



服装高等教育“十二五”精品课程规划教材·系列1

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# 服装工业制版与 推板技术

TECHNIQUES OF PLATING AND  
GRADING IN FASHION INDUSTRY

服装工业制版的理论知识 / 多规格推板技术 / 应用 /  
部分章节中英文对照讲解 / 适用于服装专业学生教材



服装高等教育“十二五”部委级规划教材（本科）

# 服装工业制板与 推板技术

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# 第一章 服装推板基础与原理

## The Basic Knowledge and Principles of Grading

### 第一节 服装测量与推板基础知识

#### Measurement and Basic Knowledge of Grading

##### 一、测量部位

为了缝制的服装合体，必须规定服装人体的测量部位及取得准确的人体测量数据。测量时，被测者需穿着内衣，自然站立，并用细带子或绳子在腰部位置轻轻地系好，以便确定腰围线的位置。

绘制前、后衣片原型所需的尺寸要利用胸围和背长尺寸换算出来。测量并记录图1-1中所示各个部位的尺寸，这些测量数据既可成为制图依据，又可为校正原型节省时间。

##### 二、基本尺寸规格

伴随着20世纪成衣生产的发展，尺寸问题由来已久。生产厂家要满足公众的需求，必须对国内的尺寸规格进行详细的调查研究。1940年美国建立了测量系统去测量美国女性人体，测量涵盖10000名妇女，采取了60个尺寸。1950年在英国又进行了类似测量，涵盖5000名成年妇女和37个尺寸。这两次的测量结果非常相似，并已成为英、美两国尺寸规格和推板系统的主要数据资源。

英国的数据和调查结论已经在《女装尺寸与测量》[作者W.F.F.Kemsley (HMSO1957)]一书中发布过。在书中评论了美国及荷兰的测量，这些调查最终产生了一套“标准人体尺寸”。

“标准人体尺寸”代表了大多数人的尺寸；测量组又以多个尺寸规格的形式给出分类测量数据。

(注：标准——为保证生产的产品能够达到预

##### MEASUREMENT

Measurements must be taken correctly in order to make a dress with a perfect fit. A person whose measurements are to be taken should be wearing all necessary underwear neatly and stand at ease. A string of cord or a piece of tape is tied softly around the waist to mark the waistline.

The base patterns of the front and back bodices are drawn on the basis of bust and neck-waist measurements. But if measurements are taken of places marked in the illustration (Figure1-1), you will be able to make a better assessment of the finished patterns and economize time for fitting.

##### TAE BASIC SIZING

The problem of sizing arose with the development of the production of ready-made garments at the turn of last century. If manufacturers were to cater for public demand, a detailed investigation of the range of sizes within a country was needed. In 1940 a survey was set up in the United States to measure the American female. This survey covered a sample of 10,000 women using sixty measurements. A similar survey was carried out in the United Kingdom in 1950 using a sample of 5000 adult females and thirty-seven measurements. These produced very similar results and are now the main source of data for sizing and grading systems in these two countries.

The data and results of the British survey were published in a book called *Women's Measurements and sizes* by W. F. F. Kemsley (HMSO1957). In this book there are comments and a number of comparisons with the American survey, and also with the Dutch. The main result of the survey was that it produced a set of measurements for the 'Statistically average woman'.

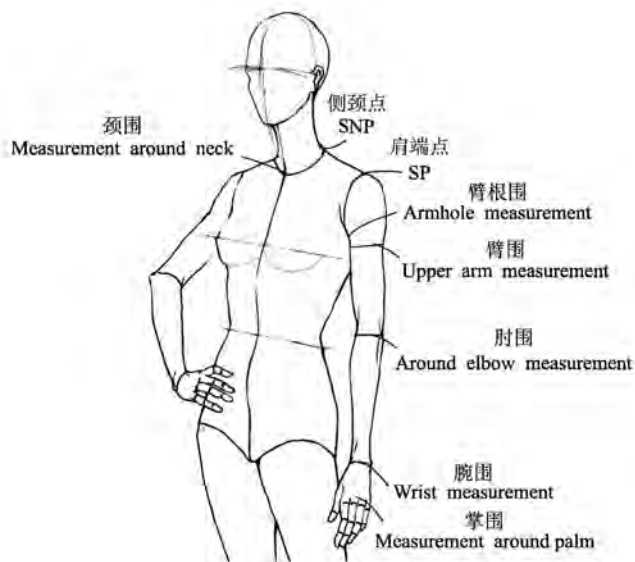
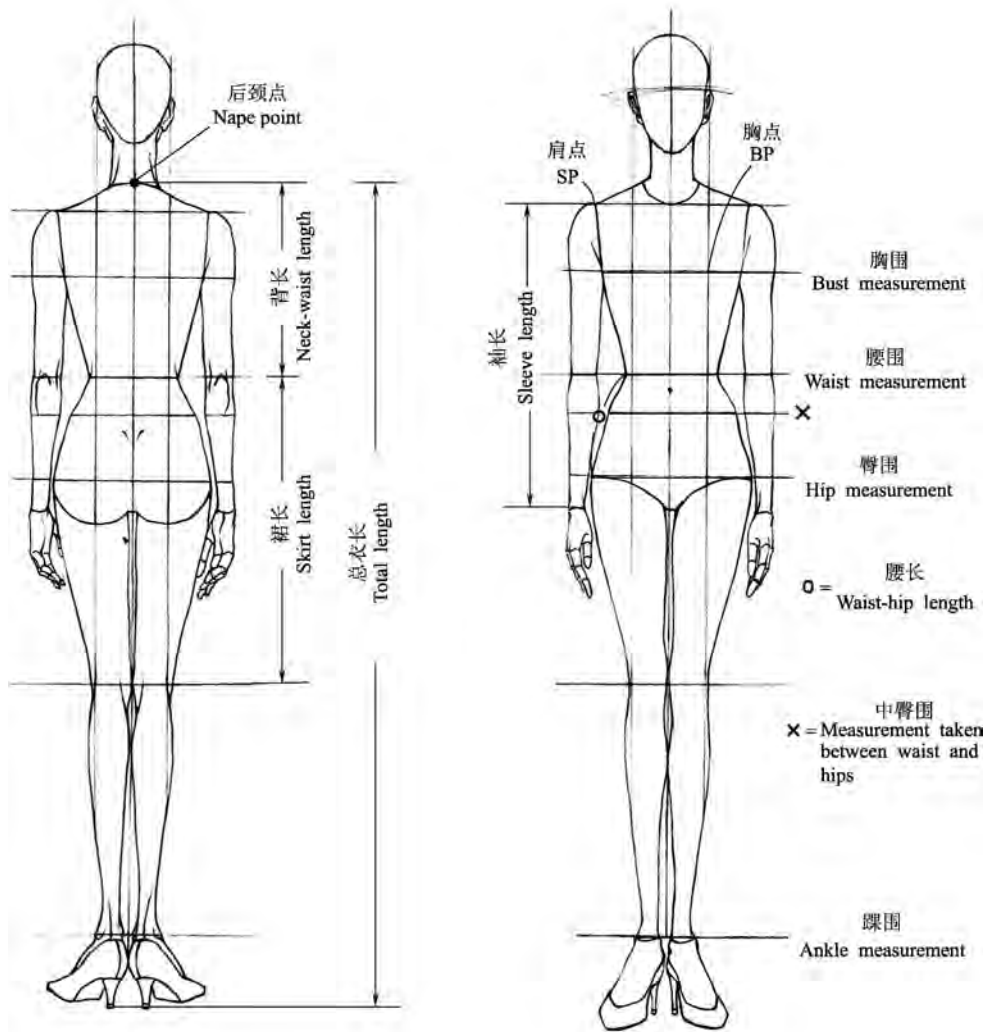


