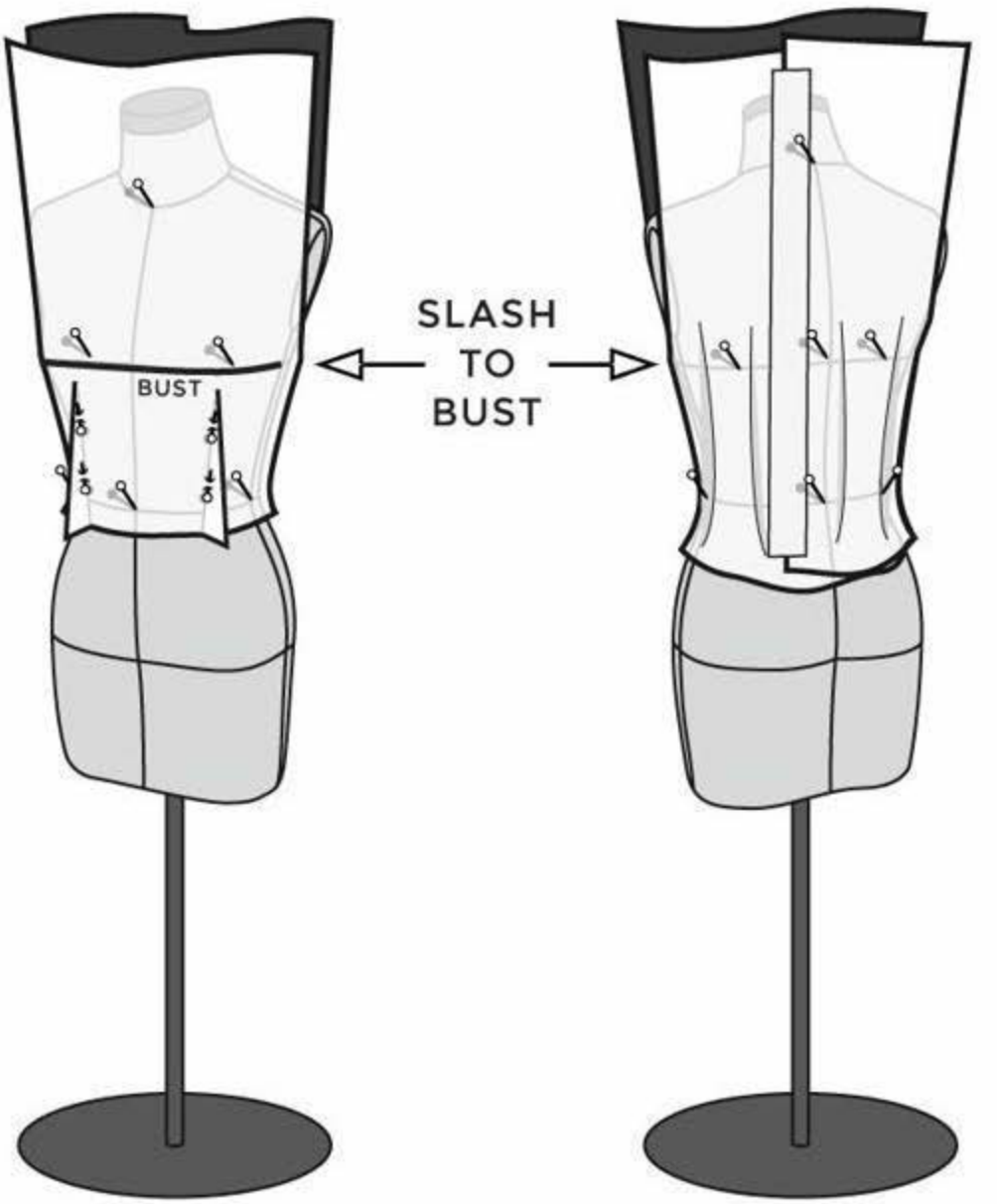
STEP 6 : SMOOTH & PIN CB



Step 7: Release Paper at Armhole Area

At this point your paper may be pulled tight across the shoulders of your mannequin, but we really want the paper to be smooth across the bust of the paper bodice, and we don't want the paper to be covering the armhole area. In order to release the tension on the paper around the shoulders and armhole area, cut a vertical slash into the paper from the top of the tube down to the bustline at each of the side seams.

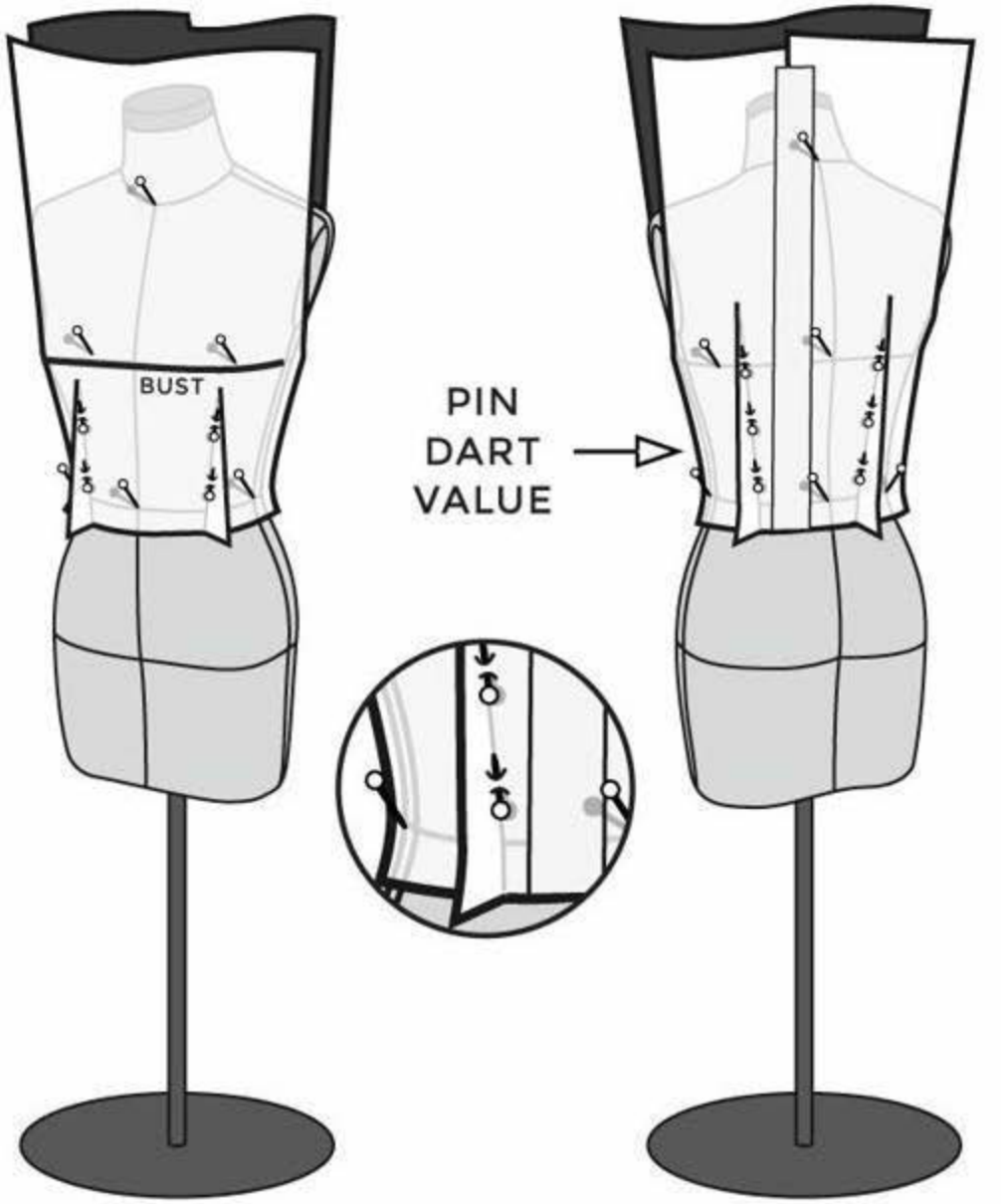
STEP 7 : RELEASE PAPER AT ARMHOLE



Step 8: Pinch Out Back Dart Value

You should now have excess paper on either side of the centre back line around the waist and bust line. Remove the excess paper at the back of the paper bodice by smoothing the paper into two long back darts. The darts should run from the waistline up in the direction of the middle of the shoulder line.

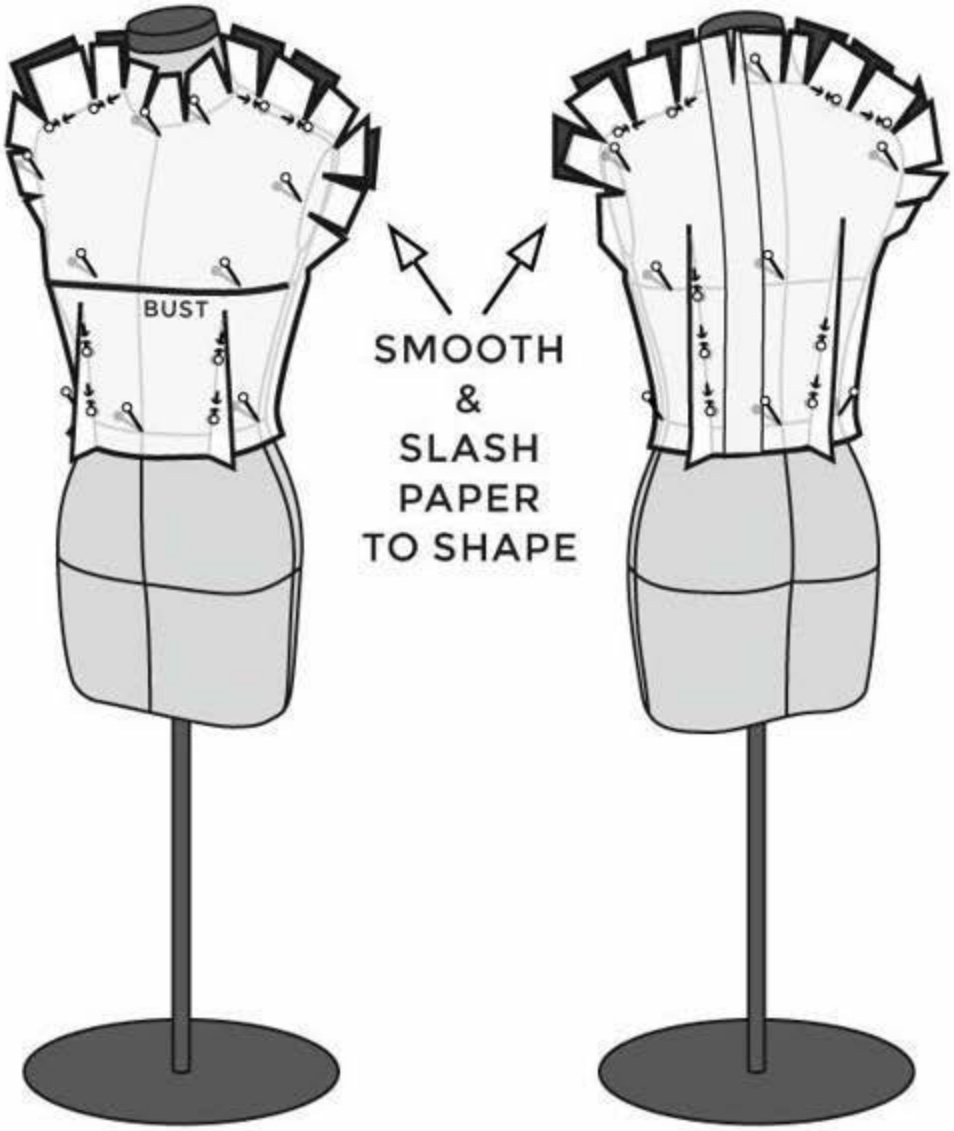
STEP 8 : PINCH OUT DART VALUE



Step 9: Pin Shoulders and Adjust Neck Area

Now that you have shaped the bodice from the bustline to the waistline, you are going to give the paper bodice some shape around the neckline and armholes. You will do this by pinning the paper of the front and back together, over the shoulder line. You may need to slice into the paper around the neck area, pin and readjust to do this, so experiment with the shape until you end up with something that looks roughly like the shape in the following diagram.

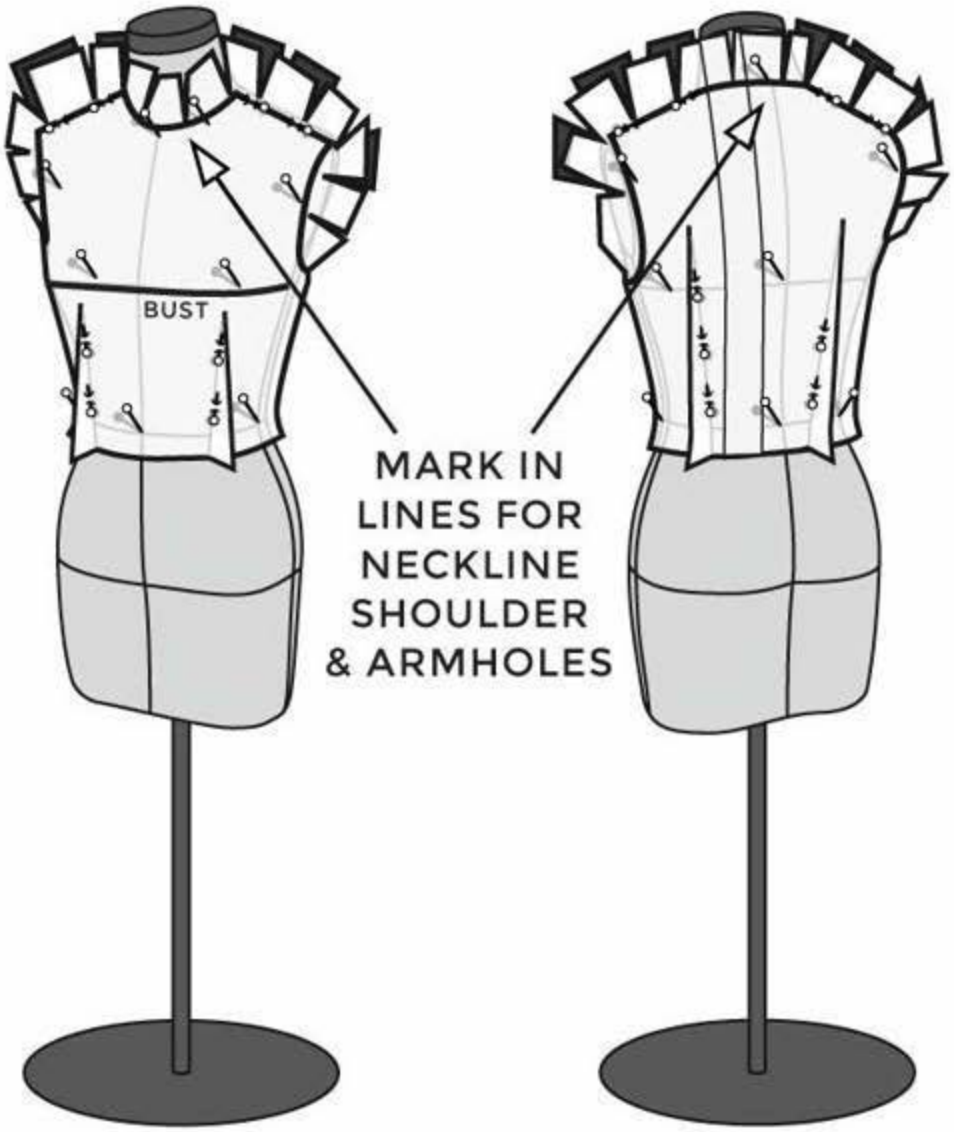
STEP 9 : PIN SHOULDERS & NECK



Step 10: Mark in Guidelines

Once you have roughly achieved the shape in the previous diagram, and the paper is smooth between the neck, shoulder and armhole areas for both the front and back of the body, then you can draw in the rough outlines of your neckline and armholes. Once these lines are drawn, if you still have large amounts of excess paper around the neck, shoulders and armholes, you can cut away the excess so that you're only left with about 2-3cm of spare paper around the outlines that you have drawn.

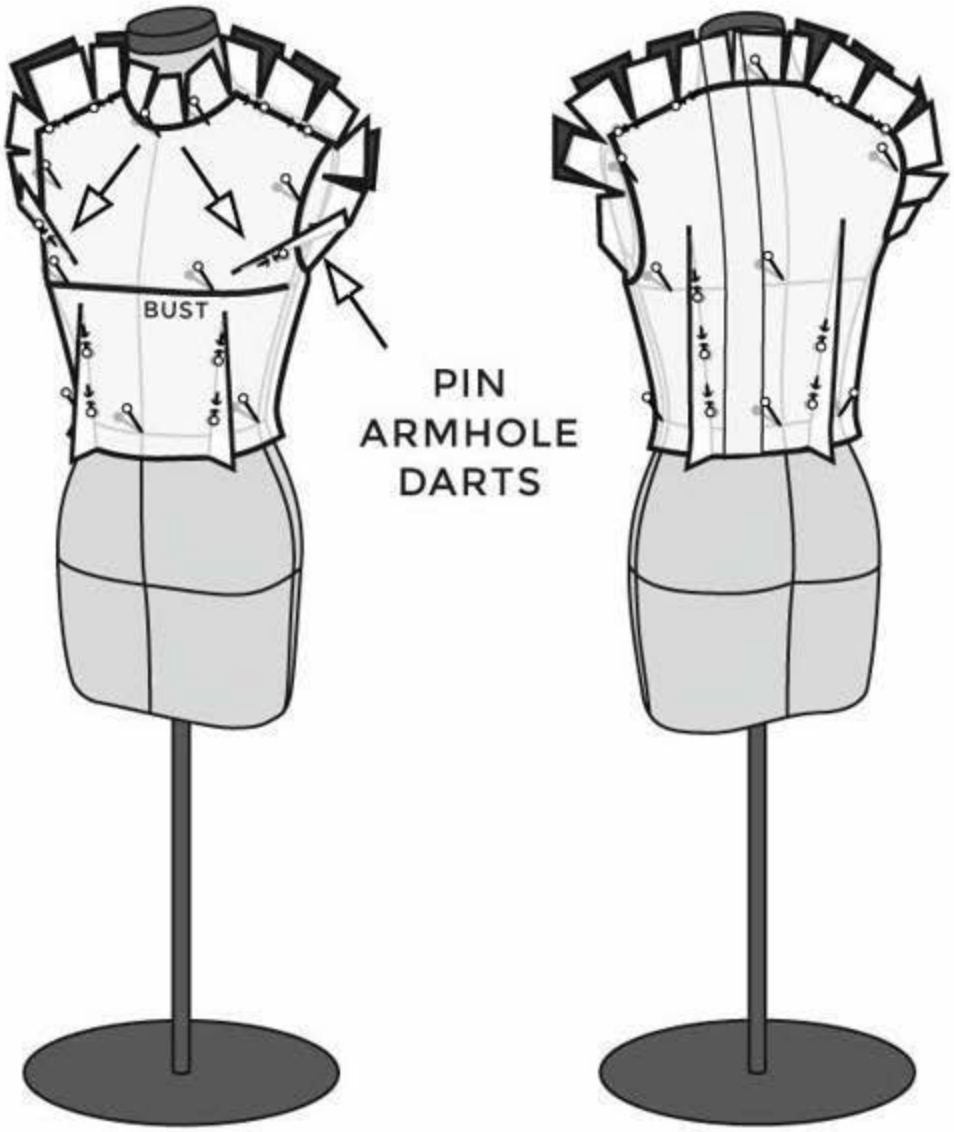
STEP 10 : MARK IN GUIDELINES



Step 11: Pinch Out Armhole Darts

Now that you have cut away more of the excess paper, you may need to add two small darts to the armholes at the front, pointing towards the bust points so that the paper doesn't gape at the armholes.

STEP 11 : PINCH OUT ARMHOLE DARTS

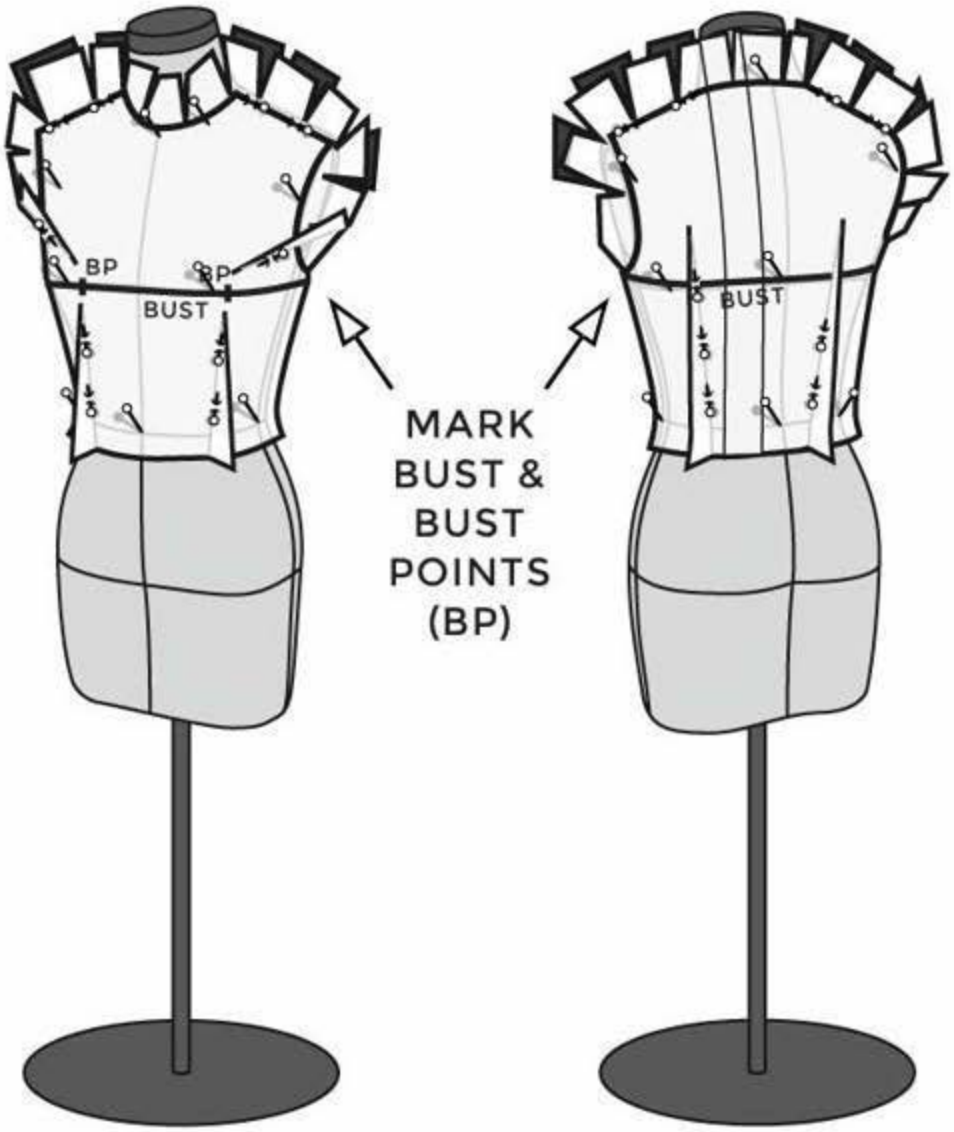


Step 12: Mark in Bust Guideline

Now your paper bodice is nearly complete and should roughly contour to the body, allowing for the wrinkles of the paper. You now just need to make sure you mark in all the guidelines before you remove the paper from the mannequin.

Mark in the rest of the bust line at the back of the mannequin, and write “Bust” on this line at the front and at the back of the paper bodice. Also make two small crosses on the bust points and mark them as “BP”.

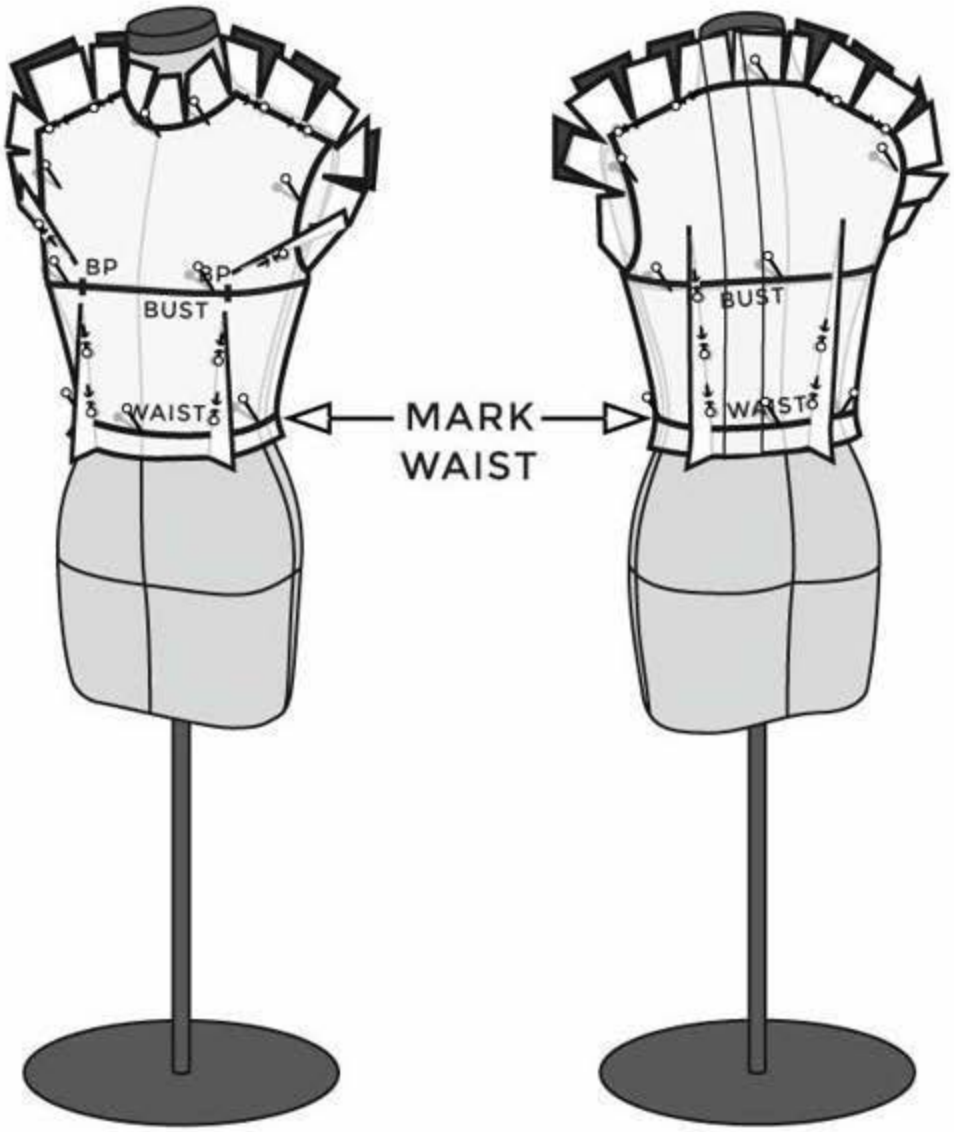
STEP 12 : MARK IN BUST GUIDELINE



Step 13: Mark in Waist Guideline

Mark in the waistline, except for the darts, and write “Waist” on the line at the front and back.

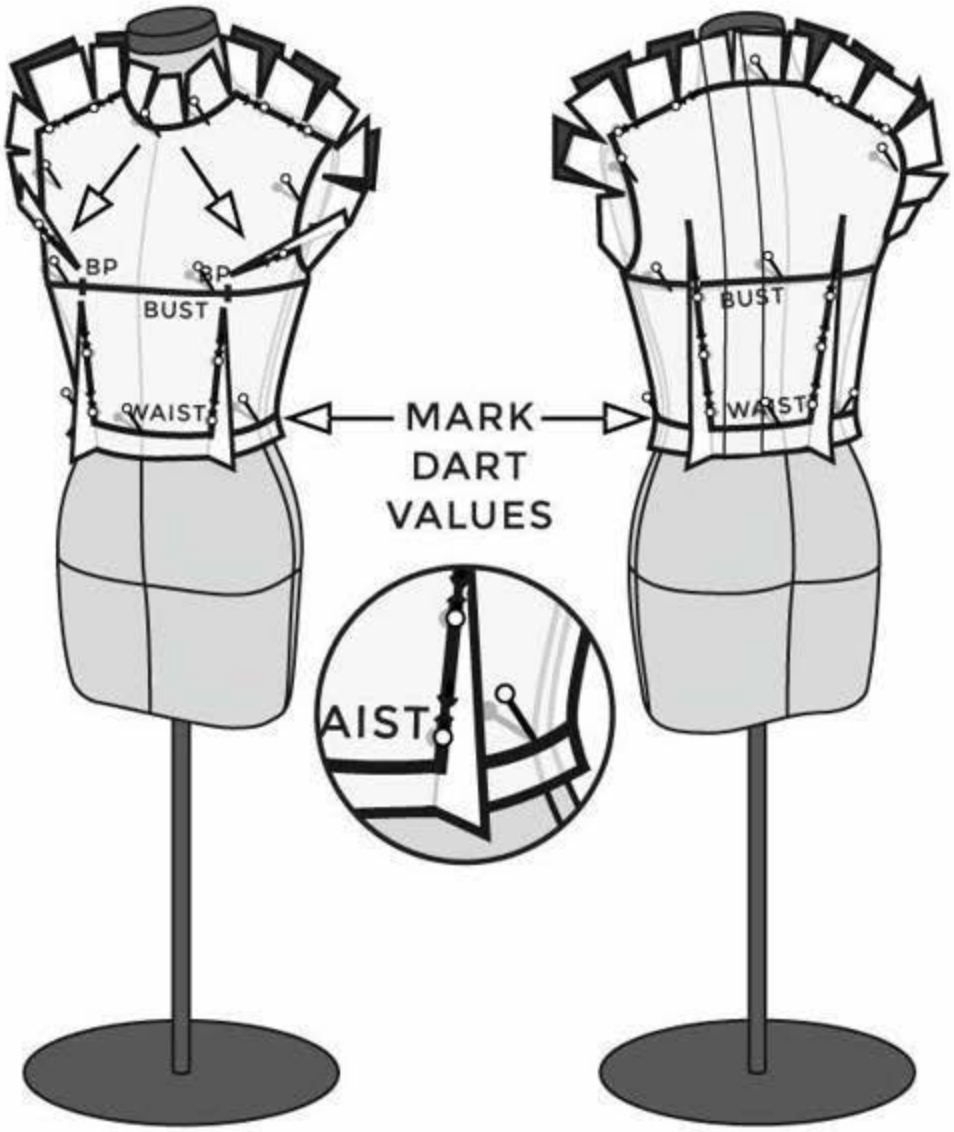
STEP 13 : MARK IN WAIST GUIDELINE



Step 14: Mark in Dart Values

Mark in the dart values by tracing up and down either side of the dart arms in the same way that we did for the paper skirt.

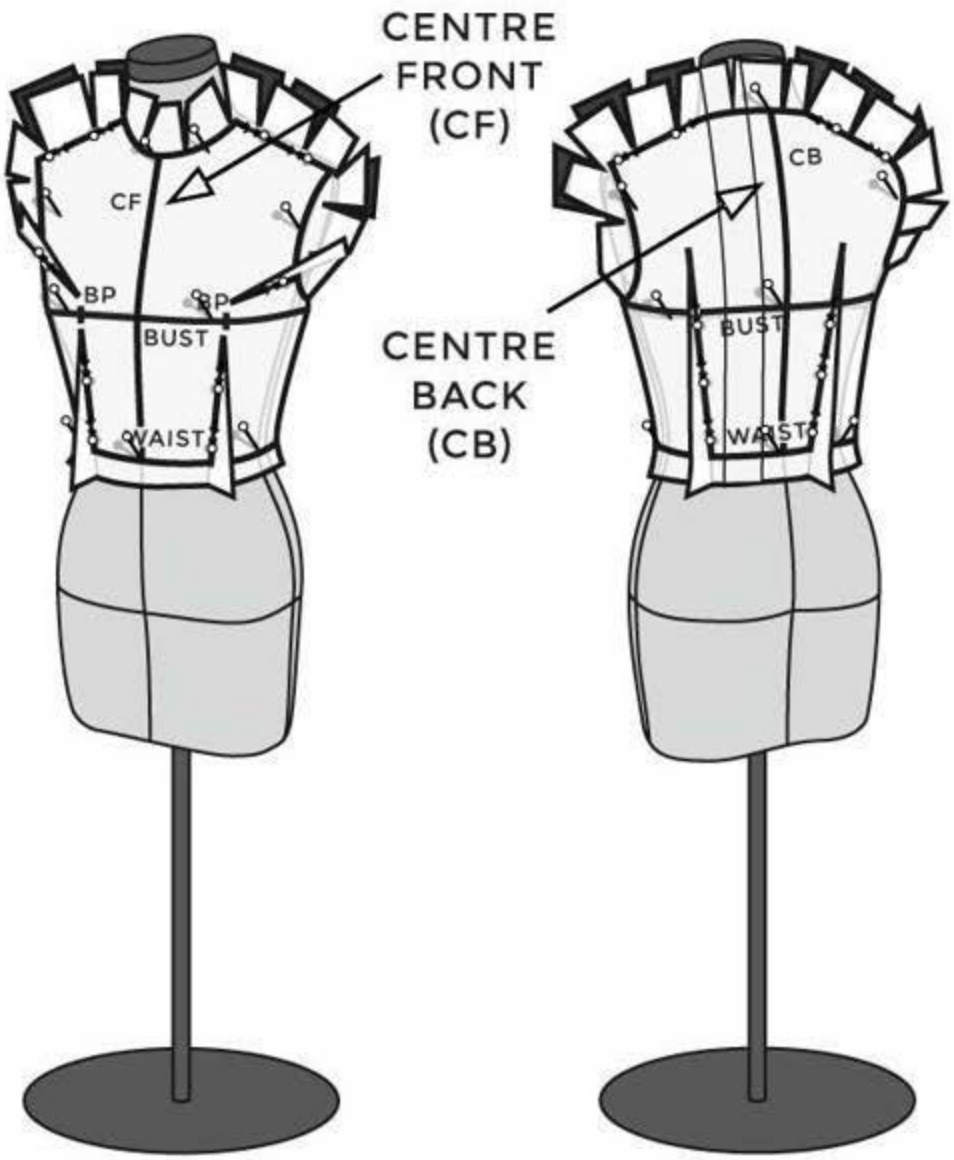
STEP 14 : MARK IN DART VALUES



Step 15: Mark in Centre Front and Centre Back Lines

Mark in your centre front and centre back lines by drawing lines from the neckline to the waist. Mark the lines as “CF” for the centre front line, and “CB” for the centre back line.

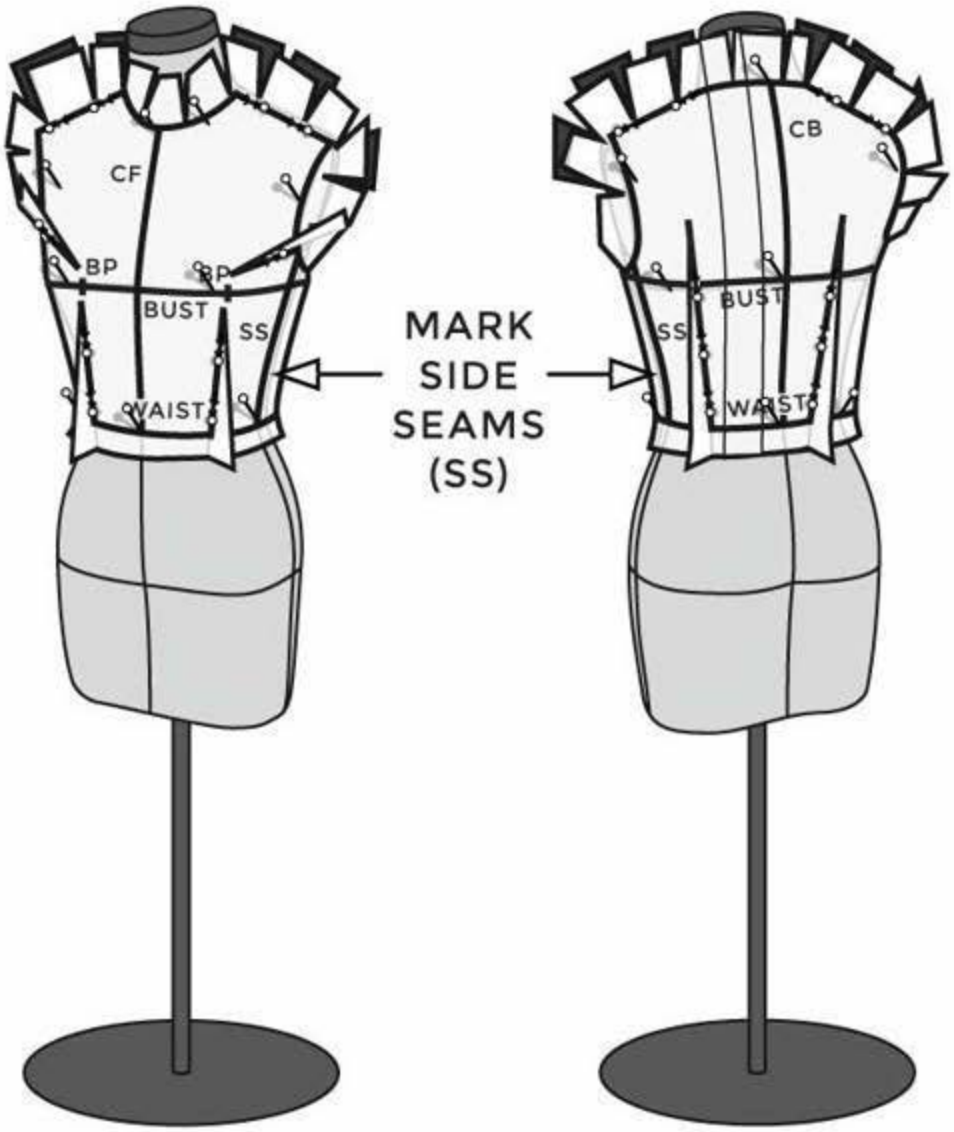
STEP 15 : MARK IN CF & CB



Step 16: Mark in Side Seams

You can mark in the side seams by drawing a line along the side seam from the bottom of the underarm to the waistline. Write “SS” for side seam on either side of the side seam line, and make sure that you do the same thing on both the right and left sides of the paper bodice.

STEP 16 : MARK IN SIDE SEAMS

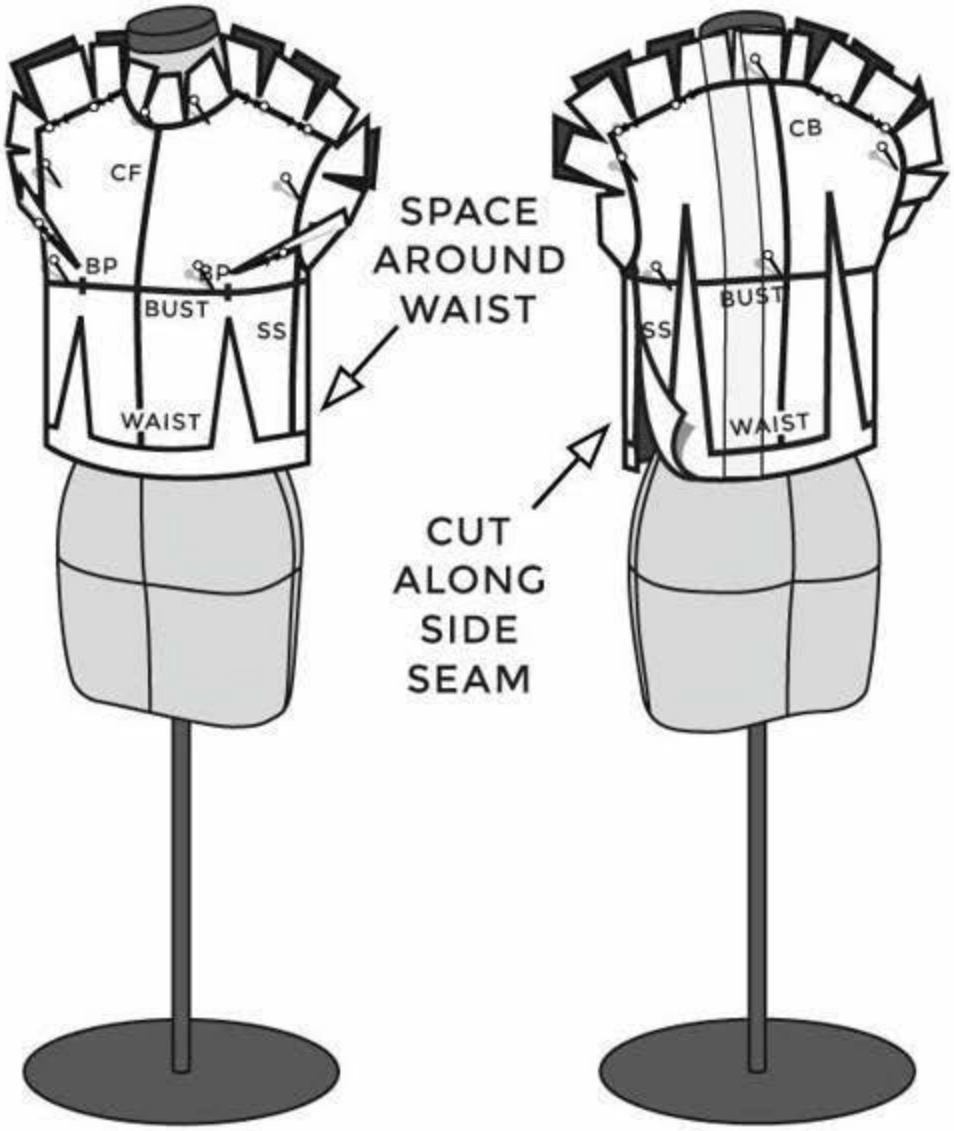


Step 17: Remove Pins and Cut Side Seams

Once you are happy that you have marked in all the lines, remove the pins at the darts and waist, which will open up some space around the waist.

You can now cut up the side seam lines through to the armhole and remove the rest of the pins to allow you to take the paper bodice off the mannequin.

STEP 17 : REMOVE PINS & CUT SS



Step 18: Flatten Paper Bodice

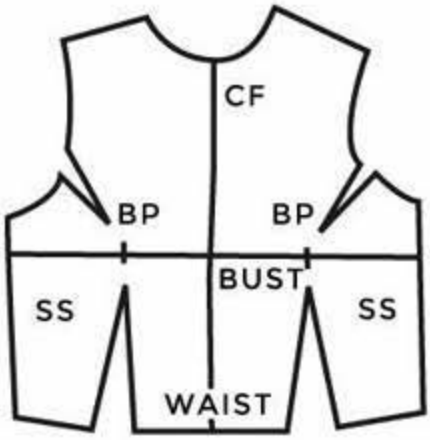
Lay the pattern pieces flat on the table and you will find that you will end up with a paper bodice shape that looks roughly like the shapes labelled as “Paper Exercise” in the the following diagram, “Step 18: Flatten Paper Bodice”.

The rough bodice pattern shape that you have created is actually the essence of the shape that forms the basic bodice block, which we will look at in the next chapter (Chapter 7: Basic Blocks).

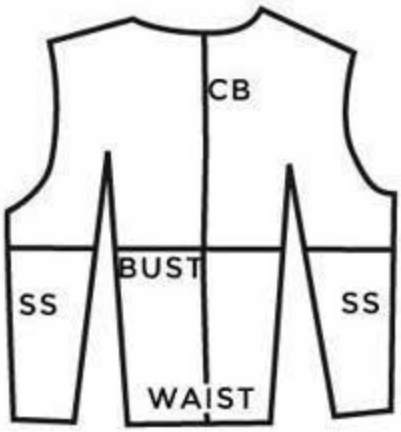
You can also see from the following diagram that the darts at the front of the bodice point towards the bust points of the mannequin because the breasts are the most prominent apexes at the front of the body. This is not the case at the back of the bodice, where the darts instead point towards the shoulder blade area. This is because of the fact that at the back of the bodice the shoulder blades are the most prominent apexes of the body.

This comparison between dart positions, and how darts can be used to read patterns, is discussed in more detail in the next section.

STEP 18 : FLATTEN PAPER BODICE



PAPER EXERCISE
BODICE FRONT



PAPER EXERCISE
BODICE BACK



BASIC BLOCK
BODICE FRONT



BASIC BLOCK
BODICE BACK

As with the paper skirt exercise, you can again see from this exercise how important it is to mark in the darts and guidelines on your paper so that you have your bearings when the paper is taken off the mannequin. This also explains why drawing guidelines and other markings onto patterns is so important in order to help you to read the way that the patterns relate to the body.

Using Darts to Read Patterns

By looking over these rough exercises you can understand a lot about the shape of the body. For example, notice how the darts point towards the apexes and widest areas of the body such as the bust and hips. If done correctly, the darts will not completely reach the apexes of the body such as the bust points or the hip lines. Instead the dart points are set back from the apexes of the body and then taper off towards the narrowest areas of the body, such as the waist.

Often you will see pattern making books explain that you should not have the dart point right on the bust point, but this is easiest to remember when you can picture this paper bodice exercise and see for yourself that the darts point towards the bust apex, but that the dart points do not actually ever meet the bust point.

Essentially the reason for sitting the dart point back from the apexes of the body is in order to leave enough space around the curves to avoid “over fitting” the pattern and to avoid making the fabric too lean and restricted in these areas.

Fitting Darts vs. Decorative Darts

Sometimes you will see darts on a pattern that don't actually point at the apexes of the body and it is good to have an understanding of why this may occur.

Darts may not point to the apexes of the body if:

- The dart value has been moved as part of a design feature.
- The darts are purely decorative and don't affect the fit of the garment at all.
- The majority of the fit value is absorbed into a seam line, and the dart is purely decorative.

While it may take some time to learn to read patterns and to recognise the difference between the different types of darts, the most important thing is to understand that darts are used in different situations for both functional and decorative purposes.

The ability to recognise the difference between the different types of darts will develop as you become more accustomed to visualising 2D patterns as 3D garments, and as you become more comfortable with pattern making in general.

The basic principles behind moving dart value and changing dart value into seam lines will be examined in more detail in later chapters of this book.

Chapter Summary

In this chapter we learnt that:

- Rough exercises that are quick and inaccurate can be used to help you to visualise the shape of a pattern.
- Darts are used to vary the difference in fabric needed between the body's widest and narrowest parts.
- Guidelines and markings help you to make sense of a pattern when it is off the body.
- Darts can also be used for decorative, non-functional purposes or absorbed into seam lines.

Chapter 7

Basic Blocks

Chapter Overview

In the previous chapter, we used rough paper exercises to create very basic pattern shapes based on the body shape of a mannequin. In this chapter we will expand on these basic shapes by discussing the definition of blocks in pattern making. This will give us an understanding of some of the basic block shapes that are used in many pattern making texts, and will allow us to explore how basic blocks relate to body measurements.

What Is a Block?

In pattern making, blocks are created almost as though you are using paper to cover the body in the simplest way possible. This means that blocks essentially represent the pattern that you would make if you wanted a garment with the fewest darts and the plainest possible necklines, armholes and hems. This idea of creating a pattern with the simplest possible shape is essentially what we did in the paper exercises in the previous chapter.

A block is essentially a basic pattern shape that has no seam allowance on it at all. If you are not sure what seam allowance is then we will discuss this later in the book, but for the moment imagine that blocks are essentially used as the basic building blocks of pattern making, as basic first shapes from which you can build your designs.

Basic blocks also use the body guidelines that we discussed in the previous chapter such as the bust, waist and hip lines, as well as the centre front, centre back and side seam lines, and the position of the bust points. There are different basic blocks that are made for men's wear and children's wear, but for the examples in this book we will focus only on the basic blocks for women's wear. The basic principles behind how blocks are used is essentially always the same, so the women's wear blocks will just provide us with visual examples to explain the principles more easily.

The main purpose of pattern blocks is to provide the pattern maker with the most straightforward representation of body measurements as a form of basic pattern template. Depending on your own design needs your basic set of blocks may also include ease measurements.

Ease on Block Measurements

The term ease can actually have a couple of different meanings in fashion design depending on whether you are referring to ease around the body, or ease within the construction of a specific individual seam line.

In the context of pattern blocks, the ease that is discussed refers to the ease around the body. In this context, ease is essentially a small amount of extra space that is added to the body measurements when creating a block or pattern, to allow the body room to move within the garment.

So rather than having clothing that fits to the body in a way that is absolutely skin tight, and having patterns that exactly mimic your body measurements, you will need to add an ease measurement to your blocks or patterns to allow enough space for the body to actually move in the garments.

In a way, adding ease to a pattern allows for a garment to fit the body even when the body is in different positions. For example, you cannot simply create skin tight clothing for people who stay standing perfectly still all the time, so there is no point in only using body measurements that represent a rigid person.

An ease measurement around the hip for example, allows for changes to your hip measurement when you sit, stand or bend over. The amount of space that you need around your shoulders will change depending if you have your arms still or are reaching up for something.

Ease measurements are based on the amount that your body measurements increase and change as you move. Different pattern making texts will recommend different amounts of ease depending on the type of garment you are making and on who the target audience is for the garment. There is no set rule for ease, so you should test and adjust the ease on your blocks and patterns as best suits your particular situation.

Making Your Own Set of Blocks

When you look at many pattern making texts one of the first things you will learn is how to create a set of basic blocks for you to use in your own pattern making. This process is also often referred to as pattern drafting.

Often these exercises are very mathematical, and when you are just learning to make patterns for the first time these exercises can be quite confusing. It helps if you imagine these exercises in relation to the actual body, and remember the basic paper shapes that we created in the last chapter. If you can visualise the basic shape of what you are trying to create by imagining a variation of our paper exercises, then it will help you to picture the shape of the pattern that you are working towards, and should stop you from getting confused in the process of drafting the block.

By visualising the result of any block or pattern method as you work you are aiming to make the measurements relate to certain areas of the body so that they will have more meaning as you work. Then you will know what you are working towards and be better able to uncover mistakes along the way, rather than following a pattern process as a dot to dot that only makes sense when you finish it.

Different courses, textbooks and companies will sometimes call blocks different things such as working patterns, foundations, slopers or seamless patterns. For this reason, it is best not to get too caught up in terminology. In this chapter we will go through the basic block shapes so that you will be able to recognise them visually when you want to draft your own by following someone else's process.

As we look at the basic block shapes in the following diagrams, have a careful look at how the lines relate to the curves of the body, and look at the different sizes of darts, taking note of how some darts are wider or narrower, shorter or longer than other darts.

Remember the diagrams earlier in the book (Chapter 5: Darts and the Body) that showed how you could vary the width of the dart value to make the dart "hill" steeper or shallower? This exercise becomes more relevant when you see the darts on the body and can see the different sizes of dart value in different areas of the body.

Learning to read patterns is a little like learning to read a language, or like getting your bearings on a map, so you need to look for the darts and guidelines on the pattern that will indicate to you how the pattern works on the body.

Diagrams of Basic Blocks

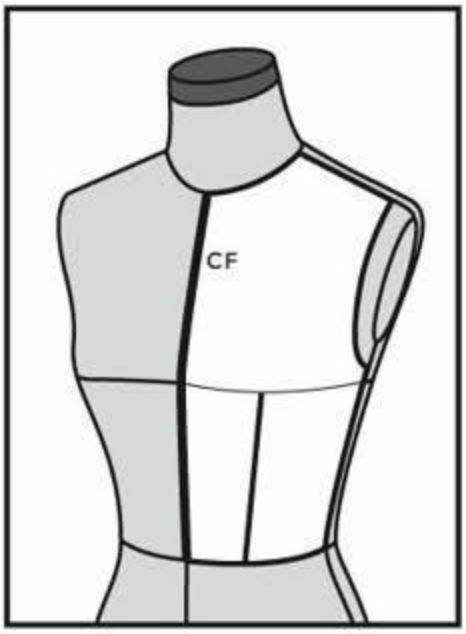
In the following diagrams the centre front or centre back line has been marked as a bold line to give you a reference point between the shape of the actual pattern when compared to the same shape as it would fit to the body. In each of the following diagrams the original pattern pieces are shown on the right, while the same shapes are shown on a mannequin on the left side of the diagram.

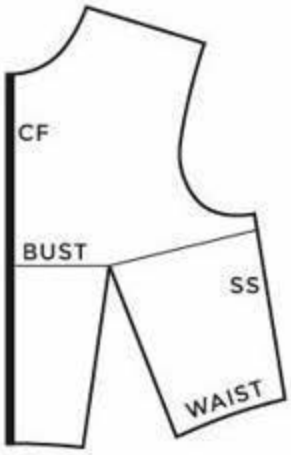
In some pattern making texts, basic blocks will be drawn so that the dart value is removed, leaving simply an open triangle. For this reason, the basic blocks have also been drawn this way in the following diagrams, so that you can become accustomed to recognising the block shapes when drawn in this way.

In effect, it is as though the dart value is not there at all, and there is simply space between the dart arms of each dart. If you remember our dart exercise from an earlier chapter of this book (Chapter 5: Darts and the Body), then you will recognise the V shape of the dart arms on the patterns.

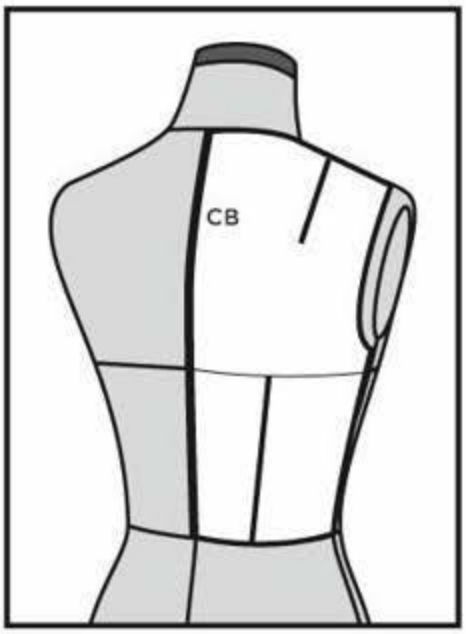
Note how when the patterns are seen on the body, the open dart values are closed out, and the dart arms are brought together. This is what enables the block to mould to the curves of the body.

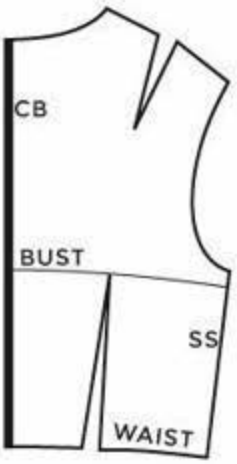
BASIC BLOCKS : BODICE





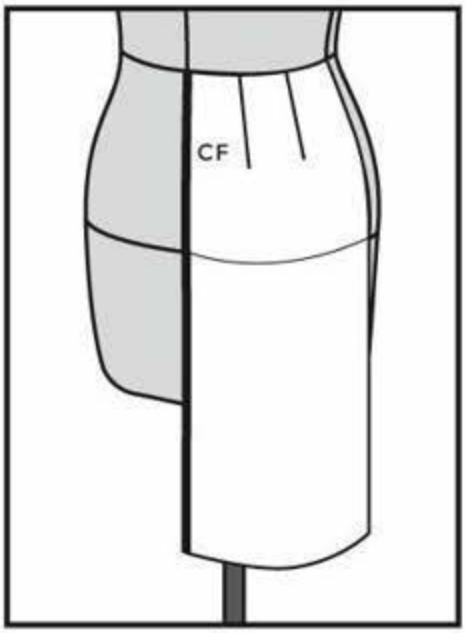
BASIC BLOCK
FRONT BODICE

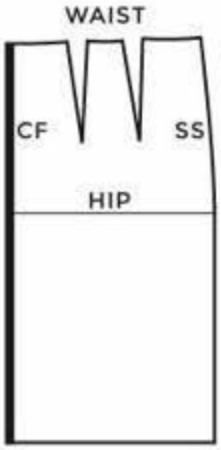




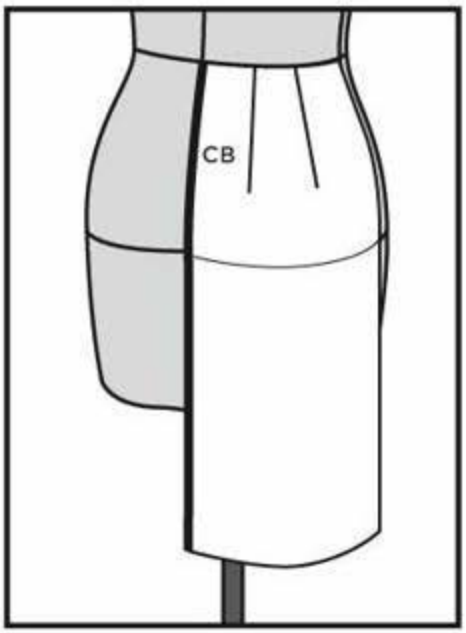
BASIC BLOCK
BACK BODICE

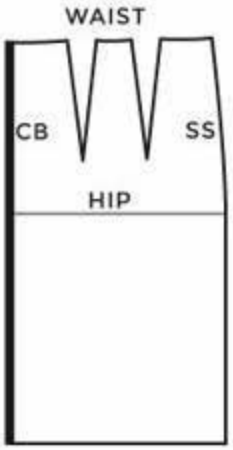
BASIC BLOCKS : SKIRT





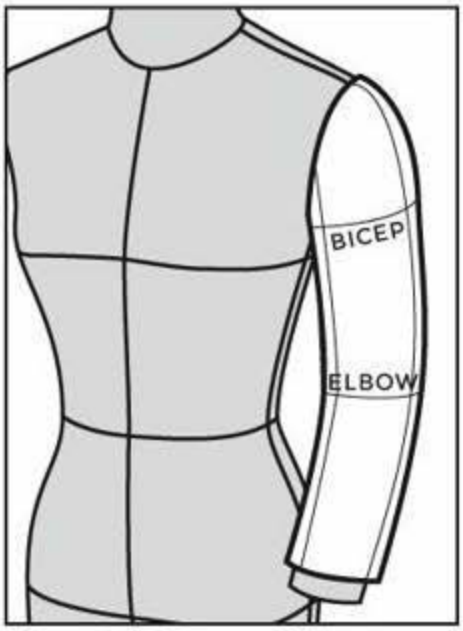
BASIC BLOCK
FRONT SKIRT

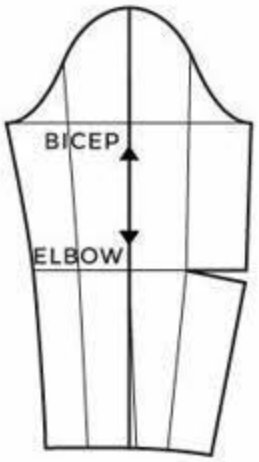




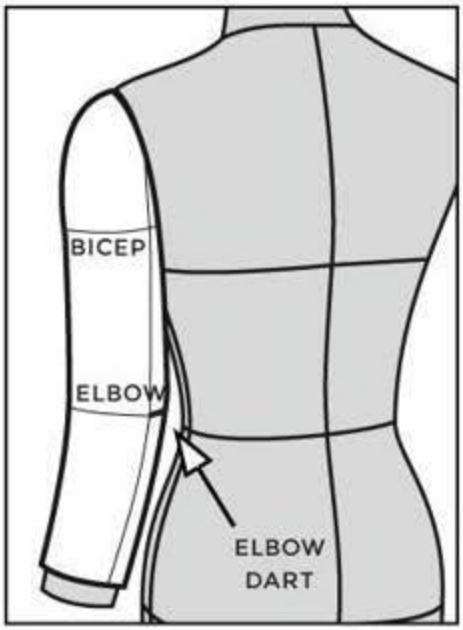
BASIC BLOCK
BACK SKIRT

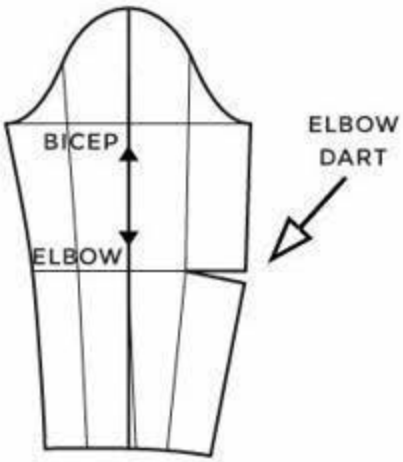
BASIC BLOCKS : FITTED SLEEVE





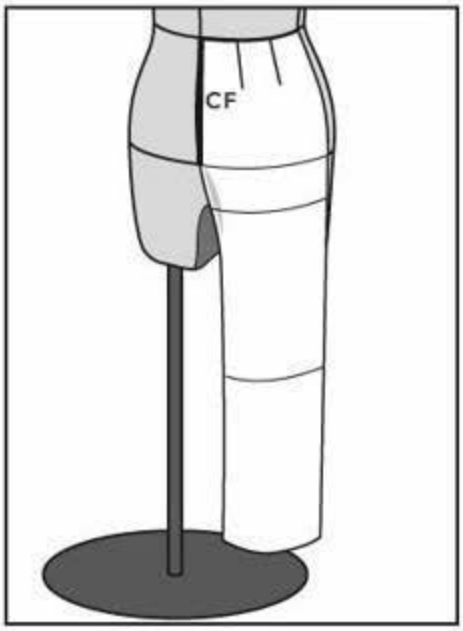
FITTED SLEEVE
FRONT VIEW

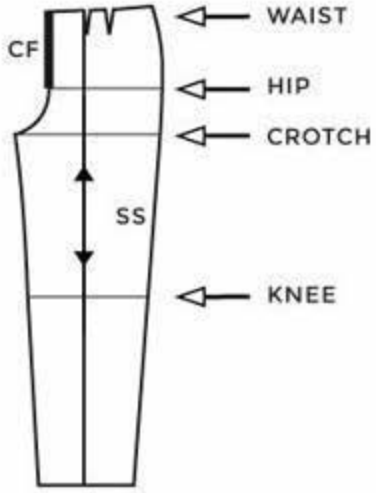




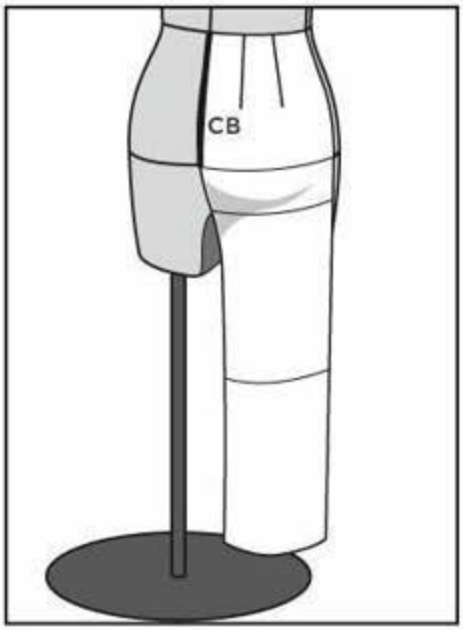
FITTED SLEEVE
BACK VIEW

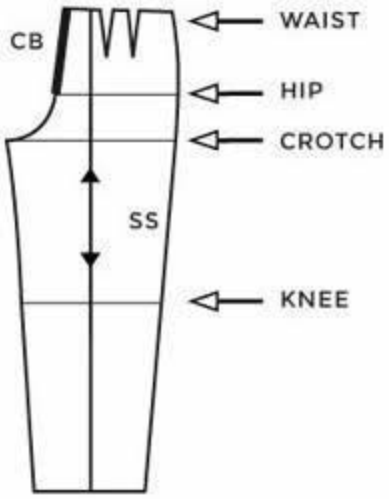
BASIC BLOCKS : TROUSERS





BASIC BLOCK
FRONT TROUSER





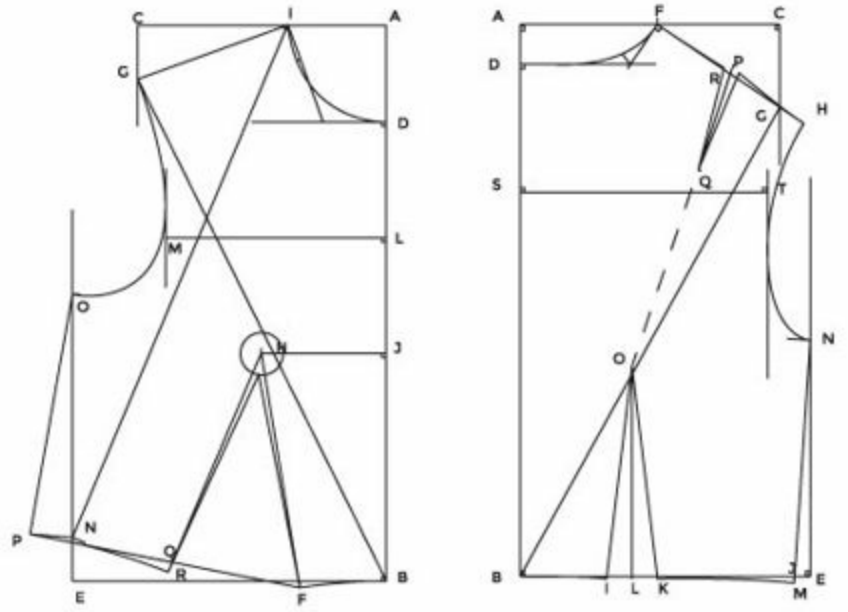
BASIC BLOCK
BACK TROUSER

Different Methods for Creating Blocks

There are many different methods for building blocks that are set out in different texts. The body measurements that you need to record when following the method of a pattern making book will often specifically relate to the set of basic blocks that you will build using their block methods. So if you are following the instructions for drafting a set of blocks, then you should also use the measurements described in that same text.

Historically speaking different methods of creating pattern blocks have come in and out of fashion over time as people balance very simple methods vs. very complex methods. So basically, there is no single right way to make pattern blocks, they are just representations of the body measurements in their simplest form, so be aware that you can try different methods to see which one you prefer.

In pattern making books you may see pictures that show the block drafting process that look something like the following diagram:



EXAMPLE OF BLOCK DRAFTING

It is also possible for you to create your own basic block shapes by draping them on the mannequin in a manner similar to the way we made the paper bodice and skirt shapes, though in a far more careful and accurate way. We will explain the process of draping in more detail later in this book but if you wish to create block shapes through either a pattern drafting method or through drape, you should look for a book that specialises in these processes.

Chapter Summary

In this chapter we learnt that:

- Blocks are the basic building blocks of pattern making.
- Blocks represent the body measurements, and are marked with the body guidelines.
- Blocks generally have no seam allowance.
- Ease may be included in the block measurements if required.
- Ease when used in pattern making is the extra space added to the body measurements that allow for the body to move.
- The dart sizes on the block will give you indications of the size and shapes of the body.
- There are different methods for drafting a set of basic blocks, and the method you use will correspond to the body measurements that you need to take.

Chapter 8

Truing, Blending and Flow Through

Chapter Overview

Before we build on our knowledge of basic pattern blocks, it is important to consider how individual block pieces relate to one another to create an overall shape on the body, rather than only thinking of each block piece in isolation.

In this chapter we will examine the basic ideas behind comparing adjoining block pieces to ensure that they are correct. We will do this by truing and blending the joins of block pieces to check that the design lines will flow through from piece to piece. These same basic principles will also apply to how you should check pattern pieces.

Truing and Blending

It is always important to keep in mind the way that lines flow around the body in pattern making. Instead of thinking of each block or pattern piece independently you will need to make sure that seams match each other and that the pattern pieces flow nicely from one piece to another.

The act of checking that the adjoining pattern lines match each other is called truing. For example if you were to compare the length of two bodice block side seams to each other then the lengths should be exactly the same. If two seams are intended to match, then you should make sure that they match exactly and smooth off any edges that jut out.

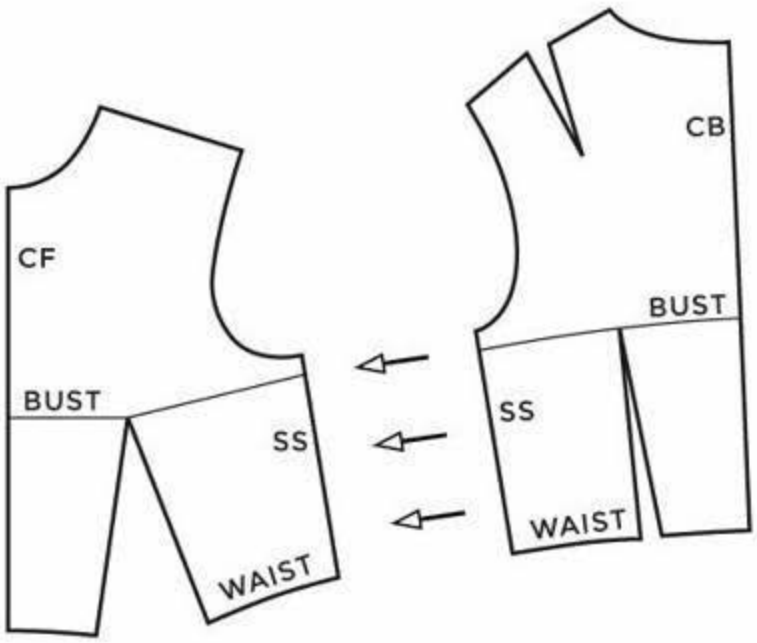
Be aware that the only reason why your seams should ever be of different lengths is if it is a conscious decision on your part, such as for certain design and fitting effects. Otherwise you should ensure that all your blocks and patterns match along any lines that will join together.

In the following diagram, you can see how you should check the side seams of a bodice block by putting the front and back bodice side seams together. In the diagram labelled “Incorrect” the two side seams have been brought together so that the bust guidelines match, but the underarm edges do not. A dotted line is marked to show an example of how this underarm curve could be corrected.

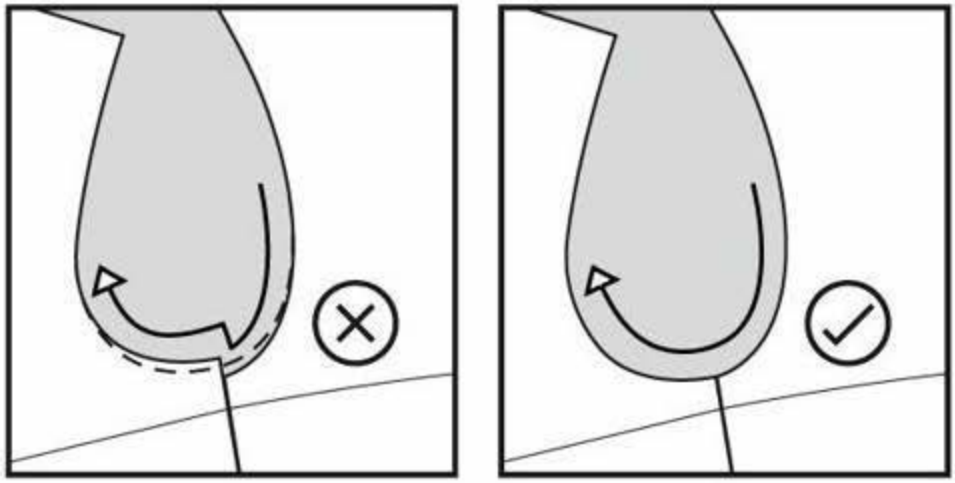
This act of smoothing the difference between the two lines is sometimes referred to as blending. This process can also sometimes be used to describe the process of blending the edges of a jagged or uneven line that should be smooth.

In the diagram labelled as “Correct” the results of the correction are shown, with the block pieces matching at both the bust guideline and at the underarm join.

EXAMPLE OF TRUING



CHECKING SIDE SEAM ON BODICE BLOCK



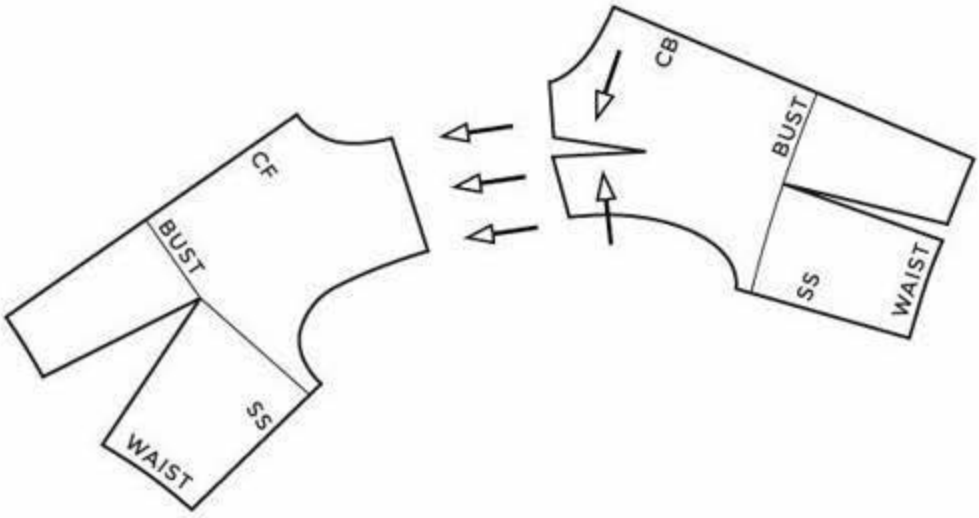
INCORRECT

CORRECT

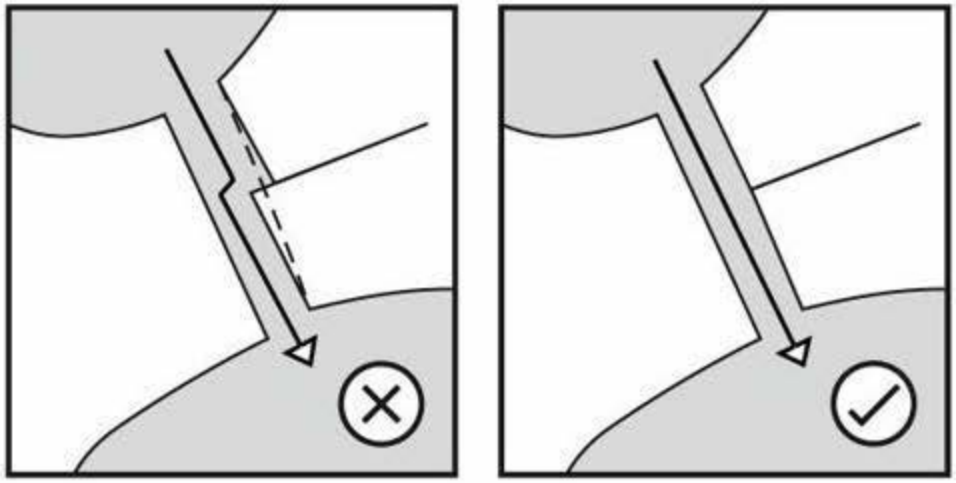
Truing a Seam with a Dart

When checking and truing a block you need to be aware that wherever there is a dart you will need to close up the dart value, as though it is sewn shut, before comparing the length of the two adjoining pattern lines. Again, you should always have a nice smooth join in the line when your dart is closed. If your dart arms are not the same length and you end up with a jagged line, you should redraw this line so that it is smooth.

EXAMPLE OF TRUING



CHECKING DART & SHOULDER SEAM ON BODICE BLOCK



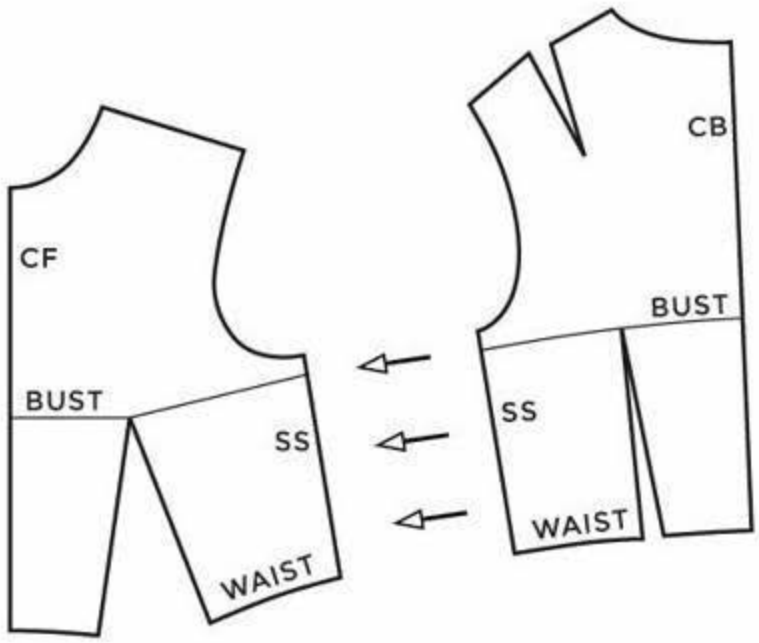
INCORRECT CORRECT

Flow Through

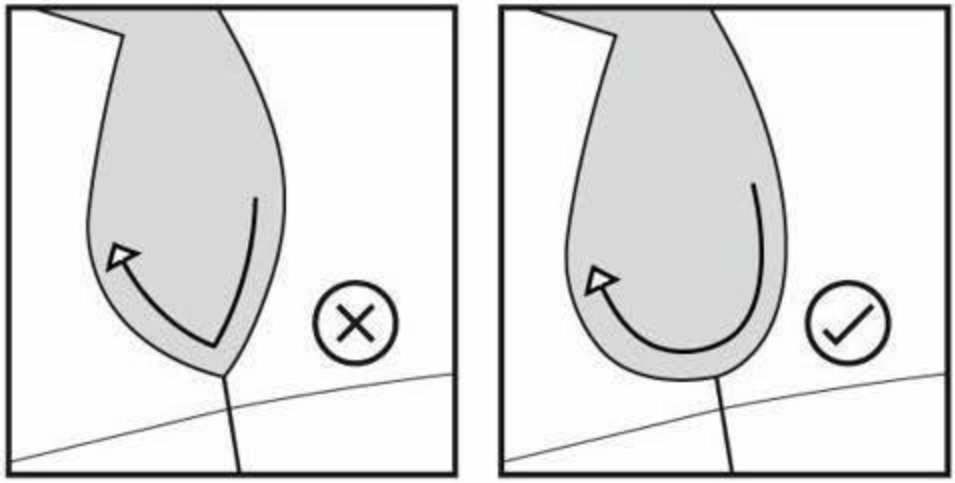
As well as checking that two block edges match each other, you should also check the way that the line flows through from one block or pattern piece to the next. For example if you lay a bodice block on a table with the side seams matching there should be a nice flow through along the under arm and the waistline.

In the following diagram, the diagram marked “Incorrect” shows two seams that meet at an angular join at the underarm. Unless this is a specific design decision that you have made, you should smooth the lines so that the curve will flow through nicely from one pattern piece to the next. A smooth curve is shown in the diagram marked as “Correct”.

EXAMPLES OF FLOW THROUGH



CHECKING SIDE SEAM ON BODICE BLOCK



INCORRECT

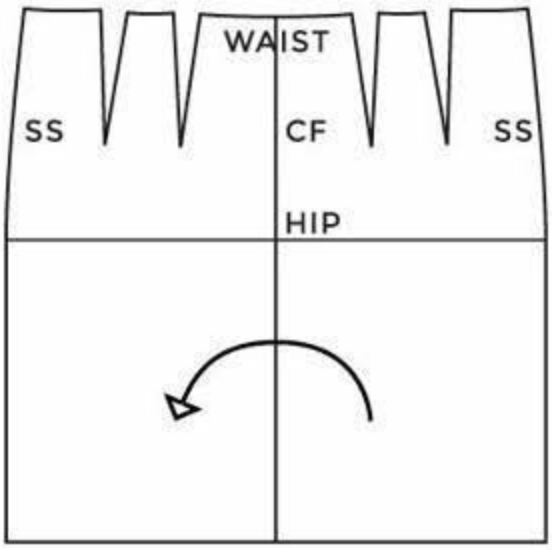
CORRECT

Checking that a Block or Pattern will Mirror Correctly

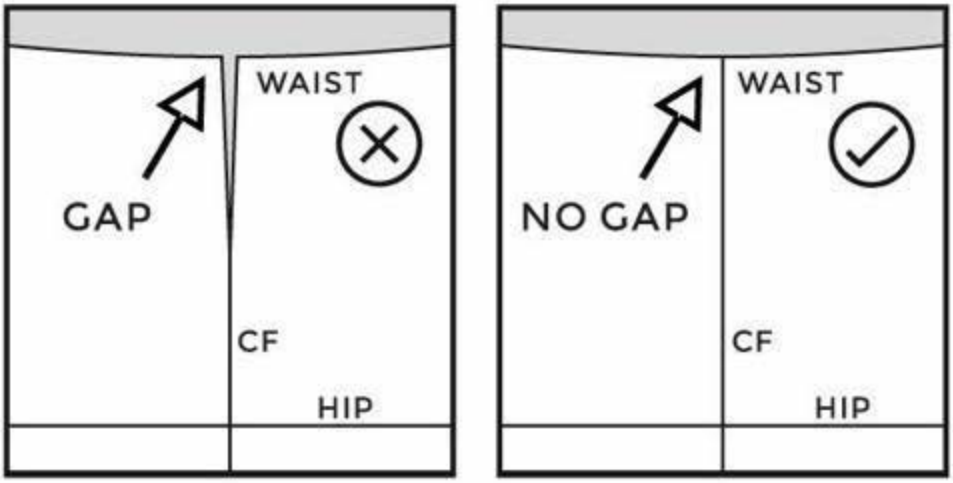
The way that blocks are drafted is based on the idea that you create the block shape for only half the body, and then when you turn the block into a pattern, the block will be mirrored to create a pattern that represents both halves of the body. This is basically to save time so that if your design if symmetrical then you only need to work on half the body at a time, and then double it over.

This is why you have to make sure the centre front or centre back line of your block or pattern is very straight, as these lines will become the axis where you mirror the design. If you have little gaps along your mirror line, then it is as though you are creating little mini darts by accident, and this will affect the shaping of your pattern. An example of this has been shown in the following diagram, where you can see how the centre front line is not straight enough, and this causes a small gap when the pattern is doubled over.

EXAMPLE OF REFLECTED BLOCK



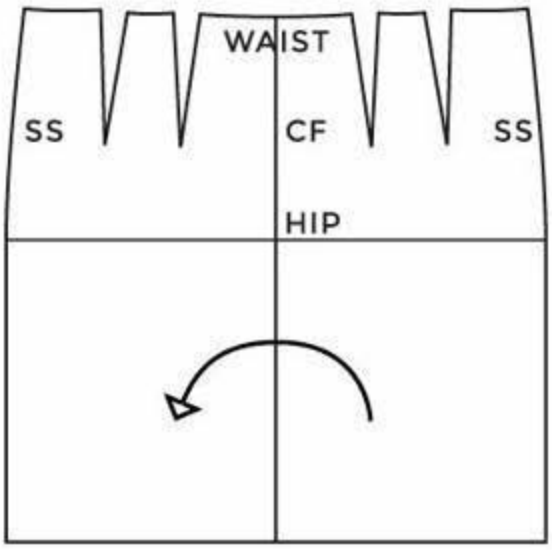
CHECKING CENTRE FRONT LINE
ON REFLECTED SKIRT BLOCK



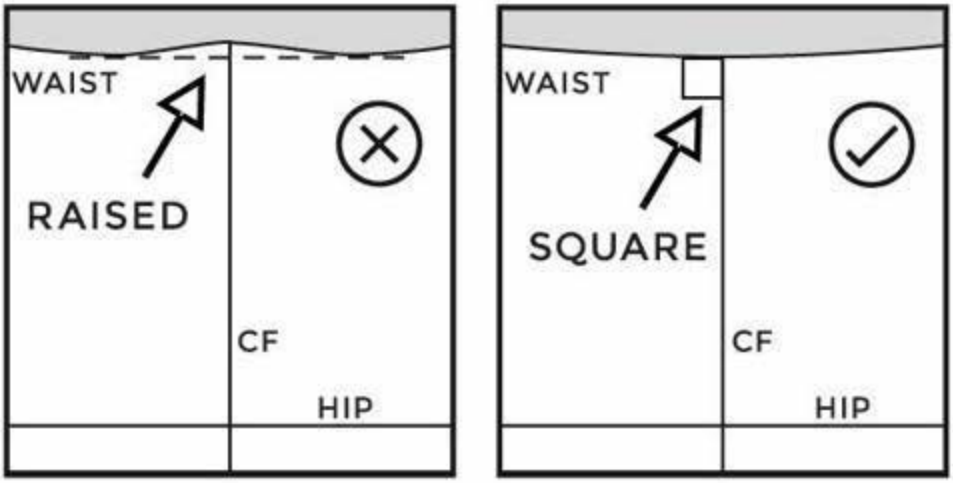
INCORRECT CORRECT

On any line where you will need to double your block or pattern over you must be especially careful that the lines that meet will create a nice curve when doubled. This if often a problem at the centre front and centre back of patterns. Often this can be solved when at least a short section of the curve is at a perfect right angle. This will mean that when the block is doubled over the curve will be consistent and won't have an unusual dip or raised bump in the middle of the pattern.

EXAMPLE OF REFLECTED BLOCK



CHECKING CENTRE FRONT LINE
ON REFLECTED SKIRT BLOCK



INCORRECT CORRECT

The Difference Between Checking Blocks and Patterns

When checking blocks and patterns you need to be aware that the processes of truing, blending and correcting the flow through are slightly different. If you are new to pattern making you may want to return to this idea once we have covered the different aspects of the pattern in more detail, for example this idea will be much more relevant to you once we have covered the definition of seam allowance.

If you are already comfortable with the concept of seam allowance then when checking blocks and patterns you must simply focus on the position of the stitching line in order to understand how the process of checking differs between blocks and patterns. In both cases, for both blocks and patterns, what you are really checking is the length and flow of the stitching lines, and it is the stitching line that should be corrected before then adjusting the seam allowance to match.

Remember that we discussed in the last chapter that blocks do not have any seam allowance on them, so you should picture that the outside edge of the block is essentially the stitching line. This means that when you are comparing the edges of two blocks to each other it is as though you are comparing the exact lines that will be sewn together. Be aware that this is different to if you were comparing two pattern pieces to each other - then you would need to measure the length of the actual stitching lines, rather than the outside edges of the seam allowance.

You can check the length of a stitching line either by using a ruler to measure the length of the lines, or by placing one pattern piece on top of the other and comparing the length of the two lines.

Chapter Summary

In this chapter we learnt that:

- Truing means that you check a block or pattern to ensure that the seam lines will all join up correctly when sewn.
- Blending is the process of smoothing any joins that do not match up correctly.
- Flow through involves checking that the lines of a block or pattern flow smoothly from one piece to another.
- Blocks only represent half the body and will be mirrored when they are made into patterns.
- The process of checking blocks and patterns is slightly different, but both involve checking the accuracy of the stitching line position.

Chapter 9

Blocks and Patterns

Chapter Overview

In this chapter we will begin to discuss the differences between blocks and patterns and examine how each of these different items is used in the process of constructing garments.

The Different Uses of Blocks and Patterns

One of the main reasons for having a set of basic blocks is to keep them as templates that are separate from your general patterns, so that they can be templates where the body measurements, basic guidelines and initial darts remain intact. From these blocks you can then create a multitude of copies of the same shape with all different design variations.

For example, you can take copies of the block shapes and cut them up, put them back together again, trim a bit off here or there, make them longer or shorter, and then ultimately turn these new shapes into patterns.

Basically you can do whatever you want with the block copies and it doesn't matter because you know that your original block is intact. So then even if everything goes wrong with your patterns you can always go back to your block and start again and you will know that all the guidelines and darts are correct and in the right place.

The way that basic blocks are made is so that the outside lines of the block always represent specific measurement values of different parts of the body, so that it is really just a template that you trace around onto a new sheet of pattern paper or cardboard before making any changes to create a pattern. Basic blocks are not shapes that are made for cutting out directly into fabric; they are designed for tracing around.

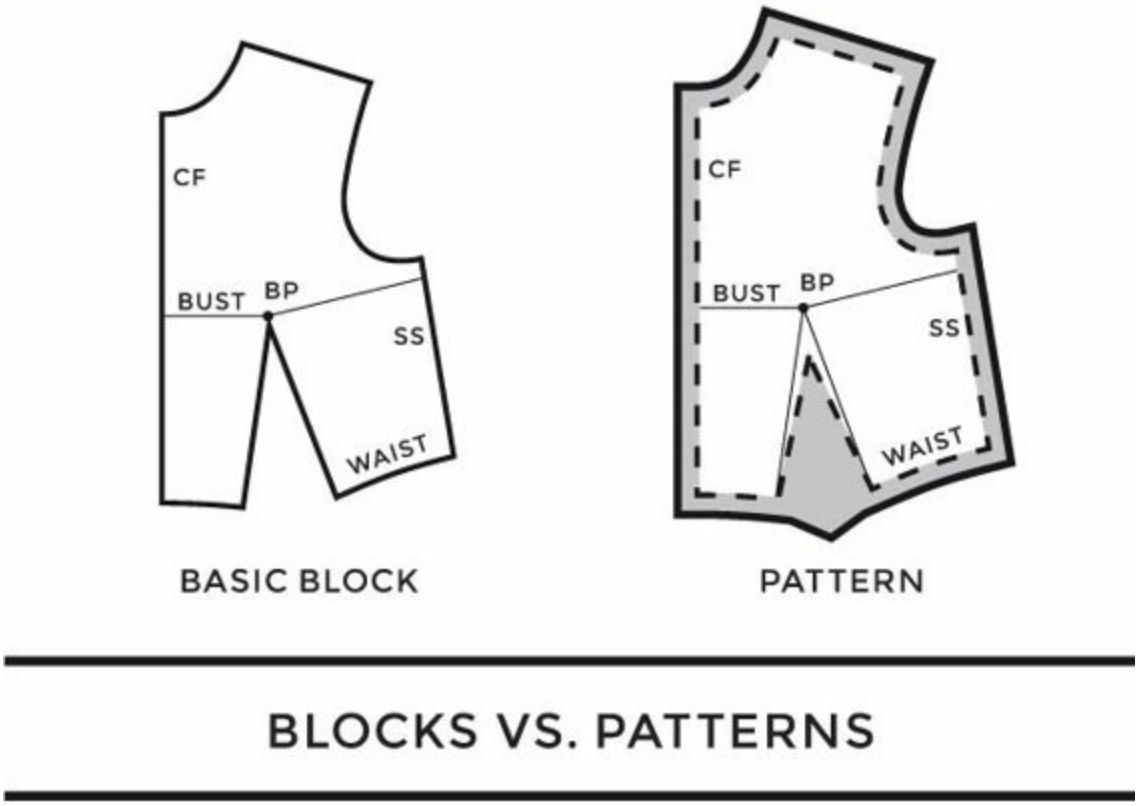
The Difference Between Blocks and Patterns

The major differences between blocks and patterns are in the way they treat seam allowance and bust darts:

- Blocks are seamless.
- Patterns have seam allowance.
- Bodice blocks have construction darts where the dart points match the bust point.
- Bodice patterns have dart points that are set back from the bust points.

Blocks are basically traced off and changed to create the shape of a pattern that will be used for a specific garment design. To prepare patterns to be cut out in fabric a border of seam allowance is added around the outside edge of the new shape.

These differences between blocks and patterns have been briefly summarised in the following diagram:



Dart Point Position for Bust Darts

Because blocks are templates that are used for constructing patterns, the position of the dart point on the bust dart relates to the apex of the body on the front bodice. On patterns the dart point is set back slightly from the bust point. As you can see in the diagram above, the dart point on the pattern is actually set back from the bust point while still remaining centred between the location of the original two dart arms.

If you are following a set of instructions used in a pattern course or pattern textbook then you should use the amount that they recommend to set back your dart so that your pattern changes will correspond with their instructions.

As a guide, the distance that the dart point is set back from bust point is usually larger if the bust is bigger and rounder. Different texts vary in their recommendations from between 1.5cm (5/8 inch) to about 4cm (1 ½ inches), so be aware that this is a measurement that is best varied to suit the particular body type that you are working on.

If you find that you want to vary the amount that the dart point is set back for a specific body type then you should feel free to experiment by creating a version of the pattern with the dart point at a different distance. You can then create a toile of this pattern so that you can fit the toile on a mannequin or fit model, and alter your block as needed based on the fitting. Once you have the dart point distance just as you like it for your block, then you will be able to carry the amount through your subsequent patterns more easily.

Seam Allowances on Blocks and Patterns

As we discussed in the previous chapter, the outside edge of a basic block is like a representation of the stitching line, so a border of seam allowance is needed around the outside edge to turn the block into a pattern. This will become easier to understand in the following chapters as we discuss the definition of seams and seam allowances.

Chapter Summary

In this chapter we learnt that:

- Blocks are just templates, whereas patterns can be altered.
- Blocks are created to be traced around, in order to generate patterns.
- Patterns are ready to be cut onto fabric, complete with seam allowance.
- The main differences between blocks and patterns relate to seam allowance and the position of the bust dart.
- Bust darts on blocks are created so that dart point matches the bust point in order to aid pattern construction.
- Bust darts on patterns are set back from the bust point at different distances depending on the body type.

Chapter 10

Seams and Seam Allowance

Chapter Overview

In this chapter we will examine the definition of seams and seam allowance values, and discuss how they are used in relation to blocks and patterns.

We will also discuss how you can work out the seam allowance value required for your own patterns and look at the factors you should consider when choosing the seam allowance value of your patterns.

