

MACHINE KNITTING

THE
PASSAP
DUOMATIC

by
Mary Weaver

FULL WORKING INSTRUCTIONS
WITH GARMENT PATTERNS (*Revised Edition*)

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THE REASON FOR THE BOOK

In the early postwar years, two companies were responsible for pioneering the domestic machine, Passap being one of them. Compared with the present-day machines they left a lot to be desired; but it was these firms who, apart from making the machines available, spent large sums of money and put considerable effort into teaching and pattern production. My own interest was immediate, and from the day of my first purchase my interest has continued to grow. Over the years I have used many machines; seen the lesser ones appear and disappear; been gripped by enthusiasm as I watched technical progress being made.

It was quite some time before the rather primitive types we were using were replaced by machines with automatic wool feeds and needle selection; and even then they were viewed with great scepticism by the majority of handknitters. This, I suppose, was the natural order of things. The old machines were quite difficult in many ways, and when new and improved types began to appear the old reputation lingered on.

As so often happens, our present machines are merely an echo of the Knitting Industry. During the years when people like myself were struggling to master the old types of machine, a far greater struggle was taking place within the industry itself. It was, in fact, a desperate fight to survive for many of the spinners and manufacturers. The postwar years presented the industry of this country with a challenge which, in many cases, could not be met; overseas competition, higher wages, new and untried yarns which required new and expensive machinery and a high technological standard which was eventually to raise the machine knitting industry to an incredibly high scientific level.

Many Yorkshire mills were closed, many knitting sheds became silent. Scores of Yorkshiremen, to whom wool and all its resultant products had been a way of life, had to face this silence and all its economic implications. The high quality Yorkshire worsteds for suitings began to lose popularity as a young and affluent generation demanded casual, easy-to-wear clothes. The West Riding and many other areas which for generations had been famous for their cloth began to suffer badly. 'Change' became the order of the day; but there were many who could not change. Lack of capital crippled many who had the foresight to see what was coming, and lack of initiative closed those which did not.

In the meantime, the Art Colleges, Technical Colleges and Universities in various parts of the country were rapidly expanding their textile departments, and a new knitting technology was being born. Several of the big chemical companies were beginning to pour huge sums of money into research; combines began to form, and men of vision who had something to offer took shelter with those who were to be the future giants of the knitwear industry.

Knitting machine engineering companies concentrated their energies on developing machines which were fast and efficient, thereby cutting out the number of hand operations which had been necessary in the past. Many new methods of automatic patterning were evolved. New types of synthetic fibres meant endless testing before quality garments could be produced; yarn dyers had bigger problems than ever before, since the new yarns were resistant to the standard dyeing processes. As so often happens when an industry is in a state of turmoil, seemingly impossible ideas became a reality. Electronically-controlled circular machines went from strength to strength, and as the range of goods which could be knitted increased, so did the demand for better, faster and more versatile making-up machines.

Sewing machine companies realised that they too had to go forward with machines capable of sewing entirely new types of knitwear, and with far greater efficiency than had ever been demanded before.

Many of the techniques used for woollen garment seaming were no longer suitable for synthetics. Even the needles in the machines needed redesigning, since they were liable to split and damage stitches in the fabric. The manufacturers of sewing threads had to come up with new threads which were suited not only to the new fabrics but also to the new making-up machines.

In the 60's, the "just to keep you warm" type of garment began to be rapidly replaced by knitwear in designs such as we had never seen before, and almost anything knitted became fashion. In spite of this, many of the big retail outlets hung back, afraid to commit themselves to styles which were changing almost overnight. They preferred to stick to many of the old classic designs, provided they could be updated in the new fibres and colours. About this time, some of the bigger manufacturers

were beginning to wonder where their future lay. Having invested large sums of money in modern machinery and qualified technicians, they were looking for an outlet. They had begun to realise that their machinery could not be used economically on 'short runs' and that what was needed were customers for large orders of repetitive designs.

The implications may not have been clear at the time, but ultimately it was to mean that they were to exclude themselves from the opportunity of producing fashion garments, in exchange for the safety of working under contract to the retailing giants. Many of the smaller firms decided on a more adventurous policy and began to look closely at young fashion and young designers. The outcome was what came to be known as 'trendy' fashion. Many of these garments bore labels with names we had known for years.

But there was more to come. The demand for really 'way-out' knitwear continued to increase, and apart from a few young men who decided to produce for fashion on an industrial scale, the way was wide open for anyone who cared to take a chance. A new kind of retailer came on the scene. He (or she) had long hair and wore strange clothes. The Boutique had arrived. Many of them closed almost as soon as they opened; others have survived, and their innovators have become names that count in the world of fashion.

On the designing side there were difficulties too. Students who qualified and decided to make a career in knitwear design found that working for some of the bigger companies meant little or no scope for individual ideas, and began to work free-lance. Some of the knitwear buyers for the larger stores were willing to market their garments, which brought success to those with something original to offer. Several of the names which now appear in the magazines started in this way.

As they progressed, they looked for labour in the form of outworkers, and as they were using domestic machines this was not too difficult to find. It is doubtful if the home-knitter has any real idea of the number of small independent design/production units there are in this country. Many of them are husband and wife teams who started without training, capital or experience. They began with an idea, and knew that the only way to make it a reality was on a domestic machine. This type of machine had been advancing rapidly, was reasonably easy to learn, and required the minimum of capital outlay. Several with whom I have come in contact started their operations in a small flat, working long hours on a shoestring budget. As time passed they found they not only had markets at home but began to export abroad, and models wearing their creations were pictured in all the best 'glossies'. Those who could stay the course made money and found a great deal of interest in a business which had previously been quite unknown to them. They had neither training nor experience but they had vision. To them it was obvious that the domestic machine was sufficiently versatile to produce almost anything they required.

If only more home knitters had this kind of conviction some of the present-day machines which are idle might be serving a more worthwhile purpose. The years have passed, but there are still many who seem to feel that knitting machines are some kind of gimmicky device which costs a great deal of money but can never really be expected to work. In the early years there were machines which fitted into this category exactly. They were the products of those who sought to capitalise on the efforts of the more reliable companies and who consequently flooded the market with vastly inferior machines. During the 1950's, this was to mean near-disaster for everyone connected with the trade.

Fortunately, the worthwhile companies survived and continued to improve on their existing product as fast as possible. Today we have machines which various sections of the knitwear industry freely acknowledge to be more versatile in many ways than their industrial counterparts. In spite of this, there are still many machine owners who, for a variety of reasons, are unable to form any kind of 'rapport' with their machines. For some, this is due to the fact of being unable to overcome their own particular prejudice about machine knitting. For others, it is often due to the type — or lack — of tuition they received.

By this I do not mean that it is the fault of the companies who market the machines, or the dealers who sell them. The companies themselves spend a considerable amount of time and effort trying to ensure proper tuition. Many of the dealers do their best; but teaching is both time-consuming and tiring. I doubt if any of us have found the ideal answer yet. In my own business I am convinced that a set number of lessons is unsatisfactory. It immediately puts an additional responsibility on to the person trying to learn. Not only is she faced with absorbing enough information to start knitting,

but she is forced to try to store a quantity of possibly unintelligible information in her mind for future use. As soon as this situation manifests itself, a state of mental panic ensues. Knowing that she will require this information in the future — and more than likely doubting her ability to retain it — she often ends up remembering very little.

I prefer a policy of unlimited tuition as and when required. This means that a customer purchasing a machine has initially only to remember how to cast on and off and how to knit stocking stitch. After that she can learn a small amount at a time, either by visiting the Knitting Centre or by telephone. By this method she never feels responsible for remembering more than she needs at that particular time, and can take as long as she likes to learn. This method also has its faults, since there will always be customers who feel very selfconscious of what they feel to be their slowness to learn. A weekly evening class is perhaps the best answer to this particular problem. At least it gives knitters a chance to exchange views, and in so doing many of them quickly begin to gain confidence.

At the present time there are thousands of machines in regular use. They bring pleasure and interest to the lonely and the handicapped as well as to the average woman. The sales figures indicate that it will be but a few years before the knitting machine will take its place beside the sewing machine in most households. Unfortunately the output of relevant literature has not kept pace with the expanding market. Neither has the general concept of machine-knitting itself. The majority still see it as an extension of handknitting — which it certainly is not — rather than as an offshoot of the industry itself which merits its own independent position.

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YARNS FOR MACHINE KNITTING

The term 'yarn' is loosely used throughout this book to indicate a material which is suitable for knitting; where necessary it is classified as wool or man-made fibre.

Machine knitting for most people means the production of a large number of garments over the course of a year. The greater the output, the more necessary it is to understand as much as possible about the materials to be used.

This does not mean highly technical knowledge such as the manufacturer needs; all that is required is a basic knowledge of the most commonly used knitting materials and their structure.

First, let us look at one of the natural fibres which most of us use — wool. There are many grades of wool but the finest quality comes from the Merino sheep, whose fleece contains no hair or kemp fibre (kemp is a coarse, brittle dead-white fibre). True wool is the fleece of the sheep but the term 'wool' can include the hair of other animals such as the Angora goat, Cashmere goat, Camel, Alpaca, Llama, etc.

Raw wool contains grease which is recovered during scouring and sold as Lanolin for use in cosmetics.

Wool fibre is a protein called Keratin; this is the same protein as found in human hair, fingernails, horns and hooves.

We are all aware that wool has a great capacity for shape retention; many times it has been described as a giant molecular spring. When stress is applied it will straighten, when the stress is removed it will return to its original crimp. This is why it is such a perfect yarn for garments which are subjected to constant stress such as dresses, skirts and trousers.

All wool has to be graded and cleaned before spinning. When it reaches the mills it passes through many processes, the main ones being:

Sorting. When the bales are opened the fleece is graded.

Scouring. The raw wool is washed in successive troughs of soapy, alkaline water of decreasing strength to remove dirt, grease and suint (perspiration). In some mills solvents of synthetic detergents replace the soap and alkali.

Carbonising. Straw, burrs and other vegetable matter are removed by treatment with acid, heat and the pressure of rollers.

Carding. After preliminary blending and oiling the wool is passed through machine rollers covered with sharp steel wires which disentangle and separate the matted fibres and mix them thoroughly.

Spinning. The mass of carded wool is drawn out and twisted or spun into woollen yarn — a soft, fluffy thread.

A fibre of wool, if cut crosswise, will be seen to have three layers:

The cuticle — a very thin layer of overlapping scales which play an important part in wool shrinkage.

The cortex — the thickest layer, giving strength and elasticity.

The medulla — the central coloured channel present in coarser wools but very small or absent in finer wools.

Many people are baffled by the problem of wool shrinkage, usually because they do not understand the structure of the fibre. Felting shrinkage is a characteristic of wool and other animal hairs and furs because of the surface scales and the elasticity of the fibres. When wool is agitated or rubbed (as in washing) or is subjected to friction in wear (underarm or underfoot) the fibres tend to travel towards their root ends. This movement causes the fibres to become entangled and the fabric to

shrink.

On a limited scale machine washable wools are becoming available. This is the result of years of patient effort and expense on the part of the various experimental departments in the wool industry. The term Superwash wool is the name created by the International Wool Secretariat to identify pure wool which has been treated by this new process.

Strictly speaking there are two processes, either one being acceptable. Unlike any other form of processing the high levels of washability are obtained without in any way affecting the feel of the wool; in fact 'pilling' is said to be very much reduced. The process involves a very mild chlorination of the wool surface. Polymer resin is then applied to form a microscopic film which completely covers the wool fibre surface. This creates a 'rounding off' of the outer scales of the wool fibre, thereby preventing their locking together during washing.