图1-1 服装人体测量部位  
Body Measurement

期的效果,在生产前对产品的要求、规格以及检验的方法作出明确规定。)

尺寸规格提供大量的信息供生产商选择以满足其目标消费者的需求。服装类型不同或采用的面料不同,其采用的尺寸是不一样的。例如宽松服装所需要的尺寸没有紧身贴体服装多,机织面料的服装比弹性面料的服装要设计更大的宽松度。

另一种情况是款式的量不同,也会影响尺寸的采用。如仅仅需要一个款式,那么生产商和零售商会觉得将其制成多种号型尺寸会更经济些,相反,若是需要大量的款式则不会制成那么多的不同尺寸。设计中采用的色彩和面料不同也会影响到最终尺寸规格的数量。

生产商尽量缩小范围,通常选择某一市场来满足其需要。一旦选定后,下一步就是构造此市场的基本尺寸规格。这个市场选择要遵循:

- (1) 年龄段。
- (2) 体型尺寸。
- (3) 服装的类型。

构造基本尺寸规格的第一步是确定主要围度的号型档差。号型间的档差是统一的,通常用臀围和胸围作为代码。

测量包括18~65岁的人,数据被分成三个年龄段:

- (1) 18~25岁。
- (2) 26~35岁。
- (3) 36~65岁。

### 三、身高的分析

另一个基本尺寸规格要考虑的因素是身高,例如,身高是多少,不同号型间的身高增量是多少,女子测量人群分为三个基本高度:

- (1) 矮——155cm以下。
- (2) 中等——156~170cm。
- (3) 高——170cm以上。

男子测量人群也分为三个基本高度:

- (1) 矮——155~165cm。
- (2) 正常——166~178cm。

This average figure represents the highest percentage of the population. The survey team recommended the categorization of the survey sizing data in the form of several size charts.

The size charts in the survey provide vital information which enables manufacturers to select and cater for specific areas of the population. First, the type of garment will have a great influence on the number of sizes required and, second, the type of material will also affect the sizing. A loose fitting garment will not require as many sizes as a skin-tight garment, and a woven fabric will require more tolerances than a stretch fabric.

Another aspect of the situation is the number of styles needed. If only a single style is required, a manufacturer and retailer would find it economic to stock a greater range of sizes. Conversely, if many styles are required the opposite applies. This is affected by the number of different colours and material designs used.

To narrow down options available, a manufacturer will usually select a limited area of the market and cater only for that area. Having decided on the area, the next step is to construct a basic size chart for that market. The market will be chosen by:

- 1) The age group.
- 2) The figure size.
- 3) The type of garment.

The first step in constructing a size chart is to decide the increments between the sizes, where there is a hip or bust girth in the garment it is generally used as the code.

It must be noted that the survey covered a wide range of ages from 18 to 65 years. The data was divided into three age categories:

- 1) 18 to 25 years.
- 2) 26 to 35 years.
- 3) 36 to 65 years.

### HEIGHT ANALYSIS

The next factor to be considered in the basic size chart is height, i.e., which height to cater for and what height increase there should be between sizes, if any. The survey divided the population into three basic height groups:

- Women
- 1) Short—below 155cm
  - 2) Medium—from 156 to 170cm
  - 3) Tall—above 170cm
- Men
- 1) Short 155 to 165
  - 2) Regular 166 to 178
  - 3) Long 179 to 185

(3) 高——179~185cm。

这种分类将主要影响服装的长度尺寸，如外套和袖子的长度，裆深及裤长。

生产商必须选择去满足哪一身高的人群。在一个尺寸规格中不可能覆盖所有的身高，因此，大多数生产商倾向于选择平均数据。我国服装标准要求服装标签上标示出它所适合的身高和净胸围及体型特征，如标准体型中间码为160/84A。

尺寸规格中会显示出身高随围度变化的情况。而实际测量表明身高也会有不随围度变化的情况。但是许多生产商提出如果身高随着围度增加而增加的话，将可满足更多消费者的穿着需求，因为衣服长短的调节很容易。

#### 四、我国成年男、女体型分类表（表1-1、表1-2）

表1-1 女子体型分类 单位：cm

体型分类代号	Y	A	B	C
体型特征	瘦体型	标准体型	微胖体型	胖体型
胸腰差	19~24	14~18	9~13	4~8

表1-2 男子体型分类 单位：cm

体型分类代号	Y	A	B	C
体型特征	瘦体型	标准体型	微胖体型	胖体型
胸腰差	17~22	12~16	7~11	2~6

#### 五、推板规格设置的类型

##### 1. 一号多型式

即只变化围度，如160/76、160/80、160/84、160/88、160/92。

##### 2. 多号一型式

即只变化身高，如155/84、160/84、165/84、170/84、175/84。

##### 3. 一号一型式

即围度和身高结合，成比例变化，如155/80、160/84、165/88、170/92。

These classifications will mainly affect the vertical garment measurements such as jacket and sleeve length, body rise and outside leg measurements.