What Is a Seam?

As one of the key terms in sewing and garment construction, a seam is basically just the line where one piece of fabric joins to another piece of fabric. You may also hear it referred to as a seam line.

On blocks and patterns it is the seam line or stitching line that is the most significant to the pattern maker as it represents the actual fit value of the garment. Any extra fabric outside of the stitching line, or outside of the join line, is essentially just for constructing the seams.

Stitching Lines on Basic Blocks

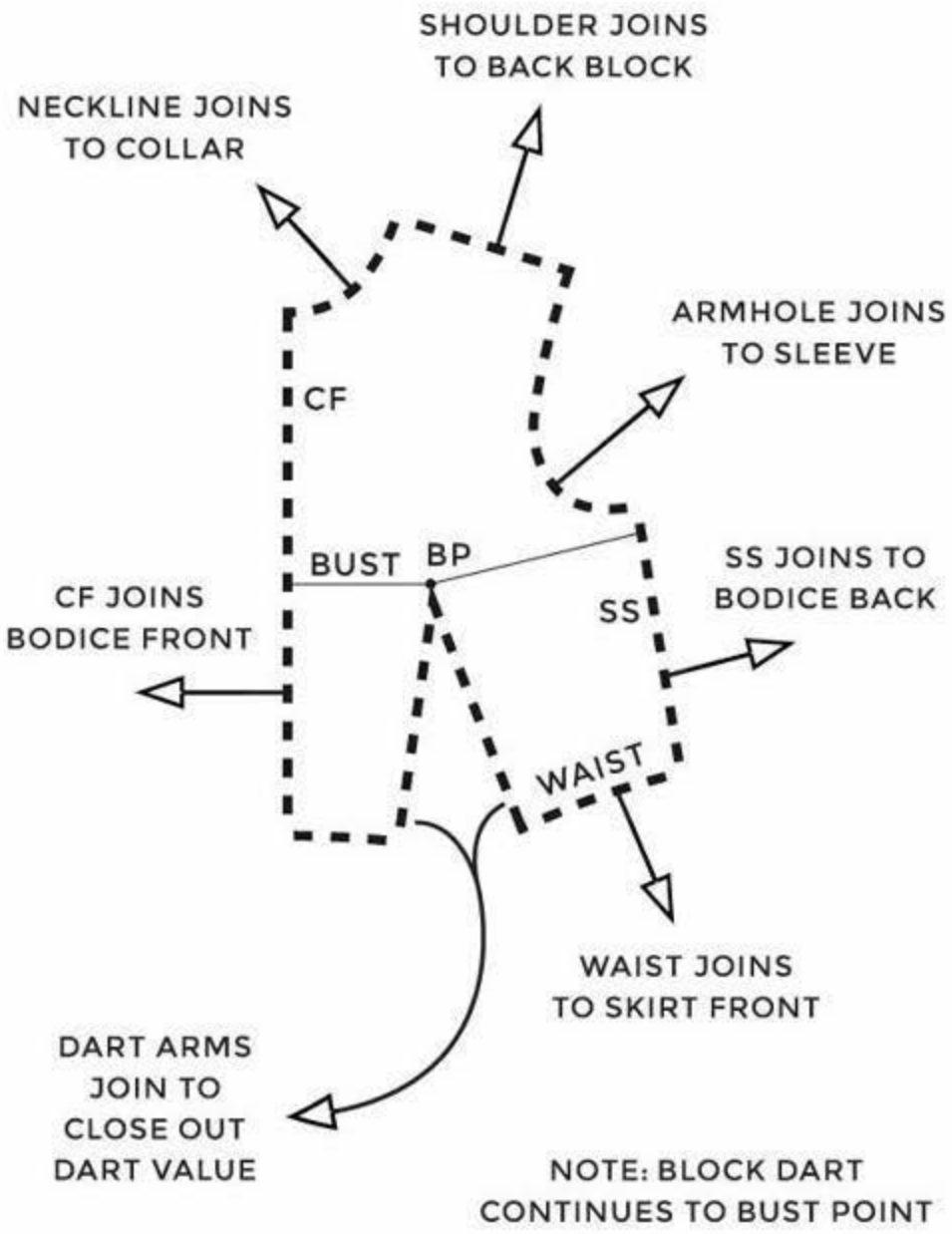
If you think of what a basic block would look like if you cut it out in fabric, then you would see that there is basically no way to join the pieces of a block together. The way that blocks are created is so that the body measurements go right to the edges of the paper or cardboard, so essentially there is no spare space to use to join the pieces of fabric to each other.

To put this idea in another way, blocks are created as though the seam line or stitching line of the garment is exactly the same as the very edge of the block. So in order to join the pieces of blocks together you will need an extra border of space outside of this line.

By looking at the following diagram you can see more clearly how the outline of a block essentially represents the position of the stitching line. The outline of the block has been represented as a dashed line to help illustrate this point.

So the following diagram best illustrates what is meant when a pattern making text says that blocks are seamless, as there is no excess space on blocks that can be used to join them to any other block piece.

STITCHING LINES ON BASIC BLOCKS



What Is Seam Allowance?

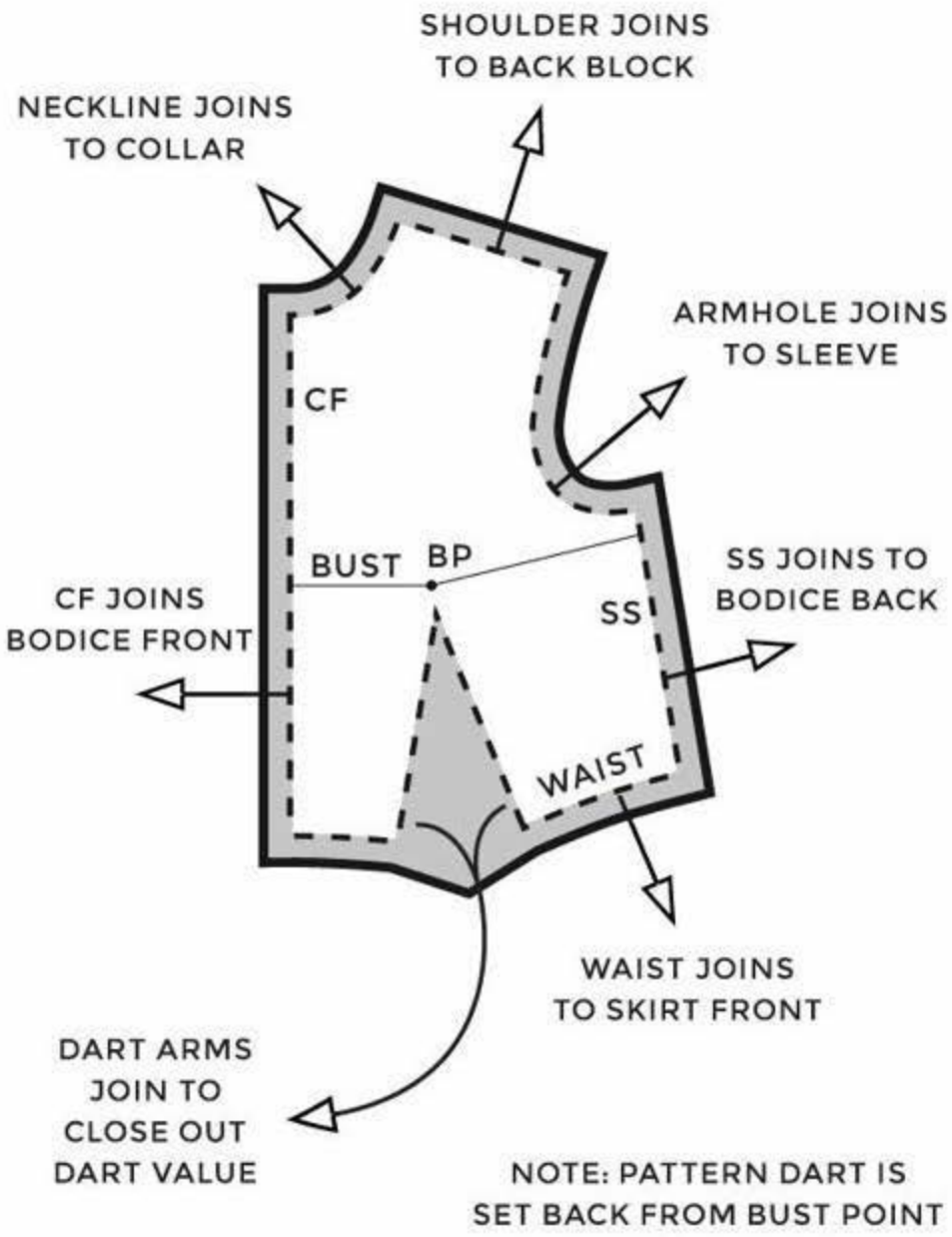
Based on our understanding of a seam, the term seam allowance is used to describe the border of excess fabric that is added outside the stitching line to allow you to join pieces of fabric together, without taking up any of the value of the actual fit of the garment. Seam allowance is essentially the extra space that allows you to sew the seam.

The term seam allowance will sometimes be abbreviated to “SA” in different pattern making texts and courses.

So by tracing a block onto paper you can use the outline of the block to dictate the exact position of the stitching line, you can then add a border of seam allowance to the outside edge of the stitching line, and this will become your pattern.

This is illustrated in the following diagram where you can still see the outline of the block shape, but now there is an added border of seam allowance marked in grey that will allow the shape to be sewn as part of a garment.

SEAM ALLOWANCE ON PATTERNS



Essentially, by tracing off a block shape and adding seam allowance, the block is turned into a pattern with enough spare space, or seam allowance, to enable the shape to be cut out in fabric and then sewn to other pieces of fabric.

In both the diagram of the block and the diagram of the pattern the actual position of the join line, or the stitching line, is in the exact same place, except for the position of the dart point and dart arms, which have been adjusted as discussed in the previous chapter (Chapter 9: Blocks and Patterns).

In the diagram of the pattern, the seam allowance and dart value have been shown in grey, and the area inside of the stitching line is left highlighted in white. This is to emphasise the idea that the area within the stitching line represents the shape of the finished garment and so that you can see that the shape of the basic bodice block is still intact, inside the overall shape of the pattern.

The seam allowance and dart value, shown in grey, is not what is important to the finished garment – it is only useful in order to construct the garment. In effect it is only construction space, not actual garment space. The most important area of any pattern is always the area within the stitching line.

In order to test the shape of your basic blocks on a fit model you would need to turn the block shapes into a very basic pattern by adding seam allowance to the outside edges so that you can sew the pieces together. Then you would be able to test the fit of your basic blocks as toiles, as we discussed in an earlier chapter (Chapter 2: Professional Systems), and be able to make adjustments to the way that the blocks fit.

Understanding How Much Seam Allowance to Add

If you are new to sewing and pattern making then one of the first things you will want to know about seams is how much seam allowance you need to add to the outside edge of a pattern. Rather than remembering a hundred different specific measurements when determining seam allowance value it is easier to remember a few broad rules in relation to seam allowance to help you to make the right decision for yourself in any situation.

The size of your seam allowance can be decided by considering:

- What type of fabric am I using?
- What type of machine am I using?
- What shape is the seam?
- Will I need to alter the seam later to adjust the fit of the garment?
- How will I finish the raw edge of my seam allowance?

By working through these questions you will be able to determine how much space to leave as seam allowance, or at least if you're still not sure then you will have more information in order to research your options in specific sewing texts.

This is also where the idea of small swatch tests of construction methods comes to good use. If you spend the time to test out how the garment will be constructed at the pattern stage, then you will avoid the problem of realising later on that the seam allowance value of the whole pattern should have been larger or smaller.

Type of Fabric

The type of fabric will affect your choices of seam stitch, and will affect your options for how you can finish off the raw edge of the seam. For example, fabrics that fray a lot may need to be enclosed somehow or may need to be finished in a way that stops the fabric from breaking apart.

Type of Machine

The choice of machines that you can use to sew your garment will affect the size of your seam allowance. For example some companies use machines that are specifically set up to sew shirt seams of a specific width.

Shape of the Seam

By the shape of the seam, this means asking yourself; is the seam straight or very curved? Curved seams are usually easier to sew when the seam allowance is narrower as there is less bulk to get in the way when you are trying to turn the seam under the foot and needle of a sewing machine.

Adjusting for Fit

Some seams are intentionally left larger so that the garment can be altered later. For example, hem allowances are typically left much larger than other seam allowances since shortening or lengthening a garment at the hem is one of the most common alterations done to finished garments.

Some tailored or couture garments may also leave specific seams much wider so that the garment can be altered later if required.

Finishing the Raw Edge of the Fabric

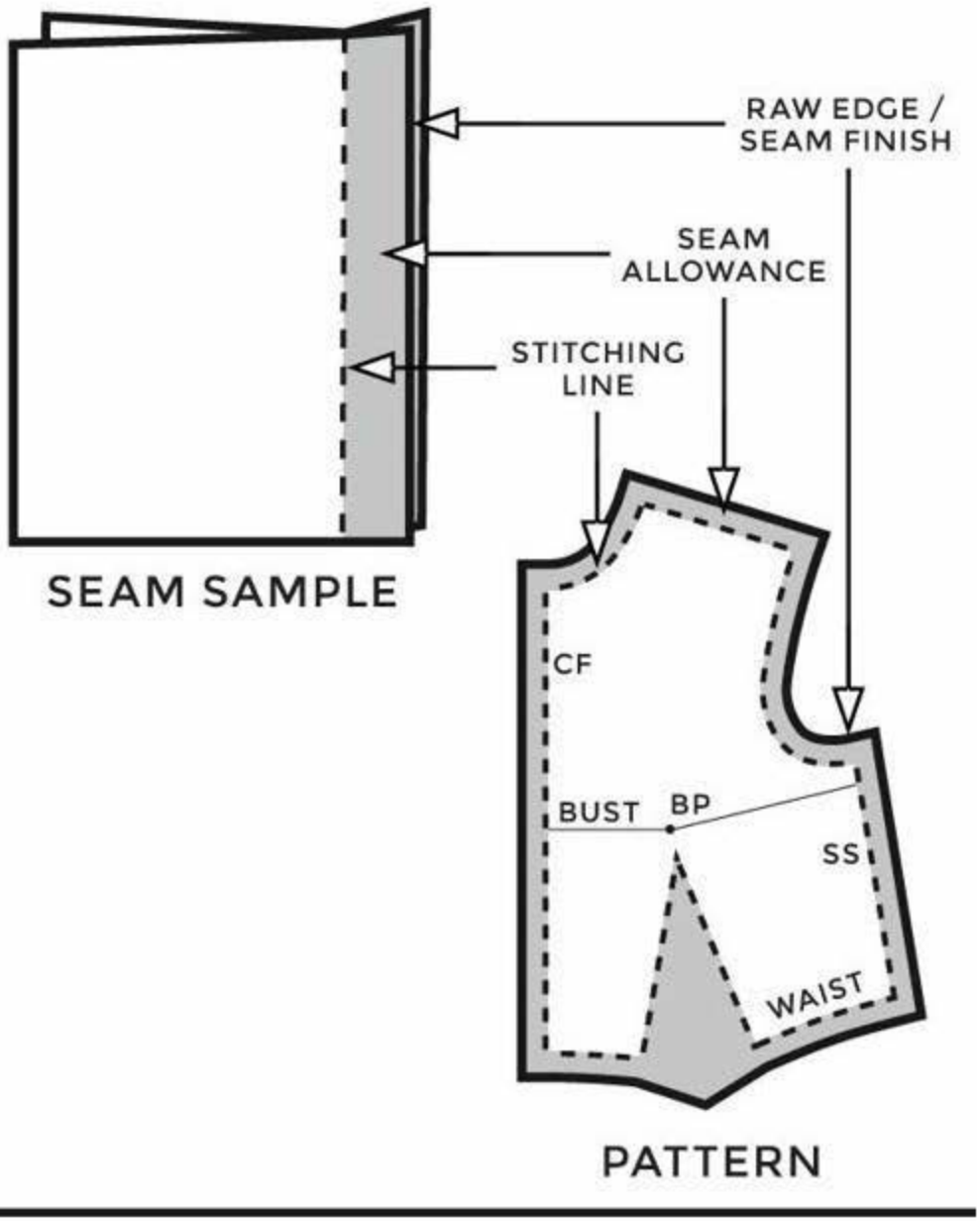
The way that the raw edge of the fabric is treated is commonly referred to as the seam finish and this will be covered in more detail in the next section.

What Is a Seam Finish?

The seam is really made up of two different construction lines on the pattern: the actual stitching line, and the raw edge of the fabric. The space between these two lines is the seam allowance. The term "seam finish" refers to the method that you use for dealing with the raw edge of the fabric so that it doesn’t fray.

This is better explained in the following diagram that shows how the stitching line, raw edge and seam allowance relate to patterns.

COMPARISON OF STITCHING LINE, SEAM ALLOWANCE & RAW EDGE



There are many different types of seam finishes, and to find out which one is the most suitable for your fabric you should refer to specialist books on sewing techniques, and again do lots of your own swatch tests to ensure that the seam finish that you choose will work with your fabric.

As an example, some common types of seam finishes are binding and over locking which both encase the raw edge of the fabric to stop it from fraying.

You can also use seam construction methods that encase the raw edges of the fabric at the same time as sewing the actual stitching line of the seam. Examples of these types of seams include french seams, lapped seams and flat felled seams.

Guideline Seam Allowances

Most seam allowance values that you choose for your patterns will probably fall somewhere between 6mm and 1.5cm:

- 6mm (approx. 1/4 “) is considered a relatively small seam allowance.
- 1cm-1.2cm (approx. 1/2”) is considered an average seam allowance.
- 1.5cm (approx. 5/8”) is considered a large seam allowance.

Hem allowances are normally larger to allow for alterations to length and for example they may be more like 3-5cm in height. However you can also have very narrow hem finishes such as pin hems which will only take up a very small amount of fabric.

Note that these numbers are really only to give you a very rough indication of how much seam allowance is needed, so that somebody who has never sewn before can have a rough value to visualise as we continue on with our exercises. In reality, you really need to test the amounts for yourself to see what will work best on your fabric.

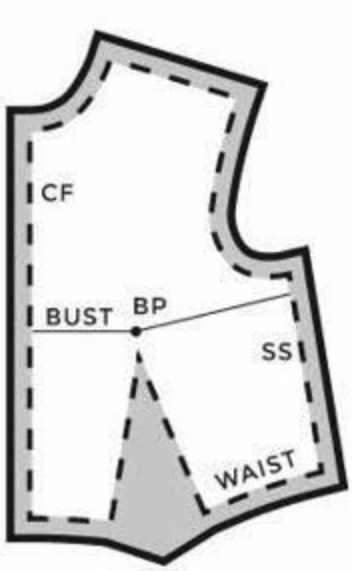
When choosing your seam allowance values for your pattern you should also choose clear and different values that are easy to use consistently across that garment. For example on just one pattern if you were to use 6mm for one seam, 7mm for another and 8mm for another seam then there is just not enough of a difference between the measurements and it will be too hard to distinguish between the measurements when you are sewing.

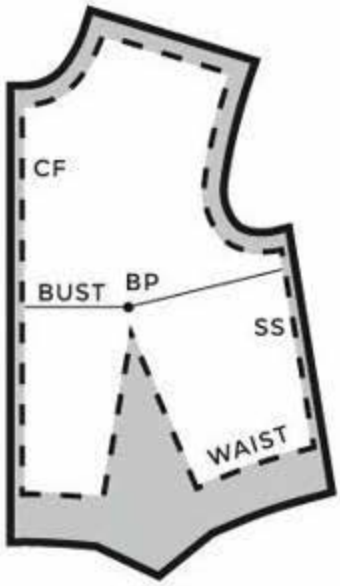
You will see a clearer difference in seam allowance sizes if you choose seam allowance values that are more than just 1-2mm difference in size. For example on the one garment if you had 6mm for some seams, 1cm for others and 4cm for hems then these amounts are much easier to recognise at a glance. This will help you to read and check your patterns more easily, and will also be clearer when these amounts are later marked on the fabric before the garment is sewn.

This example above also raises the point that seam allowance doesn’t need to be consistent all the way around the pattern – the seam allowance value should suit the function of each individual seam.

The fact that seam allowance values can vary on a garment is another reason why in pattern making it is important to always know where your stitching line is, both on your patterns and later on your fabric, because ultimately the stitching line is what represents the fit of the garments. You could have as much or as little seam allowance as you want but ultimately the stitching line is where the actual shape of the garment is.

This idea is illustrated in the following diagram:





VARYING SEAM ALLOWANCE VALUE

In the diagrams above there are two versions of a basic bodice pattern. The inside stitching line value is exactly the same in both diagrams, however the pattern on the left has consistent seam allowance value the whole way around, while the diagram on the right has narrower seam allowance values on the centre front and side seams, and a much larger hem allowance value.

You can see that if you were only to see the outline of these patterns then you would expect them to fit the body very differently. In actual fact the stitching line size has not changed, and the fit of both of these pattern pieces will be the same, it is simply the seam allowance value that has changed.

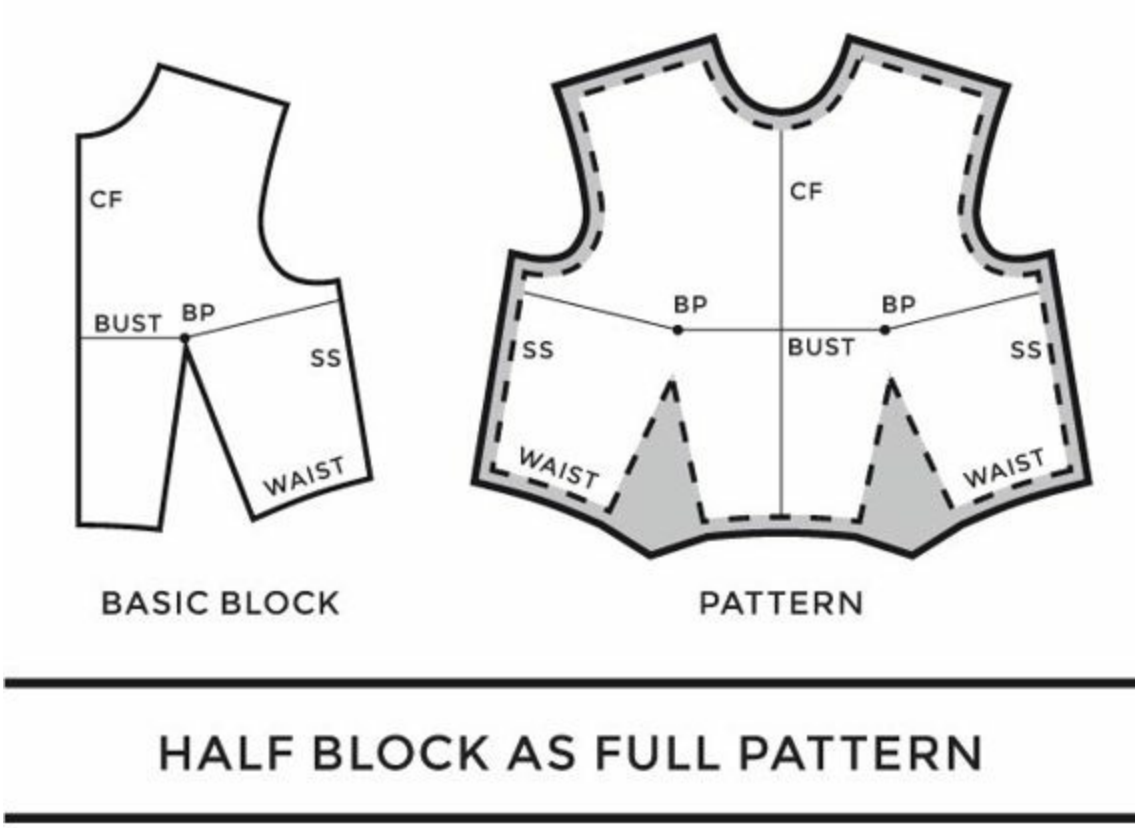
Seam Allowance Consistency

Fashion design courses and manufacturing companies usually have set guidelines to follow for seam allowance and it is important to be consistent with the values that you use, especially when communicating construction measurements to other people around you. If you change your seam allowances all the time, or choose different values to what is standard for that particular company, it can be very confusing for the pattern makers and sewing machinists who you work with.

The result of confusing seam allowance will be inaccurate garments, as sewing a garment with the wrong seam allowances will change the fit of the garment. This will be examined in more detail in the following chapter.

Using a Half Body Block to Make a Pattern

Though your basic blocks only represent half the body, you will often want to make up garments without a seam at the centre front and centre back. In order to create a bodice pattern, for example, without a centre front or centre back seam, you will need to double the pattern over the centre front line. This is shown in the following diagram:



Cutting “On the Fold”

Some patterns are made with the marking “cut on the fold”. Effectively when given this instruction you will fold the fabric in half and then place the indicated fold line on the pattern along the fold of the fabric. Often when this “cut on the fold” instruction is used, it is when the pattern shape only represents half the pattern, and often the centre back or centre front line becomes the fold line.

This is quite common on home sewing patterns, but will sometimes be used in sample studios as a shortcut to allow you to create a pattern without a centre front or centre back seam, without having to go to the trouble of creating a full version of the pattern.

This act of cutting on the fold is highly discouraged if you can avoid it as it can be very easy for the fabric to distort when cut out this way. You are better off to create a full version of your pattern that represents both halves of the body, as illustrated in the previous diagram, as this will give you a much more accurate result.

Unless you are a very experienced cutter, cutting a pattern on the fold can mean that you are cutting a piece of the garment inaccurately or with the fabric off-grain. We will discuss the grain line of fabrics later in this book in more detail if you are unsure what is meant by grain line.

Chapter Summary

In this chapter we learnt that:

- Seams are the stitching lines where two pieces of fabric are joined together.
- Seam allowance is the excess fabric that gives the sewing machinist the space to sew the seam.
- Seam allowance size is chosen based on the fabric and machine you are using, the shape of the seam, whether you will need to alter the garment, and the seam finishes you will be using.
- Seam finishes prevent the raw edge of the fabric from fraying.
- Seam allowance amount can change without affecting the fit of a garment, if the stitching line is consistent.
- You should avoid “cutting on the fold” and instead create full versions of your patterns that represent both sides of the body.

Chapter 11

The Importance of Accuracy

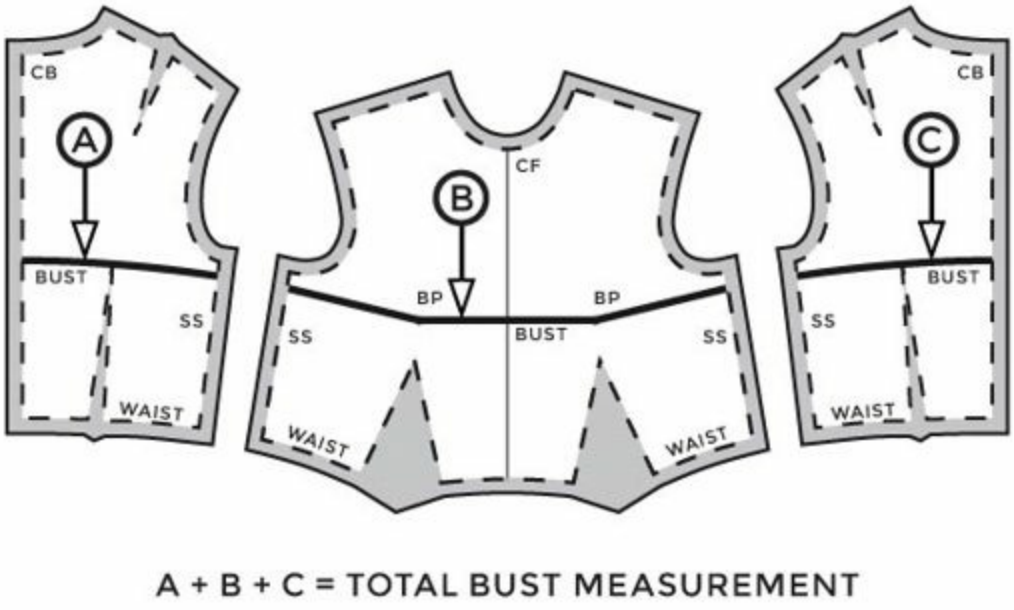
Chapter Overview

In the previous chapter we discussed the importance of accurate seam allowance, but this point is best understood by looking at how the body guidelines react to inaccurate pattern making, cutting and sewing.

For this reason, in this chapter we will look at where the body guidelines are on our patterns now that we have added on our seam allowance. We will also look at how small inaccuracies can compound very quickly to create large changes to the fit of the garment. This also serves to highlight how important it is for the pattern maker, cutter and sewing machinist to all be accurate in their work to avoid fit problems.

Seam Allowance and Body Measurements

To reinforce the point about inaccurate seam allowances, let's take a look at where our body guidelines have ended up now that we've added seam allowance around the outside edge of a block.



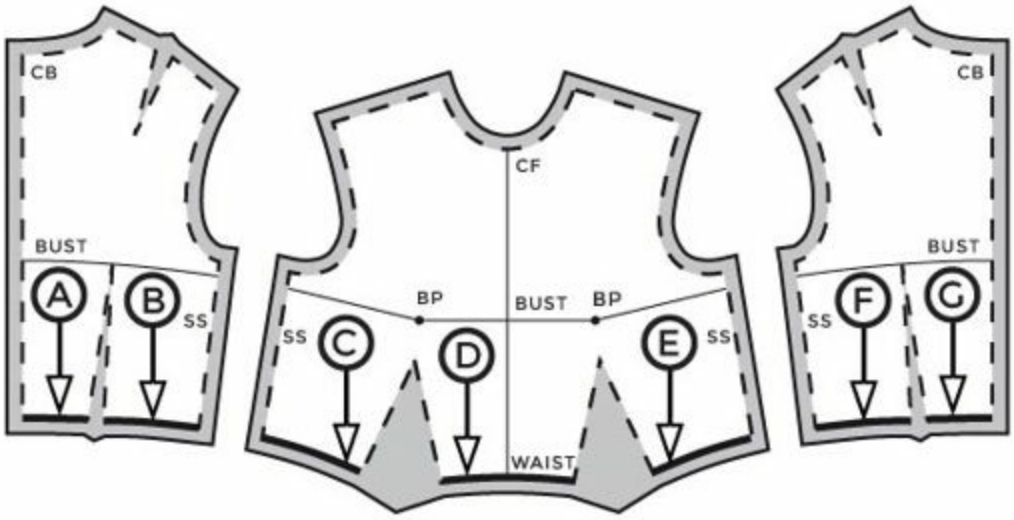
A + B + C = TOTAL BUST MEASUREMENT

BUST MEASUREMENT ON PATTERN

In the diagram above, the basic bodice patterns have been laid out so that you can imagine these pattern pieces wrapping the full way around the body. So the pieces start at the back right of the body at the centre back line, and continue all the way around the front of the body to the back left side of the body, ending at the centre back line.

The bust guideline has been highlighted on this diagram so that you can see what you would need to add together to calculate the bust measurement on your pattern. Remember that your pattern measurement may include a certain amount of ease, so you should keep this in mind when checking the bust measurement on a pattern.

In the following diagram the same idea is shown but for the waist guideline this time:



WAIST MEASUREMENT ON PATTERN

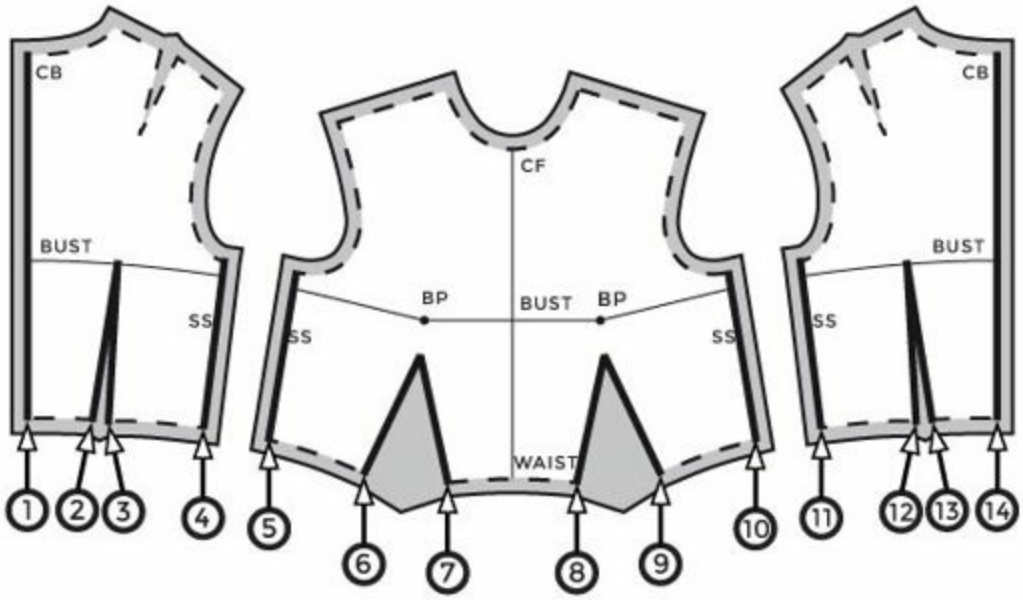
As you can see from the diagrams your body measurements travel along the guidelines but are basically broken up across the pattern pieces, sometimes split over seams or across darts. When you're thinking about body measurements on your patterns always focus on the guidelines that will still be visible when the garment is sewn. Or to think of it another way, imagine that you are taking away anything that will be folded inside the garment, such as darts and seams, before adding together the measurements.

From this diagram you can see that the body guidelines are sitting within the stitching lines, and stop at the seam allowance rather than extending all the way to the outside edge of the patterns. This diagram will help us to highlight the importance of accuracy in pattern making and sewing in the following examples.

When you consider that the waist measurement is split into 7 separate pieces (A to G) and that all 7 of these pieces need to be added together to create the bodice waist, you can begin to see how accidentally adding 1-2mm to the length of each of these lines would cause fit problems.

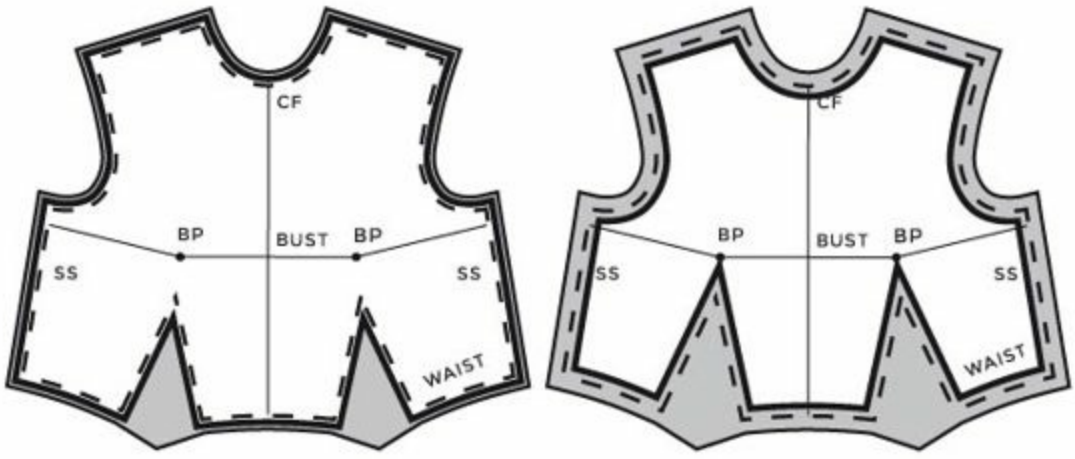
2mm added to the length of each of these lines would increase your waist measurement by 1.4cm (2mm x 7 sections). This is why you must always be very accurate when measuring on these lines to ensure that you are not accidentally arriving at the wrong total value.

This problem is only made worse when you consider that there are actually 14 different vertical seam line edges being joined together to close up the waist.



NUMBER OF SEAM EDGES TO SEW

If the sewing machinist takes these pieces of cut fabric and sews the bodice with slightly less seam allowance than what the pattern maker has allowed then you will end up decreasing the seam allowance, and increasing the size of the garment. This has been illustrated in the following diagram where we have shown a stitching line as bigger, or smaller than the intended seam allowance value for the pattern.



SEWING INCORRECT SEAM ALLOWANCE

In the previous diagram the position of the original stitching line is indicated with a dashed line, while the thick line indicates the line a sewing machinist may sew if they take the incorrect amount of seam allowance while sewing. So in the diagram on the left it is as though the machinist took too little seam allowance, and in the diagram on the right it is as though they have taken too much seam allowance.

The difference between the two diagrams can be seen by comparing the size of the grey areas on each of the diagrams, as the grey area indicates the variations in seam allowance size. Ultimately the difference between the two diagrams is most clearly seen when you compare the white areas in the centre of each pattern. From these white areas, representing the areas within the stitching lines on each pattern, you can see how the size of the finished garment will become very different if sewn with the incorrect seam allowance value.

So as an example, if the sewing machinist sews the garment 2mm too big on each seam (as indicated in the picture on the left) then the waist will end up 28mm bigger than the pattern maker intended (2mm x 14 seam edges).

As well as affecting the size of the garment going around the body this will also affect the garment through the length of the body, and also in the way that the dart values fit to the body as well. This is visible if you compare the length of the centre front lines in the previous diagram, and also if you look at the effect on the dart sizes of both diagrams.

How Small Errors Cause Fit Problems

As an example of how inaccuracies can compound, consider it this way – let's imagine that the pattern maker, cutter and sewing machinist all rushed their jobs and through small errors at each stage they all added to the size of the garment. We can then look at what affect this would have on our waist measurement.

Let's imagine that the pattern maker has traced the block off quickly and made a fast alteration to an existing pattern without checking the seam allowance value. Let's assume that this has added just 1mm to each of our pattern edges. In total this error has added 14mm (1mm x 14 waist seam edges).

If a cutter cuts out the patterns above in fabric, and cuts them out in a rush adding 2mm to the outside edges of the cut pieces, your waist will end up being 12mm bigger than the pattern (2mm x 6 fabric edges on the waist). This is assuming that the dart values won't be affected by the cutting out.

Let's also say that the sewing machinist sewed the seam allowance 2mm too small as in our previous example, then the waist will end up 28mm bigger than the pattern maker originally intended (2mm x 14 seam edges).

So if the pattern maker added 14mm, the cutter added 12mm and the sewing machinist added 28mm then all together the waist measurement will now be 54mm or 5.4cm bigger than the pattern was meant to be for the original body measurements.

5.4cm is a very substantial amount in the end when each of the pattern maker, cutter and sewing machinist was only out by 1-2mm in each of their tasks. What is even worse is that if the designer now fits the garment on a fit model they may make a fitting note for the pattern maker to take 5cm out of the waistline for absolutely no reason at all.

This is obviously an extreme example but it is not an impossible scenario. Even on a much smaller scale, if we imagine that the cutter and sewing machinist made only a fraction of this mistake then it may still cause a garment to be 1 or 2cm too big or too small, even though the pattern was actually correct. In some scenarios, this may cause the designer to want to make small fitting alterations to a pattern that does not need to be changed.

Chapter Summary

In this chapter we learnt that:

- It is important to always remember where the body guidelines are within the pattern.
- When measuring a body guideline on a pattern, don't include any value that won't be visible i.e. don't count dart value or seam allowance.
- Small inaccuracies can compound to create large fitting problems.

Chapter 12

Marking Seam Allowance and Notches

Chapter Overview

Now that we understand the importance of using the correct seam allowance values, we must learn how to communicate these values to the cutter and sewing machinist. In this chapter we will discuss how to draw in your seam allowance accurately and how notches are used to transfer the seam allowance values from the pattern onto fabric.

What Is a Notch?

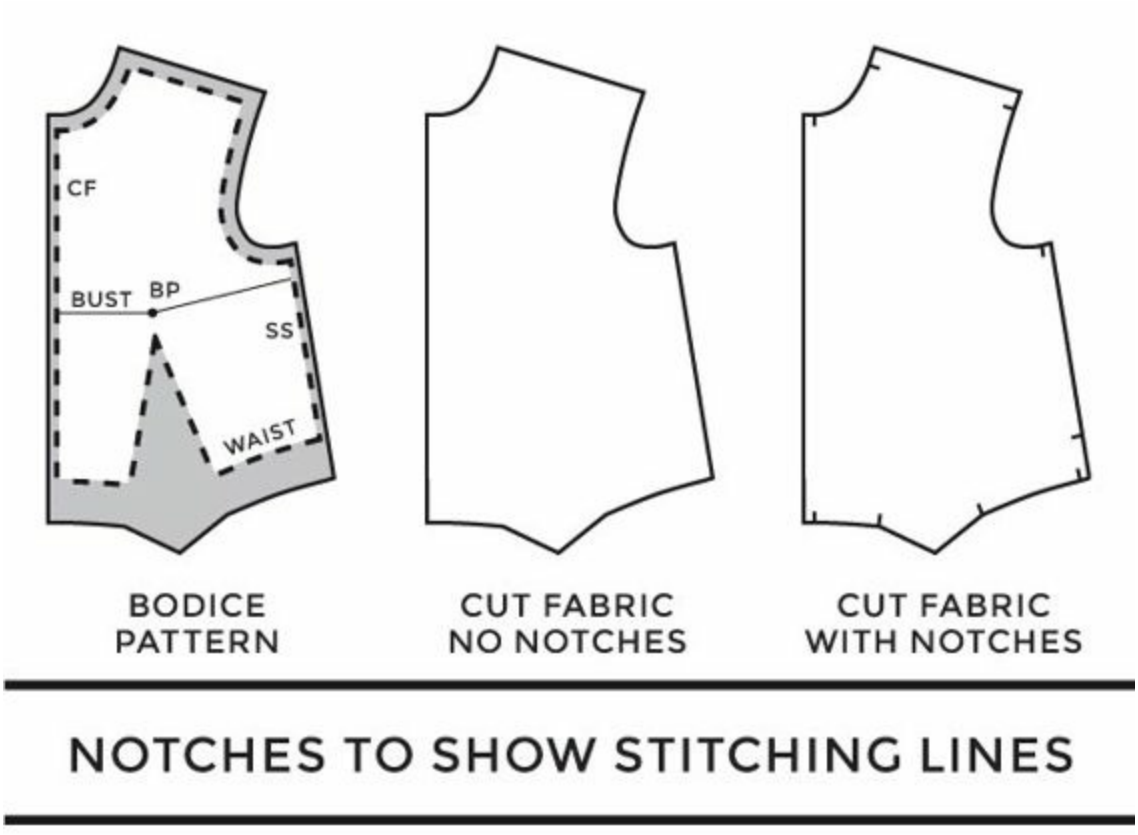
When a pattern piece is first cut out in a piece of fabric you cannot tell what the value of the seam allowance is, how the seams match or the location of any darts.

Notches are small indents that are marked on the outside edge of the pattern that are used to indicate three things:

- The value of the seam allowance.
- The way that two seams should match each other.
- The locations of any darts or other design features.

Without notches, it is impossible to tell from a cut piece of fabric where the stitching lines are, what seam matches what, or if there are any darts, tucks or pleats in the design. When used correctly, notches can be one of the most important forms of communication between the pattern maker, the cutter and the sewing machinist.

The following diagram gives a brief comparison of two cut pieces of fabric both with and without notches to show you an example of how notches are used:



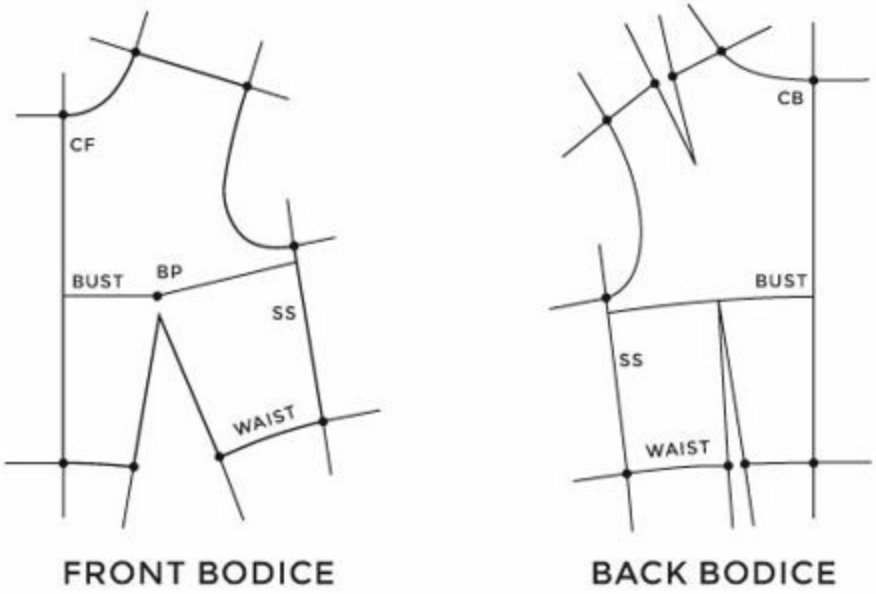
Notice how the notches in the diagram on the right give an indication of the location of the stitching lines, without actually affecting the area of fabric within the stitching line. Notches are designed to communicate pattern values without damaging any of the fabric that will be seen in the final garment.

Extending Notches Out From the Stitching Line

In order to understand notches correctly it is best to forget about the seam allowance values on the pattern at first, and to concentrate solely on the stitching line. The reason for this is that ultimately what you are doing is extending out all the stitching lines from your actual garment shape so that these points can be marked on the outside edge of the pattern as notches. Or to put this idea another way - the location of notches should always be developed from an anchor point on the stitching line.

To begin marking out the seam allowance values, you will need to extend out the stitching lines of your pattern anywhere that there is a seam edge, or basically anywhere that there are corners or edges on your pattern. It is fine if some of these lines appear to extend out at strange angles for the moment, as these will be corrected later.

The following diagram shows the stitching line of the front and back of a bodice pattern that has been extended out at each of the stitching line edges:

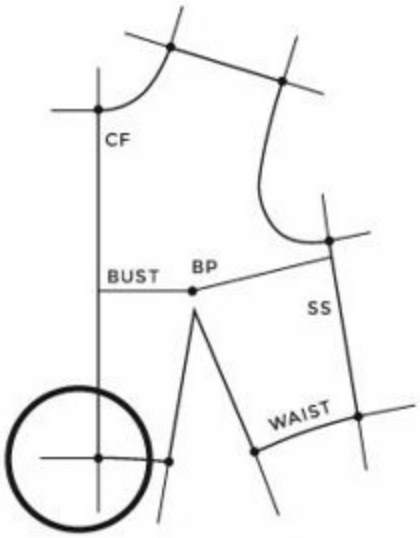


EXTEND OUT STITCHING LINES

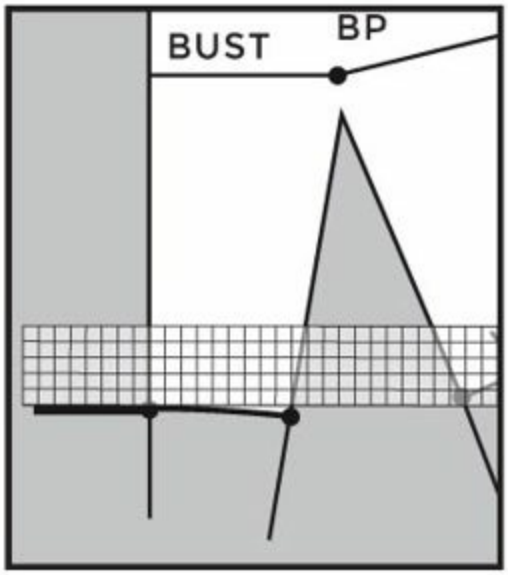
Grading Rulers

Often pattern makers will use a grid or grading ruler for all the tasks of extending out stitching lines, drawing in notches and adding seam allowance. Grading rulers are normally transparent plastic rulers with lines marked on in a grid formation. The grid on the ruler allows you to easily mark in parallel and perpendicular lines on your pattern.

The following diagram shows how you can use a grading ruler to extend out your stitching lines. Take note of how the lines inside the ruler are used like a mini set square to help you to make the stitching line square out from the centre front line correctly.



FRONT BODICE



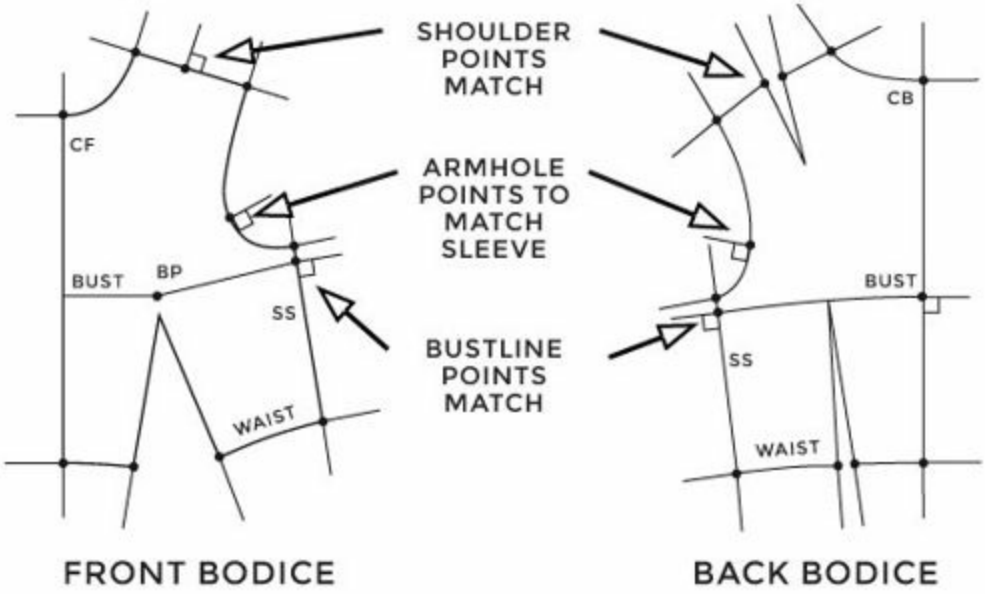
EXTENDING STITCHING LINES

Extending Notches Out From Mid Seam Points

You will also need to think about any mid points on your seams that you want to extend out to allow your sewing machinist to match seams together. Often these mid seam notch points are used to connect points on separate pattern pieces that you want to intersect or meet each other at a certain point.

For example, you will want the bustline to flow continuously around the body on the bodice pattern, so you should notch the bustline position on both the front and back pattern pieces so that these lines will match up on the garment.

You will also want to know where the back shoulder dart meets the front shoulder stitching line so that it will be easier to sew the shoulder seam line. For this reason you will need to put a notch on the front shoulder line to ensure that when you are matching the front and back shoulder seams together, that the dart will fall in the correct position on the shoulder line.



EXTEND OUT MID SEAM POINTS

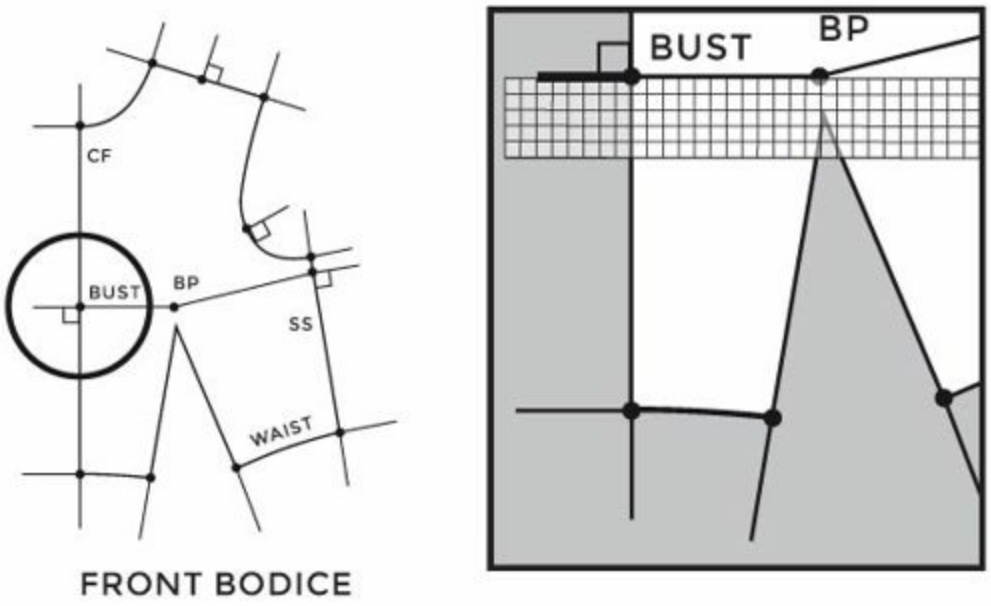
To make sure that these notch points match on each seam you will need to work out the positions of each notch point by careful measurements. For example, if the dart on your back shoulder seam is 5cm from the intersection of the neckline and the shoulder seam, then the corresponding notch on the front shoulder seam must also be 5cm from the same intersection.

Of course this will only work if you have checked that your seams match nicely and are the same length. If you are unsure of this then you can reread the section on flow through and truing covered earlier in this book (Chapter 8: Truing, Blending and Flow Through).

For the notch points that fall part way along a seam that we have referred to as mid seam points, you

need to treat the point on the stitching line like an anchor and then square out directly from that point. The phrase “square out” is often used in pattern making, and essentially means that you are drawing one line out at right angles to, or perpendicular to, another line.

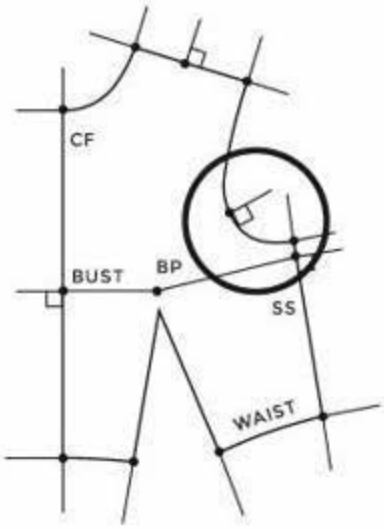
Again the task of squaring out is one that can be done using a grading ruler, as shown in the following diagram:



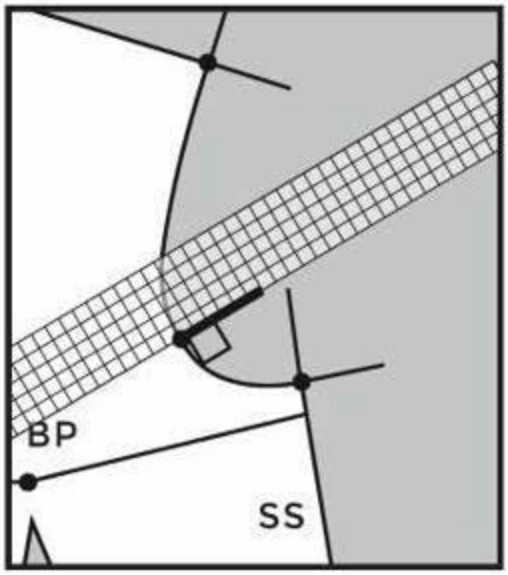
EXTENDING MID SEAM FOR NOTCHES

When you are extending out from a notch point on a curve, you must be especially careful that you square out very accurately, rather than putting your notch on an angle. Notches are especially helpful when used on patterns around corners and curves where it can be harder to distribute the fabric evenly while sewing. Areas such as armholes are a great example of this, as the armhole curve on the body will need to connect nicely to the armhole curve on the sleeve.

The following diagram shows an example of a notch that has been squared out from a point on the armhole stitching line to show how you should mark a notch position on a curve:



FRONT BODICE



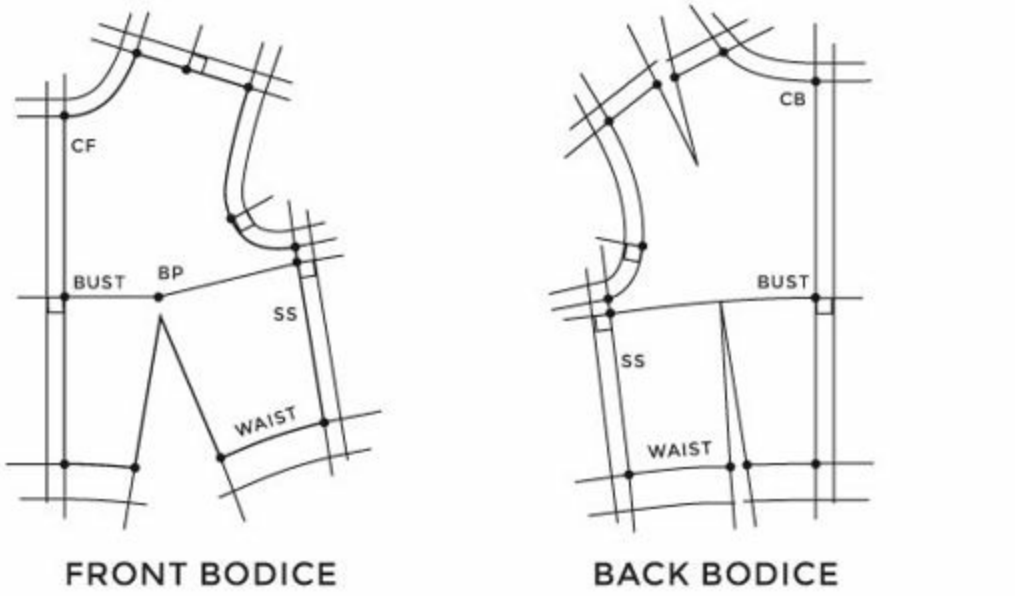
SQUARING OUT ON A CURVE

Marking in Seam Allowance Accurately

Once you have drawn in all the guidelines for where you will need notches, then you can draw in all your seam allowance values. At first when you draw your seam allowance lines, you should again extend the lines well past the edges of the seams to give yourself enough space to create your seam allowance values.

On some patterns you will end up with some strange angles at the seam allowance of some of these junctions, but in the next step we will look at how to carefully square off the seam allowance values.

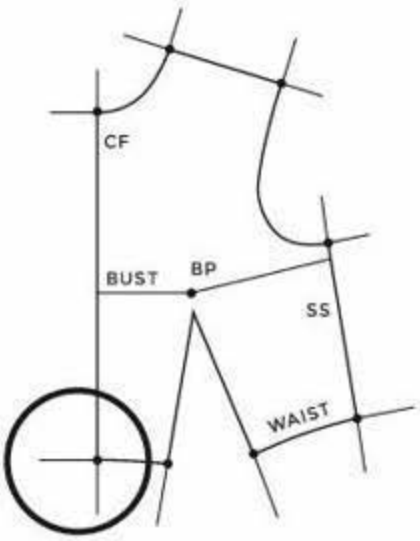
The following diagram shows the bodice patterns with the seam allowance values drawn in:



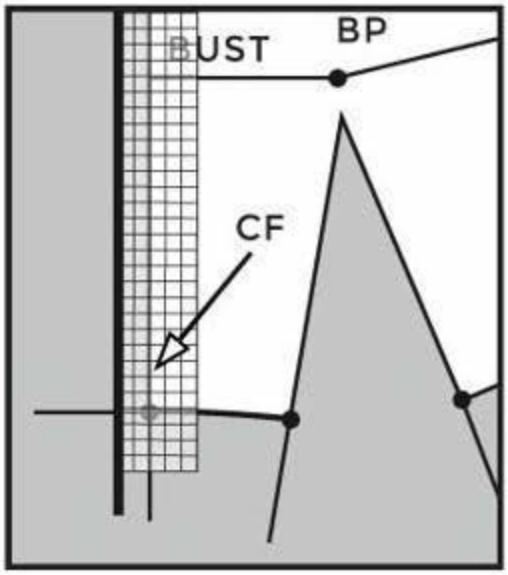
When using a grading ruler to draw in your seam allowance values, you can use the lines on the inside of the ruler to give you your measurements.

For example, if you were marking in a 2cm seam allowance, then you would place the grid line that is 2cm from the edge of the ruler over the stitching line and then use the edge of the ruler to mark in the outside edge of the seam allowance.

This has been shown in the following diagram, where a ruler has been placed on the centre front line to mark in a 2cm seam allowance value:



FRONT BODICE

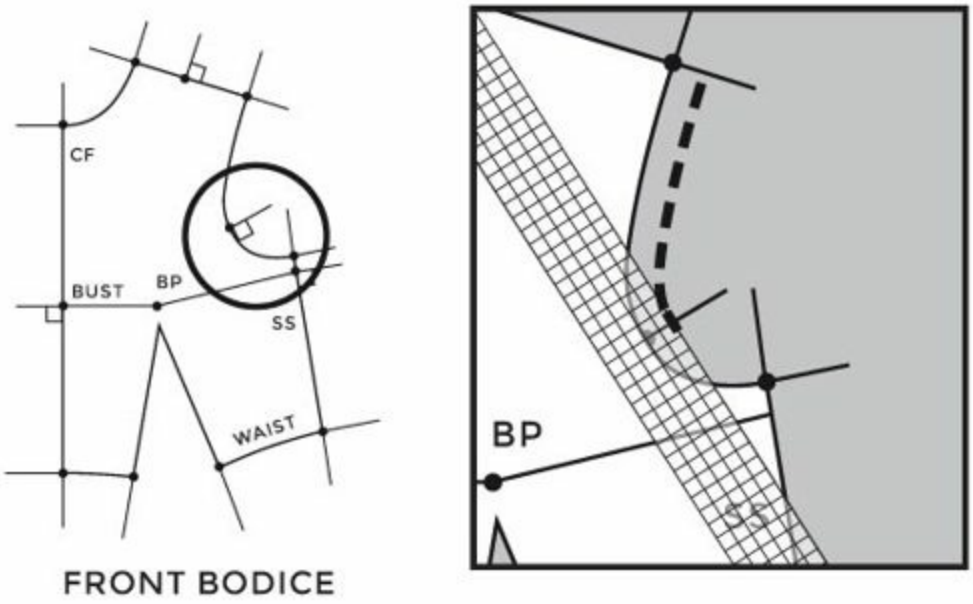


MARKING IN SEAM ALLOWANCE

French Curves and Curved Rulers

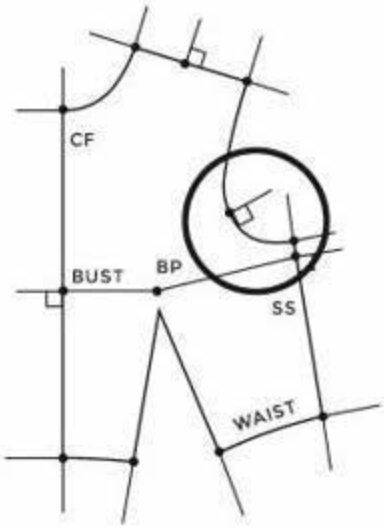
In pattern making there are often times where you will need to draw smooth curves on your patterns rather than simply drawing straight lines. You can often smooth these lines by hand, but some pattern makers prefer the use of French curves and curved rulers that allow them to blend lines together more easily.

The following diagram shows how you can use a grading ruler to mark the seam allowance values around a curve:

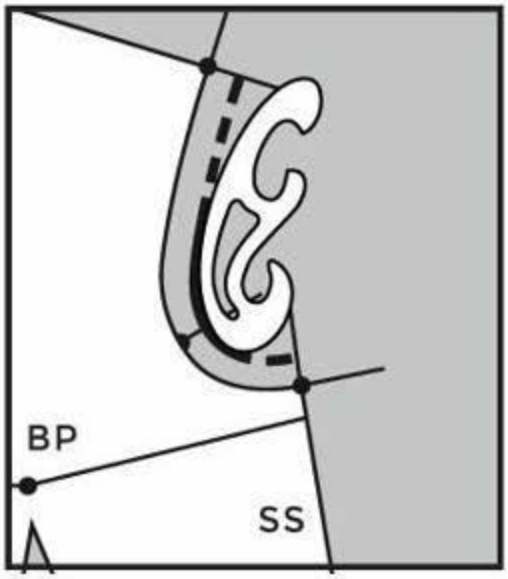


SEAM ALLOWANCE ON A CURVE

In the following diagram, the guide marks that were made using the grading ruler can now be blended together using a french curve ruler:



FRONT BODICE

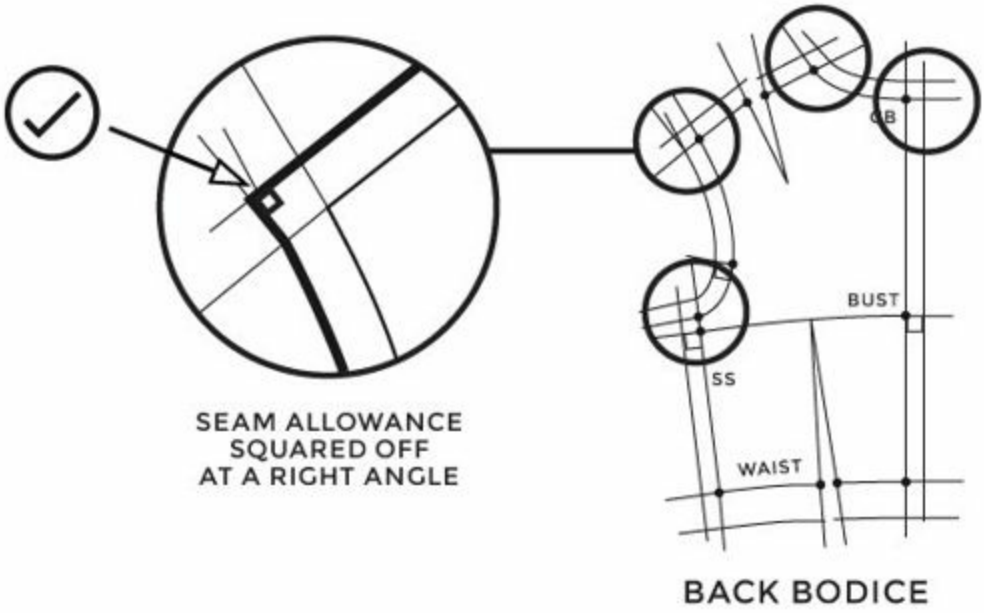


BLENDING WITH FRENCH CURVE

Squaring Off Seam Allowance

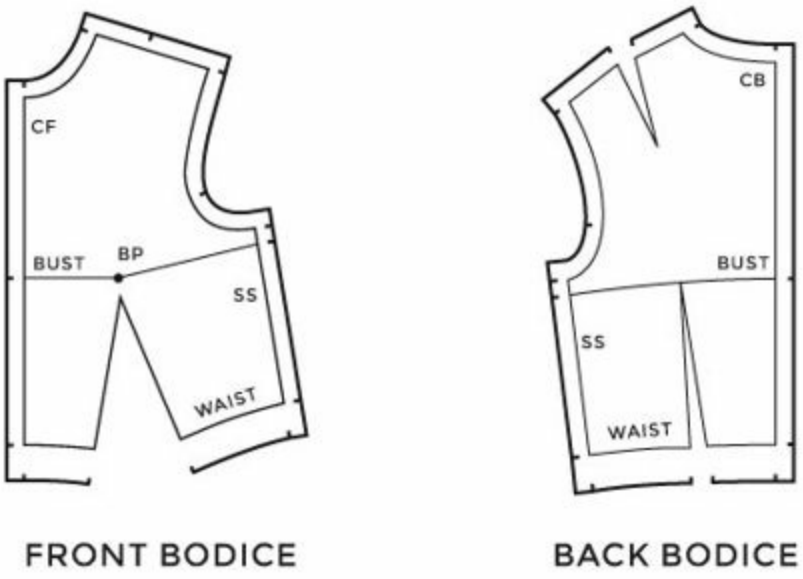
Rather than leaving seam allowance corners pointing off at strange angles pattern makers usually square off their seam allowances. In a way this is like turning your seam allowances into tabs so that when you sew two seams together, the seam allowances will be like two tabs that you can line up perfectly to sew the seams together.

The following diagram shows an example of how the seam allowance on the shoulder seam could be squared off so that the seam allowance runs parallel to the line of the shoulder seam.



SQUARING SEAM ALLOWANCE

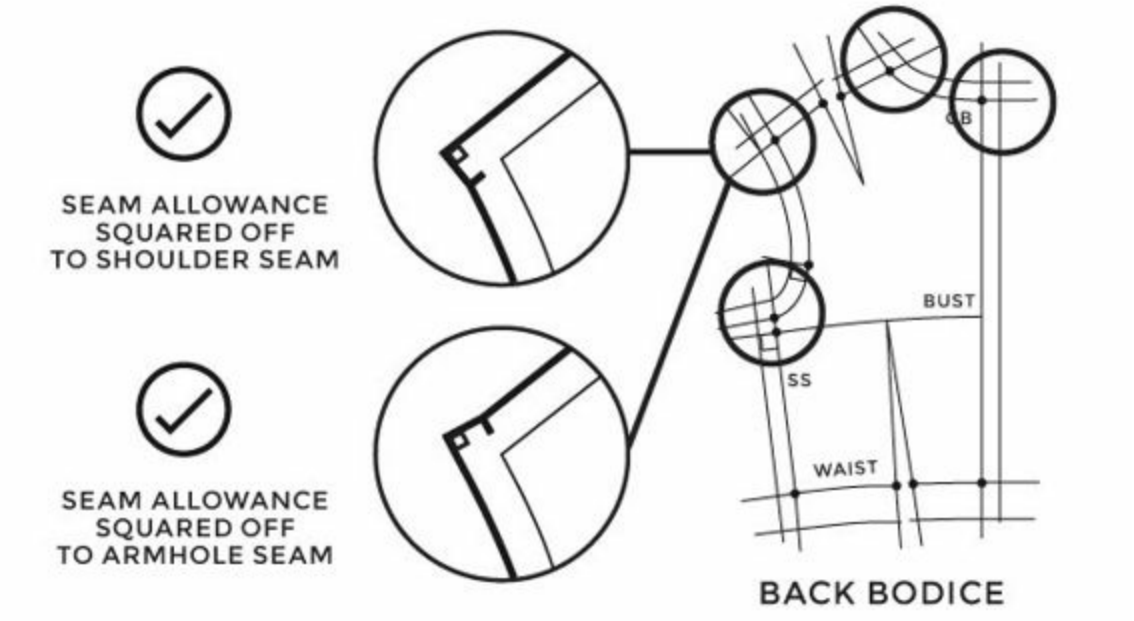
The following diagrams show the completed patterns with all the seam allowances squared off:



PATTERNS WITH SEAM ALLOWANCE

Once you start to create patterns for yourself you will find that sometimes you can square off a seam allowance in both directions, but in most cases you can only square one of the two sides. In the example of the shoulder seam for example we had to make the decision to square the seam allowance perpendicular to the shoulder seam, rather than perpendicular to the armhole seam.

Either version is correct depending on how you intend to construct the garment. These two different versions are shown in the following diagram, as well as showing how the notch position will change in either situation:



SQUARING SEAM ALLOWANCE

So how do you know which side to square off first? And when do you need to leave the seam allowance at an angle?

Squaring off seam allowances can be very confusing at times, but the best way to decide on how to square your seam allowance is to consider:

- Which seam will be sewn first?
- What needs to happen to the seam allowance once the seam has been sewn?

For example, if you know that on a design for trousers that you will sew together the side seams first, before attaching the waist band, then you should trim the seam allowance value on the leg pattern pieces so that it is squared off perpendicular to the side seam. The case of which way to square off the seam allowance is always easiest to decide when you picture how you will sew the pieces of the garment together in this way.

In the case of the bodice pattern, we have done the pattern to suit a set in sleeve, so the shoulder seam and side seam will be sewn first, and then the sleeve piece will be set into the armhole. For this reason we have chosen to square off the seam allowance perpendicular to the shoulder seam.

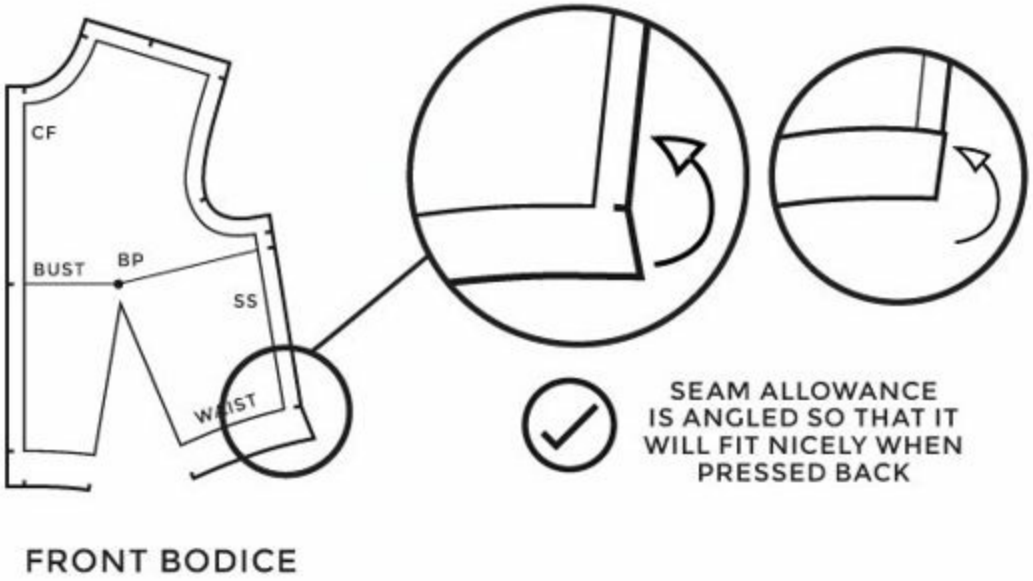
When to Leave Seam Allowances at an Angle

The decision to leave seam allowance value at an angle rather than squaring it inline with the stitching line, will depend on what will happen to the seam allowance once the stitching line is sewn, and on how you want to finish the raw edge of your seam allowance.

You can make this decision for yourself by picturing which way you will need to press the seam allowance, and whether you will be disadvantaged if you take away too much seam allowance on the pattern. This is especially important on wide seam allowances and hem allowances, but you should always keep it in mind even when dealing with narrower seam allowances.

Using our bodice pattern as an example, we will imagine that we want to shape the seam allowance based on the fact that we will join the bodice to a skirt section first, before sewing the side seam. The seam allowance at the waist has been made quite large, in case we want to alter this seam later, so the greater seam allowance width will mean that it is even more important to shape the seam allowance.

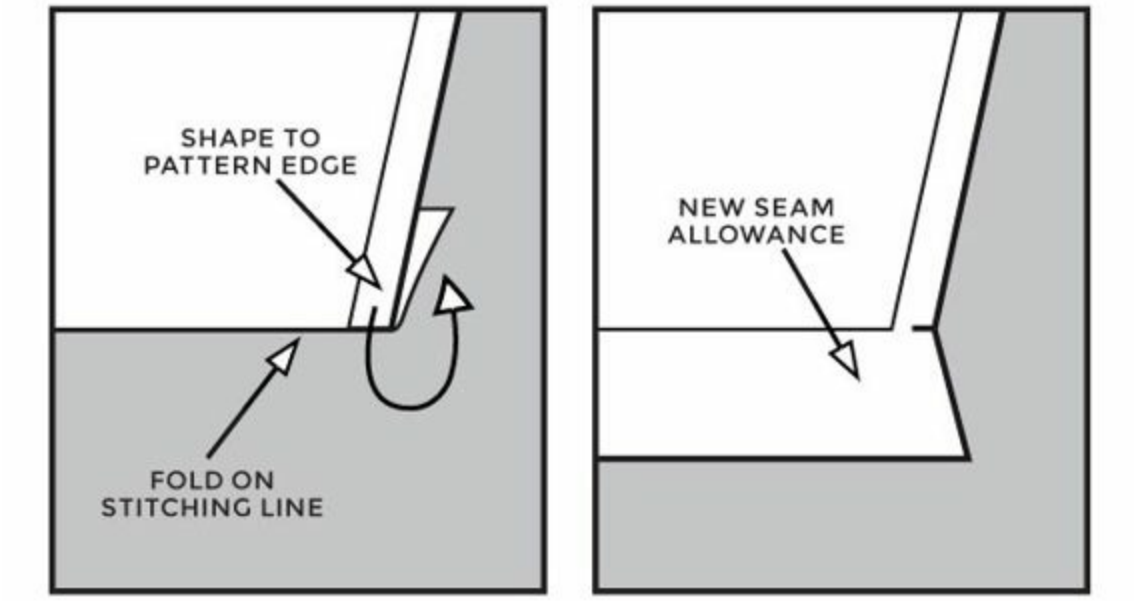
An example of the angle we should use for the waist seam allowance is shown in the following diagram to illustrate this idea more clearly:



ANGLED SEAM ALLOWANCE

The angle of the seam allowance is based on the shape of the pattern above the stitching line, so basically you will need to fold the paper or the cardboard of the pattern along the stitching line, and use the pattern above the stitching line as the template to get the correct shape for the seam allowance value.

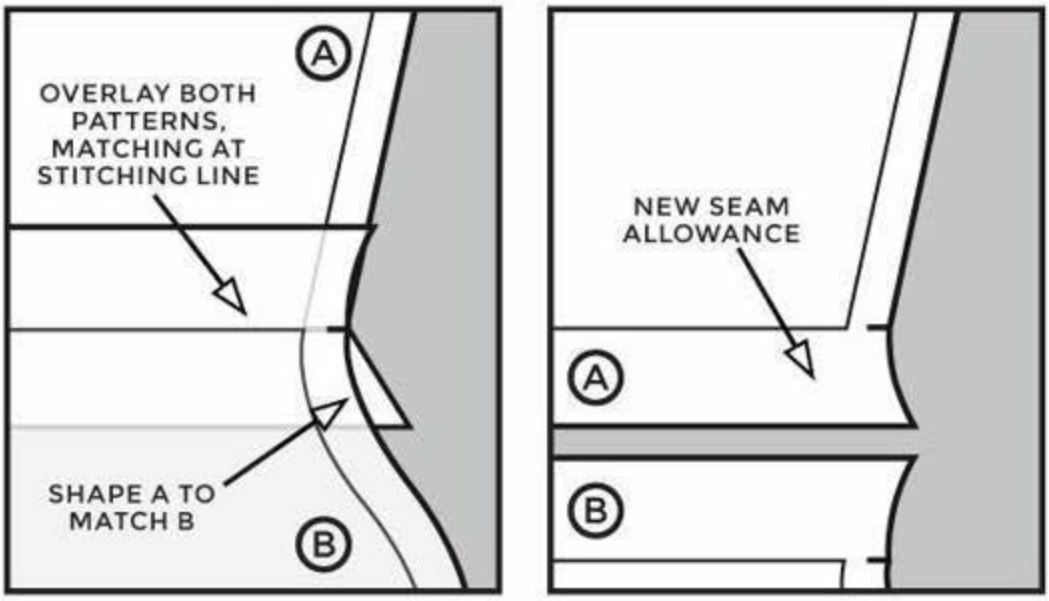
This is shown in the diagram below:



ANGLED SEAM ALLOWANCE

If the seam allowance has to be shaped to fit to an adjoining pattern piece, instead of folding back on itself, then you will need to overlap the two adjoining pattern pieces along the stitching lines that will be sewn together, and use the adjoining pattern piece as your template for the shape of the seam allowance.

An example of this is shown in the following diagram where we are aiming to make the seam allowance of a bodice (marked as pattern “A”) match to the shape of a skirt panel (marked as pattern “B”). So the waist seam allowances of both pattern A and B are shaped as though the seam allowance will be pressed down on the garment towards the skirt, which is why the seam allowances of both pattern A and B must match to the skirt shape.

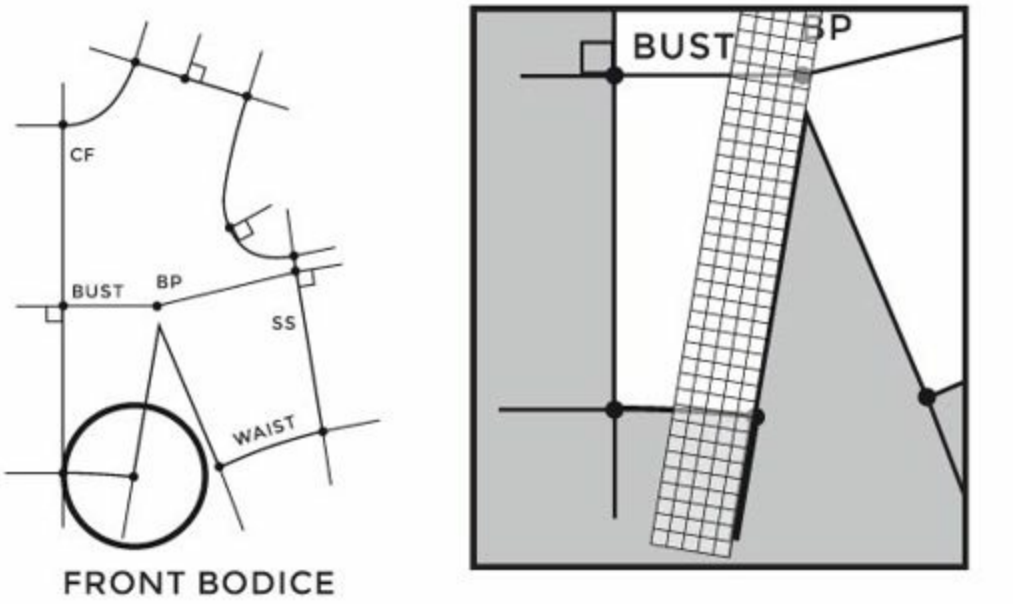


SHAPE PATTERN A TO MATCH B

Shaping Dart Value

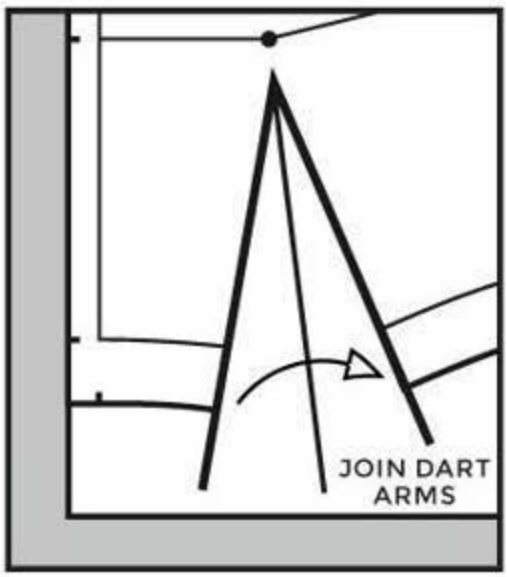
One of the last steps that we need to do on our bodice pattern is to complete the shape of the dart value. We approach shaping dart values the same way that we approached the angled seam allowances. So you will fold the pattern and use the pattern edge as your template to mark in the dart value that you need.

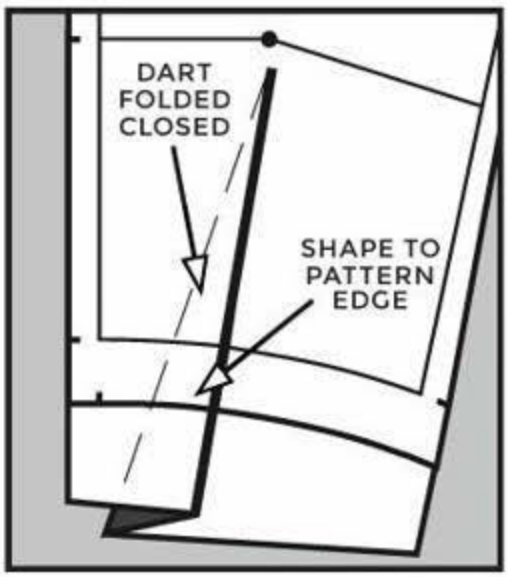
The following diagram shows how you can use your grading ruler to extend out your dart values before folding out the dart:



When shaping dart values, you need to fold the dart out of the pattern in the direction that the dart value will be pressed on the garment, before you cut out the outline of the dart value. This will ensure that when your dart is sewn shut the dart value will press nicely flat to fit along the seam allowance.

In the following diagram you can see how the dart value needs to be folded out, and how you will then cut the dart value along the waistline:





SHAPE DART VALUE

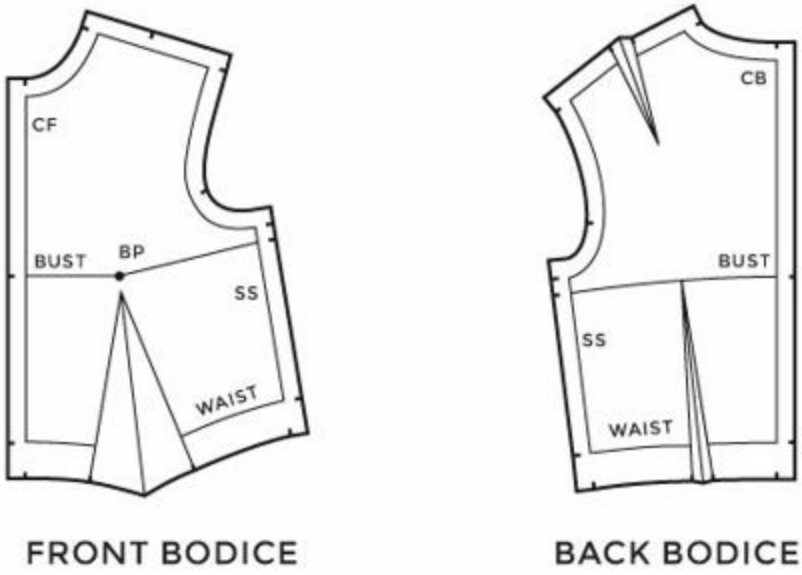
Direction of Dart Values

The way that you decide which way to fold the dart value on your pattern is based on the way that you will press the dart value on the finished garment.

The general rule for pressing dart values is:

- Vertical dart values are pressed towards the centre of the garment.
- Horizontal dart values are pressed down towards the hem of the garment.

In the following diagram, you can see how the dart values have been shaped on our example bodice pattern:



PATTERNS WITH SHAPED DART VALUE

Chapter Summary

In this chapter we learnt that:

- Notches are small indents used to communicate with the cutter and sewing machinist.
- Notches are used to show seam allowance value, how seams match up and to show design features.
- Seam allowance values are extended out from the stitching lines.
- Notches for seam allowance values are extended out from the corners and edges of the stitching line.
- Notches that are needed as a reference point along a seam line should always be squared out from the stitching line.
- Notches on curved seams are always squared out from the stitching line.
- Seam allowance corners should be squared off perpendicular to the stitching line of the seam that will be sewn first.
- Consider the use of your seam allowance value when deciding to square off the seam allowance or leave it angled.
- For angled seams, use the pattern edge as a template to correct the shape of the seam allowance.
- For darts, fold out the dart value before cutting out the seam allowance.
- Grading or Grid Rulers are used to mark seam allowances and notch placements.
- French curves and curved rulers are used to blend curved lines.

Chapter 13

Notches and Drill Holes

Chapter Overview

In this chapter we will discuss the tools used to correctly mark notches into paper and cardboard patterns. We will also discuss how drill holes are used to indicate design information that cannot be marked with notches, and discuss how both notches and drill holes are transferred onto fabric.

Marking Notches onto a Pattern

Once you have marked all your seam allowance values and notch points onto your pattern and cut out the outline of your pattern, you are ready to make small indents in the edge of the pattern for your notches.

Notches are sometimes cut into cardboard and paper patterns with the use of a small tool. This tool is called a pattern notcher. By cutting these small indents into the outside edge of the paper or cardboard it means that the cutter will be able to mark the seam allowance values and notch points onto the fabric for the sewing machinist.

On commercial dressmaking patterns that are created for use by home sewers, notches are sometimes marked on the outside edges of patterns with small triangles.

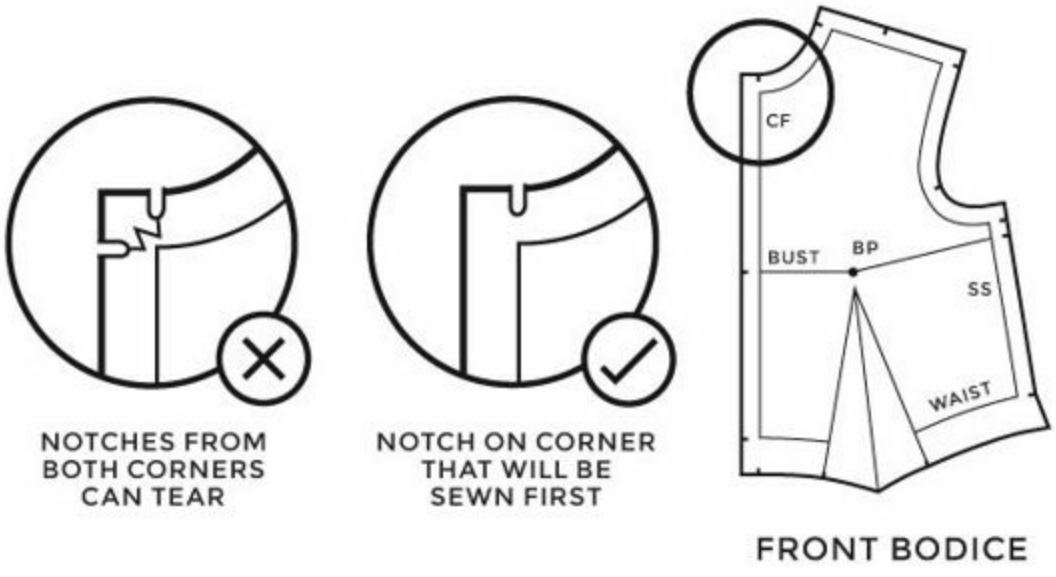
The process of clipping notches into patterns is covered by a few very basic rules:

- Only notch from one direction of a pattern corner to avoid the pattern corner becoming damaged.
- Notch the stitching line that will be sewn first.
- Don’t notch too far into the pattern, notches should be about 3-5mm deep.

You will normally only ever notch one corner of a seam with a pattern notcher, because if you cut into a corner from both sides then you may cause the paper or cardboard to tear. In the same way that you had to make a choice about which side to choose when squaring off your seam allowance in the last chapter, you should always notch the side that the sewing machinist will sew first.

You also don’t need to notch too far into a pattern, as again this can cause the pattern to be weakened and become easily damaged. A measurement of approximately 3-5mm is appropriate for most situations when notching a pattern.

In the following diagram you can see the shape of the bodice pattern that we were using as our example pattern in the previous chapter. You can also see how the notches are used to mark the stitching lines on the squared off seam allowance values:



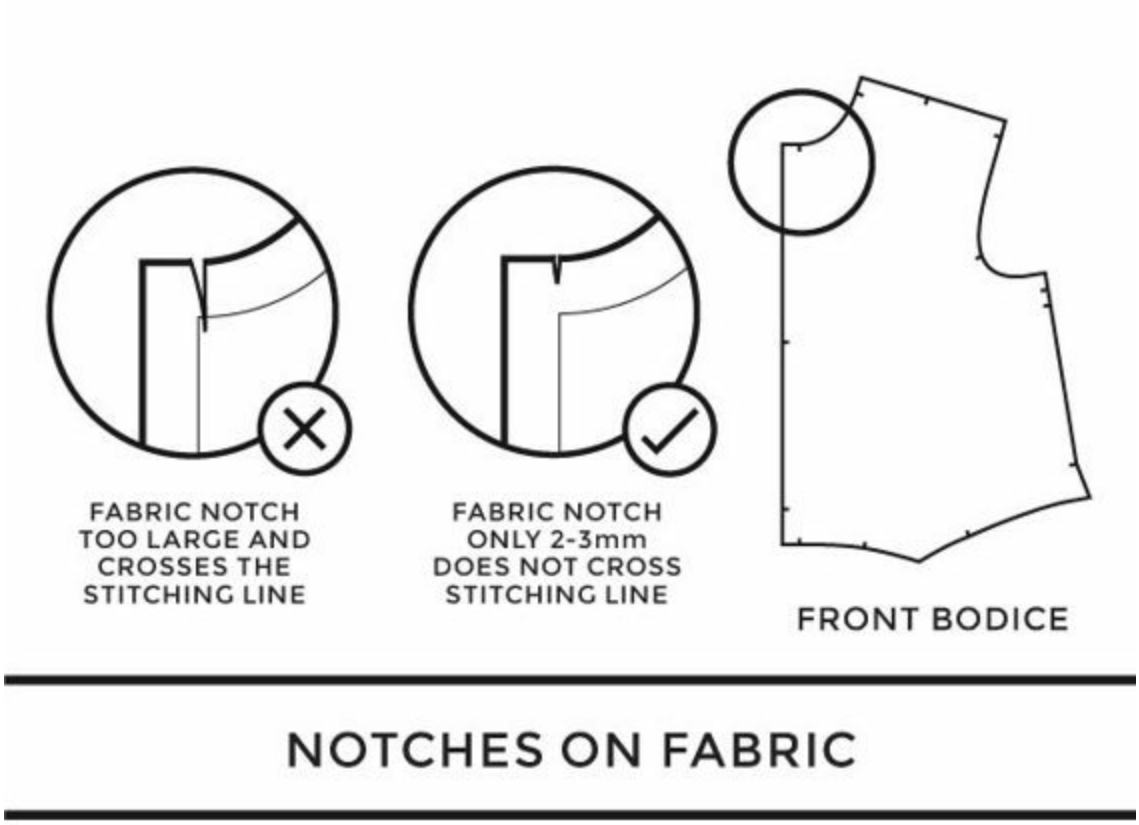
NOTCHES ON PATTERNS

You should use these rules as a basic guide and recognise when it will still be fine to make exceptions and use the notches in slightly different ways. For example on very large hem allowances where the notches are not close to each other at the corner, then you will be able to notch the corner from both directions without the risk of damaging the pattern.