Washing wool

Wool is in no way difficult to wash providing it is treated with a little care. Unless it is known to be machine-washable it should always be washed by hand to avoid over-agitation which will cause it to shrink. There are washing products which are regularly advertised as being suitable for washing wool. These products do not offer any magic answer to those who frequently suffer disasters when washing woollen garments — but they do offer a washing agent which is free from enzymes, artificial whiteners and other powerful chemicals which are designed to give us a 'whiter than white' wash. This is a very important factor — strong washing agents will not only have a harmful effect on the wool but very often they are capable of 'moving' the dye and causing the colours to run. A great deal has been written about the washing of wool and this in turn has made many people afraid of it. There is no need to be. Wash it with something gentle, rinse thoroughly in lukewarm water and then give it a quick brief spin in the spin-dryer. If the surplus water is removed there is far less chance that it will lose its shape. Lightweight garments can even be put on a hanger after spinning and will show no ill effects. If you do this, fold the sleeves back over the shoulders. This will decrease the amount of pull on the ends of the hanger and avoid those two ugly little shoulder marks when the garment is dry. If the garment is a little too heavy to hang safely, put it on a towel over the edge of the bath or any other suitable place. There is a big don't and that is — do not put the garment in a hot cupboard. This will more than likely cause it to dry streaky and it will not be possible to wear it again. White knitwear should never be dried in full sunlight — this will turn the wool yellow.

Pressing

Use a fairly hot iron and a damp cloth.

Shetland wool

This is the name given to wool from sheep inhabiting the Orkney and Shetland Islands. The wool is a speciality type and is short-stapled but soft to handle. It is not graded into specific types but remains under its own description.

For handknitting purposes this wool is sold in a soft, fluffy, lightweight ball. The machine knitter is faced with something very different. Shetland wool is spun in oil. For the handknitting market this oil is removed before balling. When cone-wound the oil is usually left in.

The oil completely changes the wool giving it a hard stringy texture. Frequently a knitter using coned Shetland is unaware of this and uses it in the same way as other wools. The result is a hard, unattractive garment when knitted and one which will probably be too small when washed.

Even on the domestic machine Shetland wool must be used in the same way as it is traditionally used in the Islands of its origin.

To begin with, a stitch size which would be considered normal for a particular thickness of wool must not be used. It must always be a larger stitch size which will give the knitting a very open texture with loose, open stitches.

At some stage — either before or after making up — the garment must be washed to remove the oil. This will require an adequate amount of detergent and the garment does not need such gentle treatment as other wools, as long as it is squeezed and not rubbed. The aim must be to remove the oil. Once the wool is free from oil it expands and fluffs out. This expansion of the wool reduces the space between the individual stitches, giving the traditional soft, lightweight texture.

When a garment is to be knitted the first step is to ascertain the thickness of the wool. Coned Shetland usually comes in counts of 2/8s and 2/16s, which are approximately 4-ply and 2-ply respectively. For a tension swatch the 4-plys should be knitted on stitch size 7–8 for plain knitting and 2-plys on stitch size 5–6.

When the swatch is knitted it must be washed and pressed before measuring. Use washing-up liquid for this. Leave to dry, press and then measure. At the same time the texture should be examined to decide whether it will be satisfactory.

Lambswool

This is the very soft clip from lambs up to six months old. This is also spun in oil and should be treated in exactly the same way as Shetland.

Other wools

Mohair

This is the fibre of the Angora goat and is produced in Turkey, South Africa and the United States (Texas is the largest producer). The goats are sheared twice a year. Mohair is one of the most resilient fibres and has none of the crimp found in sheep's wool, giving it a silk-like lustre and smooth surface.

Cashmere

Comes from a small goat raised in Kashmir, China, Tibet and Mongolia. The hair is combed by hand from the animal in the moulting season. Only a small part of the fleece is the fine fibre. The demand is greater than the supply and it is expensive. Being exceptionally soft and lightweight, garments require much less yarn than for other fibres. When cone-wound this is as unattractive as Shetland and Lambswool since it is also spun in oil. Traditionally it is knitted on an extremely large stitch size; in fact the garment pieces look more like net than knitting. After seaming the garments are washed and the surface is brushed up on a tease machine. The result is a fine, lightweight but very warm garment, costing considerably more than the standard knitwear.

Camel Hair

The two-humped camel of North-west China provides downy undercoat fibres which are spun into soft fine yarn. Usually the yarn available to knitters is a mixture of camel hair and a fine quality wool.

Llama and Alpaca

These are domesticated animals of the South American branch of the camel family. The fibre is 8–12 inches long and is noted for its softness, fineness and lustre. The natural colours are white, light fawn, light brown, dark brown, grey and black.

Angora

This is the hair of the Angora rabbit which is bred in France and in small numbers in the United States

Spinning — Plies

Newly-spun yarn is a single ply and is usually referred to as single fold. When two of these single

yarns are twisted together the result is known as a 2-ply yarn in handknitting and a 2-fold yarn in industry when referring to coned yarns.

Yarn Twist

The amount of twist which is put into a yarn has a direct bearing on the cost of the finished product; the higher the rate of twist the less fabric it will produce. This is why the handknitter who uses Crepe finds that 2-3 extra balls are needed for each garment. Low-twist yarns are particularly economical to knit, but care should be taken to avoid a too loose texture or the fabric will lack 'body'. Single yarns are twisted on special machines and there are two methods, known as the S-twist and the Z-twist (see diagram). The amount of twist put into a yarn varies with its intended use.

Yarn Thickness

In handknitting the thickness of the yarn is very approximately indicated by the number of plies, e.g. 4-ply has a specific meaning for the knitter but it does not mean that all 4-plyes are the same thickness. They vary considerably according to the type of yarn and the degree of twist. In the knitwear industry (and for those who use coned yarns) the thickness is indicated by the word 'count' instead of ply. The yarn count is based on the length of yarn which is obtained from a given weight. Therefore the finer the yarn the greater the number of yards/metres will be obtained from a specific weight — so the higher the count. When labelling, the number which indicates the number of plies twisted together is written first so, if the yarn is 2-fold, the number will start with 2. Next the yarn thickness will be indicated by the count number but it will be separated by a stroke or line, e.g. 2/8 = 2-fold or 2-ply yarn/count number 8. If the yarn is 3-fold (3 plies twisted together) it will appear as 3/8.

The number indicating the ply or folds will vary according to the number of plies twisted together. The number indicating the count will vary according to the yarn thickness. The larger the count number the finer the yarn, so 2/20 would be considerably finer than 2/8.

Using the Finer Yarns

These can only be used singly on fine gauge machines, but if a heavier texture is required there is no reason why more than one strand (or 'end') cannot be set up on the machine. Very simply — if two strands of 2-ply weight are put through the yarn tensioner together the result will be 4-ply fabric. Or if three strands of a 1-ply weight are fed into a machine the result will be a 3-ply weight.

There is a huge range of count and denier numbers in industrial yarns but only a limited range are suitable for domestic machines, the finest being 2/32s. Knitting with several 'ends' is usually termed knitting 2, 3 or 4-fold.

This method of working presents few problems to the home-knitter and has the important advantage of considerably reducing the garment cost as well as being able to work from a continuous length of yarn. Waxing and re-winding are unnecessary as coned yarns are intended for high-speed knitting. Balled yarns also increase the work of making up — 16 balls means 32 ends to be sewn in.

Frequently knitters forget that when knitting it is not weight but length that they are using. When buying any yarn the important thing to consider is not how many balls or cones are being purchased for a certain sum of money, but how many yards or metres. Always it is length and cost, not weight and cost. This is where the cheaper yarns very often show up as a poor bargain. The cheaper one is usually heavier and therefore there are fewer yards on a ball.

Synthetics — Man-made Fibres

In the '20's an American chemical firm (du Pont) gave a research firm the freedom to study any problem of their own choice. They decided to investigate how rubber, plastics and fibres with long chain molecules were made. In 1930, quite by chance, they discovered that when a glass rod was withdrawn from a molten liquid the result was a fine, lustrous fibre which would stretch and

bend without breaking. In 1938 chemists, physicists and textile experts produced the first synthetic fibre called 'nylon'. By January 1941 Britain was able to manufacture nylon for parachutes. This was the beginning of the enormous expansion in the use of synthetic fibres after World War 2. Soon we were able to see a world-wide industry producing fibres which reduced our chores but added to our confusion.

Pure nylon yarn is not a wholly satisfactory material for machine knitting. It is the one synthetic fibre which can frequently jam the carriage and perhaps eventually cause machine damage. The individual filaments are so strong that the slightest split in a stitch during knitting will make the carriage impossible to move. It's best use is as a blend. When blended with wool the result is a yarn which is soft and hardwearing. Use damp pressing methods.

Nylon has some interesting specialised uses, one of which is Velcro, a tape fastener composed of two parts that operate on the basic hook and loop principle. One part is a strip of tiny nylon hooks, the other a plushy, loopy pile. When the two parts are pushed together the hooks fasten to the loops. They separate easily when the strips are pulled apart. The name 'Velcro' comes from the words 'velour' and 'crochet'.

This is a type of fastening which has not been as popular as perhaps it should have been. It has many speciality uses and can certainly save a lot of work for both dressmakers and knitters. It is a wonderful substitute for zips and buttons on openings where a decorative type of fastening is unnecessary (skirts, trousers, children's garments, sportswear etc.). The strips can quite easily be attached with a sewing machine — even on knitwear.

Classification of Synthetics

Man-made fibres are now available in such a large range of types and blends that it would be too complicated to deal with them in detail. For the knitter, a brief look at the main groups and their production should give enough information for them to be used to advantage.

The chemical process used is called 'polymerisation', the fibres produced being divided into categories according to their chemical nature. The three most important are:—

- Polyamides — Nylon, Perlon, Celon.
- Polyesters — Terylene, Dacron, Tetoron.
- Polyacrylic — Orlon, Acrilan, Courtelle, Exlan.

The perfect yarn or fibre does not exist. All have their good and bad points, so the choice of yarn should always be directly related to the garment required and its possible use.

Although garments made from synthetic fibres will withstand hard wear, washing machines and spindryers, they do have their disadvantages. Loss of shape is one, pilling is another. Perhaps the most irritating problem for women is the static electricity which develops in a dry atmosphere and which causes garments to crackle and cling to the body. A great deal of scientific work has been in progress for some time now and it does look as though the supply of anti-stat yarns is increasing.

What is a Synthetic Fibre?

Synthetic fibres are made by putting together simple chemical elements (monomers) to make a complex chemical compound (polymers). The fibres differ in the elements used, the way they are put together as polymers and the method used for spinning.

The liquid chemicals are extruded through a spinneret (see diagram) in a spaghetti-like form. Each hole in the spinneret forms one fibre. These fibres are cooled and eventually spun into yarn. This is an over-simplification as there are many highly technical processes involved but the point which is of most interest to the knitter is the bulking of the yarn which is to be used for knitting purposes.

Repeatedly knitters refer to synthetics as 'wool' and unfortunately they often treat them as such by applying heat or steam or both. The result is that they 'kill' or flatten the fibre. This in turn gives a fabric which feels lifeless and is considerably larger in size than it was before pressing.