The manufacturer has to choose which height group to cater for. It is not possible to cover the whole height range in one size chart. Most manufacturers gravitate towards the statistical average. It should be noted that the China Standard requires an indication of height/girth and figure code on garment labeling; for example, 160/84A for the Standard-Medium-Size.

Another consideration is to indicate height increase with girth in the size chart. The survey indicates that height does not increase with girth. However, many manufacturers would argue that if the height increases with girth then the market will widen and more of the population can be served because a garment can be shortened if too long.

#### Chinese Adults Figure Classificationchart

Chart1-1 The Classification of Women Figure Unit:cm

Symbol	Y	A	B	C
Feature	S	M	L	XL
B*—W*	19~24	14~18	9~13	4~8

Chart1-2 The Classification of Men Figure Unit:cm

Symbol	Y	A	B	C
Feature	S	M	L	XL
B*—W*	17~22	12~16	7~11	2~6

#### IT IS POSSIBLE TO GRADE FOR

##### 1 Girth only

For example, 160/76, 160/80, 160/84, 160/88, 160/92.

##### 2 Height only

For example, 155/84, 160/84, 165/84, 170/84, 175/84.

##### 3 Girth and height combined regularly

For example, 155/80, 160/84, 165/88, 170/92.

##### 4 Girth and height mixed according to consumer group

For example, 155/78, 160/82, 160/84, 160/86, 165/88, 170/92.

#### 4. 号型混合式

即围度和身高结合消费群特点进行变化,如155/78、160/82、160/84、160/86、165/88、170/92。

### 六、与推板相关的专业术语

#### 1. 三维推板

当样板的省道大小、围度、身高在推板时均发生变化,则被定义为三维推板。

#### 2. 二维推板

当样板只在围度和身高方面变化,而不在轮廓造型方面变化,被定义为二维推板。这种推板方式是简化了的,易学也易应用。

#### 3. 基点

基点,即坐标的零点或推板的起点,指推板时应用推板档差量的控制点。

#### 4. 平衡

本书指前衣长和后衣长之间的关系,前衣长即后颈点过胸点至腰围再到地板的长度,后衣长即从后颈中点至后腰围线再到地板的长度。它还用于整体的描述,也就是不扭曲、不变形。

#### 5. 鸟巢式推板

指一个号型样板重叠在另一号型的样板上,样板各部位的渐变增大显而易见,所有号型呈现在一起呈鸟巢状,如网状图。

## 第二节 推板系统选择 Selecting a Grading System

推板系统反映的是依据人体尺寸增长进行推板的原理,推板技术仅仅是指利用这些原理进行推板的方法。

### 一、推板系统

#### 1. 推板系统的两大系统

##### (1) 三维推板系统

三维推板系统不仅可增加纸样的尺寸大小,而且能在下列区域增加或减少控制量。

## Relative Grading Terminologies

### 1 THREE-DIMENSIONAL GRADING

This term applies to grading techniques which change suppression as well as girth and height grades.

### 2 TWO-DIMENSIONAL GRADING

When the pattern changes only in girth and height and not in shape it is termed two-dimensional. This type of grade is invariably a simplified grade and is initially easier to learn and apply.

### 3 CARDINAL POINTS

These are the points on the pattern to which grading increments are applied.

### 4 BALANCE

There are various interpretations of balance, but for the purposes of this book it refers to the relationship between the front length from nape over bust to waist and floor, and back length from nape to centre back waist to floor. It is also used as a general description, as the word suggests, for a lack of distortion.

### 5 NESTED GRADING

This describes the superimposing of one size on another so that the progression of increase is clearly visible.

Grading systems describe the principles of body growth and grading techniques are simply a means of applying these principles.

## GRADING SYSTEMS

### 1 GRADING CAN BE CLASSIFIED INTO THE FOLLOWING TWO BROAD SYSTEMS

1) *Three dimensional grading* which not only increases a pattern for size but also increases or decreases suppression in the following areas:

- ①胸到肩。
- ②臀到腰。
- ③肘到腕。

三维推板系统严格遵循国家调查统计的人体尺寸和外形。为保证批量货品尺寸号码的平衡和合体,每个号的控制量都得调整。对于合体或紧身的服装以及范围在155/80A、160/82A、160/84A、160/86A、165/88A、170/92A、175/96A的推板,三维推板系统是最佳选择。

最重要的服装区域是对胸至肩的控制,它控制着前衣片的造型及平衡。而且胸点的移动会对胸至肩的控制量产生影响。三维推板将胸部的控制因素与胸点的移动结合在一起。

## (2) 二维推板系统

二维推板系统推纸样的围度和高度,只局限于宽松式平面结构类服装。由于所有号型推板肩至胸的控制量不变,会造成合体和平衡方面的缺点。对于非常宽松的诸如衬衫或蝙蝠袖外衣等,若只要求通过推板得到大、中、小三个号型的样板,就可安全地选择二维推板系统。

### 2. 推板系统的选择条件

(1) 拥有的水平技巧:指推板师拥有的纸样结构和操作方面的知识程度。

(2) 服装的类型:

- ①较合体或紧身类服装。
- ②宽松或平面结构类服装。

服装越合体,越要选择复杂的服装推板系统,以准确调节服装的控制量;若服装宽松,不需调节服装的控制量,选择二维推板系统就可以了。

(3) 号型的号数:取决于是紧身的还是宽松的,而且主要看所需要的号型是多少。号型的号数越大,推板系统就越复杂(一般控制在中间码的基础上,放大4码,缩小2码)。

(4) 面料的类型:对于推板,面料可以分为弹性的和非弹性的两类。面料弹性越大越容易贴合人体轮廓,则不必选择复杂的、效率低的推板系统。而非弹性面料则相反,在整套号型中都要控制并保持平衡。

- ①bust to shoulder.
- ②hip to waist.
- ③elbow to wrist.