Marking Notches onto Fabric

Notches are often transferred onto the fabric by the cutter. The notches are transferred onto the fabric by making very small cuts into the fabric edge. These cuts are only very small, about 2-3mm deep, taking care to avoid the location of the stitching line.

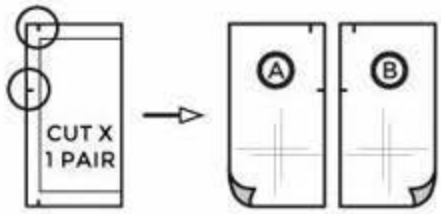
Notches can also be marked with tailor's chalk or by using small stitches on very delicate fabrics, but most of the time a very small cut is ideal as it cannot rub off like tailor's chalk can. These very small splits provide just enough of an indication for the sewing machinist to be able to line-up two pieces of fabric when sewing.



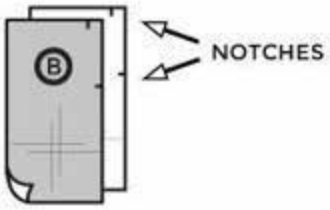
Sewing with Notches on a Straight Seam

In the previous chapter we discussed how notches are used to help the sewing machinist to line-up a straight seam, but this is easier to understand when you can see an example of a seam that has been sewn with notches.

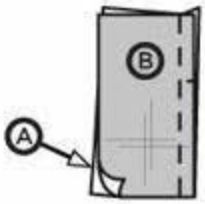
USING NOTCHES WHEN SEWING: STRAIGHT SEAM LINE



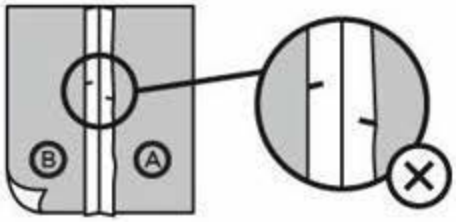
CUT OUT FABRIC



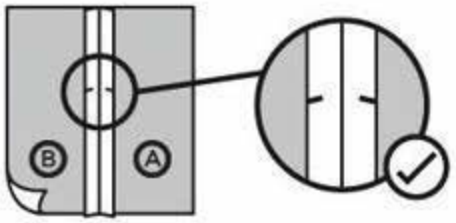
MATCH NOTCHES TO ALIGN FABRIC



SEW & PRESS



INCORRECT: NOTCHES ARE NOT ALIGNED

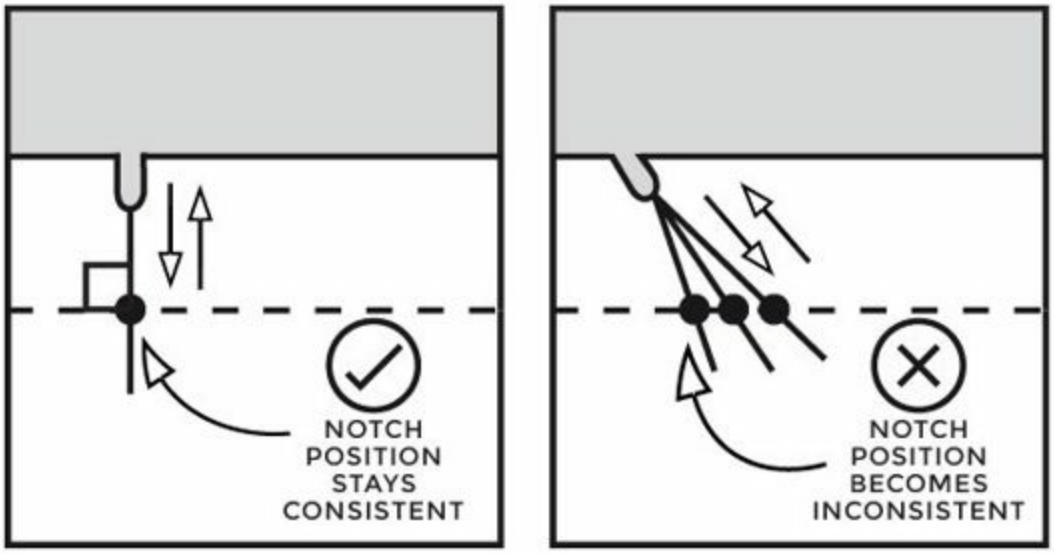


CORRECT: NOTCHES ARE ALIGNED

When sewn correctly, the notches of a seam should be lined up when the seam is finished and pressed open, so that notches are aligned as though they are pointing at a single spot on the seam line. This single spot on the seam line is the reason why notches need to be squared out directly from the stitching line on the pattern.

When you think about the way that we marked notches in the previous chapter, this single spot on the seam line is the anchor point on the stitching line of the pattern from which we squared the notch out in the first place.

To think about this idea in another way, if you are careful to keep your notches square, then you will always be squaring out and back from the same point between the stitching line and the outside edge of the seam allowance, and you will always be using the same position on the stitching line as the reference point. If you mark notches back and forth at angles then you cannot be accurate as the angles may change and cause errors.



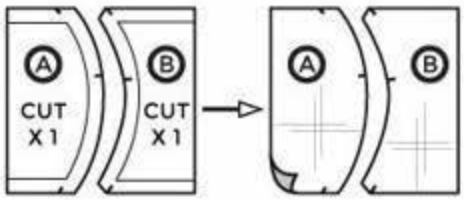
KEEPING NOTCHES SQUARE

Sewing with Notches on a Curved Seam

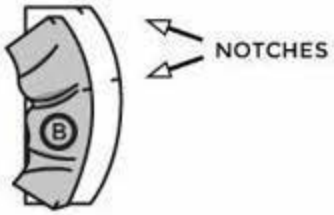
In the following diagram you can see an example of how notches can help you to sew a curved seam. When marking the notches for a curved seam on a pattern, it is just as important that the notches are squared out directly from the stitching line of the pattern as it is for when you are sewing a straight seam.

In the diagram below marked as “Incorrect”, you can see an example of what will happen if you mark your notches at an angle. Ultimately when your notches are marked at an angle, instead of as perpendicular to the stitching line, you will end up with notches that cannot be lined up correctly on the curve.

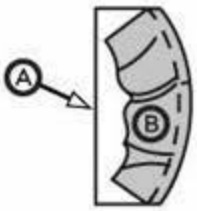
USING NOTCHES WHEN SEWING: CURVED SEAM LINE



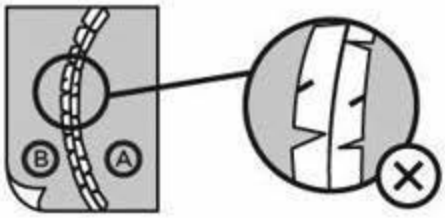
CUT OUT FABRIC



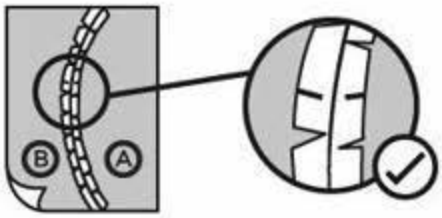
MATCH NOTCHES TO ALIGN FABRIC



SEW & PRESS



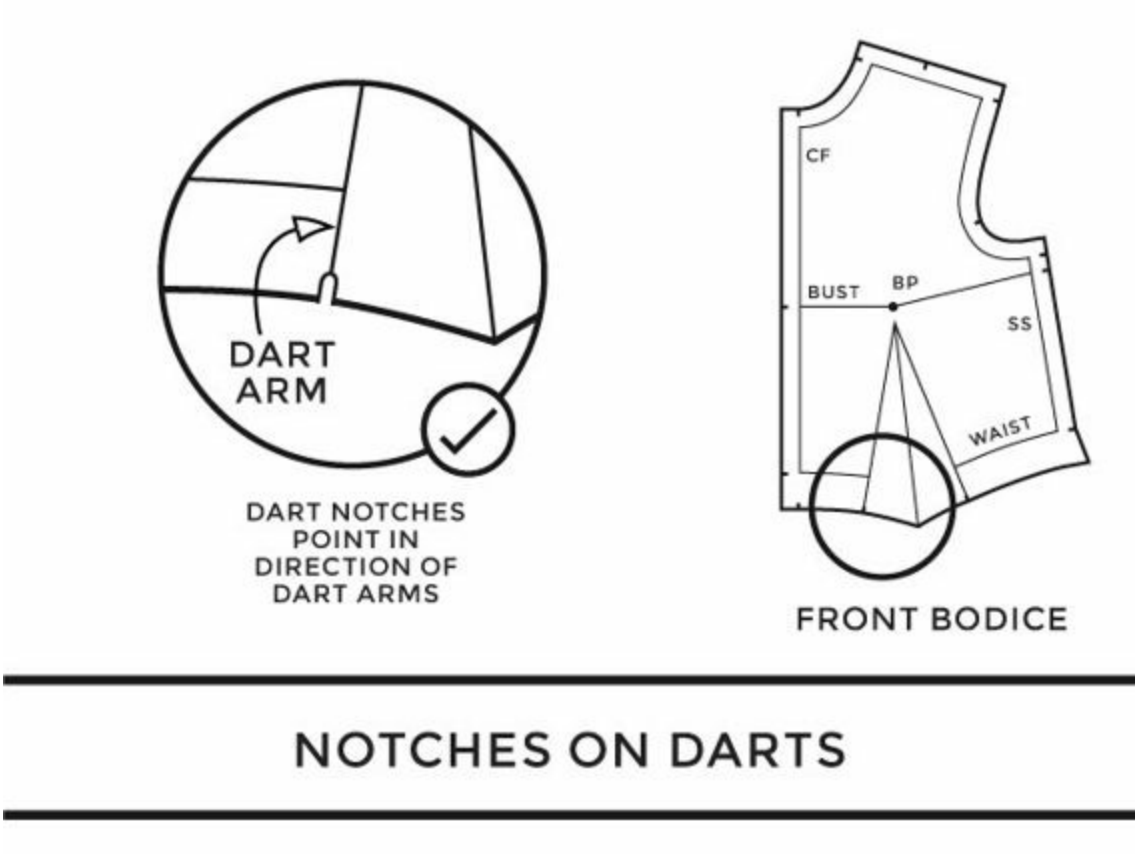
INCORRECT: NOTCHES ARE NOT ALIGNED



CORRECT: NOTCHES ARE ALIGNED

When to Use Angled Notches

One of the few times that you should use angled notches on a pattern is to indicate the position of dart arms. In the case of darts, the notches are usually aligned with the angle of the dart arms as shown in the following diagram:

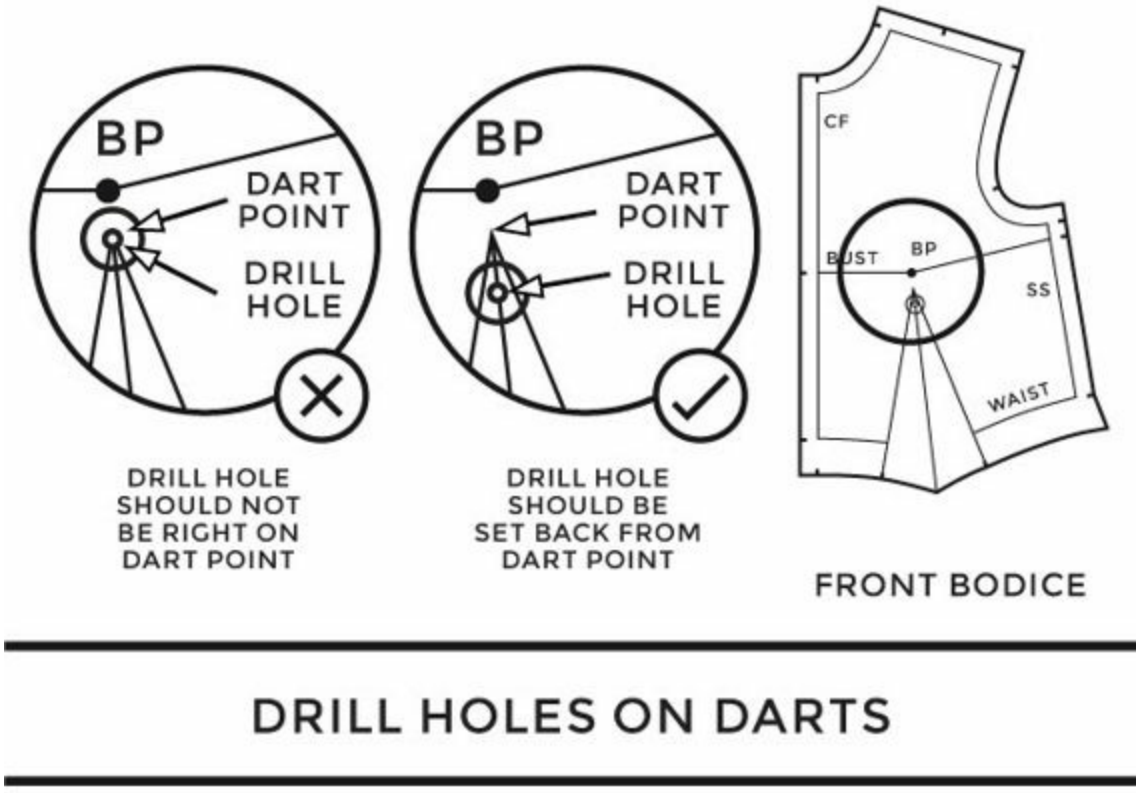


Drill Holes

Even though the dart arms are marked on the edge of the pattern with notches this still does not tell us exactly where the dart point is, and we need to know the location of the dart point to enable us to sew the dart. For this reason we must make a small hole through the pattern or cardboard to indicate the location of the dart point. These holes are often referred to as drill holes and are also used to mark the position of any other design feature that is in the middle of the pattern that cannot be marked clearly with a notch. This includes buttons and buttonholes, pleat positions, pocket positions etc.

The small drill hole of a dart will later be transferred onto the fabric, so if you were to mark this drill hole right on top of the exact location of the dart point then the marking will be visible on the finished garment. Pattern makers get around this problem by marking their drill hole inside an area that cannot be seen once the garment is fully sewn. So for example if you are marking a dart, the drill hole will be centred directly inside the dart value and set back a little from the actual dart point.

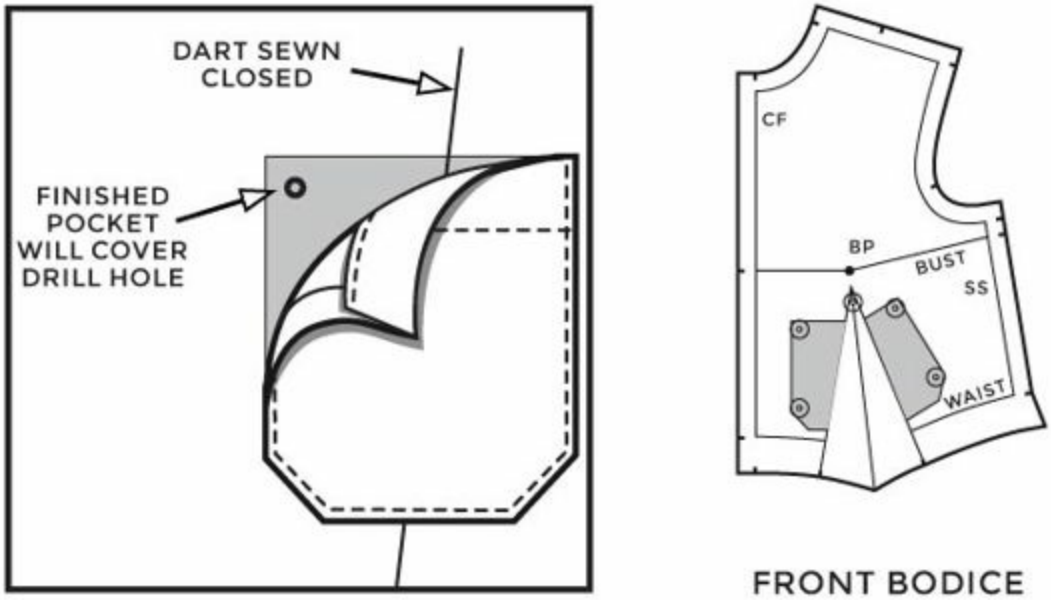
An example of this is seen in the following diagram, using a front bodice pattern as an example:



As you can see from the drill hole example, the detail diagram that is marked as correct has the drill hole set back from the dart point. The drill hole should always be centred on the dart, so to find the drill hole position for your dart you should measure back from the dart point along the line at the centre of the dart.

To ensure that the cutter will see the location of the drill holes on a pattern, the pattern maker will sometime mark an extra circle around the drill hole to make it's location more obvious.

The principle for marking pocket positions is the same as for darts as you will make the drill holes on the pattern sit slightly inside the place on the garment where the finished pocket will go, so that the finished pocket will cover the mark of the drill hole.



DRILL HOLES FOR DETAIL PLACEMENT

In the pocket example diagram, the bodice pattern on the right has been marked with a greyed out area in order to highlight the placement of the pocket. The corners of the pocket placement on the pattern have also been marked with drill holes. The diagram on the left shows a fabric version of the same pattern in order to give a more visual example of how the finished pocket will cover the drill hole mark on the garment.

By comparing these two diagrams, notice how the pocket placement on the pattern has actually been split in two and has been marked across the dart to represent the way that the pocket is sewn in the actual fabric version. In most cases, you will sew the dart closed before adding a detail across the top of the sewn dart, and the pattern has been marked to reflect this order of construction.

This is an example of how you should always be thinking about the order of construction of any garment as you are marking the pattern, and thinking about when notches and drill holes will be the most relevant for the sewing machinist as they are putting the garment together.

For example, if the pocket placement drill holes had been marked within the dart value, then they would no longer be visible to the sewing machinist once the dart is sewn closed.

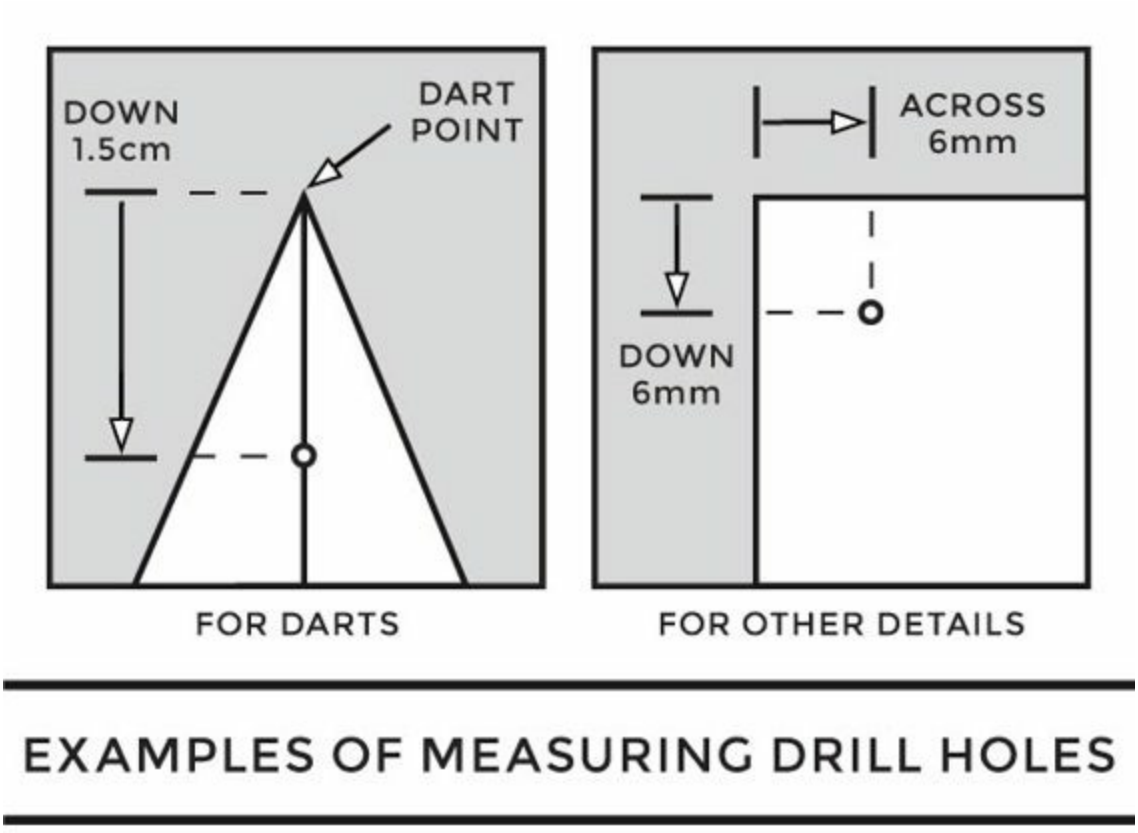
Measurement Values for Drill Holes

Different books and courses will recommend different measurement values for the placement of drill holes, generally varying from about 5mm to about 2cm inside the design feature depending on what it is that needs to be marked.

When measuring for drill hole positions the basic rules are that:

- For dart values you should measure back from the dart point on the centre line of the dart.
- For any other detail you will normally square in from either corner of the detail to find your drill hole position.

Examples of how to measure your drill holes positions are marked in the following diagram using the sample measurements of 1.5cm and 6mm and these should be taken purely as guideline amounts:



Just like choosing the values of your seam allowance, the key to deciding on your drill hole measurements is to be consistent across all of your patterns so that your sewing machinist always knows what value to sew. So if you put your drill holes for darts at 1.5cm back from the dart point, and you usually put your drill holes for pockets 6mm inside the corner of the pockets, then be consistent and always use these same values.

If you are working with a team of people then you should adjust these amounts to whatever is the standard for the company that you are working for in order to save confusion.

Marking Drill Holes onto a Pattern

Drill holes are normally marked through the pattern paper or cardboard with either a sharp pointed tool that is referred to as an awl, or with a special type of hole punch that is designed for pattern making and that punches a small hole using a circular blade.

The aim of the drill hole mark in the pattern is to create a tiny hole in the paper or cardboard of the pattern, so that you can make accurate marks through the hole of the pattern, onto the fabric underneath.

Marking Drill Holes onto Fabric

Drill holes can be marked on the fabric in a number of ways and you should choose a method that reflects how delicate the fabric is that you are using.

You can sometimes mark the drill hole with tailor's chalk, or you can use an awl to push a small hole into the fabric. In the case of very delicate and sheer fabrics you can put a couple of loose hand stitches at the position of the drill hole. These stitches are sometimes referred to as "tailor’s tacks".

Chapter Summary

In this chapter we learnt that:

- Notches and drill holes are used to communicate construction details from the pattern maker to the cutter and sewing machinist.
- Notches are marked onto the edge of a pattern with a tool called a pattern notcher.
- Notches are marked onto patterns at a depth of about 3-5mm.
- Notches are marked onto fabric with 2-3mm cuts in the edge of the fabric.
- Notches should always be marked square to the stitching line, except for dart arms.
- Drill holes are used to mark design features that cannot be communicated with notches.
- Drill holes are normally marked on the pattern with an awl or special pattern hole punch.
- Drill holes are marked onto the fabric with tailor's chalk, by making small holes with an awl, or with a couple of loose stitches.
- Notches and drill holes are always marked in sections of the fabric that will be hidden when the garment is sewn.
- Notches and drill holes should always be marked so that they will be helpful as the garment is being constructed.

Chapter 14

The Anatomy of a Pattern

Chapter Overview

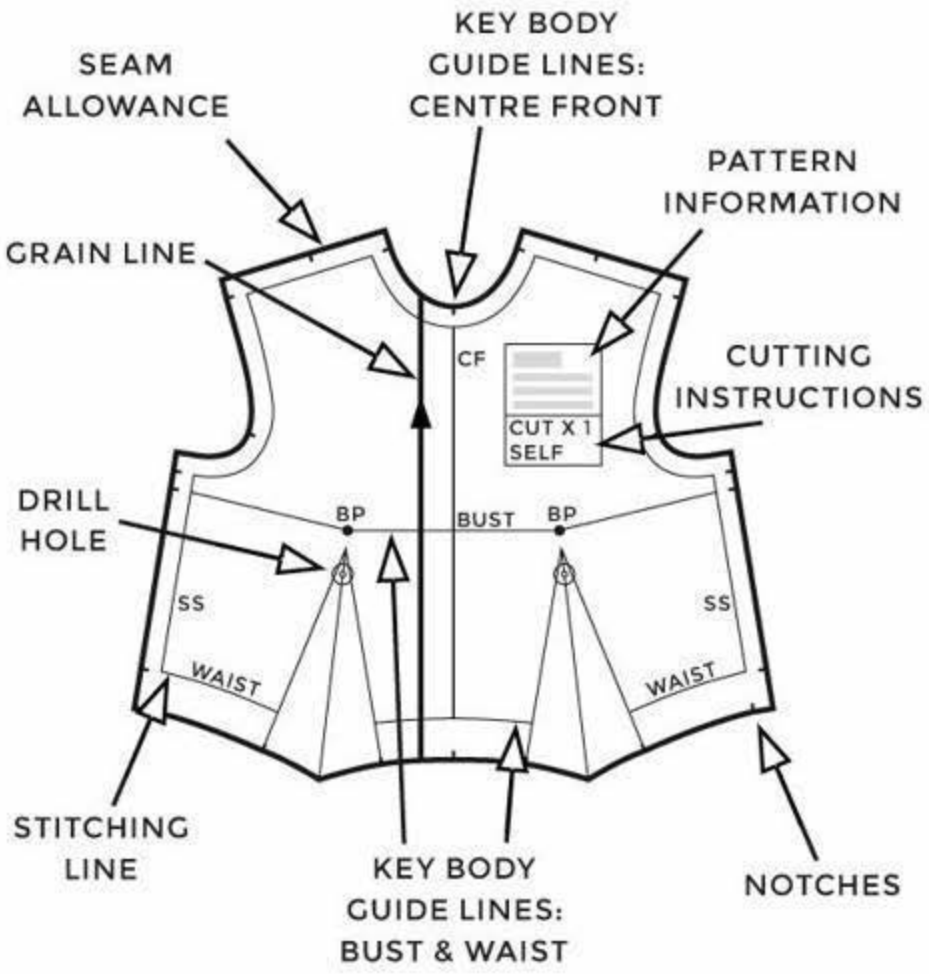
As an overview of what we have learnt so far about patterns, in this chapter we will discuss what a finished pattern should look like. This will bring together our understanding of body guidelines, darts, seams, notches and drill holes.

Overview of a Basic Pattern

The following diagram shows what a pattern would look like for a basic front bodice pattern. If we imagine that a pattern maker drafted a seamless bodice block and then traced the front block piece out onto a new piece of paper or cardboard and added in all the necessary seam allowance, notches and drill holes, then this is what the front bodice pattern would look like. Note how in this version of the front bodice the shape of the block has been doubled at the centre front so that there is now no centre front seam.

The same process would also then be applied for any other pieces of the block that needed to be turned into pattern pieces. For example, the bodice block can not be properly tested by using just the front pattern piece alone, so the back bodice block shape would also be used to create a back bodice pattern.

ANATOMY OF A PATTERN:
BODICE PATTERN EXAMPLE



Testing the Block Shape

Now that the block shape has been used to generate a pattern, this means that the pattern maker now has a pattern that can be cut out in a test fabric and sewn up as a basic toile, while the original seamless bodice block can remain untouched.

Once the pattern maker has done a fitting of the toile on a fit model then they will make final alterations to the fit of the pattern to ensure that they are completely happy with the shape of the bodice pattern.

When the pattern maker is confident that the pattern is correct, and that any difference between the pattern and the block is really necessary, the pattern maker will go back and make the necessary amendments to the block. This means that the block shape has been tested and refined, and is now ready to use to develop patterns for garments.

Once these fit changes have been done and the fit of the block has been refined, the block is not normally amended again. After this, the block will be traced off onto new pieces of paper or cardboard to create any new garment patterns, leaving the original seamless block intact. As mentioned earlier in the book, the block then becomes your safeguard so that no matter what changes you make to the pattern, all the measurements of your block remain unaltered and intact.

Note that not every garment has to be built from a seamless block every single time, and in a later chapter we will discuss the use of "working patterns" (Chapter 19: Pattern Alterations and Seam Allowance). However, the essential idea behind keeping blocks and patterns separately, is that once you have a template such as a block that represents the required body measurements then you want to preserve this shape as a template and you do not want to make amendments to it.

Working with Less Detailed Patterns

When you have built a pattern up yourself from a block then it is easier to keep all the body guidelines on the pattern as you go so that you will always have them as reference points for any changes that you need to make. However, if you are working from someone else's pattern then you may find that you want to work backwards and add in some of the guidelines and stitching lines that are missing so that you can read the pattern more easily.

If you are ever in a situation where you have a pattern that does not have all of the information that is marked on the bodice pattern in this chapter, then you may find it helpful to draw in the missing information before you start cutting out the fabric and sewing the garment together. For example, if you know what the seam allowance value of a pattern is from the pattern instructions, but the stitching line is not marked on the pattern then it is helpful to draw in the stitching lines on the pattern so that you can see exactly the outline of what you are about to sew.

Once you have the stitching lines in place, then you can start to work out if you want to add in any additional notches on the pattern so that when you cut it out in fabric you will have more reference points to help you to sew the cut pieces together. With your stitching lines in place it will also allow you to go through the pattern and check that all the seams match up correctly and that you are happy with the flow through of the pattern.

If you sew up a toile of the pattern, then you could also mark out your body guidelines first onto the toile, and then transfer them onto the pattern. This will be an invaluable exercise if you decide that you want to make changes to the pattern because then you will have visual lines to describe the location of different parts of the body and these will be important reference points for you when you want to make alterations.

Preparing the Pattern for the Cutter

There are two vital pieces of information on our example pattern that need to be added to the pattern by the pattern maker, that we have not discussed yet in this book. These two pieces of information are vital in the communication between the pattern maker and the cutter.

The cutter ultimately needs to know the answers to the questions:

- How to lay the pattern pieces on the fabric?
- How many pieces to cut out?

These two questions are answered by the pattern maker by marking the grain line onto the pattern as well as writing the instructions for how the pattern is required to be cut in fabric. This information will be covered in the following chapters of this book.

Chapter Summary

In this chapter we learnt that:

- Patterns should be marked with all the necessary information before they are passed to the cutter including seam allowances, notches, darts and drill holes.
- It is helpful to add information to less detailed patterns before they are cut out and sewn.
- Adding information to less detailed patterns will allow the patterns to be checked before a first toile is sewn.
- Body guidelines can be marked onto a toile, and then transferred onto the pattern to aid in pattern alterations.

Chapter 15

Grain Lines

Chapter Overview

In this chapter we will look at the definition of grain lines, and examine why they are vital in the communication between the pattern maker and cutter. As part of the definition of grain lines we will discuss why grain lines are so important to the fit of the garment and discuss how they are marked onto patterns. We will also discuss the difference between cutting a pattern on the straight grain, the cross grain or on a bias grain.

What Is a Grain Line?

The best way to understand the grain line of fabric is to picture fabric that is woven with a plain weave, as this is the most common type of fabric. Fabric with a plain weave is essentially made up of a grid of threads going in two different directions that are interlocked to form the fabric.

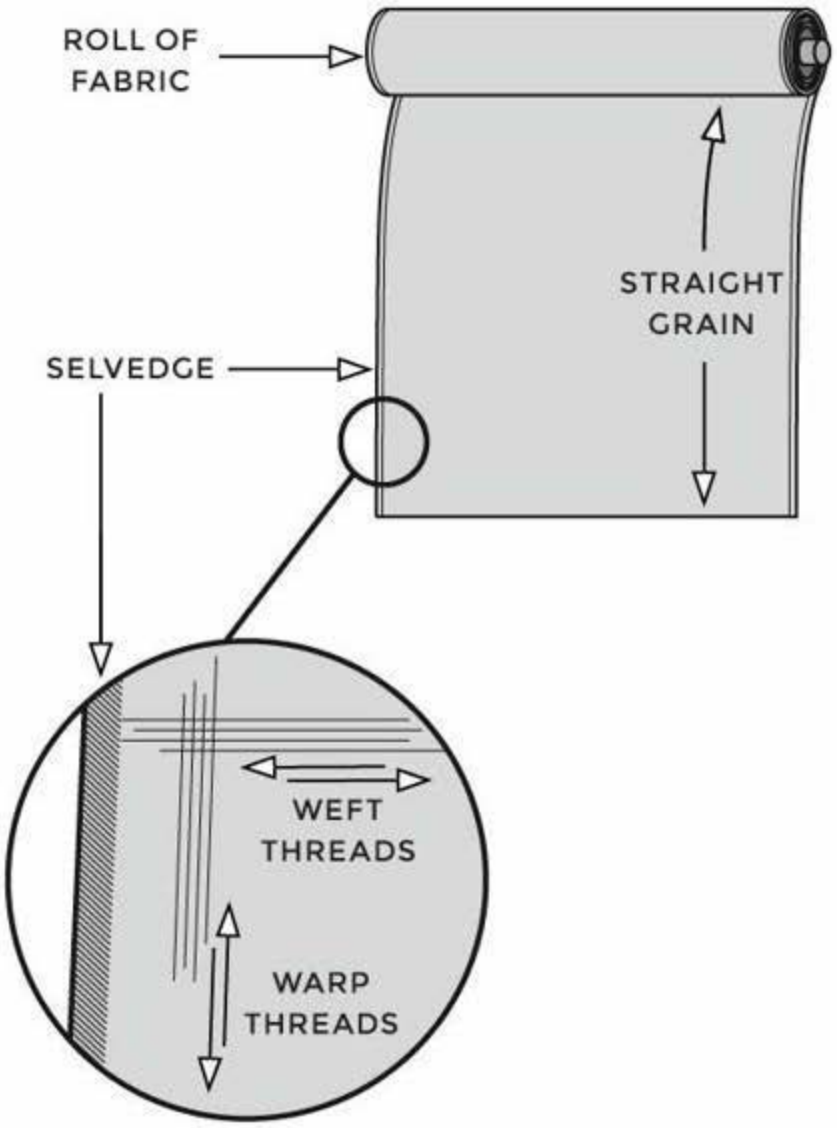
The warp thread runs up and down the fabric, while the weft thread runs from right to left. You may find it helpful to rhyme weft with left to remember which one is which. These threads will each react in slightly different ways and one direction will have slightly more give than the other.

Earlier on in the book we talked about how the shape of patterns will change as soon as they are cut out in fabric, and the implication of this is that in order for the pattern maker and designer to understand how the fabric is reacting to the pattern, the cutter needs to consistently cut the pattern out in the fabric in the exact same direction every single time. So that the cutter knows exactly how to line up the patterns with the fabric, a line is marked on the pattern that corresponds to the warp thread in the fabric. Since the warp threads also run parallel to the selvedge, this means that the pattern will always be placed so that the grain line runs parallel to the selvedge of the fabric.

The best way to picture how patterns relate to grain lines is by actually imagining the fabric on a roll. The selvedge of most plain weave fabrics is the densely woven sections at either end of the roll. Sometimes this edge will be perforated with very small holes. In some fabrics, such as jersey fabrics that have a different style of weave altogether, the selvedge is sometimes still distinguishable by these small holes.

Note how in the following diagram the warp threads run parallel to the selvedge, and the line marked as the “straight grain” also runs parallel to the selvedge:

GRAIN LINES:
EXAMPLE OF WARP & WEFT

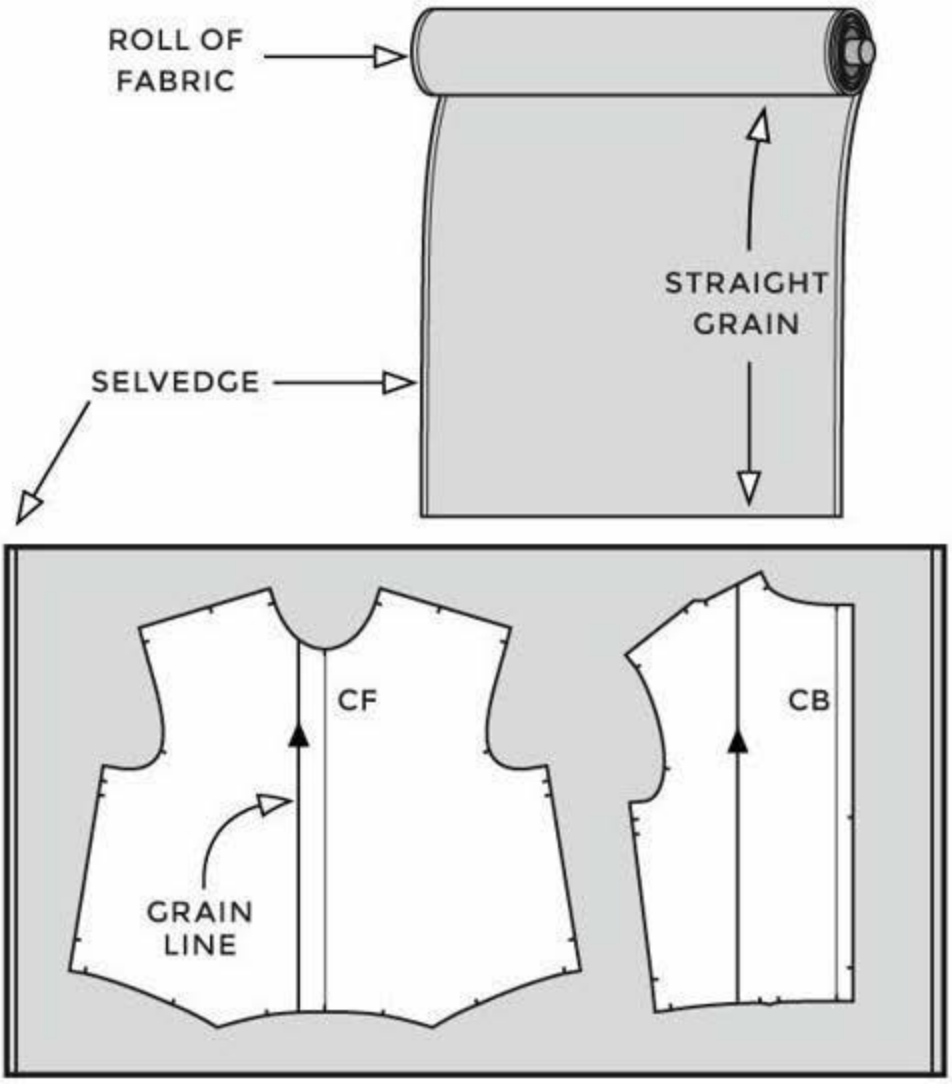


The Straight Grain

When a pattern piece is cut on the straight grain, the grain line on the pattern will often run up and down through the body, parallel to the centre front or centre back of the garment. An example of this has been indicated in the following diagram, so that you can see how the grain line on the pattern relates to the selvedge of the fabric.

As you can see in the following diagram, the grain line on the pattern indicates that the pattern will be placed so that the centre front and centre back of the pattern pieces will run parallel to the selvedge of the fabric. This also means that the warp threads will run up and down through the body of the pattern pieces, because the warp threads most often run parallel to the selvedge of plain weave fabrics.

GRAIN LINES:
EXAMPLE OF STRAIGHT GRAIN

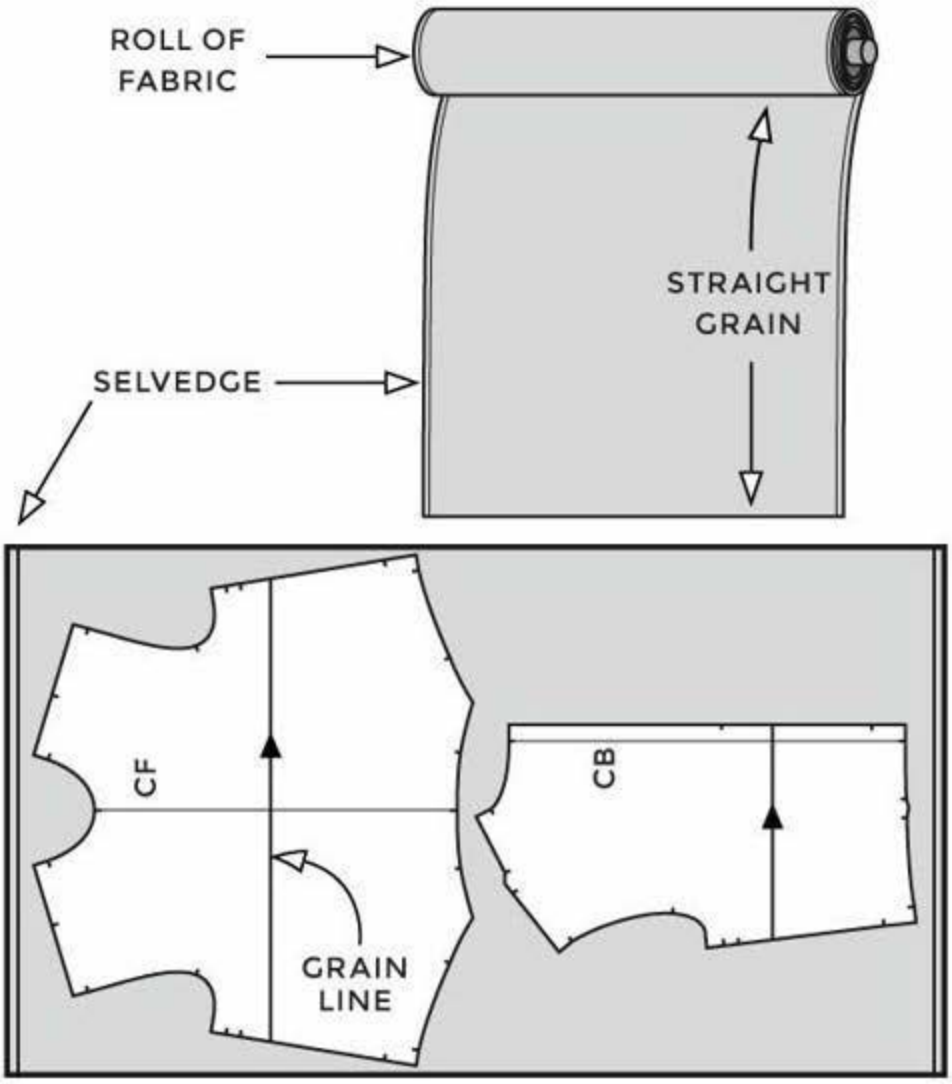


PATTERNS CUT ON STRAIGHT GRAIN:
CF & CB ARE PARALLEL TO SELVEDGE

The Cross Grain

When a pattern piece is cut on the crosswise grain or the cross grain, the grain line on the pattern will run around the body, and will be perpendicular to the centre front or centre back. This has been indicated in the following diagram. Take note of the fact that the grain line still runs parallel to the selvedge when the patterns are placed onto the fabric, but the direction of the pattern has changed so that now the warp threads will run around the body.

GRAIN LINES:
EXAMPLE OF CROSS GRAIN



PATTERNS CUT ON CROSS GRAIN:
CF & CB ARE PERPENDICULAR TO SELVEDGE

Choosing Between Straight Grain or Cross Grain

When a pattern maker is creating a pattern for a plain weave fabric, and is choosing whether to place a pattern on the straight grain or on the cross grain, they make their decision based on the strength or slight give of the warp and weft threads of the fabric.

For a plain weave fabric it is most common to place a pattern on the straight grain, assuming that the warp threads are the strongest and will remain the most rigid on the finished garment, however there may be times where you wish to use the cross grain and you will have to make your own decision about whether the fabric is stable enough to be used in either direction.

The decision of what grain line to use on a pattern should always be based on the individual fabric that you are working with, rather than relying on what is most common in pattern making books, as all fabrics will react slightly differently to the shape of the pattern pieces.

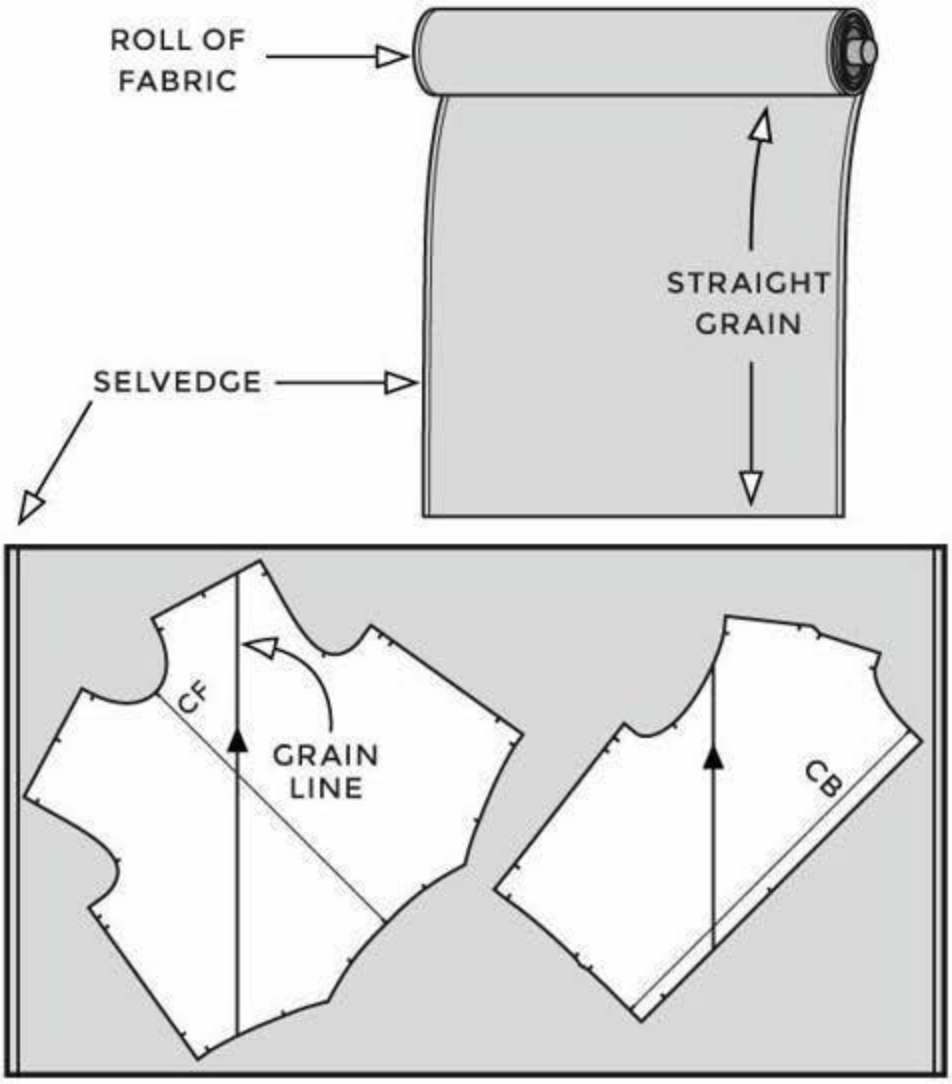
Cutting on the Bias

To understand what it means to cut a pattern on the bias to the grain line, imagine that rather than having the centre front of our pattern going straight up and down through our fabric grid of warp and weft threads, you actually want the centre front of your garment to go diagonally across the grid lines.

This means that the centre front line will be at a 45 degree angle to the selvedge. When the centre front of a garment runs at exactly 45 degrees to the selvedge, this is called using the “true bias” – going through the grid of warp and weft threads at an exact diagonal. Any other sort of angle from the selvedge is just a type of bias.

An example of placing pattern pieces on the true bias is shown in the following diagram:

GRAIN LINES:
EXAMPLE OF TRUE BIAS GRAIN



PATTERNS CUT ON TRUE BIAS GRAIN:
CF & CB ARE 45 DEGREES TO SELVEDGE

Note that because one direction of the bias weave may be stronger than the other, this can cause the fabric to twist around the body. To counteract this, patterns for the bias are often placed so that seams that will need to be sewn together will have been cut on the opposite directions of true bias.

If you examine the diagram above and take note of the position of the side seams, you will notice that one side seam crosses the diagonal of the fabric in one direction, while the other pattern piece crosses the diagonal of the fabric in the opposite direction.

Choosing to Use the Bias Grain

A bias grain is often chosen specifically for the fact that it can make a plain weave fabric more fluid. If you imagine a large net made of rope that forms a grid shape then you can picture that if you hang the net directly up and down then the grid would form squares, and the gravity would help to make the squares rigid. But if you were to hang the rope grid from a corner, then the rope squares of the grid would actually appear like diamond shapes, and the grid would collapse on itself.

The same is true of using the grain of fabric on the bias as it effectively makes the weave of the fabric unstable. While unstable sounds like a negative, it can sometimes be just what you need for a garment. Using the bias sometimes creates the ideal amount of flexibility in the fabric to allow you to mould the fabric to the body without the need for as many darts. Bias cut dresses are a common example of how the bias grain line can be used in this way.

Cutting on the bias is normally chosen specifically when you want your fabric to mould more easily to the body. You will often find trims and bindings that are cut on the bias as they will allow you to slightly stretch and mould them as you sew, and they are more forgiving than trims that are cut on a straight grain.

You always need to be especially careful when working on the bias. If a pattern is marked as true bias, and the grain line on the pattern piece is placed at a 45 degree angle to the selvedge, then you really need to adhere to this angle exactly. If you are following somebody else's pattern, but choose to ignore the grain lines that have been specified, then you are likely to get some very unpredictable results. You should only change the grain line direction on a pattern during the toile stage while you are still testing the fit of the pattern.

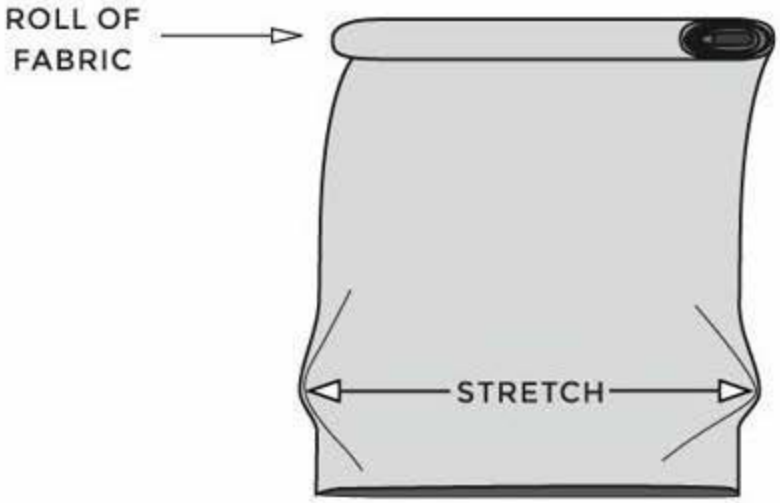
Similarly, when you are cutting out strips for use as bias binding, they will only work if they are on a perfect 45 degree angle, otherwise they will tend to twist and pucker on the garment.

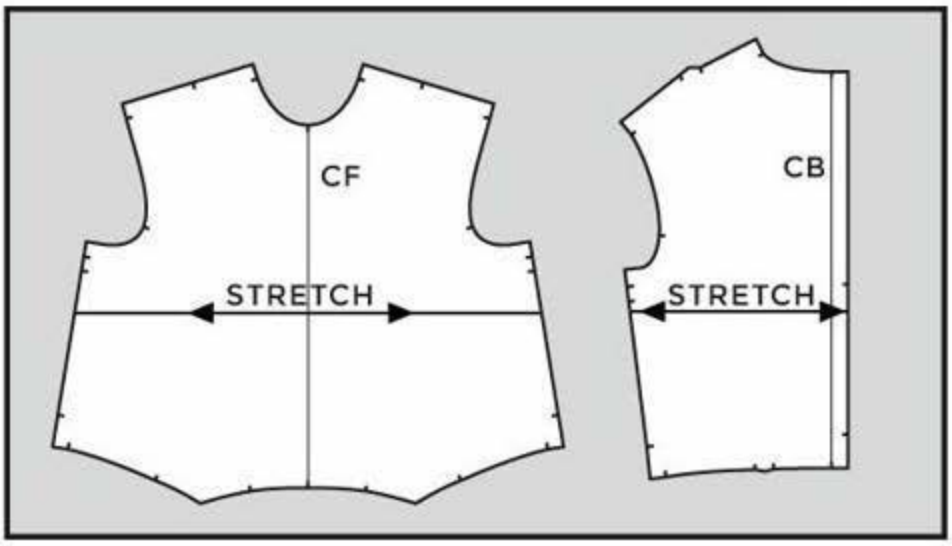
Grain Lines for Stretch Fabrics

For stretch fabrics, the rules of grain lines can often be completely different to fabrics with a plain weave. You may want the stretch to go around the body, rather than stretching up and down, which means that in some cases you would need to use the same grain line direction as the cross grain.

Sometimes companies will indicate the direction of stretch on the pattern, rather than indicating the grain line to ensure that there is no confusion when the cutter is laying out the pattern onto the fabric. This is shown in the following diagram:

GRAIN LINES:
EXAMPLE OF STRETCH FABRIC





PATTERNS CUT ON STRETCH FABRIC:
USE GRAIN LINE TO INDICATE DIRECTION OF STRETCH

Working with Grain Lines

The key to working with grain lines is to be consistent through each of your toiles and in your final garment, and to be conscious of the fact that grain lines can have a large effect on the fit of your garment.

It is absolutely fine to put the grain line at all sorts of angles through the pattern piece and to experiment with the direction of the grain line, as long as you have the grain line marked on the pattern while you are testing so that you can compare the results more easily, and so that ultimately you can replicate the correct result when you are creating your final toile and sample.

This means that the grain line needs to be marked on every single pattern piece, at every testing stage from the toile right through to the final garment. You should never assume that you or the cutter will know what direction the piece is to be cut in.

You also need to be aware of how different grain lines affect each other when they meet at the seams, as cut fabric edges that travel through the weave of the fabric at strange angles can become puckered when the seam is sewn.

This is something to be aware of when working on patterns, because even on a bodice piece that is cut on the straight grain, you will still have some seam lines that will end up being cut through the fabric at an angle to the grain line. These edges will be the ones most likely to stretch and warp out of shape when sewn so you need to pay special attention to these in the toile process as this may affect how you fit the garment, and may also affect how you choose to finish the seams.

The Directions of Grain Lines

The grain line will need to tell the cutter not just what part of the pattern needs to run parallel with the selvedge, but also whether the pattern piece needs to be cut in a certain direction.

The idea of direction in terms of fabric is easiest to imagine if you picture that you are using a printed fabric. Imagine that you are using a print that is only correct when used in one direction – for example if a fabric was printed with text. This means that because the print only goes in one direction, all of the fabric will also need to be cut in one direction, so that when the garment is on the body you will be able to read the text the right way up.

It is not just for printed fabric that you may need to cut the pattern pieces all in one direction. For example some fabrics with a texture or sheen will react to the light differently when used in different directions, and these will also need to be cut all in the same direction to achieve consistency on the garment.

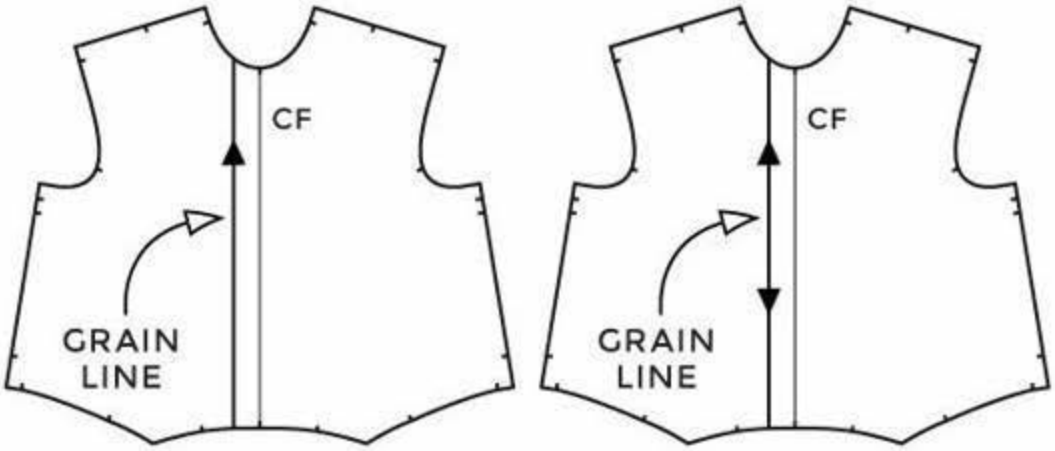
Sometimes when a pattern needs to be cut in one direction this is marked on the pattern instructions of commercial patterns as a layout for fabrics “with nap” or “with pile”. Examples of fabrics that have a nap or pile include velvets and furs where the texture of the fabric only runs in one direction.

The information about the pattern direction can be written as instructions that go with the pattern, indicating that the pattern needs to be cut in a “with nap” or “with pile” layout, but the clearest way to communicate pattern direction to cutters is to place an arrow in only one direction directly onto the grain line of each individual pattern piece.

In order to mark a grain line correctly it should be drawn as a line that goes right across the whole pattern to the very edges of the seam allowance to allow it to be aligned with the selvedge. Then to mark the grain line for use in only one direction, a single arrowhead will be placed at either the top or the bottom of the line, indicating the direction of the pattern piece.

Some patterns can be cut in either direction, and these will still be marked with a line across the entire pattern, but with two small arrowheads on the grain line pointing towards both the top and the bottom of the pattern piece.

The patterns in the following diagram show an example of how you would mark the different pattern directions:



ARROW INDICATES ONLY ONE DIRECTION

ARROWS INDICATE TWO DIRECTIONS

MARKING PATTERN DIRECTION

How to Decide on the Direction of the Grain Line

You will need to decide on the direction of the grain line on your pattern based on the effect that you want the fabric to have visually when it is on the body. This means that you need to consider how each pattern piece will go onto the body and decide which way up you want the fabric to go.

This means that when dealing with a fabric that has a pile such as a velvet or fur, you should make the decision based simply on how you want the fabric to look on that area of the body and mark the pattern piece accordingly.

How to Mark Grain Lines on Patterns

Grain lines are most accurate when they are marked right across the whole pattern piece, from edge to edge. This is because when you place the pattern on the fabric you will align the grain line of your pattern to run parallel to the selvedge of the fabric. By marking the grain line right across the pattern it allows you the maximum length to use when measuring to the selvedge to ensure that the pattern piece truly runs parallel to the selvedge as intended.

Shorter grain lines can tend to be less accurate when you are measuring the distance from the grain line to the selvedge, as you may accidentally pivot the pattern piece slightly which will throw the pattern off grain. With a longer grain line your eye is more likely to pick up the fact that you have thrown the grain line off at an angle.

Chapter Summary

In this chapter we learnt that:

- Grain lines are marked onto patterns to show the cutter how to line up the pattern on the fabric.
- On a plain weave fabric, the warp thread runs up and down the fabric, while the weft thread runs from left to right.
- The grain line marked on a pattern represents the direction of the warp thread, which runs parallel to the selvedge of the fabric in a plain weave.
- On a stretch fabric the grain line must take into account the way that the fabric stretch is needed on the body.
- When a pattern is cut on the straight grain, the grain line generally runs up and down the centre front or centre back of the body.
- When a pattern is cut on the gross grain, the grain line generally runs around the body, parallel to the floor.
- The bias grain places pattern pieces on an angle to the selvedge.
- The true bias grain places pattern pieces at an angle to the selvedge of exactly 45 degrees.
- The bias grain is specifically used to make the fabric more unstable and fluid.
- Grain lines have a large effect on the fit of a garment.
- Grain lines should be used consistently through the toile and sample stages to avoid fitting mistakes.
- A grain line is marked onto the pattern by a line that goes through the entire length or width of the pattern.
- The direction of the pattern piece is important for fabrics that have only one direction such as certain prints and fabrics with a sheen, nap or pile.
- A pattern piece that can go in either direction is marked with two arrowheads on the grain line pointing out from the centre of the pattern.
- A pattern piece that can only go in one direction is marked with one arrowhead on the grain line showing the direction the piece should be cut.

Chapter 16

Pattern Information and Cut Instructions

Chapter Overview

In this chapter we will look at the information and instructions that need to be written on patterns so that it is clear to the pattern maker, cutter and sewing machinist what each pattern piece is used for and so that any important information can be communicated accurately.

Overview of Key Points

The key information that needs to be written on the pattern will sometimes be very specific to the company that you work for so to provide you with an overview, pattern instructions can cover any of the following information:

- Style name
- Style number
- Type of garment (shirt, trousers etc)
- Piece of the garment (sleeve, collar etc)
- Side of the body (right or left)
- Pattern size (6, 8, 10 or XS, S, M etc)
- Number of pieces in the pattern (1 of 16 etc)
- Date of the pattern
- Toile or sample that the pattern version relates to
- Company name
- Type of fabric to cut the piece in (main or self, contrast, lining, etc.)
- Any interlining to be used (fused, block fused, etc.)
- The side of the pattern that is placed facing up (right side up or RSU)
- Number of times the piece is to be cut (cut x 1, cut x 1 pair)

Style Names and Numbers

The designer normally decides on the style name of the garment, while the style number will be dictated as part of the style number system used within the company. In most companies every single style is given a distinctive number to avoid confusion between the patterns of different styles.

Garment Type, Piece Name and Side of the Body

By noting the type of garment and the piece of the garment on the pattern it will help to describe the part of the garment that the pattern piece represents. This information can also be used in conjunction with the side of the body.

Ideally the naming of the pattern pieces should be done so that every single pattern piece has a separate pattern piece name. Basically this is so that it is very clear what piece you are describing when you need to talk to somebody about a problem with a particular section of the garment.

For example, “shirt sleeve right” and “shirt sleeve left” is very clear, but if each of these sleeves is made up of multiple pieces then you need to distinguish the names in a different way. So the right sleeve may be made up of “shirt sleeve right 1” and “shirt sleeve right 2”. Or you could also use the terms “under sleeve right” and “top sleeve right”.

Note that the use of right and left when you are writing on patterns should be as though the garment is worn on the body, with the fabric facing right side up. So the pattern piece that is named as the right sleeve, will be the sleeve worn on the models right arm. The use of right of left may also be written by some pattern makers as simply R or L.

Pattern Size

The pattern should always have an instruction on it to indicate what size body the pattern was created for. This may mean writing a size from a size range such as 6, 8, 10, 12 or XS, S, M, L etc.

You may also need to clarify whether the item is men's wear or women's wear as this may relate to the different size ranges that are used in your company.

Numbering Pattern Pieces

Another way of distinguishing between pattern pieces is to give each one a number and this will also allow you to count a pattern more easily to ensure that you have all the correct pieces bundled together.

For example on a dress that has 35 pattern pieces you could mark each individual pattern piece as “Piece 1/35”, “Piece 2/35” and so on and then if you need to count the total pattern to make sure that you have all the correct pattern pieces for that garment, then you will be able to count the pieces to ensure that the sum of the pieces adds up to 35.

Date of the Pattern

It is not always a company requirement for patterns to be dated, however it is a useful technique for keeping your work organised even if you are just working on something yourself at home or as part of a course. By dating the patterns as you work on them it will enable you to distinguish between different versions of the same pattern. This becomes especially vital if a pattern is retraced many times with different alterations as the dates on the pattern will help to show which version of the pattern is the most up to date.

Toile or Sample that the Pattern Relates to

The point of naming your pattern to somehow match the toile or sample that has been cut from the pattern, is again to make sure that you are always keeping a record of the different versions of your patterns. For example, you may name your pattern with “toile 1” to relate to the first toile that you sew and mark the toile with the same number.

In the fashion industry a pattern may be marked as being the “sample” version as opposed to the “production” version to distinguish between whether a pattern was used for catwalk samples or if the pattern was used for the mass manufacture of a garment.

Company Name

The inclusion of this information will vary between companies as to whether or not this is required on the pattern, but the use of a company name on a pattern can be especially vital if the pattern is going to be sent to an outside manufacturer or off-site sampling machinist so that the pattern will not get confused with pattern pieces from other companies.

Type of Fabric

The type of fabric is normally indicated using general terms such as main, contrast and lining rather than using specific fabric names such as wool, leather and acetate. The type of fabric is written in this way because the one pattern may be used in multiple versions or colour combinations of a garment, and so the individual contrast fabric or main fabric that will be used in the different variations may change between different colour ways of the same pattern.

The terms “main” or “self” are often used to describe the main fabric of the garment. Pattern pieces for contrast fabrics are sometimes numbered or assigned letters such as contrast 1, 2 and 3 or contrasts A, B and C.

Fusing vs. Block Fusing

If the fabric is to be stabilised in any way with an interlining or fusing then this will also be indicated on the pattern instructions. For example, a special material called fusing that is often used in garment construction has an adhesive substance on one side that can be bonded to the fabric using a combination of heat and pressure. The process of heating and adhering the fabric and fusing material together can sometimes slightly shrink the size of the cut piece and this must be taken into account in the pattern.

Note that the term fusing can be used to describe the actual fusing material, and also to describe the process of joining together the fusing material and the fabric.

Some interlinings are not adhesive in any way and will be secured in the garment using sewing techniques, however if a fusing with an adhesive side is going to be used, then this must be taken into consideration when the pattern maker is writing the cutting instructions.

In general terms, fusing material with an adhesive side can be used in two different processes and the choice of process will affect the order that the cutter carries out their work.

The fusing material can be joined to the fabric:

- Before the pattern pieces are cut out, also known as block fusing.
- After the pattern pieces are cut out, simply know as fusing.

Block fusing is the process by which the fusing material is bonded to one side of the fabric before the pattern pieces are cut out in the fabric. By block fusing the fusing to the fabric before the cutter begins to lay out the pattern pieces, it means that the fabric will have already been shrunk by the heat of the fusing machine. It also means that the cutter will be able to just cut the fabric and fusing all together as though it is one single piece of fabric.

When using a block fusing process this will sometimes be written as “cut x 1 self, block fused” on the pattern. This process is often used when the designer wants the fusing to cover the entire piece of fabric, right through to the very edges of the seam allowance.

In contrast, the other fusing process is for the cutter to cut out the fabric shape, cut out the fusing shape separately and then bond the two pieces together afterwards. This process would be indicated on the pattern by writing the fabric and fusing amounts as separate cutting instructions. For example, it could be written as “cut x 1 self, cut x 1 fusing”, indicating that the pattern shape should be cut once in the self fabric and once in the fusing material and then joined together afterwards.

Naming Fusing Pattern Pieces

Sometimes the fusing is cut out separately from the main fabric of the garment when the fusing is only needed to reinforce a section of the garment. For example, a pattern piece may be cut just for the shape of fusing needed in an area around the shoulder of a jacket, but the whole body of the jacket may not need to be fused.

In a case like this where the fusing pattern is actually a separate pattern from the self fabric pattern piece that it will ultimately be bonded to, you should name the fusing pattern piece in a way that will show how it relates to the self fabric pattern piece that it will be bonded to.

For example, if one pattern piece is named as “women’s jacket back R”, then you should name the matching fusing pattern piece as “women’s jacket back R fusing”. This will enable the cutter to know which pieces go together, and to be able to make sure that the fusing is cut on the correct side up to match the pattern piece.

Right Side of the Pattern

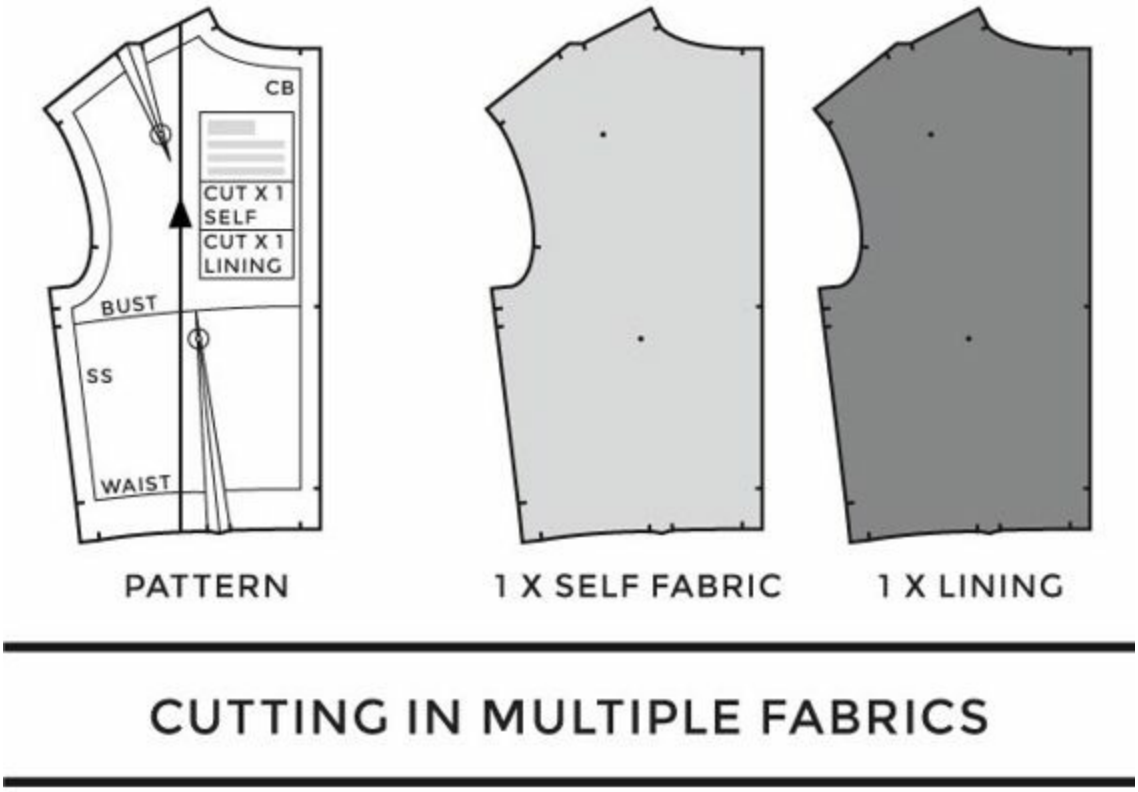
It is easiest for the cutter to lay out the pattern pieces on the fabric when the pattern pieces are consistently marked so that they can be placed directly on top of the fabric with all instructions facing up, and then cut out “Right Side Up” or RSU. This means that the fabric is facing the right way up, and that the pattern is also facing the right way up.

Marking RSU on the pattern confirms to the cutter which side of the fabric needs to be facing up before they cut out the pattern.

Cutting Instructions

Patterns are specifically designed so that you can reuse the same pattern piece more than once when you are cutting out the same shape in more than one fabric. So for example, if a pattern piece needs to be cut out in self fabric and in lining then there will be only one pattern piece but the instructions will say “cut x 1 self, cut x 1 lining”.

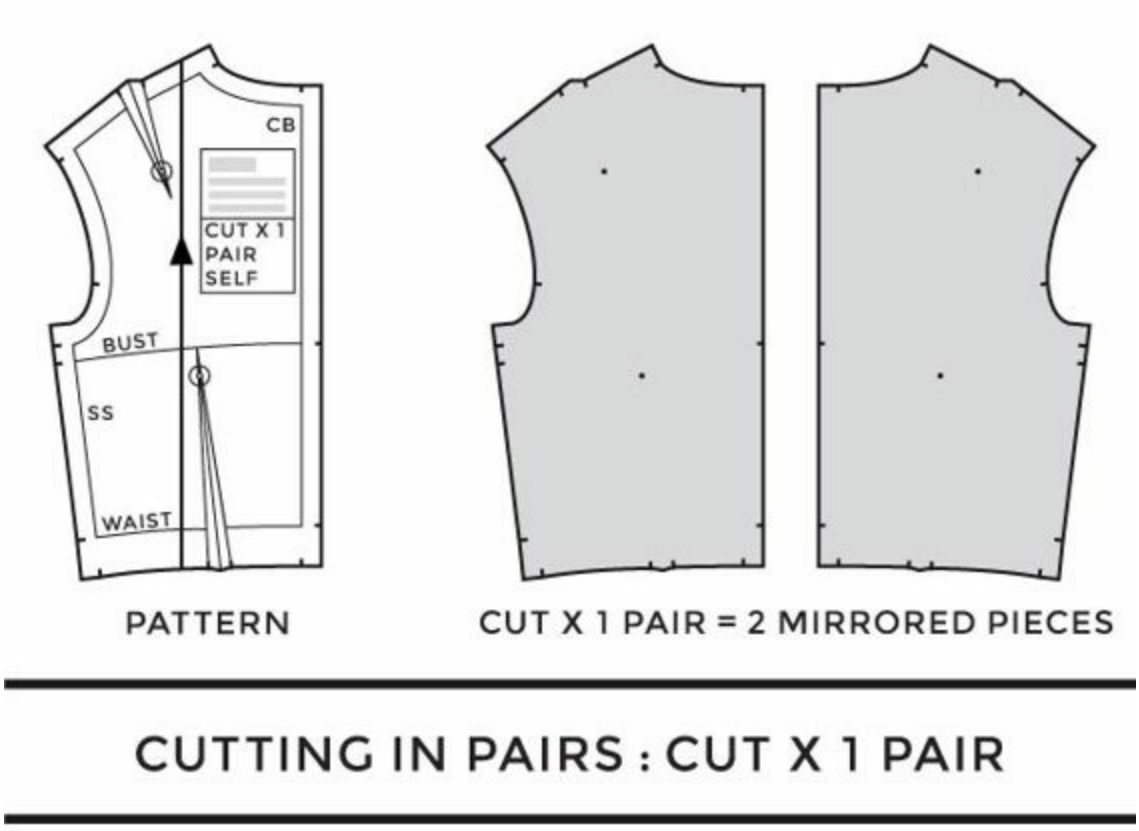
The following diagram shows an example of these cut instructions:



When you are cutting out multiple copies of a pattern in the one fabric then there can sometimes be confusion caused by the difference between “cut x 2” and “cut x 1 pair”.

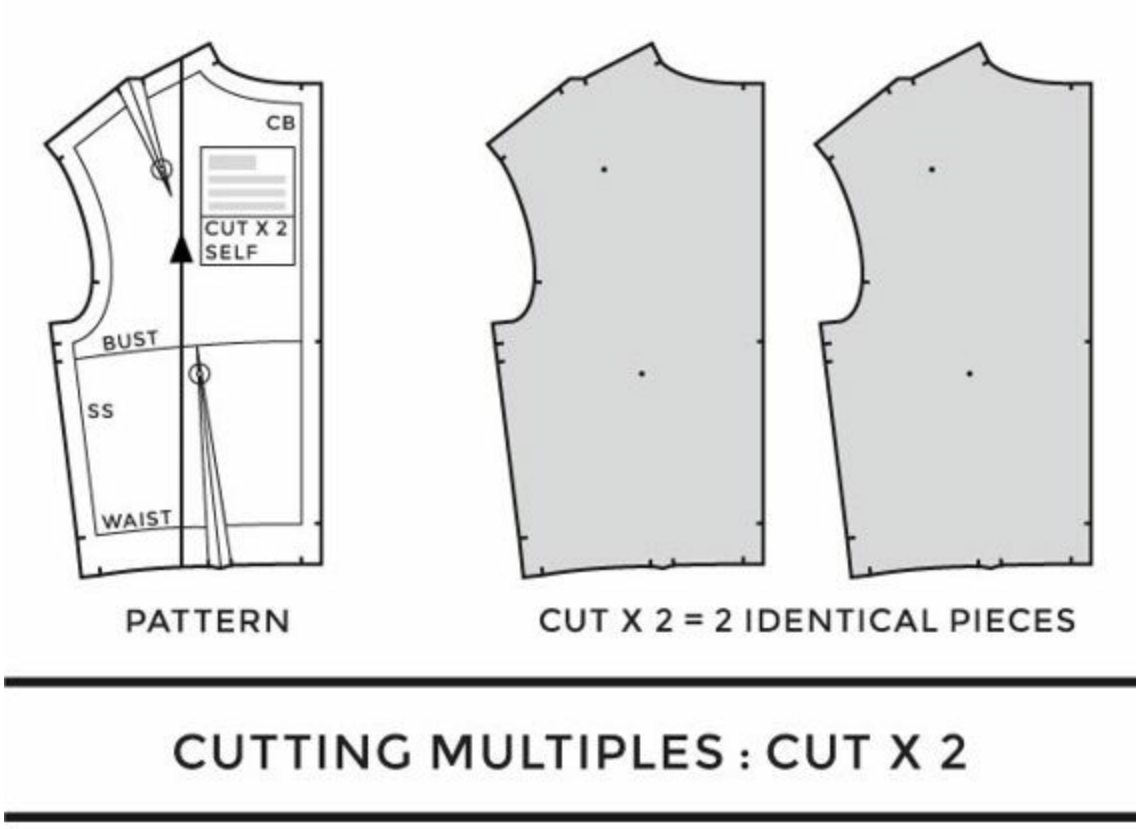
When you use the instruction “cut x 1 pair” on your patterns it means that you wish for the cutter to cut the shape twice, so that one piece is the mirror image of the other. This is commonly used where you have one front or back pattern piece that you wish to have cut out for both sides of the body.

An example of this has been shown in the following diagram:

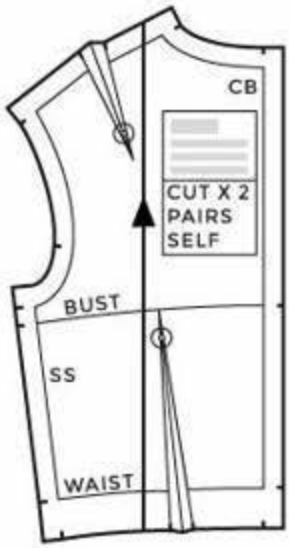


In contrast to the instruction of “cut x 1 pair”, by writing “cut x 2” it means that you wish to have a pattern piece cut out twice so that the pieces are identical, with the same side of the fabric facing up for both pieces of fabric.

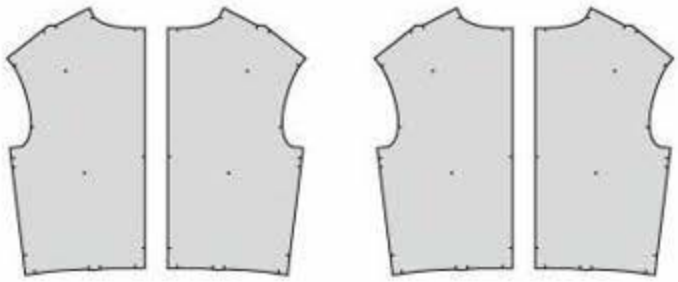
An example of this is shown in the following diagram:



This principle continues into larger multiples of cut pieces as well, so “cut x 2 pairs” will be cut as mirrored pairs, as shown in the following diagram:



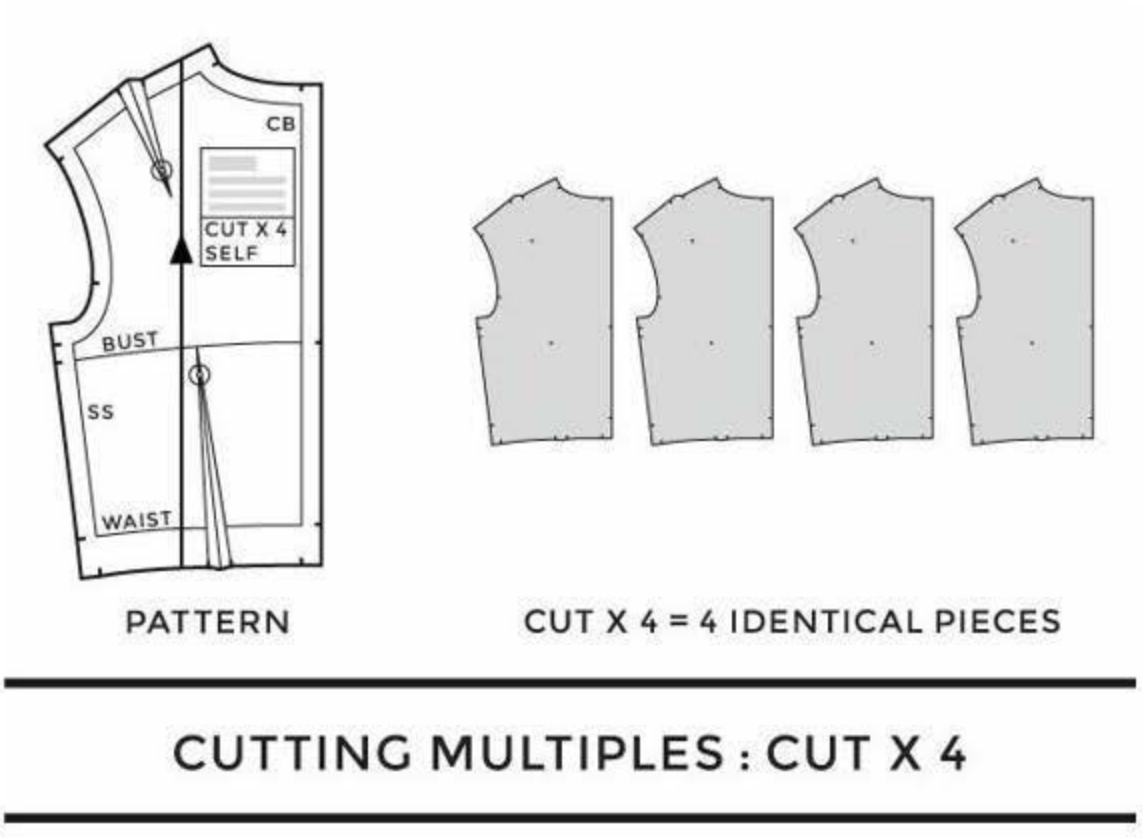
PATTERN



CUT X 2 PAIRS = 4 MIRRORED PIECES

CUTTING PAIRS : CUT X 2 PAIRS

Whereas “cut x 4” is 4 pieces cut to be exactly the same shape, as shown in the following diagram:



Some companies use the two terms interchangeably where “cut x 1 pair” and “Cut x 2” will essentially be the same thing, leaving it up to the cutter to know when to cut out a pattern as a pair.

In order to avoid any mistakes or misunderstandings it can be much easier to differentiate between the two phrases, but this will depend on the context that you are working in and will depend on what is the standard communication within the company. Ultimately, these instructions are for the pattern maker to communicate with the cutter, so the best system to use is always whatever works for both parties that is the most consistent and efficient and causes the least mistakes.

Chapter Summary

In this chapter we learnt that:

- Pattern instructions are used to communicate between the pattern maker and the cutter and also to identify the pattern pieces.
- There are certain instructions that you should include on your pattern and some of them will be decided by the company that you work for.
- Writing style name, number and size helps to distinguish the style within the company.
- Writing company name helps to identify the pattern if it is sent off-site.
- Writing type of garment, piece name, and side of the body helps to name the pattern piece.
- Writing number of pieces helps to account for all the pieces in the pattern.
- Writing date of pattern and toile or sample that it relates to will help you to reference the different fit versions of the same style.
- Writing the pattern's RSU, the type of fabric, method of fusing and number of pieces to be cut is written as an aid for the cutter.

Chapter 17

The Basic Aims of Pattern Making

Chapter Overview

Now that we have discussed all of the different aspects of a pattern, including how to read a pattern, the meaning of pattern markings and how patterns relate to the curves of the body, this understanding will form the basis of this next section of the book where we will look at the aims and methods behind patterns and pattern alterations.

This chapter will focus on the basic aims and principles behind the creation and alteration of patterns. We will focus on the key ideas of increasing volume, decreasing volume and moving volume around the pattern.

Basic Aims Overview

It is important to always feel very conscious of what you are doing in pattern making rather than working right through a process and hoping it will all come out right in the end. If you are in the process of following someone else's instructions and feel that you don't understand the process, just think back to the body. Think about what you are really setting out to achieve and what all the lines and measurements really mean and this should help to clarify the steps that you need to take.

In essence pattern making is underpinned by a couple of very simple ideas.

If pattern volume is equal to cut fabric then:

- More Pattern = More Fabric
- Less Pattern = Less Fabric

It sounds very simplistic to think in this way, but it can be a good idea to come back to these two principles whenever a pattern change or set of pattern instructions seems confusing.

Based on these two ideas, it follows that in the majority of pattern changes you are either trying to:

- Move the volume around the pattern/fabric without making any change to the fit of the garment at all.
- Increase the volume of the pattern/fabric in an area of the garment.
- Decrease the volume of the pattern/fabric in an area of the garment.

In the chapters following this one we will explore these ideas through a series of examples that will help to illustrate these ideas in more concrete terms, but the following is an overview of what is meant by these three basic changes.

Moving Pattern Volume

For some of the simplest changes that you will make to a pattern you may not want to actually add or remove any volume from the pattern you may just want to move the design lines into a different position. To put this idea another way, you may want to move the seam lines or dart positions around the garment without actually making any change to the fit of the garment on the body.

A common example of this type of pattern change that you will come across in pattern making books, is moving the position of a dart to a different place on the pattern. Many pattern books will start by explaining how to manipulate the value of darts using flat pattern making techniques, and some of these first changes that you do will be to simply move the dart lines around the body without actually changing the way that the garment fits the body.

Another example of this type of change is when the value of a dart is turned into seam lines, or a pattern piece is split into multiple panels so the number of seam lines is increased, but the actual fit value of the pattern remains the same.

Increasing Pattern Volume

Whenever you are making the pattern bigger, you are increasing the volume of fabric used in that particular area of the pattern, which means that there will be more fabric in that particular section of the body. Whether this pattern change is 5cm or 5mm the same basic principle applies.

In pattern making books you may see examples of these sorts of changes where a pattern is opened up and the volume of fabric is increased in order to turn a section of the garment into gathers or tucks or to make an area more blouson. There are also times where a pattern is extended out to make it longer or wider in order to make the pattern less fitted or to create an oversized silhouette.

Decreasing Pattern Volume

Whenever you are decreasing the size of the pattern, you are taking fabric away from a section of the pattern, and decreasing the volume of fabric at that specific area of the body. Again, whether you are taking away 5cm or 5mm the change is based on the same principle.

In pattern books you may see examples of decreases in pattern volume in situations where the pattern needs to be shorter or narrower. You may also need to decrease the size of a pattern to compensate for fabrics that grow when they are made up in a garment.

Achieving Basic Aims Through Flat Pattern Making and Drape

The processes used in flat pattern making and drape methods are all created for the purpose of allowing you to achieve these three pattern changes: increase volume, decrease volume or move the volume around the pattern. Essentially the processes of flat pattern making and drape are just different ways of achieving these goals.

Chapter Summary

In this chapter we learnt that:

- Pattern size and fabric size are directly related.
- More Pattern = More Fabric, Less Pattern = Less Fabric.
- Basic pattern changes involve increasing volume, decreasing volume or moving the volume around the pattern.
- Basic pattern changes are achieved through flat pattern making and drape methods.

Chapter 18

Pattern Making Methods

Chapter Overview

In this chapter we will begin to explore the different techniques that are used to create patterns and we will look at the differences and similarities between flat pattern making and draping. This chapter will be mainly focused on giving you an overview of these techniques but when we move into the following chapters, these techniques will be explained using more concrete examples so that you can visualise the pattern changes more easily and apply the principles to your own work.

Flat Pattern Making

Many pattern making textbooks are based on a flat pattern making method, and by this it means that you are creating patterns and making pattern design changes when the pattern pieces are all flat on a table or on a computer screen.

Most flat pattern making methods are based around creating a set of basic blocks that, as discussed in previous chapters of this book, break the body down into simplified fitted garment shapes and are drafted using a mathematical process based on measurements from the body of a person or mannequin. In a flat pattern making method, these blocks are used as templates to then develop patterns for different designs.

Though it is referred to as a "flat" pattern making method this doesn't mean that the whole process is abstracted away from the body or mannequin, and the body is still referenced throughout the flat pattern making process. Flat pattern makers will work predominantly in a 2D form, working out their patterns in paper or cardboard or as a digital file, then have a version of the pattern cut out and sewn up as a toile or sample, and then fit the garment on the mannequin or fit model before making any adjustments to the flat pattern.

Flat pattern making is effectively an umbrella term that is used for a number of smaller techniques that are used. The two techniques that are often talked about in pattern making books are referred to as the "cut and spread" and "pivot" techniques.

Flat Pattern Making: Cut and Spread Method

This process is also called by other names such as “slash and spread” but effectively involves cutting an existing pattern into pieces to help form the shape of the new pattern.

The basic process behind the cut and spread method is that:

- A copy is made of a basic pattern or block.
- Guidelines are drawn onto the pattern copy depending on where changes are required in the new design.
- The pattern copy is cut or slashed depending on where changes are required to the garment.
- The cut pieces are moved or “spread” on top of a fresh sheet of paper or cardboard until they represent the shape or volume that is required in the new pattern.
- The stitching line and seam allowance of the cut pieces is traced onto the new sheet of paper or card to represent the shape of the new pattern.
- The pattern is checked through the truing and balancing of the stitching line.
- Seam allowance is added where needed.
- Any pattern markings are added to finalise the pattern, such as notches, drill holes, body guidelines, grain lines etc.

In the following chapters you will see this method played out through a series of basic examples so that you can recognise this method when you see it used in other pattern making books.

Flat Pattern Making: Pivot Method

The pivot method could also just as easily be called the “move and trace” method as rather than cutting a pattern into pieces, you use an existing pattern as a guide that you move or pivot and then trace at each stage to create the shape of the new pattern onto a fresh sheet of paper.

The basic process behind the pivot method is that:

- Temporary guidelines are drawn onto the pattern depending on where changes are required in the new design.
- The pattern is placed onto a fresh sheet of paper or cardboard.
- The pattern is traced around along the outside edge, up until the guideline is reached, then the pattern is moved or “pivoted” to alter the shape or volume of the design before the remainder of the pattern is traced.
- The stitching line and seam allowance of the cut pieces is traced onto the new sheet of paper or card to represent the shape of the new pattern.
- The pattern is checked through the truing and balancing of the stitching line.
- Seam allowance is added where needed.
- Any pattern markings are added to finalise the pattern, such as notches, drill holes, body guidelines, grain lines etc.

The pivot method is essentially the same as the cut and spread method as they both achieve the same results in almost exactly the same way. However the cut and spread method is more tangible than the pivot method for beginners as it allows you to see exactly where the parts of your pattern have ended up. The pivot method is faster and is usually used once the cut and spread method is mastered.

In the following chapters you will see the pivot method played out through a series of basic examples so that you can recognise this method when you see it used in other pattern making books.

Drape Method

In contrast to flat pattern making, the method of using drape to achieve pattern shapes relates more to the process of building up designs on the body or mannequin (sometimes referred to as working "on the stand") and working predominantly in a more 3D way than you would for flat pattern making. In a way, drape is more like the process we used for making the paper skirt and bodice on the stand, though in a far more accurate and pragmatic way than in our rough exercise.

When a pattern maker is developing a drape of a garment, they may use the real fabric or a toile fabric depending on the style of the design and the cost of the fabric. They will work by smoothing the fabric onto the stand, manipulating the fabric with any design features that they need and being aware of the direction of grain lines as they work. Once they have moulded and sculpted the fabric into the design and secured the shape with pins, the pattern maker will mark all the body guidelines, dart positions, guide notches and seams onto the fabric before removing the fabric from the mannequin.

The basic process behind the drape method is that:

- Using a piece of toile fabric, any guidelines are marked as needed onto the fabric to show the grain line and to help to position the fabric on the mannequin. This may include the centre front or centre back line in combination with a bust, waist or hip line.
- The fabric is then pinned onto the mannequin and the fabric is smoothed across the mannequin, manipulated to form design features, and secured with pins until the pattern maker is happy with the overall shape and style of the design.
- The fabric is then prepared for removal from the mannequin by marking any body guidelines, dart positions, design features, stitching lines and guide notches directly onto the toile fabric.
- The pins are taken out of the fabric and the drape is removed from the mannequin and pressed to flatten the fabric.
- The stitching line and any necessary markings are transferred from the drape onto a new sheet of pattern paper or cardboard to turn the drape into a pattern.
- The pattern is checked through the truing and balancing of the stitching line.
- Seam allowance is added where needed.
- Any pattern markings are added to finalise the pattern, such as notches, drill holes, body guidelines, grain lines etc.

It cannot be emphasised enough how important it is to record all the necessary information onto the drape before it is removed from the body or mannequin. It is absolutely vital to the drape process that the pattern maker records all possible information so that the drape can be turned into a paper or cardboard pattern. This can include extra measures such as taking additional reference measurements, annotated sketches and photographs of the drape to ensure that it is easy to understand the drape once it is removed from the body or mannequin.

Once in a pattern form the shape developed by drape method will be used in the same way as if it had been created through a flat pattern method, with the pattern being cut out in toile or sample fabric and sewn up for a fitting before more alterations are made to the pattern.

In this book we will not deal in detail with the complete drape process as the process of learning to drape could inspire an entire book by itself. We will however show drape examples in the following chapters which will help you to visualise the pattern changes that we will make with first the cut and spread method and then with the pivot method.

The act of picturing a pattern change on the mannequin as a drape is an excellent way to understand flat pattern making changes and for this reason the flat pattern making examples in the following chapters will often be accompanied by the same pattern change as fabric draped on the mannequin to help you to picture what the basic pattern change would look like on the body and give you a more tangible version of how you have altered the pattern.

Flat Pattern Making vs. Draping

In essence flat pattern making methods and drape methods are used to achieve the same result but from different angles. In both cases you are using the body and body measurements to work towards creating a finished pattern that can be used to create a garment. You can work by using a flat pattern making method or a drape method and still end up with a complete and accurate pattern, or you can also use the two methods in combination with each other.

For designers and pattern makers that are just starting out and are still learning how to read and adjust patterns, the drape method can sometimes feel more tangible as you can see the results right in front of your eyes, encouraging you to experiment with different variations before committing to one single idea. Ultimately it is very personal as to which method you favour, and some pattern makers will work exclusively one way or another, while others will use a combination of the two techniques adjusting their methods depending on the design.