When the chemical fibres are first produced they are in the form of hairlike filaments. Eventually they are heat-processed to give the soft, bulky yarn with which we are all familiar. There are various methods which are used to bulk and crimp the yarn and it is vital for the knitter to remember that whatever the process used, these yarns are all susceptible to heat and steam.

All synthetic fibres which are used for knitting must be ironed at a low temperature setting, using a dry cloth and working on the wrong side of the fabric. Excessive heat or a damp cloth should never be applied to synthetic 'continuous-filament' yarns since these have been treated to form heat-set loops, crimps or twists which confer high bulk and elasticity.

Synthetic Fibre Uses

All children's wear since garments can be machine-washed and given a brief spin.
All garments for the upper part of the body.

For the lower portion of the body (trousers, skirts, dresses) they should be used with caution. Synthetics lack the shape retention qualities of natural fibres and are more inclined to 'seat' or 'bag' at the knees. There are now many blends of natural and synthetic fibres and these give better shape-retention qualities to stress garments.

Yarn Thickness

Coned synthetics also have a ply and count number. It is not possible to say exactly which counts are equivalent to particular handknitting yarns. This will depend upon the type of yarn, the degree of twist and the amount of bulk. The following information is intended as a rough guide and more positive results can only be obtained by knitting a swatch in plain knitting. For example, if you feel that a certain yarn combination should be a 3-ply equivalent, knit a swatch on stitch sizes 5, 5½, and 5¾ and if the yarn produces 8 stitches per inch on any of these tensions, it can be used as a 3-ply. If 8 stitches are produced on the lowest setting it will be a soft 3-ply; if the larger stitch sizes are required it will be a full 3-ply.

Test a possibly 4-ply in the same way, using stitch sizes 6-7.

Yarn Counts in Relation to Handknitting Yarns

Three-fold yarns such as 3/8s, 3/17s etc. are all fairly thick and are in or approaching a Double Knitting thickness.

2/8s used singly should give 4-ply

2/16s used singly should give 2-ply

2/16s used 2-fold (2 strands) should give a 4-ply

2/20s used 2-fold (2 strands) should give a 4-ply

2/24s used 2-fold (2 strands) should give a 3-ply

2/28s used 3-fold (3 strands) should give 3- or 4-ply depending on yarn construction

2/30s - 2/32s is approximately 1-ply and can be used 2-, 3- or 4-fold to give the equivalent ply.

Yarns from 2/32s - 2/36s would need an extra strand to give the equivalent ply. (3-ply would need 4 strands).

By using yarns within the count range given here the majority of the Continental yarns used in the Passap Model Books can be duplicated. It is merely a matter of estimating the approximate thickness of the given sample and then trying a piece on the machine using the number of strands you think will be required.

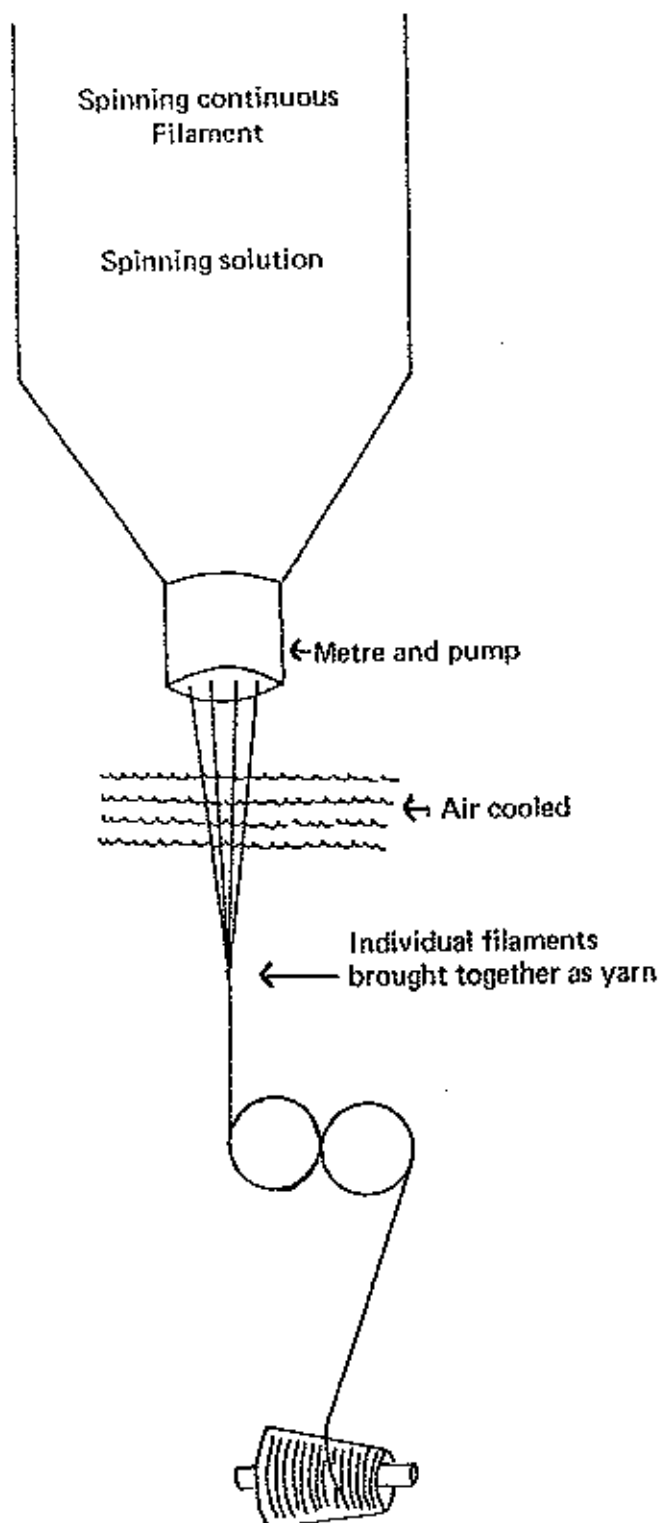
Knitters should always be aware of the fact that the type of yarn used can completely change the appearance of a particular stitch. In fact, very often the same stitch knitted in two different yarns is almost unrecognisable. This is due mainly to the different type of twist in the yarns which affects the shape into which the stitches fall. All kinds of fancy yarns can be knitted on the Duo such as Bouclé, Knop, Mohair, Lurex. Often a little weight is needed to help clear the stitches, but the Duo is very good-tempered when faced with 'lumpy' yarns.

SYNTHETIC FIBRE SPINNING

Filament Fibre Spinning

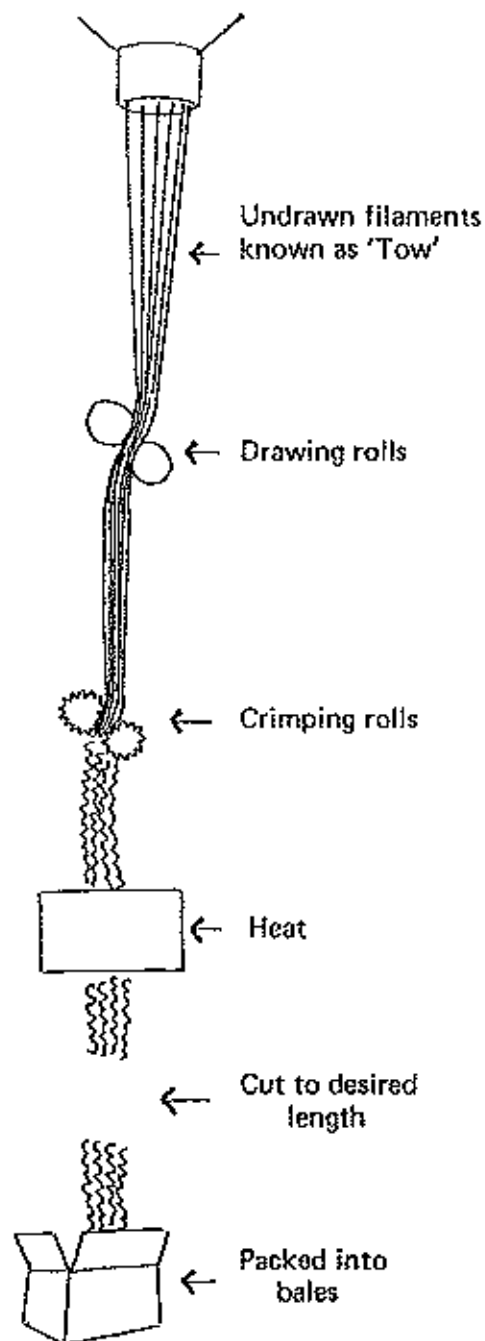
The hot, syrupy solution is pumped through the spinneret. It emerges in strands which can be stretched. The size of the fibre is determined by the size of the holes and the speed at which the fibre is withdrawn from the spinneret.

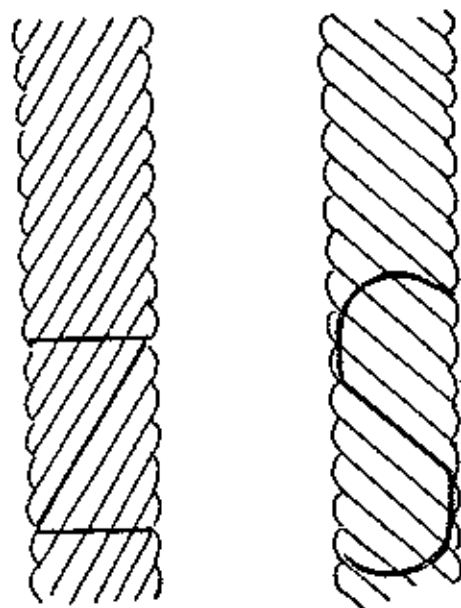
The same solution is used for either filament or staple. The fibres are cooled by air being blown across them. Filament fibres can be drawn (stretched) 4–5 times their original length. The fibres are then heat-set and rewound on to cones, etc.



Staple Spinning

This is a continuous process whereby the filaments are drawn, crimped and heat-set. The resulting yarn is then cut into staple (short lengths) and packed into bales ready for spinning into yarn.

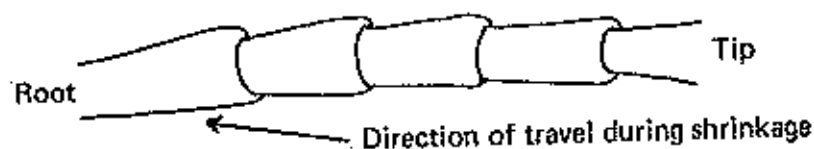




S- and Z-twists

YARN TWIST

The direction of twist is known as S-twist and Z-twist. A yarn has S-twist if, when held in a vertical position, the spirals conform to the direction of slope of the central portion of the letter 'S'. It is called Z-twist if the direction of spirals conforms to the central portion of the letter 'Z'. Z-twist is the standard twist used for weaving yarns.

ENLARGED DIAGRAM OF WOOL FIBRE

YARNS FOR THE DUOMATIC

Many people encounter great difficulty once they try to knit on both beds of their Duomatic, usually because they have very little knowledge of what is required for this type of knitting. Duomatic knitting is semi-industrial with all the advantages of a high-quality small industrial machine. The knitter who thinks in terms of 4-ply handknitting wool only is not going to get very far on this type of machine. Having progressed as far as the Duo, it is worth moving on a little further and leaving the handknitting world completely behind. This machine is capable of the highest possible standard of knitting in its class but if the wrong materials are used it is a constant source of frustration. It is vital to understand the basic construction of the stitches to be used and it is equally important to use the correct yarn to produce them. Stitch problems are dealt with in the sections on the pattern mechanism, so at this point it is better to consider materials only.