A good three dimensional system will closely follow the indications of the National Survey data on body size and figuration. If the balance and fit of the stock size garment is to be retained suppression quantities must be adjusted per size. Three dimensional grading is the optimum system when grading close fitting or skin-tight garments and garments that progress in size from 155/80A、160/82A、160/84A、160/86A、165/88A、170/92A、175/96A.

The most important garment area is the bust to shoulder suppression. This controls the shape and balance of the front bodice. This movement of the bust point has an effect on the bust to shoulder suppression quantity. Three dimensional grading incorporates the three dimensional bust suppression factor and the moving bust point.

2) A two dimensional grading system only grades a pattern for girth and height and its application is therefore limited to loose or semi-drape type garments. Because fitting and balance faults will occur to the graded garment range when the suppressions are not adjusted to cater for each size. However, a very loose fitting garment such as a shirt or a batwing blouse with a limited size range(S-M-L) may be safely graded using a two dimensional system.

## 2 CRITERIA FOR SELECTING A GRADING SYSTEM MAY BE SUMMARIZED AS FOLLOWS

### 1) SKILLS AVAILABLE

This means the degree of knowledge of pattern construction and manipulation possessed by the technician.

### 2) TYPES GARMENT

There are two main categories:

- ① Close fitting or skin-tight garments.
- ② Loose or semi-drape garments.

The closer the garment fit, the more important it is to select a sophisticated garment grading system which adjusts the garment suppressions. The looser the garment fit the value of adjusting the garment suppressions decreases and a two dimensional system becomes more viable.

### 3) NUMBER OF SIZES

This may depend a little on whether a garment is close or loose-fitting, but it mainly refers to a situation where the company only offers a limited number of sizes. The greater the number of sizes the more complex the grading system.

### 4) TYPES OF FABRIC

## 二、推板技术

### 1. 鸟巢式推板

整个号型系列中相邻样板的关系都是小号置于大号之上, 所以被称为鸟巢式或堆叠式推板。单个的纸样裁片采取锥眼或沿轮廓线描绘的方法拓印在卡纸上。鸟巢式推板可以是二维推板也可以是三维推板。

### 2. 轨迹或单号推板

档差作用于单个裁片纸样上, 通过事先预定的轨迹、记号一步一步地移动基础纸样然后沿着纸样描画下来, 以此来改变其尺寸。此系统通常适合二维推板, 很难适用于三维系统。

## 第三节 人台 Stands

服装生产商的最重要的设备之一是人台。生产商必须拥有一套可靠的并且是经测试检验过的人台, 即依据国家标准的一组尺寸号型的人台, 而不仅仅只依据围度。若有了可靠的人台, 就有可能提炼出推板的方法, 并随之直接得出档差。但是至今还很难得到一套符合可行标准的人台(齐码人台共有7个, 即中间码, 放大4码, 缩小2码)。

人台的造型必须代表平均人体体型, 是建立在可靠的统计数据基础上的, 同时必须符合国家的标准。人台生产商在设计人台时应当以统计数据为依据, 不同的人台生产商对数据的诠释不同导致各种各样的造型, 虽然在主要围度上都是正确的。现在已发明出一种利用电脑快速地测量复杂的人体体型的方法(三维人体测量仪), 电脑能快速处理数据, 帮助分析人体在不同姿态下的特征及数据的变

For grading purposes fabrics may be classified into two broad types, e.g. stretch and non-stretch. Stretch fabrics are more forgiving and will conform more readily to the body contours and it could be argued that a less efficient system could be employed. A non-stretch fabric has the reverse effect and must be kept under control and in balance through the size range.

## GRADING TECHNIQUES

### 1 THE DRAFT OR MULTI SIZE (NESTED) GRADE

This results in the entire size range being superimposed on top of one another and can also be described by the term nested or stacked. The individual pieces of pattern newsreader for each size are then spiked or traced off on to card. A draft grade can be either two or three dimensional.

### 2 THE TRACK OR SINGLE SIZE GRADE

This term is used when grade increments are applied to individual pieces by moving the base pattern piece along predetermined tracks, marking around the pattern section by section and thus altering its size. This system is usually two dimensional but can with difficulty be adapted to a three dimensional system.

The most important piece of equipment used by the manufacturer is the stand. It is essential to have a reliable and tested set of stand sizes which follow a natural even and progressive increase. They must increase as indicated by the survey and not just by the major girths. If reliable stands can be acquired then it will be possible to extract the grading instructions and increments directly from them. But so far the authors have not been able to acquire a set of stands which conform to an acceptable standard.

The shape of the stand must represent the average figure shape, based on reliable survey data and must conform to the national standards. Stand manufacturers rely on the survey data when designing suitable stands. The interpretation of the incomplete data by different stand manufacturers has resulted in a wide variety of shapes which all have the correct major girth measurements. Computers help to devise a means of quickly measuring a complex shape, and process the data in order to achieve a deeper understanding of stance,

化情况。另外，也能生成一套人体各部位的截面尺寸，并能找出各截面之间的对应关系。

如果将这些数据收集起来，人台生产商就能生产出任何指定体型的人台。也意味着他们能生产接近平均人体姿态和体态的人台。

关于人台，需要研究的区域可分成三组：

- (1) 局部围度的增量。
- (2) 脊柱的曲度。
- (3) 肩胛联合体。

## 一、局部围度的增量

如果将人体所有主要部位的精确尺寸都画出来，并依据某基准线，那么大多数推板档差就可以确定了（图1-2、图1-3）。

## 二、脊柱的曲度和肩胛联合体的结构特点

图1-4（a）、（b）展示了脊柱曲度的两个极端，图1-4（c）展示了一般脊柱的曲度。过直的脊柱图1-3（b）导致肩后移形成较平的后背。这种造型使肩至胸的控制量增加，肩胛部位的控制量减少。