To understand how these two different techniques could be alternated depending on the design, it is best to picture different styles of clothing from other designers and to imagine how they would have been created. Some designs are simpler and are more closely related to an existing pattern block and so will lend themselves to a flat pattern making technique. However some designs are more reliant on the fluid drape or handle of the fabric, and the way that the fabric reacts to gravity, and sometimes these designs can be achieved more easily using a more 3D approach such as the drape method.

There are also times where the garment may be made up of contrasting elements that require the use of both techniques. For example you may wish to make foundation garments using a flat pattern making technique and then build up embellishments through drape on top of the simpler base garment.

In many fashion courses you will be taught both techniques so that you can learn the value of both and so that you can decide for yourself the method that you prefer to use. There is no single correct or incorrect way of working, as long as you remember to keep in mind where the guidelines of the body are, remember to pay attention to the direction of the grain lines of the fabric, and ultimately make sure that no matter which method that you use, you need to ensure that you check and finalise the pattern to ensure that it works mathematically as a pattern in itself and in relation to the body measurements, prior to cutting the next toile or sample.

Chapter Summary

In this chapter we learnt that:

- There are two major processes that pattern makers use to create patterns - flat pattern making and drape.
- Flat pattern making uses a predominantly 2D method, working “on the flat” in paper, cardboard or as a digital file.
- Flat pattern making is an umbrella term used to describe processes such as the cut and spread, and pivot methods.
- The cut and spread method is based on cutting or slashing into a copy of a pattern and then reworking the pieces to achieve the shape of the new design.
- The pivot method is based on a process of tracing and moving a pattern piece around on a new piece of paper in order to achieve the shape of the new design.
- Patterns created through a flat pattern making method are tested when they are cut out and sewn up as a toile or sample garment. This allows the pattern maker to test the fit of the pattern on a mannequin or fit model.
- Drape uses a predominantly 3D method, working “on the stand” to create a drape of a design on the body or on a mannequin using toile fabric.
- Drapes are transferred into a flat pattern in paper or cardboard before they are cut out in fabric and sewn up to create a toile or sample garment that tests the pattern.
- Flat pattern making and drape techniques can be used together or independently of each other, depending on the specific design being made and the personal preference of the pattern maker.

Chapter 19

Pattern Alterations and Seam Allowance

Chapter Overview

Before we move into concrete examples of the different types of pattern changes, we will discuss how to deal with seam allowance value correctly in pattern making methods. Incorrectly managing the seam allowance value in pattern changes can lead to inaccuracies in pattern measurements, so the following chapter will look at different ways of addressing this issue.

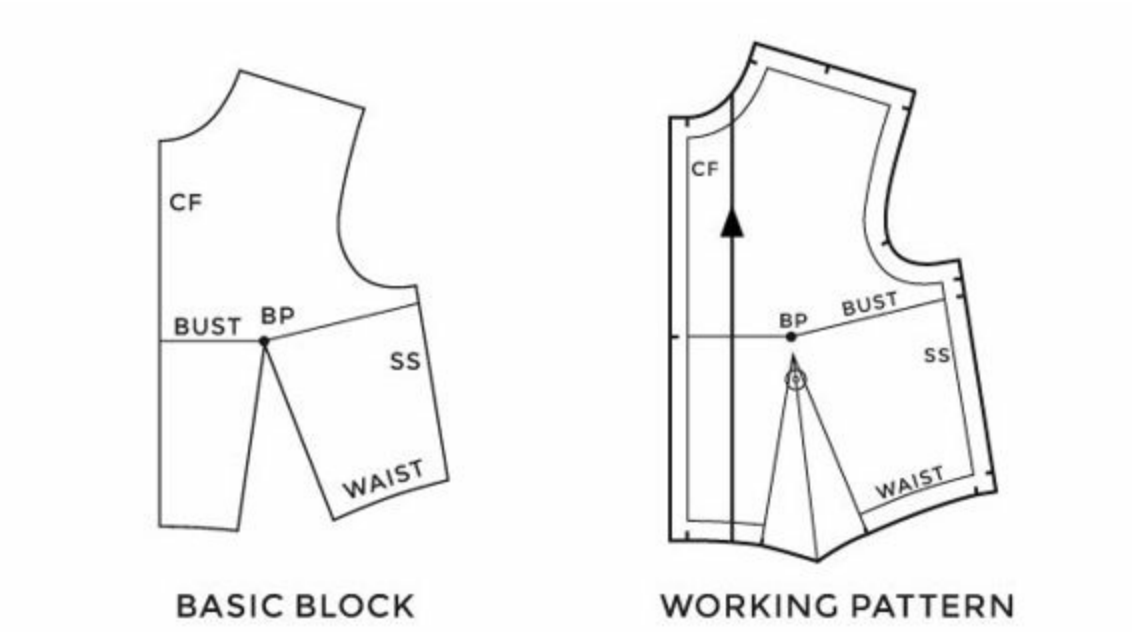
Seamless Blocks and Working Patterns

Often in pattern making books and courses the example pattern changes that you are shown will have diagrams that are based around using seamless blocks for each new pattern, or you will be taught to remove the seam allowance value from any reference pattern, before making any new patterns. The theory is that if you remove the seam allowance from the pattern, make all your design changes to the pattern without having the seam allowance in the way, and then add your seam allowance back in at the end, then you will have less chance of making errors in your pattern making changes.

The reason why some books and courses teach this method is because when working from patterns that already have seam allowance added on, it can be very easy to lose sight of where the stitching line is, and you may confuse the stitching lines with the edge of the seam allowance. It can be very easy in complex pattern making alterations to make the mistake of adding in seam allowance value twice, or other errors can creep into your measurements when you confuse the seam allowance value with the stitching line.

Previously in the book we discussed how blocks are created as bare templates that are seamless, i.e. they are just the block shape and have no seam allowance added. In reality some pattern makers, rather than working from a seamless block for every single new design, will work from a set of working patterns complete with seam allowance, notches and drill holes. In some situations this makes the work faster, and this choice is decided by the way that the company works and whatever is fastest and most accurate for the individual pattern maker.

The following diagram shows a comparison of a basic seamless block, next to a working pattern version of the same block:



The pattern maker may also have working patterns with seam allowances for basic shapes such as a classic shirt pattern, or a classic trouser pattern that they will use to develop other designs for the company. Note that depending on the company that you work for these working patterns may also be referred to as blocks or foundation patterns so you should always clarify if seam allowance is or isn't included on a pattern if you aren't sure.

This idea of working patterns will make more sense once you start creating more of your own patterns, but if you imagine that you want to rework an existing shirt design that you have already created, and are simply making amendments to the collar and cuffs for your new pattern, then you can see how it will be faster to work from a tracing of an existing shirt pattern with seam allowance, rather than rebuilding the whole design from scratch from a bodice block.

The basic reasoning for having separate seamless blocks and working patterns is that the pattern maker may want to have a set of seamless blocks that they keep untouched and unaltered to preserve the body measurements, and then they may also have a set of working patterns that are exactly the same as their set of blocks but that have all the seam allowances, notches and drill holes added on.

What all this distils down to is that every company and pattern maker has their own slightly different method of working and if you are in a new environment you need to be aware of the quirks of that company or pattern maker and find a way of understanding their system so that you do not make alterations to the wrong block or pattern.

This also means that in your own work you need to find a way of keeping your patterns organised so that you do not inadvertently cut up a block or pattern that you intended to keep for yourself as an ongoing template. This also means that you need to be careful in your own work to make a note of seam allowance values on patterns, or make a note when a block is seamless so that you can ensure that you are working from the correct measurements.

Seam Allowance in Alterations

The main purpose of this explanation of seamless blocks and patterns with seam allowance is to point out that you really need to understand how to make pattern changes regardless of whether a pattern has seam allowance on it or not. There are some situations where it is easiest to remove all the seam allowance, but there are also many changes that are much quicker to make without removing and adding the seam allowance every single time.

For this reason, we are going to use some examples in this book that are based on patterns that have seam allowance on them, as this will help you to be more comfortable with the processes involved.

The key to avoiding any errors in working with patterns that have seam allowance is to always know where your body guidelines and stitching lines are and to always double-check your measurements to avoid any inaccuracy. Just because you are using a pattern with seam allowance it does not mean that you should stop marking in the stitching lines and other body guidelines. In fact, in any pattern change you should check the stitching line for accuracy first, before making adjustments to the seam allowance.

In order to transfer the position of the stitching line and design details from an existing pattern onto a fresh sheet of paper or cardboard, pattern makers use a tool called a tracing wheel.

Tracing Wheel

A tracing wheel is a tool that is essentially a wheel with spiked points that can be rolled along the pattern in order to mark a line onto a second sheet of paper or cardboard underneath. The sharp points of the wheel create a line of tiny holes in the card or paper underneath and these tiny holes create a guideline for drawing in any lines or details that you need for the new pattern.

There are also variations of the tracing wheel that are not spiked, and that work with carbon paper to press lines onto the new card or paper underneath the original pattern.

Tracing wheels are often used for transferring details between paper and cardboard patterns, but can also be used for transferring details from a draped piece of fabric onto paper or cardboard to create a pattern.

Chapter Summary

In this chapter we learnt that:

- Pattern makers sometimes work from seamless blocks, but can also use working patterns in order to develop designs.
- Working patterns may be exactly the same size and fit as the seamless block but may include seam allowance, notches and drill holes.
- Pattern makers may also have working patterns for other commonly used shapes that are often reworked within the company such as basic shirts, trousers, jacket shapes, etc.
- Using working patterns can sometimes be quicker than developing a design from a seamless block, depending on the design.
- In order to understand alterations in pattern making, you should be comfortable working from seamless blocks as well as working from patterns with seam allowance.
- Tracing wheels are used to transfer the position of stitching lines and other details from pattern to pattern, and from drape to pattern.
- A tracing wheel is a tool that has a wheel with small metal spikes that will pierce through paper, cardboard and fabric leaving a line of small holes to mark the guideline onto the paper or cardboard underneath.

Chapter 20

Introduction to Pattern Making Examples

Chapter Overview

This chapter marks the first in a series of chapters in which we will explore examples of basic pattern making changes in order to demonstrate the key principles at work in pattern making.

About the Pattern Making Examples

The following group of chapters will provide you with basic examples that will describe how to use the cut and spread and pivot methods to achieve a range of pattern changes. Each method will be described step by step and accompanied by diagrams in such a way that you can then take the principles and apply them to your own pattern making work.

The examples have been presented in this way so that rather than looking through many pattern books to find an example of a change that you want to make to a pattern, you can simply apply the fundamental changes that are outlined in these chapters and adopt them as needed for your own purposes.

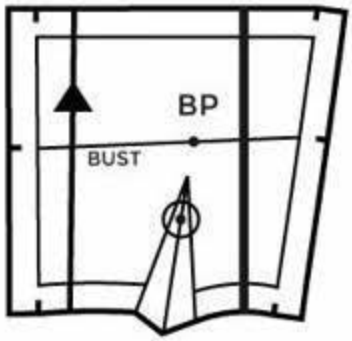
Each change will be shown using both the cut and spread and pivot methods, and then also illustrated in the form of a drape on the mannequin, so that you can visualise the pattern change in a more tangible way.

The pattern change examples have been specifically worded so that you could follow the same process when working on your own pattern alterations, and a summary diagram is provided at the end of each chapter in order to give you an overview of the process.

Key to Pattern Markings

The following key provides an overview of the markings and line work that will be used in the diagrams for the next section of chapters in this book. Where the pattern markings are more complex than those listed in the key below, the text that accompanies each diagram will help to explain any further pattern markings or highlighted areas where needed.

EXAMPLE OF MARKINGS FOR PATTERN CHANGE DIAGRAMS



PATTERN EDGE

GRAIN LINE

STITCHING LINE / GUIDELINE

TRACING LINE

MARKED GUIDELINE

SEAM ALLOWANCE

NOTCHES

PINS

DRILL HOLES

PATTERN PARTS

VOLUME CHANGE

Chapter 21

Adding a Seam Line: Cut and Spread Method

Chapter Overview

In this chapter we will begin our pattern examples by looking at how to add a seam line to the centre of a pattern piece using the cut and spread method. This pattern change will be repeated in the following chapter using the pivot method.

Adding a Seam Line Overview

The following exercise will show an example of a pattern change where:

- A straight seam is added to a garment.
- A single pattern piece is split into two separate pattern pieces.
- No change to the actual fit of the pattern piece is needed.

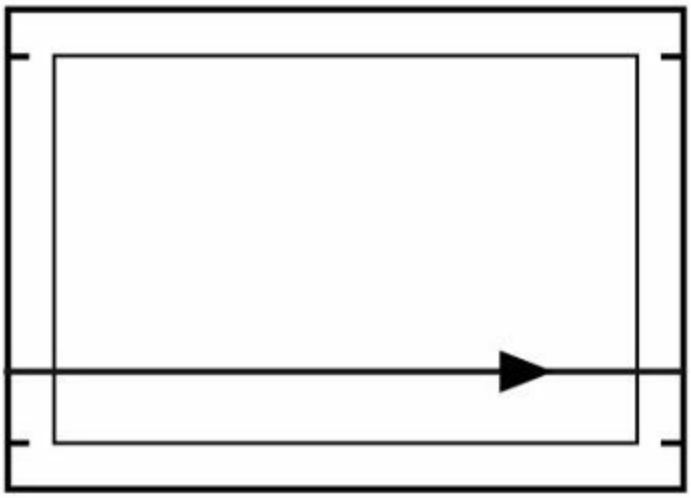
Our first pattern example is one of the simplest ways to alter a pattern and also provides our first example of a pattern change that simply moves the pattern volume, without altering the overall fit of the pattern piece.

It is important to remember that the main aim of this change is simply to add in a seam line to a pattern or section of drape without changing the fit of the pattern. So the actual finished area of the pattern within the stitching should not have changed in size after the pattern change.

Adding a Seam Line: Cut and Spread Method

The basic principle behind using the cut and spread method for this pattern change is that you are simply splitting a pattern piece into two pieces, and then adding the missing seam allowance along the cut edges that have been made through the centre of the pattern in order to create the new seam line.

Step 1: Check and Copy

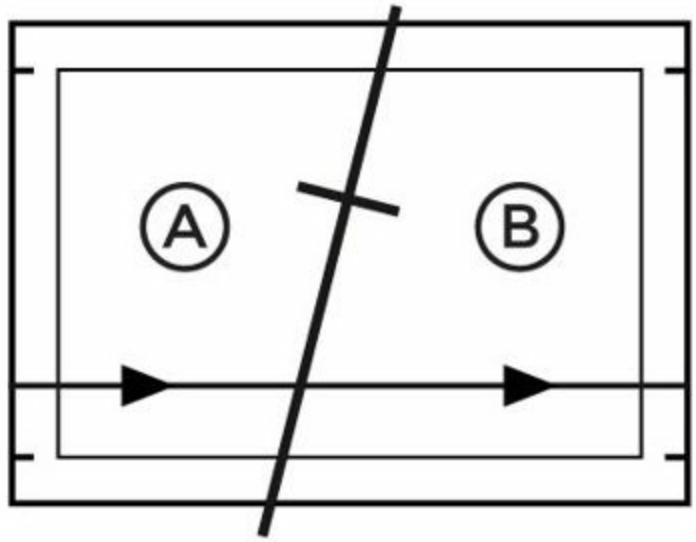


STEP 1 : CHECK & COPY

Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern piece that you want to alter, making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the following steps.

Step 2: Mark Guidelines



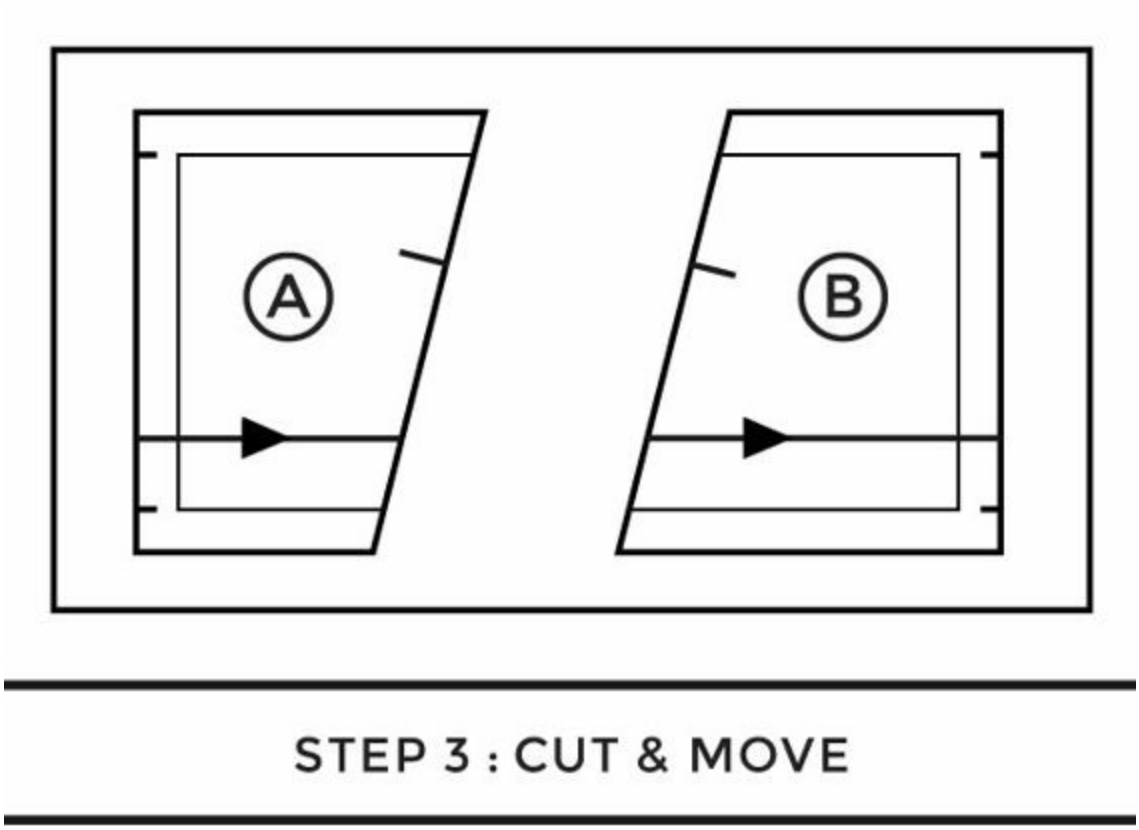
STEP 2 : MARK GUIDELINES

For the pattern change that we are about to make, we are going to split our template in two using a single vertical seam line, aligned on a slight diagonal.

For this reason we have drawn a single guideline through the centre of the template at the place where we want to split the pattern. We have also marked a guide notch point across the guideline to enable us to create a notch in the correct position on the finished pattern. This notch will enable us to match up the new seam line when sewing.

Rather than being a single pattern piece, the finished pattern that we are aiming for will result in two separate pattern pieces, so the pattern has been marked as parts A and B to differentiate the pieces once they have been split. With this in mind, the grain line arrow has also been transferred onto piece A so that it can be transferred accurately to the final pattern piece.

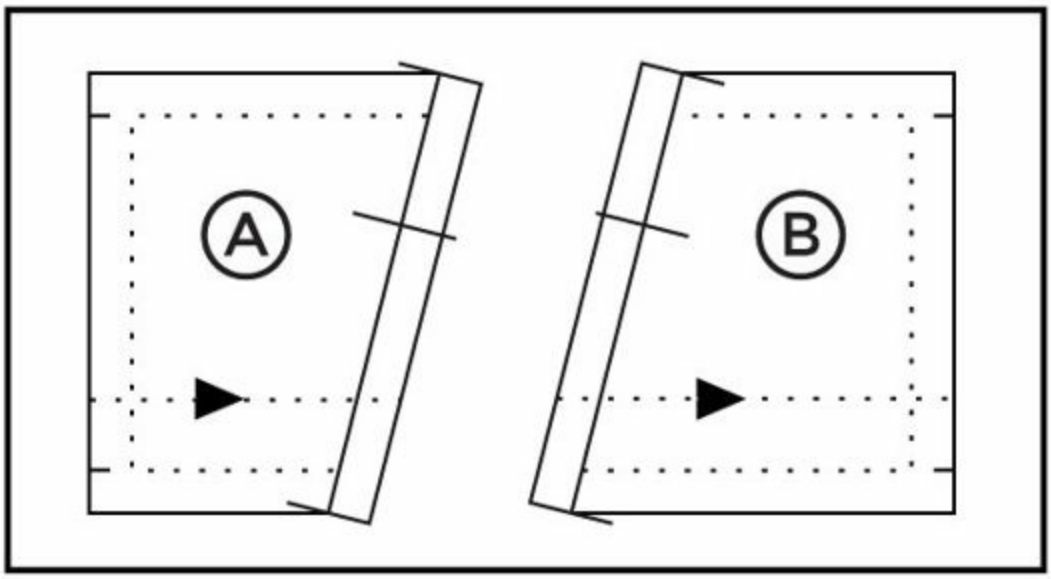
Step 3: Cut and Move



Next cut along the guideline to split the template into two pieces.

Place the template that you have cut on top of a fresh sheet of pattern paper or card and spread apart to make space for the new seam allowance values. Use pattern weights or tape to hold the pattern into position so that you can trace off the new pattern pieces.

Step 4: Trace and Blend



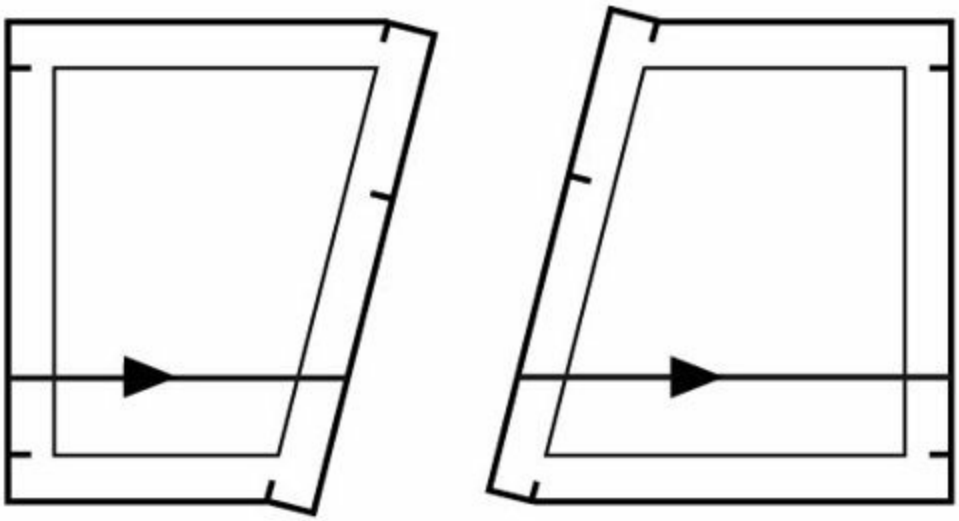
STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper or card including the stitching lines, any guidelines and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You will also need to add in new seam allowance value for the new seam line.

You can also square out from the guide notch points that we originally marked on the guideline in order to indicate the position of the new notches on the finished pattern. The notches on either side of the new seam line will need to match precisely when sewn so you should check the position of the notches for accuracy.

Step 5: Finished Pattern



STEP 5 : FINISHED PATTERN

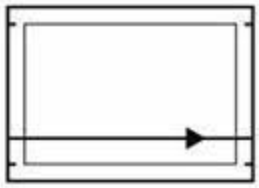
Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

It is important to consider the location of the grain line on your new pattern pieces, as in other variations of this change you may now choose to change the grain line direction on one or both of the two pieces.

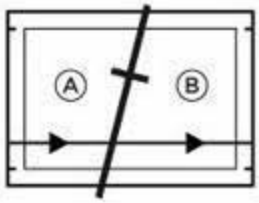
In the case of the change above we were able to simply keep the grain line consistent for both piece A and piece B, but if you choose to change the grain line direction, you may need to check the location of any new grain line positions once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

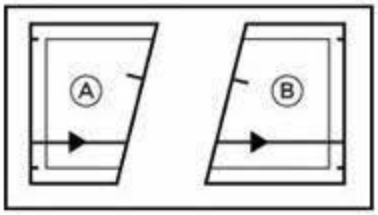
ADDING A SEAM LINE:
CUT & SPREAD METHOD



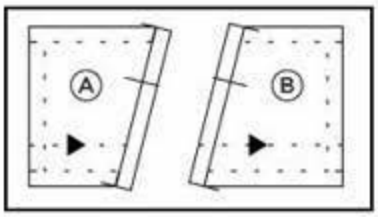
CHECK & COPY



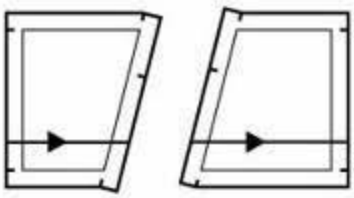
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Checking the Transfer of Fit Value

You should always do a final check of any pattern change to ensure that you have moved the volume in the way that you intended. You can check this by considering the shape of the area within the stitching lines on the original pattern and on the finished pattern.

By looking at the previous summary diagram you can see that the stitching line area has not changed in size during the pattern change, it has simply been split into two pieces.

Chapter Summary

In this chapter we learnt that:

- Changes can be made to a pattern to add seam lines, without changing the fit of the pattern.
- Pattern changes can be made easily with the cut and spread method.
- In order to check that the pattern change has been completed correctly you should compare the area within the stitching line on the original pattern and on the finished pattern.

Chapter 22

Adding a Seam Line: Pivot Method

Chapter Overview

In this chapter we will look at how a seam line can be added to a pattern using the pivot method. This will build on our understanding of the cut and spread method from the previous chapter and will show how both pattern methods achieve the same result.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Adding a Seam Line: Pivot Method

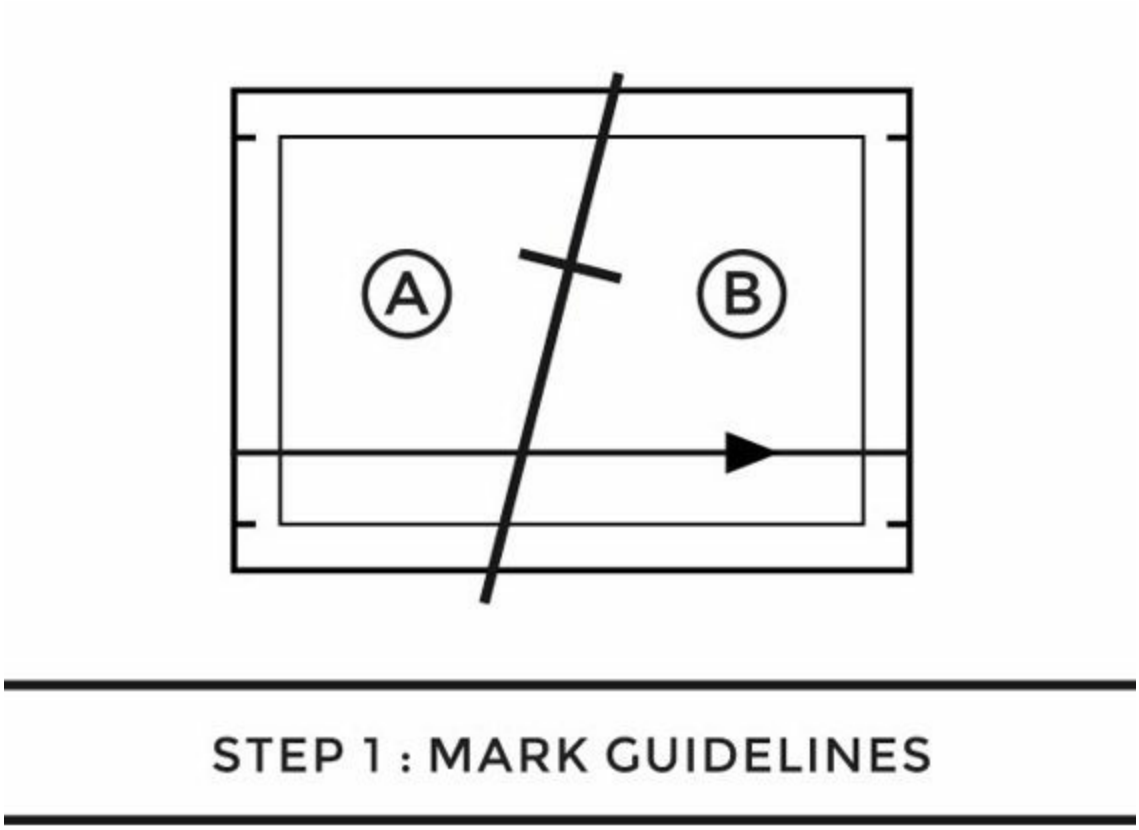
The following exercise will show an example of a pattern change where:

- A straight seam is added to a garment.
- A single pattern piece is split into two separate pattern pieces.
- No change to the actual fit of the pattern piece is needed.

This pattern change uses many of the same underlying principles as the cut and spread technique, but rather than needing to make a copy of a pattern to cut up into pieces, you can create the new pattern shape by simply moving and tracing the original pattern piece onto a new piece of paper.

As mentioned in previous chapters, the pivot method is generally considered a more advanced flat pattern making method that is used once the cut and spread method is mastered. Once you have understood the following example, you will see that the results are the same whether you use the cut and spread or pivot method to make the pattern change.

Step 1: Mark Guidelines

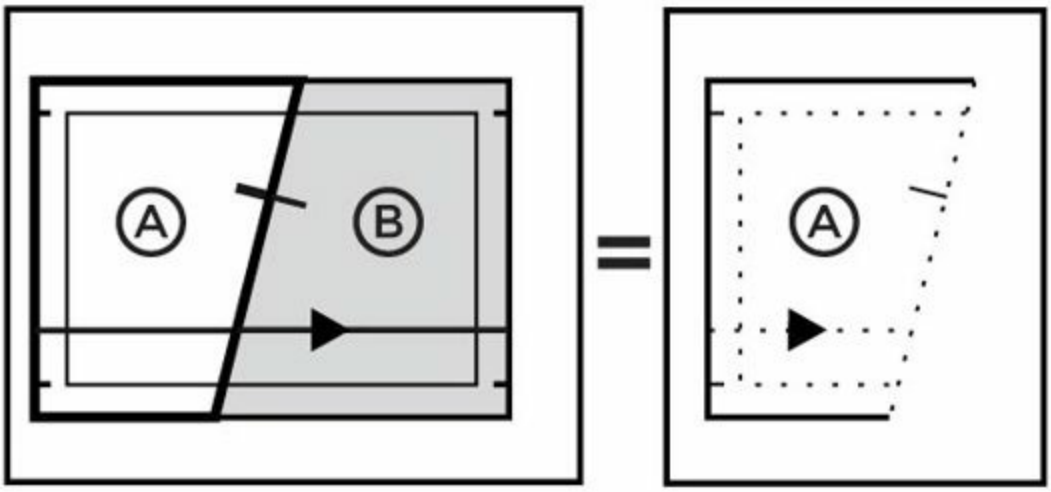


Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

The next step is to mark the guidelines in the same way that you would when using the cut and spread method. As these lines will only be temporary it may be best to mark these guidelines in pencil so that they can be removed from the original pattern later.

In the case of this pattern change you will need to mark a guideline for where you want to split the pattern, as well as a guide mark to use for the notch position on the new seam.

Step 2: Trace Part A



STEP 2 : TRACE PART A

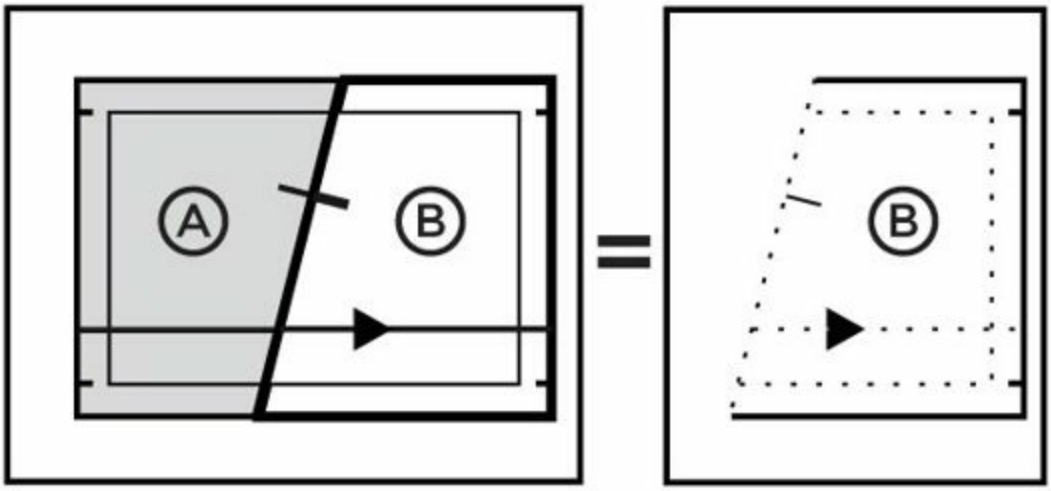
Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of any pivot method you will trace off the section of the pattern that will experience the least amount of change, before moving the pattern to trace off the next section. In this pattern change both pieces are approximately the same size so we are simply working from left to right, starting with section A.

In the first tracing of the pattern, labelled above as section A, you will trace along the edge of the seam allowance from the top of the guideline, following around the edge of the pattern until you reach the bottom end of the guideline.

Use a tracing wheel to also transfer all stitching lines, markings, grain line and notches that are in the same area. You should also use a tracing wheel to transfer the position of the guideline and notch for the new seam line onto the paper or cardboard underneath. In the diagram above, labelled as “Step 2: Trace Part A”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 3: Pivot and Trace B



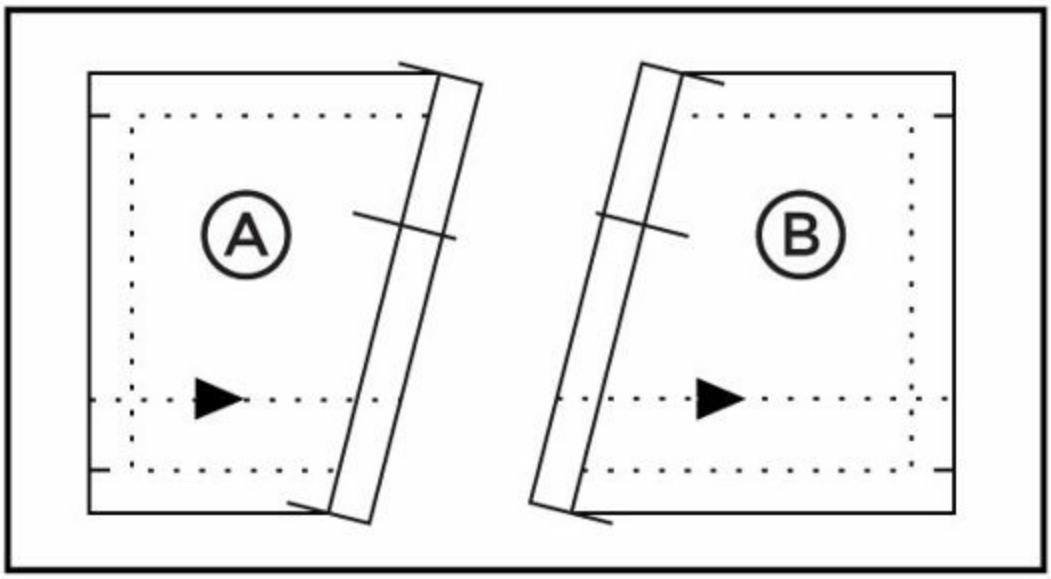
STEP 3 : MOVE & TRACE PART B

In the next step of the pivot method, you will move and trace the next section of the pattern. In the case of this particular pattern change you will need to slide the original pattern across the paper to allow space to draw in the new seam allowance value on the new seam line. Once in position you should secure the pattern in position with tape or weights.

In the diagram above, the second section that we will trace has been labelled as section B and has been highlighted, while section A is left greyed out.

Just as we did for section A, the seam allowance value should be traced around the outside edge and any inside markings traced with a tracing wheel. You should again trace the position of the guideline and notch of the new seam line. In the diagram above, labelled as “Step 3: Move & Trace Part B”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 4: Check and Blend

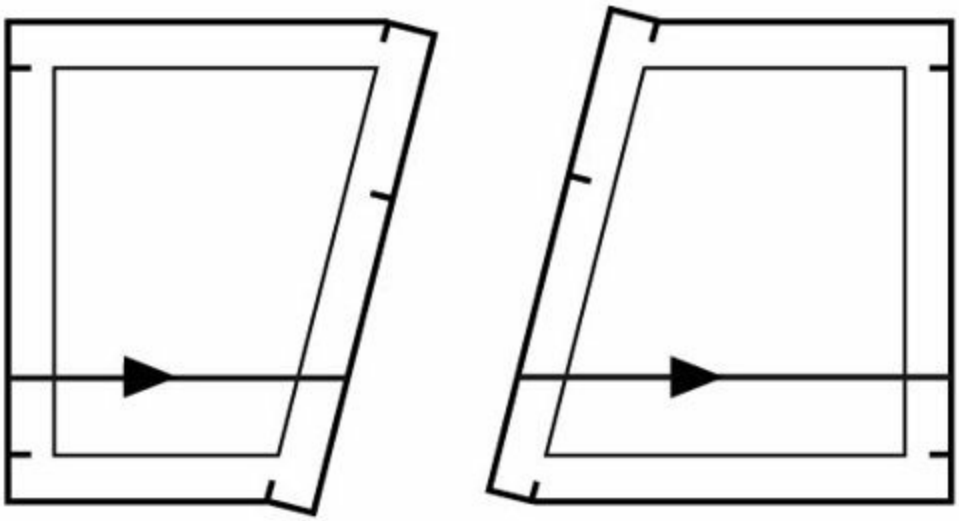


STEP 4 : CHECK & BLEND

Check the pattern and mark in the new lines from the tracing wheel marks, making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You will also need to add in new seam allowance value for the new seam line.

You can also square out from the guide notch points that we originally marked on the guideline in order to indicate the position of the new notches on the finished pattern. The notches on either side of the new seam line will need to match precisely when sewn so you should check the position of the notches for accuracy.

Step 5: Finished Pattern



STEP 5 : FINISHED PATTERN

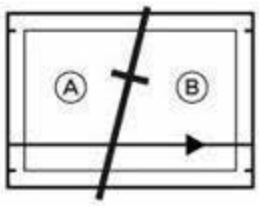
Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

It is important to consider the location of the grain line on your new pattern pieces, as in other variations of this change you may now choose to change the grain line direction on one or both of the two pieces.

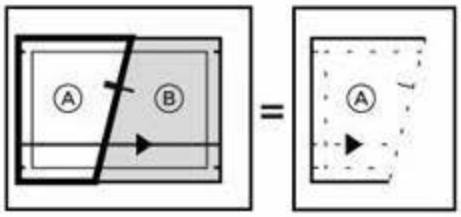
In the case of the change above we were able to simply keep the grain line consistent for both piece A and piece B, but if you choose to change the grain line direction, you may need to check the location of any new grain line positions once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

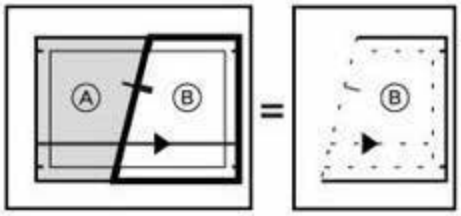
ADDING A SEAM LINE:
PIVOT METHOD



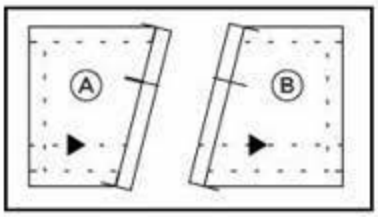
MARK GUIDELINES



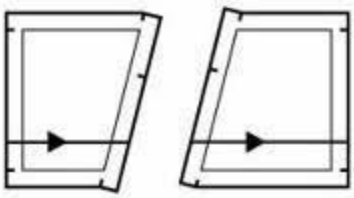
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Changes can be made to a pattern to add seam lines, without changing the fit of the pattern.
- Pattern changes can be made easily with the pivot method.
- The pivot method will produce an identical result to the cut and spread method.

Chapter 23

Adding a Seam Line: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin, showing the shape of the patterns both before and after we added in the seam line. This will allow us to visualise the shape of these patterns in relation to the body and will show how both formations of the pattern essentially fit the body in the same way.

Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Draping Seam Lines

It becomes easier to picture the changes caused by the cut and spread and pivot methods when you are able to see how the same pattern shapes work on the body. In the following diagrams in this chapter, both pattern shapes have been depicted on the mannequin so that you can see how the seam lines may work with the body.

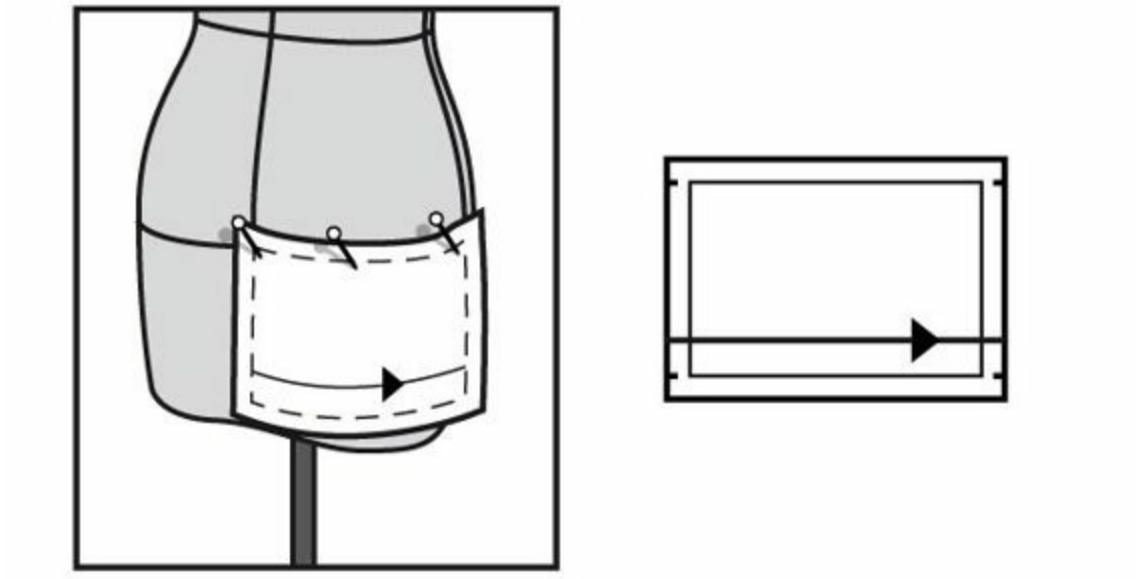
If you were to drape a seam line on the mannequin between two pieces of fabric, you would often create a drape where the raw edges of the two pieces of fabric are pinned together as though the seam allowance value is on the outside of the draped garment. This is why the drapes used in the diagrams in this chapter have also been shown in this way.

Seams are often pinned this way while pattern makers experiment with draped fabric on the mannequin as it allows them to easily re-pin and adjust the seam line as needed until they are happy with the shape.

In all drape diagrams it is best to focus on the area within the stitching line when comparing the shape of the drape back to the shape of the pattern. In this chapter the stitching line position is indicated on the drape with a dashed line.

You do not normally drape a value of seam allowance when experimenting with fabric on a mannequin, instead you will just add on the seam allowance value when the shape is transformed from draped fabric into a paper or cardboard pattern. So effectively any spare fabric in the drape diagrams of this book is simply to show the spare fabric required to drape the fabric and does not represent specific seam allowance value.

Original Pattern: One Single Pattern Piece

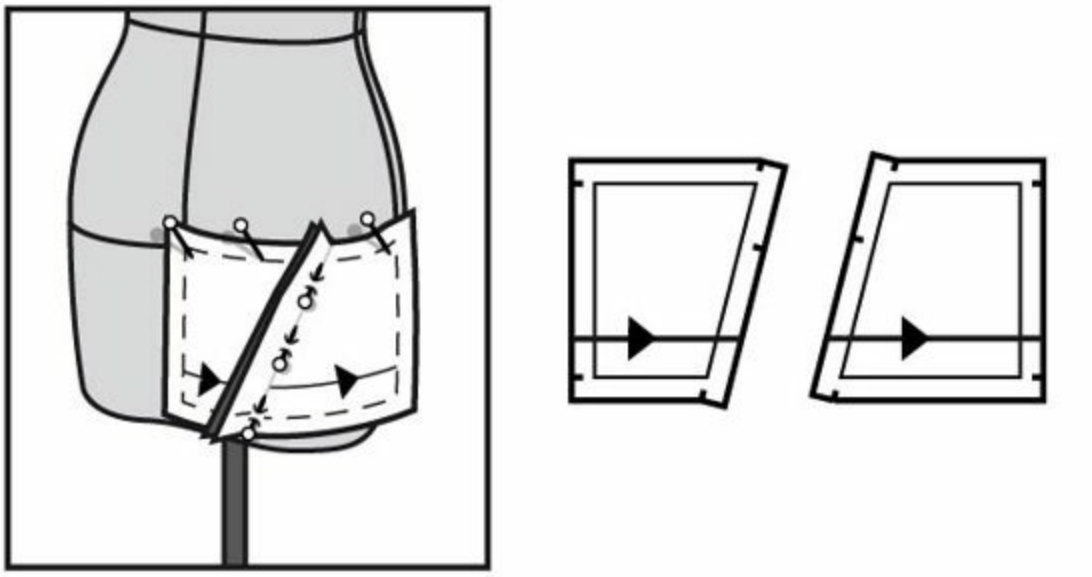


DRAPE OF ORIGINAL PATTERN

In the diagram above labelled as "Drape of Original Pattern" the diagram on the left shows the back of a mannequin that has a drape for a back skirt section pinned onto it. The drape is secured with pins along the top edge so that it fits smoothly along the hipline of the mannequin.

The diagram on the right is the same “original pattern” that we used for the previous chapters to show the cut and spread and pivot methods.

Finished Pattern: Two Separate Pattern Pieces



DRAPE OF FINISHED PATTERN

In the diagram above labelled as "Drape of Finished Pattern" the diagram on the left shows the back of a mannequin that has a drape for a back skirt section pinned onto it. The drape is again secured with pins, but this time the new seam line position has also been pinned into one single continuous seam to reflect the shape of the new pattern. Again you can see that the top edge of the stitching line still sits smoothly along the hipline of the mannequin as it did before we made the pattern change.

By understanding how to change your pattern to add in a seam line it can open up your design options, allowing you to experiment with panelling techniques without being concerned that it will completely alter the fit of your pattern.

Chapter Summary

In this chapter we learnt that:

- A draped garment where a straight seam line has been added can be used to create a pattern that fits the body in the same way as a single continuous piece of fabric.
- By picturing the drape of a pattern it will help you to understand the way that the pattern relates to the body.

Chapter 24

Removing a Seam Line: Cut and Spread Method

Chapter Overview

In this chapter we will examine how a straight seam line can be removed from the join of two pattern pieces, using the cut and spread method. This will essentially allow you to reverse the principles that we learnt in the previous pattern change where we added a seam line to a pattern.

Removing a Straight Seam Line Overview

The following exercise will show an example of a pattern change where:

- A straight seam is removed from a garment.
- Two pattern pieces are turned into a single pattern piece.
- No change to the actual fit of the pattern piece is needed.

In the previous chapters we added in a new seam line to a pattern piece by splitting a single pattern piece into two separate pieces and adding in the new seam allowance value as needed, to allow for the construction of the seam.

In essence to take away a seam from a pattern you are simply reversing this process. In the pattern change example in this chapter, to remove a seam line we will essentially eliminate the seam allowance value on two straight seams, to allow them to be joined back together at the stitching line and then the shape of both pieces retraced to form a single pattern piece.

If you have two stitching lines that come together on a garment that are completely straight and are equal in length, then you can easily remove the seam by combining two pattern pieces into one.

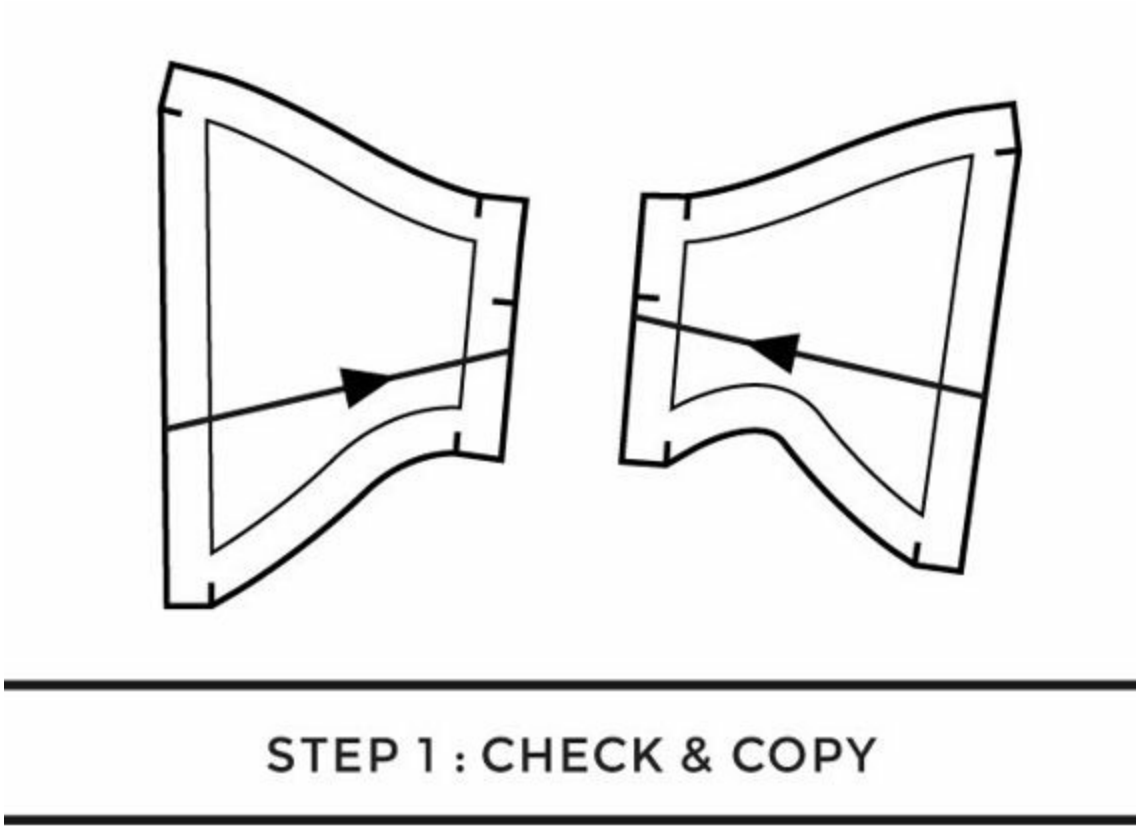
There are other times where you may want to match seams that are unequal in length, or that are curved or shaped in someway, meaning that the task of joining the two seams will not be quite so straight forward. Whenever you join seams together that are uneven or that do not completely match then you need to consider the volume of the pattern that you are increasing or decreasing.

The principles of increasing and decreasing pattern volume are covered in more detail later in this book, and these later chapters will provide you with more information to allow you to make an informed choice on how to treat the pattern change if you find yourself in this situation.

Removing a Seam Line: Cut and Spread Method

The following example in this chapter shows how to remove a straight seam line using the cut and spread method on a paper or cardboard pattern. This is another example of a pattern change where the actual pattern volume will not be altered – the area within the stitching lines of the separate pieces will simply be joined back together.

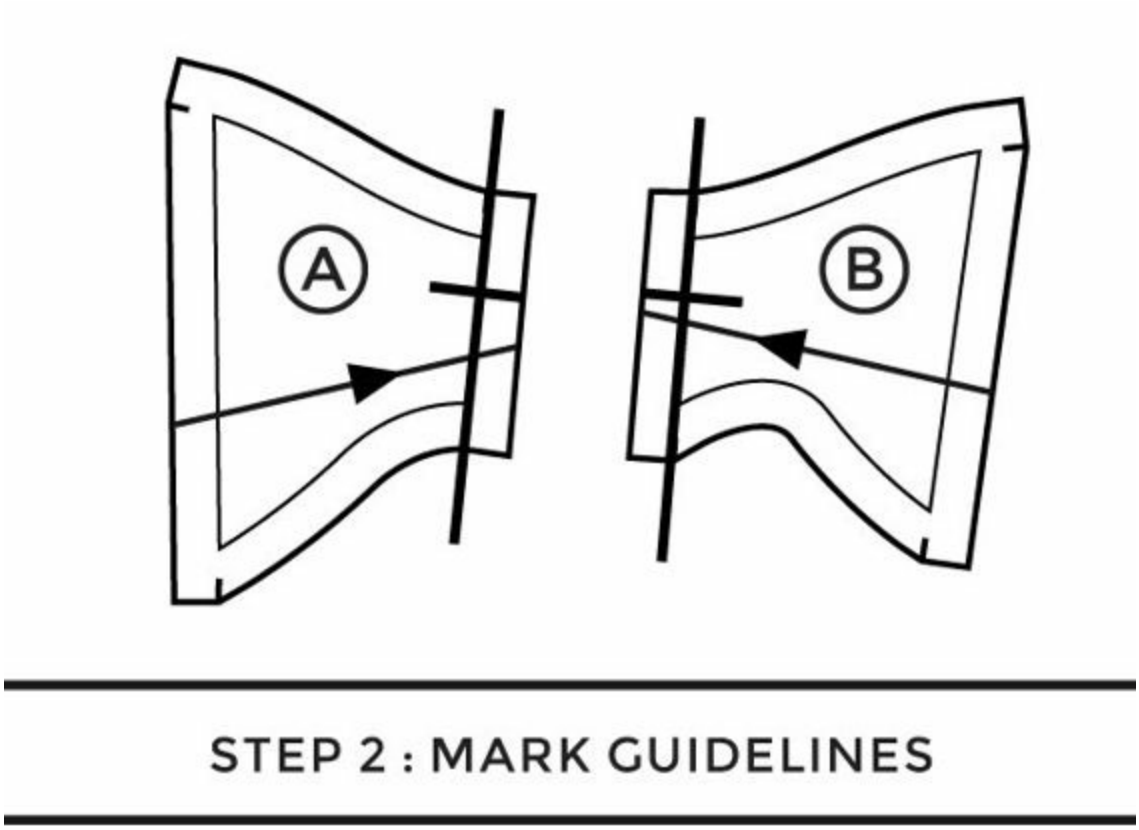
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to, since it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern piece that you want to alter, making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the following steps.

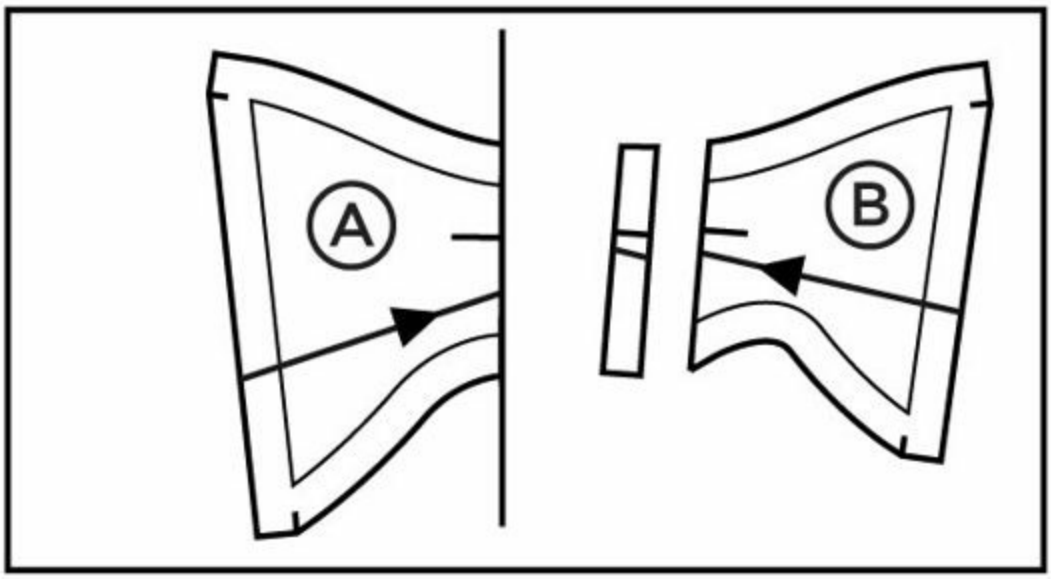
Step 2: Mark Guidelines



For the pattern change that you are about to make, you are going to join the two template pieces along the stitching lines that are marked above with thick black lines.

You should also extend the notches on each of the seam allowances by squaring the notches back to the stitching line. This is so that when you cut off the seam allowance in the next step you will still be able to use the notch positions on the stitching lines as a reference point to connect the two template pieces back together.

Step 3: Cut and Move



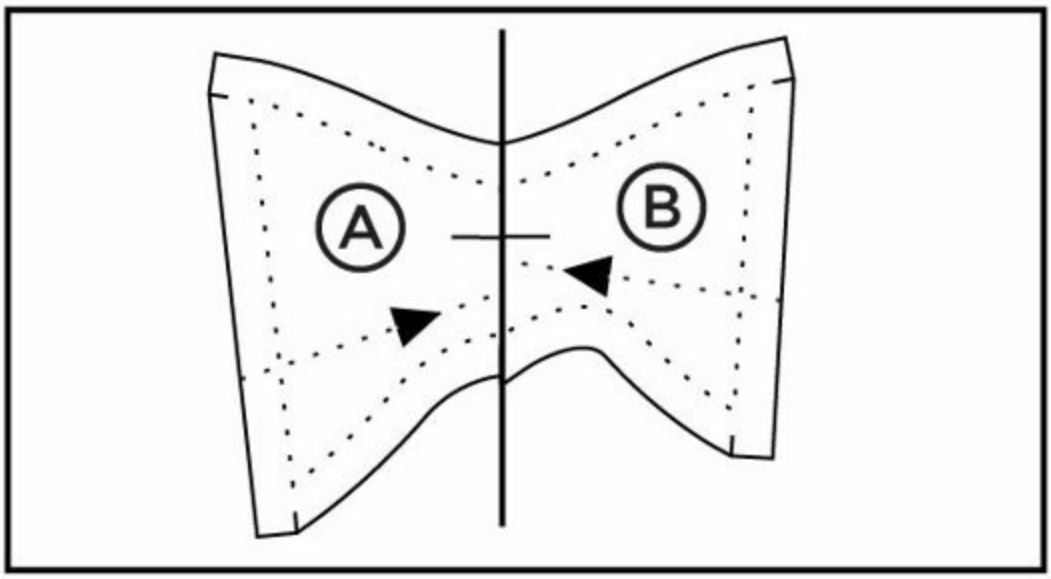
STEP 3 : CUT & MOVE

The next step is to cut along the guidelines to split each template so that the seam allowance values are removed. This is indicated in the diagram above for part B, where the seam allowance has been separated from the rest of the template. The seam allowance for part A has also been removed along the guideline.

Draw a line onto a fresh sheet of paper or card and line-up the cut template pieces on this line. In the diagram above, part A is shown so that the template is aligned to the guideline on the sheet of paper. You should also align part B in the same way, using the notch on the seam line to align the two pieces.

Use pattern weights or tape to hold the templates in position so that you can trace off the new pattern pieces as a single piece. The following diagram will better show how to align pieces A and B if you are unsure.

Step 4: Trace and Blend

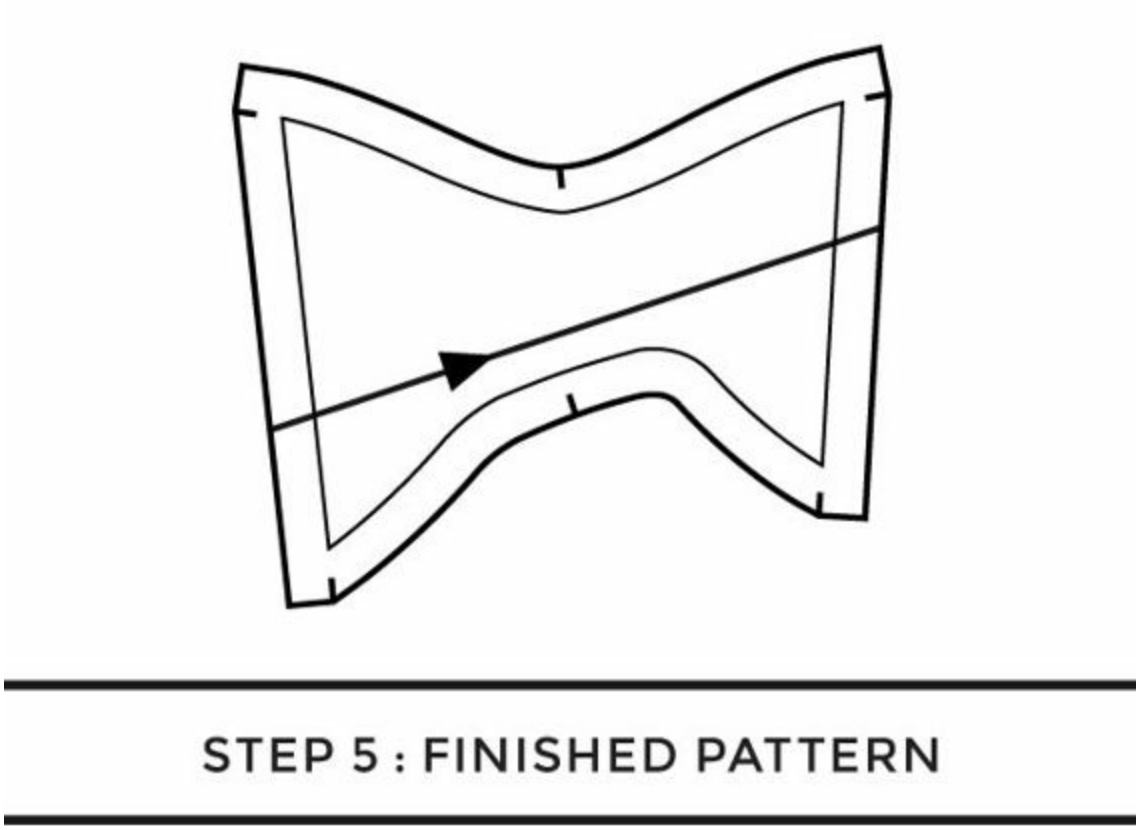


STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper or card including the stitching lines, any guidelines and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You may also need to carefully blend the joins of the stitching lines to ensure the seam line flows smoothly. Blend the stitching line first, before adjusting the seam allowance to match.

Step 5: Finished Pattern



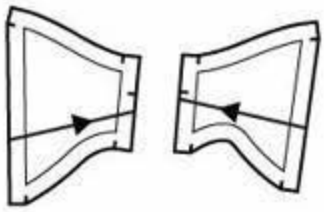
Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing. In the diagram above, notches have been added to indicate the position of the old seam line, in case this is needed as a reference point.

It is important to consider the location of the grain line on your new pattern pieces, as you may have two conflicting grain lines to choose from. In the example above, the grain line of part A has been used for the entire new pattern piece.

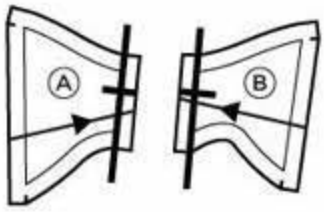
In the diagram above the grain line of part B has now been changed, so if you have also changed the direction of the grain line in your own pattern change then you will need to fit this pattern piece as part of a toile to ensure that the changed grain line has not altered the fit of the pattern piece.

The following diagrams show an overview of this process:

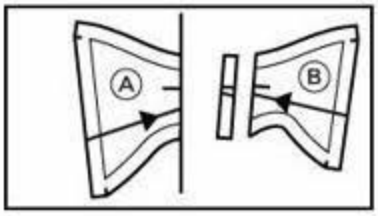
REMOVING A SEAM LINE:
CUT & SPREAD METHOD



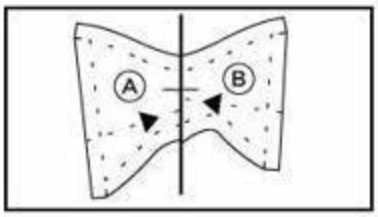
CHECK & COPY



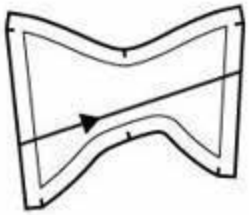
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Checking the Transfer of Fit Value

As in our last example where we added a seam line to a pattern, you can see that by comparing the shape within the stitching line for both the original pattern and the finished pattern it is evident that the actual volume of the pattern has not been changed. You will simply need to recheck the fit of the new piece if you have changed the direction of the grain line that was on part of the original pattern.

Chapter Summary

In this chapter we learnt that:

- Changes can be made to a pattern to remove seam lines, without drastically changing the fit of the pattern.
- Seam lines can be removed easily with the cut and spread method.
- In order to check that the pattern change has been completed correctly you should compare the area within the stitching line on the original pattern and on the finished pattern.
- If you changed the grain line on a section of the pattern then it is wise to retest the piece as part of a toile in case further adjustments should be made to the pattern.

Chapter 25

Removing a Seam Line: Pivot Method

Chapter Overview

In this chapter we will look at how a straight seam line can be removed from a pattern using the pivot method. This will build on our understanding of the cut and spread method from the previous chapter and will show how both pattern methods achieve the same result.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Removing a Seam Line: Pivot Method

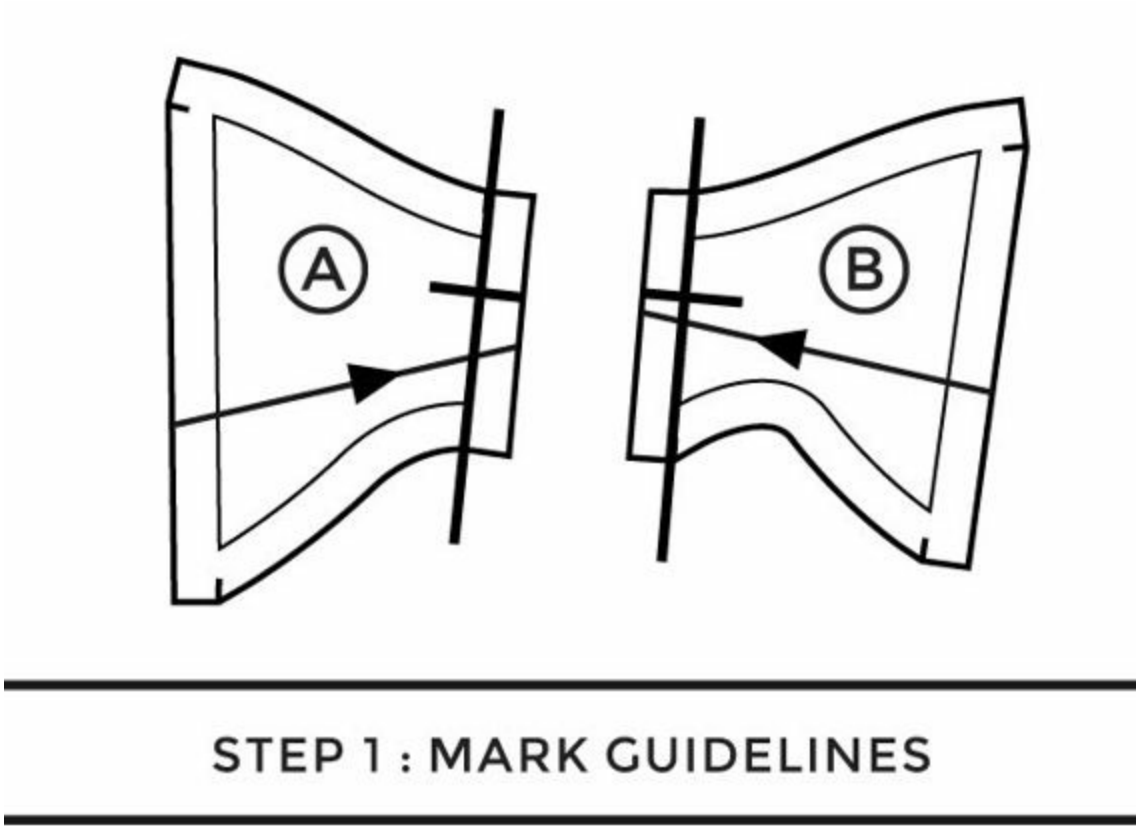
The following exercise will show an example of a pattern change where:

- A straight seam is removed from a garment.
- Two pattern pieces are turned into a single pattern piece.
- No change to the actual fit of the pattern piece is needed.

This pattern change uses many of the same underlying principles as the cut and spread technique, but rather than needing to make a copy of a pattern to cut up into pieces, you can create the new pattern shape by simply moving and tracing the original pattern pieces onto a new piece of paper.

As mentioned in previous chapters, the pivot method is generally considered a more advanced flat pattern making method that is used once the cut and spread method is mastered. Once you have understood the following example, you will see that the results are the same whether you use the cut and spread or pivot method to make the pattern change.

Step 1: Mark Guidelines

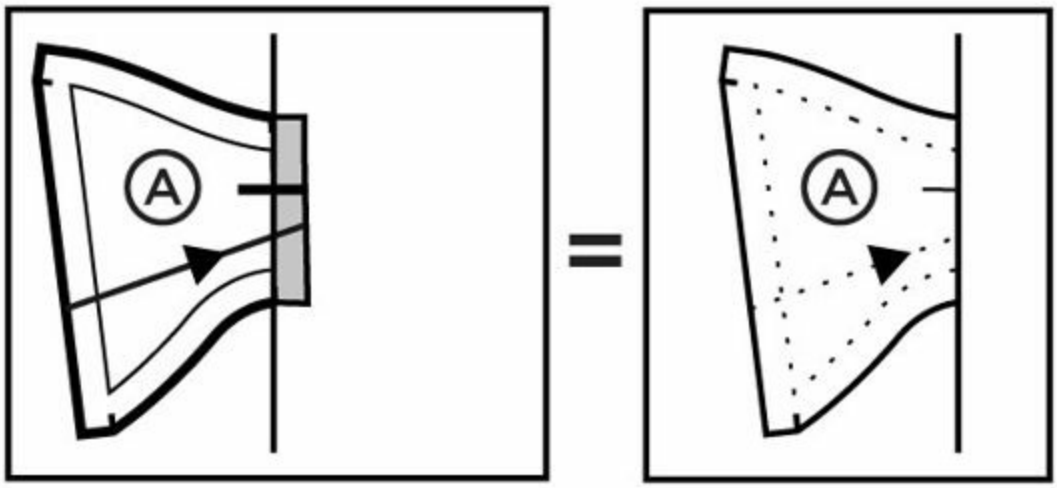


Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

The next step is to mark the guidelines in the same way that you would when using the cut and spread method. As these lines will only be temporary it may be best to mark these guidelines in pencil so that they can be removed from the original pattern later.

In the case of the pattern change above, you will need to mark a guideline for where you want to join the pattern, in this case along the stitching line of the old seam line.

Step 2: Trace Part A



STEP 2 : TRACE PART A

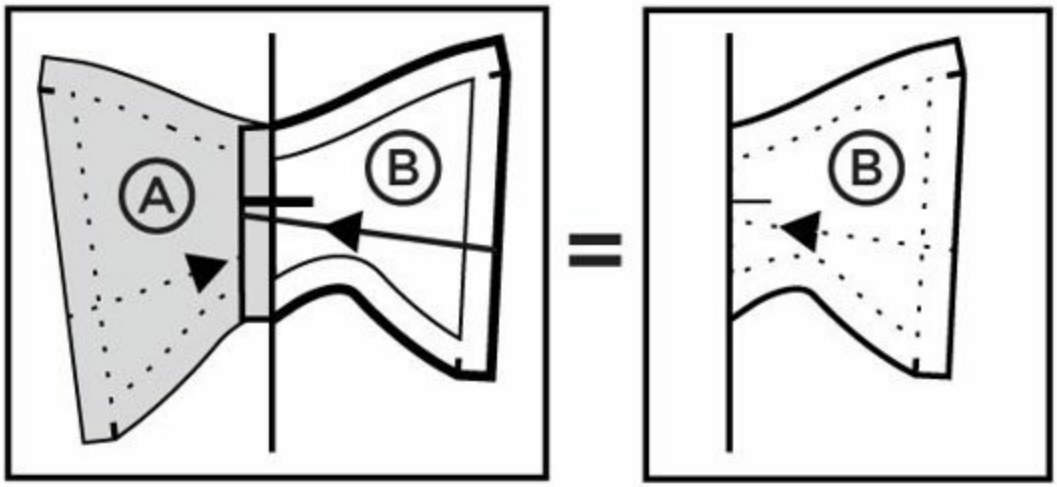
Draw a line onto a fresh sheet of paper or card so that you will be able to line-up the pattern pieces on this line as you trace them off to form the new pattern shape.

In the first tracing of any pivot method you will trace off the section of the pattern that will experience the least amount of change, before moving the pattern to trace off the next section. In this pattern change both pieces are approximately the same size so we are simply working from left to right, starting with part A.

In the first tracing of the pattern, labelled above as part A, you will trace along the edge of the seam allowance from the top of the guideline, following around the edge of the pattern until you reach the bottom end of the guideline. As you no longer need the seam allowance value on the old seam line, you will simply not trace it off. In the diagram above this seam allowance has been greyed out, to show that you do not need to trace it.

Use a tracing wheel to also transfer all stitching lines, markings, grain line and notches that are in the same area of part A. You should also use a tracing wheel to transfer the notch on the old seam line onto the paper or cardboard underneath. In the diagram above, labelled as “Step 2: Trace Part A”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 3: Pivot and Trace B



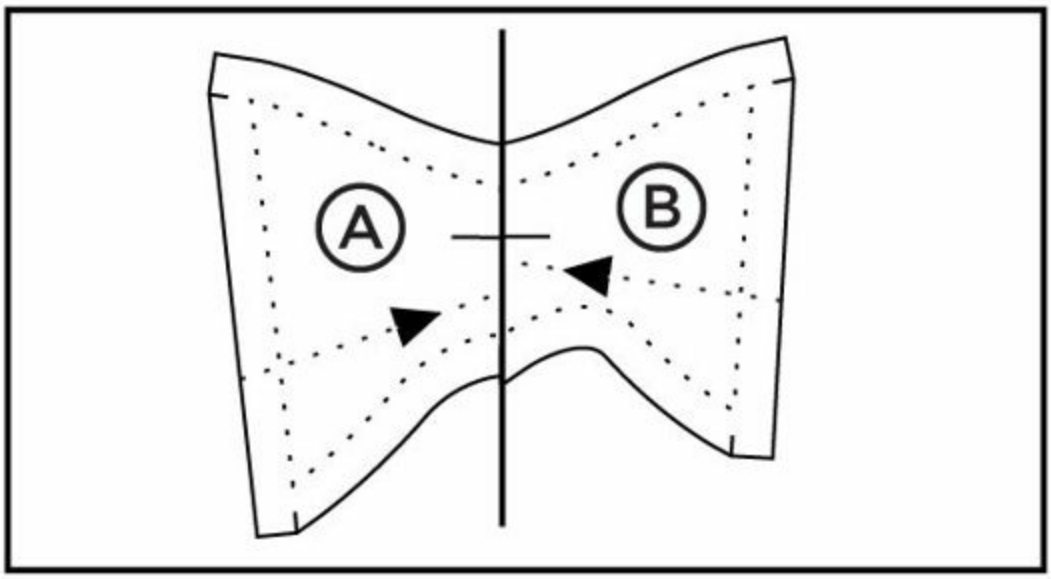
STEP 3 : MOVE & TRACE PART B

In the next step of the pivot method, you will move and trace the next section of the pattern. In the case of this particular pattern change you will need to remove part A of the pattern and line-up part B so that the stitching line matches the line drawn on the paper, and so that the notch on the old seam line matches up to part A. Once in position you should secure the pattern in position with tape or weights.

In the diagram above, the second section that we will trace has been labelled as part B and has been highlighted, while part A that has already been traced is left greyed out underneath. In the same way that you did for section A, the seam allowance value should be traced around the outside edge and any inside markings traced with a tracing wheel.

You should again ignore the seam allowance value along the old seam line. The old seam allowance has been left greyed out in the diagram above. In the diagram above, labelled as “Step 3: Move & Trace Part B”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 4: Check and Blend

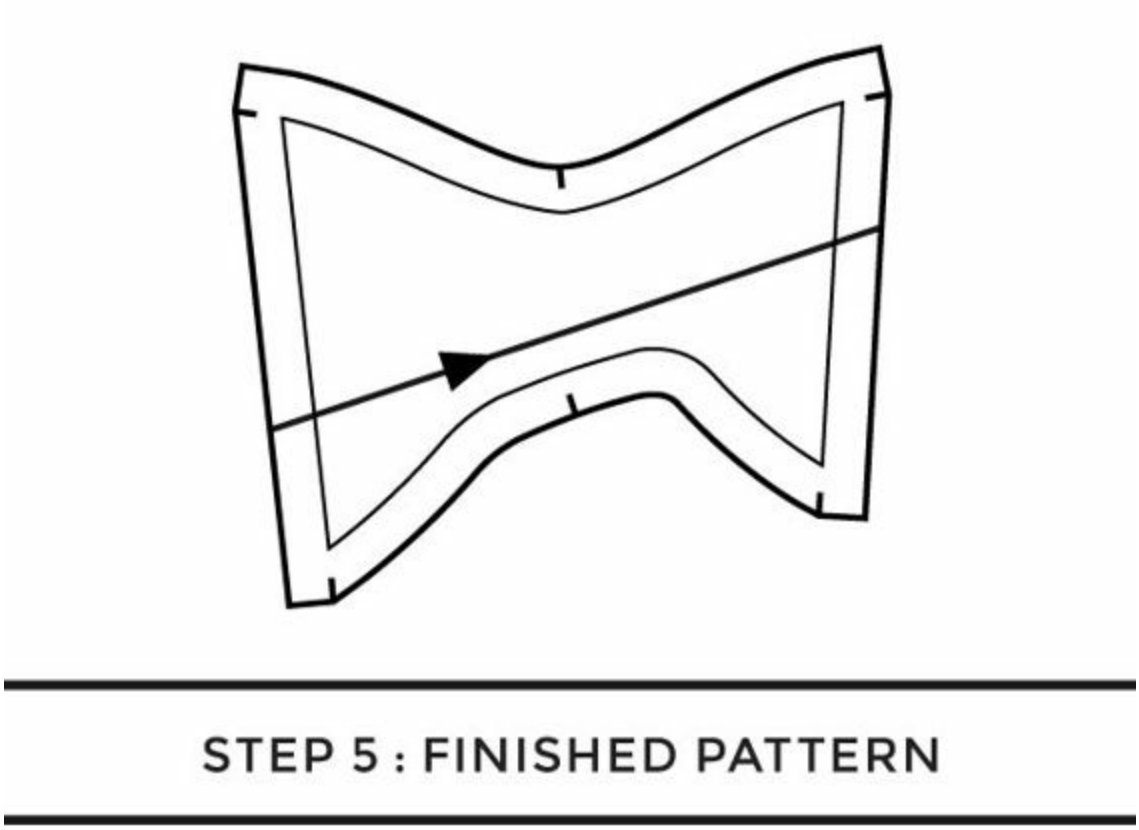


STEP 4 : CHECK & BLEND

Check the pattern and mark in the new lines from the tracing wheel marks, making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly.

You may also need to carefully blend the joins of the stitching lines to ensure the seam line flows smoothly. Blend the stitching line first, before adjusting the seam allowance to match.

Step 5: Finished Pattern



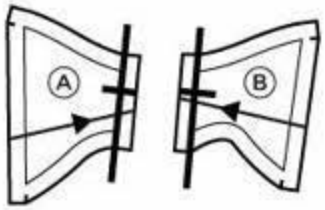
Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing. In the diagram above, notches have been added to indicate the position of the old seam line, in case this is needed as a reference point.

It is important to consider the location of the grain line on your new pattern pieces, as you may have two conflicting grain lines to choose from. In the example above, the grain line of part A has been used for the entire new pattern piece.

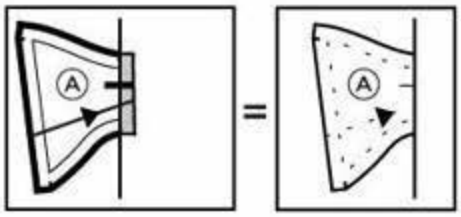
In the diagram above the grain line of part B has now been changed, so if you have also changed the direction of the grain line in your own pattern change then you will need to fit this pattern piece as part of a toile to ensure that the changed grain line has not altered the fit of the pattern piece.

The following diagrams show an overview of this process:

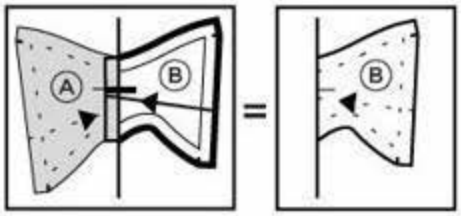
REMOVING A SEAM LINE: PIVOT METHOD



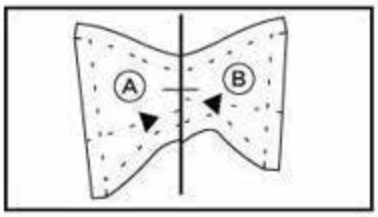
MARK GUIDELINES



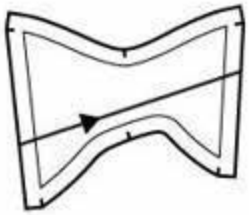
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Changes can be made to a pattern to remove seam lines, without changing the fit of the pattern.
- Pattern changes can be made easily with the pivot method.
- The pivot method will produce an identical result to the cut and spread method.
- If you changed the grain line on a section of the pattern then it is wise to retest the piece as part of a toile in case further adjustments should be made to the pattern.

Chapter 26

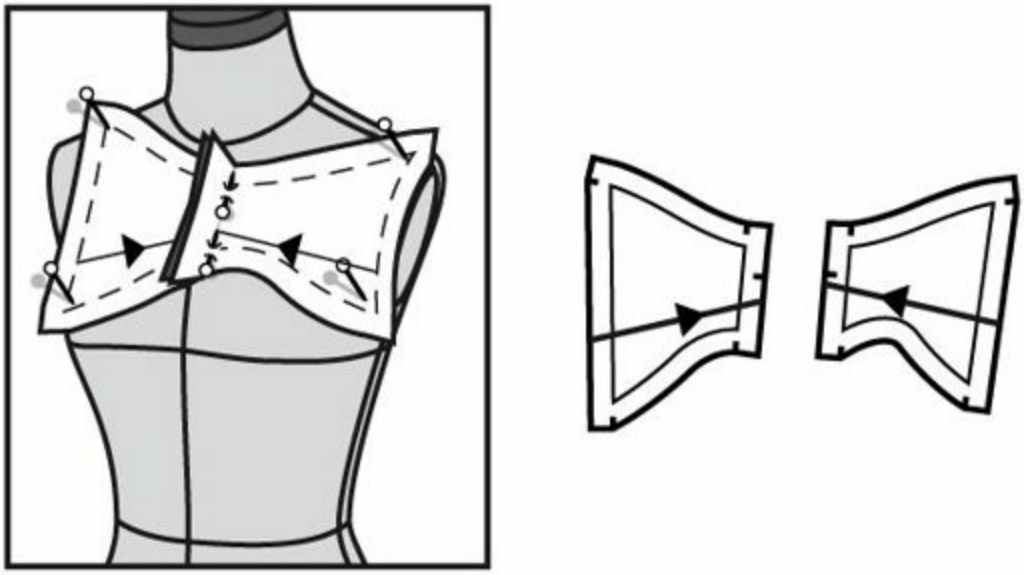
Removing a Seam Line: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin, showing the shape of the patterns both before and after we removed the seam line. This will allow us to visualise the shape of these patterns in relation to the body and will show how both formations of the pattern essentially fit the body in the same way.

Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Original Pattern: Two Separate Pattern Pieces



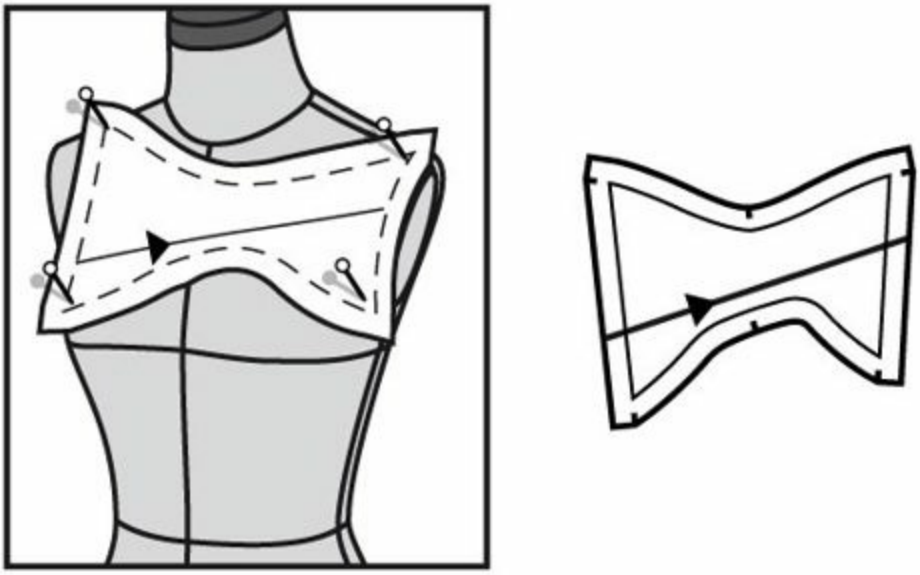
ORIGINAL PATTERN

In the diagram above labelled as "Original Pattern" the diagram on the left shows the front of a mannequin that has a drape pinned onto it to represent a section of a bodice panel. The drape is secured to the mannequin with pins on the four corners of the panel. You can also see that the drape is actually pinned through the centre so that two pieces of fabric are pinned together to represent the way that the two pattern pieces will join together when sewn.

The diagram on the right is the same “original pattern” that we used for the previous chapters to show the cut and spread and pivot methods.

Note that the two grain lines of the separate fabric pieces meet at an angle in the drape diagram above and then compare these angles to the grain line direction after the pattern change as shown in the following diagram.

Finished Pattern: One Single Pattern Piece



FINISHED PATTERN

In the diagram above labelled as "Finished Pattern" the diagram on the left shows the front of a mannequin that has a drape pinned onto it to represent a section of a bodice panel. The drape is secured to the mannequin with pins on the four corners of the panel.

The diagram on the right represents the same “finished pattern” that we used for the previous chapters to show the cut and spread and pivot methods.

By comparing the overall shape of the two versions of the patterns, you can see that they essentially fit the body in the same way. The major difference is in the direction of the grain lines between the original pattern and the finished pattern.

By understanding how to change your pattern to remove a seam line it can allow you to simplify areas of your patterns or the process can be easily used in conjunction with other pattern changes to alter the shape of panelling details.

Chapter Summary

In this chapter we learnt that:

- A draped garment where a straight seam line has been removed will fit to the body in the same way as two patterns that are joined with a straight seam line.
- By picturing the drape of a pattern it will help you to understand the way that the pattern relates to the body.

Chapter 27

Moving Dart Value:
Cut and Spread Method

Chapter Overview

In this chapter we will look at how dart value is moved around a pattern using the cut and spread method. This will build on our understanding of how darts relate to the curves of the body and we will also look at how the apexes of the body are used as pivot points in flat pattern making processes.

In this chapter we will look at an example of a pattern change where a dart position is moved, without altering the fit of the pattern. In the following chapters, the same example will also be explored using the pivot and drape methods.

Moving Dart Value Overview

The following exercise will show an example of a pattern change where:

- The position of a dart is moved.
- No change to the actual fit of the pattern piece is needed.

The principle of moving the position of a dart around a pattern is one of the most common examples of flat pattern making that you will see demonstrated in pattern making books. Essentially when you are aiming to move the position of a dart on a pattern, you are simply moving the dart value to a different position. This means that the size of the dart value that is used to fit the pattern to the curves of the body is just being moved – so the pattern will still fit the body in the same way, but the dart will just have moved to a different position.

In some ways this is the same as the examples of adding or removing a seam line that were discussed in the previous chapters, because all you are doing is rearranging the volume of the pattern within the stitching lines into different positions and then redrawing your seam allowance values to match the new shape of the stitching line.

Moving darts around the body is different to simply moving straight seam lines because of the fact that darts are used to fit the fabric to the curves of the body. This means that the primary focus when you are moving a dart should always be on remembering where the apex of the body is, and on preserving the value of the dart.

Remember that the dart value must be preserved in order to keep the fit value the same.

Dart changes are simpler to make if you remember these key features of darts:

- Darts that are used to alter the fit of patterns usually point towards the apexes or widest parts of the body.
- Darts point towards the apexes of the body, without actually meeting the apex of the body.

In practical terms this means that many of the dart changes you see to dart positions in pattern making books involve using the apex of the body as an anchor point in order to swing the pattern value into different position. Remember that when we discussed the difference between blocks and patterns earlier in the book (Chapter 9: Blocks and Patterns), we examined the fact that the bust dart point is always set back from the actual bust point on a pattern. This fact will have implications for the way that we swing the dart value in this chapter, as we will effectively have to redraw the dart arms back to the bust point in order to make the pattern change.

One of the most common examples of this sort of dart change is often described as a dart manipulation to a bodice block, where you will commonly see a dart moved into different positions radiating out from the bust point – the apex of the body. By swinging the pattern around using the apex as the anchor point you are able to simply move the dart value, without changing the fit of the garment.

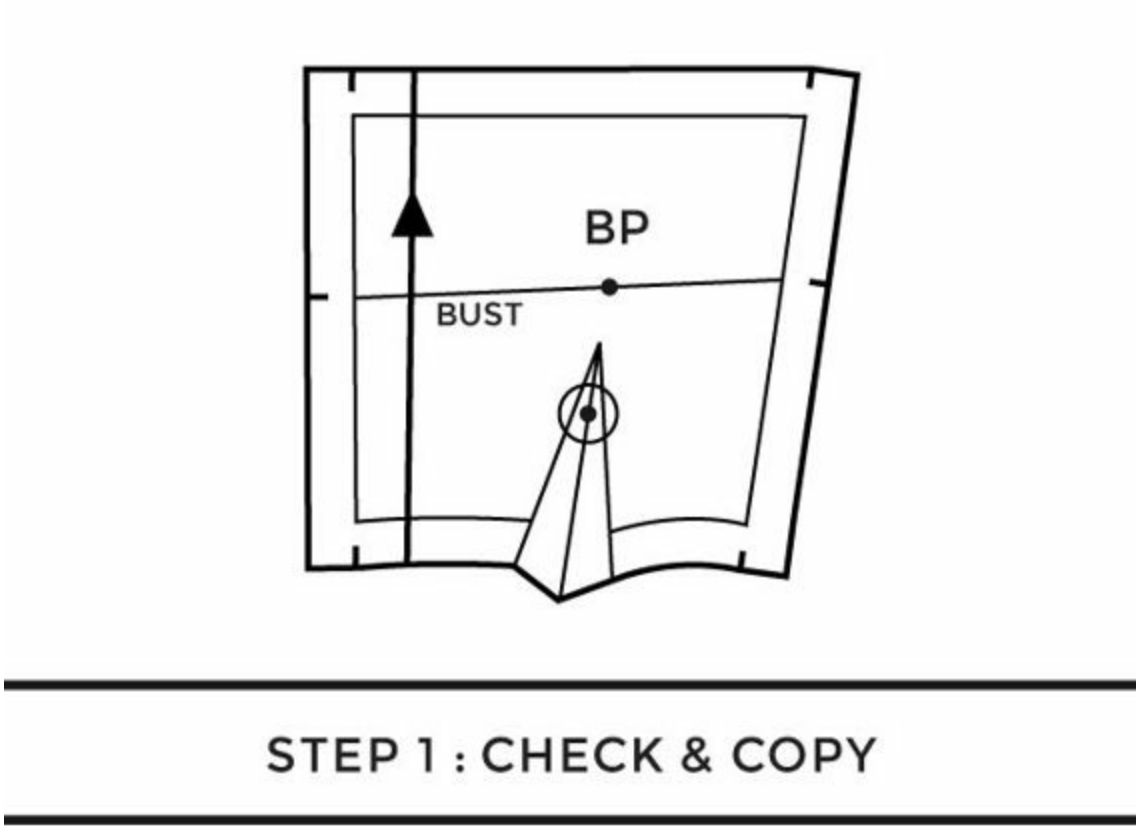
This idea of swinging a pattern around an anchor point is what gives the pivot method its name, but

the cut and spread method applies the same basic idea by also allowing the pattern to swing from the apex of the body.

