

CHAPTER II

THE BASIC PATTERN BLOCKS

NOTE: All blocks automatically include the minimum amount of ease needed to accommodate theatrical movement. (The amount of ease for each measurement is indicated in on screen command information where you enter measurements. example: (e=.5)) The indicated amount is automatically added to the measurement you ENTER. You can easily increase or decrease the ease through adjusting the measurements you enter in to the computer.

All of the basic pattern block functions are accessed under the PATTERNS popdown menu.

1. 2TORSO AND MALE

C.P.M. uses 3 different drafting systems to create torso blocks. **2TORSO** and **MALE** are based on the system illustrated in THE COSTUMER'S HANDBOOK by Covey and Ingham. These systems are relatively good at producing blocks for bodies that fall close to the garment industry concept of standard body proportions and posture. These patterns were the first experiments that Jim Pickrell wrote as part of his learning process. We decided to leave them in because they make a good comparison between mechanical drafting systems that were developed for standard size drafting and the custom-size method that was developed for C.P.M.

The default measurements for the darts do not always produce accurately sized darts. The size of the dart should be equal to the difference between the total chest measurement and the total waist measurement. For TORSO2 darts should be figured as follows: Calculate 1/4 of the difference between the chest measurement and the waist measurement. Divide that by 5. Make the bust dart 2/5 and the waist dart 3/5. For MALE the calculation is easier: it is just 1/4 of the difference between the chest and the waist.

2. 1SEXBOD AND SLEEVE

1SEXBOD and **SLEEVE** are an extrapolation from ROHR's system for special measurements in PATTERN DRAFTING & GRADING - WOMEN'S AND MISSES' GARMENT DESIGN. This flatpatterning book was the standard used by the American Garment Industry for Decades and is now out of print. These blocks are very accurate. These drafting systems use measurements that are not standard to most measurement charts and drafting systems. As a result, the drafted blocks accommodate neck angle, shoulder angle and shoulder tilt. Bust points are placed accurately. For bodies that are uneven from one side to the other, you can quickly make up a right and a left side pattern block. **1SEXBOD** works equally well for men and children in addition to women.

Under the SEW MENU's HELP MENU, under the PATTERN HELP SUB-MENU, you will find a complete set of instructions on how to take these measurements.

1SEXBOD is a single waist-dart block. For bodies that are large in the bust size in relation to the shoulder width, ROHR provides the method of adjusting the pattern after drafting to accommodate the mis-proportion. The directions for this operation are included in the illustrated directions for flat pattern manipulation in this manual.

The depth of the armhole is controlled by the length of the side seam. The default set of measurements automatically provides a fairly high armhole appropriate to theatrical movement. This means that the bust point is 1" above the dart point and about 1-1/2" below the armhole. The dart in the back stops 1-1/2" from the shoulder blade pivot point.

NOTE: IMPORTANT! If you are going to add on to the waist measurements to make a basic block fit loosely remember to add ½ of that same amount to the Side Waist Depth Measurement (the hypotenuse of the triangle).

SLEEVE is the matching sleeve block for **1SEXBOD** and is a standard dressmaker sleeve with minimum ease. If you make **SLEEVE** with measurements from the same source as **1SEXBOD**, they will fit together correctly.

You will need to draw in the elbow dart. The blue construction lines are there, so **PLINE** from the **INTERSection** points.

3. DSLEEVE (DANCE SLEEVE)

***DSLEEVE** is a theatrical "dance" sleeve with ease and a shallow cap angle adjusted to accommodate a wider range of movement. It is designed to fit the **1SEXBOD** bodice block.

4. PANT

PANT is a standardized block with the grain-line centered down the leg and off the high point of the cheek in the back. The draft puts the crotch ease in the depth of the crotch curve, thus allowing for a clean sculptural fall of the garment off the rear hip area. There also is a separate "dance-gusset" extension included in the draft for optional use. It can easily be **ERASEd** to use the standard crotch line.

This is another draft where you will need to enter a measurement for the dart. The back default includes a 3/4" dart. If you want the pant to have 2 darts, enter 2Xs the amount. You will need to copy the single dart to place the 2nd dart and then stretch the length on the inside one. Likewise, if you want a dart in the front, just add that measurement to the waist size you **TYPE** in and then draw the dart in.

5. SKIRT

SKIRT is a simple old-fashioned no-dart block. It makes an A-line skirt and includes a single dart in the back waist and ½" ease in both the front and back. To create a classic straight "tailored" skirt pattern, cut the pattern into 2 pieces (for 1 dart) or 3 pieces (for 2 darts) lengthwise and pivot at the hip break line to form darts.

For directions on converting it to a waist-dart "straight skirt look at the directions for CUT under the SEW MENU HELP files.

CHAPTER III

PROGRAM STRUCTURE THEORY

1. DESIGNED FOR COSTUME MAKERS

C.P.M. was designed for use by costume pattern-makers. The program is, of course, useful to anyone engaged in custom garment construction. Its primary mission is to draft very accurate basic blocks quickly and easily and with technical accuracy.