另一个极端造型显示脊柱上端呈弯曲弧形，腰部凹进 [ 图1-4（a） ]。这也导致胃和肩胛的凸出十分明显，通常还伴随斜肩，使肩至胸的控制量减少，肩胛部位的控制量增加。

肩胛联合体在两种情况下会改变袖窿的深度。当平肩或直体造型时，袖窿会抬高；当肩胛下降时，其袖窿会下落，后颈点至袖窿的基线尺寸就增加了。

人台应该包含余量吗？许多打板师发现，包含余量会比较麻烦。这个余量的多少应该依据服装的类型来决定。环绕胸、颈及肩的区域通常在人台上会增加和变厚，这适合外衣的结构，但对于较合体的服装，就会误导和无用。

总之，可以说目前的人台还有太多需要发展的地方。受服装影响的区域是胸的高度和宽度，当然这也可以由所穿的内层衣物来决定。这一点可以由富有创造性的人台生产商来攻克，通过使用

posture and areas of body increase. This would require a whole new set of measurements relating to the shape of sections through the body at specific points and the relation of these sections to each other.

If this data were collected the stand manufacturers would be able to produce the stands appropriate for any given figure type. It would also mean they could produce a stand nearer to average stance and posture.

The areas to be studied would fall into three groups:

- 1) Sectional girth increases.
- 2) Curvature of the spine.
- 3) Shoulder blade complex.

## SECTIONAL GIRTH INCREASES

If all the major body sections are drawn up full scale, and based on accurate measurements related to a datum line, then most of the grading increments can be determined ( Figure1-2、Figure1-3 ) .

## CURVATURE OF THE SPINE AND SHOULDER BLADE COMPLEX

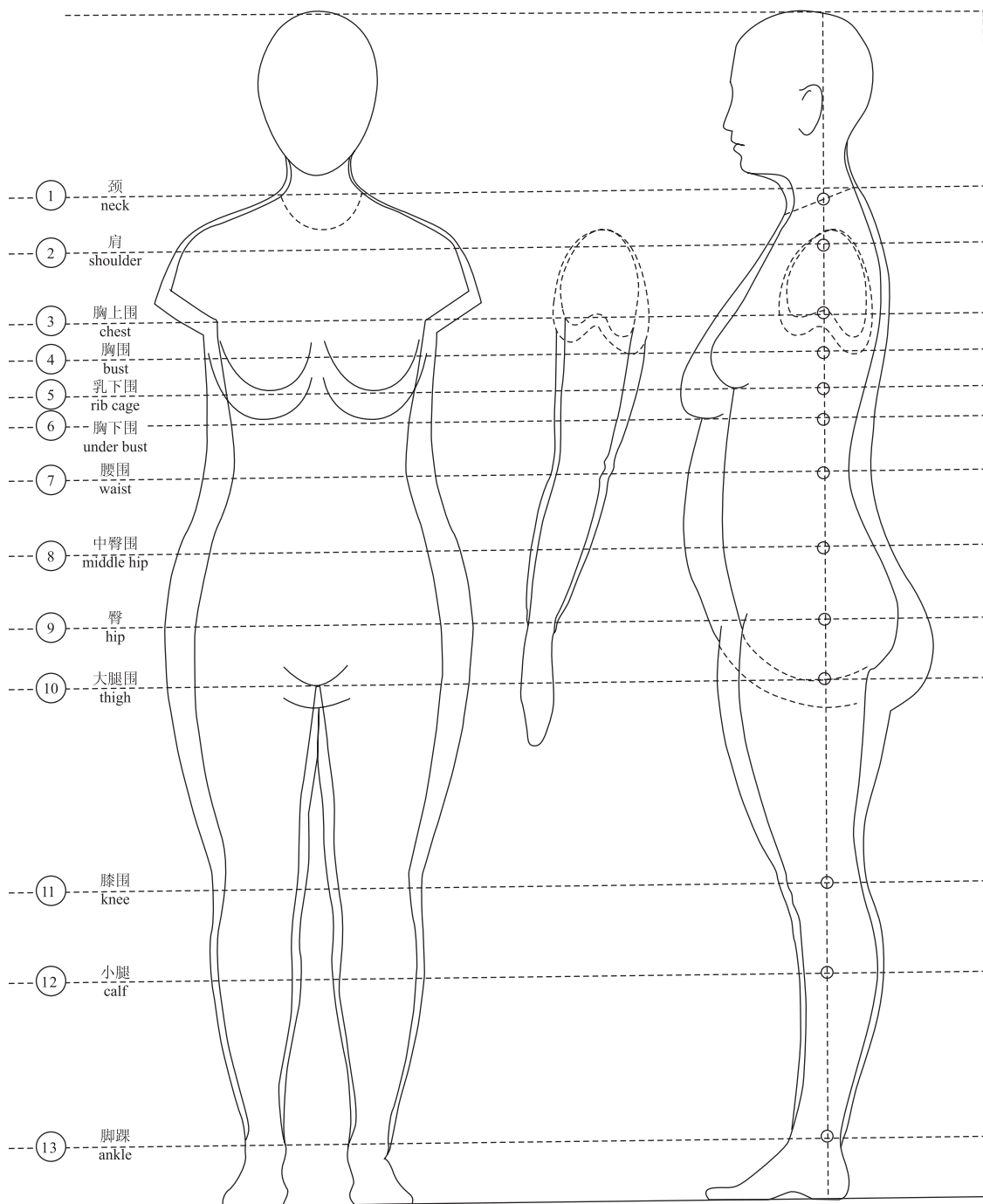
Figure1-4（a）、（b）shows two extremes of spine shape and Figure1-4（c）shows the average spine shape. The straight spine results in the shoulders being pulled back and squarer, producing a flat back. This shape increases the bust suppression and decreases the blade suppression.