Moving Dart Value: Cut and Spread Method

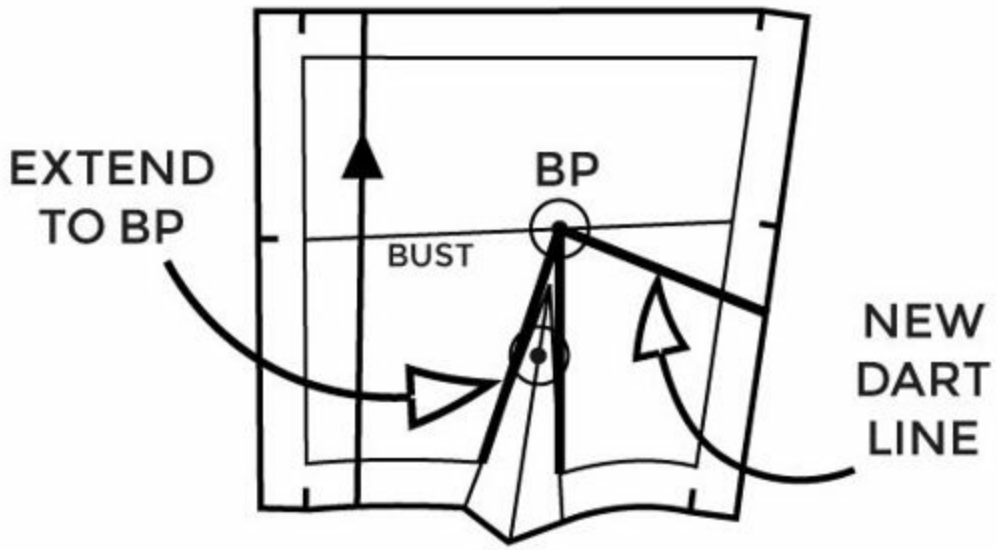
In the pattern example in this chapter, a dart position will be moved on a section of a bodice block using the cut and spread method. As described above, the basic process of the cut and spread method is to splice into the paper to allow it to swing around the apex of the body. This is described in more detail in the following steps.

Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece. Make a copy of the pattern pieces that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the following steps.

Step 2: Mark Guidelines



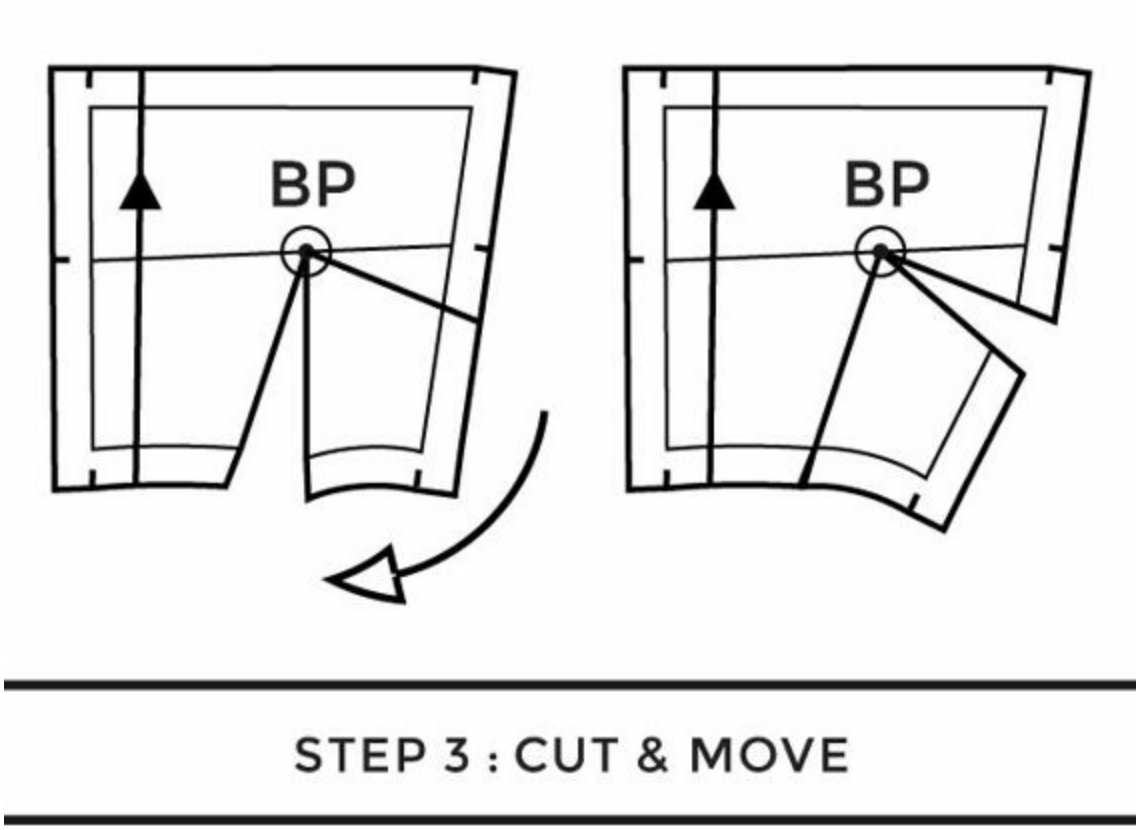
STEP 2 : MARK GUIDELINES

Now mark the guidelines to allow you to cut and hinge the pattern piece from the apex of the pattern, which in the case of a bodice piece, will be the bust point.

To mark the guidelines on the old dart, make a line from the apex of the body, which in this case is the bust point (BP), down to where the dart arm meets the stitching line on each side of the dart.

To mark the position of the new dart on the template, draw a single guideline from the bust point to the desired point on the stitching line, and then continue extending the line through the seam allowance value.

Step 3: Cut and Move



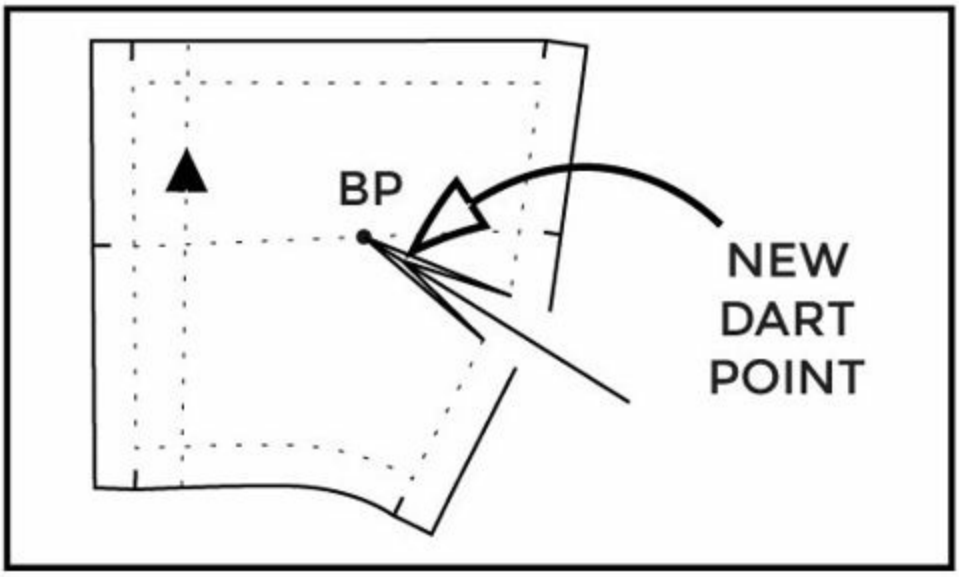
The next step is to cut along the guidelines on the old dart, to basically remove all of the old dart value and any markings of the old dart position.

Also cut along the new dart line, leaving a small paper hinge so that you can swing the pattern to close out the old dart value.

When closing out the old dart value, you should concentrate on only the section of the old dart up until the stitching line. Any balancing that needs to be done on the stitching line can be completed in the next step. You do not need to swing the pattern to make the seam allowance flow through, you just need to make the stitching lines meet on the old dart.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position with the old dart value closed.

Step 4: Trace and Blend



STEP 4 : TRACE & BLEND

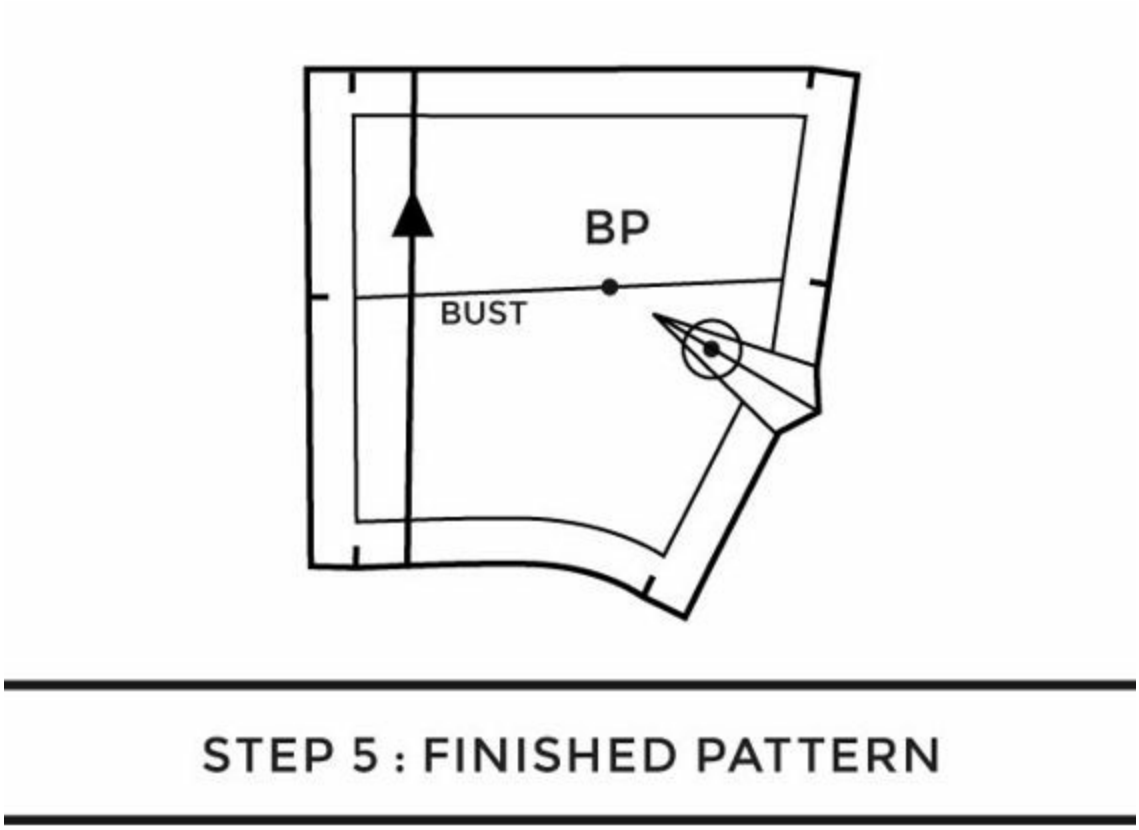
Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Trace up the inside of the new dart value from the stitching line to the apex of the body, in this case the bust point, in order to give yourself new temporary guidelines. These new guidelines will be used to draw in the final position of the new dart.

Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below such as the stitching lines, any guidelines and the position of the grain line. Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. If you need to blend the stitching line at the location of the old dart, ensure that the finished length of the stitching line is accurate.

To draw in the new dart value, you will need to mark a centre line going from the bust point out through the centre of the new dart value. To make sure that your centre guideline is actually centred, measure the distance between the ends of the two dart arms at the stitching line and mark a midpoint. Use the midpoint to centre the line through the middle of the dart.

Set the new dart point position back from the bust point as needed, marking the dart point on the centre guideline. Next draw in the new dart arms from this dart point to the stitching line on each side.

Step 5: Finished Pattern



Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

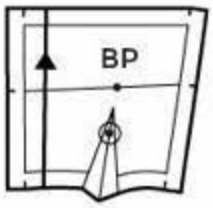
It is important to consider the location of the grain line on your new pattern pieces, as you may have two conflicting grain lines to choose from. You may need to change the location of the grain line once you have done a fitting of the new pattern piece in a toile.

To complete the new dart, ensure that the new dart arms are extended to the edge of the seam allowance and that the dart value is folded out before cutting out the final shape of the dart value.

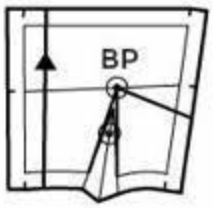
A drill hole should be marked on the new dart, set back from the dart point along the centre guideline. You can also remove any other guidelines from the pattern that may cause confusion.

The following diagrams show an overview of this process:

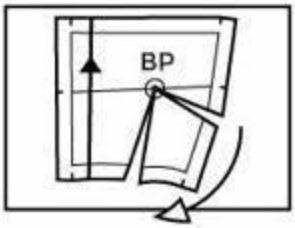
MOVING DART VALUE:
CUT & SPREAD METHOD



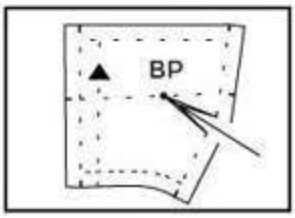
CHECK & COPY



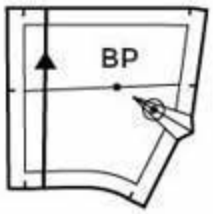
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Closing a Dart from the Dart Point

The pattern change above related to a dart that was used to alter the fit of a pattern, and the dart that we used was pointed at the apex of the body. This type of pattern change can be adapted to any other dart required for fit value by following the basic process of:

- Extend old dart to apex or widest part of the body.
- Open space for new dart.
- Move, trace and finalise pattern.

In the case of some other fitting darts and decorative darts you may see examples in other pattern making books where a dart is pivoted closed not from the apex of the body, but by swinging the dart closed from the dart point. This is a perfectly useful method in certain circumstances as long as you are mindful of what other changes you are making to the size and fit of the pattern as you close out the dart value.

By closing out the dart value from the apex of the body, it is easier to preserve the same fit value as you are only moving the value of the dart.

By closing out the dart from the dart point you do not want to inadvertently change the fit of the pattern. By swinging the dart closed on one side, you need to be aware of the value that you are opening up on the other side of the anchor point.

In the case of these types of changes where you close the dart value from the dart point, you may not be simply just moving the dart value, but also changing the fit of the garment by increasing or decreasing the volume of the pattern. The principles behind increasing and decreasing pattern volume will be covered in more detail in later chapters so that you can ensure that you are making the correct decisions in your own pattern changes if you find yourself in this situation.

Chapter Summary

In this chapter we learnt that:

- Dart positions can be moved around a pattern using the cut and spread flat pattern making method.
- Darts that are used for fit purposes are generally closed by swinging the pattern closed from the apex of the body.
- Darts are sometimes also closed using the dart point as the anchor point, with consideration given to any subsequent fit changes.

Chapter 28

Moving Dart Value: Pivot Method

Chapter Overview

In this chapter we will look at how dart value is moved around a pattern using the pivot technique. This will build on our understanding of the cut and spread method from the previous chapter and will show how both pattern methods achieve the same result.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Moving Dart Value: Pivot Method

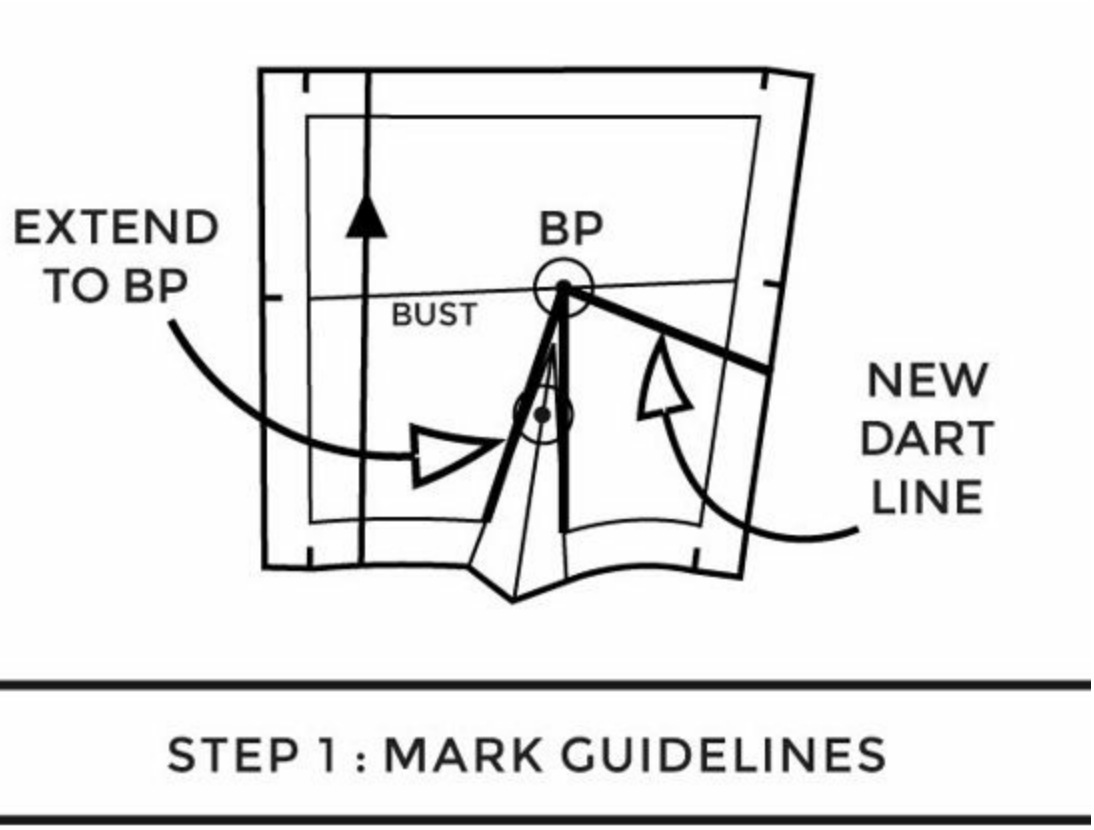
The following exercise will show an example of a pattern change where:

- The position of a dart is moved.
- No change to the actual fit of the pattern piece is needed.

This pattern change uses many of the same underlying principles as the cut and spread technique, but rather than needing to make a copy of a pattern to cut up into pieces, you can create the new pattern shape by simply pivoting the original pattern piece onto a new piece of paper. As for the cut and spread method, this is done by pivoting the pattern at the apex of the body to move the value of the dart to a new position.

As mentioned in previous chapters, the pivot method is generally considered a more advanced method that is used once the cut and spread method is mastered.

Step 1: Mark Guidelines



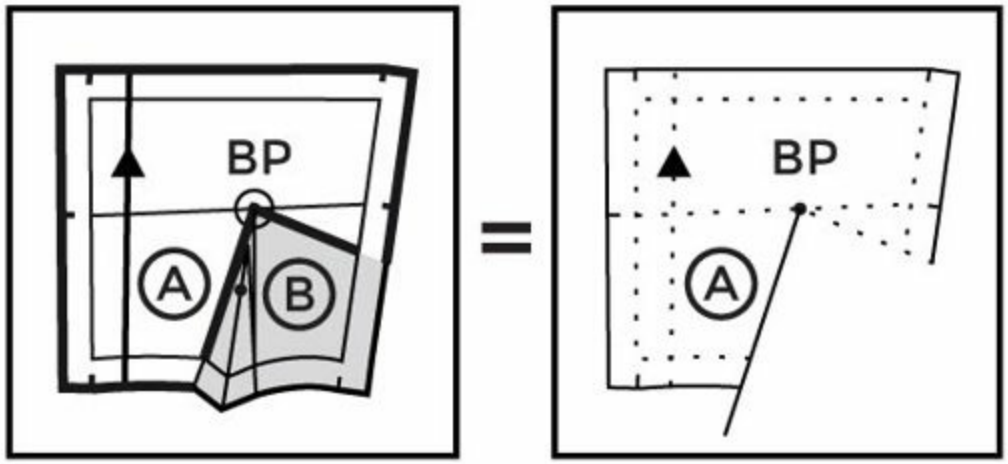
Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

The next step is to mark the guidelines in the same way that you would when using the cut and spread method. As these lines will only be temporary it may be best to mark these guidelines in pencil so that they can be removed from the original pattern later.

To mark the guidelines on the old dart, make a line from the apex of the body, which in this case is the bust point (BP), down to where the dart arm meets the stitching line on each side of the dart.

To mark the position of the new dart, draw a single guideline from the bust point to the desired point on the stitching line, and then continue extending the line through the seam allowance value.

Step 2: Trace Part A



STEP 2 : TRACE PART A

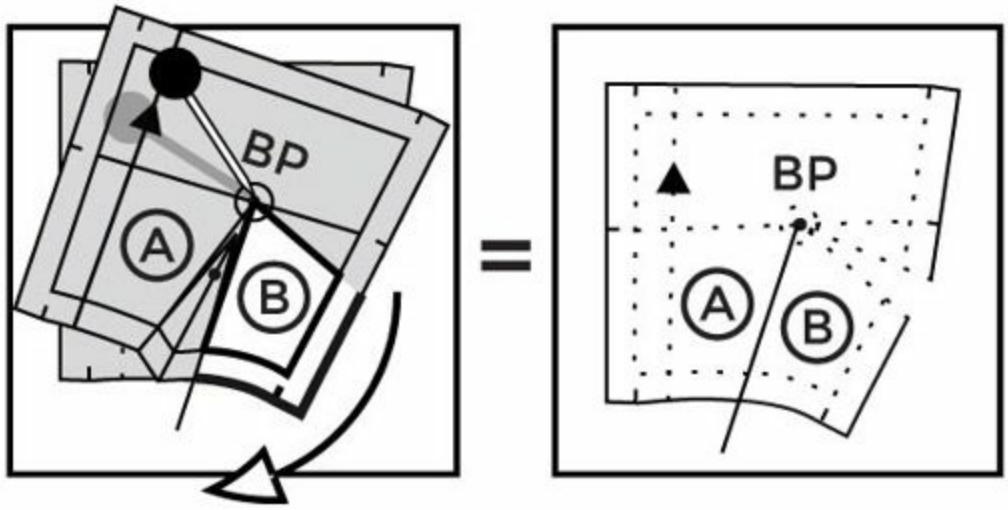
Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of any pivot method you will trace off the section of the pattern that will experience the least amount of change, before moving the pattern to trace off the next section.

In the first tracing of the pattern for this example, labelled above as part A, you will trace along the seam allowance from the new dart guideline, following around the edge of the pattern in an anticlockwise direction until you reach the dart arm of the old dart. Use a tracing wheel to also transfer all stitching lines, marking, grain line and notches that are in the same area.

In the diagram above, labelled as “Step 2: Trace Part A”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card. We have also extended out the guideline traced from part A to use in the next step, when we will pivot and trace part B.

Step 3: Pivot and Trace B



STEP 3 : PIVOT & TRACE PART B

In the next step of the pivot method, you will anchor the pattern at the apex of the pattern, which in this case is the bust point (BP), and swing the pattern in order to close the old dart value and to trace off the next part of the pattern.

As shown in the diagram above, the pivot action is normally achieved by using a pin on the anchor point of the pattern, and pivoting the pattern until the pattern has been moved into a new position where it can again be secured with a weight.

When closing out the old dart value, you should concentrate on only the section of the old dart up until the stitching line and not be concerned with how the seam allowance matches up. This means that what you are aiming to do is to bring together the two dart arms until there is no space between them, and no overlap. The guideline that we drew in the previous step on our tracing of part A will assist in lining up the dart arms correctly.

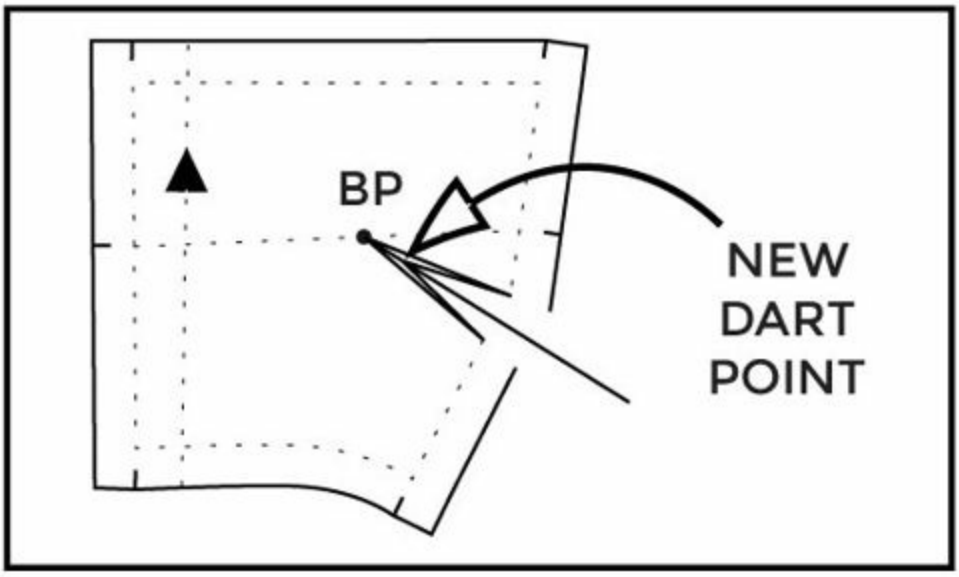
In the diagram above, the second section of the pattern that you need to trace has been labelled as part B, while part A has been greyed out. Take note of how the old dart has been completely closed out and reduced to simply a single guideline. If the pivot has been completed correctly, the two dart arms will match up precisely on top of each other.

As for part A, the seam allowance value should now be traced around the outside edge and any inside markings of part B should be traced with a tracing wheel. In both positions of the pivot, the new dart guideline should be traced with a tracing wheel, as these marks will form the guidelines for the

position of the new dart.

In the diagram above, labelled as “Step 3: Move & Trace Part B”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 4: Check and Blend



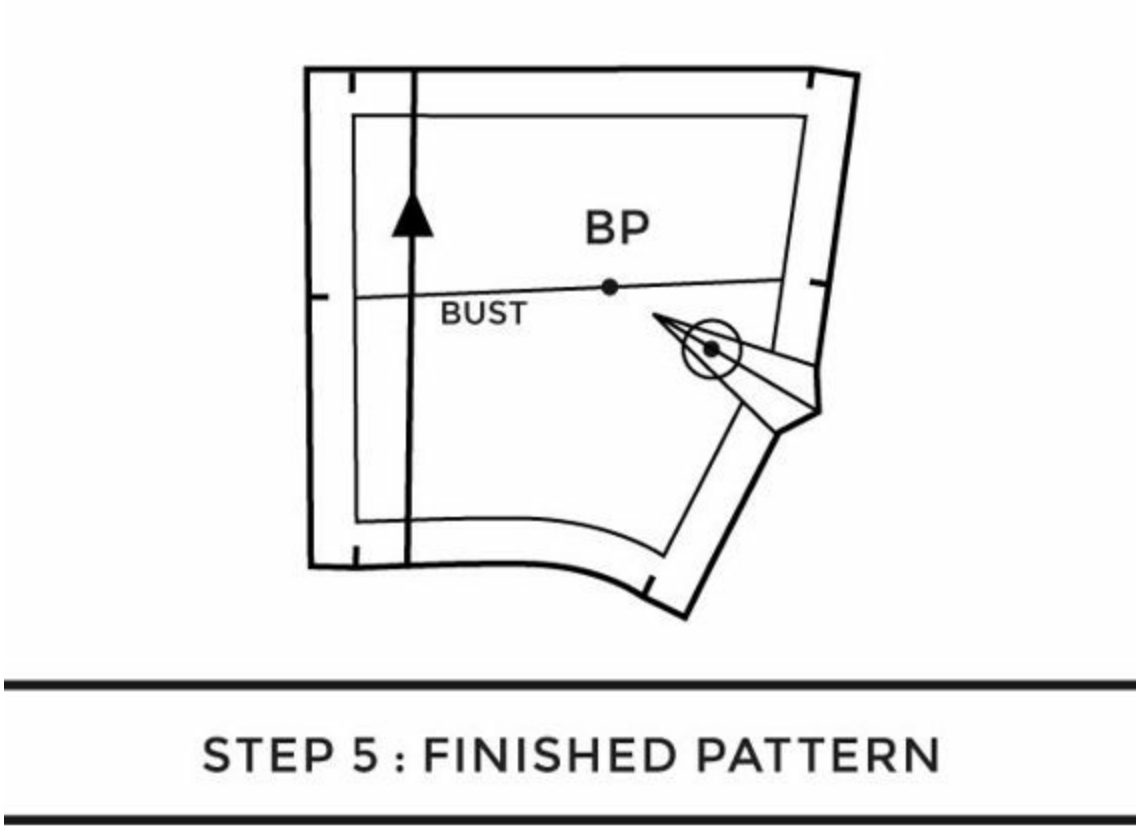
STEP 4 : CHECK & BLEND

Check the pattern and mark in the new lines from the tracing wheel marks, making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. If you need to blend the stitching line at the location of the old dart, ensure that the finished length of the stitching line is accurate.

To draw in the new dart value, you will need to mark a centre line going from the bust point out through the centre of the new dart value. To make sure that your centre guideline is actually centred, measure the distance between the ends of the two dart arms at the stitching line and mark a midpoint. Use the midpoint to centre the line through the middle of the dart.

Set the new dart point position back from the bust point as needed, marking the dart point on the centre guideline. Next draw in the new dart arms from this dart point to the stitching line on each side.

Step 5: Finished Pattern



Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

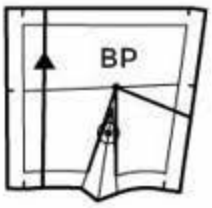
It is important to consider the location of the grain line on your new pattern pieces, as you may have two conflicting grain lines to choose from. You may need to change the location of the grain line once you have done a fitting of the new pattern piece in a toile.

To complete the new dart, ensure that the new dart arms are extended to the edge of the seam allowance and that the dart value is folded out before cutting out the final shape of the dart value.

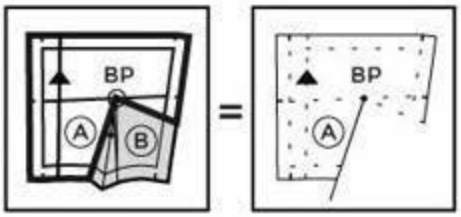
A drill hole should be marked set back from the dart point along the centre guideline. You can also remove any other guidelines from the new pattern, as well as the original pattern, that may cause confusion.

The following diagrams show an overview of this process:

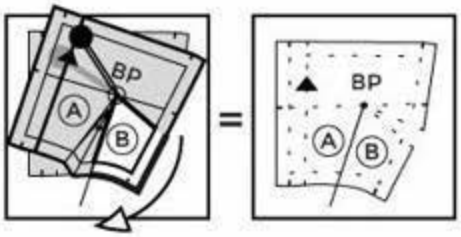
MOVING DART VALUE:
PIVOT METHOD



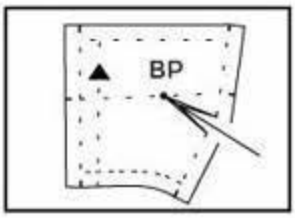
MARK GUIDELINES



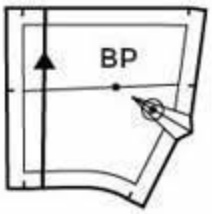
TRACE PART A



PIVOT & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Dart positions can be moved around a pattern using the pivot flat pattern making method.
- The pivot method will produce an identical result to the cut and spread method.

Chapter 29

Moving Dart Value: Drape Example

Chapter Overview

In this chapter we will look at how dart value is moved around the body when you are in the process of draping a garment. This example of how the drape method would be used to perform the same pattern change as the previous chapters helps to reinforce the principles used in the cut and spread and pivot methods by showing the drape process in motion on the mannequin.

Moving Dart Value: Drape Example

The following exercise will show an example of a change to a drape where:

- The position of a dart is moved.
- No change to the actual fit of the drape is needed.

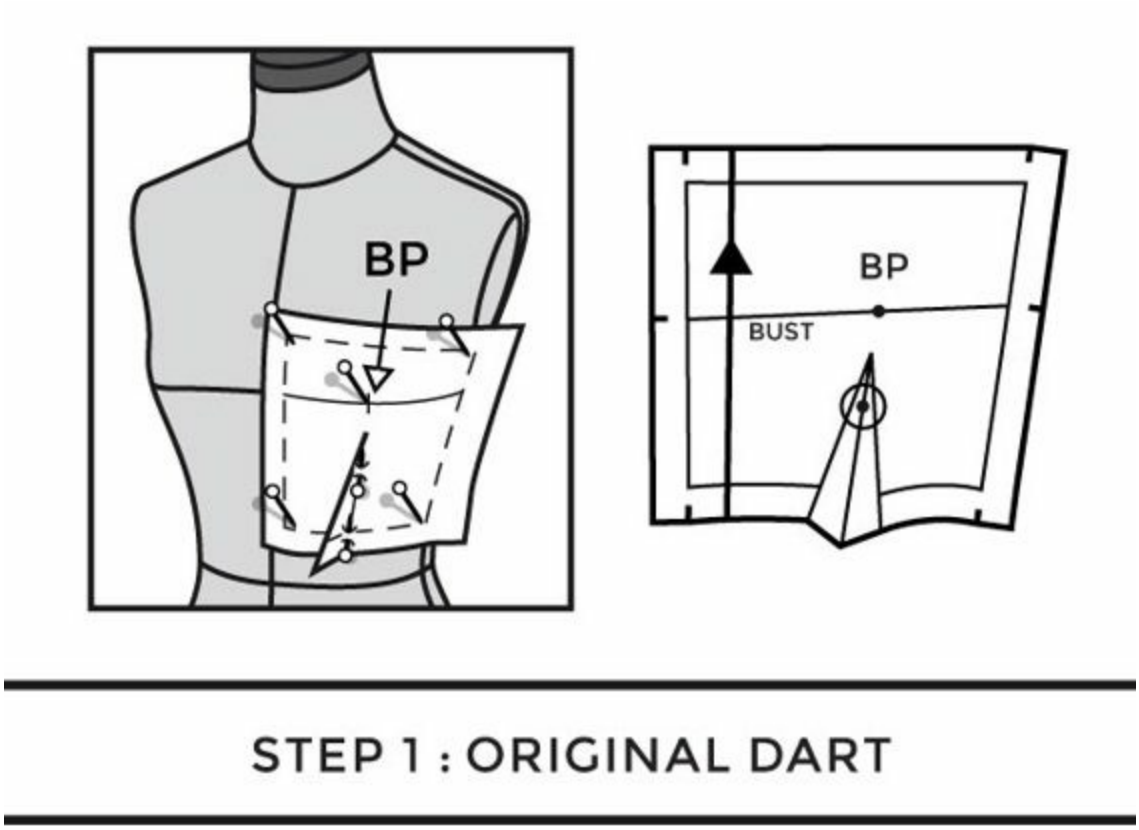
The process of moving a dart around the body should give you essentially the same result whether using a flat pattern making method or when draping the design directly onto the body using toile fabric.

The added benefit of draping directly onto the mannequin is that it gives you a very tangible and visual version of the pattern change as you can use the movement and grain of the fabric in a more intuitive way. The downside of draping the pattern change is also because of the use of fabric – if you are not careful you can end up overstretching or distorting your fabric as you mould it to fit the mannequin.

In order to avoid this issue you should aim to smooth the fabric, rather than pulling the fabric, across the body of the mannequin while draping. You should also be extra vigilant when transferring the drape to paper or cardboard to ensure that the draped measurements are consistent with the measurements of the body, and make any adjustments where needed.

Both flat pattern making and drape processes have their advantages and disadvantages in different situations, but the benefit of understanding how the same change works in different methods is that it allows you to approach a pattern change from different angles to be able to visualise the result you want and ideally to help you to avoid any errors as you make a similar pattern change yourself.

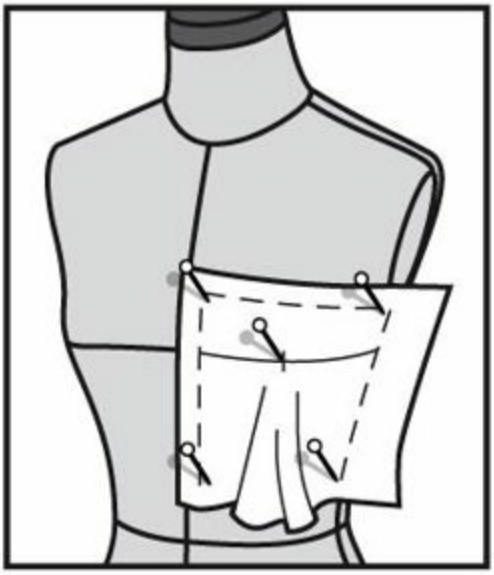
Step 1: Original Dart



In the example diagram above we are replicating the same pattern shape as we used for the cut and spread and pivot methods in the previous chapters but using fabric draped on the mannequin. This pattern shape is shown on the right side of the diagram above which represents our “original” pattern from the previous two chapters.

In the diagram above labelled as "Step 1: Original Dart", the diagram on the left shows the approximate pattern shape placed on the body as a draped piece of toile fabric, complete with a dart pinned out at the waist. Remember that when draping you are concentrating on the shape of the stitching line and not the shape of the seam allowance, as the seam allowance value will be added on when the drape is transferred onto paper or cardboard. With this in mind, compare the shape of the stitching line of the drape and the pattern and take note of the way that the bust guideline and bust point relate to the body when seen in a draped form.

Step 2: Release Dart



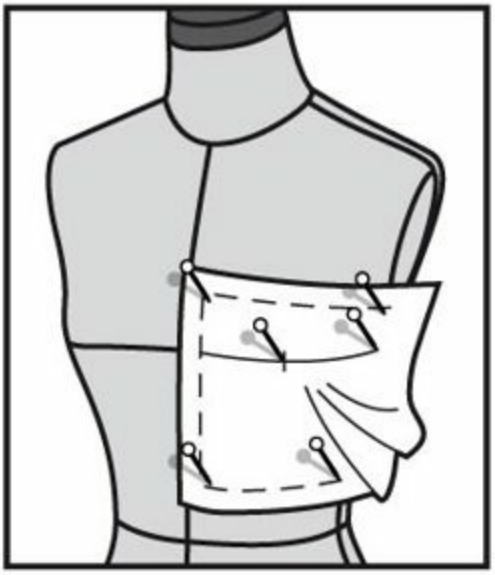
STEP 2 : RELEASE DART

In the cut and spread and pivot methods of this pattern change we identified an area of the pattern that was going to remain the same, and then applied a change to the position of the dart by moving the rest of the pattern.

The same basic method is used when moving a dart in a drape method – you leave pins in the drape to secure the part of the pattern that remains unchanged, release the pins on the dart you want to move, and then in the following step, you will swing the dart value around to the side of the body to create the new dart.

In the diagram above, the fullness that now hangs at the waist area is the result of releasing the pins from the old dart. That fullness from the dart now needs to be moved to the side of the body, where we can pinch the fabric into a new dart position.

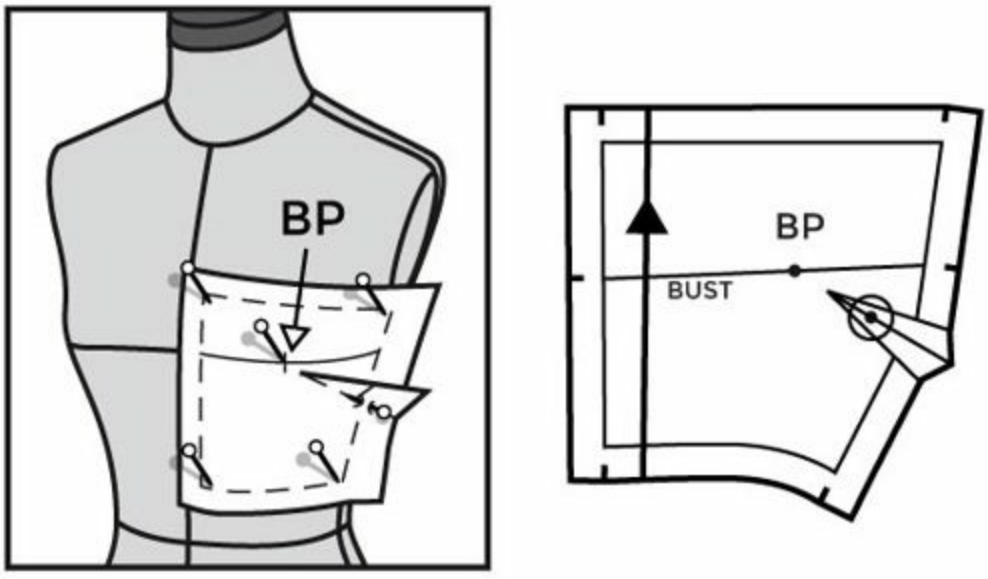
Step 3: Smooth Waist



STEP 3 : SMOOTH WAIST

In order to move the dart value around the body, you will now smooth the fabric across from the waist area to push the fullness into the side of the draped piece of fabric. Note how the fullness in the fabric still points towards the apex of the body, the bust point, and radiates out from this point.

Step 4: New Dart



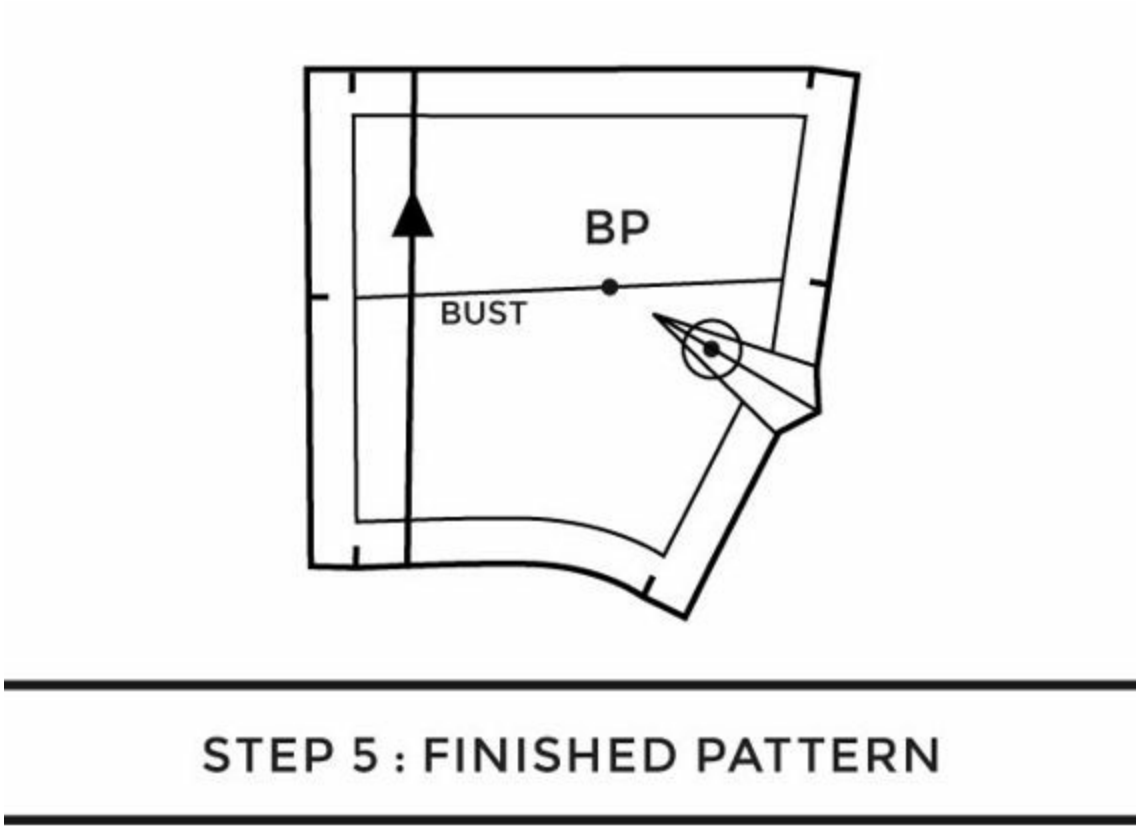
STEP 4 : NEW DART

Now that the fullness has been moved to the side of the body, it can be pinned to create the shape of the new dart.

In the diagram above labelled as "Step 4: New Dart", the diagram on the left side represents the position of the new dart pinned out on the mannequin. The diagram on the right side shows how this change is equivalent to the change that we made to the pattern using the cut and spread and pivot methods to achieve the “finished” pattern from the previous chapters.

Now that the drape change is complete, you would now make any necessary markings onto the draped piece of fabric to indicate the position of the new dart, and the changed positions of the stitching lines. Remember that you do not need to be concerned with the seam allowance at this point but to concentrate on accurately recording the stitching line and any markings within the stitching line.

Step 5: Finished Pattern



Once you have marked your drape and removed it from the mannequin, you can then trace and finalise the pattern in almost the same way that you would for the cut and spread and pivot pattern methods.

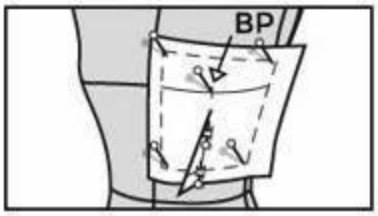
The main focus when turning a drape into a pattern is always to concentrate on the stitching line and markings inside the stitching line, making sure that these are correct and work with the body measurements and adjoining pattern pieces before adding any seam allowance.

As an overview of how to transfer a drape to paper you would:

- Place the flattened drape onto a new piece of paper.
- Trace all markings with a tracing wheel onto the paper beneath.
- Smooth and blend your lines and ensure that the stitching line is accurate and will match to any adjoining pattern pieces.
- Draw in the grain line, guidelines and markings.
- Draw in seam allowances, notches and drill holes.
- Fold out the dart value before cutting out the pattern, to ensure the dart value is the correct shape.

The following diagrams show an overview of the drape process for moving a dart:

MOVING DART VALUE:
DRAPE METHOD



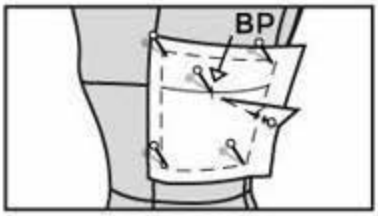
ORIGINAL DART



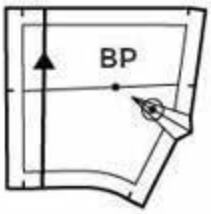
RELEASE DART



SMOOTH WAIST



NEW DART



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Dart positions can be moved around the mannequin using a drape method.
- The drape method produces a very similar result to the cut and spread and pivot methods.
- The drape method can help to show the pattern changes of the cut and spread, and pivot methods in a more tangible form.
- Understanding multiple methods for the same pattern change will help you to understand the basic principles at work and provide you with different options for achieving the same goal.

Chapter 30

Darts into Seam Lines: Cut and Spread Method

Chapter Overview

In this chapter we will look at how dart value can be absorbed into seam lines through the use of the cut and spread flat pattern making method. By understanding the transfer of fit value from dart to seam line, it is easier to see how seam lines are used as an alternative to darts to shape fabric to the body.

This chapter shows an example where the fit value of two darts is absorbed into a single seam, without significant alteration to the fit of the pattern. In the following chapters, the same example will also be explored using the pivot and drape methods.

Darts into Seam Lines Overview

The following exercise will show an example of a pattern change where:

- Two darts are replaced by a single seam line.
- No change to the actual fit of the pattern piece is needed.

Now that we have covered the ways that darts are used to fit fabric to the body, we can begin to examine how the dart value or fit value of a pattern can be moved into seam lines to broaden the range of design possibilities that can be created from a single pattern.

It is easiest to understand the following pattern change if you concentrate on the volume within the stitching line, as this is really the space that constitutes the finished garment. Remember that dart value, just like seam allowance, holds no actual bearing on the volume of the actual finished garment but simply acts as space for construction.

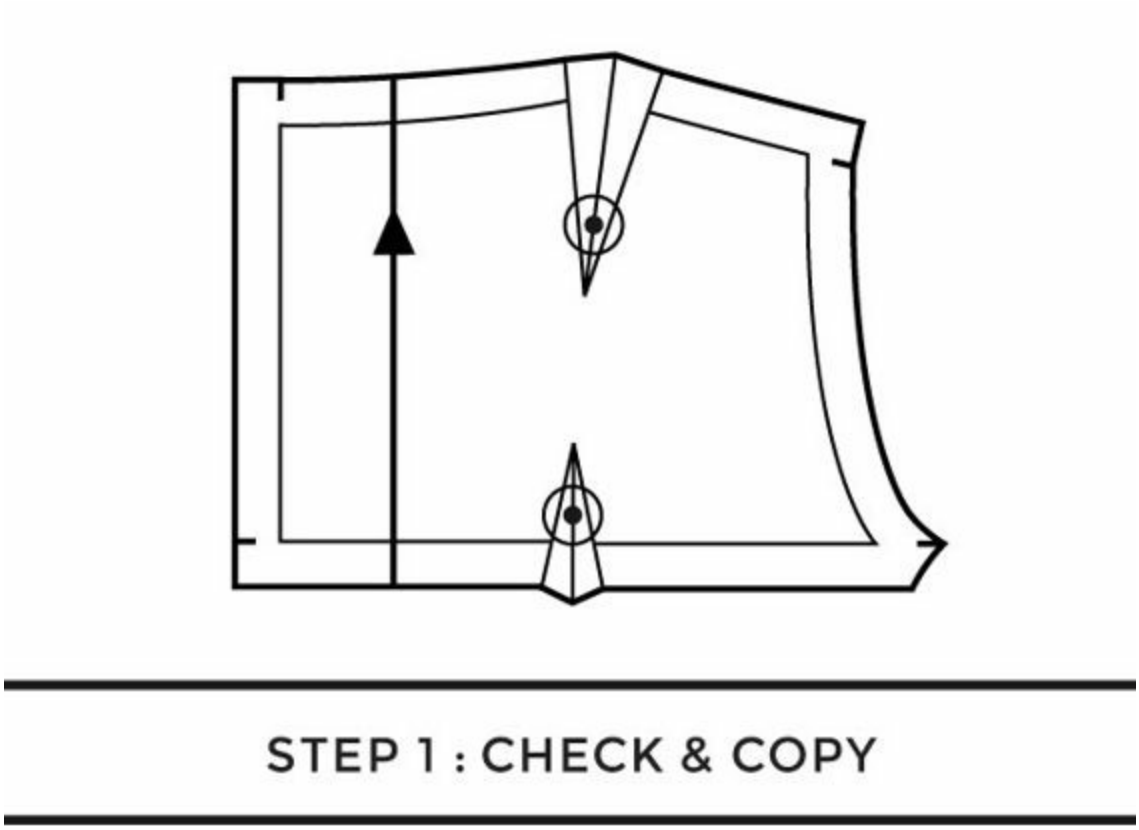
By focusing on the volume within the stitching line, and seeing how this space remains constant from the original pattern to the finished pattern, this will help to explain why the actual dart value can be simply discarded in the cut and spread method.

Up until this point all of our pattern change examples have focused simply on rearranging existing pattern volume, rather than increasing or decreasing the volume of the pattern and the same is true of the following example.

Dart into Seam Lines: Cut and Spread Method

In a sense, the process of absorbing darts into a seam line is a very similar process to that of adding a straight seam line to a pattern. The main difference with the example in this chapter is that the diagrams will show how the dart value should be simply ignored when splitting the pattern into two pieces.

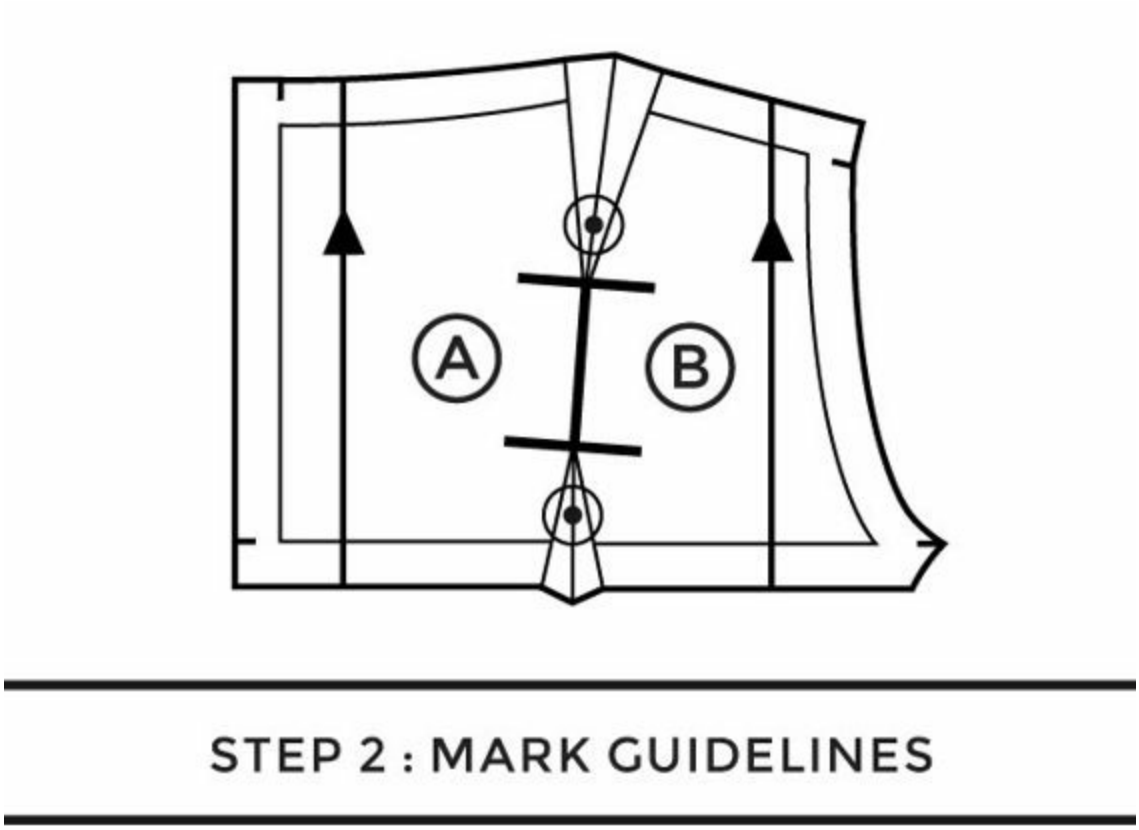
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern pieces that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the following steps.

Step 2: Mark Guidelines



For the pattern change that you are about to make, you are going to replace the two darts by a single vertical seam line. This single seam line will still shape the fabric to the body in almost exactly the same way that the darts did.

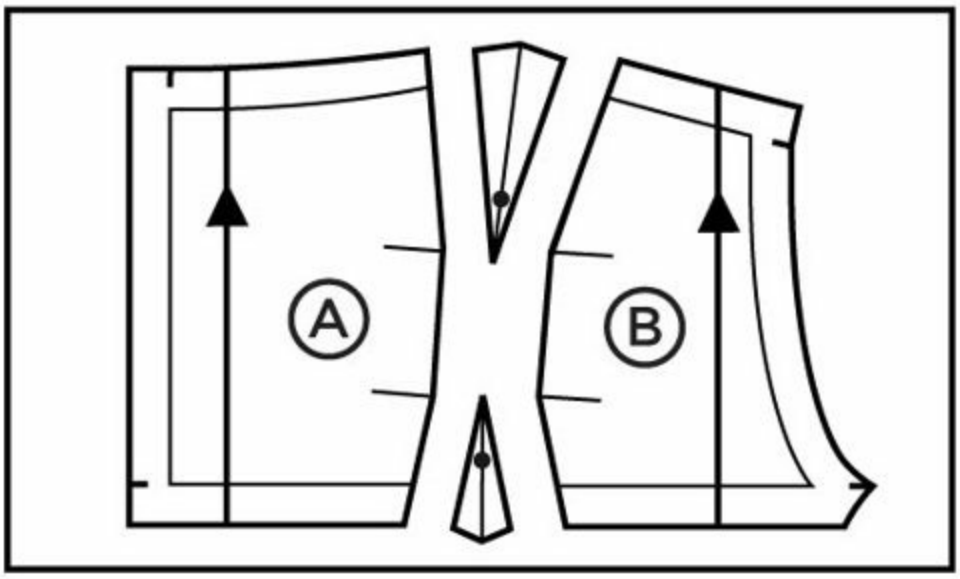
In order to do this you will need to connect the dart points together, and as you can see in the diagram above, a guideline has been drawn to connect the two dart points together.

In order to ensure that the finished seam line will line up correctly, you should also ensure that you have notches on the new seam line that will allow you to check that you have made the pattern change correctly, and ultimately to show the machinist how the two pieces will be sewn together.

For this reason, two guidelines have been marked at the dart points in the diagram above so that once the template is split you will be able to turn the old dart point positions into the placement of notches on the new seam. In the example we have squared these notches out from the guideline between the notch points.

Rather than being a single pattern piece, the finished pattern that we are aiming for will result in two pattern pieces – marked above as pieces A and B. With this in mind, the grain line has also been transferred onto piece B so that it can be transferred accurately to the final pattern piece.

Step 3: Cut and Move



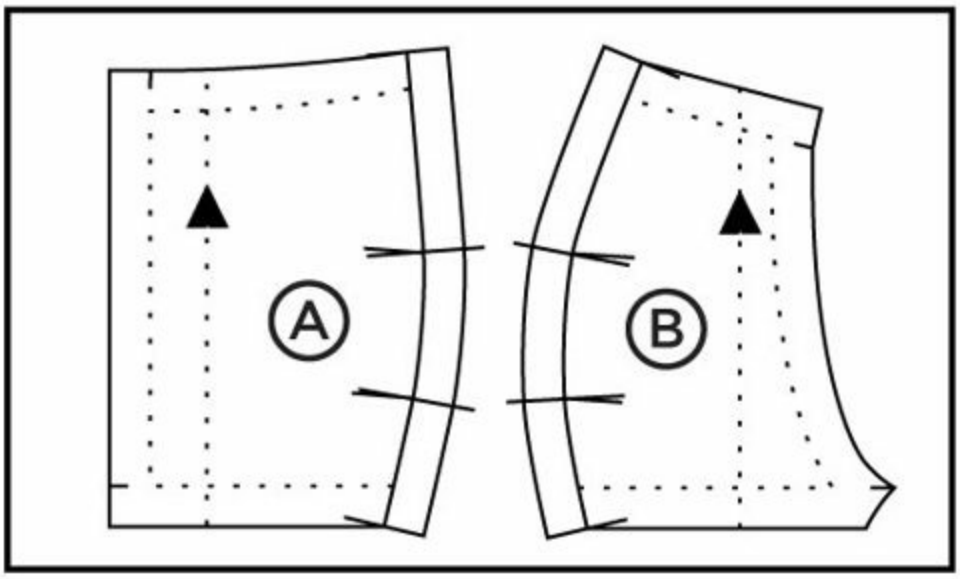
STEP 3 : CUT & MOVE

Next cut along the dart arms of the old darts, to remove the old dart value and all of the markings of the old dart positions. Also cut along the guideline that joins the two darts.

The two triangles of dart value can now be discarded and the fit value that was originally represented by the dart value triangles will become the space between the two seam lines of the final pattern pieces.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position so that you can trace off the new pattern pieces, making sure to leave enough space to draw in your new seam allowance values.

Step 4: Trace and Blend



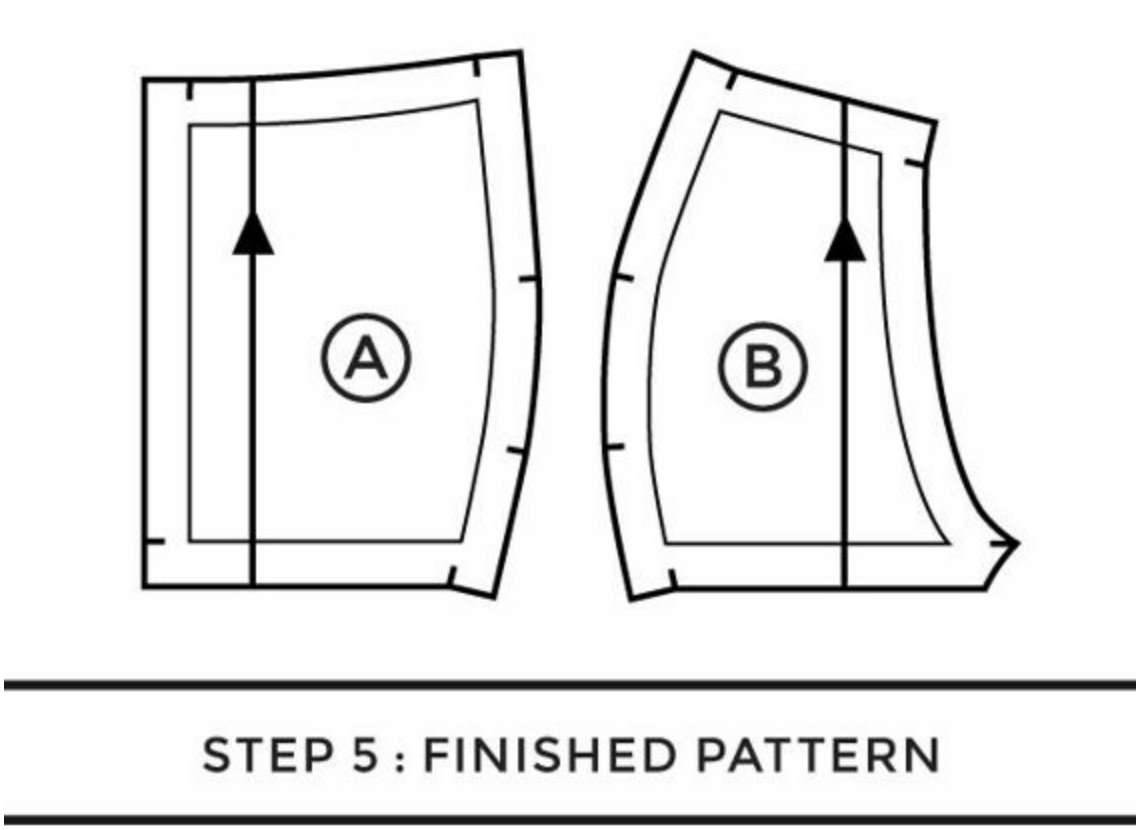
STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below, such as the stitching lines, any guidelines and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. If you need to blend the curve of the stitching line along the location of the cut line, ensure that the finished length of the stitching line is accurate so that both seams will match each other.

Once this new seam line has been smoothed and seam allowance has been added, you should take note of the position of the old dart points on the stitching line, and square out from these points to mark the position of the new notches on the edge of the seam allowance. The notches on either side of the new seam line will need to match precisely when sewn so you should check the position of the notches for accuracy. Now that this seam has been smoothed into a curve, you will also need to ensure that you are squaring out your notch positions to be at right angles to the curve of the stitching line.

Step 5: Finished Pattern

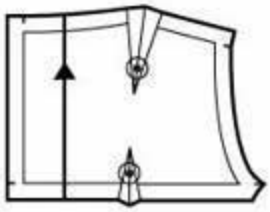


Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

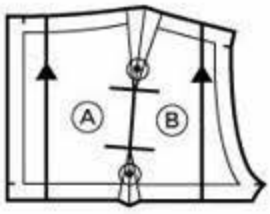
It is important to consider the location of the grain line on your new pattern pieces, as you may have two conflicting grain lines to choose from. In the case of the change above we were able to simply keep the grain line consistent for both piece A and piece B, but in other variations of this pattern change you may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

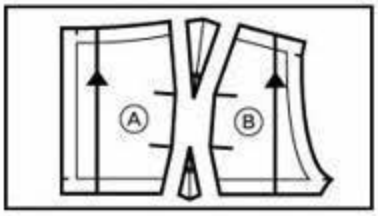
DARTS INTO SEAM LINES:
CUT & SPREAD METHOD



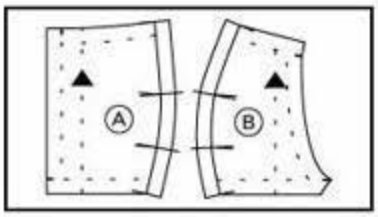
CHECK & COPY



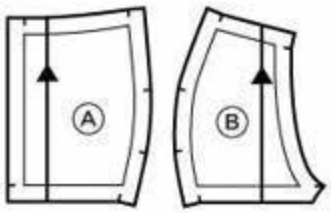
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND

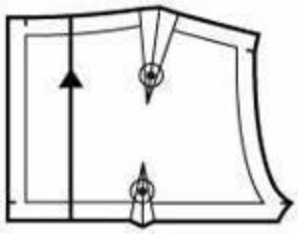


FINISHED PATTERN

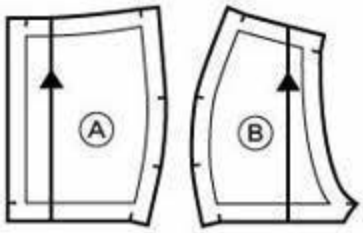
Checking the Transfer of Fit Value

In order to truly understand where the fit value of the darts have gone it is best to overlay the finished patterns on top of each other by aligning the notches of the new seam line.

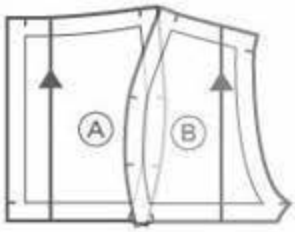
DARTS INTO SEAM LINES:
CHECKING DART VALUE TRANSFER



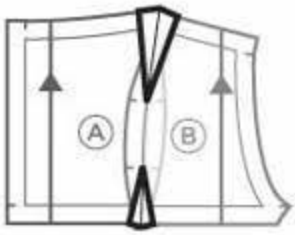
ORIGINAL PATTERN



NEW PATTERN



OVERLAY PATTERNS
TO CHECK FIT VALUE



DART VALUE
IN SEAM LINE

By overlaying the patterns and concentrating on the value of the actual stitching lines, you can visualise the dart value at the top and bottom of the pattern.

The previous diagram labelled "Darts into Seam Lines: Checking Dart Value Transfer" shows that the dart value is still present in the seam line between the two new pattern pieces, but is now represented by the gap between the two seam lines on the new patterns, rather than an actual triangle of dart value. In essence, the dart value is still there making the fit change – it just appears to have disappeared because it has been absorbed into the seam line.

To think about this whole process in reverse, if you have two separate pattern pieces, but want to understand how much dart value has been absorbed into the seam line you could again use the technique of overlaying the pattern pieces. Even if you did not originally make the pattern yourself, by overlaying the pattern pieces at the stitching line, you will be able to see how large or small the gap is between the pattern pieces, and from this information you will be able to judge the size of the dart value that has been absorbed into the seam.

Chapter Summary

In this chapter we learnt that:

- Dart value, and therefore fit value, can be absorbed into seam lines.
- By understanding how to move dart value into seam lines the range of design possibilities is increased.
- Even when there is no visible dart on a pattern, an amount of fit value may still be present in the space between the seam lines.
- To see the fit value in a seam line two pattern pieces can be overlaid to measure how large or small the fit value is of that seam.

Chapter 31

Darts into Seam Lines: Pivot Method

Chapter Overview

In this chapter we will look at how dart value can be absorbed into seam lines through the use of the pivot pattern making method. This will build on our understanding of the cut and spread method from the previous chapter and will show how both pattern methods can be used to achieve the same result.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

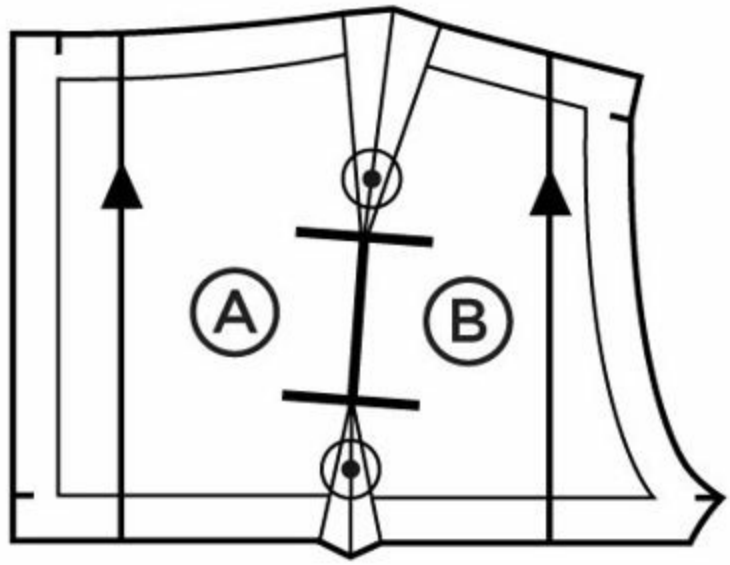
Darts into Seam Lines: Pivot Method

The following exercise will show an example of a pattern change where:

- Two darts are replaced by a single seam line.
- No change to the actual fit of the pattern piece is needed.

This pattern change uses the exact same principles as the cut and spread method, but rather than needing to make a copy of a pattern to cut up into pieces, you will mark the necessary temporary guidelines onto the pattern and use these guidelines to transfer the pattern shapes onto a new sheet of pattern paper or card.

Step 1: Mark Guidelines



STEP 1 : MARK GUIDELINES

Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

For the pattern change in this example, you are going to replace the two darts by a single vertical seam line. This single seam line will still shape the fabric to the body in almost exactly the same way that the darts did. In order to do this you will need to connect the dart points together, and as you can see in the diagram above, a guideline has been drawn to connect the two dart points together.

In order to ensure that the finished seam line will line up correctly, you should also ensure that you have notches on the new seam line that will allow you to check that you have made the pattern change correctly, and ultimately to show the machinist how the two pieces will be sewn together.

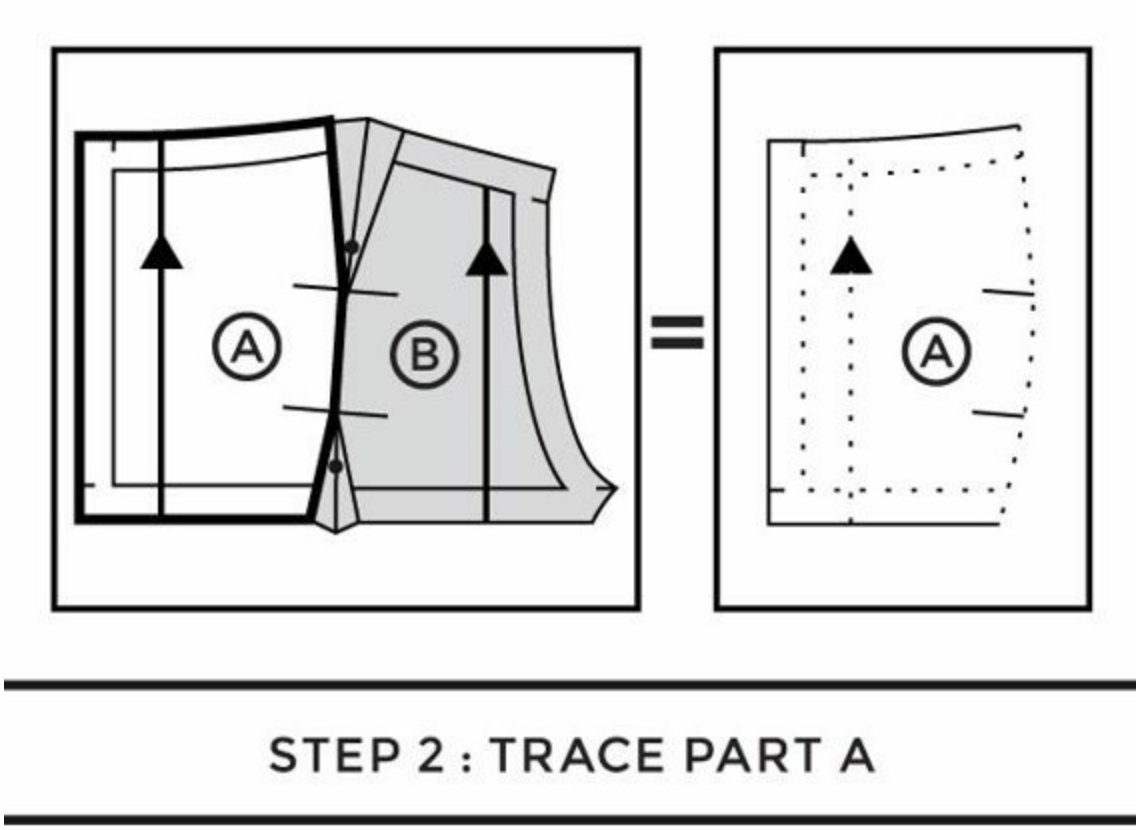
For this reason, two guidelines have been marked at the dart points so that once the pattern has been traced in two separate sections, you will be able to turn the old dart point positions into the placement of notches on the new seam. In the example we have squared these notches out from the guideline between the notch points.

As these guidelines will only be temporary it may be best to mark these guidelines in pencil so that they can be removed from the original pattern later.

Rather than being a single pattern piece, the finished pattern that we are aiming for will result in two pattern pieces – marked above as pieces A and B. With this in mind, the grain line has also been

transferred onto piece B so that it can be transferred accurately to the final pattern piece.

Step 2: Trace Part A



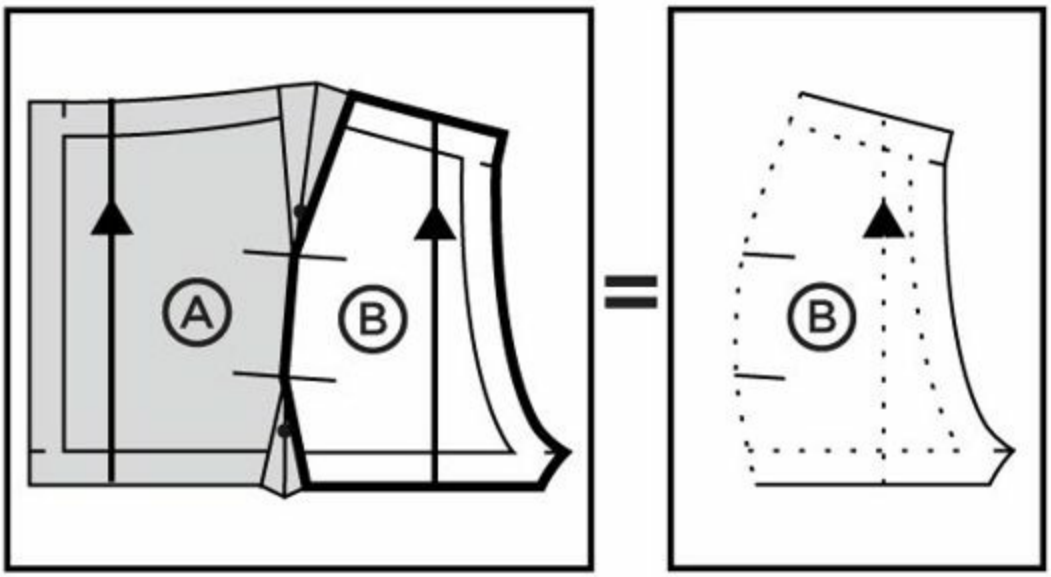
Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance in an anticlockwise direction between the arms of the two darts starting at the dart value at the top and ending at the dart value at the bottom.

Use a tracing wheel to transfer the guideline marking following down the dart arm, along the guideline and through the dart arm on the other side. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

In the diagram above, labelled as “Step 2: Trace Part A”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 3: Move and Trace Part B



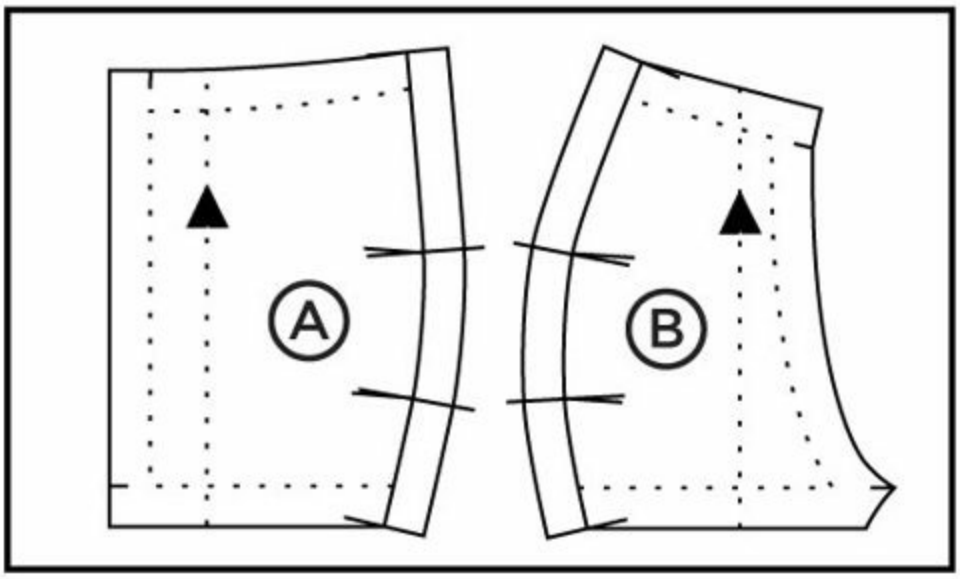
STEP 3 : MOVE & TRACE PART B

Next you will need to move the pattern piece across the fresh sheet of paper to give yourself enough space to trace out part B, including enough space for the seam allowance value on the new seam.

In order to transfer part B onto the fresh sheet of paper, follow the same basic process as for part A. Trace around the outside seam allowance between the dart arms and then using a tracing wheel to transfer the position of the old dart arms, guidelines, grain line and notches.

In the diagram above, labelled as “Step 3: Move & Trace Part B”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 4: Check and Blend



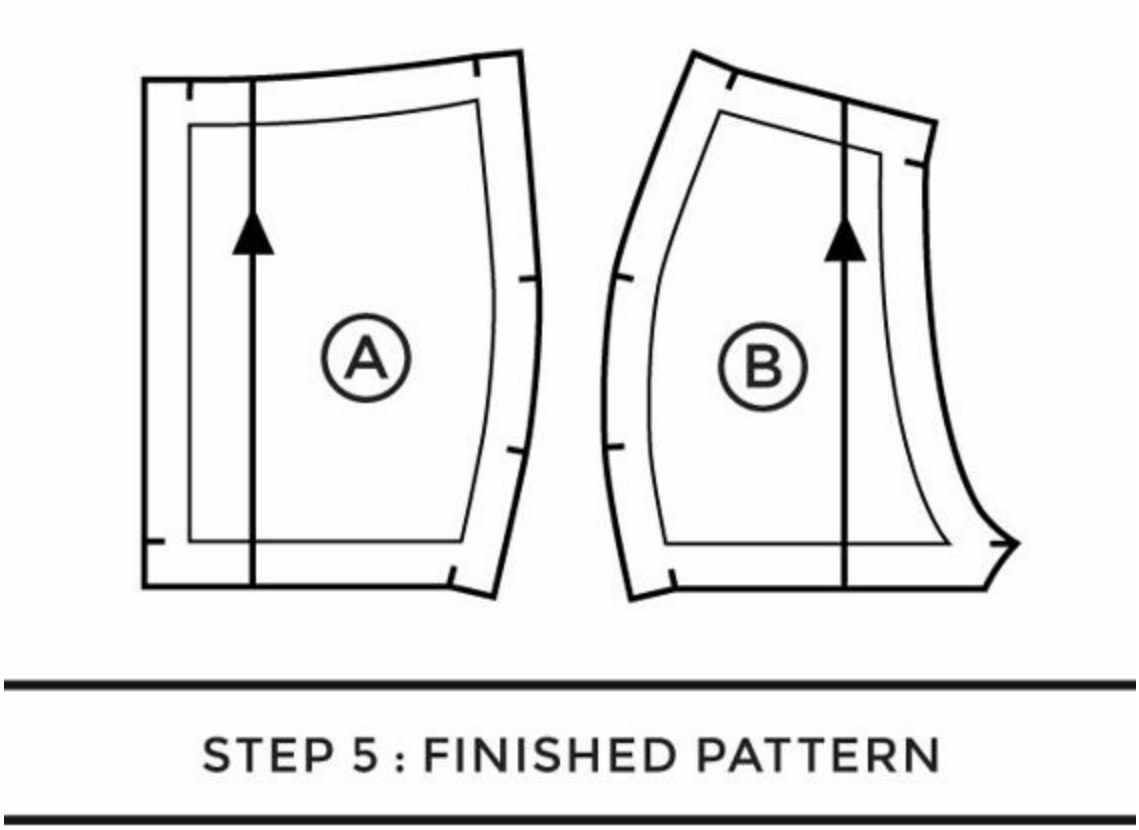
STEP 4 : CHECK & BLEND

Check the tracing lines making sure that the stitching lines are the correct measurements around the entire pattern and that the seam allowance values have been transferred correctly.

If you need to blend the curve of the stitching line along the location of the old dart arms and guideline, ensure that the finished length of the stitching line is accurate so that both seams will match each other.

Once this new seam line has been smoothed and seam allowance has been added, you should take note of the position of the old dart points on the stitching line, and square out from these points to mark the position of the new notches on the edge of the seam allowance. The notches on either side of the new seam line will need to match precisely when sewn so you should check the position of the notches for accuracy. Now that this seam has been smoothed into a curve, you will also need to ensure that you are squaring out your notch positions to be at right angles to the curve of the stitching line.

Step 5: Finished Pattern

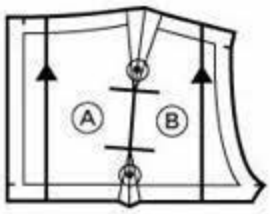


Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

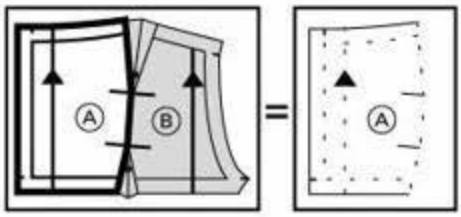
It is important to consider the location of the grain line on your new pattern pieces, as you may have two conflicting grain lines to choose from. In the case of the change above we were able to simply keep the grain line consistent for both piece A and piece B, but in other variations of this pattern change you may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

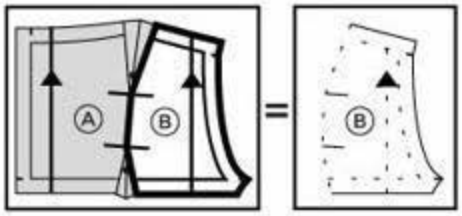
DART VALUE INTO SEAM LINE: PIVOT METHOD



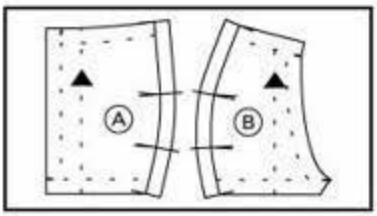
MARK GUIDELINES



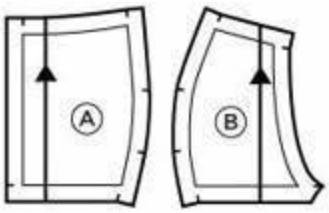
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- The pivot method can be used to transfer dart value into a seam line.
- The pivot method will produce the same result as the cut and spread method.

Chapter 32

Darts into Seam Lines: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin. This will allow us to visualise the shape of these patterns in relation to the body and will show how both darts and seam lines can be used to shape fabric to the curves of the body.

Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

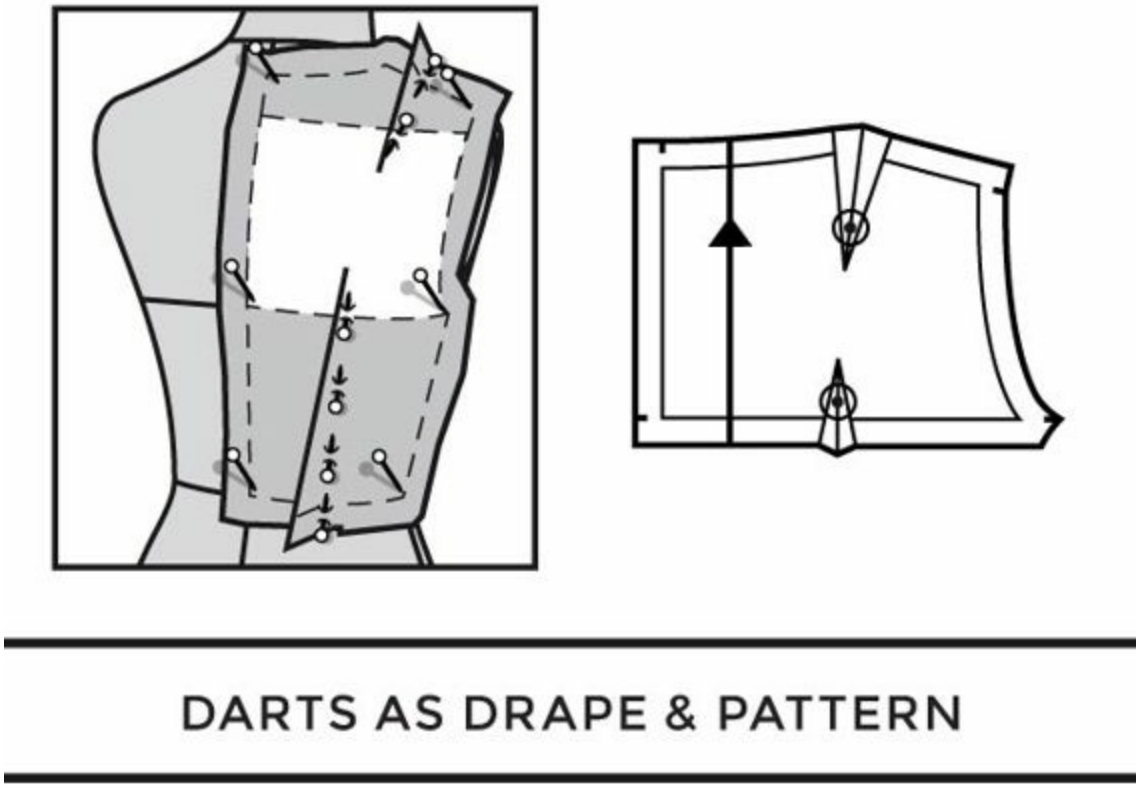
Draping Darts and Seams

In the following diagrams, both the “original” patterns and “finished” patterns from the last two chapters have been depicted on the mannequin so that you can see how the darts and seam lines work with the curves of the body.

If you were to construct a drape on the mannequin with darts for shaping, and then decided that you wished to change the drape to have a seam line instead, then your approach to changing the drape would be quite different to when making a flat pattern making change.

As opposed to the cut and spread and pivot methods shown in the previous chapters, if you were working using a drape process and your drape was still on the mannequin when you decided to make the change from darts to a seam line then you would simply slice up the fabric, and pin in the new panel piece to create the new seam line.

Original Pattern: Shaping with Darts



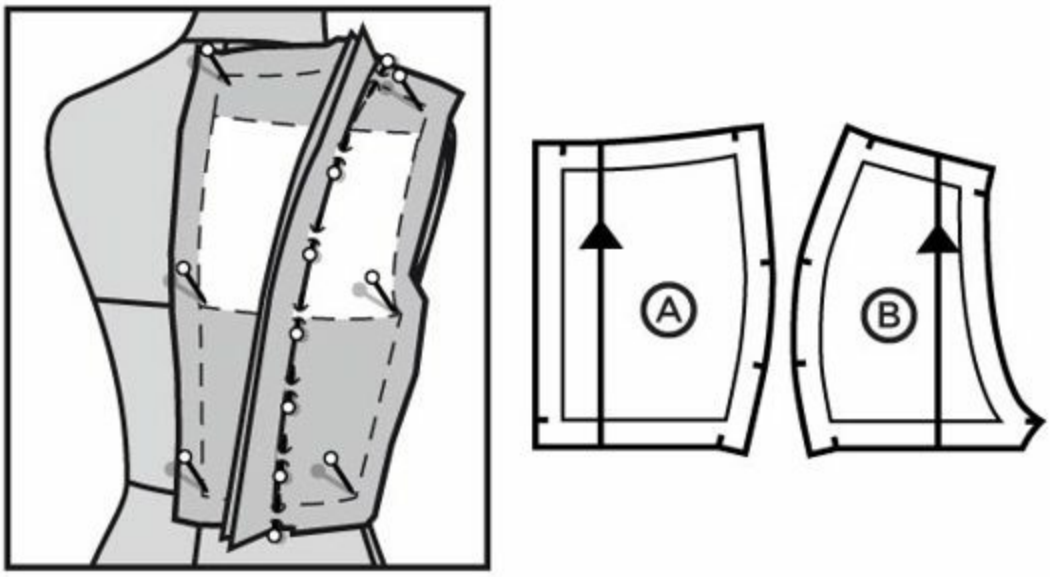
DARTS AS DRAPE & PATTERN

In the diagram above labelled as "Darts as Drape & Pattern" the diagram on the left shows the back of a mannequin that has a drape for a back bodice pinned onto it. The drape is secured with pins, and the dart value at the waist and the shoulder has also been pinned out, so that the drape fits smoothly to the body.

While the rest of the back bodice drape has been greyed out, an area has been highlighted to allow you to compare the section of the drape within the stitching line, to the shape of the pattern on the right.

The diagram on the right is the same “original pattern” that we used for the previous chapters on the cut and spread and pivot techniques.

Finished Pattern: Shaping with a Seam Line



SEAM LINE AS DRAPE & PATTERN

In the diagram above labelled as "Seam Line as Drape & Pattern" the diagram on the left shows the back of a mannequin that has a drape for a back bodice pinned onto it. The drape is again secured with pins, but this time the dart value between the waist and shoulder darts have been pinned into one single continuous seam, so that the drape fits smoothly to the body.

While the rest of the back bodice drape has been greyed out, an area has been highlighted in white to allow you to compare this section of the drape to the pattern on the right. Again the focus is on the comparison between the area within the stitching line of the drape and the pattern.

The diagram on the right is the same “finished pattern” that we used for the previous chapters on the cut and spread and pivot techniques.

In both of these diagrams, whether using darts or seam lines, you can see how the essential fit of the garment is the same. In some situations it may be more appropriate to your design to use a dart, or you may prefer to use a seam line. By understanding how to change your pattern or drape to either version, you will be more flexible in your design options, and be able to make pattern changes from darts to seam lines without worrying that you will have completely disturbed the fit of your pattern.

Chapter Summary

In this chapter we learnt that:

- A draped garment can fit the body in the same way, whether using darts or seam lines.
- By picturing the drape of a pattern it will help you to understand the way that the pattern relates to the body.

Chapter 33

Seam Lines into Darts: Cut and Spread Method

Chapter Overview

In the previous chapters we examined the way that dart value can be absorbed into a seam line, but what if you wanted to do the reverse, turning a seam line into a pattern piece with a dart?

As an extension of the principles covered in the previous chapters, in this chapter we will summarise how you would turn a seam line into darts using the cut and spread method. This will help to clarify the idea that fit value, whether seen as darts, or as negative space between pattern pieces, is a value that can be moved to different locations on the pattern.

Reversing a Pattern Making Method

It is important to learn how to think of any flat pattern making process in the reverse order. By learning how to do this you will be able to reverse any pattern changes if necessary. It also helps to verify that you understand the principle of a pattern change, if you can imagine how that pattern change would work in reverse.

Understanding pattern changes in this way will also allow you greater flexibility when pattern making your own designs, because if you are more comfortable with reversing and combining different processes, then you will be more likely to experiment with different methods while you work rather than being confined to a limited range of pattern changes.

In this book we have already covered one pattern making process in reverse – we added a seam line to a pattern piece and then reversed this process by removing the seam again. However, there are many pattern changes that can be reversed in this same way. For example, changing seam lines into darts is essentially just the reverse of the process that we used in the previous chapters where we turned darts into a seam line.

In this chapter we will examine how to turn a seam line into darts, so that the fit value that was previously part of the seam construction becomes two darts on the final pattern piece. By understanding how this process works, it will help to confirm the idea that pattern volume can be moved into new locations, without drastically changing the fit of the pattern.

Fit Value in Darts and Seams

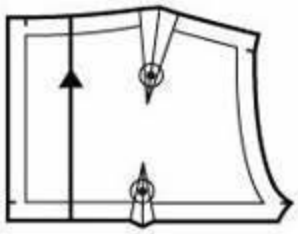
The basic idea behind this pattern change is that you will want to connect two pattern pieces together by overlaying them at the stitching lines where possible, and then turning the gaps between the stitching lines into darts.

This pattern change is ideal for situations where you have two pattern pieces that don't perfectly match. For example, when we removed a straight seam line, in earlier chapters of this book, we were assuming that the seams were simply straight lines that matched exactly, leaving no gaps between the stitching lines. This created a very straightforward pattern change, combining the two pieces along the stitching line and eliminating the seam allowance value.

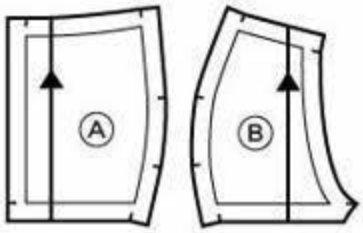
However, when seam lines are curved they are often specifically curved to allow the garment to fit to the curves of the body. This means that you cannot simply overlay the two pattern pieces in such a straightforward manner, and you must account for the fit value in some way.

This idea becomes more easily understood when you consider the following diagram that we discussed in an earlier chapter in this book:

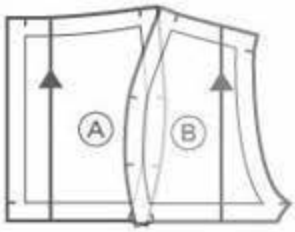
DARTS INTO SEAM LINES:
CHECKING DART VALUE TRANSFER



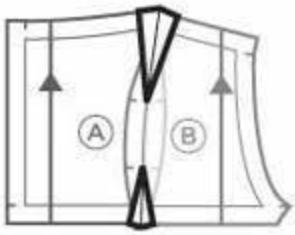
ORIGINAL PATTERN



NEW PATTERN



OVERLAY PATTERNS
TO CHECK FIT VALUE



DART VALUE
IN SEAM LINE

Earlier in this book (Chapter 30: Darts into Seam Lines), the previous diagram was used to illustrate the hidden dart value between two curved seam lines. You can see that by overlaying the two pattern pieces marked above as “New Pattern”, the centre section of stitching line between the notches will match almost exactly, but two triangles of gap area are created between the stitching lines at the top and bottom of the pattern pieces.