The traditional process of drafting patterns requires an amazing amount of mind-processing of mathematical, geometric, past experience knowledge and visual intuition. It requires a totally focused mind to perform without mistakes. Mechanical technical accuracy in drafting is very important. The combination of the artistic mind-power and a fondness for technically accurate detail required for pattern making does not commonly occur in human beings. For these reasons, truly good pattern-makers are a rare commodity.

Principle pattern-makers also function as supervisors for the sewers. Many find it difficult to effectively perform pattern making tasks during the same time. Often they end up coming in early or staying late in order to have "quiet time" when they can focus on the patterning process. This program makes it possible for less skilled workers (including student and volunteer crew members) to make up custom-sized blocks. This program appears to cut the labor process by 2/3. Additionally, patterns and garments that are made up from these blocks are so accurate that they eliminate the need for at least 2 of the fittings normal to the construction process.

2. TASKS IT WILL PERFORM

In addition to drafting custom-sized patterns, the program will perform flat pattern manipulation (cut and spread), resizing and marker layout. It will create garment industry standard-sized patterns (you decide what a standard size is and type in the measurements).

The length of time it will take you to perform slash & spread patternmaking will not seem to be much faster than doing it the traditional way with scissors and paper. However, C.P.M. quickly performs tedious mechanical operations, such as drawing seam allowances, making facings, MIRRORing a 2nd side for a pattern on the fold, making duplicates, etc. It automatically builds in a mechanical accuracy that many aspiring pattern makers could not achieve using traditional methods.

As a result, pattern making using C.P.M. can become a painless and successful operation for costume makers who find it difficult to deal with detailed accuracy and the tedium of drafting .

Additionally, you can digitize existing patterns into drawing pages and modify them.

3. SPEAKS AND THINKS PATTERNMAKER LANGUAGE

Effort has been made to design the program to work the way a pattern-maker thinks, as opposed to the way computer operators and programmers think. Command names have been chosen that should make logical sense and therefore it should not be necessary to learn an entirely new language. As much as possible, the methods of flat pattern manipulations parallel traditional methods to minimize the need to learn a new problem solving point of view. The SEW MENU is designed to facilitate a combination of logical thought process and movement efficiency.

4. THE MENU FORMAT

C. P. M. has been designed to run pop-down menus that disappear from the screen after the command has been SELECTed. This keeps the drawing screen free from being cluttered with on-screen menus and tool bars.

Some menu choices will bring up on-screen MENU BOXES when there are multiple choice command options or steps to be performed.

5. PROGRAM RUNS WITH CURSOR DEVICE

Almost all the commands you need can be given to the computer by pointing to it on the menu and clicking with whatever cursor device you are using. The program was developed using a common 3 button "mouse" cursor. (The developer is currently using a cordless stylus.) Some multi-step commands will require a keyboard entry. In these cases the computer will ask for the command and give you the choices at the bottom of the screen in the "dialogue" area. All numbers will have to be typed in.

6. VERTEX BASED DRAWING PROGRAM

CPM is a vertex based drawing program. All drafting software programs are vertex based. (Other vertex based drawing programs you may be familiar with are Adobe Illustrator and Corel Draw.) This is different from pixel based paint programs.

In a pixel based program the image is tracked in the computers mind as being made up of all the little dots that make up the computer screen. For each dot the computer keeps information on the hue, value, and brilliance of each dot. If it is 32 bit color, that means the computer divides up each pixel dot into 32 sections and keeps the hue, value and brilliance

information for each of those 32 sections of each pixel. So if you are working on an image that just fills your monitor, and your monitor is set at the medium resolution of 1024x768, then the image would be 786,432 pixels large. Tracking 32 bit color would mean that the image is made up of information about 25,165,824 squares of color. This is a simplistic generalization of the how the software functions, but it helps you understand that pixel based images are very large in terms of the number of bytes needed to define the image. This is why, every time you make a change in a pixel based image, the computer has to do a lot of processing before you see the image on the screen.

Vertex based drawing programs keep track of images by keeping a type of database of information about the drawing. It tracks where start and end points of lines are based on their coordinate points on an X,Y axis grid. The actual physical size of the drawing is defined by setting measurement units and a scale. If the lines are curved, then the mathematical definition of the curve, such as radius, degrees, compass direction, etc. is included in the data. If there are closed polyline objects with a fill of a solid color or a pattern inside of it, the file data describes the color or the fill and simply says this area is filled with it. As you can see from this simplistic description of the process, the vertex based drawing file takes very little byte space to describe the image in comparison to a pixel based image file.

This is one reason that you do not need the biggest and fastest computer to run CPM.

It is important to keep in mind, while using CPM, that you are always working in terms of vertex defined lines and objects. CPM does not see a pattern as a solid flat shape, even if you have chosen to fill it with a color or pattern. It sees it as a CLOSED outline (or sometimes as a collection of segments of lines). If you CLICK to SELECT in a pattern piece in the interior of a pattern piece, the computer will not see anything to SELECT. You need to put the cursor on the lines that define the pattern shape to SELECT it.