The other extreme shows the spine rounded at the top and hollowed at the waist [ Figure1-4（a） ] . This produces a pronounced stomach and protruding shoulder blades and is usually accompanied by sloping shoulders. This figure shape will require a reduction in bust suppression and an increase in blade suppression.

These two factors alter the scye depth. In other words, the armhole or scye is carried higher on the squarer shouldered or straight figure; when the shoulder complex drops then the scye drops with it, thus increasing the measurement of from nape to base scye.

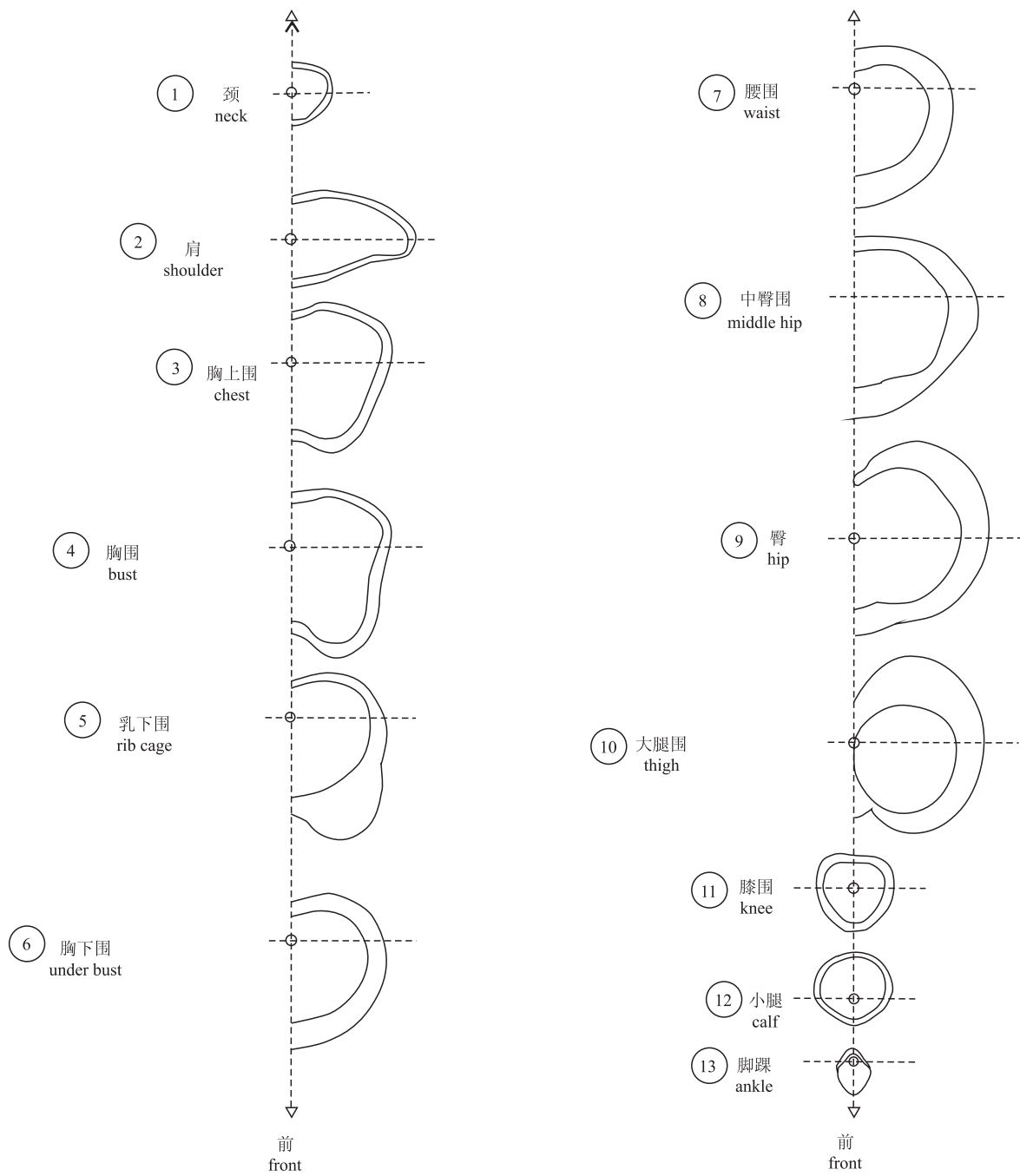
Should the stand include tolerances? Many pattern technicians find the inclusion of tolerances a handicap. it depends on the type of garment being constructed. The area around the chest, neck and shoulders is usually increased and thickened on stands. This may be suitable for the construction of outer wear, but for close-fitting garments it can be very misleading and serves no purpose.

In conclusion, it can be said that the field of stand construction at the present time leaves a great deal to be desired. The only area to be affected by fashion is