These extra areas are essentially negative space around the pattern, areas outside of the stitching line that don’t represent the real value of the finished garment. So in the following example, these are the areas that we will simply turn into darts. If needed you could also turn these areas of negative space into seam allowance value to enable you to stitch the area closed, but as they are triangular gaps, they lend themselves to being turned into darts.

Seam Lines into Darts Overview

The following exercise will show an example of a pattern change where:

- A single seam line is replaced by two darts.
- No change to the actual fit of the pattern piece is needed.

It is easiest to understand the following pattern change if you concentrate on the volume within the stitching line, as this is really the space that constitutes the finished garment. Remember that dart value, just like seam allowance, holds no actual bearing on the volume of the actual finished garment but simply acts as space for construction.

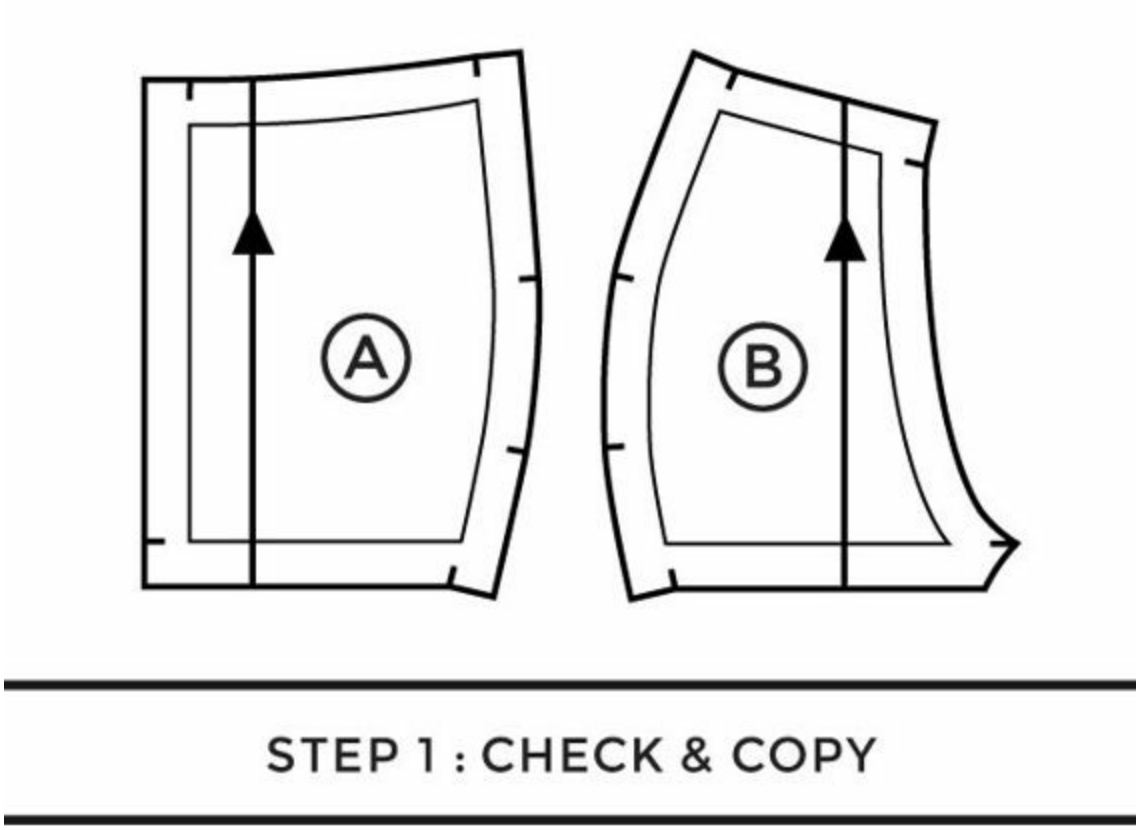
By focusing on the volume within the stitching line, and seeing how this space remains constant from the original pattern to the finished pattern, this will help to explain why the seam allowance value can be removed in the cut and spread method, leaving the gaps to be turned into darts to preserve the fit value.

Note that this example is specifically designed around two pattern pieces that have seams that join exactly, without any ease value on either pattern piece. We will discuss ease value in more detail later (Chapter 51: Ease and Fabric Roll), but be aware that the example in this chapter is specifically designed around a curved seam line where the two stitching lines that will be joined are exactly equal in length.

Seam Lines into Darts: Cut and Spread Method

The basic process of turning seam lines into darts is a very similar process to that of removing a straight seam line from a pattern, but with the added step of turning the gaps created by the cut and spread method into dart value.

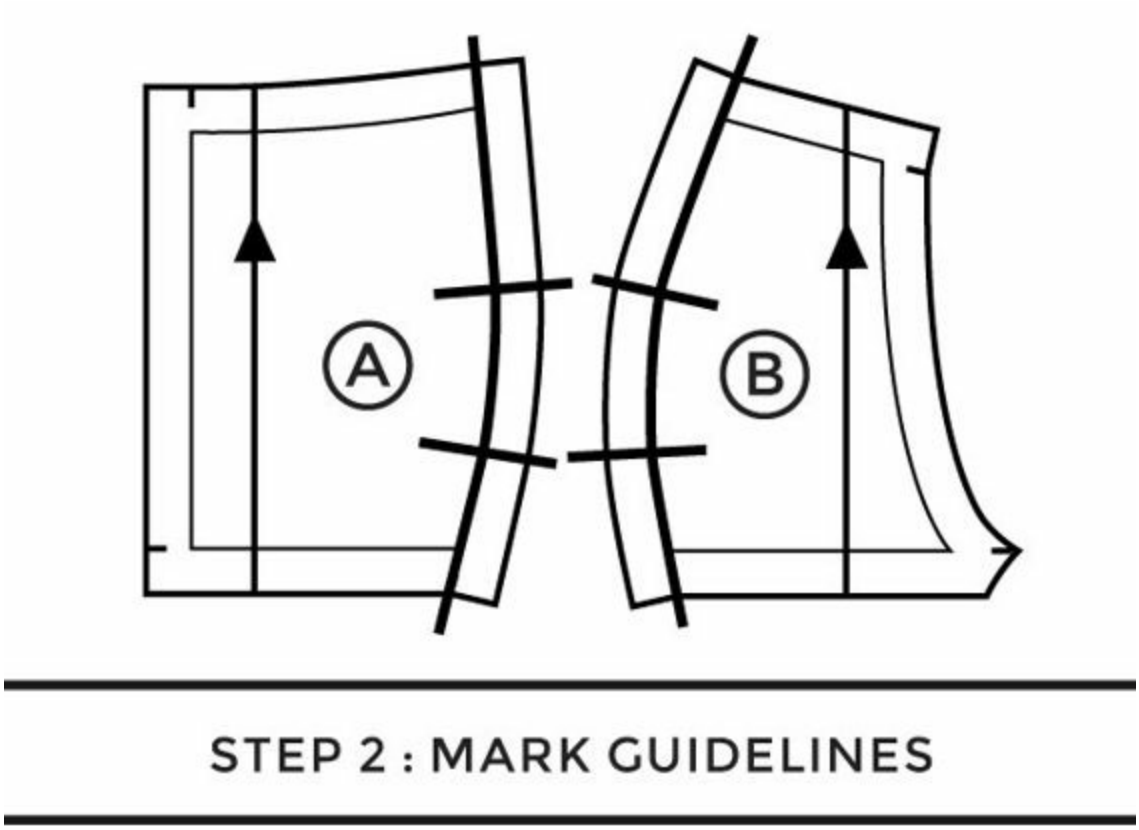
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern pieces that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. These will become your template pieces that you will cut and spread in the following steps.

Step 2: Mark Guidelines

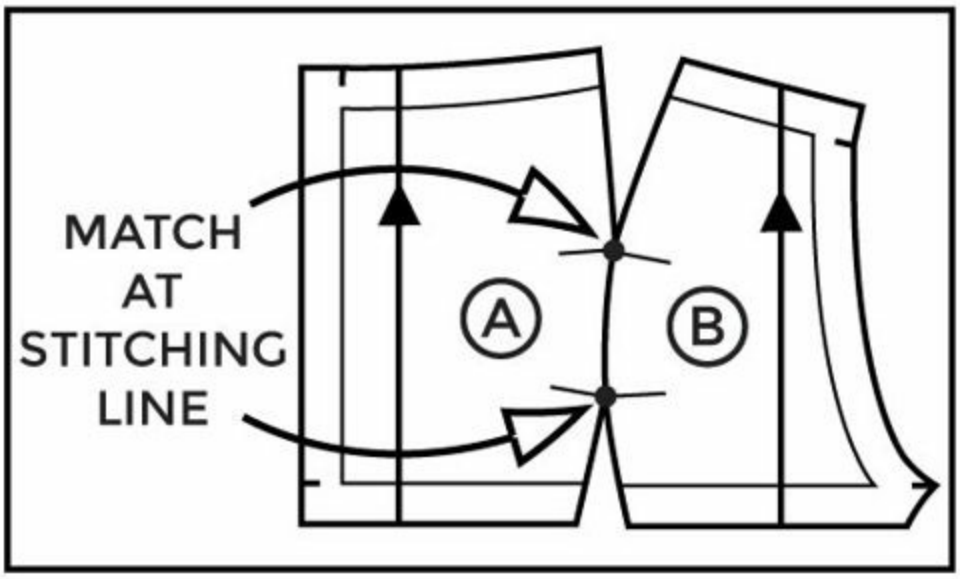


For the pattern change that you are about to make, you are going to replace a single vertical seam line with two darts.

The shaping within the seam line will be more obvious once the seam allowance value has been discarded, so the diagram above shows that two guidelines have been drawn along the stitching lines of the seam that will be joined.

In order to ensure that the two cut template pieces will match up correctly, you should extend the notches back to the stitching line so that they can be used to guide you in the next step.

Step 3: Cut and Move



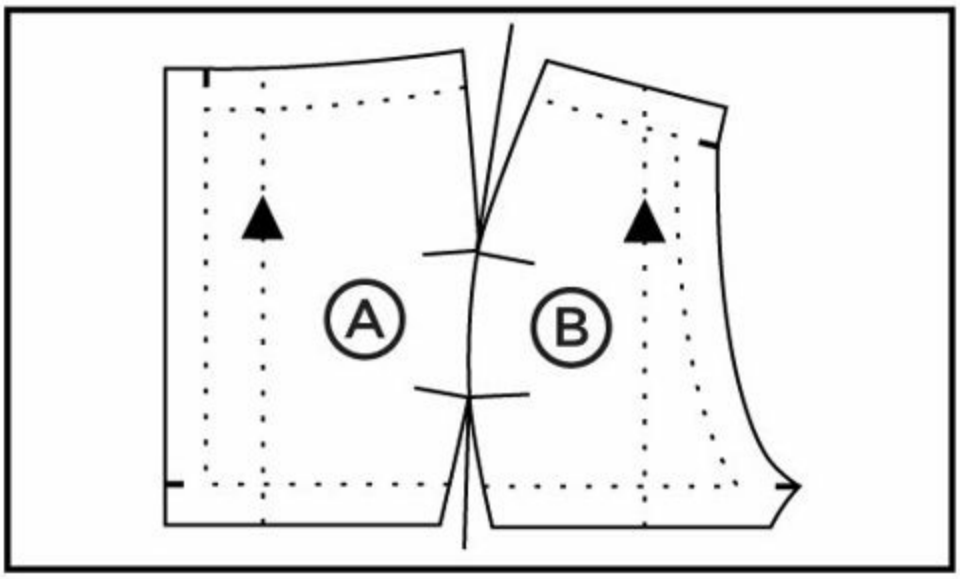
STEP 3 : CUT & MOVE

Next cut along the seam allowance values to remove them from the template pieces. You will now essentially match the two template pieces as though they were being sewn together, concentrating on joining the two template pieces at the stitching line, and using the notches to ensure they are matched up correctly.

It now becomes easier to see the extra gaps that will form the new darts at the top and bottom of the pattern. These gaps represent the fit value that was previously absorbed into the seam line. You may end up with a slight overlap between the two template pieces along the matched stitching line. You should be careful with this amount and consider whether the volume in this area will have a significant affect on the fit of the pattern. This will be covered in more detail in later chapters of this book on increasing and decreasing volume, so that you can decide for yourself if the amount will cause fit problems.

Place the templates that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the template pieces into position so that you can trace off the new pattern piece, making sure to leave enough space to draw in your new dart values.

Step 4: Trace and Blend



STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below, such as the stitching lines, any guidelines and the position of the grain lines.

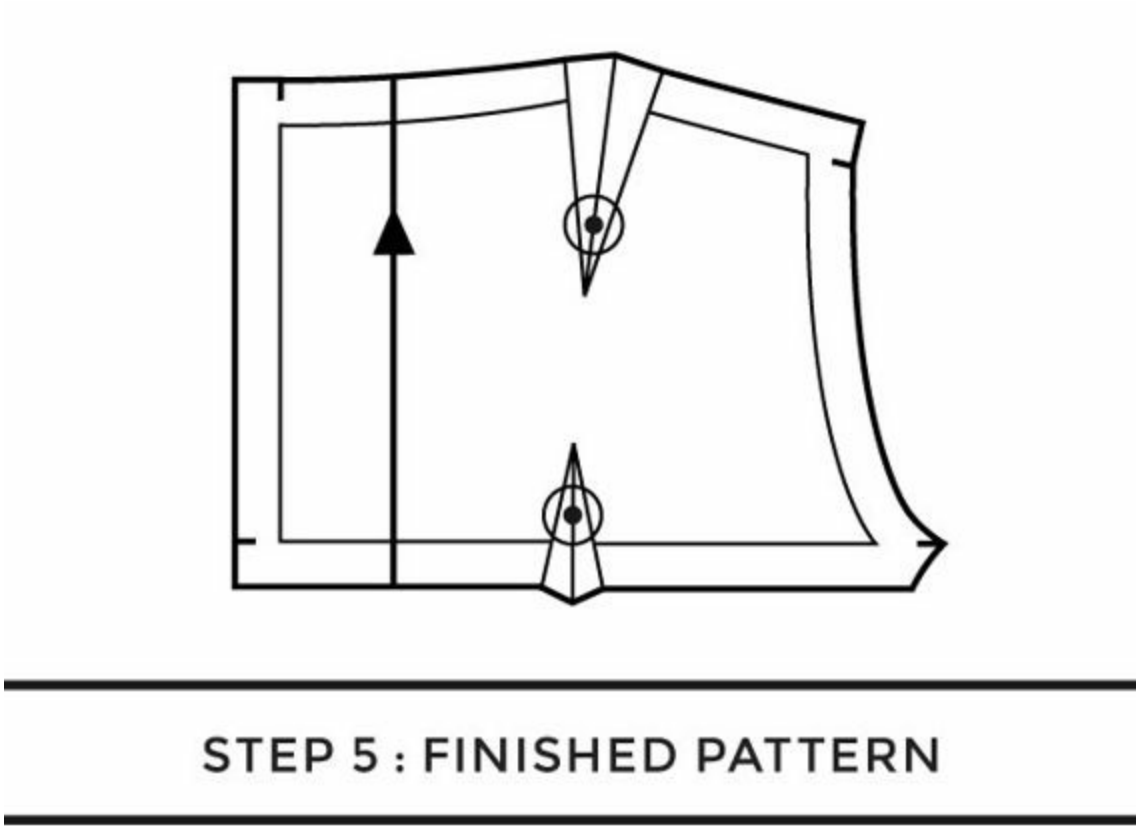
Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly.

The points where the stitching lines of both template pieces have met each other will become your new dart point locations. In this case this is also conveniently the position of our notches, but the dart points will not always be drawn from the position of old notches. This will be covered in more detail later in the chapter.

You will need to rule out from the dart points to create two new dart arms for each new dart. You should measure from the dart point to the stitching line on each dart arm to ensure that the dart arms are equal in length and will match when sewn together.

You should then measure between the two dart arms on the stitching line to find a mid point for the dart, and draw a centre guideline down the middle of the dart value.

Step 5: Finished Pattern



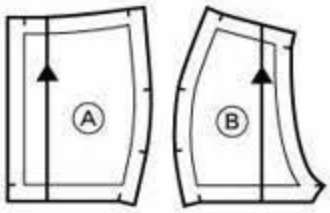
Finalise any seam allowance by squaring off where needed and consider where you may need new notches on any adjoining pattern pieces to help when sewing.

It is important to consider the location of the grain line on your new pattern piece, as you may have two conflicting grain lines to choose from. In the case of the change above we were able to simply keep the grain line of piece A, as the grain line of both A and B were running parallel, but in other variations of this pattern change you may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

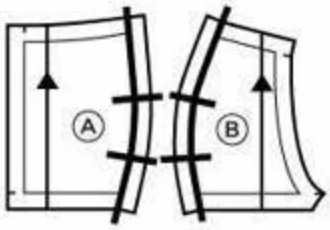
You will need to fold out the dart values of the new darts before shaping the dart value at the seam allowance edge. You will also need to mark drill holes at points set back from the dart points so that the new darts can be transferred correctly onto the fabric.

The following diagrams show an overview of this process:

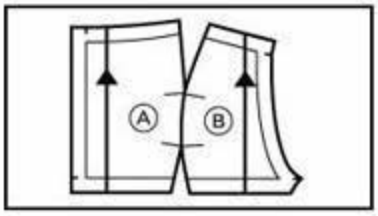
SEAM LINES INTO DARTS:
CUT & SPREAD METHOD



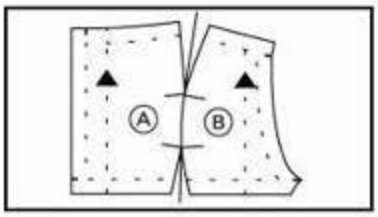
CHECK & COPY



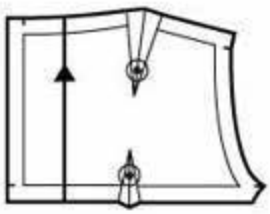
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND

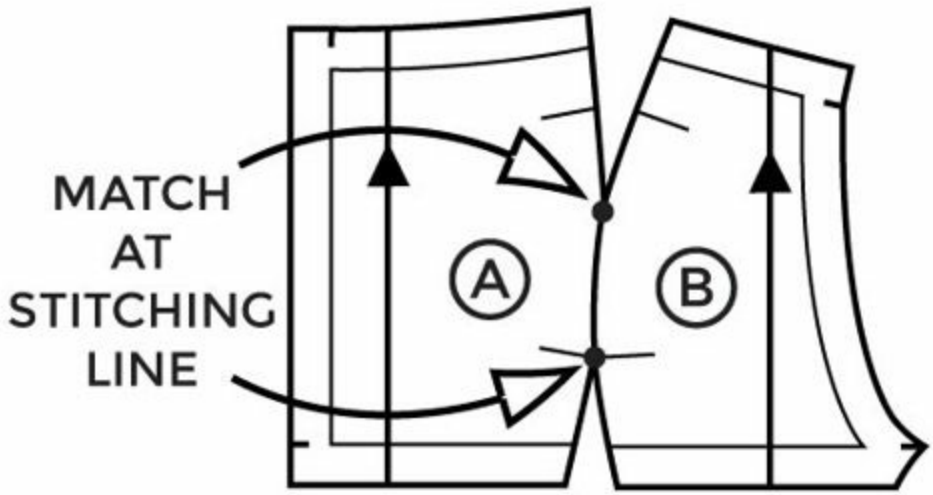


FINISHED PATTERN

Matching at the Stitching Line

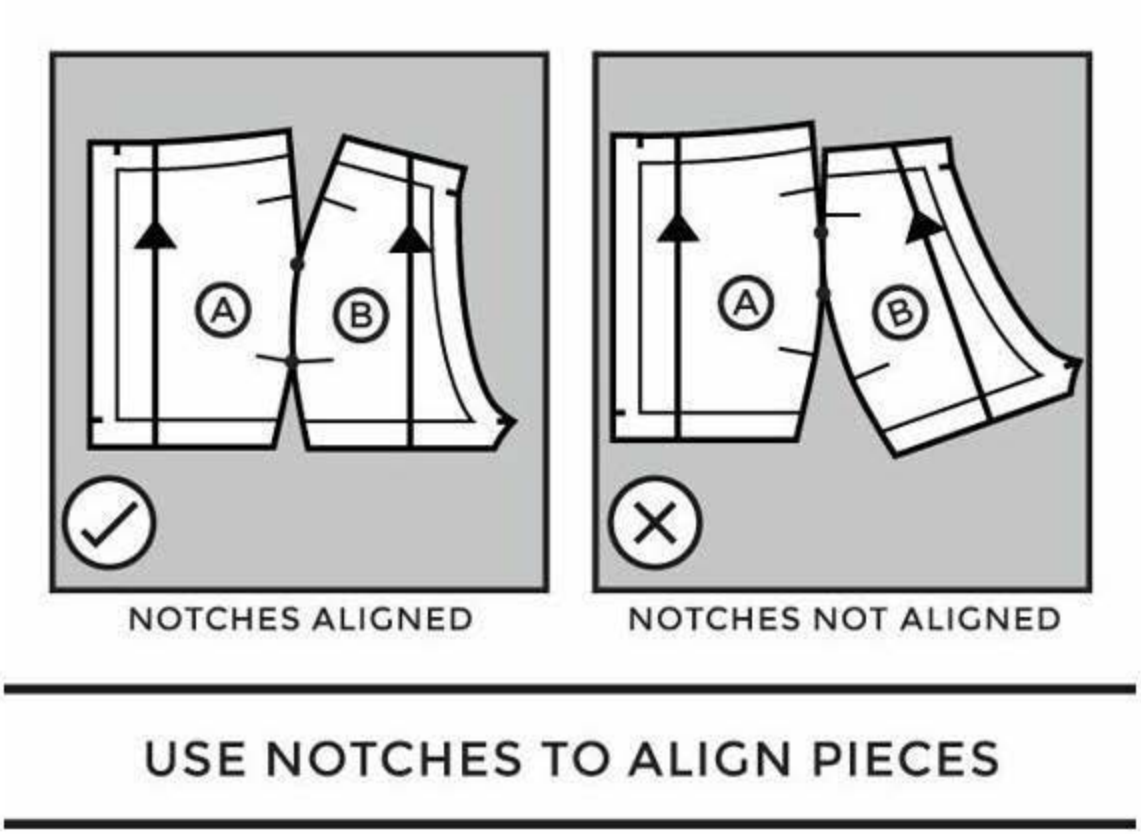
The key to this process if you are adopting this method for your own variations, is to concentrate on matching the stitching lines, not necessarily just the notches. In the example above the notches conveniently matched the location of our dart points, but on your own patterns the pattern pieces may have notches in different locations. The notch positions are simply used to help you line up the two pattern pieces, as though they are being sewn, but what you really need to match is the stitching lines.

This is shown in the following diagram in a situation where the notches are not at the point where the stitching lines can be easily joined:



MATCHING AT THE STITCHING LINE

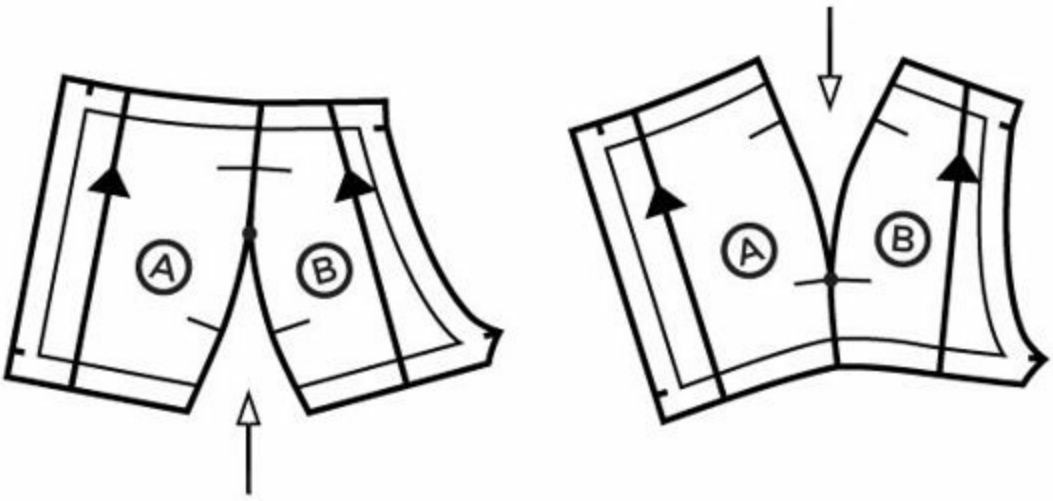
You also need to ensure that you match the seams correctly otherwise it will be impossible to ensure that the arms of your darts will be the correct length. You can do this by aligning the notches as shown in the following diagram:



Variations of Seam Lines into Darts

This process can also be easily adapted to create a single curved dart in the top or bottom of the pattern piece, rather than splitting the dart value into small darts.

For example, in the diagrams below you can see how the same process of joining at a point on the stitching line could be used to open up dart value at the top or bottom of the join in the pattern pieces:



VARIATIONS OF DART POSITIONS

Essentially this works because the actual area within the stitching line is not significantly changing in size because you are simply swinging the two original pattern pieces along the stitching line.

In both of these cases however, you can see that the grain line positions of pieces A and B have been caused to change so that they are no longer parallel, so in this case the new pattern piece would need to be tested to ensure that the new grain line did not have an unexpected impact on the fit of the garment.

Chapter Summary

In this chapter we learnt that:

- Fit value is used in darts but also absorbed into seam lines.
- By understanding how to move fit value from seam lines into dart value the range of design possibilities is increased.

Chapter 34

Seam Lines into Darts: Pivot Method

Chapter Overview

In this chapter we will look at how fit value can be moved from seam lines into darts through the use of the pivot pattern making method. This will build on our understanding of the cut and spread method from the previous chapter and will show how both pattern methods can be used to achieve the same result.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Seam Lines into Darts: Pivot Method

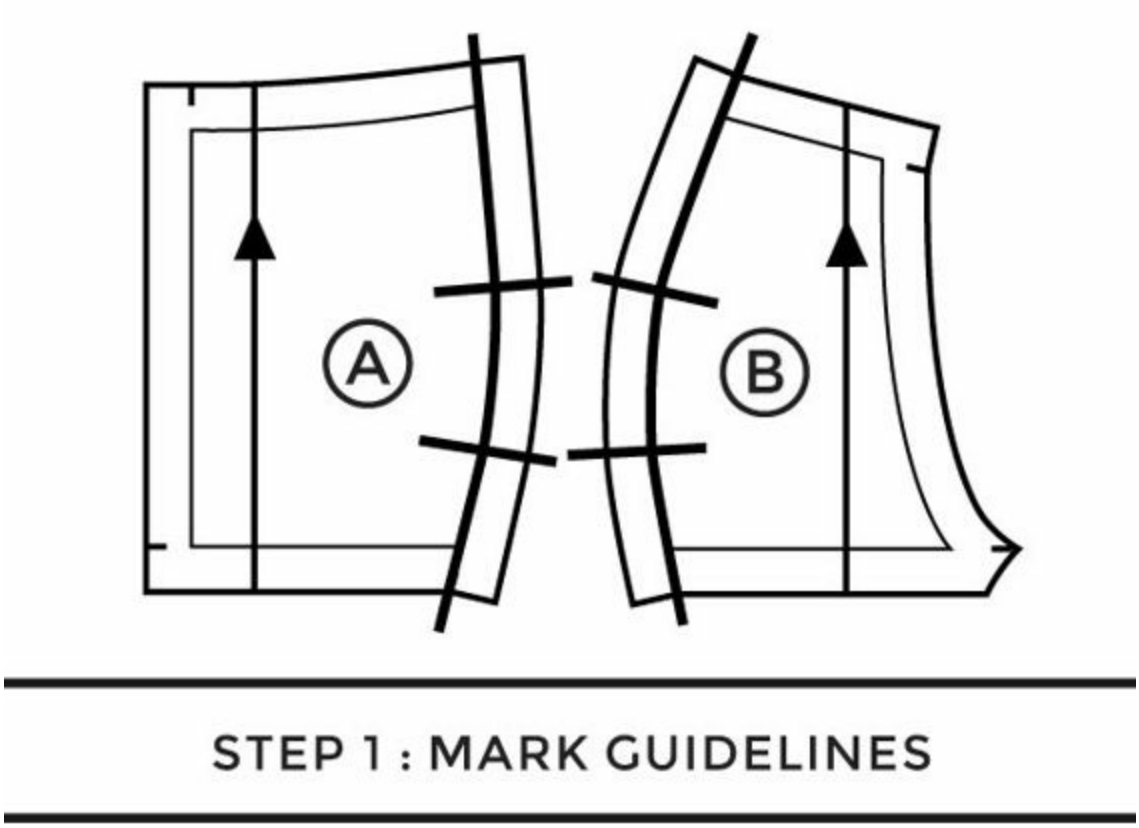
The following exercise will show an example of a pattern change where:

- A single seam line is replaced by two darts.
- No change to the actual fit of the pattern piece is needed.

This pattern change uses the exact same principles as the cut and spread method, but rather than needing to make a copy of a pattern to cut up into pieces, you will mark the necessary temporary guidelines onto the pattern and use these guidelines to transfer the pattern shapes onto a new sheet of pattern paper or card.

This process is simpler to understand if completed using the cut and spread method, however there may be times where you wish to use the pivot method to create the same result.

Step 1: Mark Guidelines



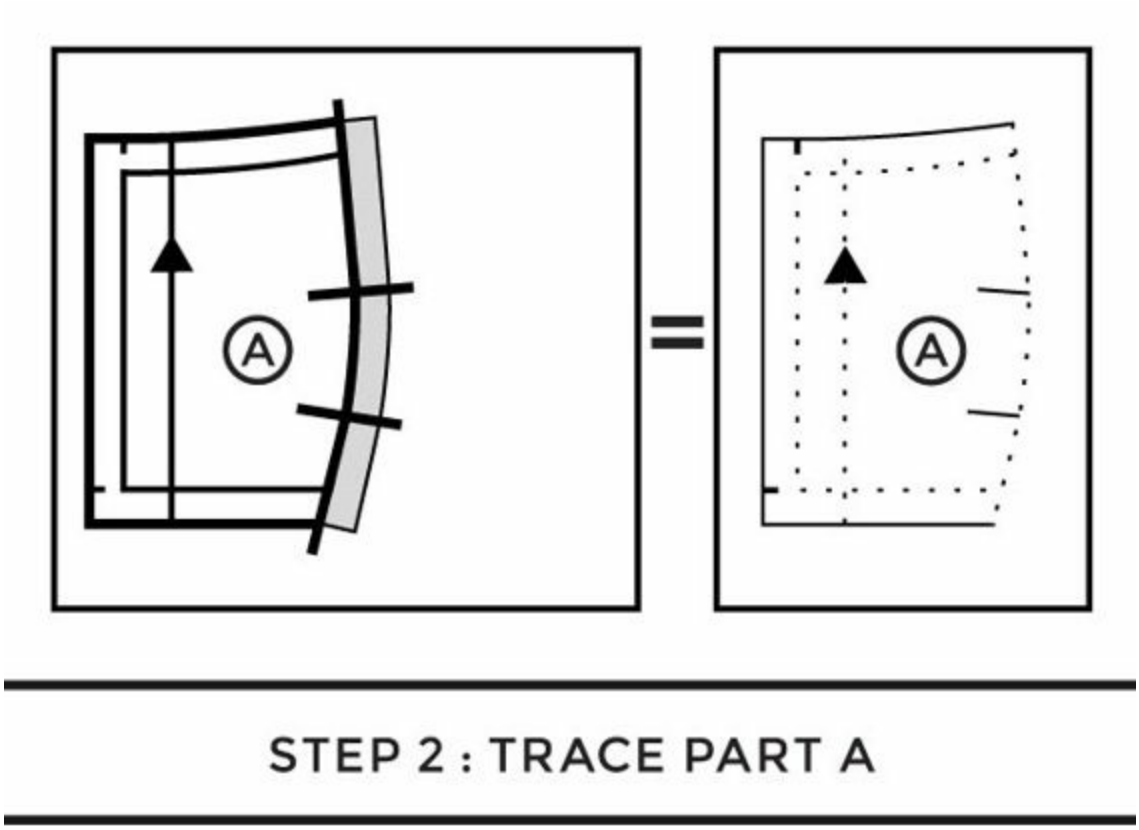
Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

For the pattern change that you are about to make, you are going to replace a single vertical seam line with two darts.

In order to ensure that the two pattern pieces will match up correctly while completing the pivot process, you should extend the notches back to the stitching line so that they can be used to guide you in the following steps.

As these guidelines will only be temporary it may be best to mark these guidelines in pencil so that they can be removed from the original pattern later.

Step 2: Trace Part A



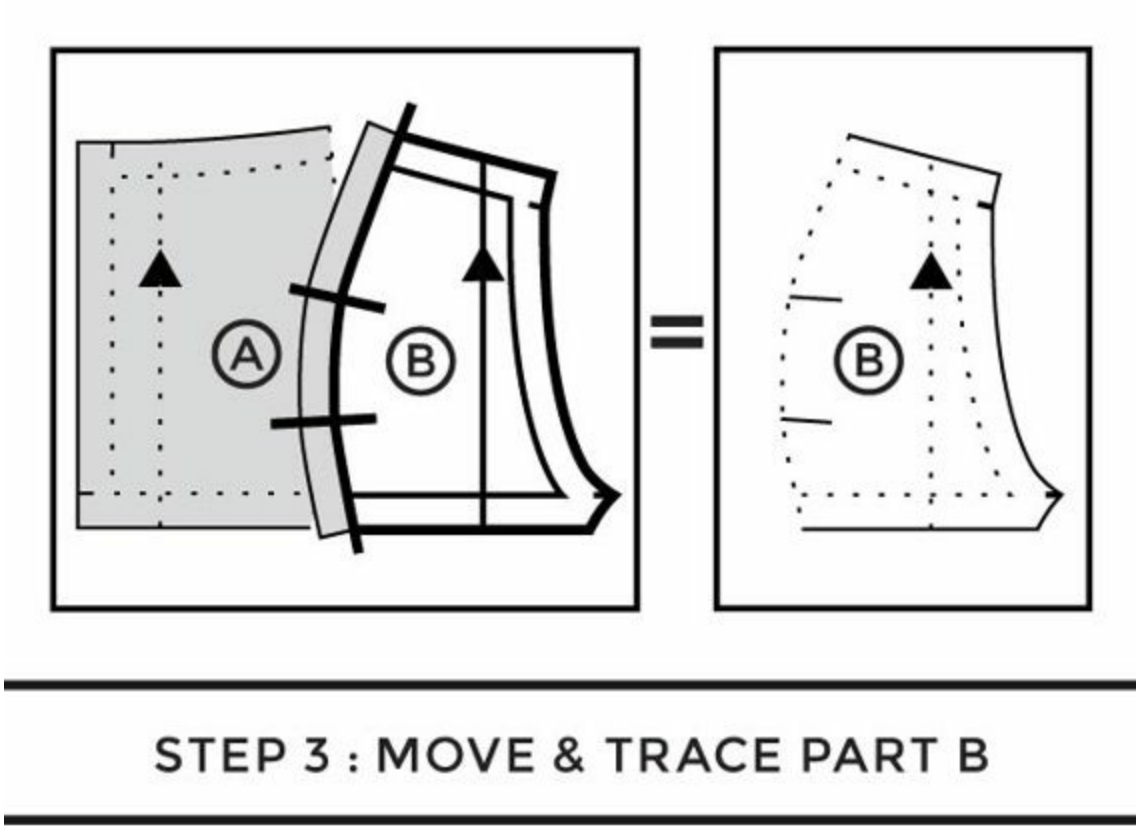
Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance in an anticlockwise direction from the guideline at the top and ending at the guideline at the bottom. The seam allowance value along the seam that is being removed does not need to be traced, and is greyed out in the diagram above.

Use a tracing wheel to transfer the guideline marking following down the stitching line. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

In the diagram above, labelled as “Step 2: Trace Part A”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 3: Move and Trace Part B

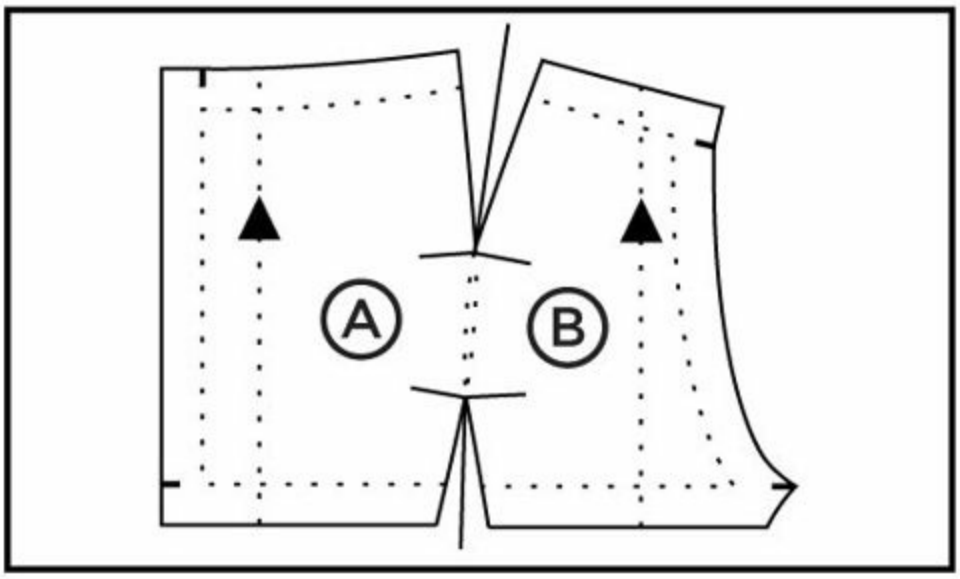


Next you will need to trace the second pattern piece onto the fresh sheet of paper, marked above as part B. You will line up the position of part B along the stitching line of part A, in the same way that we did during the cut and spread method. This will mean that you also need to be careful to align the notch positions correctly.

In order to transfer part B onto the fresh sheet of paper, follow the same basic process as for part A. Trace around the outside seam allowance from the top to the bottom of the guideline and then use a tracing wheel to transfer the position of the guideline, stitching line, grain line and notches.

In the diagram above, labelled as “Step 3: Move & Trace Part B” in the diagram on the left the tracing from part A is shown greyed out in order to show how to position part B on top of the paper. The seam allowance of part B is also greyed out, as it does not need to be traced. The diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 4: Check and Blend



STEP 4 : CHECK & BLEND

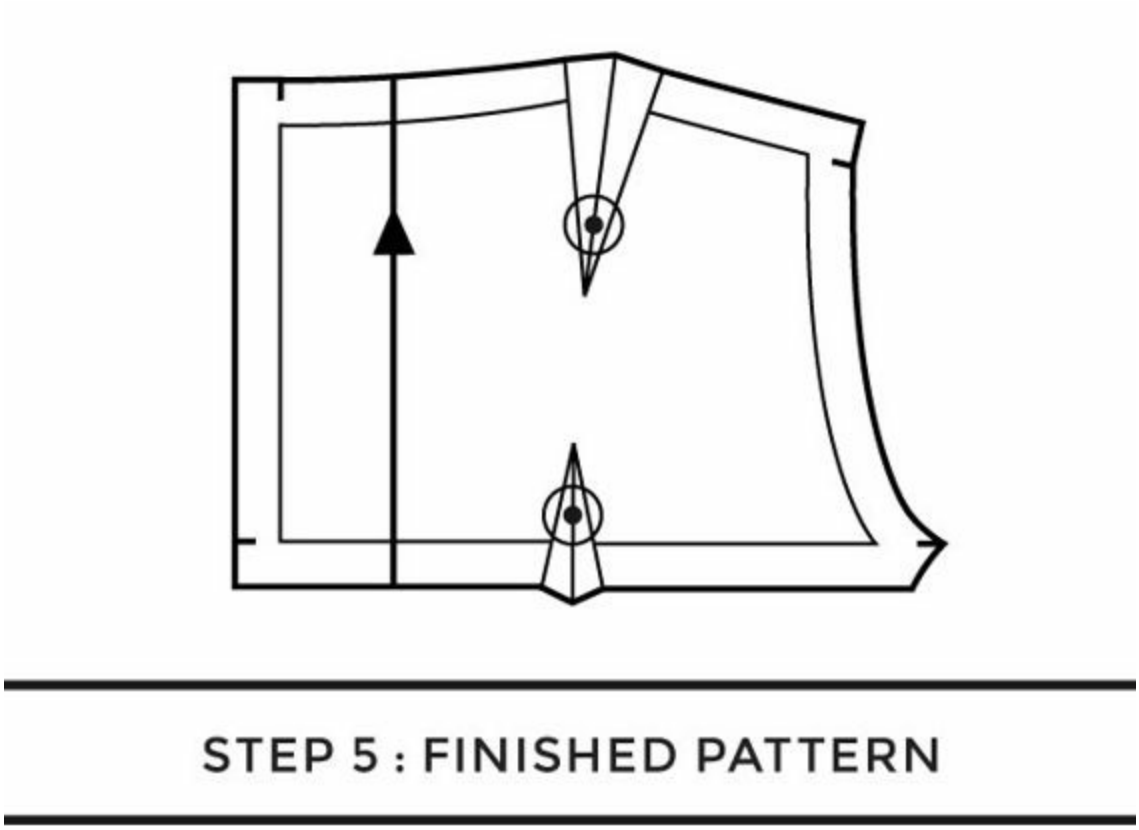
Check the tracing lines, making sure that the stitching lines are the correct measurements around the entire pattern and that the seam allowance values have been transferred correctly.

You may end up with a slight overlap between the two template pieces along the matched stitching line. You should be careful with this amount and consider whether the volume in this area will have a significant affect on the fit of the pattern. This will be covered in more detail in later chapters of this book on increasing and decreasing volume, so that you can decide for yourself if the amount will cause fit problems.

The points where the stitching lines of both template pieces have met each other will become your new dart point locations. You will need to rule out from the dart points to create two dart arms for each new dart. You should measure from the dart point to the stitching line on each dart arm to ensure that the dart arms are equal in length and will match when sewn together.

You should then measure between the two dart arms on the stitching line to find a mid point for the dart, and draw a centre guideline down the middle of the dart value.

Step 5: Finished Pattern



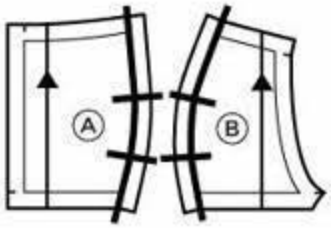
Finalise any seam allowance by squaring off where needed and consider where you may need new notches on any adjoining pattern pieces to help when sewing.

It is important to consider the location of the grain line on your new pattern piece, as you may have two conflicting grain lines to choose from. In the case of the change above we were able to simply keep the grain line of piece A, as the grain line of both A and B were running parallel, but in other variations of this pattern change you may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

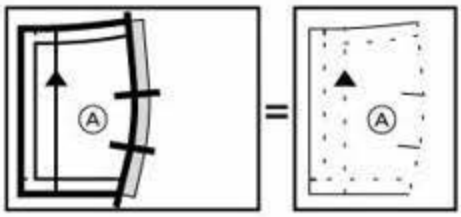
You will need to fold out the dart values of the new darts before shaping the dart value at the seam allowance edge. You will also need to mark drill holes at points set back from the dart points so that the new darts can be transferred correctly onto the fabric.

The following diagrams show an overview of this process:

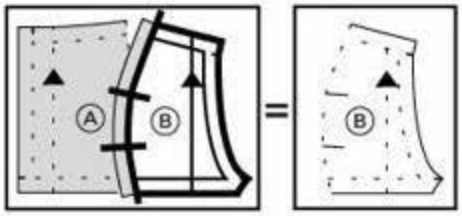
SEAM LINES INTO DARTS:
PIVOT METHOD



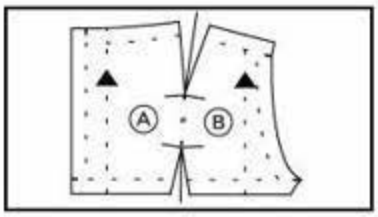
MARK GUIDELINES



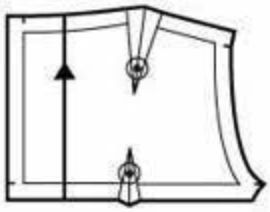
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- The pivot method can be used to transfer fit value from a seam line into darts.
- The pivot method will produce the same result as the cut and spread method.

Chapter 35

Increasing and Decreasing Volume

Chapter Overview

Up until this point the pattern changes that we have explored have explained how to simply move the volume of a pattern into different positions while avoiding making any changes to the fit of the garment.

In the next group of pattern changes we will explore ways that the volume of a pattern can be increased or decreased using the cut and spread and pivot methods. We will also represent these same changes as draped fabric on a mannequin, so that the pattern changes can also be seen in the context of the body.

Increasing and Decreasing Volume

The basic idea of increasing or decreasing volume in pattern returns us to the basic relationship between patterns and fabric that we discussed in an earlier chapter (Chapter 17: Basic Aims of Pattern Making).

If pattern volume is equal to cut fabric then:

- More Pattern = More Fabric
- Less Pattern = Less Fabric

By returning to this very simple principle it can help to clarify any pattern changes that you want to make. Returning to these very simple rules will also help to confirm exactly where you want there to be more or less fabric in your garment. When making pattern changes you should consider, do you want there to be more fabric across the whole pattern, or just in one specific area? Do you want the fabric to decrease across the whole pattern, or do you only want to decrease the length of a single seam line?

In most cases the pattern changes that you make will be one of the following four changes, or a variation of one of these four changes:

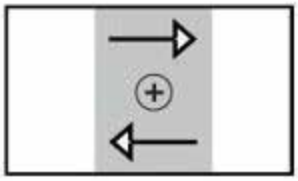
- Increase Volume: Volume increased evenly across the pattern.
- Increase Volume: Volume increased from a point on the pattern.
- Decrease Volume: Volume decreased evenly across the pattern.
- Decrease Volume: Volume decreased from a point on the pattern.

These four principles are described in their most basic forms in the following diagrams. Note that in these diagrams it is as though a seamless pattern is split open and moved to represent the change to the pattern shape.

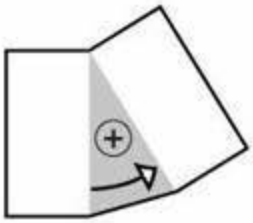
OVERVIEW OF VOLUME CHANGES BY INCREASE & DECREASE



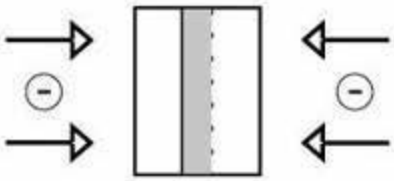
ORIGINAL PATTERN



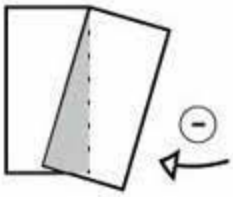
INCREASE VOLUME:
EVEN SPREAD



INCREASE VOLUME:
AROUND A POINT



DECREASE VOLUME:
EVEN SPREAD



DECREASE VOLUME:
AROUND A POINT

By analysing the example diagrams you can see how through use of these pattern changes, whether used individually or in combination with each other, you are able to create an array of changes to the volume of patterns.

If you wanted to lower the hem on a skirt pattern for example, it will be the equivalent of the example shown as “Increase Volume: Even Spread”.

If you wanted to decrease the volume of a top pattern at just the waist line while leaving the rest of the measurements of the top intact, then perhaps you could use a variation of the example shown as “Decrease Volume: Around a Point”.

You may also recognise that these basic processes form the basis for many of the changes that you will see used in pattern making courses and books. By remembering these very basic forms of changes it will help you to interpret the diagrams used in other pattern making texts and to determine which pattern instructions are most suited to the changes that you wish to make to your pattern.

In the next group of chapters we will explore all of the changes listed above in more detail using both the cut and spread and pivot methods. We will also show these same pattern changes as drapes on a mannequin so that you will be able to visualise the pattern changes more easily. This will give you a range of basic changes that you can then adapt and apply to different situations.

Chapter Summary

In this chapter we learnt that:

- The volume of a pattern can be both increased and decreased for different design effects.
- Volume can be increased evenly across a pattern, or increased from a point on a pattern.
- Volume can be decreased evenly across a pattern, or decreased from a point on a pattern.
- Understanding these basic volume changes forms an introduction to many other pattern texts and courses.

Chapter 36

Even Increase of Volume: Cut and Spread Method

Chapter Overview

In this chapter we will look at how the cut and spread method can be used to uniformly increase the volume of a pattern. By understanding this method you will be able to use this idea by itself, or in combination with other pattern changes to create a variety of different design effects such as pleats, tucks and gathers.

Even Increase of Volume: Cut and Spread Method

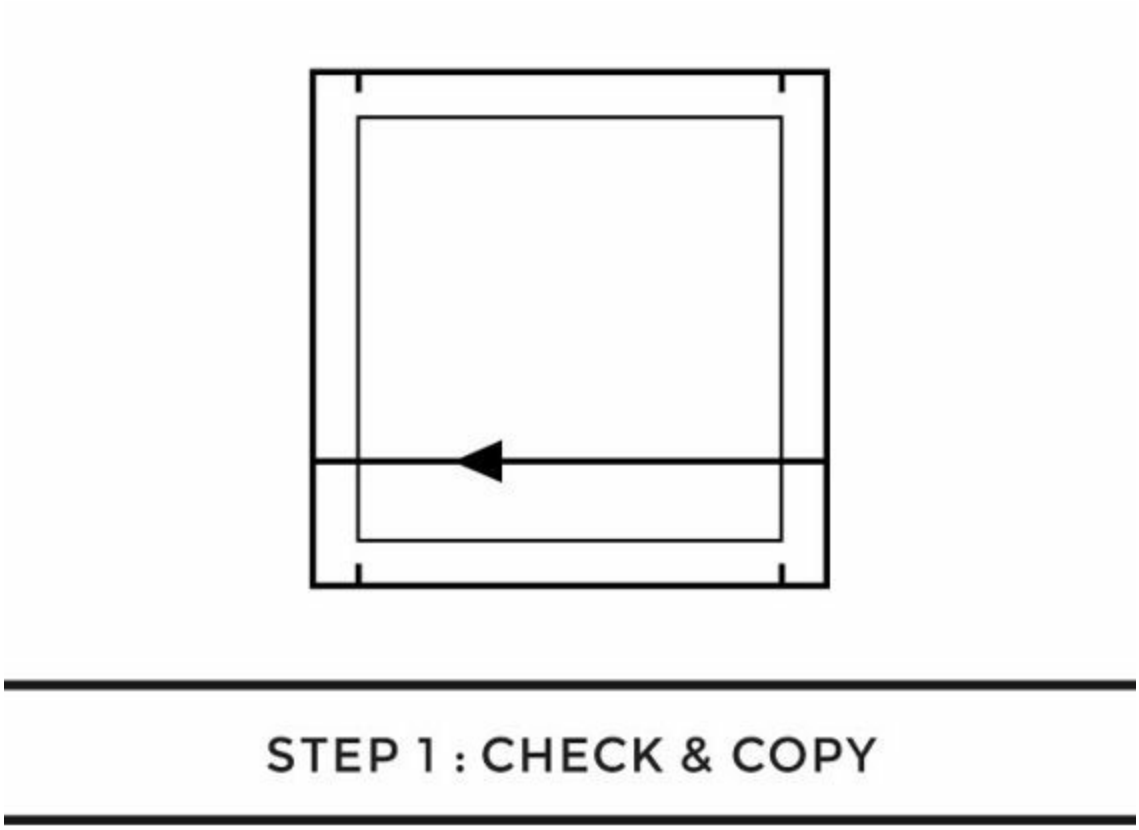
The following exercise will show an example of a pattern change where:

- A pattern piece is increased in volume.
- The increase in volume is in a single direction.
- The volume is increased evenly across the pattern.

Up until this point, the pattern changes we have made have all maintained the overall volume of the pattern and no significant changes to the fit of the pattern has been made. In the following example, the volume of the pattern will be increased, ultimately affecting the fit of the garment.

The change in volume is most evident if you compare the area within the stitching lines of the original pattern and the finished pattern once you have completed the pattern change.

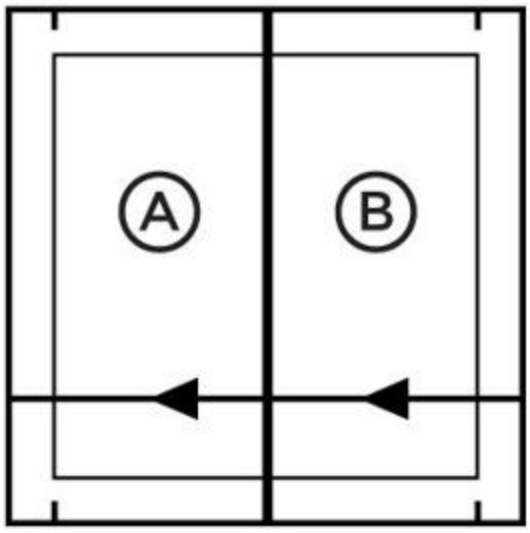
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern piece that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the next step.

Step 2: Mark Guideline

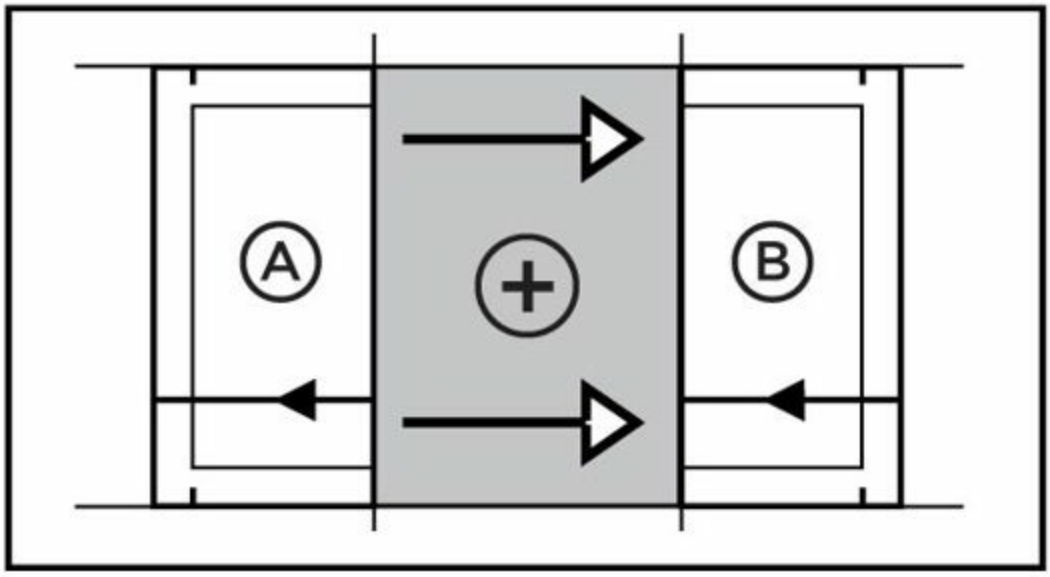


STEP 2 : MARK GUIDELINE

For the pattern change that we are about to make, we are going to increase the volume in the direction of the grain line.

In order to do this we need to draw a guideline that will serve as our cut line to use for the cut and spread technique. We have also labelled the two halves of the pattern as part A and part B to enable us to more easily see the new increase in volume. The grain line has been marked onto both parts so that they can be transferred more easily after the pieces are cut.

Step 3: Cut and Move



STEP 3 : CUT & MOVE

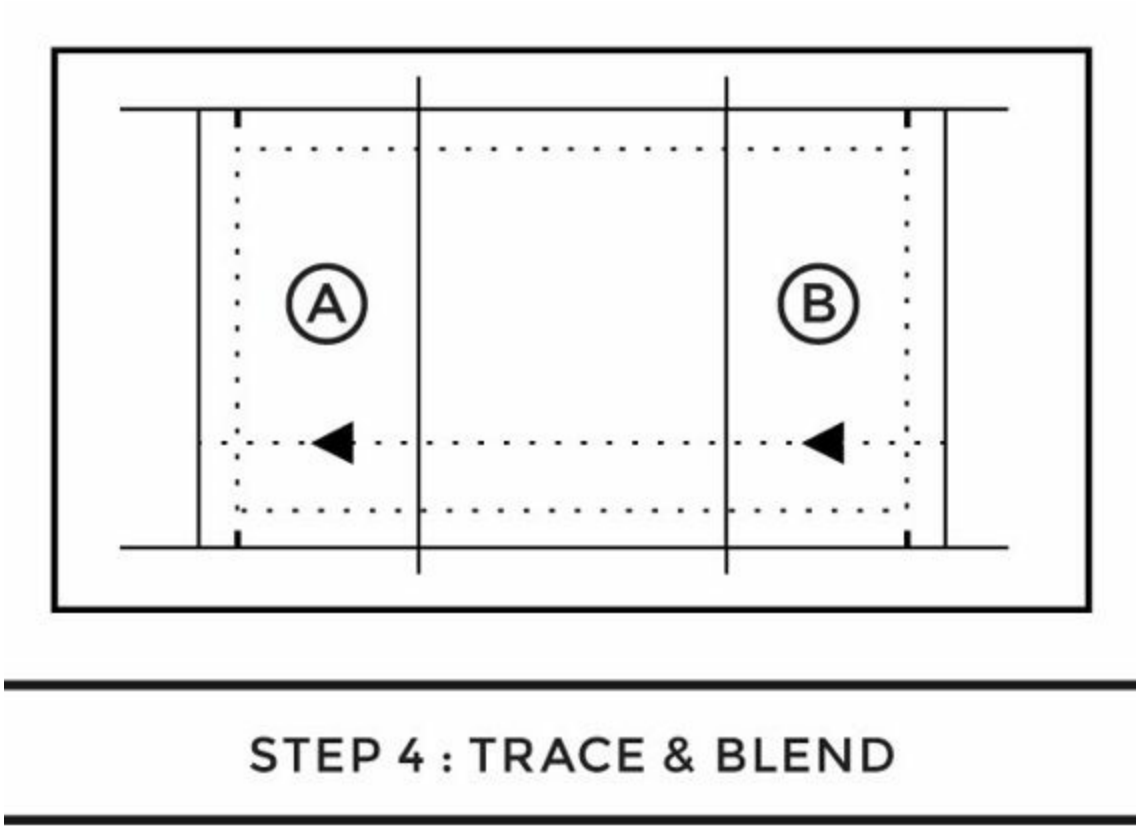
By cutting and separating the template, you are opening up the volume that you need in the centre of the pattern. In the diagram above this is marked by the greyed out area marked by the "+". You can vary the distance of the width between the two pattern pieces depending on how much volume you want to add into your pattern piece, and ultimately how much extra fabric you want in that particular place on the body.

If you wanted the volume increase to be spread over several separate places in the pattern, rather than in just one place, then you would add guidelines to those specific areas, and cut and spread accordingly. This enables you to direct the volume of the fabric where you need it on the body.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position so that you can trace off the new pattern pieces.

You should use ruled guidelines to ensure that you are lining the pieces up correctly when they are spread apart on the paper. This will ensure that your grain line will be transferred accurately, and that you will not be making the pattern skewed in anyway by accident.

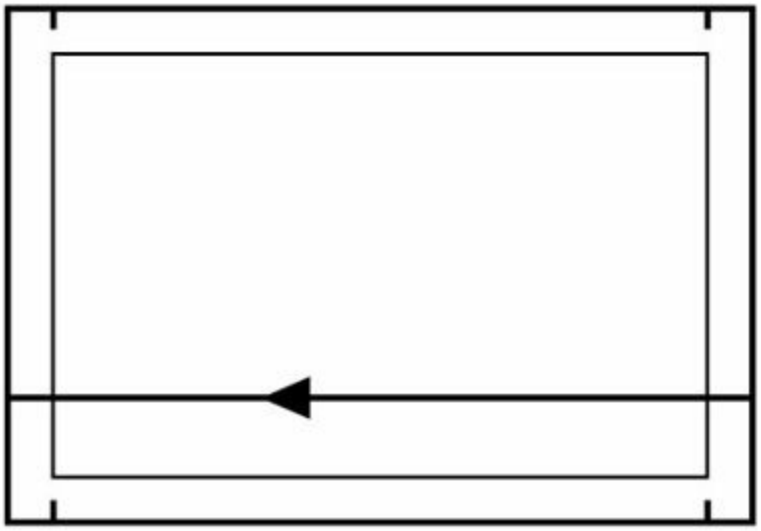
Step 4: Trace and Blend



Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below such as the stitching lines, any guidelines and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly.

Step 5: Finished Pattern



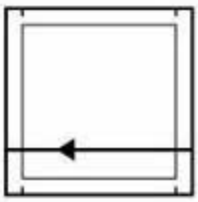
STEP 5 : FINISHED PATTERN

Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

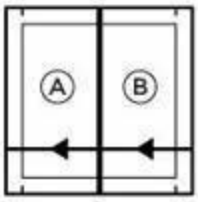
It is important to consider the location of the grain line on your new pattern pieces, as in other variations of this pattern change, your cut and spread lines may have cut the grain line into separate parts. You may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

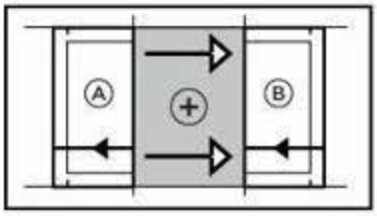
EVEN INCREASE OF VOLUME:
CUT & SPREAD METHOD



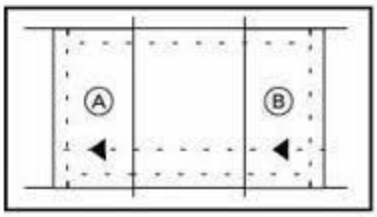
CHECK & COPY



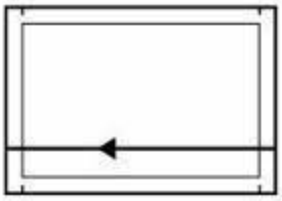
MARK GUIDELINE



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Increasing Volume for Tucks, Pleats and Gathers

This method can be used anytime that you want to increase the volume of your pattern and you may see variations of this pattern change used in other pattern making texts when the design requires that pleats, tucks and gathers are to be added to a pattern. We will discuss more examples of how these basic principles can be applied to a variety of pattern changes later on in the book (Chapter 52: Applying Pattern Principles to Complex Changes).

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be increased evenly using the cut and spread method.
- The space that is opened up between the cut pieces of the pattern template represents the new volume added to the pattern.
- Focus should always be on the volume increase of the area inside the stitching line as this represents the actual finished garment.

Chapter 37

Even Increase of Volume: Pivot Method

Chapter Overview

In this chapter we will look at how the pivot method can be used to uniformly increase the volume of a pattern to create the same result as the cut and spread method. While using the pivot method for this pattern change is slightly less tangible than using the cut and spread method, the pivot method allows you to make simple changes far more quickly.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Even Increase of Volume: Pivot Method

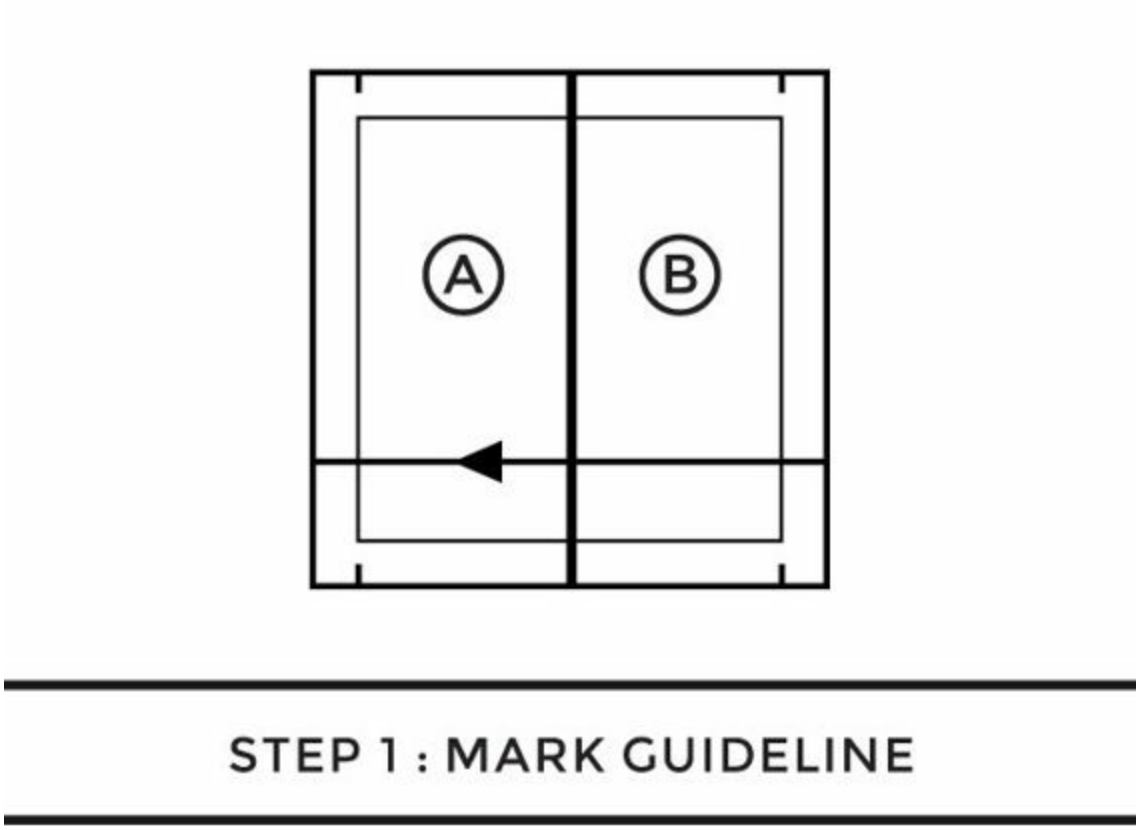
The following exercise will show an example of a pattern change where:

- A pattern piece is increased in volume.
- The increase in volume is in a single direction.
- The volume is increased evenly across the pattern.

Using the pivot method is slightly less tangible than using the cut and spread method for this pattern change, as you are not able to see the space that opens up in the pattern in such a direct way.

When completing pattern changes using the pivot method, you should use guidelines where possible to allow you to see the change that you have made to the volume in the pattern.

Step 1: Mark Guideline

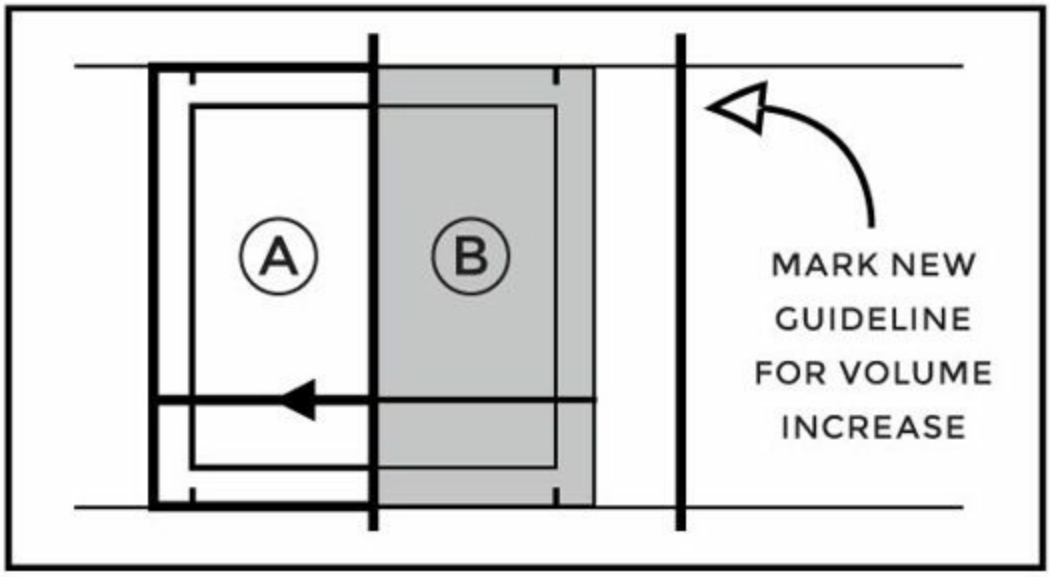


Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

For the pattern change that we are about to make we are going to increase the volume in the centre of the pattern. In order to make this change, we will make a single guideline to mark the position where the volume needs to be added.

As this guideline will only be temporary it may be best to mark it in pencil so that it can be removed from the original pattern later.

Step 2: Trace Part A



STEP 2 : TRACE PART A

Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

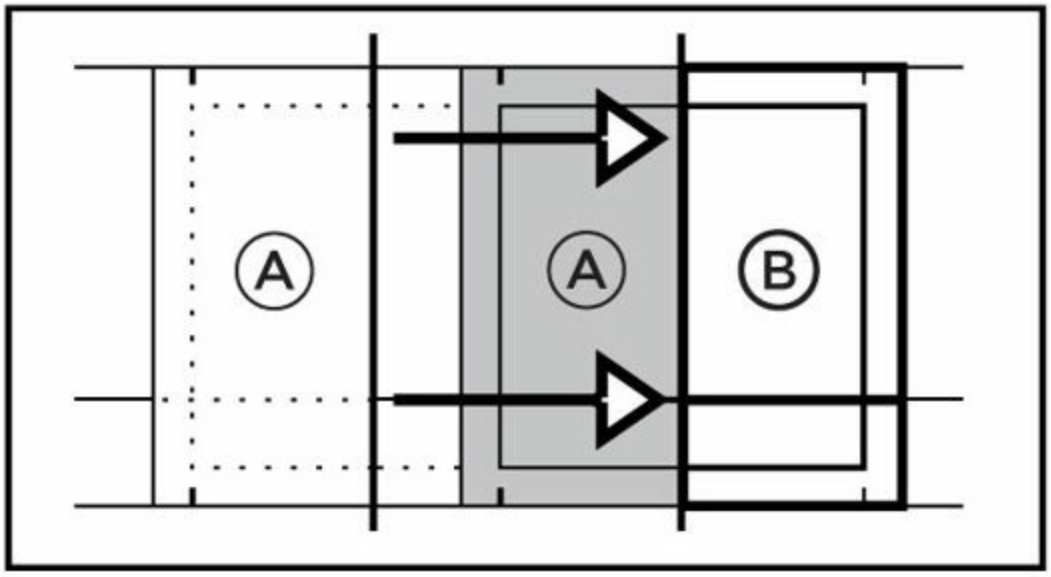
In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance stopping at the guideline at both the top and bottom of the pattern.

Use a tracing wheel to transfer the guideline marking following down the centre of the pattern. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

You should use ruled guidelines to ensure that you are lining the piece up correctly when it is moved across the paper in the next step. This will ensure that your grain line will be transferred accurately, and that you will not be making the pattern skewed in anyway by accident.

The new guideline that is marked on the right hand side indicates the amount of volume that you want to add to the pattern, and in the next step you will slide the pattern across to match this line so that part B can be traced. The space between the two vertical lines marked in the diagram above, is the amount of volume that you want to add to the pattern.

Step 3: Move and Trace Part B



STEP 3 : MOVE & TRACE PART B

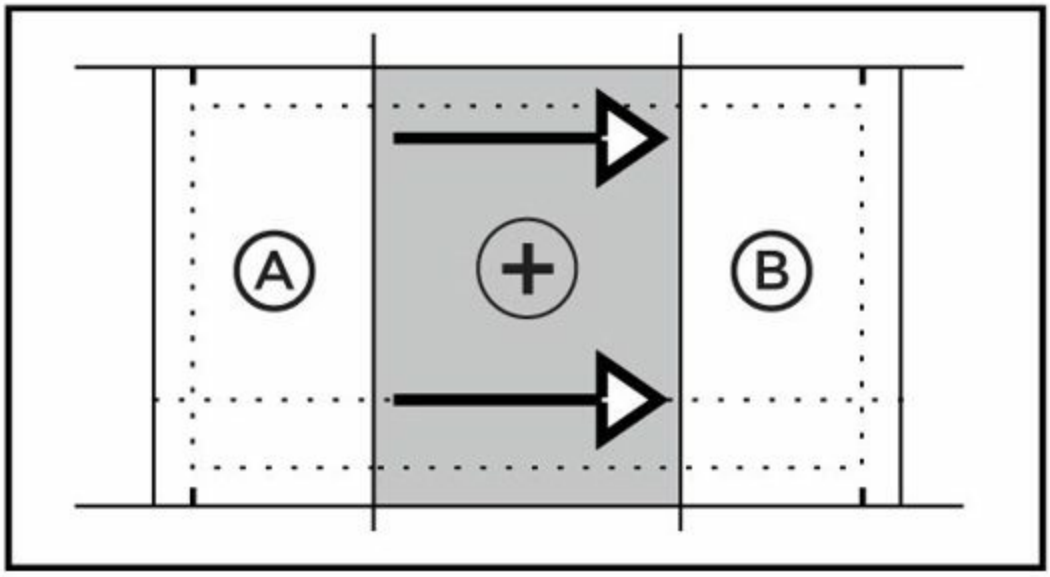
Next you will need to move the pattern piece across the fresh sheet of paper to trace out section B. You will now slide the pattern across so that the guideline that you marked on the pattern will line-up with the new guideline that you marked on the paper in the previous step. The direction of the slide is marked above using arrows.

By sliding the pattern across the paper, you are completing the same basic process as for the cut and spread method. In the diagram above the two vertical lines indicate the position of the guideline as traced in the previous step, and then the position of the guideline once the pattern has been slid across the paper.

The space between these two vertical lines is the amount of volume that is added to the pattern. This means that you can alter this distance depending on how much volume you want to add to the pattern. This will be seen more clearly in the next step.

In order to transfer section B onto the fresh sheet of paper, follow the same basic process as for section A. Trace around the outside seam allowance from the top of the guideline around to the bottom of the guideline. Next use a tracing wheel to transfer the position of the grain line and any other necessary notches and markings.

Step 4: Check and Blend



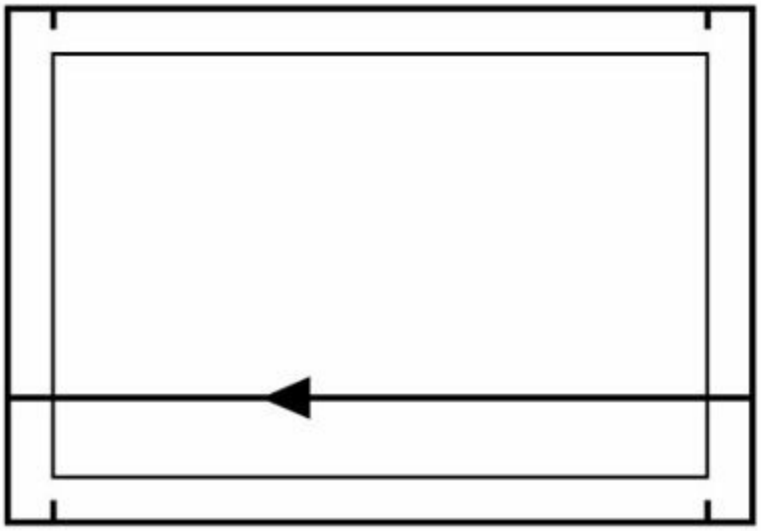
STEP 4 : CHECK & BLEND

In the diagram above you can more easily see the amount of volume that has been added to the centre of the pattern. You can see that the shape of parts A and B have remained the same, but more volume and hence more fabric will be added into the centre of the pattern piece, indicated with a “+”.

It is also easier to see now why the two vertical guidelines were needed to mark out the amount of volume that we wanted to add to the pattern piece during the pivot process. When measuring any guidelines for volume increases ensure that you are focused on the stitching line area, as the area of the seam allowance is purely construction value.

Check the tracing lines making sure that the stitching lines are the correct measurements around the entire pattern and that the seam allowance values have been transferred correctly.

Step 5: Finished Pattern



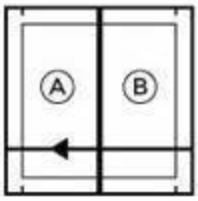
STEP 5 : FINISHED PATTERN

Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

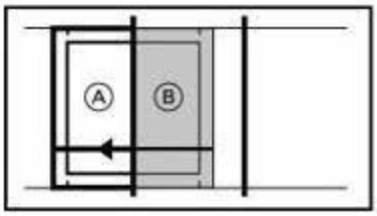
It is important to consider the location of the grain line on your new pattern pieces, as in other variations of this pattern change, your pivot guideline may have cut the grain line into separate parts. You may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

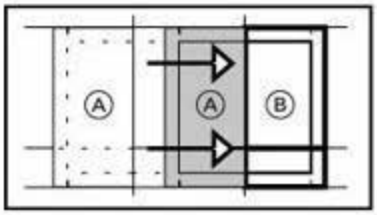
EVEN INCREASE OF VOLUME: PIVOT METHOD



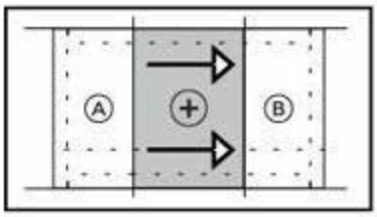
MARK GUIDELINE



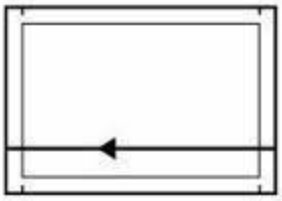
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be increased evenly using the pivot method.
- The pivot method will produce the same result as the cut and spread method.
- The space that is opened up between the traced pieces of the pattern template represents the new volume added to the pattern.
- Focus should always be on the volume increase of the area inside the stitching line as this represents the actual finished garment.

Chapter 38

Even Increase of Volume: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin. This will allow us to visualise the shape of these patterns in relation to the body and will allow you to visualise how increasing the volume of a pattern can relate to the body in real terms.

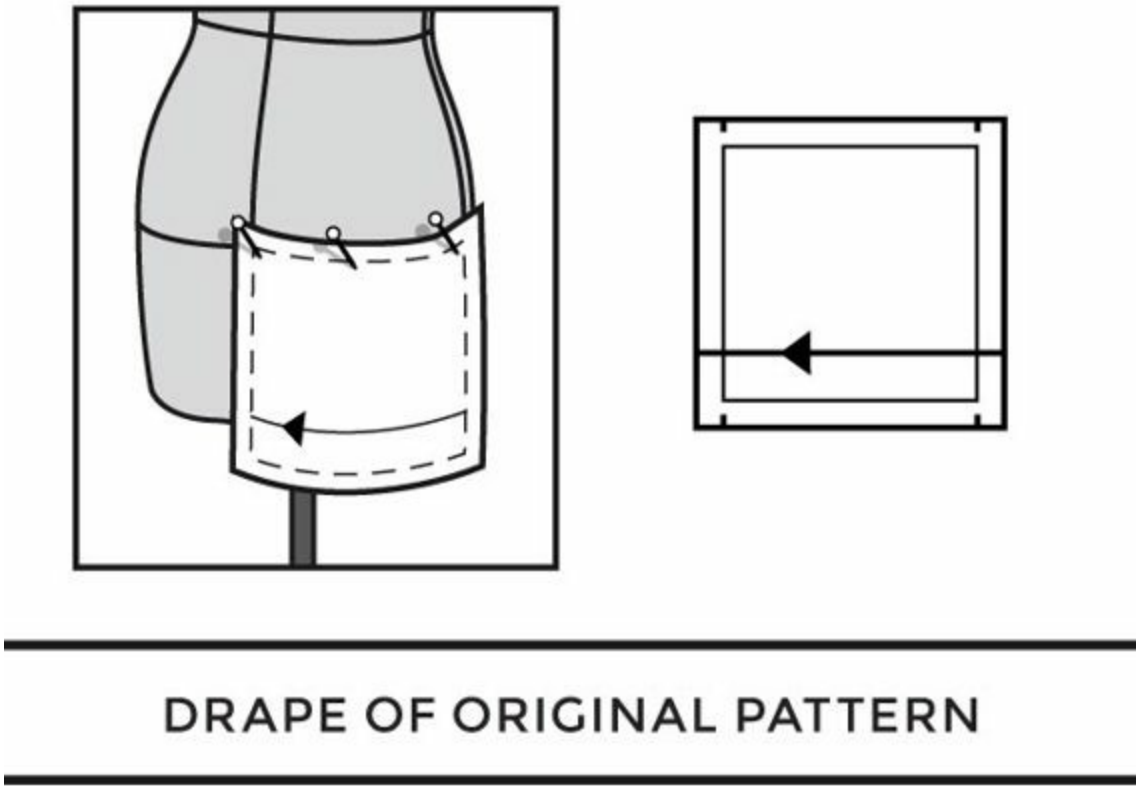
Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Even Increase of Volume on the Mannequin

In the following diagrams we will show the patterns from the previous two chapters on the mannequin, showing both the shape of the original pattern, and the finished pattern complete with an even increase of volume.

This is only one very simple way that the idea of increasing volume can be used in relation to pattern making, however the same basic principle is often used in pattern books in a variety of contexts. For example, you would use a similar technique if you wished to increase the length of a pattern or needed to expand a pattern out to add in pleats, gathers and tucks.

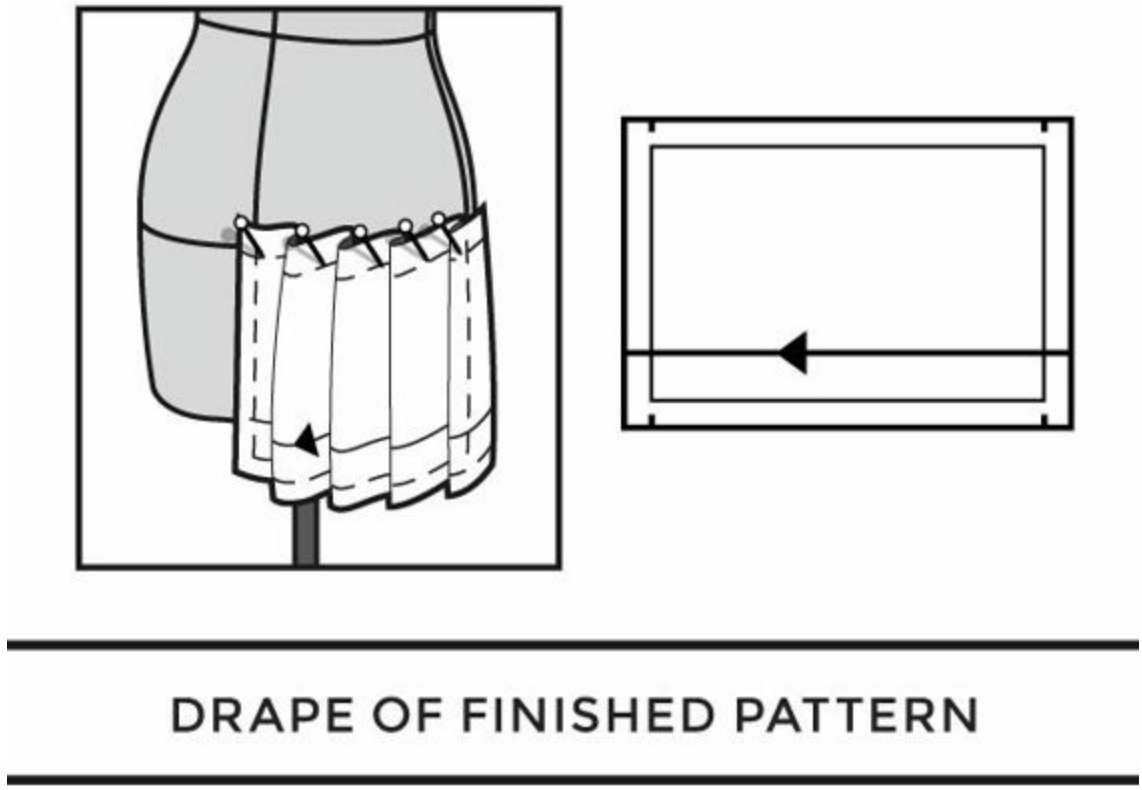
Drape of Original Pattern



DRAPE OF ORIGINAL PATTERN

In the diagram above labelled as "Drape of Original Pattern" the diagram on the left shows the back of a mannequin that has a drape of a basic square pinned onto it to line-up with the hipline. The drape is secured with pins, and in this example we are imagining that the grain line has been designed to go around the body, rather than parallel with the centre back line.The diagram on the right is the same “original pattern” that we used for the previous chapters on the cut and spread and pivot techniques.

Drape of Finished Pattern with Increased Volume



DRAPE OF FINISHED PATTERN

In the diagram above labelled as "Drape of Finished Pattern" the diagram on the left shows how the volume of the fabric has increased to match the pattern change shown in the diagram on the right. The drape is again secured with pins at the hipline.

Rather than assuming that we wanted to make the increased width of fabric stretch smoothly around the body, we are instead gathering the new volume into soft folds, so that it remains within the same quarter of the body as in the original pattern.

By seeing the pattern change in relation to the body in this way, it helps to give more meaning to the pattern change that you want to make. Before you begin a pattern change, you should consider the way that it will affect the drape of the fabric on the body and use this as a guide as to how much you need to increase the volume of the pattern.

Note that because we have added volume evenly throughout the pattern, the drape now has more volume along both the top and bottom edges of the fabric. In a later chapter (Chapter 44: Increasing Volume Around a Point) we will look at increasing volume around a point on the body as an extension of this same drape example and by comparing the two different results in a drape form, the differences between the two types of volume increases will be more obvious.

Chapter Summary

In this chapter we learnt that:

- Visualising pattern changes for volume increases on the body will help to clarify changes that you want to make using flat pattern making methods.
- When seen on the body as draped fabric, it is more obvious how the increase in pattern volume has been added to both the top and the bottom edges of the pattern.

Chapter 39

Even Decrease of Volume: Cut and Spread Method

Chapter Overview

In this chapter we will look at how the cut and spread method can be used to uniformly decrease the volume of a pattern. By understanding this method you will be able to use this idea by itself, or in combination with other pattern changes to create a variety of different design effects.

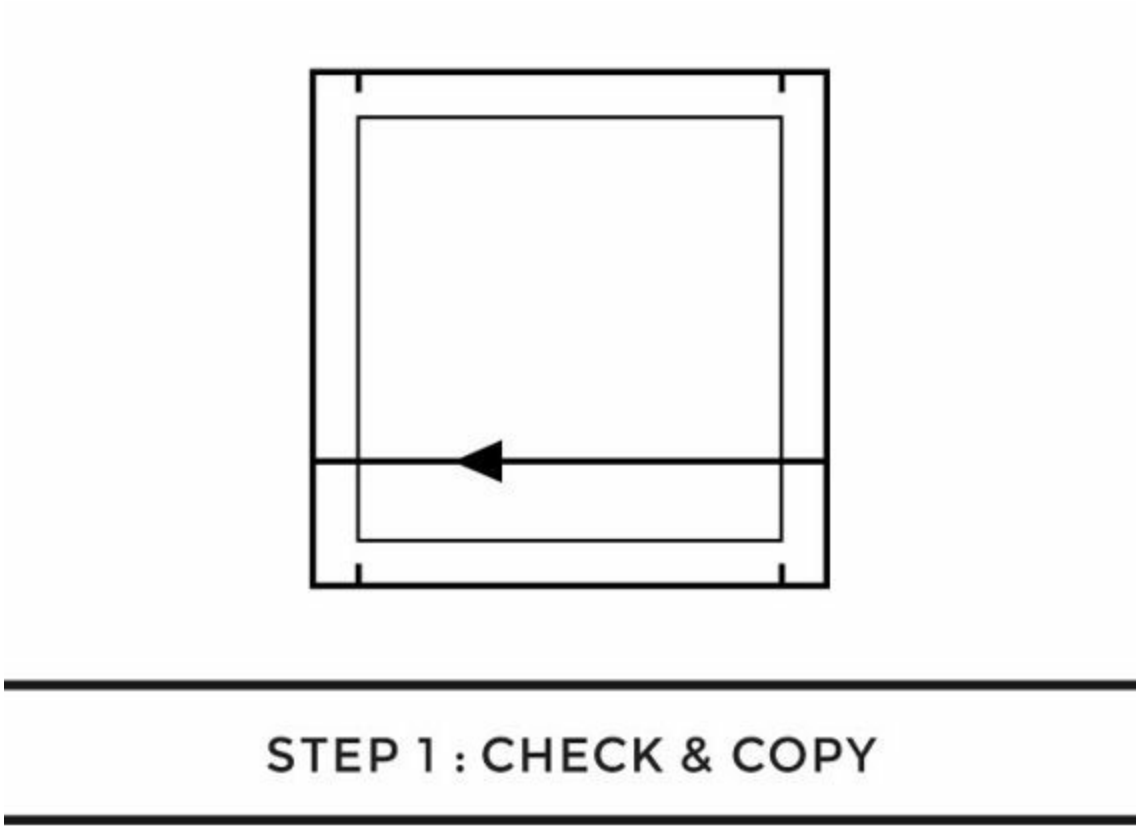
Even Decrease of Volume: Cut and Spread Method

The following exercise will show an example of a pattern change where:

- A pattern piece is decreased in volume.
- The decrease in volume is in a single direction.
- The volume is decreased evenly across the pattern.

In essence this pattern change will create the opposite effect to the pattern changes that we have made in the last few chapters, where volume was increased evenly in the pattern pieces. You may see variations of the following volume decrease pattern changes in pattern making books, including variations as simple as just shortening the length of a pattern.

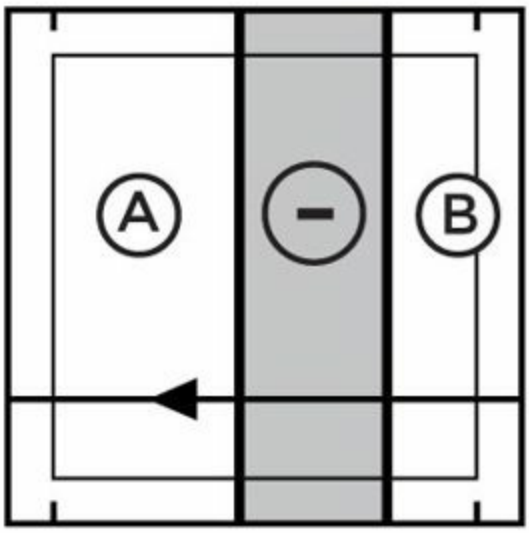
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern pieces that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the next step.

Step 2: Mark Guidelines



STEP 2 : MARK GUIDELINES

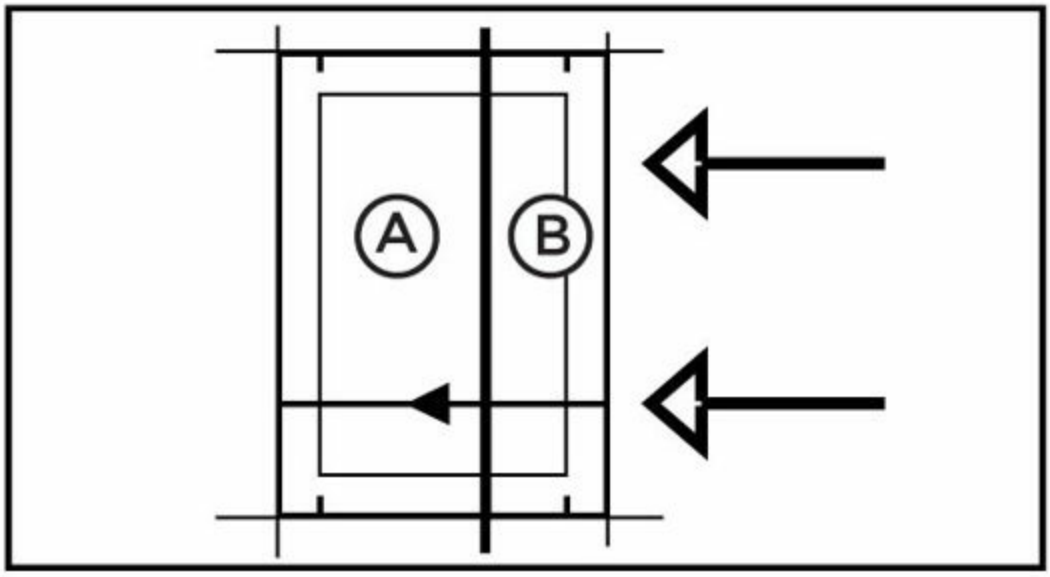
For the pattern change that we are about to make, we are going to decrease the volume in the direction of the grain line.

In order to do this we need to draw two guidelines that will serve as our cut lines to use for the cut and spread technique. The space between the two vertical guidelines in the diagram above represents the space that we want to remove from our pattern. So the area marked above in grey with a “-“ will be the volume that we will delete from the pattern.

You can vary the distance of the width between the two guidelines depending on how much volume you want to take away from your pattern piece, and ultimately to measure how much less fabric you want in that particular place on the body.

As the volume needs to be removed evenly from the pattern piece you should ensure that the guidelines are ruled accurately so that they run exactly parallel to each other. This will ensure that you are shortening both the top and bottom stitching lines by the same distance.