Few of the yarns left in the handknitting world are much use, except for single-bed work. As handknitters become fewer and those that are left get more and more pressed for time, the demand for finer yarns decreases — so the spinners stop producing it. Most wool shops have the bulk of their stock in double-knitting, with an ever-diminishing stock of 4-ply. Unless you are intending to knit for the ski-slopes, anything thicker than 3-ply is out, except for stocking stitch. Most of the fancy stitches on the Duo are produced by setting the pattern on the front bed while the back bed is set to N and continues to knit a plain ribbed backing for your pattern. For this type of work the thickest yarn needed is 3-ply and for a large number of the patterns 2-ply is the perfect answer. Many beautiful stitches are possible on this machine but they end up far from beautiful when knitted in heavy yarns. The holes are filled with dense lumps, racking patterns are tight and hard and — that most exasperating thing — the carriage keeps jamming.

To select the correct yarn it is necessary to consider the construction of the stitch which is to be knitted, the type of needle set-up and the stitch size which will produce the correct texture.

The main section of patterning which is likely to give difficulty is AX, not because it is difficult but because knitters are unable to understand the stitch itself. On this setting selected needles will be collecting loops. This is adding bulk as well as pattern to the knitting. On a K/K setting the stitches are close together so there is a limited amount of space for the loops on the needles. This is the time to think in terms of finer yarns. Two or three-ply will give no difficulty but four-ply is often hard work and could produce a hard fabric.

Having arrived at this point whether to use 2- or 3-ply is decided by the number of rows which are knitted on AX in each pattern sequence. 3-ply will knit up to 4 rows on AX before the loops are knitted off but, unless the yarn is low-twist and very soft, the work will be thick and stiff. A 2-ply yarn is much more versatile and can be used to knit 2, 4 or 6 rows on Tuck patterns.

Tension (stitch size) for K/K AX Patterns

For a 3-ply yarn the s.s. should be between 3 and 4. Use Pink strippers.

For a 2-ply yarn the s.s. should be between 2 and 3, depending on the number of loops the needles are holding on each pattern sequence. Use Pink strippers.

4-ply yarn will give very satisfactory results if a 2-row AX pattern is used on a 1x1 needle set-up. In fact, 4-ply yarn can be knitted to most stitch patterns with reasonably wide needle spacing. The extra space between the needles will give a looser texture, so the s.s. will only need to be very slightly larger than the one used for 3-ply on a K/K setting. Use Blue strippers.

Double-knitting will knit AX patterns on a wide needle setting, providing the yarn is soft and Blue strippers are used. Although too thick for ordinary wear, double-knitting will produce very attractive 'thick knits' but the cost of the finished product should be considered.

This is no more than a guide for the type of stitch patterns you are likely to try in the early stages.

As you progress you will realise that a stitch pattern using 3-ply yarn and a K/K setting can be

knitted with ease if the needle spacing is changed.

Example — 4-row Tuck pattern — Honeycomb stitch

1) K/K setting

```

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
p p p p p p p p
p p p p p p p

```

Racking Handle Down
Back Bed on N throughout
Front Bed on AX

Pattern:

2rs AXO

2rs AX ←

With certain types of 3-ply this may be difficult to knit. Exactly the same pattern can be achieved on a 1x1 setting as follows:—

```

1 . 1 . 1 . 1 . 1 . 1 . 1 . 1 .
1 . 1 . 1 . 1 . 1 . 1 . 1 . 1 .
p p p p p p
p p p p

```

Racking Handle Up

Knit as for Diagram 1

When the pattern requires an AX setting on both beds, never attempt to use anything heavier than a 2-ply yarn.

The BX setting, which can be used for Fair Isle or plain fabric knitting, also requires 2-ply for a garment of medium weight. Heavier yarns can be knitted but the garment will be very thick.

Most of the problems which occur in double-bed knitting can be traced to an unsuitable yarn thickness/stitch pattern combination.

In some countries fine yarn is very difficult to obtain and there may be no alternative but to use handknitting yarns. Always remember that these are spun with a much higher degree of twist and they do not machine-knit anything like so easily as the yarns used in industry.

TENSION MAST

Almost a whole page is devoted to this in the Instruction Book, but few knitters seem to understand how it works. The tension wire operates a 'take-up' mechanism which is simple and effective when properly set. When a row has been knitted there is a length of yarn about 6" (15 cms) long, stretching from the edge of the knitting to the black eyelet feeder on the lock. When the lock is moved towards the knitting for the next row, this length of yarn must be pulled up out of the way otherwise there will be loops of loose yarn at the edge of the knitting. If the lock is moved slowly the overhead wire is seen to move upwards and so pull up the spare yarn. The pulling strength of the wire can be increased (or decreased) in relation to the thickness (and consequently the weight) of the yarn being knitted. A soft, lightweight yarn will require very little pull whereas a double knitting wool, being heavier, will require much more.

The strength of the wire is controlled by the notched disc at the base of the spring which is numbered 1-10, No. 1 being the minimum strength and No. 10 the maximum. 'Rule of thumb' method for setting this is to move it back one hole from the front for every ply being used, so that for 3-ply it is in the 3rd hole, and for 4-ply it is in the 4th, etc. This may not always be exactly right, but it is so close that if a further adjustment is needed, it is never by more than one hole either way.

Beginner knitters who are in difficulty often spend considerable time adjusting this setting in the mistaken hope that it will correct the problem. The reverse is usually the case, and they end up with the original problem plus a tension arm incorrectly set. When learning, set the arm according to the settings already given; try the stitch, and if a problem arises, do not alter the tension unless you are certain that this is the cause of the trouble. Looping and dropped end-stitches are not always caused by wrong settings on the machine. They are frequently caused through lack of rhythmic movement by the operator. As the lock is moved across to knit a new row, the tension wire rises at a particular speed and when correctly set, the speed remains roughly the same regardless of the type of knitting on the machine.

The upward movement of the wire and the movement of the lock towards the row operate on a basis of instinctive co-ordination with experienced knitters. They are almost unaware that they are working in a complete harmony of timing with the various parts of the machine. New knitters who have not got the feel of the machine often work with irregular rhythm, and are inclined to almost slam the lock at the first few stitches at the beginning of a row. The tension arm is not able to cope with this, it does not pull up the slack wool in time, and dropped stitches result.

Tension Discs

These function in exactly the same way as the tension control discs for the cotton on a sewing machine. Set approximately as follows:—

5½ for 2-ply
5 for 3-ply
4 for 4-ply

Resist the temptation to make unnecessary adjustments.

TENSION SWATCHES AND TEXTURE

A tension swatch is a test piece of knitting (e.g. 100sts by 100rs) to show what texture and what length and breadth will be produced by a particular wool knitted at a given tension or stitch size. It is nearly always necessary to knit a test square to ensure that the garment to be knitted will be the correct size. This is because yarns give such a variety of results according to their quality and thickness.

The majority of machine knitters find themselves floundering when they start on tension swatches. They have the feeling that there are no safe rules which can be followed, no general guidelines which can help them in the right direction.

This is not the fault of machine knitting, it is lack of general knowledge connected with any form of knitting. This leads a knitter to waste a great deal of time trying quite useless procedures simply through lack of the correct information.

At first it is necessary to understand what can be expected when knitting stocking stitch. This will help considerably before knitting is started.

There are standard results from varying thicknesses (plys) of yarn. These work out with approximately the same results whether using an industrial machine, a domestic machine or a pair of knitting needles. The aim of all knitting is to draw a new loop of wool through an existing stitch. If too much is drawn through when the yarn is fine (too large a stitch) then there will be too much open space in the centre of this stitch and all the others as the knitting proceeds. The result will be loose, sloppy and lacking the correct texture. If too little yarn is drawn through a stitch on a thicker yarn then the result will be the reverse and the knitting will be hard and stiff.

The whole art of stitch size lies in drawing the correct amount of yarn through (setting the appropriate stitch size) for each different yarn thickness. No knitter has to work this out without any assistance. The guidelines for this have been in existence for a very long time and the experienced knitter knows how many stitches and rows to 1" (2.5 cms) a certain yarn thickness can be expected to produce, while at the same time maintaining an acceptable texture.

- (a) 2-ply should be knitted on a stitch size which will give approximately 9sts and 12–13 rows per 1" or 2.5 cms.
- (b) 3-ply: 8sts and 11–12 rows per 1" or 2.5 cms
- (c) 4-ply: 7–7½sts and 10–11 rows per 1" or 2.5 cms
- (d) Double knitting: 5½–6sts and 7–8 rows per 1" or 2.5 cms

Remember that the number of stitches and rows depends on the size of the loop which is made. The larger the loop the less stitches and rows will be needed to make a square 1" x 1" (2.5 x 2.5 cms).

If when reading a pattern the yarn ply is not indicated (either being referred to under a particular brand name or as 'medium', 'fine' etc.) all that is necessary is to study the tension/texture information. The clue may be in the rows and stitches as given here or there may be the measurement of a 100st/100 row swatch.

- (e) For 2-ply the swatch, if knitted in stocking stitch, would measure something like

11–11½" (28–29 cms)	for 100sts
7½" (19 cms)	for 100 rows

- (f) 3-ply: About 12½" (32 cms) for 100sts
- 8–9" (20.5–23 cms) for 100 rows

(g) 4-ply:	About	13½–14" (34–35.5 cms)	for 100sts
		9–10" (23–25.5 cms)	for 100 rows
(h) D.K:	About	17–17½" (43–44.5 cms)	for 100sts
		12½–14" (32–35.5 cms)	for 100 rows

Having noted the swatch look at the stitch size which was used. Usually it is safe to assume that if stitch size 4–4½ was used the yarn should be about 2-ply.

5–5½	3-ply
5½–6	4-ply
6½–7	D.K.

These are the guidelines: there are many variations due to the fact that there are so many different yarns. Although in handknitting yarns there only seems to be a few different plys, this is completely misleading. A large number of completely different yarns are lumped together under the heading of a certain ply. A 4-ply Botany will knit quite differently from a 4-ply Crepe which has been spun with extra twist to prevent 'pilling' and will need a slightly larger stitch size, otherwise the knitting will be hard. This of course will give a completely different number of stitches and rows. Take a slightly different material from the one used in the original pattern and the tension swatch often makes no sense at all.

This quickly gives the feeling that the odds against success are too great. If the problems are not understood this is so and knitting becomes very 'hit or miss'. If they are understood properly the knitter is halfway there and time will not be wasted attempting to achieve a tension which is hopeless.

This is not meant to imply that by not using the original yarn failure is certain. It is simply an effort to make clear what can be involved. Whenever possible the construction of the yarn should be compared with that which has been used on the pattern, i.e. the original may have been 4-ply Botany which is spun from a very soft, high-grade Merino wool. When looking for an equivalent try to use a similar soft texture such as 1-ply Industrial Botany used 4-fold, or 2-ply Lambswool, or 2-ply Botany used 2-fold.

Those who are regular users of coned industrial yarns also have problems but there is more opportunity for adjustment when fine yarns are being used. If, for example, a fine yarn is to be used for a pattern and the swatch refuses to come out to size, the problem is often solved by adding (or removing) a strand so that the thickness of the yarn can be adjusted. On this type of yarn it is also possible to mix your materials — a 2-ply and a 1-ply can be used together, or a strand of fine Botany can be used with Shetland or Lambswool. All kinds of mixtures are possible but thought must be given to what you mix. For instance, there is little point in mixing a yarn which needs pressing with one which can only take the minimum of heat.