☆此图只作示意图，尺寸不作参考

图1-2 中号至大号人体主要部位尺寸变化示意图  
Body growth areas from size M to XL



☆与水平线对应图1-2      Sections according to Figure 1-2

图1-3 中号至大号人体主要部位尺寸截面变化示意图

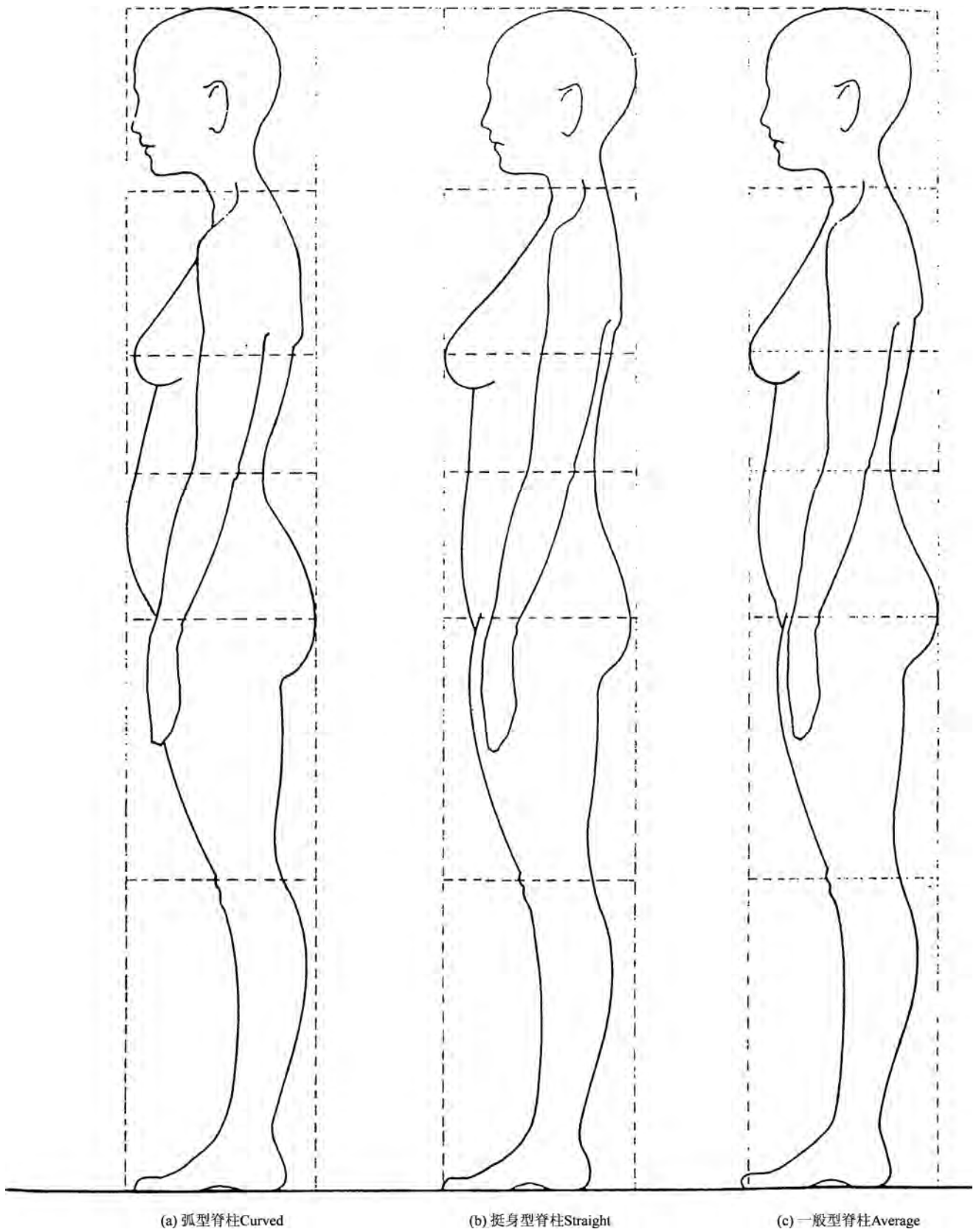


图1-4 基本姿态

可分离的调节胸部高度的物件来实现，从而将肩胛的调节提升到一个新台阶。这会很昂贵但是对打板师来说是无价之宝。这些发展以及国家关于成熟女性人体数据的广泛调查都将受到打板师的欢迎。

the bust height and width, which is determined by the support worn, if any. This could be overcome by an inventive stand manufacturer using detachable and height adjusting bust pieces, and could be taken a stage further with an adjustable blade complex. This would be expensive but would be invaluable to pattern technicians. These are the sort of developments which would be welcomed by pattern technicians, together with a new and wider national survey of the mature female's figure.

## 第四节 特别区域 Special Areas

电脑推板需要将三维和多轨迹线的数据转变为轨迹和电脑推板数据。电脑只能在二维坐标中操作，特别的区域则要特别注意。

The computer only operates on two coordinates. It is essential to convert three dimensional and multi-track quantities for track and computer grading. More attention should be paid to special areas.

### 一、特别的基点

有四个推板的基点是特别重要的，因为它们控制着衣服肩部的平衡。

- (1) 前侧颈点。
- (2) 前肩端点。
- (3) 后肩端点。
- (4) 后侧颈点。

前侧颈点控制着前衣片的平衡（长度）。前肩端点控制着肩斜角度、胸围的增量，前袖窿造型和前肩线的长度。后肩端点控制着后肩斜角度，后袖窿造型和后肩线的长度。后侧颈点控制着后衣片的平衡，推板时一般变化很小。

### SPECIAL CARDINAL POINTS

There are four cardinal grade points which are of special importance because they control the main balance of the garment at the shoulder. These are :

- 1) The front shoulder neck point.
- 2) The front shoulder point.
- 3) The back shoulder point.
- 4) The back shoulder neck point.

The front point controls the amount of front balance (length) on the front bodice, The front shoulder end controls the shoulder angle, bust suppressions, front armhole shape and shoulder length. The back shoulder end controls the back shoulder angle, the back armhole shape, the shoulder length and the back bodice length. The back shoulder neck point controls the back balance which changes slightly for normal grading.

注意：一般推板时，上衣有11个关键点：前后中心点、侧颈点、肩端点、胸宽点、背宽点、腰节点、下摆点、袖山顶点、袖肥点、袖口点。下装的关键点是：前后腰节点、前后脚口点、前后臀围点、前后横裆点。

Note: Generally, there are 11 key points for normal tops grading: Front Center Point, Back Center Point, Shoulder Neck Point, Shoulder Point, Bust Width Point, Back Width Point, Waist Point, Hem Point, Crown Top Point, Sleeve width Point, Sleeve Cuff Point. 8 key points for normal bottoms grading: Front and Back Waist Point, Front and Back Hip Point, Front and Back Bottom leg Point, Front and Back Crutch Width Point.