Step 3: Cut and Move



STEP 3 : CUT & MOVE

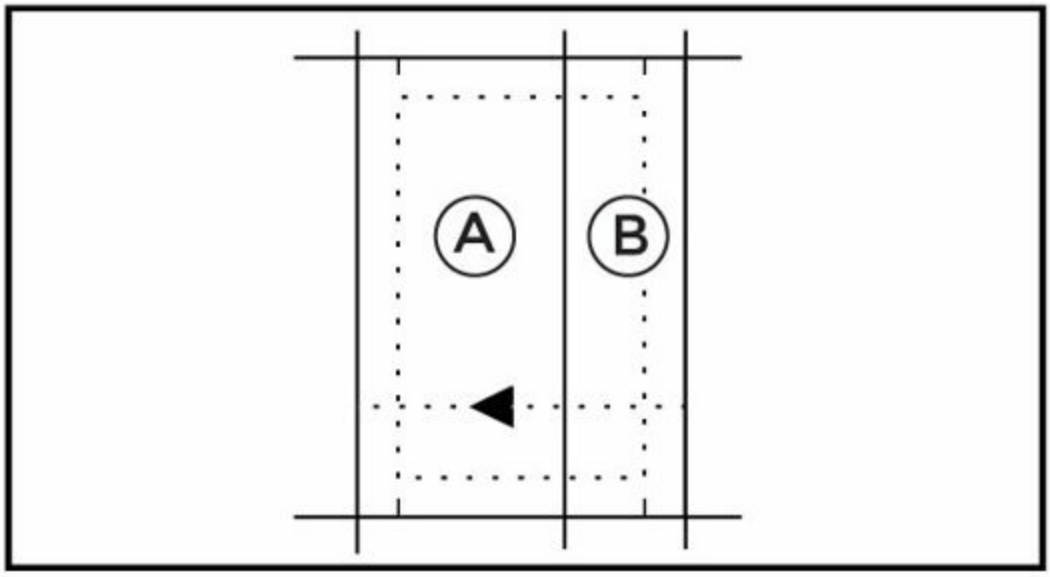
Cut along the guideline and remove the centre section of the pattern that was previously marked as a "-". By cutting and joining the template as shown in the diagram above, you are closing up the volume in the centre of the pattern, effectively taking away fabric volume.

If you wanted the volume decrease to be spread over several separate places in the pattern, rather than in just one place, then you would add guidelines to those specific areas, and cut and join accordingly. This enables you to delete fabric from specific areas of the body.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position so that you can trace off the new pattern pieces.

You should use ruled guidelines to ensure that you are lining the pieces up correctly when they are joined together on the paper. This will ensure that your grain line will be transferred accurately, and that you will not be making the pattern skewed in any way by accident.

Step 4: Trace and Blend

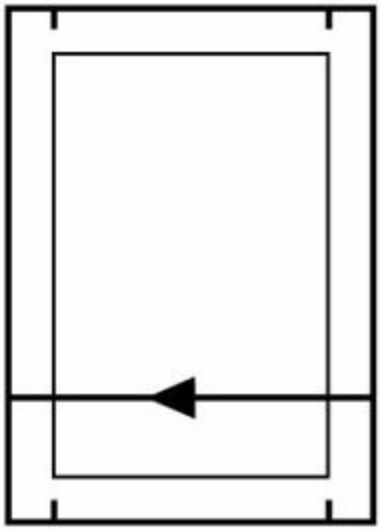


STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below such as the stitching lines, any guidelines, notches and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly.

Step 5: Finished Pattern



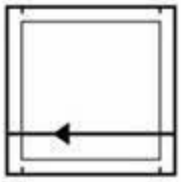
STEP 5 : FINISHED PATTERN

Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

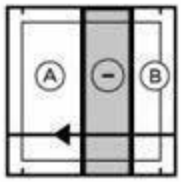
It is important to consider the location of the grain line on your new pattern pieces, as in other variations of this pattern change, your cut and spread lines may have cut the grain line into separate parts. You may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

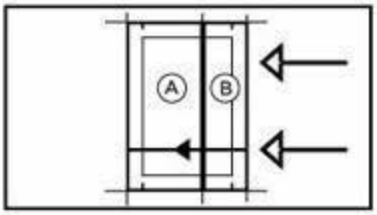
EVEN DECREASE OF VOLUME: CUT & SPREAD METHOD



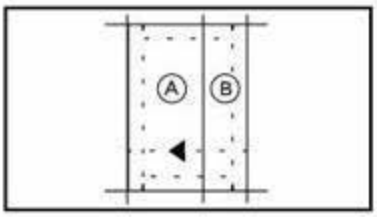
CHECK & COPY



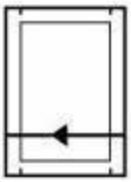
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Decreasing Volume

This method can be used anytime that you want to decrease the volume of your pattern and you may see variations of this pattern change used in other pattern making texts when the design requires that a design needs to be shortened or narrowed in any way.

You may also see variations in other pattern making books where rather than deleting unnecessary sections of the cut and spread template, the pieces of the template are simply overlapped before being traced onto a new sheet of paper. Essentially this is completely the same process – if an area of the pattern isn't traced onto the fresh sheet of paper, then it is essentially deleted.

Remember that this only applies to the area within the stitching line – if you overlap a dart or seam allowance value then it does not necessarily represent a decrease in volume. Concentrate on the actual decrease of volume on the area within the stitching line as the dart and seam allowance areas are simply used for construction.

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be decreased evenly using the cut and spread method.
- The space that is deleted between the cut pieces of the pattern template represents the volume taken away from the pattern.
- Focus should always be on the volume decrease of the area inside the stitching line as this represents the actual finished garment.
- Cut and spread methods in other texts will sometimes show patterns overlapping, as an alternative to sections of the cut and spread template being removed, however the effect of both methods is the same.

Chapter 40

Even Decrease of Volume: Pivot Method

Chapter Overview

In this chapter we will look at how the pivot method can be used to uniformly decrease the volume of a pattern to create the same result as the cut and spread method. While using the pivot method for this pattern change is slightly less tangible than using the cut and spread method, the pivot method allows you to make simple changes far more quickly.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

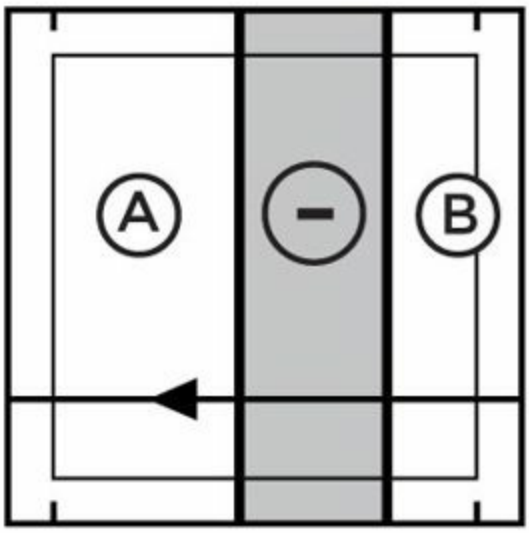
Even Decrease of Volume: Pivot Method

The following exercise will show an example of a pattern change where:

- A pattern piece is decreased in volume.
- The decrease in volume is in a single direction.
- The volume is decreased evenly across the pattern.

Using the pivot method is slightly less tangible than using the cut and spread method for this pattern change, as you do not delete a section of a pattern in such a direct way. The area that is to be deleted from the pattern is instead visible in the form of temporary guidelines that you can mark on the original pattern. This is described in more detail in the following example.

Step 1: Mark Guidelines



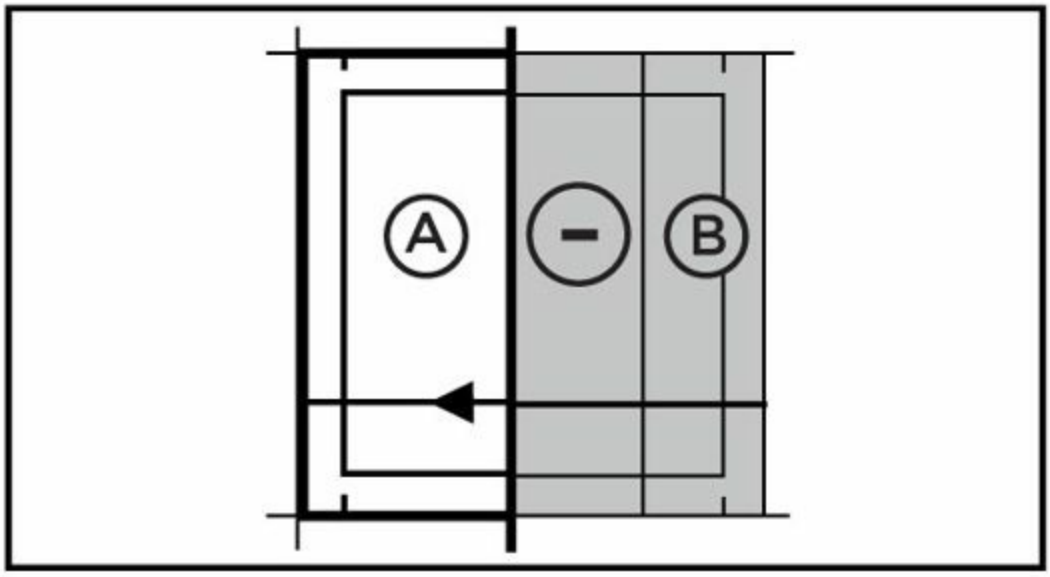
STEP 1 : MARK GUIDELINES

Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

For the pattern change that we are about to make we are going to decrease the volume in the centre of the pattern. In order to make this change, we will mark two vertical guidelines to mark the position where the volume needs to be removed from the new pattern. In order to show that this is the area that will effectively be deleted from the new pattern, it has been greyed out in the diagram above and marked with a “-“.

As these guidelines will only be temporary it may be best to mark them in pencil so that they can be removed from the original pattern later.

Step 2: Trace Part A



STEP 2 : TRACE PART A

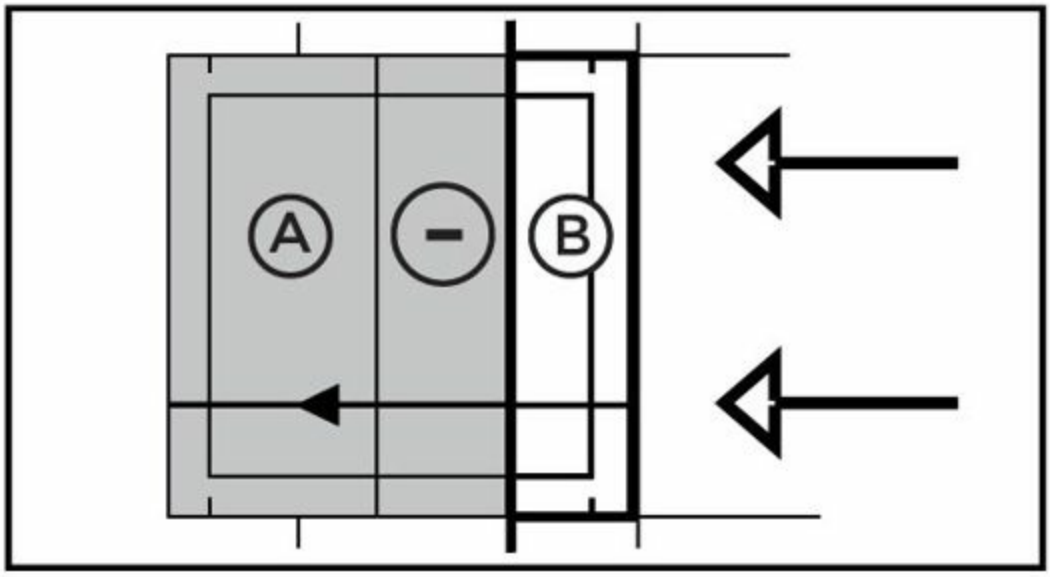
Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance stopping at the guideline at both the top and bottom of the pattern.

Use a tracing wheel to transfer the guideline marking from the centre of the pattern. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

You should use ruled guidelines to ensure that you are lining the piece up correctly when it is moved across the paper in the next step. This will ensure that your grain line will be transferred accurately, and that you will not be making the pattern skewed in anyway by accident.

Step 3: Move and Trace Part B



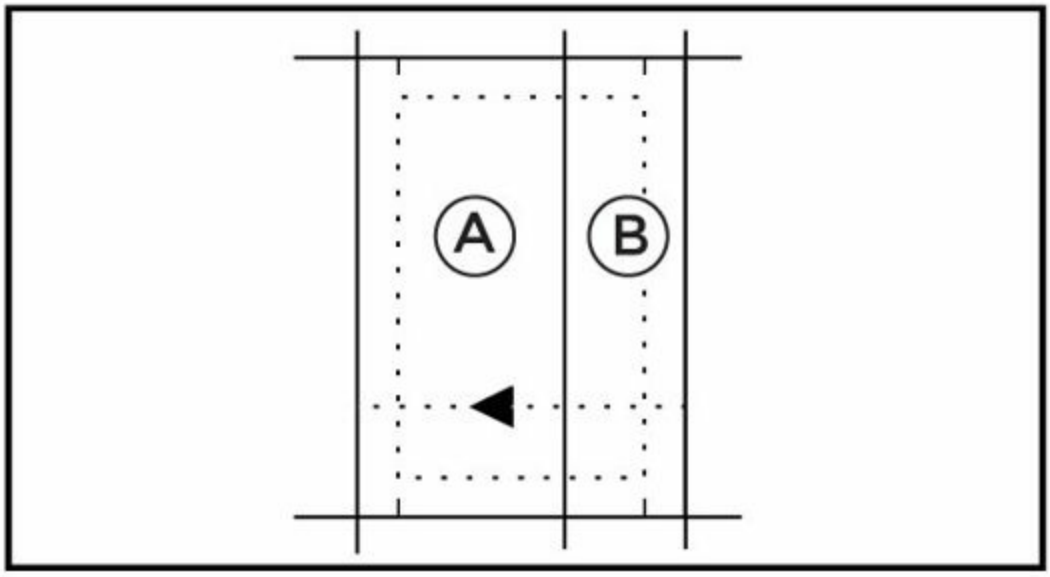
STEP 3 : MOVE & TRACE PART B

Next you will need to move the pattern piece across the fresh sheet of paper to trace out section B. You will now slide the pattern across so that you effectively ignore the centre section of the pattern, marked with an "-", as you complete your tracing of the pattern. The direction of the slide is marked above using arrows.

By sliding the pattern across the paper, you are completing the same basic process as for the cut and spread method. In the diagram above the vertical guideline indicates the position of the guideline that was originally traced from part A in the previous step. So part B has now been moved across to meet this line.

In order to transfer section B onto the fresh sheet of paper, follow the same basic process as for section A. Trace around the outside seam allowance from the top of the guideline around to the bottom of the guideline. Next use a tracing wheel to transfer the position of the grain line and any other necessary notches and markings.

Step 4: Check and Blend

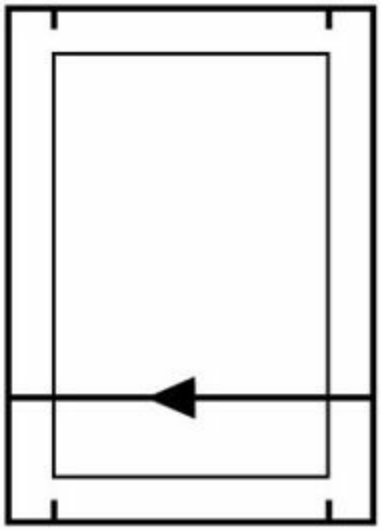


STEP 4 : CHECK & BLEND

Check the tracing lines making sure that the stitching lines are the correct measurements around the entire pattern and that the seam allowance values have been transferred correctly.

In the diagram above you can see more clearly how the centre area has been deleted to decrease the volume in the pattern.

Step 5: Finished Pattern



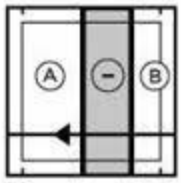
STEP 5 : FINISHED PATTERN

Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

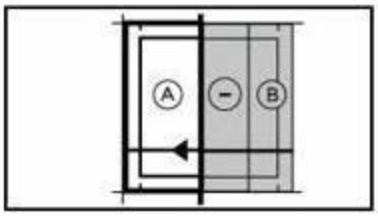
It is important to consider the location of the grain line on your new pattern pieces, as in other variations of this pattern change, your pivot guideline may have cut the grain line into separate parts. You may need to check the location of the grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

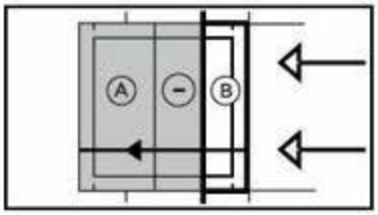
EVEN DECREASE OF VOLUME: PIVOT METHOD



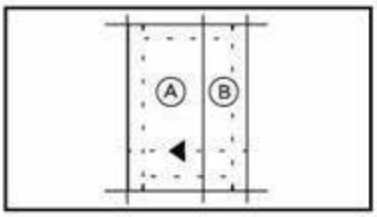
MARK GUIDELINES



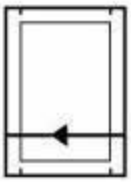
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be decreased evenly using the pivot method.
- The pivot method will produce the same result as the cut and spread method.
- The space that is marked between the guidelines on the original pattern represents the volume to be taken from the pattern.
- Focus should always be on the volume decrease of the area inside the stitching line as this represents the actual finished garment.

Chapter 41

Even Decrease of Volume: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin. This will allow us to visualise the shape of these patterns in relation to the body and make it easier to visualise how decreasing the volume of a pattern can relate to the body in real terms.

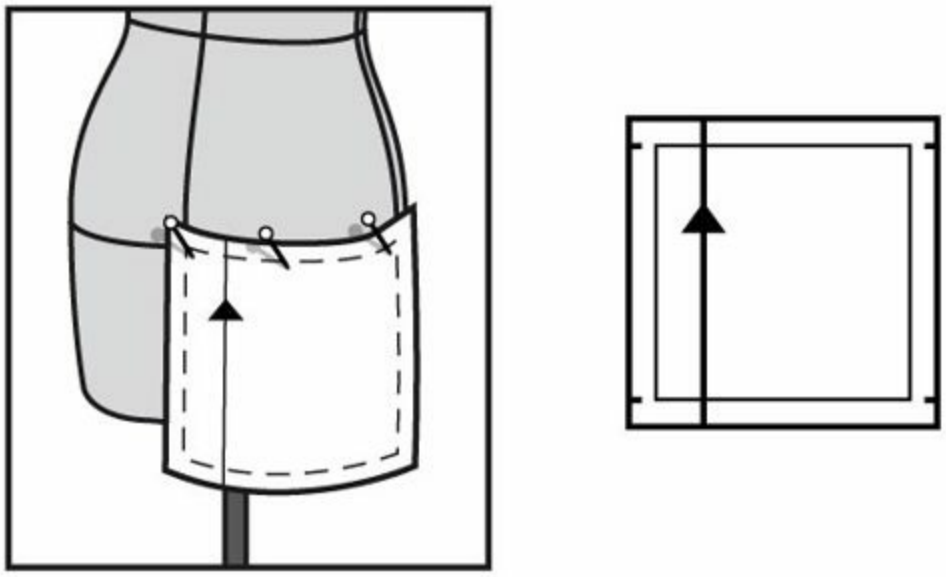
Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Even Decrease of Volume on the Mannequin

In the following diagrams we will show the patterns from the previous two chapters on the mannequin, showing both the shape of the original pattern, and the finished pattern complete with an even decrease of volume.

This is only one very simple way that the idea of decreasing volume can be used in relation to pattern making, however the same basic principle is often used in pattern books in a variety of contexts.

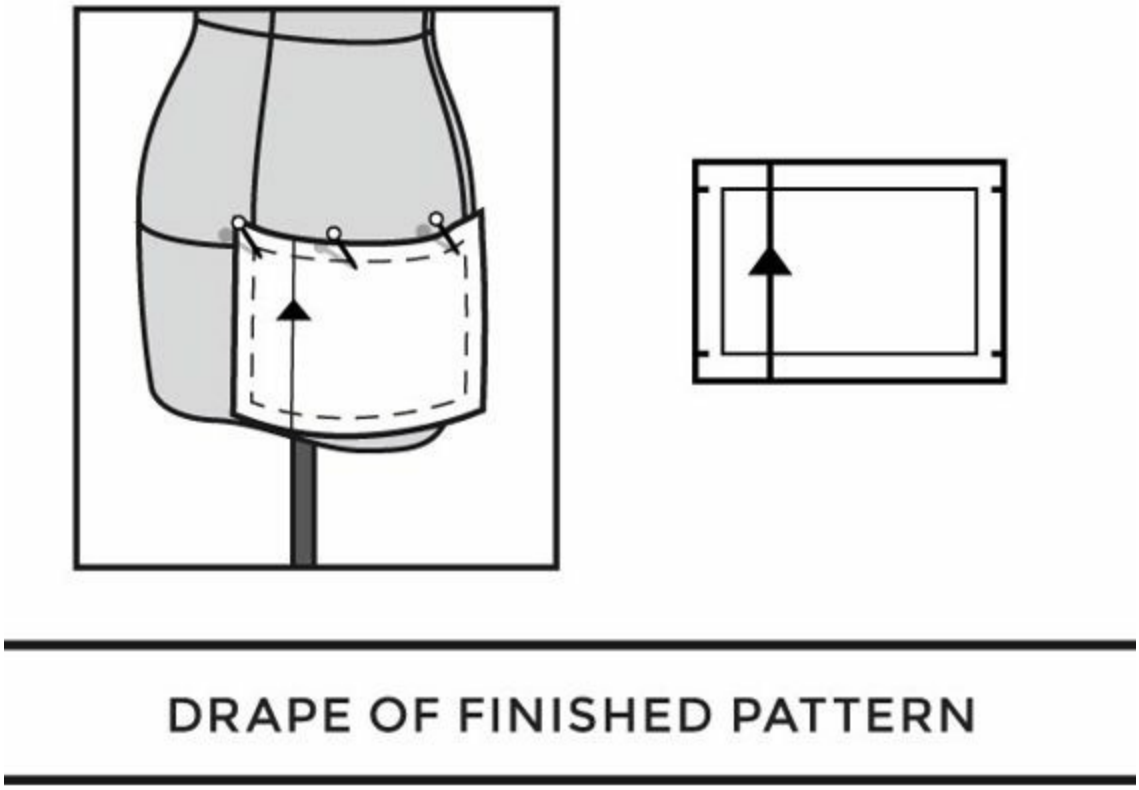
Drape of Original Pattern



DRAPE OF ORIGINAL PATTERN

In the diagram above labelled as "Drape of Original Pattern" the diagram on the left shows the back of a mannequin that has a drape of a basic square pinned onto it to line-up with the hipline. The drape is secured with pins, and the grain line is running on the straight grain, with the grain line running parallel to the centre back of the mannequin. The diagram on the right is the same “original pattern” that we used for the previous chapters on the cut and spread and pivot techniques.

Drape of Finished Pattern with Decreased Volume



DRAPE OF FINISHED PATTERN

In the diagram above labelled as "Drape of Finished Pattern" the diagram on the left shows how the volume of the fabric has decreased to match the pattern change shown in the diagram on the right. The drape is again secured with pins at the hipline.

This is one of the simplest possible pattern changes that you will see done to alter the volume of a pattern – simply altering the length of a pattern evenly.

You may often see variations of this pattern change on commercial patterns where you will sometimes be provided with horizontal lines on the pattern as guidelines so that you can add or remove length from the pattern to suit your own body. This is essentially just a variation on the pattern changes that we have made in adding or removing volume evenly from the pattern.

By seeing the pattern change in relation to the body in this way, it helps to give more meaning to the pattern change that you want to make. Before you begin a pattern change, you should consider the way that it will affect the drape of the fabric on the body and use this as a guide as to how much you need to decrease the volume of the pattern.

Note that because we have taken away volume evenly across the pattern, the drape has shortened evenly on both the right and left edges of the fabric. If the guidelines had been added incorrectly for example if they had been marked so that they were not parallel to each other, then the resulting hemline would have also been at an angle.

In a later chapter (Chapter 47: Decrease Volume Around a Point) we will look at decreasing volume

around a point on the body as an extension of this same drape example and by comparing the two different results in a drape form, the differences between the two types of volume decreases will be more obvious.

Chapter Summary

In this chapter we learnt that:

- Visualising pattern changes for volume decreases on the body will help to clarify changes that you want to make using flat pattern making methods.
- When seen on the body as draped fabric, it is more obvious how the decrease in pattern volume has been added to both the right and left edges of the pattern to keep the final hem level even.

Chapter 42

Increase Volume Around a Point: Cut and Spread Method

Chapter Overview

In this chapter we will look at how the cut and spread method can be used to increase the volume of a pattern around a point. By understanding this method you will be able to use this idea by itself, or in combination with other pattern changes to create a variety of different design effects.

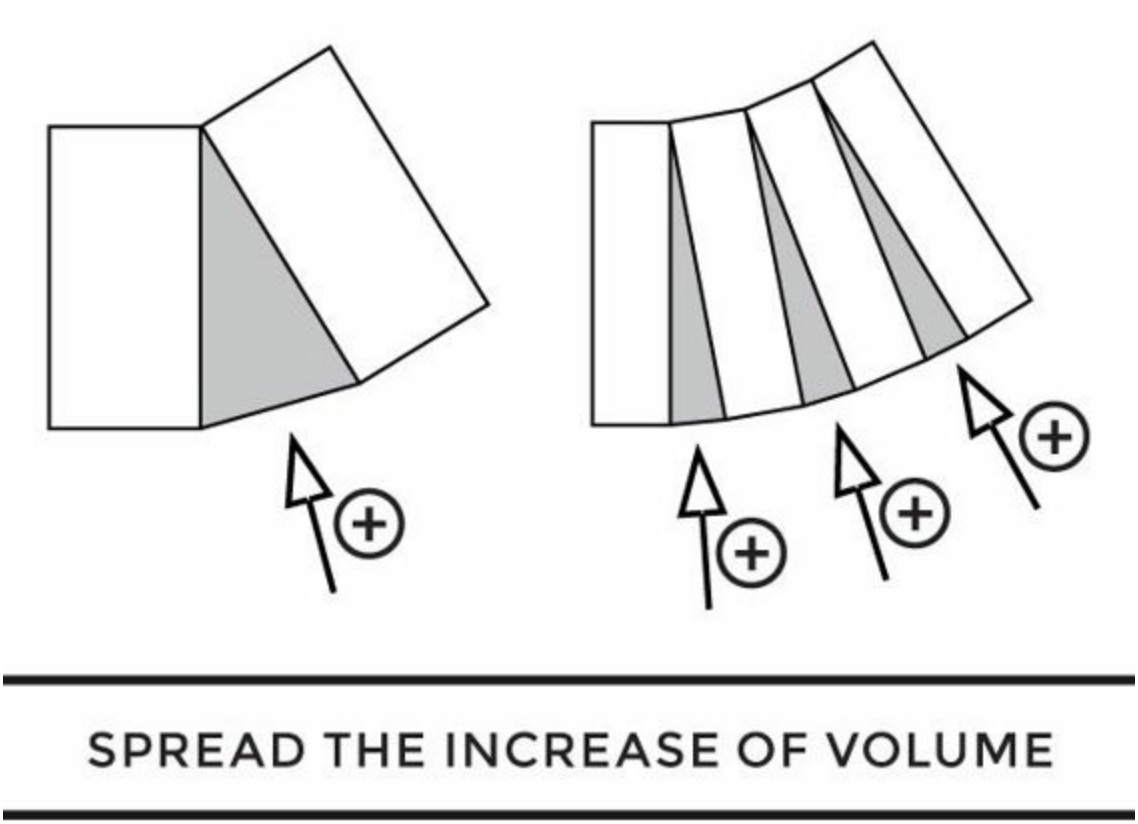
Increase Volume Around a Point Overview

In the previous chapters we discussed how to increase and decrease the volume of a pattern evenly, so that the pattern measurements along two edges of a pattern are increased or decreased at the same time. In this chapter and in the following chapters we will now begin to look at pattern changes where the volume of a pattern is increased or decreased around a point.

This is a type of pattern change that enables you to increase or decrease the measurement along one stitching line, while keeping another stitching line at the same length. Or to put this idea another way, by increasing or decreasing a pattern volume around a point you are basically adding or taking away fullness at one edge of the pattern, that will taper back to nothing at another stitching line. Almost like wedges of fabric that are added or taken away from the garment.

Earlier in this book (Chapter 35: Increasing and Decreasing Volume), we looked at an example where volume was increased from just a single point on the pattern. In the example a single wedge of volume was added to the pattern however there are many situations where you may want to spread the volume across the pattern to create a smoother change in volume.

The following diagram shows the difference between adding volume to just one part of the pattern, as compared to spreading the same value of volume into different areas of the pattern:



In the following example we will be using the cut and spread method to create a pattern change that shows a smooth spread of volume as shown in the previous diagram.

Increase Volume Around a Point: Cut and Spread Method

The following exercise will show an example of a pattern change where:

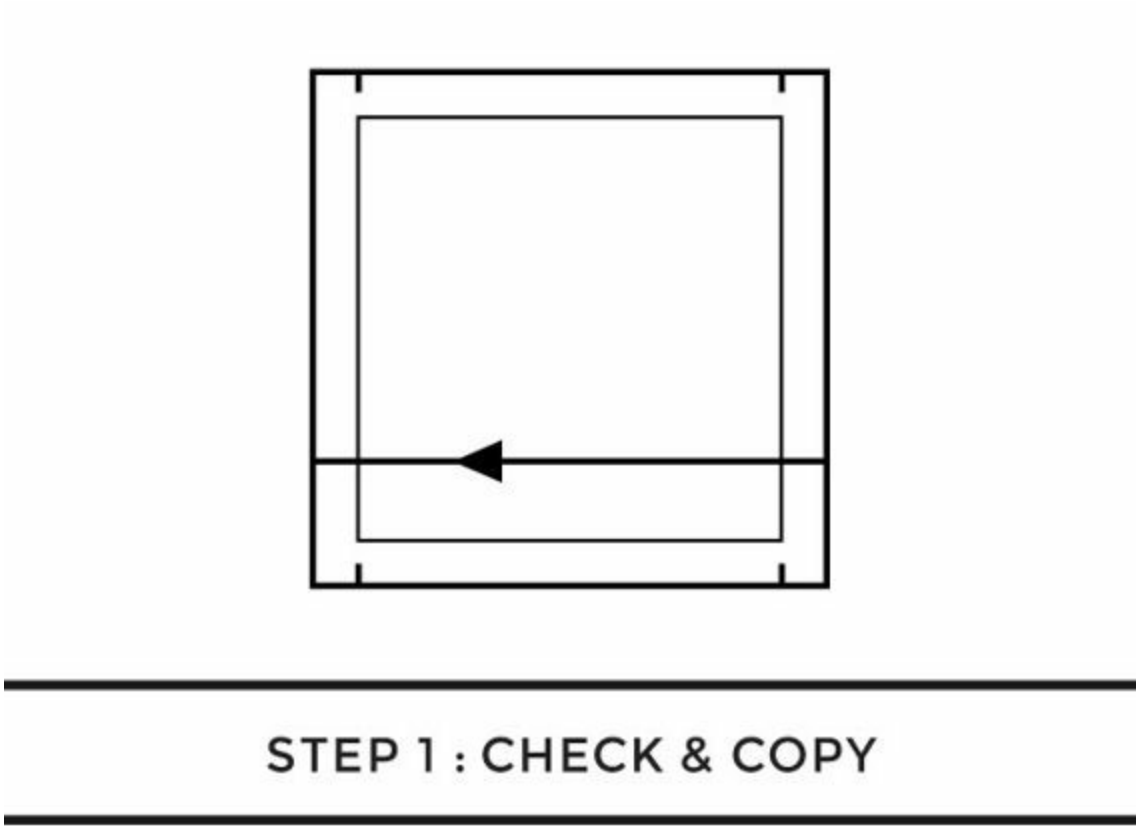
- A pattern piece is increased in volume.
- The increase in volume occurs only along one edge of the pattern.
- The increase in volume will taper back to the other side of the pattern.
- The fit of the pattern is changed along only one edge of the pattern.

The change in volume is most evident if you compare the area within the stitching lines of the original pattern and the finished pattern once you have completed the pattern change. You will be able to see in the final pattern that it has been increased along the bottom stitching line, while the stitching line along the top of the pattern will maintain the same length.

When making changes such as this it becomes especially important to concentrate on the stitching line when actually swinging the pattern value into a new position. It is for this reason that when you will cut into your template in this method you will specifically hinge the pattern from the stitching line.

In essence by not cutting through the stitching line you are able to ensure that it will stay the same length. This will be discussed in more detail in the following example.

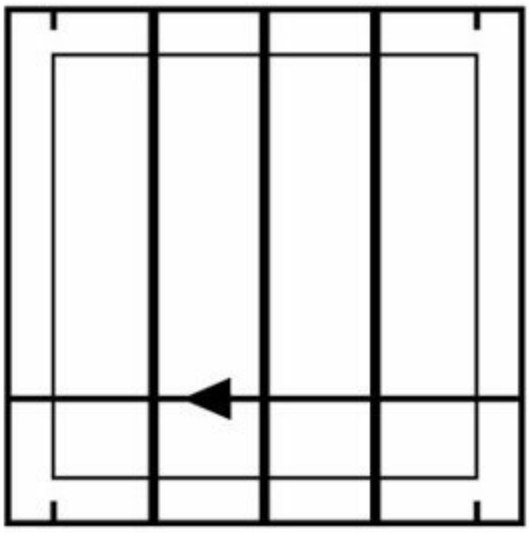
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern piece that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the next step.

Step 2: Mark Guidelines

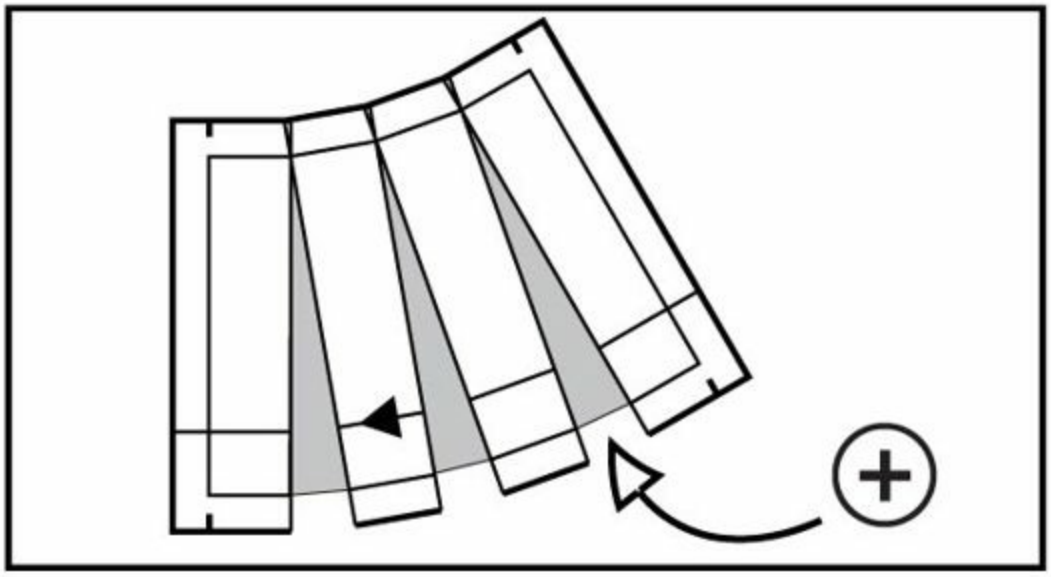


STEP 2 : MARK GUIDELINES

For the pattern change that we are about to make, we are going to increase the volume along just the bottom edge of the pattern, however we want to keep the stitching line at the top the same length. We also want to distribute the volume increase along the pattern edge, rather than pushing all the fullness of the fabric into only one area of the garment.

In order to do this we need to draw a series of guidelines that will serve as our cut lines to use for the cut and spread technique. Rather than cutting right through these guidelines as we have in previous chapters, this time you will cut up to, but not through, the stitching line at the top of the pattern, and then cut down through the seam allowance from the top of the pattern. This will mean that the paper or card will be able to hinge from the top stitching line.

Step 3: Cut and Move



STEP 3 : CUT & MOVE

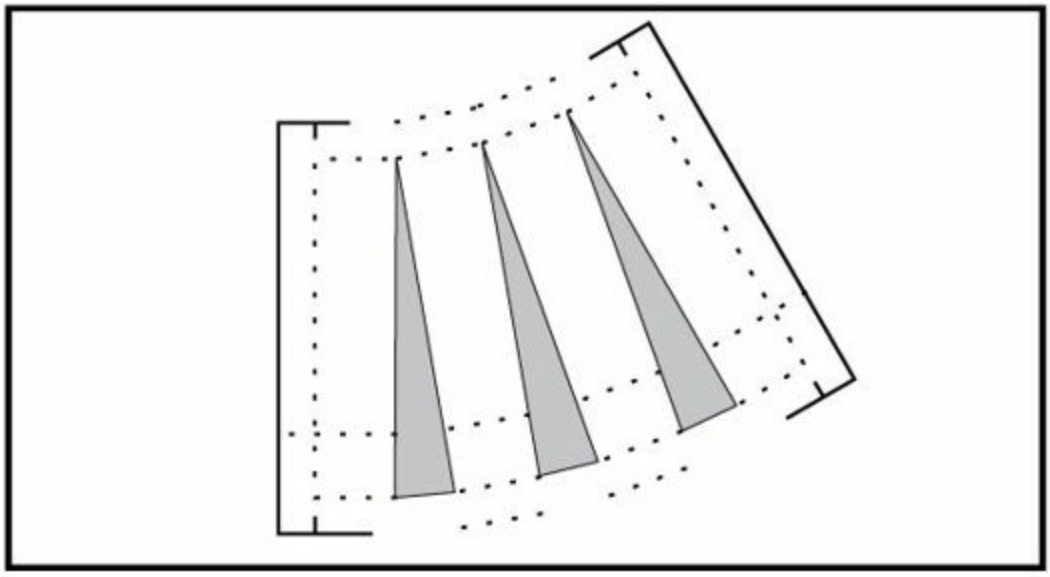
In the diagram above you can see more clearly how the template can be hinged from the stitching line at the top of the pattern.

By cutting and separating the template, you are also able to open up the volume that you need along the stitching line at the bottom of the pattern. In the diagram above the wedges of volume increase have been marked by the greyed out area and indicated with the "+". You can vary the distance of the width between the template pieces depending on how much volume you want to add into your new pattern piece, and ultimately how much extra fabric you want in that particular area of the body.

Remember that in order to create the correct measurement on the bottom edge of the pattern, you will need to measure in a curve along the stitching line, not along the outside of the seam allowance.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position so that you can trace off the shape of the new pattern piece.

Step 4: Trace and Blend

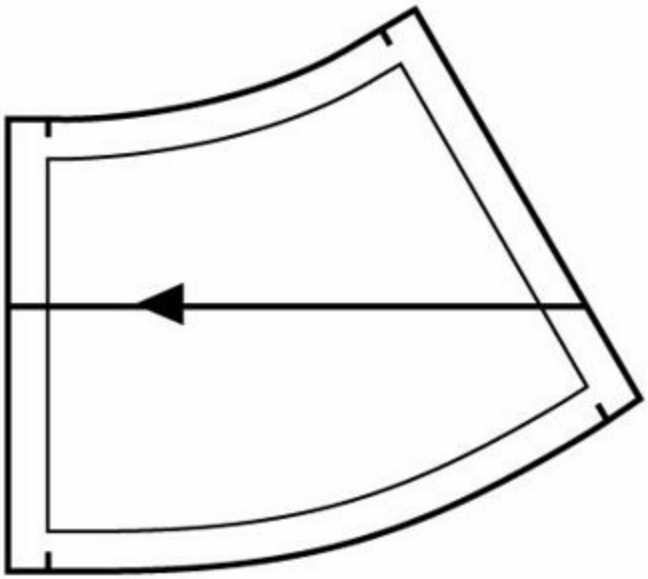


STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below such as the stitching lines, any guidelines and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You should especially check that the lengths of the top and bottom stitching lines are correct and have been blended to smooth curves and then adjust your seam allowance values as needed.

Step 5: Finished Pattern



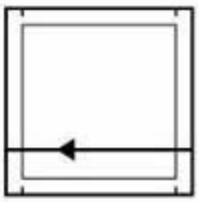
STEP 5 : FINISHED PATTERN

Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

It is important to consider the location of the grain line on your new pattern pieces because, as in our example pattern change, your cut and spread lines may have cut the grain line into separate parts. You may need to check the location of the new grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

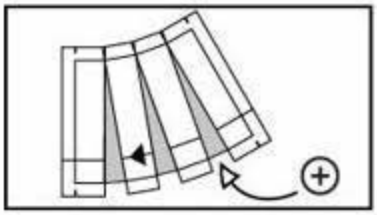
INCREASE VOLUME AROUND A POINT: CUT & SPREAD METHOD



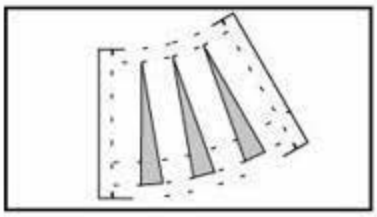
CHECK & COPY



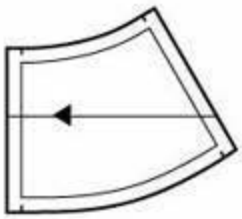
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be increased around a point using the cut and spread method.
- The space that is opened up between the cut pieces of the pattern template represents the new volume added to the pattern.
- Focus should always be on the volume increase of the area inside the stitching line as this represents the actual finished garment.
- You can create multiple guidelines in order to control the way that the pattern volume is increased.

Chapter 43

Increase Volume Around a Point: Pivot Method

Chapter Overview

In this chapter we will look at how the pivot method can be used to increase the volume of a pattern around a point to create the same result as the cut and spread method. While using the pivot method for this pattern change is slightly less tangible than using the cut and spread method, the pivot method allows you to make simple changes far more quickly.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Increase Volume Around a Point: Pivot Method

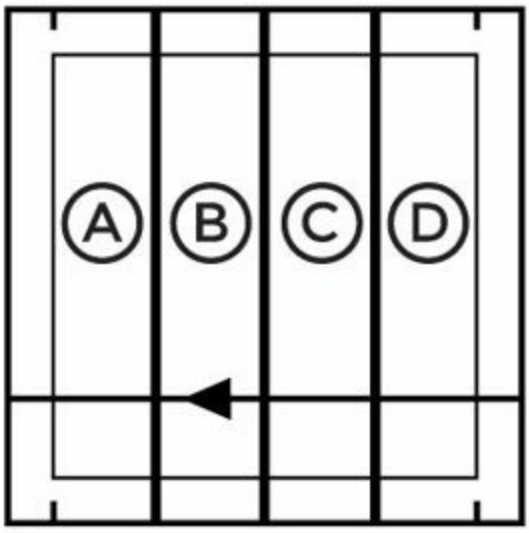
The following exercise will show an example of a pattern change where:

- A pattern piece is increased in volume.
- The increase in volume occurs only along one edge of the pattern.
- The increase in volume will taper back to the other side of the pattern.
- The fit of the pattern is changed along only one edge of the pattern.

Using the pivot method is slightly less tangible than using the cut and spread method for this pattern change, as you are not able to see the space that opens up in the pattern in such a direct way.

When completing pattern changes using the pivot method, you should use guidelines where possible to allow you to see the change that you have made to the volume in the pattern. In this case you will be adding wedges of new volume at each pivot of the pattern, before you begin tracing off the next section of the pattern. This can be more easily seen in the following example.

Step 1: Mark Guidelines



STEP 1 : MARK GUIDELINES

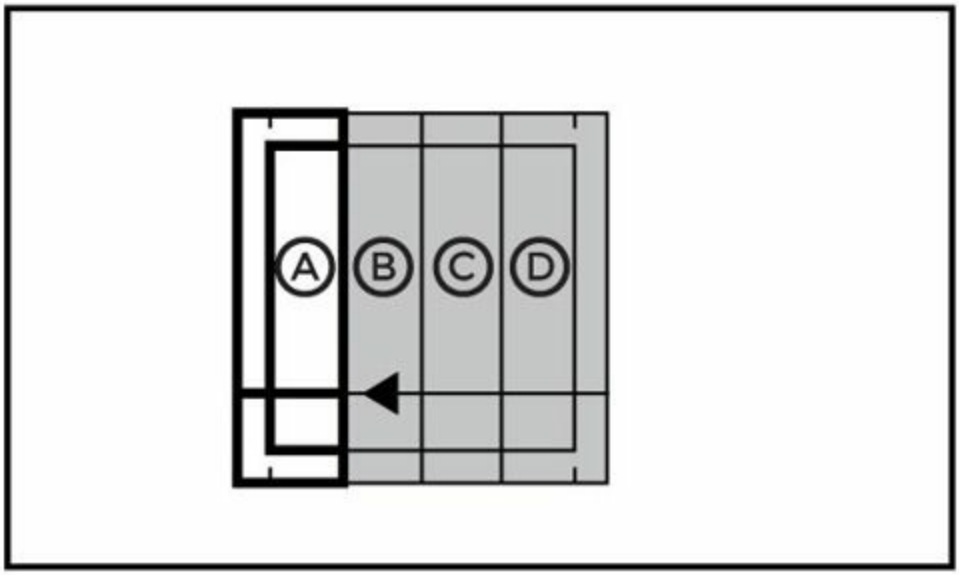
Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

For the pattern change that we are about to make, we are going to increase the volume along just the bottom edge of the pattern, however we want to keep the stitching line at the top the same length. We also want to distribute the volume increase along the pattern edge, rather than pushing all the fullness of the fabric into only one area of the garment.

In order to do this we need to draw a series of guidelines that will serve as our borders for each tracing of the pattern in the pivot method. As you will see in the following steps, we will add a section of the volume that we need at each of these guidelines before tracing off the next section of the pattern. So basically because we have added three guidelines, we will add three wedges of volume.

As these guidelines will only be temporary it may be best to mark them in pencil so that they can be removed from the original pattern later.

Step 2: Trace Part A



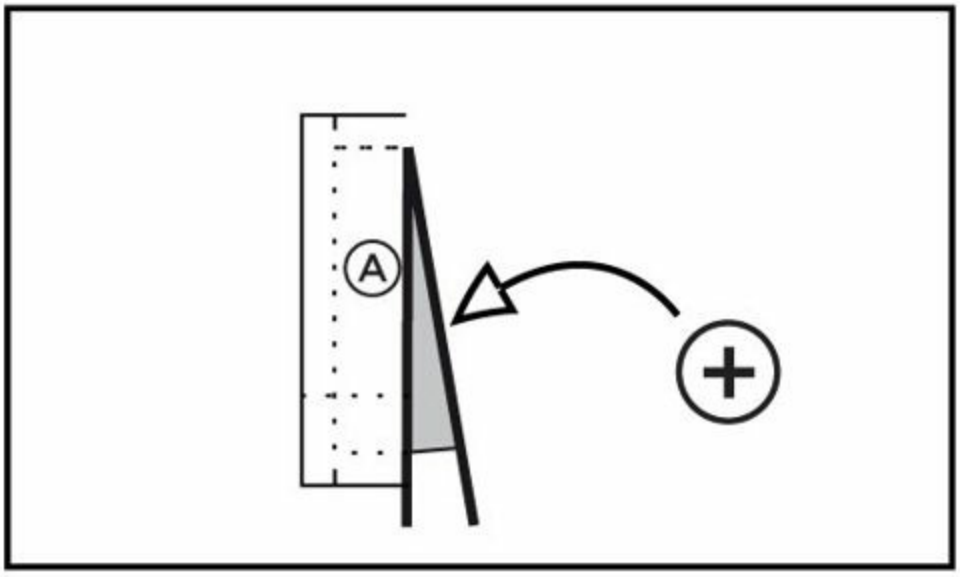
STEP 2 : TRACE PART A

Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance stopping at the guideline at both the top and bottom of the pattern.

Use a tracing wheel to also transfer the guideline marking following down the centre of the pattern between parts A and B. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

Step 3: Mark Volume Increase for Part A



STEP 3 : MARK VOLUME INCREASE

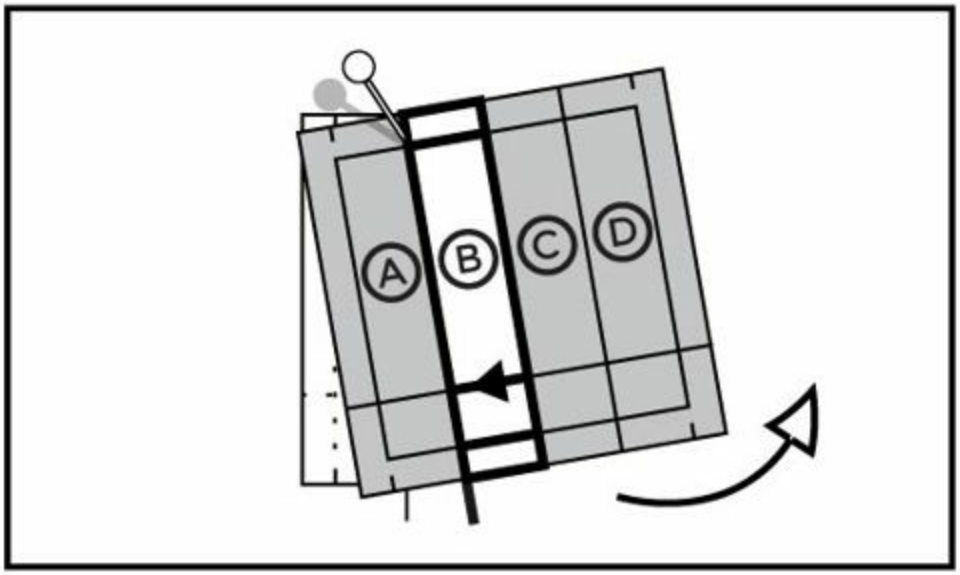
In the diagram above you can see the section of the pattern that was marked off for part A of the pattern.

Before we will trace off Part B of the pattern, we will now insert a section of our volume increase onto the sheet of paper. In order to do this you will need to rule along the guideline from the stitching line of part A, down to the bottom of the pattern. You will then need to measure out from the stitching line at the bottom of the pattern to represent the first wedge of volume that you want to insert. You can vary this measurement depending on how much you want to increase the volume along the bottom stitching line.

The greyed out wedge above represents the amount of volume that we are adding to our pattern. Note that just as in the cut and spread method, the wedge of volume is inserted within the top and bottom stitching lines of the new pattern. So in the cut and spread method we hinged the paper at the top stitching line, and similarly in the pivot method the top stitching line will again be our pivot point to swing the pattern for the next tracing.

We have extended out the guidelines at either side of the volume wedge so that they will be visible in the next step when part B is traced off onto the sheet of paper.

Step 4: Pivot and Trace Part B



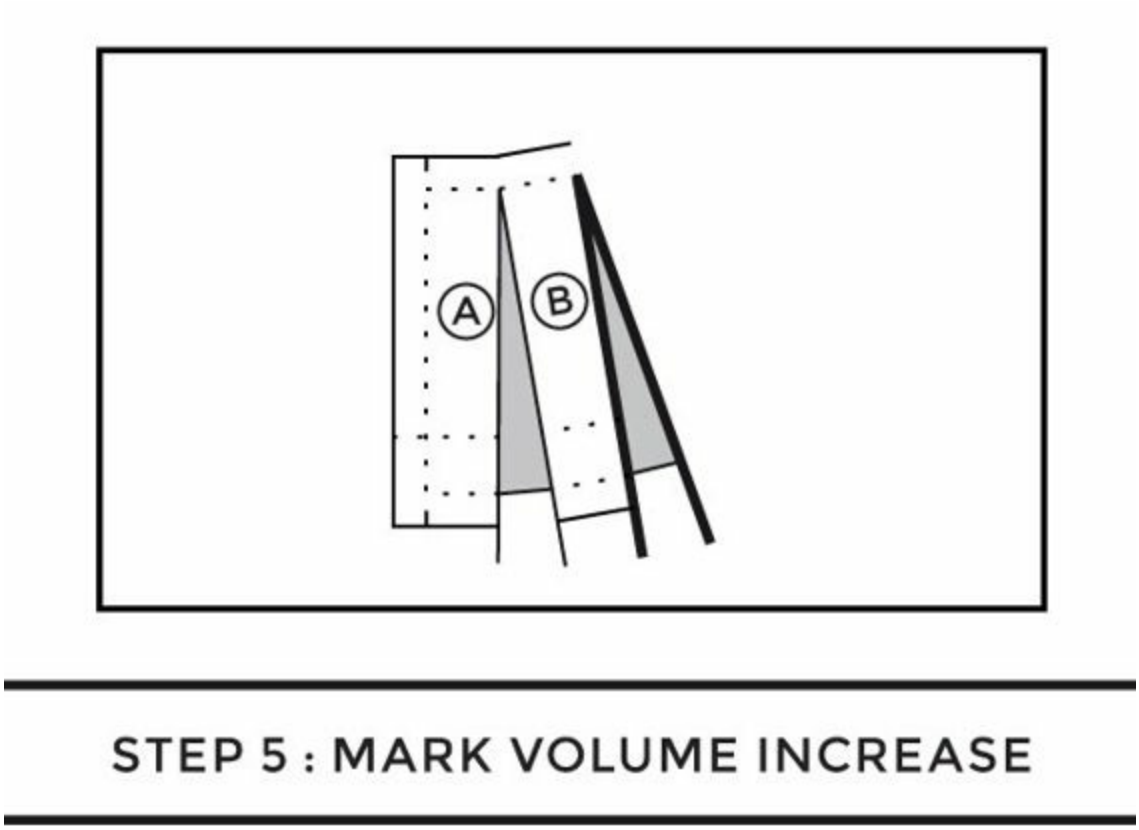
STEP 4 : PIVOT & TRACE PART B

Place the original pattern back on top of the tracing of part A, so that you can align a pin on the stitching line as indicated on the diagram above. You will then swing the pattern out to meet the new guideline so that you will be able to trace off part B of the pattern. So essentially you are now swinging part B out to match the guideline that we drew on our volume wedge in the previous step.

You will now trace off part B just as you did for part A, tracing the seam allowance edges at the top and bottom of the pattern and using a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part B. Use a tracing wheel to also transfer the guideline marking following down the centre of the pattern between parts B and C.

Once you have completed this tracing this means that you have traced parts A and B onto the fresh sheet of paper, as well as adding an extra amount of pattern volume in between the two parts to increase the volume of the pattern.

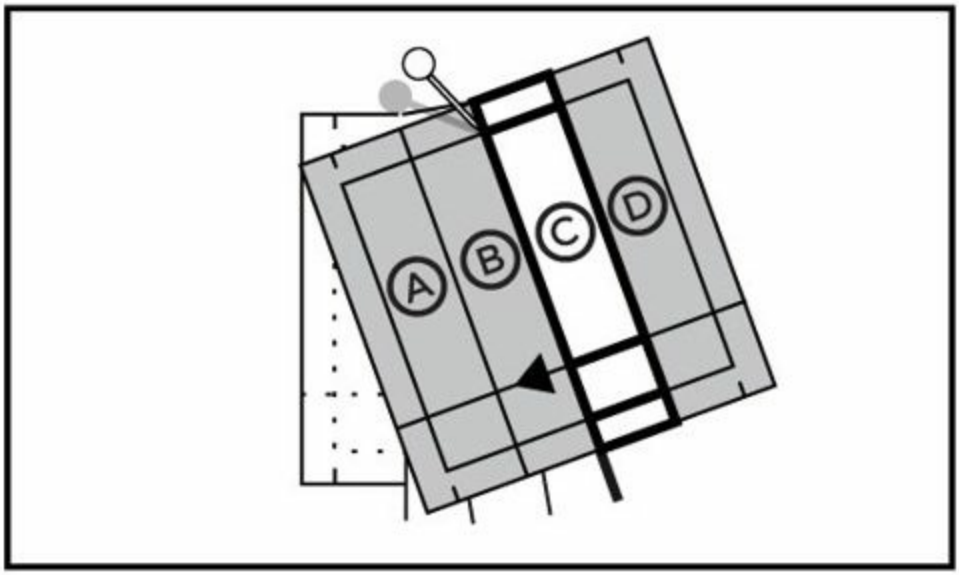
Step 5: Mark Volume Increase for Part B



In the diagram above you can see more clearly how parts A and B of the original pattern have been traced as well as the wedge of volume that we added in the previous step. You can also see that because we pivoted from the stitching line at the top of the original pattern, the stitching line at the top of our new pattern shape is maintaining the same length even though the stitching line at the bottom of our pattern is now growing.

Before you will trace off Part C of the pattern, you will now again insert a new wedge of volume at this point. In this example above we are inserting the volume in even sections at each stage, but if desired you could vary the amount of volume added in different areas of the pattern to create different effects.

Step 6: Pivot and Trace Part C



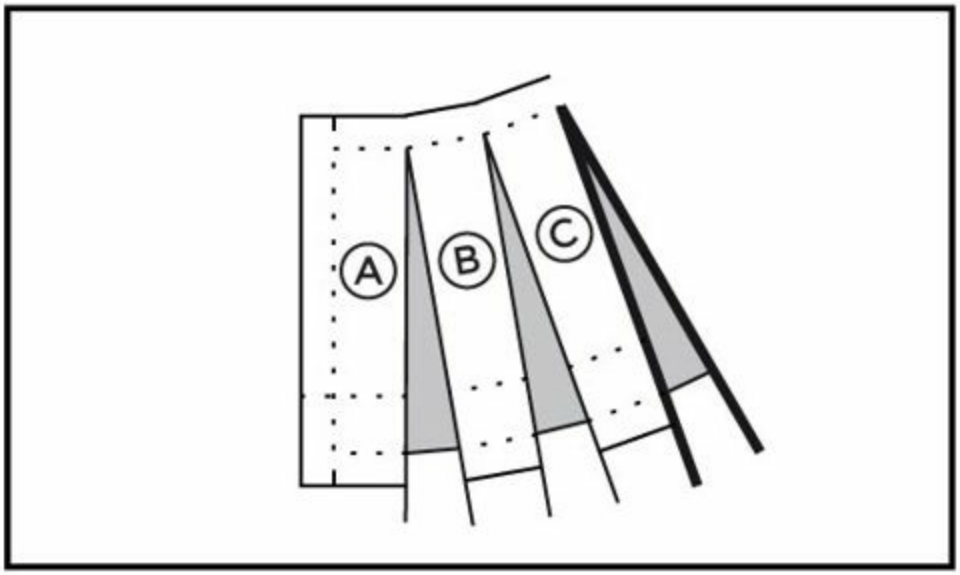
STEP 6 : PIVOT & TRACE PART C

Place the original pattern back on top of the tracing of part B, so that you can align a pin on the stitching line as indicated on the diagram above. You will then swing the pattern out to meet the new guideline so that you will be able to trace off part C of the pattern. So you are now swinging part C out to match the guideline that we drew on our volume wedge in the previous step.

You will now trace off part C just as you did for part B, tracing the seam allowance edges at the top and bottom of the pattern and using a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part C. Use a tracing wheel to also transfer the guideline marking following down the centre of the pattern between parts C and D.

Once you have completed this tracing this means that you have traced parts A, B and C onto the fresh sheet of paper, as well as adding two extra amounts of pattern volume in between to increase the volume of the pattern.

Step 7: Mark Volume Increase for Part C

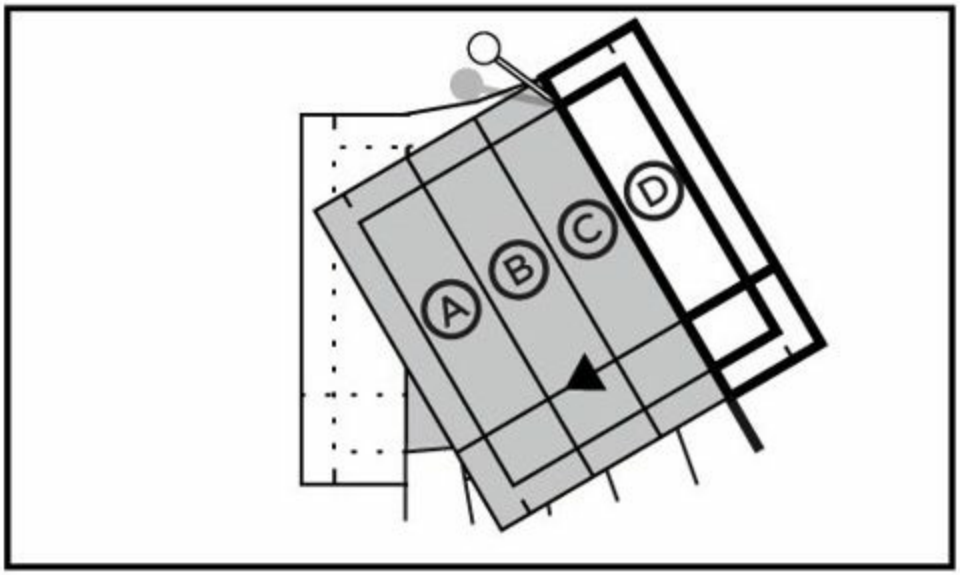


STEP 7 : MARK VOLUME INCREASE

In the diagram above you can begin to see how the pivot process begins to look the same as the cut and spread method with the different traced segments of the original pattern split by the added volume that has been inserted.

Before you will trace off Part D of the pattern, you will now again insert a new wedge of volume at this point, measuring out from the stitching line as we did in the previous steps.

Step 8: Pivot and Trace Part D

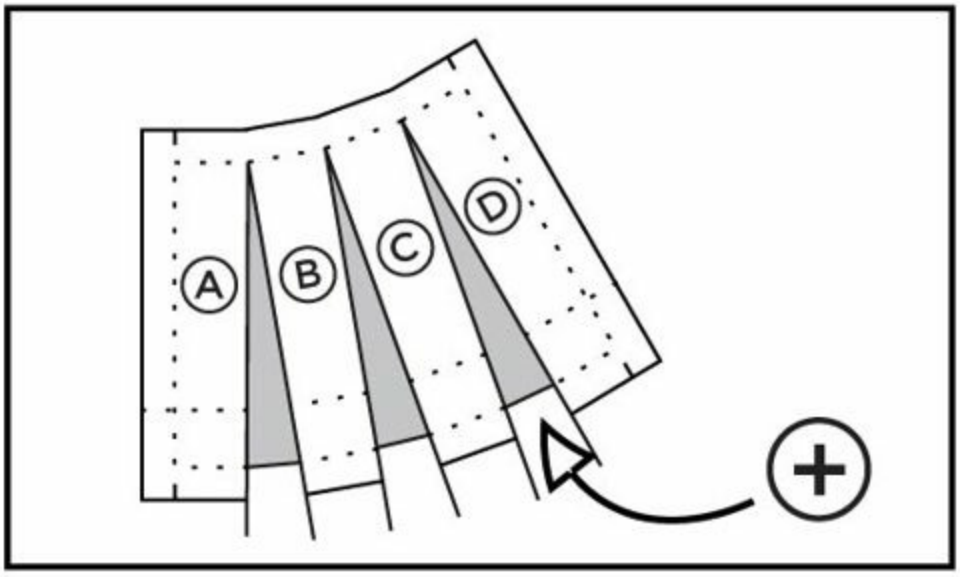


STEP 8 : PIVOT & TRACE PART D

Place the original pattern back on top of the tracing of part C, so that you can align a pin on the stitching line as indicated on the diagram above. You will then swing the pattern out to meet the new guideline so that you will be able to trace off part D of the pattern. So you are now swinging part D out to match the guideline that we drew on our volume wedge in the previous step.

You will now trace off part D just as you did for part A, tracing the seam allowance edges around the outside of the pattern and using a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part D.

Step 9: Check and Blend



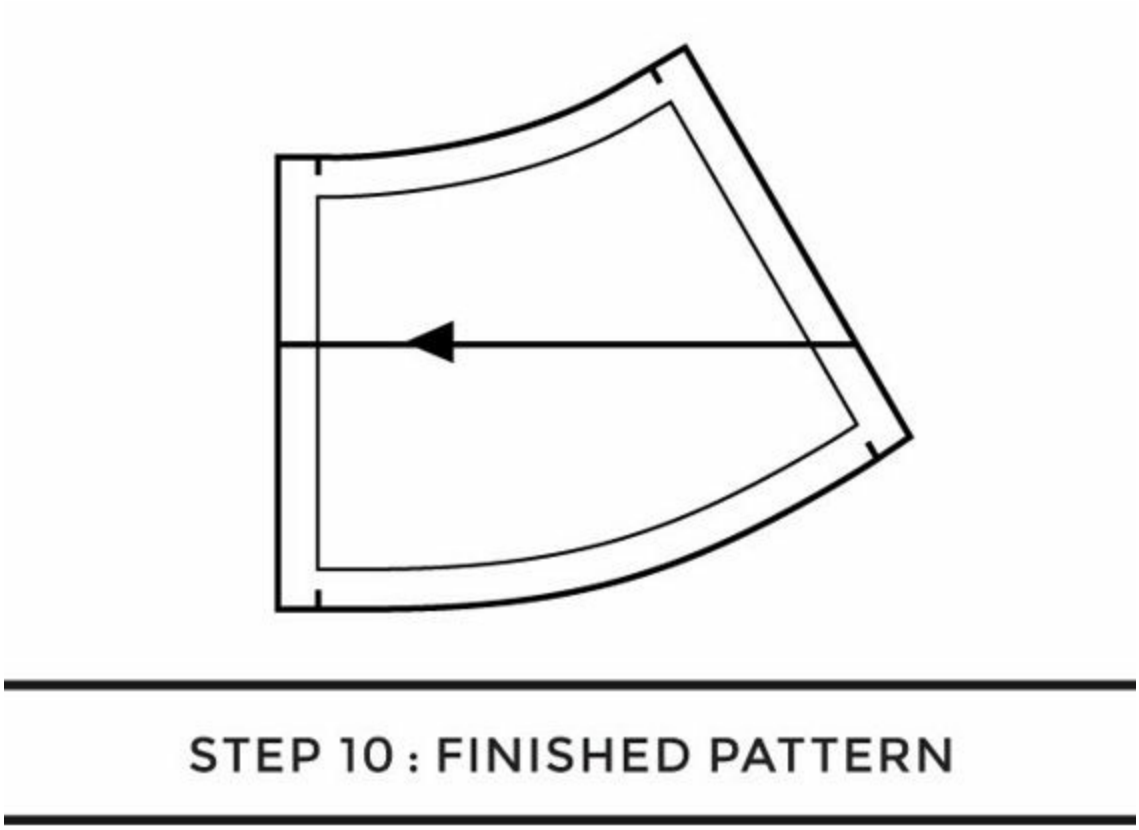
STEP 9 : CHECK & BLEND

In the diagram above you can see more easily the amount of volume that has been added to the pattern at each stage of the pivot method. You can see that the shape of parts A, B, C and D have remained the same, but more volume and hence more fabric will be added into the new pattern piece, indicated with a "+".

It is also easier to see now why the vertical guidelines were needed to mark out the amount of volume that we wanted to add to the pattern piece during the pivot process. When measuring any guidelines for volume increases ensure that you are focused on the stitching line area, as the area of the seam allowance is purely construction value. You can also see now that by pivoting from the top stitching line of the pattern at each step, you are able to keep the measurement of the top stitching line the same while increasing the length of the stitching line at the bottom of the pattern.

Before finalising the pattern, concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You should especially check that the lengths of the top and bottom stitching lines are correct and have been blended to smooth curves and then adjust your seam allowance values as needed.

Step 10: Finished Pattern

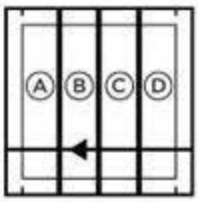


Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

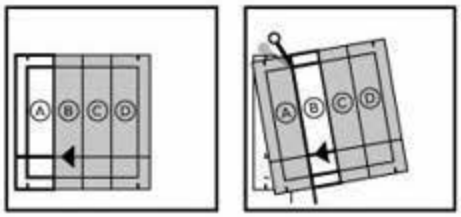
It is important to consider the location of the grain line on your new pattern pieces because, as in our example pattern change, your grain line may have been traced in a variety of directions at each stage of the pivot. You may need to check the location of the new grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

INCREASE VOLUME AROUND A POINT: PIVOT METHOD

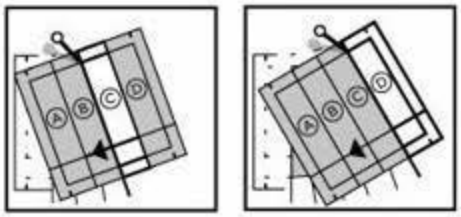


MARK GUIDELINES



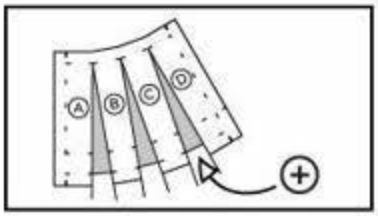
TRACE PART A

PIVOT & TRACE B

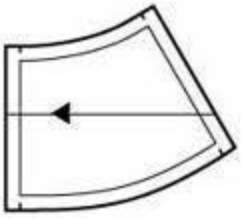


PIVOT & TRACE C

PIVOT & TRACE D



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be increased around a point using the pivot method.
- The pivot method will produce the same result as the cut and spread method.
- The space that is opened up at each stage of pivoting the original pattern piece represents the new volume added to the pattern.
- Focus should always be on the volume increase of the area inside the stitching line as this represents the actual finished garment.
- You should always be aware that you are pivoting the pattern from the correct point i.e. pivoting from a stitching line rather than from the outside edge of seam allowance.

Chapter 44

Increase Volume Around a Point: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin. This will allow us to visualise the shape of these patterns in relation to the body and will allow you to visualise how increasing the volume of a pattern around a point can relate to the body in real terms.

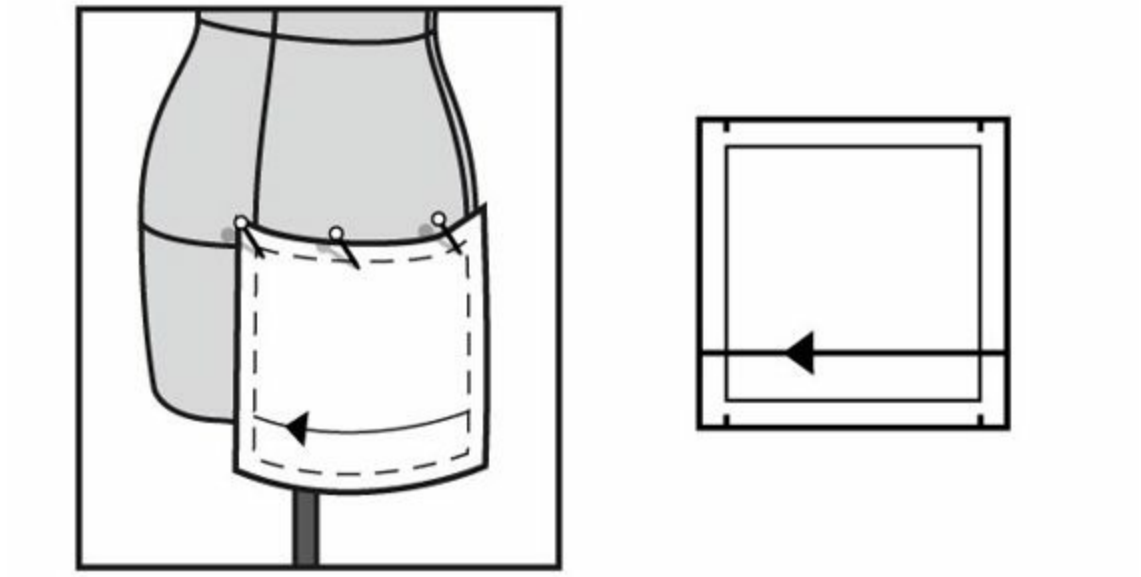
Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Volume Increase Around a Point on the Mannequin

In the following diagrams we will show the patterns from the previous two chapters on the mannequin, showing both the shape of the original pattern, and the shape of the finished pattern complete with volume increased around a point.

This is only one very simple way that the idea of increasing volume around a point can be used in relation to pattern making, however the same basic principle is often used in pattern books in a variety of contexts. For example, you would use a similar technique if you were adding flare to a garment or creating ruffles.

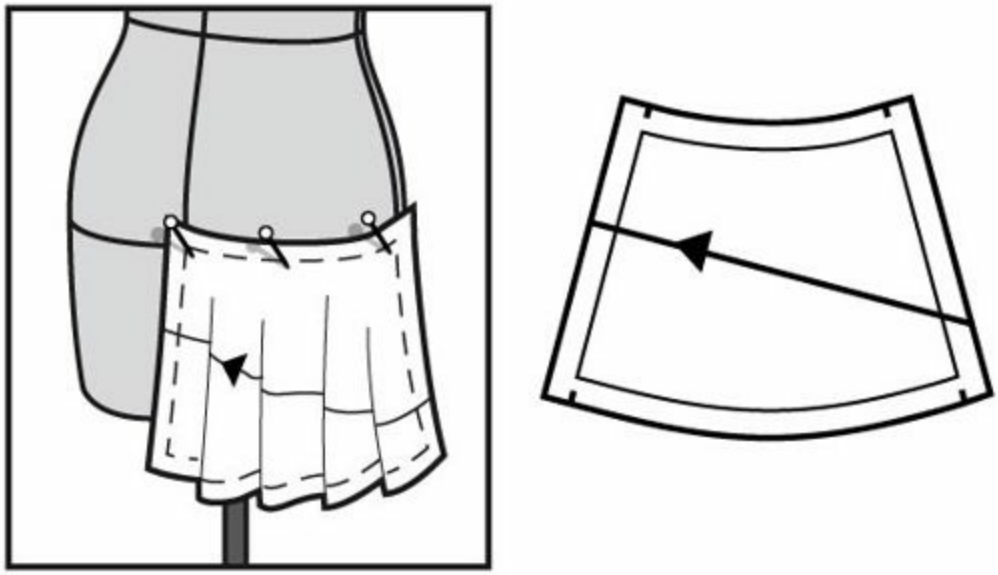
Drape of Original Pattern



DRAPE OF ORIGINAL PATTERN

In the diagram above labelled as "Drape of Original Pattern" the diagram on the left shows the back of a mannequin that has a drape of a basic square pinned onto it to line-up with the hipline. The drape is secured with pins, and in this example we are imagining that the grain line has been designed to go around the body, rather than parallel with the centre back line. The diagram on the right is the same “original pattern” that we used for the previous chapters on the cut and spread and pivot techniques.

Drape of Finished Pattern with Increased Volume

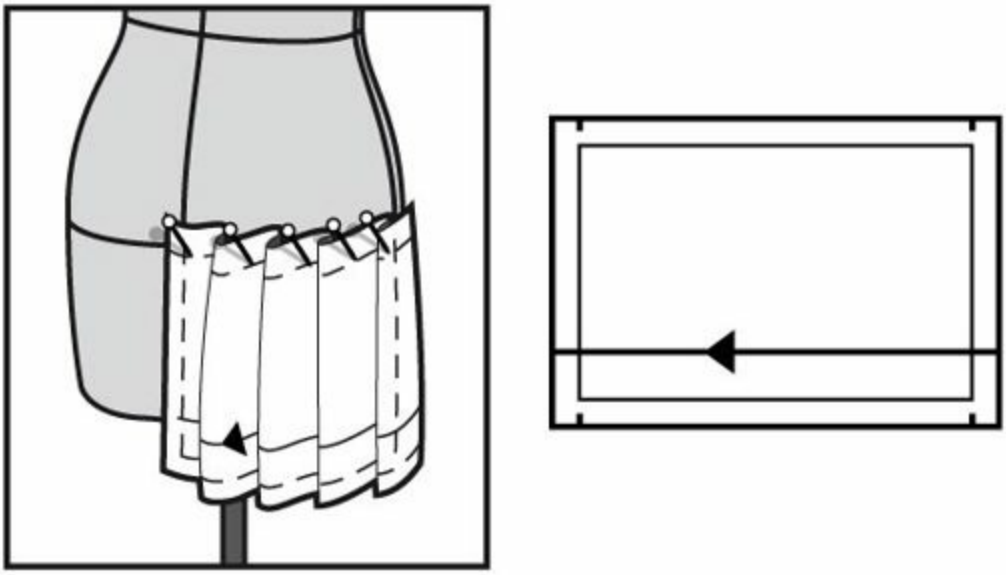


DRAPE OF FINISHED PATTERN

In the diagram above labelled as "Drape of Finished Pattern" the diagram on the left shows how the volume of the fabric has increased to match the pattern change shown in the diagram on the right. The drape is again secured with pins at the hipline.

Note that because we have added volume along only the bottom edge of the pattern, the drape now has more volume along just the bottom edge of the fabric. The top edge of the pattern was not affected by the pattern change, and so the top edge of the fabric still sits smoothly along the hipline.

This type of volume increase is in contrast to an earlier example in this book (Chapter 38: Even Increase of Volume) where we increased the volume evenly through the pattern, increasing the volume along both the top and bottom edges of the pattern. This even increase of volume is shown in the following diagram:



DRAPE OF FINISHED PATTERN

By comparing the two different types of volume changes you can see more easily the different effects that can be achieved. It is best to always visualise these changes in terms of fabric on the body, before beginning your pattern change, to ensure that you are working towards the effect that you really want.

Chapter Summary

In this chapter we learnt that:

- Visualising pattern changes for volume increases on the body will help to clarify changes that you want to make using flat pattern making methods.
- When seen on the body as draped fabric, it is more obvious how the increase in pattern volume has been added to only the bottom edge of the pattern, while the top stitching line has maintained the same length.

Chapter 45

Decrease Volume Around a Point: Cut and Spread Method

Chapter Overview

In this chapter we will look at how the cut and spread method can be used to decrease the volume of a pattern around a point. By understanding this method you will be able to use this idea by itself, or in combination with other pattern changes to create a variety of different design effects.

Decrease Volume Around a Point Overview

In essence, to decrease the volume of a pattern around a point using the cut and spread method we will use the same basic process as we did when we were increasing the volume of a pattern. The main change is that this time rather than splitting the cut and spread template to open up more space at the bottom edge of the pattern, we will instead be closing up the pieces to delete some of the volume out of the pattern.

The same basic principle will still apply whereby we will use the top stitching line as the hinge on our cut and spread template so that we can maintain the actual measurement length on the top stitching line.

Decrease Volume Around a Point: Cut and Spread Method

The following exercise will show an example of a pattern change where:

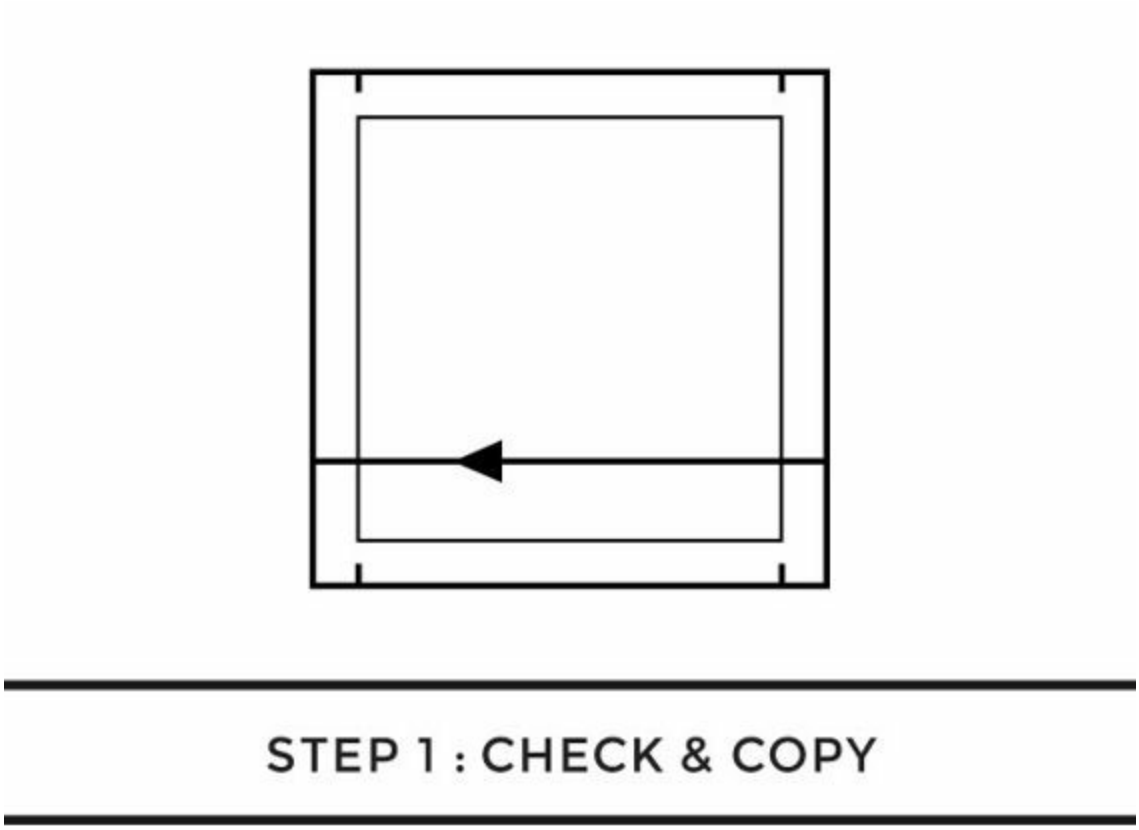
- A pattern piece is decreased in volume.
- The decrease in volume occurs only along one edge of the pattern.
- The decrease in volume will taper back to the other side of the pattern.
- The fit of the pattern is changed along only one edge of the pattern.

The change in volume is most evident if you compare the area within the stitching lines of the original pattern and the finished pattern once you have completed the pattern change. You will be able to see in the final pattern that it has been decreased along the bottom stitching line, while the stitching line along the top of the pattern will maintain the same length.

When making changes such as this it becomes especially important to concentrate on the stitching line when actually swinging the pattern value into a new position. It is for this reason that when you will cut into your template in this method you will specifically hinge the pattern from the stitching line.

In essence by not cutting through the stitching line you are able to ensure that it will stay the same length. This will be discussed in more detail in the following example.

Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern piece that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the next step.

Step 2: Mark Guideline

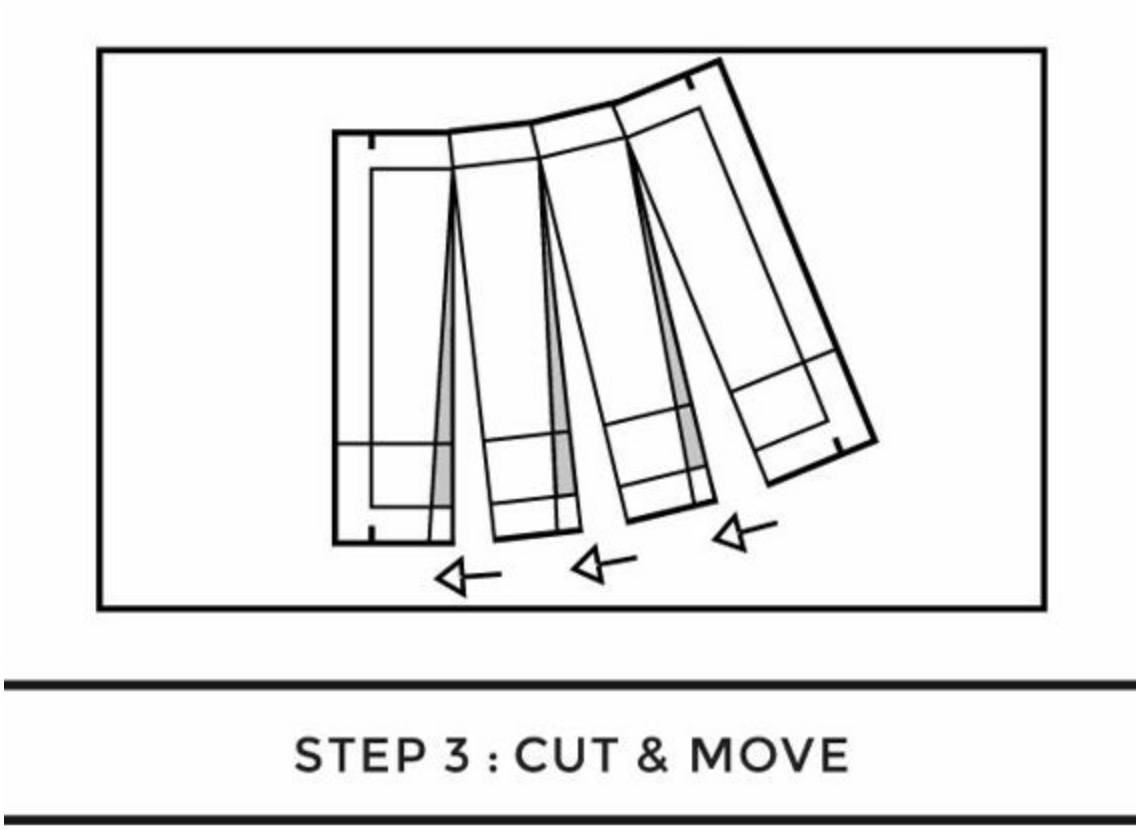


For the pattern change that we are about to make, we are going to decrease the volume along just the bottom edge of the pattern, however we want to keep the stitching line at the top the same length. We also want to distribute the volume decrease along the pattern edge, rather than taking away a large amount of fabric in only one area of the garment.

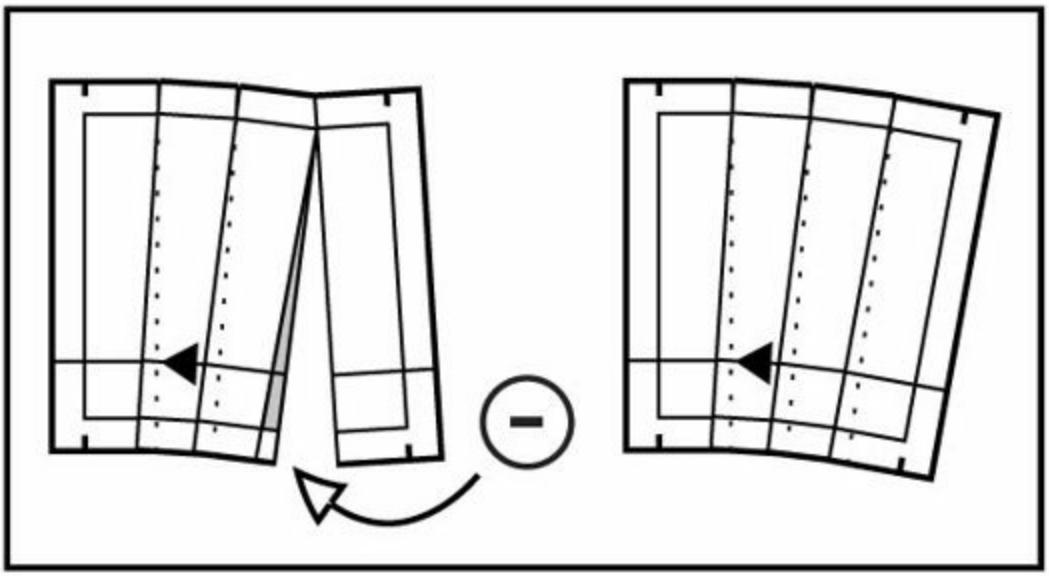
In order to do this we need to draw a series of guidelines that will serve as our cut lines to use for the cut and spread technique. These main guidelines are indicated in the diagram above as the thicker lines that run vertically through the pattern. These main guidelines will serve as our cut lines, and you will need to cut up to, but not through, the stitching line at the top of the pattern, and then cut down through the seam allowance from the top of the pattern. This will mean that the paper or card will be able to hinge from the top stitching line.

A secondary set of guidelines has also been drawn at an angle to each of the main guidelines. These guidelines are drawn to show how much volume we will take out of the pattern at each of these three guidelines in the next steps of our process. Note that when measuring for how much volume you want to take out, you are concentrating on the bottom stitching line, not on the bottom edge of the seam allowance. These secondary guidelines have also been drawn to meet the top stitching line of the pattern, rather than the top edge of the seam allowance. So the wedges of volume that we will take out of the pattern are the small triangles that sit within the stitching lines of the original pattern.

Step 3: Cut and Move



In the diagram above you can see more clearly how the template can be hinged from the stitching line at the top of the pattern. You can also see the wedges of volume decrease more clearly as they have been greyed out in the diagram above. By cutting and separating the template, you are able to now close up the volume that you need along the stitching line at the bottom of the pattern.



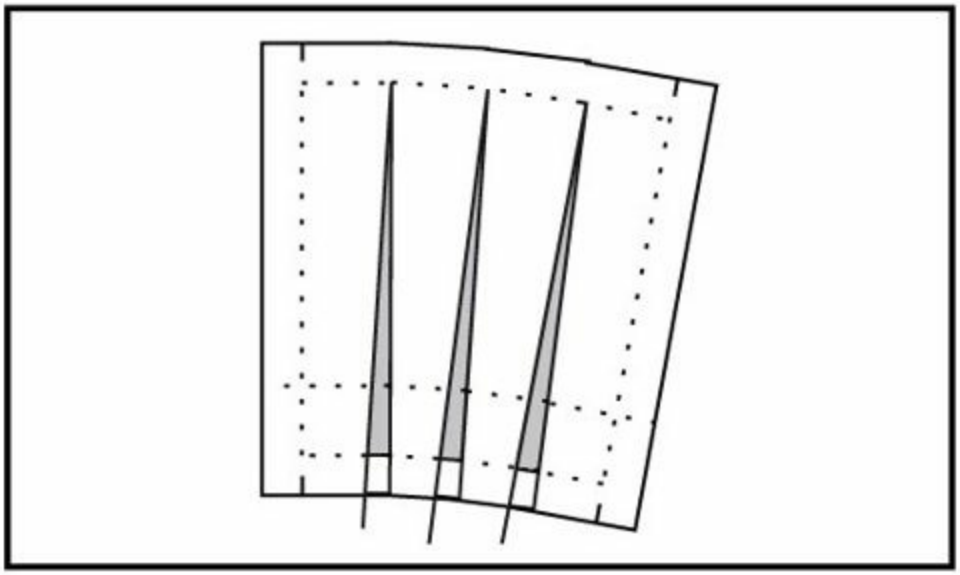
STEP 3 : CUT & MOVE CONTINUED

In the diagram above, one of the wedges of volume decrease has been marked by a greyed out area and indicated with the "-". You can now swing the sections of template from the top stitching line and overlap the template so that the wedges of volume decrease are closed out.

You can check that you have achieved the volume change that you needed by measuring along the stitching line at the bottom of the pattern. Remember that in order to create the correct measurement on the bottom edge of the pattern, you will need to measure in a curve along the stitching line, not along the outside of the seam allowance.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position so that you can trace off the shape of the new pattern piece.

Step 4: Trace and Blend

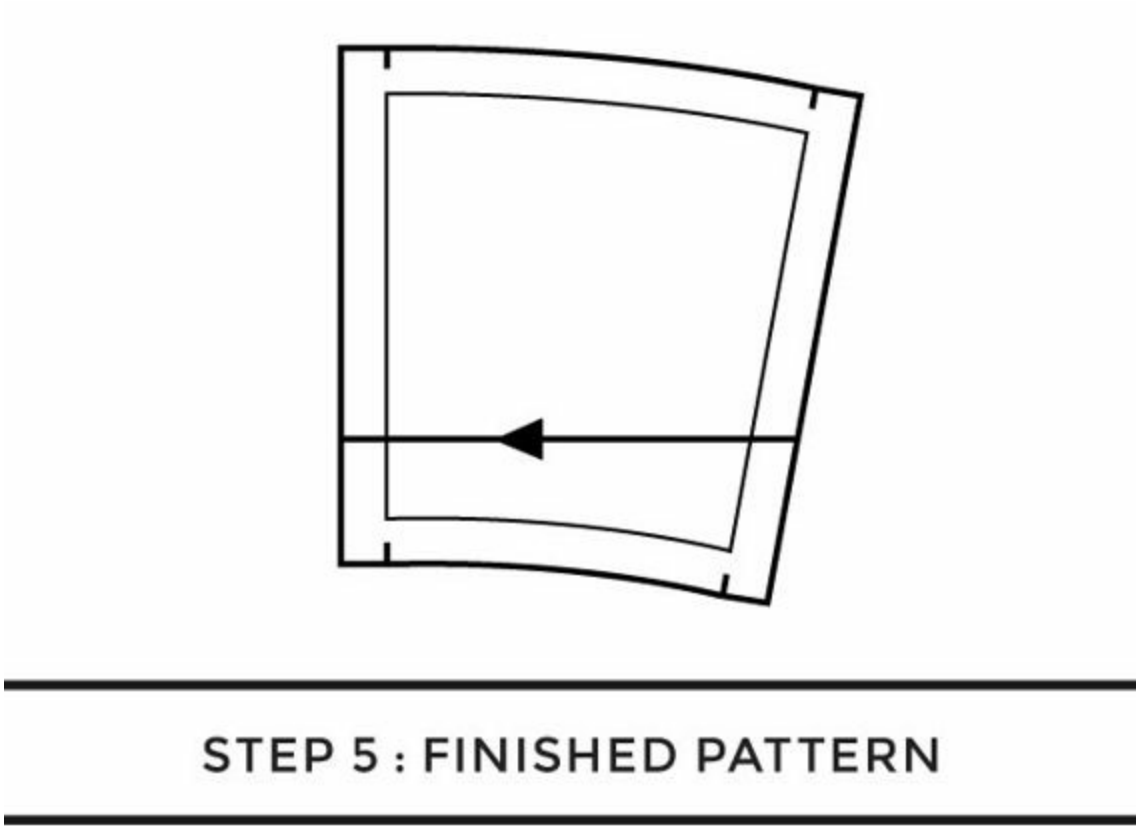


STEP 4 : TRACE & BLEND

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below such as the stitching lines, any guidelines and the position of the grain lines. The areas that we closed out have been greyed out in the area above to show how the wedges of volume were overlapped before being traced, essentially deleting small wedges of volume from the new pattern shape.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You should especially check that the lengths of the top and bottom stitching lines are correct and have been blended to smooth curves and then adjust your seam allowance values as needed.