Always try to assess the amount of 'body' needed in the required yarn. Compare the lack of body in a 4-ply Baby Courtelle to 4-ply Courtelle Crepe. Both are classed as 4-ply but knit and feel totally different. Very often a man-made fibre will not knit the same number of rows to the inch (2.5 cms) as wool. The reason for this is that Courtelle, Orlon and other Acrylics have been artificially bulked to make them soft and light. This has a tendency to push the work out sideways and when pulled the stitches remain slightly pushed out, making the swatch wider and shorter. Sometimes the answer is to increase the stitch size slightly, as stitches which are a little looser are more easily pulled into the correct shape. Remember that the number of stitches and rows is not only dependent on the stitch size and ply yarn. The amount of twist put into the yarn during spinning can completely change the size and shape of the stitch.

Experienced knitters amass a great deal of this kind of knowledge and react instinctively to things they know will not be successful, without attempting to try them on the machine. It is this lack of information on yarn construction and the possible number of stitches and rows which it is likely to produce that makes the beginner despair. It is a simple matter for anyone to produce an unsuccessful tension swatch but real progress is made when the knitter understands why it is unsuccessful. At that point there is a very good chance that a solution can be found.

The word tension must never be separated from texture. The two go together with every piece of knitting that is carried out. To achieve the correct number of stitches and rows at the expense of the texture is useless. What is the point of a garment which almost stands up by itself? Or one that is so limp it is likely to stretch in all directions? When knitting a tension swatch do not knit a depressing pile of little bits. Work to a system and if possible make sure that the swatch is cast on once only. Better to knit one really long piece which can be measured properly and then pulled back and re-used.

If the pattern gives a stitch size, cast on and set machine $\frac{1}{2}$ a number lower, knit the rows, place a marker thread in one of the end needles, increase stitch size by $\frac{1}{2}$ and knit again, insert marker thread and re-set machine to tension on pattern. Repeat until $\frac{1}{2}$ a number higher than pattern has been used. Insert marker and knit a few more rows. Remove from machine. Give the work a good pull lengthways and leave it to relax for about an hour. There are 5 tension swatches on this piece and if the size required is not there, abandon this particular wool/pattern combination — there is no more to be done. Any further attempts should only be made if some other possibility can be seen, such as a different yarn combination.

By taking the stitch size 2 points up or down in either direction the existing yarn and texture have been tested as far as is reasonable and without very good reason further experiments should not be tried. On a fairly straightforward stitch pattern, 50 rows on each stitch size would be suitable if knitted all on one piece. This method may seem to be a great deal of knitting for one tension swatch, but it is far less trouble than repeatedly casting on, particularly if stitch transfer for the pattern is involved.

After this kind of test, if there still seems to be any possibility of success, be careful! Further stitch size changes could now lead to loss of texture. Every machine knits a slightly different stitch size so there is no need to feel apprehensive about making reasonable stitch size adjustments to obtain the required tension, as loss of texture only comes when a certain point is reached and as far as stitch size is concerned there is always a certain amount of flexibility.

There are also the odd occasions when a yarn which is completely different from the original will yield a correct tension square by being set on a stitch size one whole number higher or lower. This piece of information is not meant to confuse but only to indicate that time and experience are a great asset when the problem appears to be insuperable.

When knitting swatches for stocking stitch, 50 stitches will be sufficient. Always measure on the wrong side, as it is easier to prevent the piece rolling back on itself. If the yarn is known to shrink slightly in washing, then wash the test piece. When using very soft Botany, Lambswool or Shetland, wash this test piece too. The knitting is inclined to close as the oil is removed and the wool expands. Once washed there will be a positive guide to the stitch size you will need. For washing purposes a drop of washing-up liquid will do the job very efficiently.

The test piece is often better for pressing if it is not a rib pattern and this does give a little clearer measurement. These points need to be decided with each garment and it is fairly easy to tell whether any particular method would give a more accurate test piece.

Once fancy stitch patterns are commenced all the foregoing information appears to be useless. Tuck and slip stitches requiring far more rows per 1" (2.5 cms) and tuck stitch particularly needing fewer stitches to produce the width. Even these are not as bad as they seem and have been referred to in other parts of this book. Bear in mind that the stitch size for double bed knitting will always be smaller than for single bed. The structure of the stitches is always looser, due to the yarn going backwards and forwards between the two beds. This means that usually a yarn which is knitted on stitch size 5 for single bed work would more than likely be knitted on 3–3½ for a double bed stitch pattern.

Should a pattern state that a certain number of stitches and rows equal 1" (2.5 cms) multiply each figure by 6. Cast on 6 times the given number of stitches and knit 6 times the given number of rows. Knit a few waste rows and remove from the machine, pull, press or wash as required and then measure. The square should measure 6" x 6" (15 x 15 cms) if the stitch size is correct. Never under any circumstances attempt to count the number of rows and stitches, because the small errors

which can be made in counting and the possibility of part stitches can produce a large error when multiplied up to the full size.

Many patterns give the number of stitches and rows which equal a 4" (10 cm) square. This can be tested on this number of stitches and rows but it is rather small for complete accuracy. Better to take the figures given plus half the number again and then knit what should be equal to a 6" x 6" (15 x 15 cm) square. If the figures are difficult to split and would involve ½ stitches or rows, then just double the figures given and knit a square 8" x 8" (20.5 x 20.5 cm). Make a point of ignoring any system which involves counting. No matter what information is required there is always another way.

Any test pieces which are not connected with a particular pattern, i.e. own designs, can be measured and if it is necessary to know the stitches and rows per 1" (2.5 cms) the information is readily available on the Passap Ready Reckoner Chart.

Last, but most significant of all because the knitting is stretched sideways while on the machine, the stitches do not have their correct oval shape but are stretched sideways. If the tension swatch is not pulled quite hard lengthways when taken from the machine the stitches will remain distorted sideways and every piece will appear to be correct on the width and short on the length. This will give a totally wrong estimate and lead to many frustrating attempts. When the knitting has been pulled correctly it will probably show that it is a little undersize in both directions and a slightly larger stitch size is the solution.

MACHINE MAINTENANCE

Most knitters oil their machines, but far too few take the trouble to remove the old oil before applying new. Fresh oil on a clean surface needs no explanation – it will take the hard work out of anything. Old oil, or oil which has been in contact with hair and fluff is another matter. Oil hardens over a period of time and often makes a machine harder to use than no oil at all. Mixed with other soft fibrous matter it becomes felt and clogs. All double-bed machines require a little more physical energy when knitting than single-beds. It would seem well worth 5–10 minutes spent on a regular clean and brush-up, with a major clean every few months.

To give the machine a brush out and apply oil is very slowly to take the path to trouble. As much fluff as possible should be removed and then the oil and grease. This is quick, simple and rewarding. A clean 1" household paintbrush and a bottle of surgical spirit, which is cheap and can be obtained from any chemist, are all that is needed. The spirit can be applied liberally to any part of the machine, including all the plastic parts. It will remove the old grease and dirt which is accessible. As it dries off a wipe with a clean duster may be needed. Only when this has been done has the time arrived to apply oil. This should be applied moderately with a brush and not dripped from a can. Passap oil is easy to obtain and it is always safer to use the correct lubrication.

The Instruction Book states how a needle should be changed, but it does not mention why the head of a badly damaged needle should be removed before changing. Underneath the bar which is fixed across the needles is a long thin spiral spring, rather like the inside of an expanding curtain wire. This wire is under the bar but across the top of the needles. It is the brake spring and it is this which keeps the needles steady when they are pushed into a particular position. If a badly bent needle is pulled out from under the bar it will more than likely pull a couple of spirals of the spring with it. A new brake spring has then to be fitted.

No matter how clean your home may be, the dust which collects on your furniture will tell you how much is collecting on your machine if left uncovered. A fabric cover is no use, the dust will go through. Either buy the Passap cover which is made for the job or, failing that, cover with a sheet of plastic or polythene which is large enough to protect all working parts.

NOTE:

When cleaning and oiling, exclude the gear which is behind the black eyelet mechanism (except on the older type machines). This is self-oiled and only requires brushing out.

CAST-ON FOR K/K, 1x1, 2x2 RIBS, TUBULAR HEM AND HEM FOR SINGLE BED KNITTING

If you are just learning, do not make the mistake of trying to economise by using poor materials. That cheap ball of yarn left over from your handknitting days will probably give you more trouble than learning a new machine. You will require soft, good quality yarn (not Nylon which tends to split and jam the machine, since the individual fibres will not 'give'). Whatever yarn you are using needs to be properly wound. New knitters spend hours looking for a fault on the needle bed when all that is needed is attention to the yarn flow. As you gain experience you will come to realise that those two words are of vital importance in machine knitting. Nothing will ever go right if there is any kind of hitch in the supply of yarn to the needles.

As you will most likely be using handknitting yarn, it will have to be rewound on the winder you purchased with the machine. Do not take the outside end of the ball for this -- find the one which is in the centre. This will eliminate the problem of the ball rolling about but, more important, you will not be pulling on the weight of the ball which would produce additional tension and make the rewound ball very tight. When you have finished rewinding, take a good look at the balls you are to use. Are they soft and loose? If not, wind them again. Handknitting yarns are not intended for use on fast machinery. They are therefore not treated to give the maximum amount of 'slip' through the needles when knitting. Passap provide a wax disc with the machine and new ones can be purchased from your dealer. When rewinding balls, hold the disc in the palm of your hand and allow the yarn to run over it as you are winding. The yarn fibres will be smoothed down and the small quantity of wax adhering to the strand will make the knitting much easier.

No matter which type of stitch or needle set-up is to be used for the main part of the garment, there are only four types of stitch set-up which can be used when commencing to knit the garment. These are: K/K, 1x1, 2x2 and Tubular. The first two are easy to set up. 2x2 is extremely simple but causes a great deal of confusion. Generally speaking 2x2 rib is not set up in the form of 2 needles knitting and 2 out of work. The correct set-up is 2 needles working and 1 not working.

There are two methods of casting on, either one being satisfactory, but the second one is usually preferred.

1. Racking Cast-on. K/K setting (every needle Rib)

Push up the required number of needles on both beds, observing the needle rule. The racking handle should be down so that the needles will not collide head-on when coming up to knit. Pink strippers.

Both locks on N. Both tension dials set to 3.

Rack one complete turn to the left.

Knit the first row, which is called the zig-zag.

Rack one complete turn to the right and continue knitting.

2. Cast-on with Tubular Rows. K/K setting (every needle Rib)

Pink strippers. Both locks on N. Both tension dials on 1.

Push up the required number of needles but do not rack.

Knit the zig-zag row.

Both locks to CX. Both tension dials on 3.

Knit 2 rows.

Reset both locks to N and continue to knit, resetting tension as required.

This method gives a firm, neat edge, rather like knitting into the back of the stitch in handknitting.

Cast-on for 1x1 Rib (Every alternate needle rib)

Use the same methods but always work with the racking handle up and the needles evenly staggered on both beds.

The following points should be carefully noted:

When knitting K/K rib the stitches are closer together and this could be termed a fine gauge (more working needles per 1" (2.5 cms) of needle bed) and therefore stitch size 3-3½ will give a satisfactory texture on 3-ply yarn.