### 二、保持肩斜角度的一致

这是非常重要的因素，因为它控制着服装的悬

### MAINTENANCE OF SHOULDER ANGLE

This is a very important factor as it controls the hang of

挂性，特别是较宽松的服装。一般所有的号型肩斜角度均保持一样。

### 三、肩线长度和胸省控制

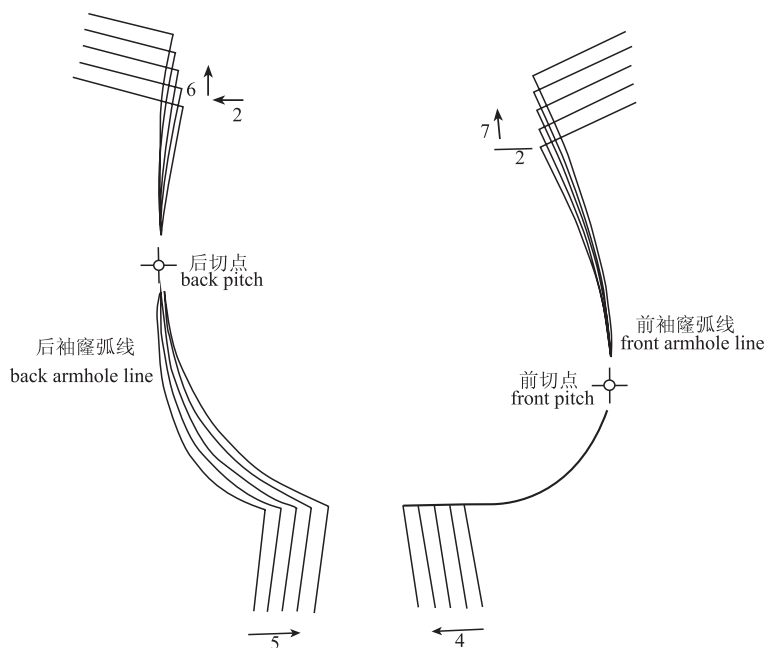
这两个因素决定着前肩线的增量应遵循调查数据，胸围的增量要经过反复试验计算得出，同时采用可信的人台作为模型。胸省的控制量可以通过加长肩线同时将额外的长度加入到省中。

### 四、袖窿造型

前袖窿的特点是在所有号型中保持造型一致，只有向侧缝和向上的扩展，其他基本型保持不变。

后袖窿有一个不同的特点，其造型较平缓、柔和。这是为了给后背宽留出余量，使胳膊能舒适伸展。

如果采用三维推板系统，前肩端点可以合理向外延伸，这样前袖窿造型较容易保持，并且可以产生胸围所需控制量。三维推板前、后袖窿时，常采用前、后袖窿弧线与胸、背宽线的切点作为原点，如图1-5所示。



☆此图只作示意图，尺寸不作参考

图1-5 袖窿基点选择  
Zero Points of Sleeves

the garment, particularly if it is loose-fitting. The general aim is to keep the shoulder angle the same for all sizes. It is necessary to maintain the shoulder line in a parallel position in all sizes.

### SHOULDER LENGTH AND BUST SUPPRESSION

These two factors determine the amount of the front shoulder should be lengthened to follow the survey indication. But the bust suppression increase has to be calculated by trial and error, using a reliable stand to model from. The extra suppression is registered by lengthening the shoulder and incorporating the extra length into the dart.

### ARMHOLE SHAPLING

The characteristic of the front scye is that it must be retained throughout the size range. The aim is to keep the general shape of the front scye unchanged except for its extension sideways and upwards.

The back scye has a different characteristic because it has a gentler shape. This must be retained as it gives back width and enables the arms to be stretched forward in comfort. The front scye shape can be maintained easily if a three dimensional system is used because the front shoulder end can be extended outwards to allow for the extra suppression needed at the bust, using the front and back pitch points as the zero (Figure1-5).

## 第五节 推板的基本方法

### General Grading Techniques

样板图推板是产生精确号型纸样的最佳方法。纸样师先设计出样板号型纸样然后进行推板，进而提供全套号型纸样的精确综览图。这个方法要求纸样师控制从纸样裁剪到推板的全过程。

#### 一、利用样板图推板完成生产纸样推板

样板图推板时有两个基本的方法，即单轨迹方法和多轨迹方法。为了保持所有号型纸样的平衡，唯一的方法是沿着最初的结构线推板。

#### 二、单轨迹——移动胸点

这涉及将生产纸样回归它原始的样板图纸样形式，省量均在最初的位置。这个方法多用于合体的服装，当胸高调节在款式中非常重要时使用 [图 1-6 (b)，图 1-7 (a)]。

#### 三、多轨迹——胸点固定

这涉及将生产纸样各裁片拼合在一起成为原型样板图。省量留在其设计造型位置。这个方法多用于较宽松的服装款式，省量要么是碎褶要么是规律性褶裥 (图 1-7)。

#### 四、固定胸点的多轨迹推板方法

在这个生产纸样的处理方法中，生产纸样各裁片拼合在一起，复原到原始样板图形式，这样缝份会重叠，净缝线一定要明确标示出来，省量留在操作完成之后的位置。每一个基点都还是根据其最初原始样板图的结构线来确定并进行推板 (图 1-8)。

Draft grading is the optimum system for producing accurately-sized patterns because it allows the pattern technician to plan the stock size draft and the subsequent grades as a whole, and thus provides a perfect overview of the complete size range. This system relies on the pattern technicians controlling the whole pattern cutting and grading operation.

### GRADING FROM A PRODUCTION PATTERN USING A DRAFT SYSTEM

There are two basic ways of preparing it for a draft grade system, depending on whether a single track or multi-track system is used. The only method of retaining the pattern balance through a wide size range is by grading along the original construction line.

#### SINGLE TRACK—MOVING BUST POINT

This involves returning the production pattern to its original draft form using the original suppression sites. This system is used for fitted garments where the adjusting of the bust height is important [Figure 1-6 (b), Figure 1-7 (a)].

#### MULTI-TRACK—STATIC BUST POINT

This involves returning the production pattern to a draft form, but leaving the suppressions in their styled positions. This system is used for less fitted styles where the suppression is either gathers or pleats (Figure 1-7).

### STATIC BUST POINT GRADING SYSTEM USING MULTI-TRACKS

In this system of dealing with a production pattern the patterns must be laid back together on to a draft, the seamlines must overlap and the finished seamlines must be marked. Suppressions are left in their finished manipulated positions. Each cardinal point is graded according to its original construction line (Figure 1-8).