Step 5: Finished Pattern

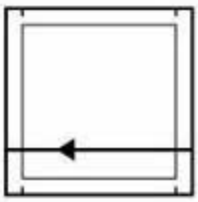


Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

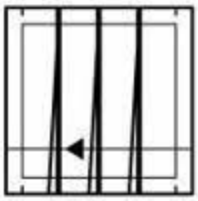
It is important to consider the location of the grain line on your new pattern pieces because, as in our example pattern change, your cut and spread lines may have cut the grain line into separate parts. You may need to check the location of the new grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

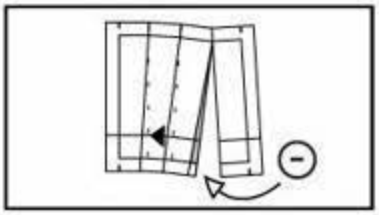
DECREASE VOLUME AROUND A POINT: CUT & SPREAD METHOD



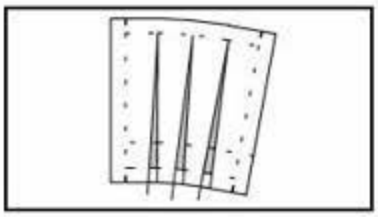
CHECK & COPY



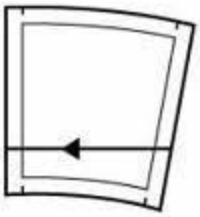
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be decreased around a point using the cut and spread method.
- The space that is closed out between the cut pieces of the pattern template represents the volume that is effectively deleted from the new pattern.
- Focus should always be on the volume decrease of the area inside the stitching line as this represents the actual finished garment.
- You can create multiple guidelines in order to control the way that the pattern volume is decreased.

Chapter 46

Decrease Volume Around a Point: Pivot Method

Chapter Overview

In this chapter we will look at how the pivot method can be used to decrease the volume of a pattern around a point to create the same result as the cut and spread method. While using the pivot method for this pattern change is slightly less tangible than using the cut and spread method, the pivot method allows you to make simple changes far more quickly.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Decrease Volume Around a Point: Pivot Method

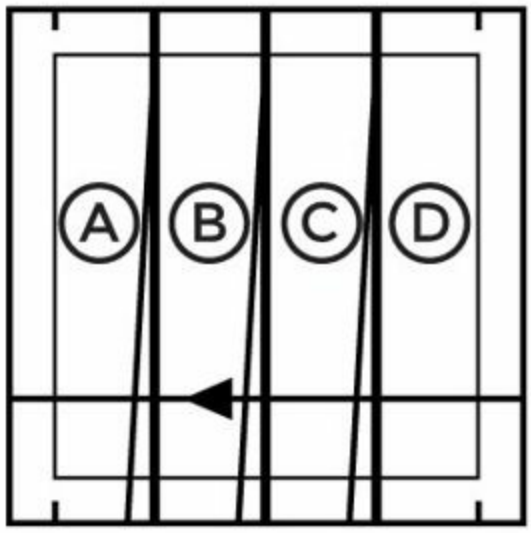
The following exercise will show an example of a pattern change where:

- A pattern piece is decreased in volume.
- The decrease in volume occurs only along one edge of the pattern.
- The decrease in volume will taper back to the other side of the pattern.
- The fit of the pattern is changed along only one edge of the pattern.

Using the pivot method is slightly less tangible than using the cut and spread method for this pattern change, as you are not able to see the spaces that are closed up in the pattern in such a direct way.

When completing pattern changes using the pivot method, you should use guidelines where possible to allow you to see the changes that you have made to the volume in the pattern. In this case you will be taking away wedges of volume at each pivot of the pattern, before you begin tracing off the next section of the pattern. This can be more easily seen in the following example.

Step 1: Mark Guidelines



STEP 1 : MARK GUIDELINES

Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

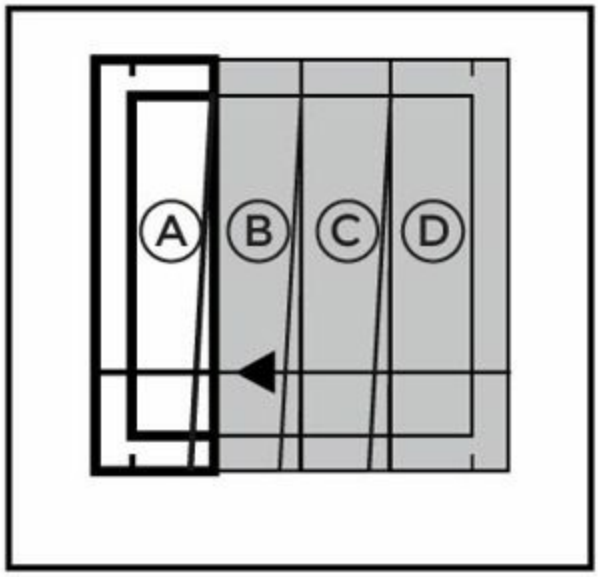
For the pattern change that we are about to make, we are going to decrease the volume along just the bottom edge of the pattern, however we want to keep the stitching line at the top the same length. We also want to distribute the volume decrease along the pattern edge, rather than taking away a large amount of fabric in only one area of the garment.

In order to do this we need to draw a series of guidelines that will serve as our borders for each tracing of the pattern in the pivot method. As you will see in the following steps, we will take away a section of the volume that we need at each of these guidelines before tracing off the next section of the pattern. So basically because we have added three guidelines, we will take away three wedges of volume.

Just as in the cut and spread method, you will need to add one set of guidelines that represent the borders of what needs to be traced off the pattern at each step, these main guidelines are indicated above as thicker vertical guidelines. A secondary set of guidelines are used to indicate the amount of volume to be taken away at each step and these are drawn out at an angle from each of the main guidelines.

As these guidelines will only be temporary it may be best to mark them in pencil so that they can be removed from the original pattern later.

Step 2: Trace Part A



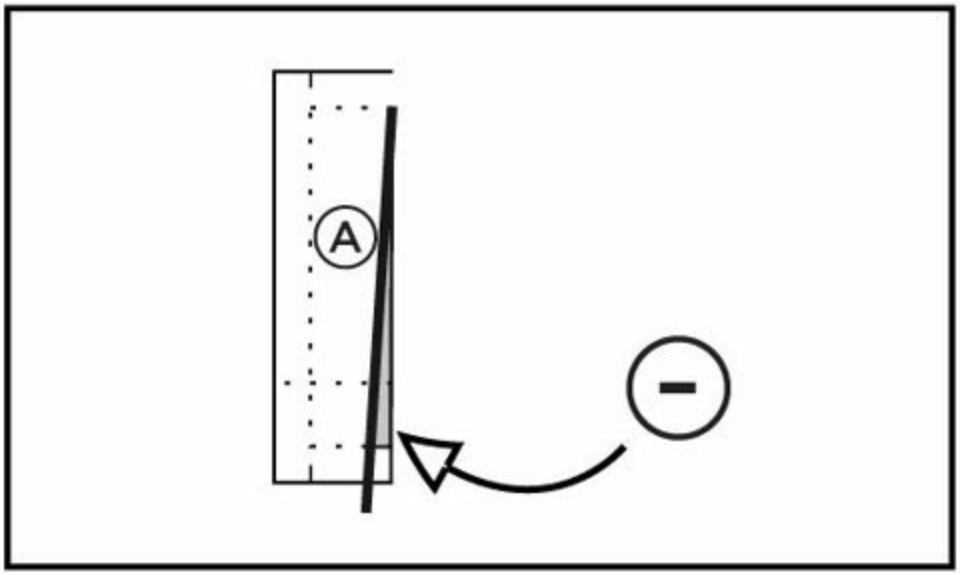
STEP 2 : TRACE PART A

Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance stopping at the main guideline at both the top and bottom of the pattern.

Use a tracing wheel to also transfer both the main and secondary guidelines, following down the centre of the pattern between parts A and B. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

Step 3: Mark Volume Decrease for Part A



STEP 3 : MARK VOLUME DECREASE

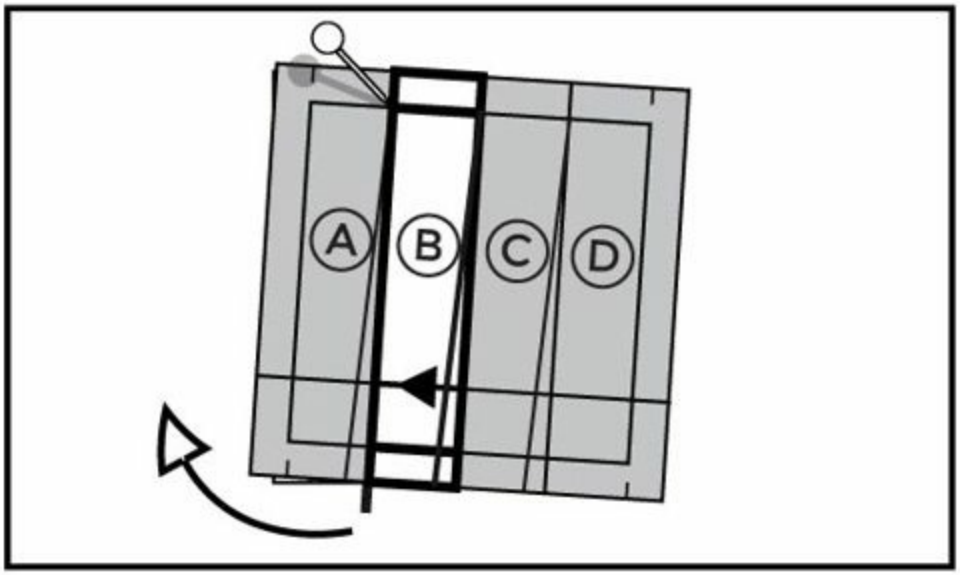
In the diagram above you can see the section of the pattern that was marked off for part A of the pattern.

Before we will trace off Part B of the pattern, we will now rule down the lines marked as the main and secondary guidelines to indicate the volume decrease onto the sheet of paper.

The greyed out wedge above represents the amount of volume that we are taking away from our pattern. Note that just as in the cut and spread method, the wedge of volume decrease is within the top and bottom stitching lines of the new pattern. So in the cut and spread method we hinged the paper at the top stitching line, and similarly in the pivot method the top stitching line will again be our pivot point to swing the pattern for the next tracing.

We have extended out the guidelines at either side of the volume wedge so that they will be visible in the next step when part B is traced off onto the sheet of paper.

Step 4: Pivot and Trace Part B



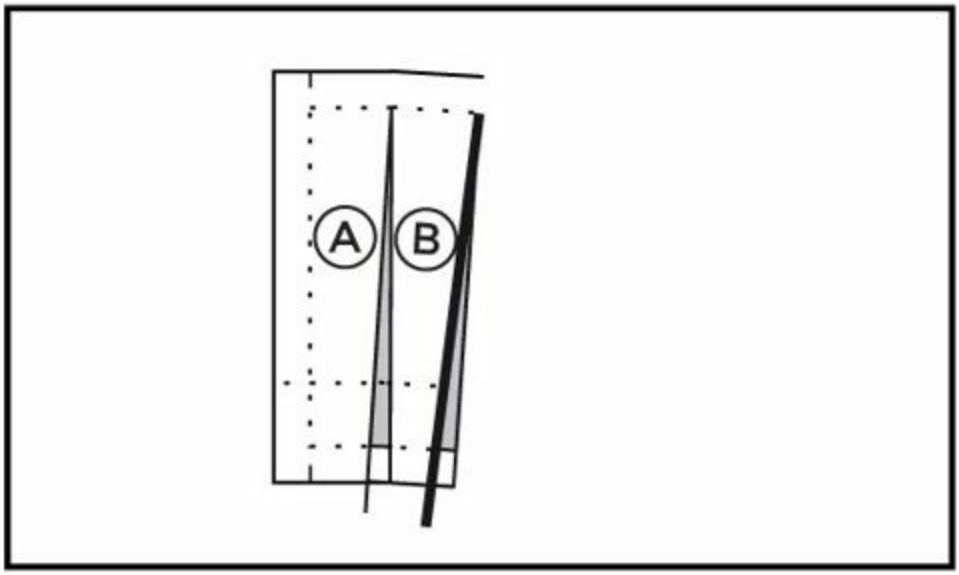
STEP 4 : PIVOT & TRACE PART B

Place the original pattern back on top of the tracing of part A, so that you can align a pin on the stitching line as indicated on the diagram above. You will then swing the pattern back to meet the secondary guideline so that you will be able to trace off part B of the pattern. So essentially you are now swinging part B back to close out a wedge of volume before continuing to trace the pattern.

You will now trace off part B just as you did for part A, tracing the seam allowance edges at the top and bottom of the pattern and using a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part B. Use a tracing wheel to also transfer the main and secondary guidelines following down the centre of the pattern between parts B and C.

Once you have completed this tracing this means that you have traced parts A and B onto the fresh sheet of paper, as well as taking away a wedge of pattern volume in between the two parts to decrease the volume of the pattern.

Step 5: Mark Volume Decrease for Part B

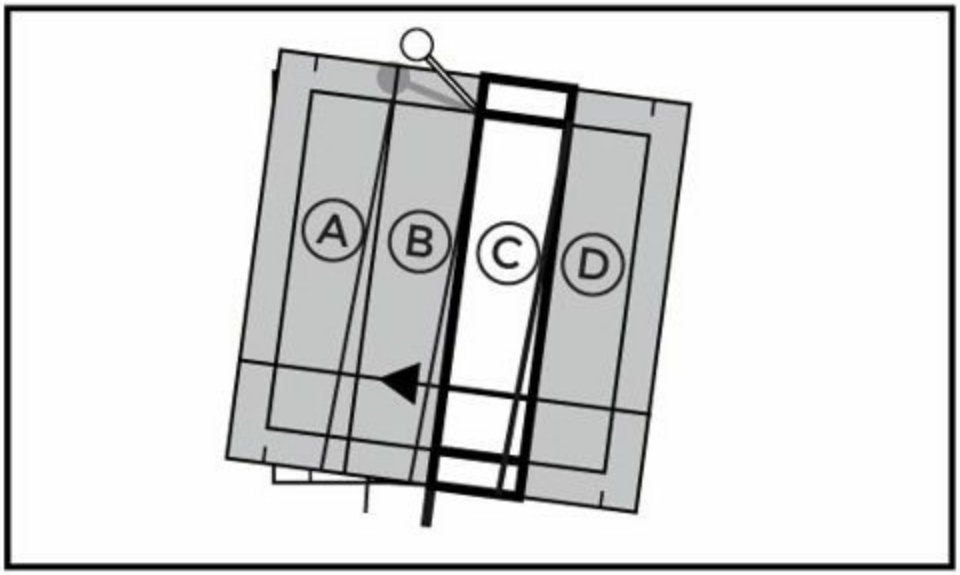


STEP 5 : MARK VOLUME DECREASE

In the diagram above you can see more clearly how parts A and B of the original pattern have been traced as well as the wedge of volume that we took away from the pattern in the previous step. You can also see that because we pivoted from the stitching line at the top of the original pattern, the stitching line at the top of our new pattern shape is maintaining the same length even though the stitching line at the bottom of our pattern is now shrinking.

Before you will trace off part C of the pattern, you will now again extend the main and secondary guidelines to mark out the amount of volume decrease for the next tracing.

Step 6: Pivot and Trace Part C



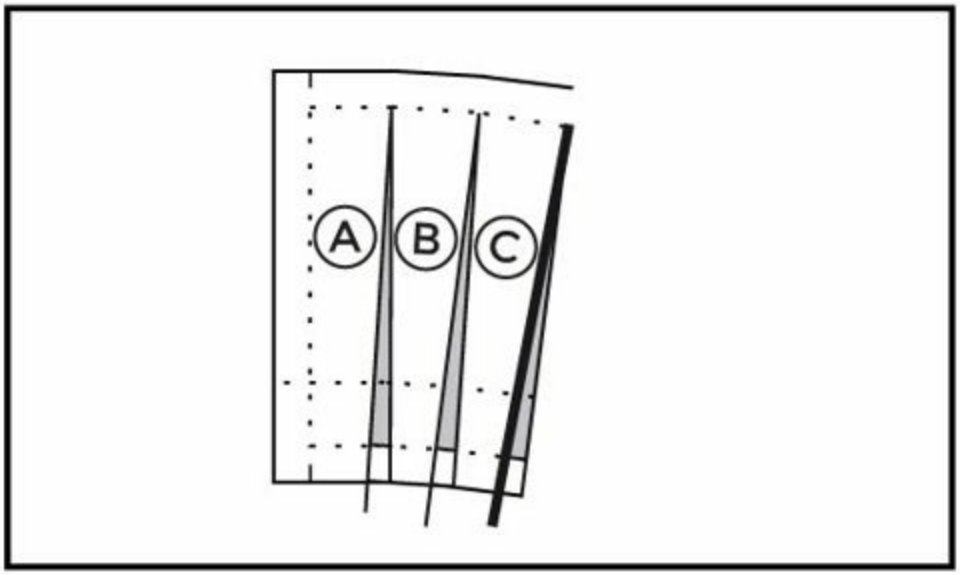
STEP 6 : PIVOT & TRACE PART C

Place the original pattern back on top of the tracing of part B, so that you can align a pin on the stitching line as indicated on the diagram above. You will then swing the pattern back to meet the secondary guideline so that you will be able to trace off part C of the pattern. So essentially you are now swinging part C back to close out a wedge of volume before continuing to trace the pattern.

You will now trace off part C just as you did for part B, tracing the seam allowance edges at the top and bottom of the pattern and using a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part C. Use a tracing wheel to also transfer the main and secondary guidelines following down the centre of the pattern between parts C and D.

Once you have completed this tracing this means that you have traced parts A, B and C onto the fresh sheet of paper, as well as taking away two amounts of pattern volume in between to decrease the volume of the pattern.

Step 7: Mark Volume Decrease for Part C

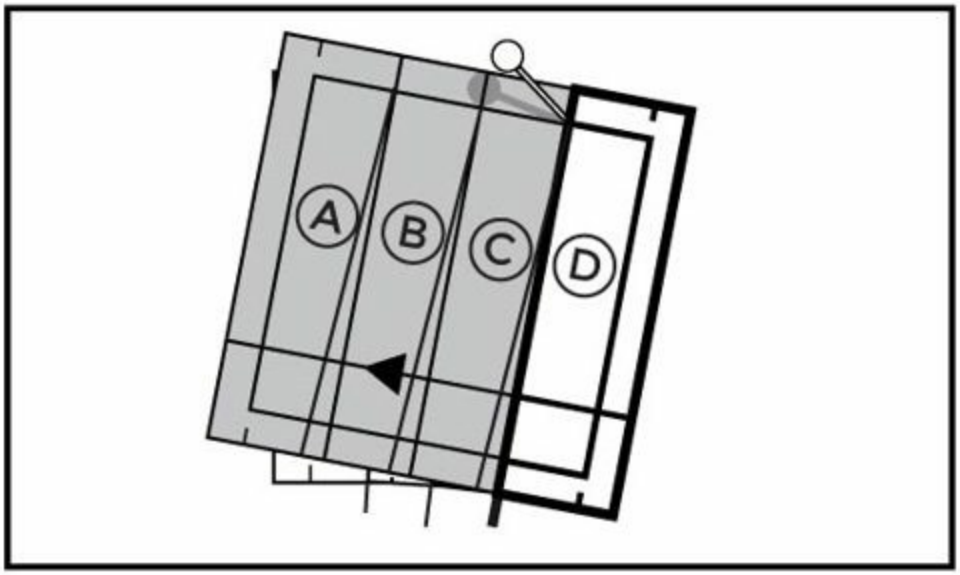


STEP 7 : MARK VOLUME DECREASE

In the diagram above you can begin to see how the pivot process begins to look the same as the cut and spread method with the different traced segments of the original pattern overlapping to slowly decrease the volume of the pattern along the bottom edge.

Before you will trace off part D of the pattern, you will now again extend the main and secondary guidelines to mark out the amount of volume decrease for the next tracing.

Step 8: Pivot and Trace Part D

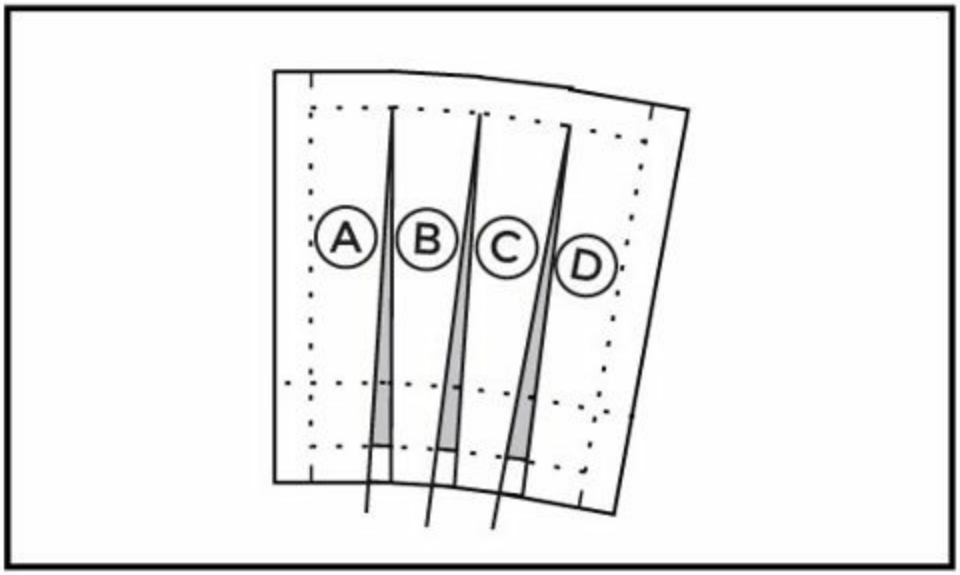


STEP 8 : PIVOT & TRACE PART D

Place the original pattern back on top of the tracing of part C, so that you can align a pin on the stitching line as indicated on the diagram above. You will then swing the pattern back to meet the secondary guideline so that you will be able to trace off part D of the pattern. So essentially you are now swinging part D back to close out a wedge of volume before continuing to trace the pattern.

You will now trace off part D just as you did for part A, tracing the seam allowance edges around the outside of the pattern and using a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part D.

Step 9: Check and Blend



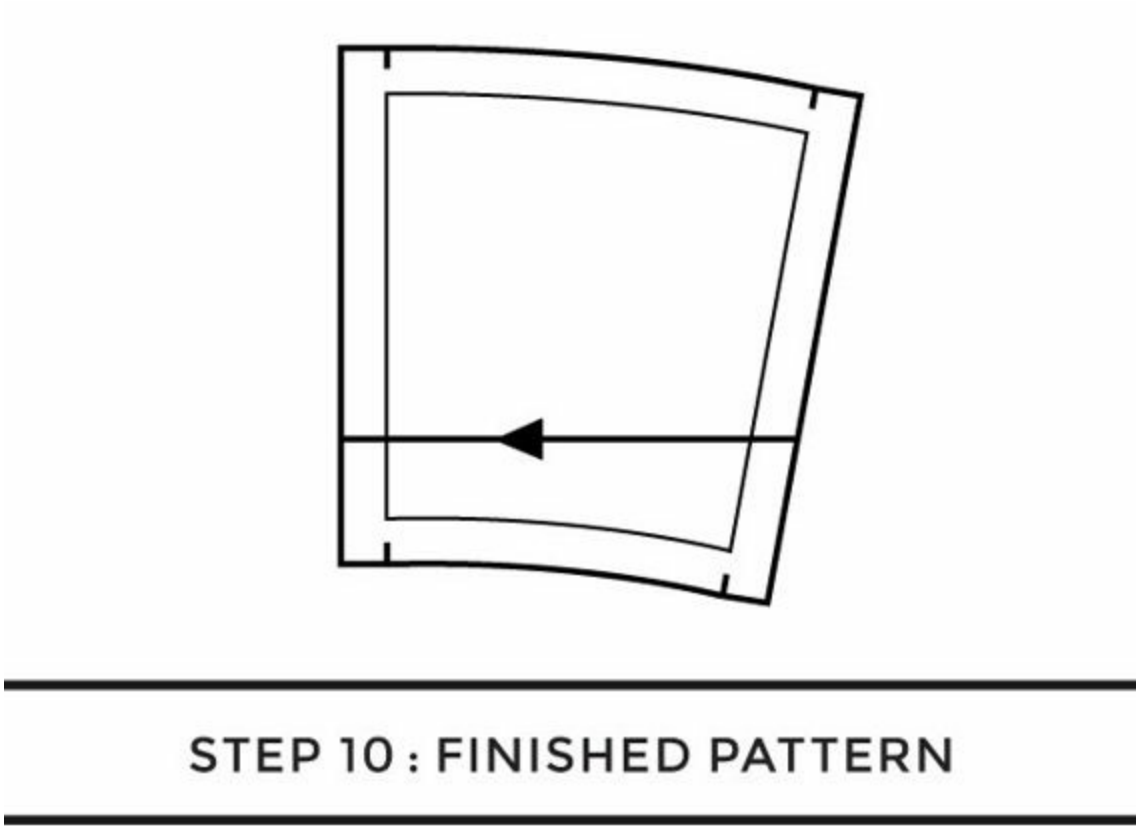
STEP 9 : CHECK & BLEND

In the diagram above you can see more easily the amount of volume that has been taken away from the pattern at each stage of the pivot method. You can see that the shape of parts A, B, C and D have remained the same, but because we overlapped our tracings at each stage, we have slowly deleted an amount of volume from the bottom edge of the pattern.

It is also easier to see now why the main vertical guidelines and secondary guidelines were needed to mark out the amount of volume that we wanted to take away from the pattern piece during the pivot process. When measuring any guidelines for volume decreases ensure that you are focused on the stitching line area, as the area of the seam allowance is purely construction value. You can also see now that by pivoting from the top stitching line of the pattern at each step, you are able to keep the measurement of the top stitching line the same while decreasing the length of the stitching line at the bottom of the pattern.

Before finalising the pattern, concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You should especially check that the lengths of the top and bottom stitching lines are correct and have been blended to smooth curves and then adjust your seam allowance values as needed.

Step 10: Finished Pattern



Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

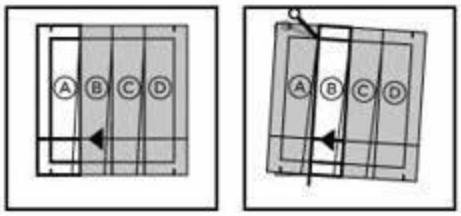
It is important to consider the location of the grain line on your new pattern pieces because, as in our example pattern change, your grain line may have been traced in a variety of directions at each stage of the pivot. You may need to check the location of the new grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

DECREASE VOLUME AROUND A POINT: PIVOT METHOD

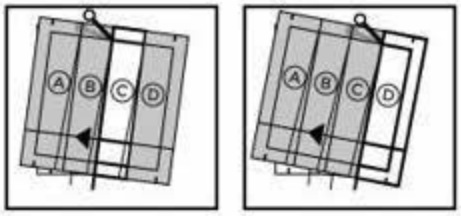


MARK GUIDELINES



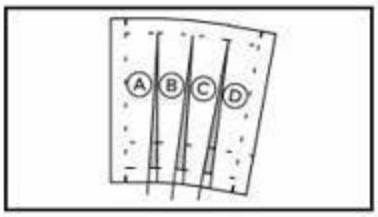
TRACE PART A

PIVOT & TRACE B

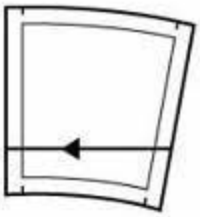


PIVOT & TRACE C

PIVOT & TRACE D



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be decreased around a point using the pivot method.
- The pivot method will produce the same result as the cut and spread method.
- The space that is overlapped at each stage of pivoting the original pattern piece represents the volume taken away from the new pattern.
- Focus should always be on the volume decrease of the area inside the stitching line as this represents the actual finished garment.
- You should always be aware that you are pivoting the pattern from the correct point i.e. pivoting from a stitching line rather than from the outside edge of seam allowance.

Chapter 47

Decrease Volume Around a Point: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin. This will allow us to visualise the shape of these patterns in relation to the body and will allow you to visualise how decreasing the volume of a pattern around a point can relate to the body in real terms.

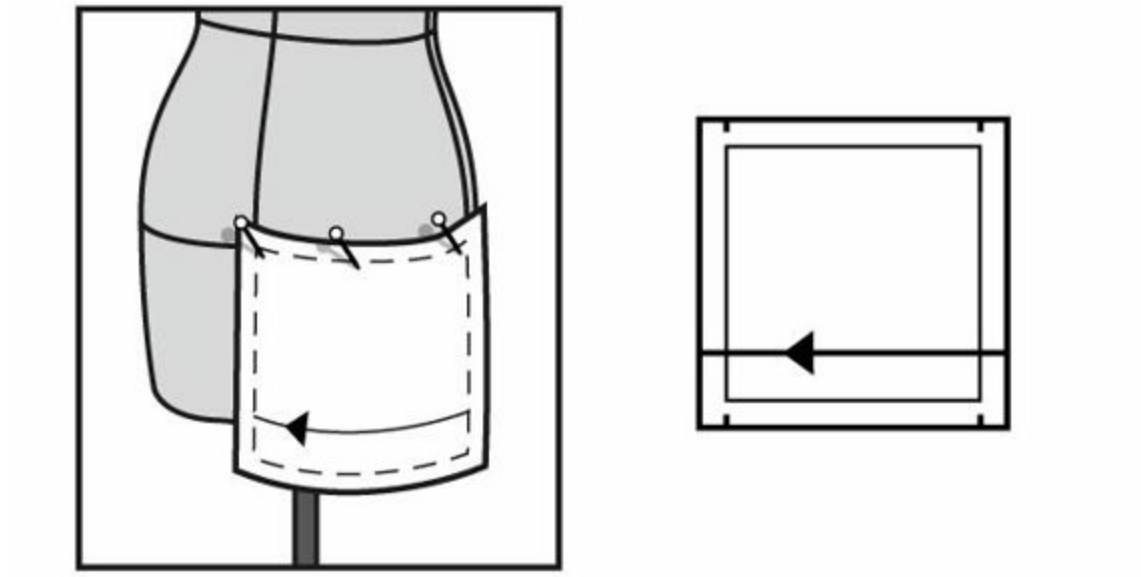
Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Volume Decrease Around a Point on the Mannequin

In the following diagrams we will show the patterns from the previous two chapters on the mannequin, showing both the shape of the original pattern, and the shape of the finished pattern complete with volume decreased around a point.

This is only one very simple way that the idea of decreasing volume around a point can be used in relation to pattern making, however the same basic principle is often used in pattern books in a variety of contexts. For example, you would use a similar technique if you were narrowing a section of a garment while maintaining the length of another stitching line.

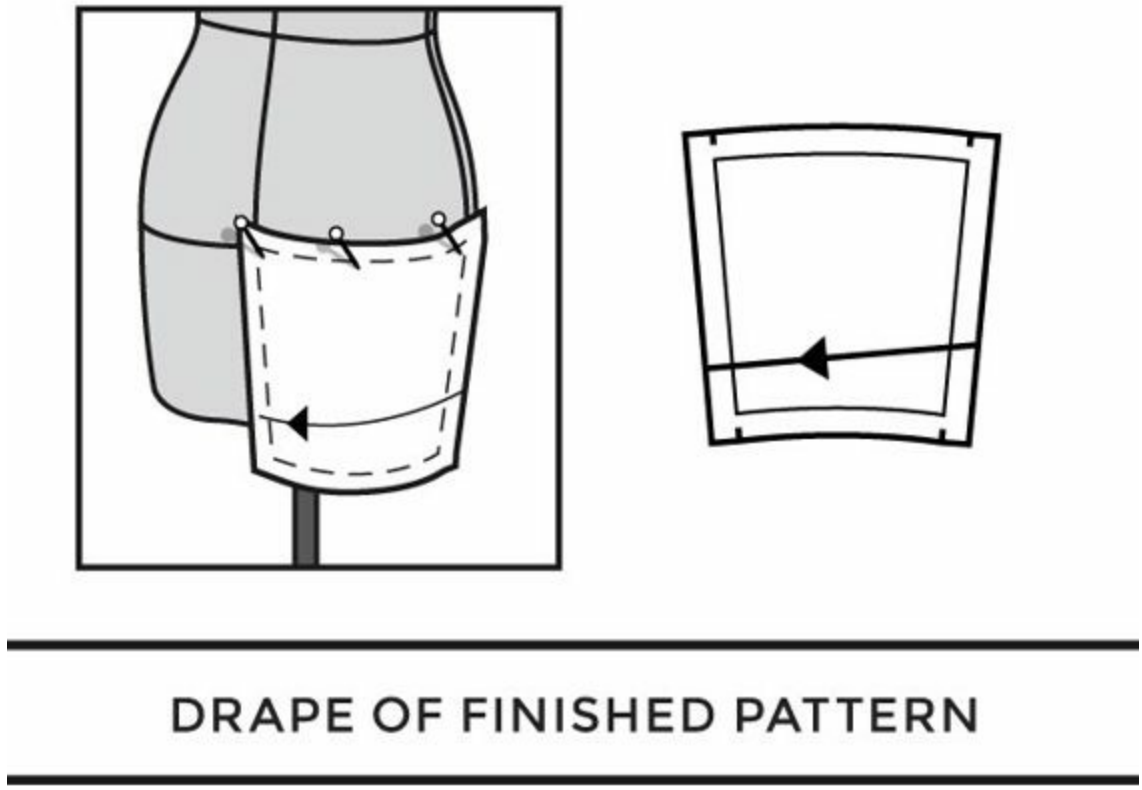
Drape of Original Pattern



DRAPE OF ORIGINAL PATTERN

In the diagram above labelled as "Drape of Original Pattern" the diagram on the left shows the back of a mannequin that has a drape of a basic square pinned onto it to line-up with the hipline. The drape is secured with pins, and in this example we are imagining that the grain line has been designed to go around the body, rather than parallel with the centre back line. The diagram on the right is the same “original pattern” that we used for the previous chapters on the cut and spread and pivot techniques.

Drape of Finished Pattern with Decreased Volume

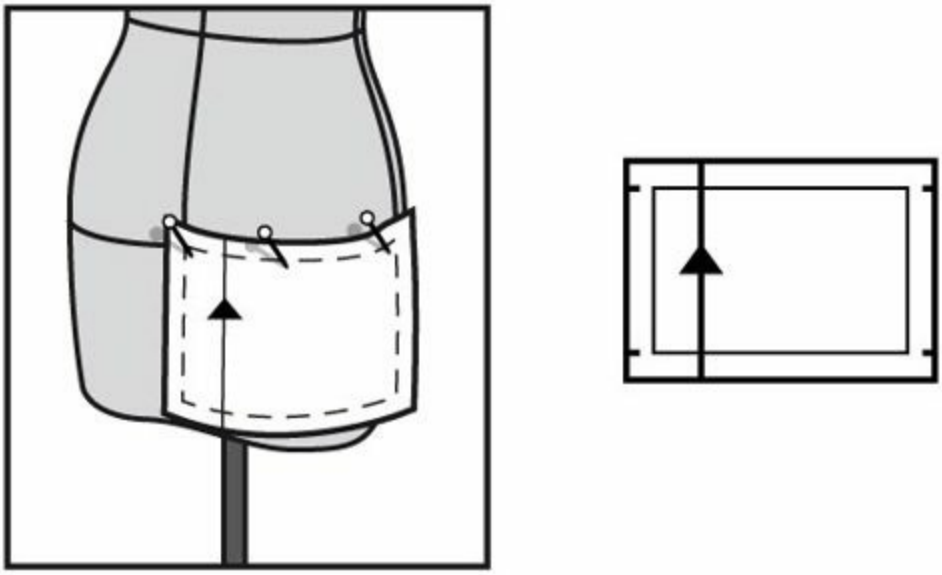


DRAPE OF FINISHED PATTERN

In the diagram above labelled as "Drape of Finishd Pattern" the diagram on the left shows how the volume of the fabric has decreased to match the pattern change shown in the diagram on the right. The drape is again secured with pins at the hipline.

Note that because we have taken away volume along only the bottom edge of the pattern, the drape now has less volume along just the bottom edge of the fabric. The top edge of the pattern was not affected by the pattern change, and so the top edge of the fabric still sits smoothly along the hipline.

This type of volume decrease is in contrast to an earlier example in this book (Chapter 41: Even Decrease of Volume) where we decreased the volume evenly through the pattern, decreasing the volume along either side of the pattern, as though raising the hem of a garment. This even decrease of volume is shown in the following diagram:



DRAPE OF FINISHED PATTERN

By comparing the two different types of volume changes you can see more easily the different effects that can be achieved. It is best to always visualise these changes in terms of fabric on the body, before beginning your pattern change, to ensure that you are working towards the effect that you really want.

Chapter Summary

In this chapter we learnt that:

- Visualising pattern changes for volume decreases on the body will help to clarify changes that you want to make using flat pattern making methods.
- When seen on the body as draped fabric, it is more obvious how the decrease in pattern volume has been taken away from only the bottom edge of the pattern, while the top stitching line has maintained the same length.

Chapter 48

Volume Increase with Darts: Cut and Spread Method

Chapter Overview

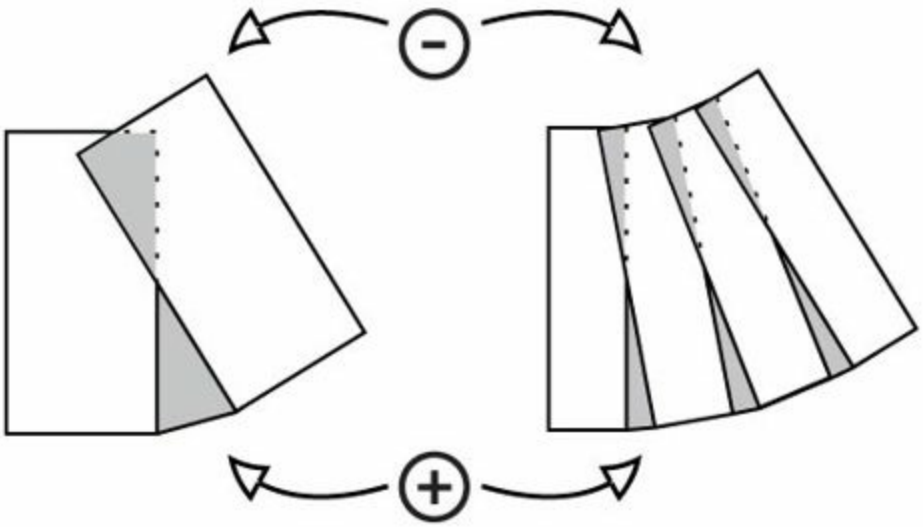
In this chapter we will explore a variation on the process of increasing volume around a point by considering how darts can be used in pattern changes to absorb a decrease in volume. The example in this chapter will use a dart point as a hinge in the cut and spread process to provide you with another option as a pattern maker, rather than only swinging a pattern from the stitching line as we did in the previous chapters.

Volume Around a Point

In the previous chapters we have looked at how volume can be increased from a point on a pattern, such as a stitching line, but it is important to consider how the same principles can be applied to a point in the centre of a pattern, such as a dart point.

In our previous examples the fact that our pattern changes were hinged from the stitching line meant that we did not have to give any thought to how we were effecting the volume change on the other side of the pivot point. But if we are using a pivot point in the centre of a pattern then we must give consideration to how much volume we are opening up on one side, as well as to how much volume we are closing out on the other side of that same pivot point.

This can be more easily seen in the following diagram:



VOLUME AROUND A POINT

As you can see in the diagram above, by opening up and increasing the volume at the bottom of the pattern, you are also closing out or deleting the pattern volume at the top of the pattern. This is a consideration that is unique to times where you are pivoting a change in volume from the centre of a pattern piece.

In the following example we will show how darts are often used in such a situation so that the dart value is closed out to allow for the volume increase that is needed.

Volume Increase with Darts: Cut and Spread Method

The following exercise will show an example of a pattern change where:

- A pattern piece is increased in volume.
- The increase in volume occurs only along one edge of the pattern.
- The increase in volume will hinge from the dart point.
- The fit of the pattern is changed along only one edge of the pattern.

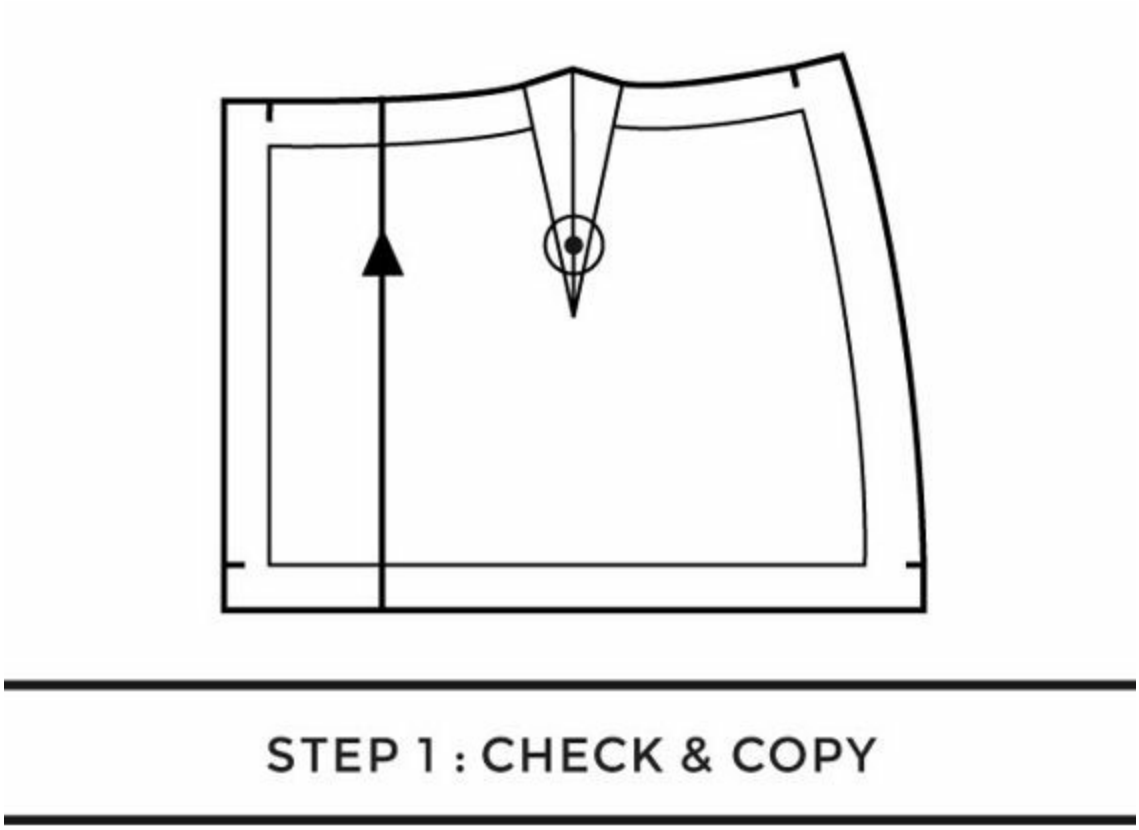
The change in volume is most evident if you compare the area within the stitching lines of the original pattern and the finished pattern once you have completed the pattern change. You will be able to see in the final pattern that it has been increased along the bottom stitching line, while the stitching line along the top of the pattern will maintain the same length.

When making changes such as this it becomes especially important to concentrate on the stitching line when actually swinging the pattern value into a new position. In this particular example you must remember that the area within the dart, the dart value, is simply construction area, which means that it can be deleted from the pattern in this change without effecting the length of the stitching line at the top of the pattern. It is for this reason that you will cut into your template along the dart arms in this method, to create a hinge at the dart point, and discarding the dart value in the process.

In essence by not cutting through the dart point you are able to ensure that the section of pattern above the dart point will fit to the body in the same way in both the original pattern and in the finished pattern. Everything below the dart point will be affected by the change, as the volume of the pattern will increase.

This will be discussed in more detail in the following example.

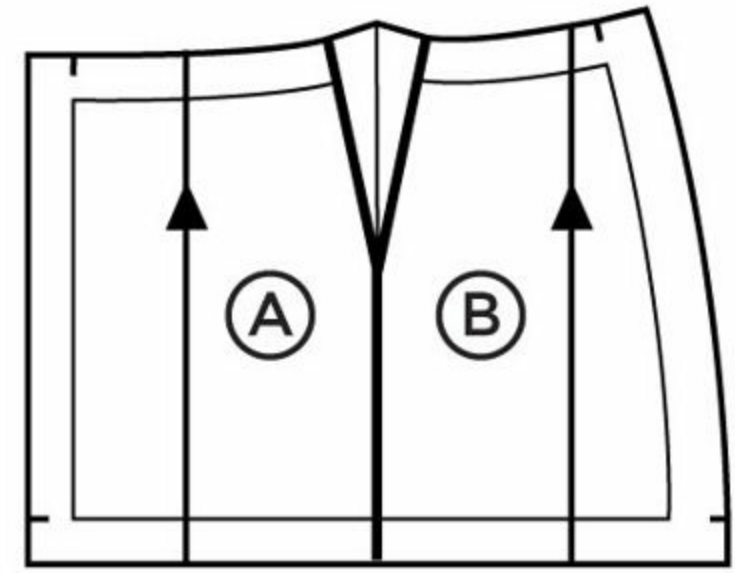
Step 1: Check and Copy



Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

Make a copy of the pattern piece that you want to alter making sure to include all necessary grain lines, guidelines, stitching lines and notches. This will become your template piece that you will cut and spread in the next step.

Step 2: Mark Guideline

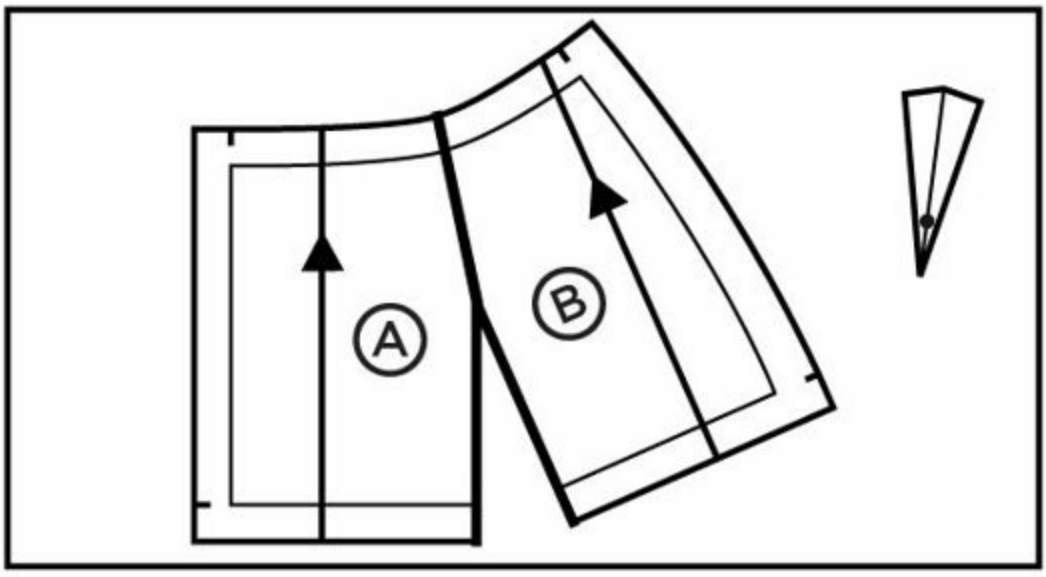


STEP 2 : MARK GUIDELINES

For the pattern change that we are about to make, we are going to increase the volume along just the bottom edge of the pattern, however we want to keep the stitching line at the top the same length. We also want to preserve the fit of the pattern from the dart point up, so we will use the dart point as our hinge, rather than the stitching line. This will also allow us to eliminate the dart from our pattern.

In order to do this we need to draw a series of guidelines that will serve as our cut lines to use for the cut and spread technique. In the diagram above a guideline has been drawn from the dart point down to the bottom of the pattern, as well as along both dart arms.

Step 3: Cut and Move



STEP 3 : CUT & MOVE

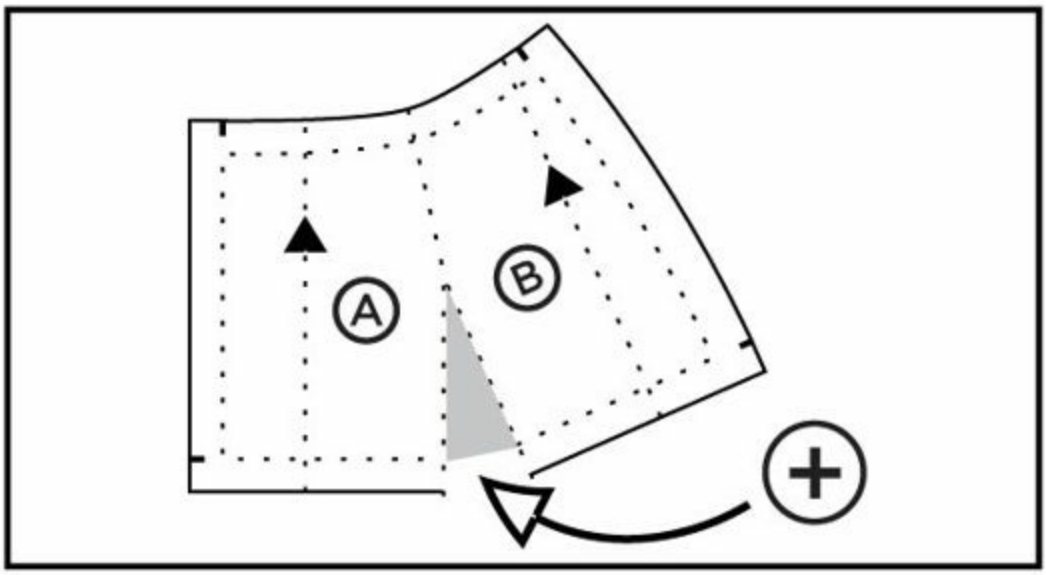
You will now cut out the dart value and remove it from the rest of the pattern. Now that the dart value is removed, rather than cutting right through the guideline from the dart point to you should cut up from the bottom of the pattern leaving a small amount of paper as a hinge at the dart point. This will mean that the paper or card will be able to hinge from dart point for the next step of our pattern.

In the diagram above you can see more clearly how the template can be hinged from the dart point.

By cutting and separating the template, you are now able to open up the volume that you need along the stitching line at the bottom of the pattern. You should swing the pattern so that dart value is closed and the dart arms meet each other.

Place the template that you have cut and spread on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position so that you can trace off the shape of the new pattern piece.

Step 4: Trace and Blend



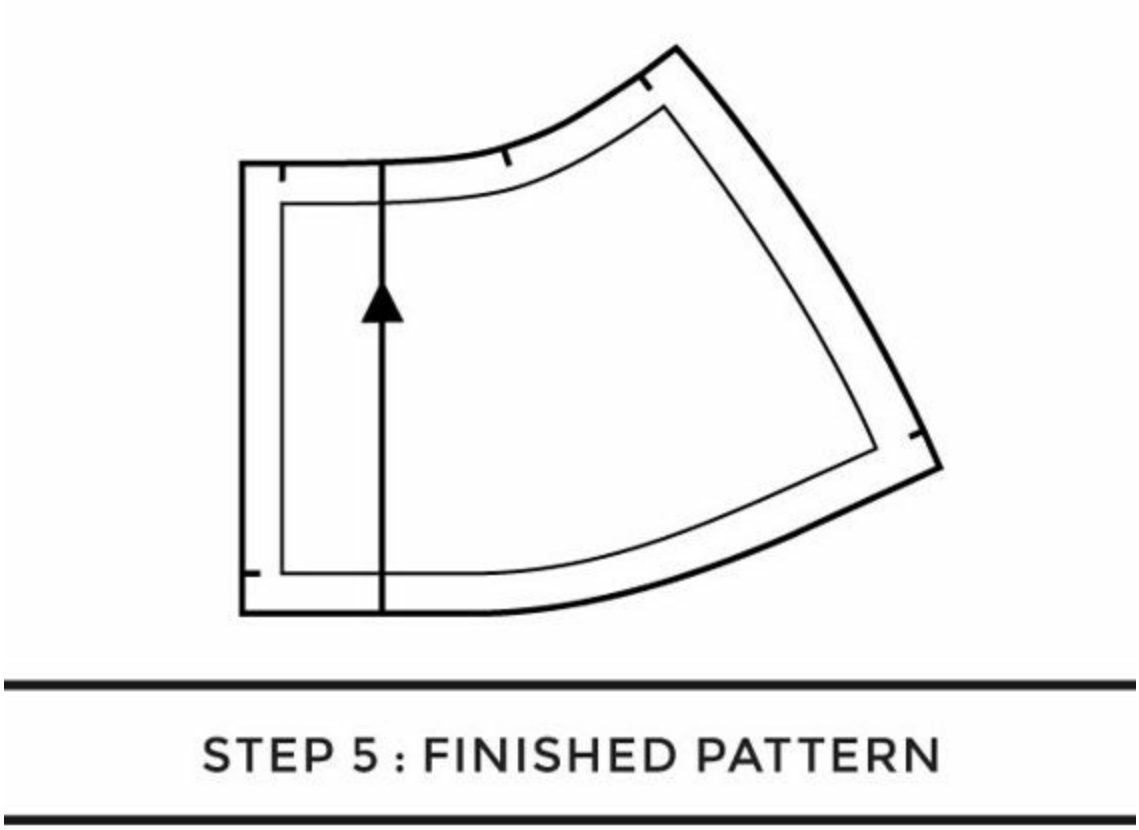
STEP 4 : TRACE & BLEND

You can now see that in the diagram above, the fact that we were able to close out the dart value allowed us to create an increase in volume at the bottom of the pattern. This area has been greyed out and marked with a “+”.

Trace all of the pattern markings onto the new paper below by tracing around the outline of the seam allowance. Use a tracing wheel to transfer all of the other pattern markings onto the new sheet of paper below such as the stitching lines, any guidelines and the position of the grain lines.

Concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You should especially check that the lengths of the top and bottom stitching lines are correct and have been blended to smooth curves and then adjust your seam allowance values as needed.

Step 5: Finished Pattern

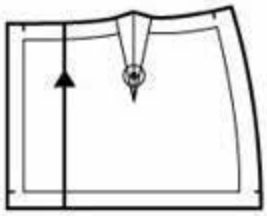


Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

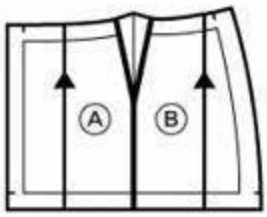
It is important to consider the location of the grain line on your new pattern pieces because, as in our example pattern change, your cut and spread lines may have changed the direction of the grain line. You may need to check the location of the new grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

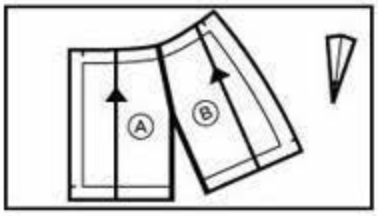
VOLUME INCREASE WITH DARTS: CUT & SPREAD METHOD



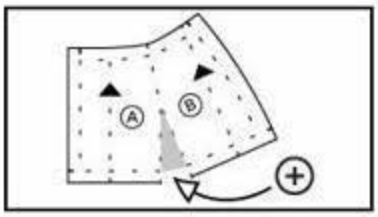
CHECK & COPY



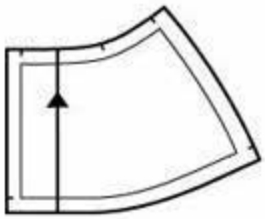
MARK GUIDELINES



CUT & MOVE



TRACE & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be increased around a point using the cut and spread method.
- The space that is opened up between the cut pieces of the pattern template represents the new volume added to the pattern.
- Focus should always be on the volume increase of the area inside the stitching line as this represents the actual finished garment.
- Darts can be used to increase the volume of the pattern.
- When a dart is used in a volume increase in this way, the dart point becomes the hinge in the cut and spread method.

Chapter 49

Volume Increase with Darts: Pivot Method

Chapter Overview

In this chapter we will look at how the pivot method can be used to increase the volume of a pattern around a point using a dart to create the same result as the cut and spread method. While using the pivot method for this pattern change is slightly less tangible than using the cut and spread method, the pivot method allows you to make simple changes far more quickly.

The pattern change shown in this chapter is exactly the same change as the example from the previous chapter, but this time we will use the pivot method to make the change instead of using the cut and spread method.

Volume Increase with Darts: Pivot Method

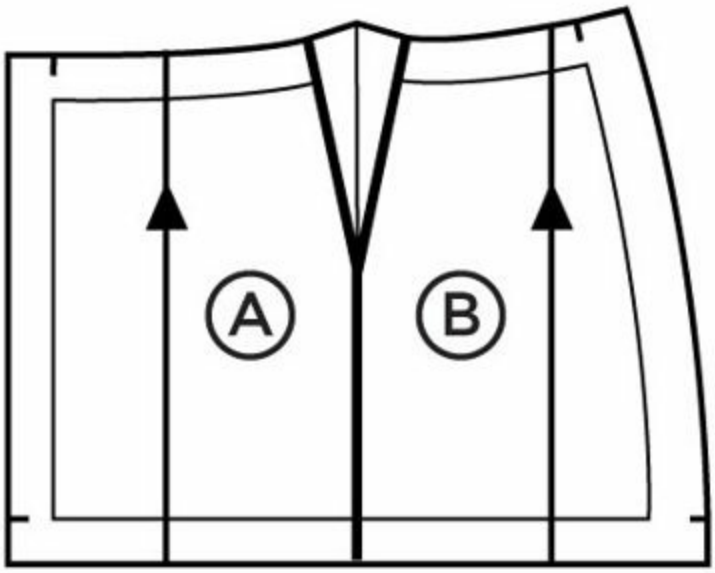
The following exercise will show an example of a pattern change where:

- A pattern piece is increased in volume.
- The increase in volume occurs only along one edge of the pattern.
- The increase in volume will hinge from the dart point.
- The fit of the pattern is changed along only one edge of the pattern.

Using the pivot method is slightly less tangible than using the cut and spread method for this pattern change, as you are not able to see the space that opens up in the pattern in such a direct way.

When completing pattern changes using the pivot method, you should use guidelines where possible to allow you to see the change that you have made to the volume in the pattern. In this case you will be swinging a dart closed and at the same time adding a wedge of new volume, before you begin tracing off the next section of the pattern. This can be more easily seen in the following example.

Step 1: Mark Guidelines



STEP 1 : MARK GUIDELINES

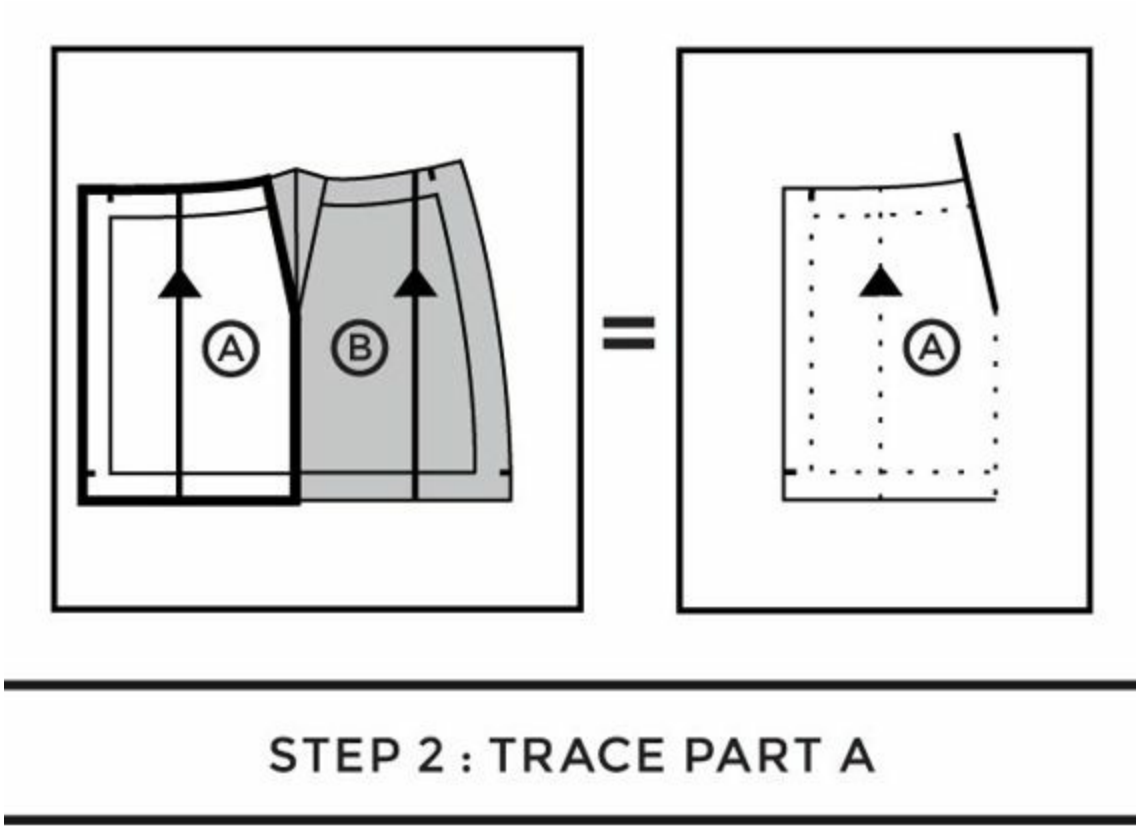
Begin by checking your pattern piece for accuracy to ensure that it fits with the rest of the pattern that it belongs to as it is always easier to make changes to a correct pattern piece.

For the pattern change that we are about to make, we are going to increase the volume along just the bottom edge of the pattern, however we want to keep the stitching line at the top the same length. We also want to preserve the fit of the pattern from the dart point up, so we will use the dart point as our hinge, rather than the stitching line. This will also allow us to eliminate the dart from our pattern.

In order to do this we need to draw a series of guidelines that will serve as our guidelines to use for the pivot method. In the diagram above a guideline has been drawn from the dart point down to the bottom of the pattern, as well as along both dart arms.

As these guidelines will only be temporary it may be best to mark them in pencil so that they can be removed from the original pattern later.

Step 2: Trace Part A



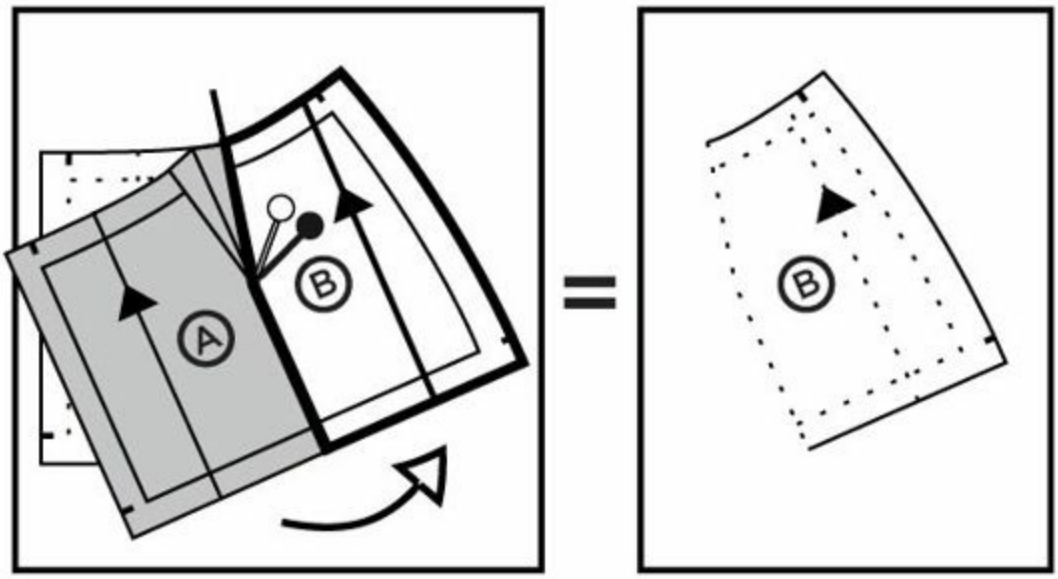
Place the pattern on top of a fresh sheet of pattern paper or card and use pattern weights or tape to hold the pattern into position while the first section of the pattern is traced.

In the first tracing of the pattern, labelled above as part A, you will trace along the seam allowance stopping at the guideline at both the top and bottom of the pattern.

Use a tracing wheel to also transfer the guideline marking following down the dart arm of part A and continuing down the centre guideline until you have reached the bottom of the pattern. Use the tracing wheel to also transfer all stitching lines, markings, grain line and notches that are within the same area of part A.

In the diagram above, labelled as “Step 2: Trace Part A”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 3: Move and Trace Part B



STEP 3 : MOVE & TRACE PART B

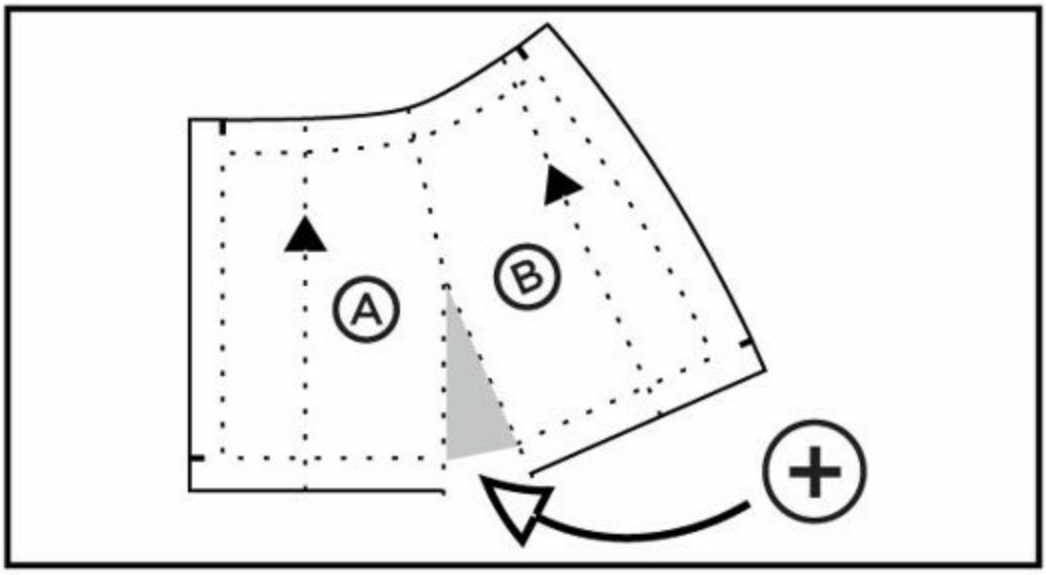
Place the pattern back on top of the tracing of part A and position a pin on the dart point as indicated in the image above. You will now pivot the pattern around the pin until the dart arm of part B matches the guideline that you drew for the dart arm of part A. This will effectively close out the dart value before you trace off part B.

It is important in this step that you pivot the pattern from the dart point, as though you are sewing the dart closed, not from the drill hole that is set slightly within the dart value. If you pivot your pattern from the wrong point then you may accidentally affect the fit of your pattern.

You will now trace off part B just as you did for part A by tracing around the outside edge of the seam allowance from the dart arm at the top of the pattern until you reach the guideline at the bottom of the pattern. You should also use a tracing wheel to transfer all stitching lines, markings, grain line and notches that are within the same area of part B.

In the diagram above, labelled as “Step 3: Move & Trace Part B”, the diagram on the right shows the section of the pattern that has been traced off onto the new sheet of paper or card.

Step 4: Check and Blend



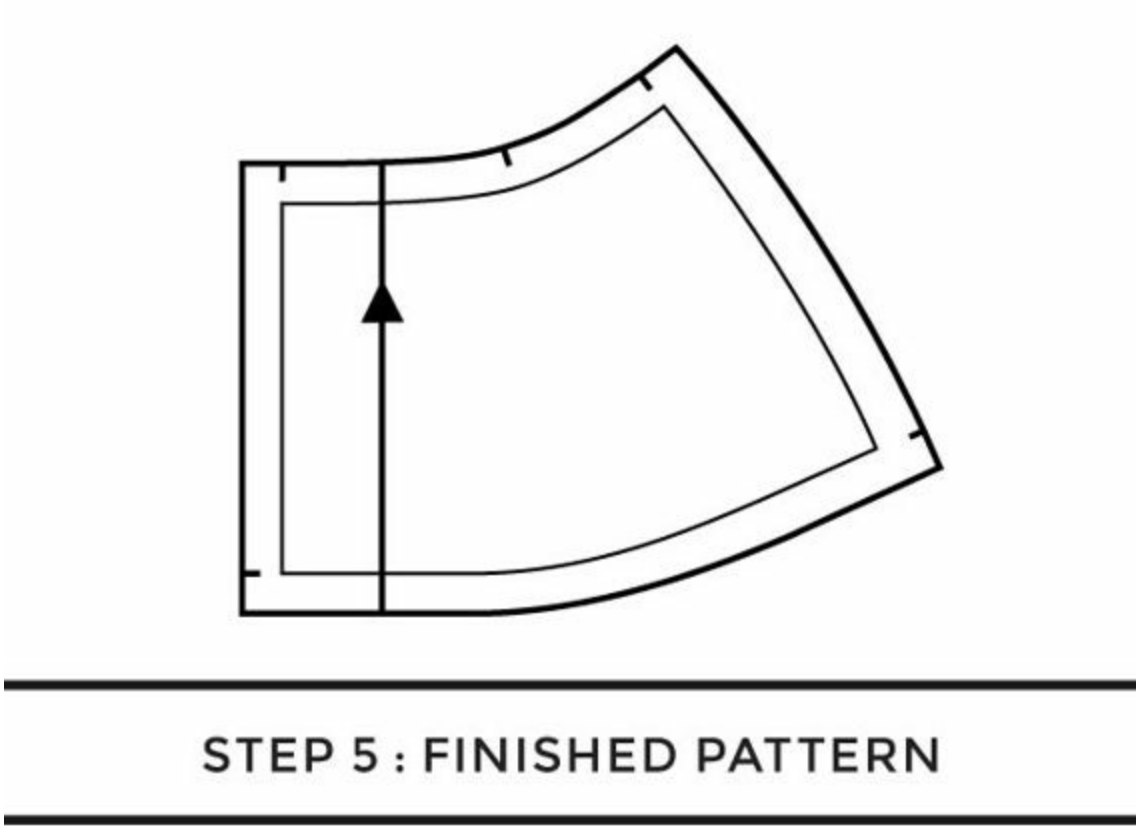
STEP 4 : CHECK & BLEND

In the diagram above you can see more easily the amount of volume that has been added to the pattern through the pivot method. You can see that the shape of parts A and B have remained the same, but more volume and hence more fabric will be added into the new pattern piece, indicated with a “+”.

You can also see now that by pivoting from the dart point of the pattern, you are able to close out the dart as well as keeping the measurement of the top stitching line the same. You can also see that the shape of parts A and B of the pattern are still the same from the dart point up, so this area will fit the body in the same way that it would have in the original pattern. It is only from the dart point down that the fit of the pattern has actually been changed.

Before finalising the pattern, concentrate on making sure that the stitching line is correct and accurate around the entire pattern and that the seam allowance values have been transferred correctly. You should especially check that the lengths of the top and bottom stitching lines are correct and have been blended to smooth curves and then adjust your seam allowance values as needed.

Step 5: Finished Pattern

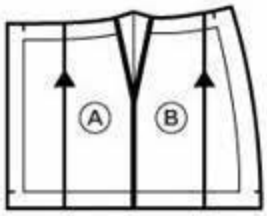


Finalise any seam allowance by squaring off where needed and consider where you may need new notches to help when sewing.

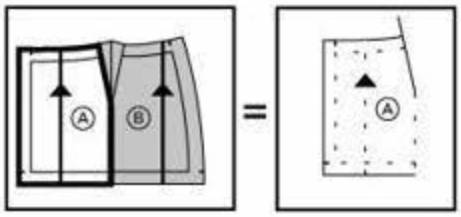
It is important to consider the location of the grain line on your new pattern pieces because, as in our example pattern change, your grain line may have been changed during the pivot of the pattern. You may need to check the location of the new grain line once you have done a fitting of the new pattern piece in a toile.

The following diagrams show an overview of this process:

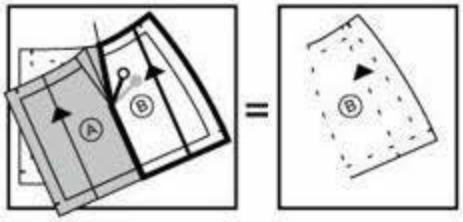
VOLUME INCREASE WITH DARTS: PIVOT METHOD



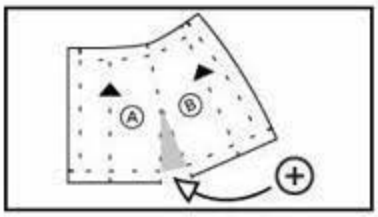
MARK GUIDELINES



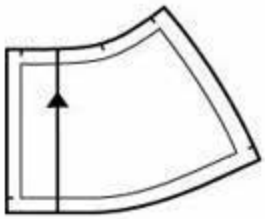
TRACE PART A



MOVE & TRACE B



CHECK & BLEND



FINISHED PATTERN

Chapter Summary

In this chapter we learnt that:

- Pattern volume can be increased around a point using the pivot method.
- The pivot method will produce the same result as the cut and spread method.
- The space that is opened up at each stage of pivoting the original pattern piece represents the new volume added to the pattern.
- Focus should always be on the volume increase of the area inside the stitching line as this represents the actual finished garment.
- Darts can be used to increase the volume of the pattern.
- When a dart is used in a volume increase in this way, the dart point becomes the hinge in the pivot method.
- You should always be aware that you are pivoting the pattern from the correct point i.e. pivoting from the dart point rather than from a dart drill hole.

Chapter 50

Volume Increase with Darts: Drape Example

Chapter Overview

In this chapter the pattern changes from the last two chapters will be presented in the form of drapes on the mannequin. This will allow us to visualise the shape of these patterns in relation to the body and will allow you to visualise how increasing the volume of a pattern using a dart can relate to the body in real terms.

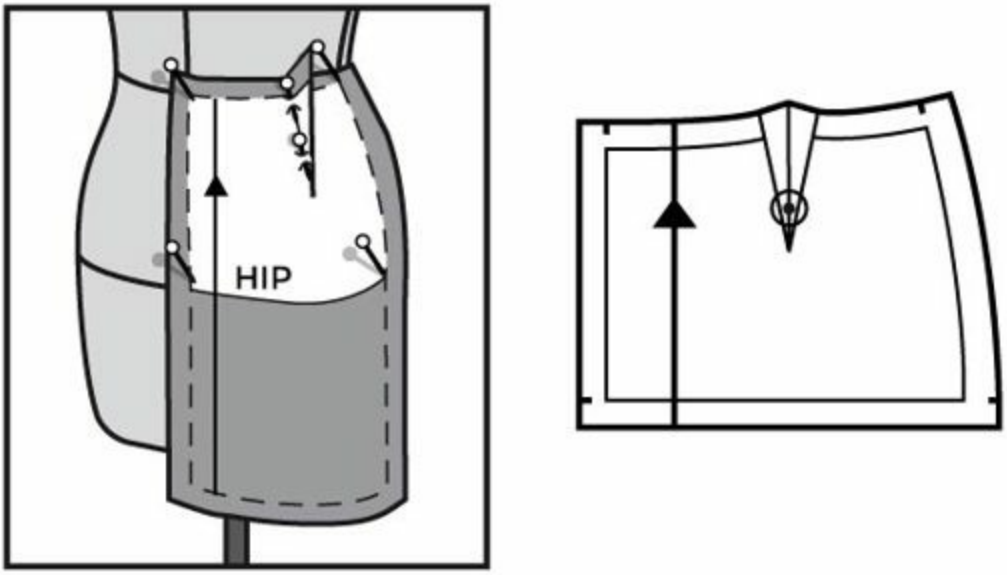
Rather than explaining the exact process of draping these shapes, the drape examples in this book will provide you with 3D fabric versions of our flat pattern making changes and will help you to practise visualising pattern shapes both on and off the body.

Volume Increase with Darts on the Mannequin

In the following diagrams we will show the patterns from the previous two chapters on the mannequin, showing both the shape of the original pattern, and the shape of the finished pattern complete with an increase in volume below the original dart point.

This is only one very simple way that the idea of increasing volume around a dart point can be used in relation to pattern making, however the same basic principle is often used in pattern books in a variety of contexts. For example, the drape diagrams below have been used to show how this technique is similar to how you would add flare into a skirt.

Drape of Original Pattern

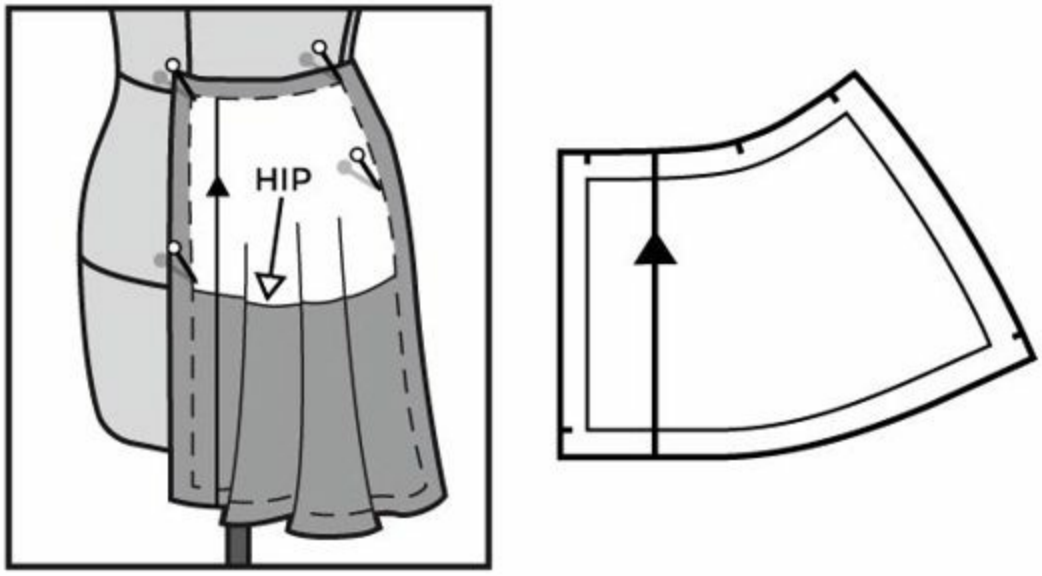


DRAPE OF ORIGINAL PATTERN

In the diagram above labelled as "Drape of Original Pattern" the diagram on the left shows the front of a mannequin that has a drape of a basic skirt shape pinned onto it to line-up with the waistline, hipline, centre front and side seam. The drape is secured with pins, and in this example we are imagining that the grain line has been designed to go up and down the body, parallel with the centre front line.

The shape of the original pattern that we have used in the previous two chapters has been highlighted on the drape diagram, and you can see how our original pattern shape resembles the area above the hipline of the skirt block that we discussed in earlier chapters of this book.

Drape of Finished Pattern with Increased Volume



DRAPE OF FINISHED PATTERN

In the diagram above labelled as "Drape of Finished Pattern" the diagram on the left shows how the volume of the fabric has increased to match the pattern change shown in the diagram on the right. The drape is again secured with pins at the waistline.

Note that because we have added volume along only the bottom edge of the pattern, the drape now has more volume along just the bottom edge of the fabric. The top edge of the pattern, and the area above the dart point was not affected by the pattern change, and so the top area of the fabric still sits smoothly along the waistline area.

If you think of our original pattern being similar to the drape, then the stitching line at the bottom edge of the pattern becomes the equivalent of a hipline. This means that on our finished pattern, we now know that the volume around the hipline has been increased, because we know that we increased the length of the line at the bottom of the pattern. This is reflected on the drape above because you can see that there is now an increased volume of fabric along the hipline, whereas this area previously sat flat on the mannequin.

You can also see that if you were to use this basic pattern change on a skirt block, then it would have the effect of eliminating the waist darts, and creating a flared skirt area, as the angle of the volume increase would be more pronounced if used on a longer pattern than what we originally used in our example. This is a pattern change that is often used as an example in other pattern books and courses.

Chapter Summary

In this chapter we learnt that:

- Visualising pattern changes for volume increases on the body will help to clarify changes that you want to make using flat pattern making methods.
- When seen on the body as draped fabric, it is more obvious how the increase in pattern volume has been added to only the bottom edge of the pattern, while the top stitching line and area above the dart point has maintained the same fit.

Chapter 51

Ease and Fabric Roll

Chapter Overview

Up until this point the examples have mainly focused on creating patterns that exactly match to any adjoining pattern pieces, but there are times when a little extra fabric in the correct places will create a more professional finish and really make the most of the capabilities of fabric.

In this chapter we will explore two of the most commonly used examples of this type of pattern adjustment to explain the reasons why you may want to increase the volume of your pattern to allow for fabric roll or to use ease on a seam line.

What Is Ease?

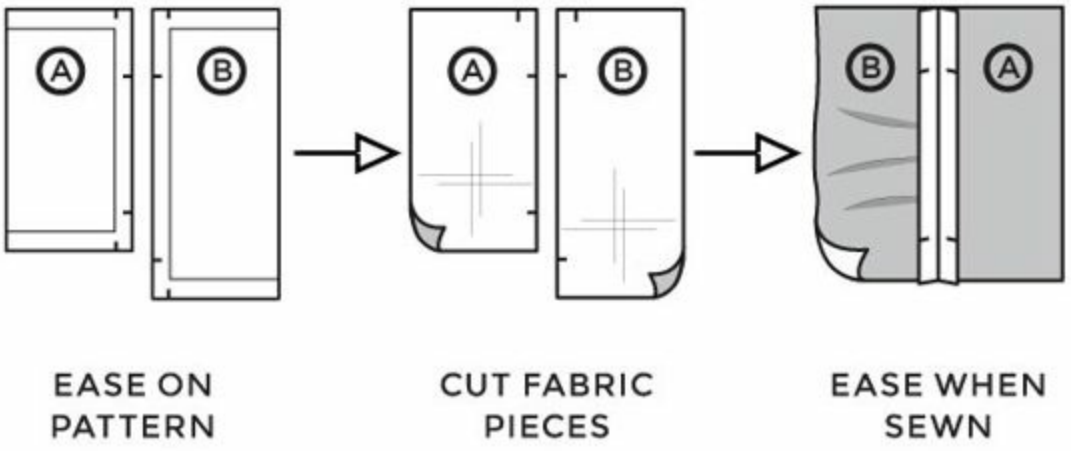
Earlier in the book we discussed the fact that there are actually two different types of ease that may be referred to in pattern making books and courses.

There is ease around the body, or ease within the construction of a specific individual seam line.

When we discussed basic blocks earlier in the book (Chapter 7: Basic Blocks), we discussed why you might need to allow for a certain amount of ease around the body when creating your patterns, but in this chapter we will discuss how ease is used within an individual seam line.

Ease Within a Seam Line

The basic idea behind ease is to make the best use of the capabilities of the fabric so that you can actually sew together two seams of different lengths. So essentially rather than pattern making two seams so that they are exactly equal in length, you will make a conscious decision to add a little more volume to one of the two pattern pieces. This will mean that when the sewing machinist comes to sew the two pieces together, they will ease the two pieces of fabric together, so that the longer side will fit smoothly with the shorter side.



EASE ON A SEAM LINE

In the diagram above you can see how two pattern pieces A and B are of different lengths, but the added ease that is included in pattern B is absorbed into the seam as both pieces of fabric are sewn together. This example also highlights the importance of notches on any seams where the pattern maker needs the sewing machinist to ease the pieces together.

If the notches are clearly marked, then the sewing machinist will simply sew the pieces together so that the pieces will match. If the notches are not marked, then the sewing machinist may accidentally ease the entire length of the seam, rather than only in the designated area between the notches.

Note that ease is different to gathering one fabric against another, as when you are easing fabrics together, you are aiming to sew the two stitching lines as a join without any puckers. In some situations you may only create a truly smooth seam once the stitching line has been carefully pressed with an iron.

The Amount of Ease

The type of fabric that you have chosen to use will usually govern the amount of ease that can be added to a seam line. Some fabrics are more susceptible to ease, while others are more rigid and will be difficult to sew with any amount of ease at all. The only way to truly know how the fabric will work is to sew small test swatches so that you can see how the fabric will react.

Uses of Ease

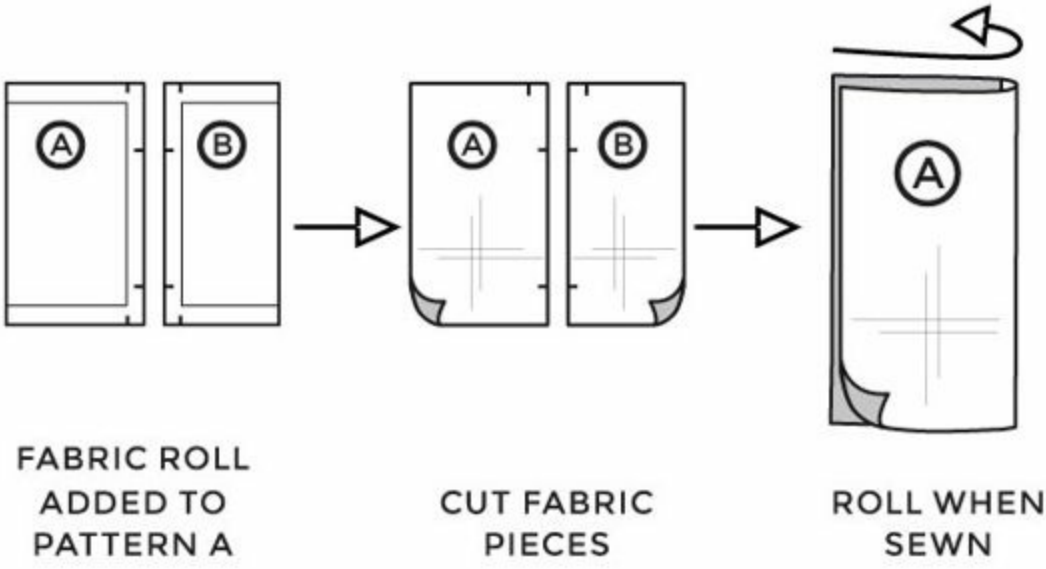
You will often see ease used around the top of a fitted set-in sleeve to allow a garment to have a small amount of extra fullness across the top of the sleeve head. In this case the extra length is normally on the sleeve pattern, and the sleeve is eased carefully to fit into the shape of the armhole. You may also see ease used in situations where the designer wants to avoid adding in a very small dart for shaping.

What Is Fabric Roll?

While ease is a small amount of extra volume perpendicular to a seam line, you can also sometimes add a small amount of extra volume parallel to a seam line so that you can control the way that the fabric will roll when pressed.

If you have ever sewed together two pieces of fabric as a bagged out edge that are exactly the same size and then have had trouble pressing the fabric so that it looks correct from the right side, then the pattern may have needed a small amount of extra volume added along the edge. This small amount of extra volume that is added to the pattern piece that will end up on top will serve to make the stitching line roll slightly under, pushing the seam line to the underside of the garment.

You do not need to mark the fabric roll on the pattern in a specific way, you just need to slightly increase the volume of the pattern that will need to roll slightly.



FABRIC ROLL ON A SEAM LINE

The Amount of Fabric Roll

Again this amount is largely dependant on the fabric that you are using but as a rough guideline you may need to add only about 2 to 5mm to make the fabric roll in the correct way. The thinner and finer the fabric is, the less fabric roll amount it is likely that you will need. You should always experiment with the real fabric to ensure that the amount that you are allowing for fabric roll is correct.

Uses of Fabric Roll

Fabric roll is often used on edges of garments that you want to roll in a specific direction such as lapels and collars, or to make sure that facings will be pressed towards the inside of a garment. Facings are extra panels that are sometimes used on the inside of garments to help finish and reinforce the edge of a garment and can also be used in conjunction with linings.

Note that the small amount of extra volume for fabric roll does not need to be added to the pattern so that it is parallel to the seam line at all times. For example, there may be times where you wish to taper off the fabric roll at either end so that you don't affect the way that the pattern fits with any adjoining pattern pieces.

You should add fabric roll to the stitching line, and then adjust any notches and seam allowance values to match this new line.

Chapter Summary

In this chapter we learnt that:

- Small amounts of extra volume are sometimes added to patterns for the purpose of assisting in the construction of a garment.
- Ease and fabric roll are added at the pattern stage and are used to take advantage of the capabilities of the fabric and to create a more professional finish in the sewn garment.
- Ease is a small amount of volume that is added to the pattern perpendicular to the stitching line.
- Notches are used to communicate to the sewing machinist how the fabric should be matched when sewn to ensure that the correct areas of the garment are eased together.
- Fabric roll is a small amount of extra volume that is added in parallel to the stitching line so that the right side of the fabric will roll in the correct direction when pressed.

Chapter 52

Applying Basic Principles to Complex Pattern Changes

Chapter Overview

Now that we have worked through a range of pattern examples and have developed an understanding of the basic pattern processes that are used in flat pattern making, we can now distil these processes down into their simplest forms so that they can easily be applied to any new pattern making situation.

In this chapter we will look at how the basic steps of the cut and spread and pivot methods can be followed time and time again to achieve different results, as we have seen in the pattern examples that have been used in this book.

Pattern Making Principles

Earlier in this book we discussed how pattern making is essentially underpinned by very basic principles that can be referred to time and time again in order to clarify a pattern making change.

If pattern volume is equal to cut fabric then:

- More Pattern = More Fabric
- Less Pattern = Less Fabric

From our pattern examples we then saw how for the majority of pattern changes the pattern maker is trying to achieve one of the following three aims:

- Move the volume around the pattern/fabric without making any change to the fit of the garment at all.
- Increase the volume of the pattern/fabric in an area of the garment.
- Decrease the volume of the pattern/fabric in an area of the garment.

Through our pattern examples we saw how these aims can be achieved using either the cut and spread or the pivot method to achieve the same result. In the sections below we are now reducing these two methods down into simple steps that can be repeated for many pattern changes.

Basic Steps of Cut and Spread Method

From the pattern examples in this book we can now see that the basic cut and spread process always follows these basic steps:

1. Check and Copy
2. Mark Guidelines
3. Cut and Move
4. Trace and Blend
5. Finalise Pattern

Basic Steps of Pivot Method

From the pattern examples in this book we can now see that the basic pivot process always follows these basic steps:

1. Mark Guidelines
2. Trace Part A
3. Move Pattern and Trace Part B
4. Check and Blend
5. Finalise Pattern

Complex Flat Pattern Making

These processes can now be used in a multitude of situations to create a variety of design effects. The only change to these basic processes is in how complex the changes are, but the basic principles will remain the same. For example, there will sometimes be many parts to the cut and spread template, or many more stages in the pivot process. But by understanding the key ideas behind why you are making the pattern change you will be able to approach even the most complex of pattern changes in a logical order.

You may also find that there are times where you want to make many different changes to a pattern, and the pattern changes that we have covered can be used in combination with each other. You may sometimes find it helpful to change a pattern in stages, rather than attempting to make too many alterations at the one time. This will allow you to check the results of each pattern change in stages by comparing the original pattern to the finished pattern to ensure that you have affected the pattern volume in the way that you intended before moving on to the next pattern alteration.

You may also find that you can now use these example pattern changes to better understand and analyse the methods and techniques used by others. You can use the example pattern changes in this book to form basic visual comparisons with the diagrams of other books and courses so that you can more easily follow their methods. You may now find it easier to recognise when somebody has used the cut and spread or pivot technique, though they may have used a different style of diagram to illustrate the pattern change.

You can also use these examples to ask yourself questions about the pattern change that you want to make. Is the pattern alteration that you need similar to moving a dart, or do you first need to add a seam to the pattern? Where do you want there to be more or less volume on the body? How can the body guidelines such as bust or centre front help you to make the pattern change in the appropriate area of the pattern?

There are also many times in pattern making that you will end up with patterns that don’t quite match, and when blending or truing patterns you should use the same knowledge of pattern volume to inform your decision on how to deal with any areas that you are uncertain about. When faced with small pattern gaps or overlaps consider whether it is ok or not for there to be more or less fabric than you expected in that area of the body.

Testing and Experimenting

The main principle to take away from the pattern making examples that we discussed in this book is that you can always test an idea or a process to see if it will work. As long as you are organised in your patterns and aren't about to use a basic block as a cut and spread template, you can copy and alter patterns and create toiles over and over again without a risk of ruining your final fabric.

You can also test swatches of seam finishes, create rough paper models of the basic pattern shapes that you want or pin fabric all over a mannequin if it will help you to problem solve in advance, rather than making mistakes on the final garment with an untested idea or pattern.

Chapter Summary

In this chapter we learnt that:

- The basic processes behind the cut and spread and pivot methods can be distilled into basic steps.
- These basic steps can be used for even the most complex pattern changes.
- Complex pattern changes can sometimes be approached in stages to allow you to check the alteration that you have made to your pattern before continuing on to the next stage of pattern alterations.
- The pattern examples in this book can be used to help explain the methods and techniques of others.
- The pattern examples in this book can be used to help you to make decisions about your own pattern changes because the same basic principles of flat pattern making will still apply.
- Don’t ever be afraid to test and experiment with rough versions of a pattern change, or with carefully executed versions of the same pattern change in order to problem solve complex pattern changes.

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