When knitting 1x1 rib there are fewer working needles per 1" (2.5 cms), which will produce a much looser stitch, therefore stitch size 2-2½ will give a satisfactory texture with 3-ply yarn. Edge springs should always be used when knitting ribs and the end stitches should be carefully watched for the first few rows. Until the machine gets enough rows knitted to provide sufficient stability to the work there will be times when the end stitches do not knit off cleanly. The result is a long, tightly drawn-up loop at the edge of the work. This is most likely to occur on fine, soft yarns.

Cast-on for 2 up, 1 down 2x2 Rib

Pink strippers. Racking handle down.

Push needles into working position on both beds in exactly the same way as for K/K. Starting from the right, push every 3rd needle on each bed into Non-Working position. Passap patterns always refer to the number of needles which are actually knitting. Therefore if a Passap pattern states 120 needles (which will be 60 on each bed) an extra third (making 90 on each bed) must be pushed up to start with, since every 3rd needle is going to be taken out of work. Do not rack the bed. Knit the zig-zag row on Tension 1. Knit the 2 CX rows on Tension 3. The cast-on is now complete. Rack one complete turn to the right. Reset to N on both locks and continue knitting. The present needle setting (after racking to the right) is correct for 2x2 rib but the cast-on rows cannot be executed with the needles set in this manner. Should any attempt be made to do so it will be found that the second stitch in each group of two will not lock and will continue to run up the work, producing a continuous ladder. This is common to all double bed knitting, even on industrial machines.

The stitch construction is a little tighter than the two other ribs. If the machine makes any kind of protest or if several stitches at the ends of the rows are not knitting properly, it is more than likely that a slightly larger stitch size is needed.

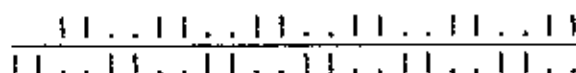
Cast-on for 2x2 Rib. (2 up, 2 down)

This is easy to knit and calculate as it is really only one bed of stitches divided between the two beds. Calculations are as for single bed knitting.

Racking handle up.

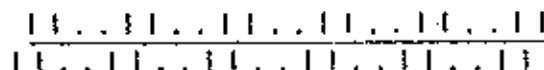
On Front bed put the total number of needles required into Working Position. Working from the right, take the first and every following alternate pair down to Non-Working position. Now put 2 needles into work on the Back Bed opposite every pair of empty needles.

Diagram 1.



Rack 1½ turns to the left. Racking handle is down.

Diagram 2



Knit cast-on row and 2 circular rows.

Rack 1½ turns to the right. Racking handle is up.

Continue knitting with needles set as Diagram 1.

Cast-on for Tubular Hems

Immediately the machine is set for Tubular with both locks set on CX you are going to be knitting

stocking stitch on both beds at once. This will be a tight stitch formation and stitch sizes for stocking stitch need to be understood. (See Section on Single Bed Knitting).

Cast-on for Tubular Hems

The stitch size required for a Tubular hem will probably be 5 or 6. It is not possible to knit the cast-on rows and then immediately set to either of these stitch sizes so use the following method:—

Cast on in the usual way on an 'every needle' setting. Knit the 2 CX rows on stitch size 3. Now knit 2 careful rows on stitch size 4. Change to Black strippers and stitch size 5. In other words, increase stitch size by one whole number every 2 rows until the required size is reached. Do not insert the Black strippers until 2 rows have been knitted on stitch size 4.

An alternative method is to knit 1 row on N after the CX rows. It is then possible to set to the maximum stitch size immediately.

A very attractive welt was used on Design No. 1664, Model Book No. 10. This is suitable for any garment to be knitted in stocking stitch, giving a far more interesting finish to the garment. It does not "pull in" too much so is suitable for garments with a slightly longer line. Work as follows:—

Knit 14rs Tubular on stitch size 5—6 (depending on yarn thickness).
Working from right to left, transfer every 3rd stitch on both beds to give 2 up, 1 down 2x2 rib set-up.
Rack the bed 1 position to right to give the correct 2x2 rib position.
Knit 20rs on stitch size suitable to yarn.
Push the empty in-between needles back into W.P. and rack bed back to the correct position for Tubular knitting.
Knit 14rs Tubular and transfer stitches from back to front bed.
Change strippers and stitch size and continue knitting in stocking stitch.

Hem for Single Bed Knitting

Locks on N. Pink strippers. Stitch size 1. Racking handle up.
Push required number of needles on front bed into W.P.
Take every alternate needle down into N.W.P.
Push every alternate needle into W.P. on back bed.
The machine is now set for 1x1 rib.
Knit 1 row.
Set back bed to GX and leave on this setting until hem rows have been knitted.
At front bring back into work all the empty in-between needles.
Stitch size 3. Knit 1 row.
Stitch size 4. Knit 1 row.
Reset to required stitch size. Change to Black strippers.
Knit the number of rows needed for hem, including the rows already knitted.
Transfer the stitches on back bed to front — hem complete.

SINGLE BED KNITTING

Before one word is said on the subject of single bed knitting, the question of suitable strippers needs to be made quite clear. **BLACK ALWAYS** and there is no exception to this rule. Most garments knitted in stocking stitch have a 1x1 ribbed welt (every alternate needle) which is knitted on a fine tension with Pink Strippers. When the required number of rows have been knitted the stitches on the back bed are transferred to the empty needles on the front bed and the main part of the garment can then be knitted.

The next point to be emphasised is that only stitch size 4 and upwards is suitable for knitting stocking stitch. No matter what the machine or yarn used, there must always be sufficient yarn to pull through a stitch and the stitch must be of sufficient size to allow the yarn to be pulled through. A tension smaller than 4 will not do either and after about 3 rows of knitting there are odd loops of yarn across the work and the carriage will jam. Should this happen (whatever the stitch size you have set on the machine) stop and check the wool flow, strippers, etc. If these are correct there is little doubt that you are using a stitch size too small for the thickness of the yarn being used. Usually stitch size 5-5½ is suitable for 3-ply and stitch size 6-6½ for 4-ply.

It is essential for even a beginner knitter to know how to cast on for single bed knitting directly, without first having to knit a piece of rib, for although a garment may have a ribbed welt a tension swatch should first be knitted before commencing the actual garment.

Single Bed Cast-on

Black Strippers Stitch size 4-4½
Back lock on GX
Front lock on BX
Both arrow keys on front lock pressed down
1 pusher under every working needle in '1 up 1 down' position

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  | | | | | | | | | |
  p p p p p p p
  p p p p p p

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Knit 4 careful rows

The cast on is now complete.
Put pushers into rest position and re-set front lock to N.

This type of cast-on is by no means tidy, but it is quite suitable for tension swatches and stitch practice. However, a direct single-bed cast-on is often required for such things as trouser hems, which are best turned up when the garment is finished. For this use some waste yarn to cast on and then knit about 6 rows of stocking stitch; last row on much larger stitch size. Join in the main yarn and commence the pattern. When the garment is finished, press first and then pull the thread in the last row of waste knitting and remove this piece from the main part. The open stitches can now be neatly sewn up to form a hem. Never remove the waste knitting before pressing the work to 'set' the stitches of the main part.

Hem for garment which is going to be knitted on one bed only

When a st.st. hem is required there are two methods: tubular and st.st., the correct one being selected by the type of knitting which is to follow for the main part of the garment. When the main garment parts are to be knitted in a stitch pattern using both beds a tubular hem is correct. This same hem could be used for single bed work, but it has a tendency to make the lower edge of the garment 'flare out'. This is caused by transferring all the stitches from the back to the front bed when the hem has been knitted. In dressmaking the aim with a hem is to catchstitch as invisibly as possible and to avoid a very obvious turn-up line. When possible the same principle should be applied to knitwear. On a hem this can be achieved by having fewer stitches on the back bed to bring over to the front. If only every alternate needle is used on the back bed, when the stitches are transferred there will be less bulk and the hem will close in neatly. See "Cast on for K/K, 1x1, 2x2 Ribs" etc.

CASTING OFF AND BINDING OFF WITH TAPESTRY NEEDLE

Before attempting to deal with the casting off on two beds it may be useful to look at the cast off on single bed work, as this seems to be a constantly recurring problem. The standard method is as follows:—

Using a single decker tool, transfer the first stitch to be cast off on to the next needle which is holding a stitch (same as single decrease). Before taking the tool off the needle hook pull the needle forward until the two stitches are behind the latch.

Now take the yarn across the needle between the hook and the latch.

Holding the butt of the needle, pull it down the needle bed until the yarn has been pulled through both stitches.

Repeat as required.

This is the method used by the majority of knitters but one very important point is missing — hooking up. However hard the knitter tries, a loose cast-off is difficult to achieve unless some method is used which will prevent tight stitches. When the first couple of stitches have been cast off, push the eyelet tool through the cast-off piece and hook it onto the nearest empty needle. Continue with casting off. The corner which is hooked up will act as a 'spacer' and prevent the cast-off stitches from tightening. If a long piece is to be cast off, hook up at intervals across the work. By using this method the cast-off stitches will be the same size as the knitting. When cast-off is complete, release the pieces which have been hooked up.

There is never any great need to fuss about casting off. It is rarely visible on the finished garment, so it only requires neatness and flexibility.

DOUBLE BED CAST-OFF (Armholes, Necks, Shoulders, etc.)

When a number of stitches are to be cast-off, transfer those from the back to the front with the bodkin supplied. The fact that there are already stitches on the front bed is not important. Assuming that there are now two stitches on each of these needles, push up the first needle a sufficient distance to put both stitches behind the latch, take the yarn underneath the needle and bring it back across the top between the hook and the latch. With the free hand, hold the butt of the needle and pull it down the bed until level with the rest of the needles in working position. The yarn has now been pulled through two stitches. Transfer the new stitch to the adjacent needle (there will now be 3 stitches on this needle), push up the needle as before, put yarn over and pull through. Move the new stitch to the adjacent needle. Continue in this way until the required number have been cast off. Hook up as for single bed cast-off.

If a widely spaced needle set-up is being used it is necessary to work a few chain stitches between the stitches which are being cast off. Draw the yarn through the two stitches on the needle in the usual way. Now pull the needle forward again, put yarn over and pull through. Repeat until enough extra chain stitches have been made to bridge the space to the next stitch which is to be cast off.

Finally we deal with the type of cast-off which often gets a knitter so desperate she takes the work off onto a knitting needle.

There are odd times when a piece of rib is to be cast off that will have the actual cast-off stitches in full view when the garment is made up. The ends of ribbed bands, pocket tops and perhaps the occasional neckband — all have their problems. If they are cast off by the method already given the casting off will push the stitches out sideways and give a fluted edge.

The following method gives a good finish but unfortunately, like all other ways of dealing with this problem, it is rather slow.

Knit the rib, then knit 6 rows in waste yarn. Break yarn and carefully remove from machine.

TO BIND OFF:

Thread needle with main yarn and unravel waste yarn down to the last row (this can be pulled off as you sew). Insert needle from front to back through first 2 stitches, bring needle back to the front through the next 2 stitches. Take needle back into the first pair of stitches and bring it back to the front through the third pair. Take it back into the second pair and bring it back to the front through the fourth pair. Continue in this way until all stitches are bound off.

This is exactly the same method of backstitching through the open loops, as given on the diagram in the Making Up section. The only difference being that the needle is taken through two stitches (1 plain, 1 purl) for every movement, instead of single stitches in the usual way. The finish looks very similar to a true rib cast-off and is reasonably elastic. This gives a good Bind Off for garments with Scoop necklines, where the inner edge of band must be flat and neat.

WASTE KNITTING

Stitchholders are very rarely required when using a knitting machine and knitting needles have no use at all. Whenever a situation arises where either one of these appears to be necessary, a little thought will usually show that waste knitting provides a better solution.

Whenever a piece of knitting is to be removed from the machine without casting off, four to six rows of waste knitting with waste yarn should first be carried out. This will keep the stitches secure and once the work has been pressed the waste rows can safely be removed.

When pieces are to be grafted together (to replace shoulder seams, etc.) never use stitchholders or knitting needles -- always use waste knitting. This enables the stitches which are to be grafted to be properly pressed, which is a vital part of making grafting easy.

There are many patterns where the number of stitches on the main parts have to be considerably reduced on the final row before a yoke or narrower section of the garment is knitted. In hand-knitting this would be carried out by knitting 2 together at regular intervals across one row. This is not possible on a knitting machine, so at this point waste rows are knitted and the work removed from the machine.

No attempt should be made to replace the work on the machine without first pressing the last couple of inches of the main knitting and the waste rows. When this has been done the stitches have been set and it is quite safe to unravel until only one waste row remains. The number of needles required on the machine are now put into W.P. and the front bed is lowered. The work is brought up from underneath and between the beds. Unravel the waste yarn from the first 20 or so stitches and, using an eyelet tool, replace on to the needles as the pattern requires, e.g. one stitch on the first 3 needles, two on the next needle, etc. Be careful not to have long ends of yarn hanging from the work as they may catch on the machine or stand and unravel stitches.

When this kind of work is carried out it often helps to knit the final row of the main yarn on at least one whole stitch size larger. It will not show on the final work but it is very helpful to have loops which are a little larger on the row of stitches to be replaced on the machine.

Another use for waste is using it to avoid friction marks from the brushes when a neck is being shaped. On most garments the stitches on the left half of the neck are left in Hold Position while the right half is being knitted. As the lock is moved across the left half a certain amount of friction is applied to the work and when the garment is complete a line of fluffed yarn can be seen. Deal with this by knitting some waste rows on the left half before doing the neck-shaping on the right half, as follows:—

Set lock to BX

Put pushers in W.P. under all needles on left side only

Thread up waste yarn and knit 6 rows on stitches at left

Take pushers down into non-working position, lock at right side

Put pushers into W.P. under all needles at right and continue with the neck-shaping as usual.

When the right half is complete, unravel waste rows at left and continue knitting.

STITCH DISTORTION

Knitters often try out a piece of knitting and when it is removed from the machine they are at a loss to know what is wrong with it. They can see that the pattern of stitch is correct but the work has such an uneven appearance there is obviously something wrong. There are three main causes of error:—

- 1) **Badly Wound Yarn.** If the ball has been tightly wound it will not release yarn freely to feed the needles. As the lock is moved across the yarn will be freed in jerks, giving more yarn to some needles than others and consequently producing stitches of varying sizes.
- 2) **Wrong Strippers.** The strippers have one function only — to push the old stitch down clear of the needles as the new yarn is pulled through. The general rule is: the thicker the yarn (or the more loops to be pushed off) the more 'push' is required from the strippers. The Pink strippers are shaped in such a way that they have less 'push' than the Blue.

On K/K rib there is never more than one old loop to push off from each needle but on Fishermen's Rib there are two loops to push off on every alternate row. If the yarn has a tight twist (which will produce 'spring' in the stitch) the Pink strippers may not be equal to the task and must be replaced by Blue. This will certainly apply when 4-ply yarn is being used.

3. **Texture.** In knitting 'texture' refers to the appearance and feel of a fabric, which is the result of combining three things — the size of stitch, thickness of yarn and type of yarn used.

In our modern, centrally-heated world, some home knitters are trying to copy the fine-knit industrially made garments — with disappointing results.

Very fine industrial type knitting is not just a question of being able to find a supply of fine yarn and an appropriate pattern. It also requires a machine with smaller needles which are placed closer together. On those machines it is impossible to do hand-work such as decreasing and the machines are designed to do the shaping automatically or to knit straight lengths of fabric for the cut-and-sew trade.

There is constant interest among machine knitters for garments knitted in 2-ply yarn. Many of the fancy pattern stitches possible on the Duomatic need 2-ply but these are not always the ones which are interesting the knitters.

Very often lightweight stocking stitch is required and when a sample piece is knitted the stocking stitch is perfect (provided tension 4 and Black strippers are used) but the rib looks a mess, with stitches uneven and texture sloppy. Since the basic construction of a rib stitch is looser, due to the yarn criss-crossing between two beds, fine yarns are apt to produce rib stitches with an uneven appearance and lacking in 'body'.

There are two things that can be done: you can knit a single bed hem (see page No. 22), but the best answer to the problem is to knit a 2x2 rib instead. This needs a certain amount of explanation.

As previously explained, 2x2 rib is usually knitted with 2 needles in W.P. and 1 needle out of work, both beds being set up in this way. If this set-up is used for a garment which is to be knitted in stocking stitch, when the stitches on the back bed are transferred to the front bed a number of stitches will be lost, since there is only 1 empty needle at the front for every 2 stitches to be transferred from the back. Before starting to knit, study the instructions for 2x2 Rib settings on page No. 21.

Try a piece of knitting on a 2 up, 2 down 2x2 rib setting first as this is easy to set up. On some yarns the result will be satisfactory but others will require the 2 up, 1 down 2x2 setting. For this the number of stitches which will be required for the plain knitting will be pushed into W.P. on both beds. Working from the right, every 3rd needle on each bed is taken out of work and the cast-on and knitting is carried out as already given. When the rib is complete each pair of stitches on the back bed is transferred to the single empty needle on the front bed. The number of stitches required for the garment is now correct.

FULLY FASHIONED SHAPING

The most common method is to use the 3-decker tool for moving 3 stitches at once so that the third stitch from the end of the knitting is placed on the needle holding the fourth stitch. This type of shaping is very familiar to all knitters, the only disadvantage being that the decrease is rather close to the edge when seaming is completed. A better finish is obtained by using the 5-decker tool, the result being much nearer to a ready-made garment. These are known as the 3 over 1 (3/1) and the 5 over 1 (5/1) decreases.

Although these provide a neat smart finish it is often felt that a more pronounced decrease is preferable. This is just as easy to obtain simply by working a 5/2.

The 5-decker tool is used to move the end 5 stitches in so that the fifth stitch is placed on the seventh needle and the 4th stitch on the sixth needle. When working this type of shaping the number of times a knitter has to stop to use a tool is halved, e.g. if the pattern required 1 stitch to be decreased every second row, this type of decrease will only be worked on every 4th row. A 5/2 decrease tends to tighten the work a little more than other methods so this must be taken into consideration.

On stocking stitch skirts and dresses the use of the multi-transfer combs eliminates all possibility of drooping side seams and the overall shape of the garment when finished is well worth the extra trouble. There is no need to panic if a stitch is dropped on the Duo. Being a weightless machine there is no downward tension on the work to make the stitches run. This kind of shaping is only used on stocking stitch work, so it is a simple matter to drop the front bed and make a correction.

Those new to machine knitting quite suddenly seem to become 'one-handed', always forgetting that the hand which is not using a tool is often invaluable to provide momentary tension on stitches which are to be moved by pulling the work gently from underneath. Normally the stitches are loose on the needles which makes the transfer of stitches a little difficult. By holding the work from underneath and putting a moderate amount of tension on the stitches to be moved they will 'snap off' the needles quickly and without difficulty.

It is an unfortunate fact that fashioning is used by most knitters on garments which hardly do justice to this method of shaping. For a great many years classic-type garments shaped in this way have been associated with tweeds and brogues and the fully fashioned section of the industry made little attempt to dispel this image.

From the 1930s onwards there were manufacturers who were willing to churn out this type of garment for as long as the élite were prepared to buy it, made of cashmere or lambswool and the multiple stores could continue to sell a cheaper version to the general public. The young generation gradually came to associate these uninteresting garments with mothers and aunts and ignored them completely. By the middle sixties the mills producing these garments were facing fast-shrinking markets and the fully fashioned knitwear trade began to face severe financial difficulties.

Within the trade, even up to the present time, the arguments for and against fashioned knitwear continue. Many believe it to be the fault of the designers; others blame the steadily increasing popularity of the cut-and-sew section of the trade, etc. These points are of little concern here, with one exception — the influence of industrial design on the hand and domestic machine knitting-pattern designers. It would seem that any fashioned pattern designed for home use, particularly for machines, has always to follow the type of garment which has been around for so long that it is, to put it mildly, the lowest common denominator in terms of fashion. There are exceptions and in recent years ready-made fashioned garments have shown considerable improvement. This is mainly due to the advancement of patterning mechanism in the form of lace or tuck, which is now incorporated into many of the automatic fully-fashioned machines.

When the limitations of these machines are seriously considered it would seem that the domestic machine is, in many cases, capable of producing something more interesting than the standard raglan sweater or cardigan. One important point is made at the beginning of this section — the 3/1 fashioned decrease. This involves as much work as any other fashioning and is the least rewarding, since it produces a rather 'home-made' result. A 5/1 is always much more effective and

certainly gives a more professional appearance.

All too often fashioning is reserved for a stocking stitch garment which, in terms of shape or style, is a complete non-starter. A little thought will soon show that fashioning can be used on far more stitch patterns than it is at present. Ready-made Shetland garments, although often non-patterned, always seem to manage a 2x2 rib and 5/1 or 5/2 fashioning with a much improved overall result. The majority of ribbed garments also have very pronounced and widely spaced fashioning and sweaters and cardigans with saddle shoulders have dominant fashioning as a feature of the style. Fashioned shaping gives a much improved fit and a more attractive appearance, so should be used wherever possible.

Many of the existing patterns can be changed in this way and in most cases a 5-decker can be used instead of a 3-decker. Fisherman ribs on a K/K setting benefit greatly and even a plain stocking stitch sweater with a 'set-in' sleeve is improved. At some part of the armhole shaping there is a point at which single stitches are decreased a number of times on alternate rows. These can usually be worked as a 5/1 decrease. Whole garments which are knitted in K/K rib with 5/1 decreases are transformed, particularly if they are knitted in a good quality yarn.

Jacket collars which are knitted in rib or Tubular should always have fashioned shaping at both ends.

For socks and trousers in Tubular knitting a 2-decker tool is used.

THE U-70 TRANSFER LOCK

This is an extra attachment which looks rather like a metal saddle and is designed for placing over the two needle beds. Its function is to transfer stitches which are on the back needles onto needles on the front bed, regardless of whether or not there are stitches already on the front bed needles. When knitting 1x1 rib, as required on a stocking stitch garment, the stitches on the back bed have to be transferred to the corresponding needles at the front prior to commencing the stocking stitch knitting. The U-70 lock eliminates the need to do this job by hand. The racking handle is turned to a position whereby the needles on the two beds would just skim past each other if they were brought up to knit. On the undersides of the U-70 there are two unbreakable pieces of white plastic which have been designed as needle guides. As the U-70 is moved across the bed from left to right the butts of the needles are channelled into the plastic guides. The guides are not identical — the one which operates on the back bed pushes the needles upwards until the stitches go behind the latches. On the front bed the needles are only pushed up a short distance to avoid putting the stitches behind the latches. Since the bed has been racked so that the needles on each bed just brush past each other, as the front needles rise the hooks are pushed into the stitches which are on the back bed. The plastic guides then pull the needles downwards to their normal knitting position. The latches on the back bed needles close as they are pulled down and the stitches which were on these needles remain in the hooks of the needles on the front bed. The whole transfer is done by one simple movement of the U-70 lock from left to right. This is the operation of the lock in its simplest form. It has many other uses and, working on the same principle, is capable of carrying out a large variety of fancy stitch patterns, particularly open work and lace-type patterns.

Not only are designs for garments using the U-70 given regularly in the Model Books, but there is also a separate stitch pattern book.

On welts the Lock will transfer 1x1, K/K, 2x2 and Tubular. It will also transfer Full and Half Fisherman's rib.

On fancy stitch patterns which are used for the main parts of the garment the pattern is commenced by having all the needles on the back bed empty. The needles on the back bed are brought into working position according to the needle setting diagram. A specified number of rows are knitted before the U-70 is used (usually 2 or 4 rows). The transfer lock is then placed on the machine and moved from left to right and the back bed needles are emptied but left in W.P. The sequence is then repeated right through the garment.

To operate the U-70 on the needle beds it is necessary to have end plates of up-to-date design on the machine. Machines with serial numbers 916001 onwards are already equipped with these when leaving the factory. For machines from numbers 634001 to 916000 the end plates on the back bed have to be changed.

GARMENT BANDS

Garment bands have remained standard for so long that knitters automatically see them in terms of rib. A change is long overdue and no machine is better equipped for the job than the Duomatic.

Knitters constantly ask whether they can pick up the stitches round the neck as in handknitting. This can be done but it is a tedious job and produces a very home-made looking finish. As with most aspects of machine knitting the handknitting methods are best forgotten as they are not likely to give the professional finish that most knitters want. So often knitters admire the finish of bought knitwear but accept without question that these results are only possible for the manufacturer. Regarding bands the only advantage that the big concerns have over the home knitter is the availability of sophisticated machinery for stitching bands to garments. They are faced with exactly the same problems when knitting the bands and they are rarely able to produce the variety of stitches suitable for bands that a Duomatic owner can knit quite easily.

Every machine owner should develop the habit of studying readymade knitwear and duplicating the methods used whenever possible. There has always been a very large gap between the manufacture and the home-made article and it is time that this gap was narrowed.

When working from a ready printed pattern it is usual to follow the given instructions for the garment bands. Very often it is worthwhile putting a little extra thought into what the finished result will be and deciding whether or not a more interesting type of band can be substituted.

Before knitting any band thought should also be given to the purpose it must serve. On some garments only ribbed bands are suitable, since grip and close body fit are needed. On others the only object of a band is to give a finished edge to the knitting and provide some form of trimming. If careful thought is given to this part of the garment unnecessary work can often be saved.

Neckbands — Ribbed

These can be knitted separately as a straightforward strip of rib only, cast off in the normal way and backstitched onto the neck of the garment. This method has its disadvantages — the casting off may be tight and therefore make it difficult to pull over the head on a round neck. It is quite unsuitable for the home knitter to use on a cut-out neckline and it does not give a really professional looking finish.

Neckbands — Ribbed with Tubular Rows

The alternative is to use the method so often seen on the better class ready-made knitwear which is identical to the bands Passap use on most of the styles in the Model Books. This consists of a ribbed band finished with tubular rows. This band is not cast off but is finished with a few rows of waste knitting and then removed from the machine. It is simple to knit but few knitters understand how to attach it to the garment.

Cast on the required number of stitches in 1x1 or 2x2 rib. Using Pink strippers knit the required number of rows.

Change to Black strippers. Both locks on CX.

Increase s.s. on both Tension Dials

Push the empty in-between needles on both beds into W.P.

Knit 12rs tubular for 3-ply yarn

Knit 10rs tubular for 4-ply yarn

Reset locks to N. Racking handle down. Pink strippers.

Stitch size 3. Knit 3rs in waste yarn

Break yarn and move the locks across work to release it from the needles.

Suitable stitch sizes:—

1x1 rib in 3-ply yarn	s.s.2—2½	Tubular rows on s.s.5—5½
2x2 rib in 3-ply yarn	s.s.3—3½	Tubular rows on s.s.5—5½
1x1 rib in 4-ply yarn	s.s.3—3½	Tubular rows on s.s.5½—6
2x2 rib in 4-ply yarn	s.s.3½—4	Tubular rows on s.s.5½—6

When knitting waste rows always reduce stitch size to 3 or 3½.

To obtain a really professional fit on a neckband try knitting double the number of rib rows. When the band has been sewn on fold rib in half to inside and catch down above the line of holes.

Tubular Bands

Many garments look better with a smooth, tailored finish which is easily achieved by knitting bands in tubular only. These are very simple to knit and are attached to the garment in exactly the same way as the ribbed bands with tubular rows.

The given number of stitches will apply to each bed and the instructions for Tubular hems should be followed. The work is removed from the machine without casting off. Whenever tubular rows are knitted both ends of the band are joined and, although this does not present any great problem when stitching the band to the garment, there are knitters who prefer the ends of the bands to be open. To achieve this knit as follows:—

For ribbed bands with tubular rows: Knit the rib, change stitch size and insert Black strippers. Set back lock to GX.

Knit 6rs stocking stitch on front bed only.

Set front lock to GX, back lock to N.

Break yarn from stitches at the front and knit 6rs stocking stitch on back bed only.

Finish with N rows in waste yarn as before.

For plain tubular bands: Knit half the given number of rows in tubular (if the given number is 24rs, knit 12).

Set back lock to GX, front bed to N and knit 6rs on front bed only.

Reverse the settings and knit 6rs on back bed only.

Remove with waste knitting as before.

Pressing and Stitching

All bands should be pulled quite hard lengthways to the knitting to close in the stitches. Then the tubular rows must be pressed, not with a steam iron but with a hot iron and damp cloth whenever possible. The ends of the bands should then be joined, making a neat and unobtrusive seam.

Join the shoulder seams and press. Unravel waste yarn on band. (The object of pressing the tubular rows is so that the stitches are 'set' and will not run). Carefully pin the top section of tubular rows onto the right side of the garment, overlapping it by several rows. The stitching on the right side is done by backstitching through the open loops. The section of tubular on the under-side is then caught down stitch by stitch and the main garment part sandwiched between the two tubular sections. On ready-made garments the bands are stitched on with a linking machine but the finished result is the same.

One very important point to remember when knitting bands in tubular only is that when the bands for necks or armholes are pressed they must also be shaped. Never press these bands as a straight strip. Any piece of knitting which is to be fitted to a curve must be pressed as near to a round shape as possible. This roundness can never be achieved once the band is attached to the garment and the result will be two ugly ridges of surplus fabric which will protrude around the shoulder line.

Which type of band to use depends entirely on the result which is required and the type of welt used on other parts of the garment. For the longer line shaped garments which perhaps have a stocking

stitch hem at the bottom, tubular bands give a smooth, tailored finish and are particularly improved with a 4-row stripe running through the centre. For a sweater which has a ribbed welt on lower edge and cuffs a ribbed band with tubular rows is more suitable.

Front Bands on Buttoned Garments

These should be knitted to match neckbands. For rib and tubular neckband use ribbed front bands. For tubular neckbands use tubular bands on front opening.

The main reason that picking up stitches around a neck and then knitting the rib trim is unsatisfactory is because the cast-off edge of the ribbing is very obvious around the neckline (as in handknitting). The second reason is that picking up stitches on a double bed machine is an awkward job.

If this method is either necessary or preferred, there is another way.

Cast on the rib trim as if it is to be knitted separately. Knit the required number of rows and transfer stitches onto back bed. Join one shoulder seam on garment. Drop front bed down and pick up the stitches evenly around neck onto the needles on the main machine. Do not pick up half stitches — always a whole one or the join will be holey. Cast off as for single bed knitting, being sure to hook up at regular intervals. This puts a neat cast-on edge around the neck and eliminates sewing the band to the garment.

Variations

In the Ladies' Master Pattern several alternatives have been given and these cover only a few of the possibilities. The knitting of long lengths of braiding is perhaps the easiest method to use. It is a very quick and easy way of avoiding a lot of tedious work on garments such as tank tops and slipovers. When these garments became popular it did not take the manufacturers long to realise that they also needed a quick and easy method of finishing. Garments soon began to appear with necks and armholes finished in a variety of stitches similar to blanket stitch, often in contrasting colours.

By setting up about 8 stitches in a K/K setting with pushers 1 up and 1 down on the front bed and AX ← on the front lock an interesting band can be knitted without difficulty. Knit 2 rows, rack to right, knit 2 rows and rack back again to the left. This kind of edging can transform an otherwise very simple garment. The essential of an edging band is that it will remain flat and since this 'flatness' is one of the features of double bed knitting, any variation which seems possible should be explored. Ribbed bands must be accepted from simple machines but with a Duomatic there is no reason at all for knitting the same old finishing strips when there are so many other possibilities.

Sizing Bands

For those who design their own garments this is the nasty part. Until a knitter can evolve a fairly accurate system for the job it can be rather tiresome. Braiding is simple as long as sufficient rows are knitted but rib or tubular bands must fit and there is always the additional problem of spacing buttonholes correctly.

If the band is knitted in tubular or has tubular rows it is the tubular part which must fit the neckline so the number of stitches required are based on a tubular sample. Knit a test piece with about 50 sts on each bed, remove from the machine and decide how many stitches are being knitted per inch (2.5 cms). Multiply this by the number of inches/centimetres required to fit round the neck. Now deduct about 2" (4 cms) from this calculation and the resulting figure should give the correct fit.

Never sew a neckband to a garment without first pinning the ends and then trying it over someone's head (your own will do). Position it round the neck and decide how it is going to look. It is not much trouble to knit another band, but it is a miserable job to have to unpick it once it has been sewn on.

If you regularly knit yarn of the same thickness it helps to keep a few ready knitted measures, such as a 100 stitch sample of rib and tubular in 3 and 4-ply and 100 row samples on about 15 stitches for the bands. Knit, run end of yarn through open stitches and tuck.

When knitting cardigan bands always knit the buttonband first, making it a little too long if you are not too sure. Keep careful check of the number of rows knitted, remove from machine and check against garment. If rows are to be unravelled, keep count of them. Having decided on the correct number of rows required, draw a mock band on a sheet of paper and make small marks across to represent the buttonholes. Now divide up the number of rows for the spaces between each buttonhole, not for the buttonholes themselves.

Fitting the Bands

For a number of years knitting patterns have been printed with rather misleading instructions such as 'Knit the band until length of front opening when slightly stretched' or 'Stitch on front band and stretch slightly to fit'. What does this mean? It means that the front edges of the garment have already stretched slightly in the knitting and now, if you follow the instructions, you are going to stretch the front band onto this in the hope that the pull of the band will pull the knitting back to size. No doubt in many cases this works, but it leaves the knitter operating on a hit-or-miss basis.

The centre back of the garment is the correct length and this should be taken as a guideline. Lay the back of the garment on a table. Now take the two fronts and place in position on top. Do not cheat by patting them into place — allow the stretched front edges full play so that both the lower front corners droop down over the lower edge of the back. Now you can see exactly what the problem is, start to ease this extra length of fullness upwards as evenly as possible, until all the lower edges are in line. Pin the bands onto the front, leaving the slight fullness between the pins. When stitching ease the fullness into the band as you go along. If properly sewn the slight unevenness between the two pieces will disappear completely when pressed.

Bands can make or ruin a garment so do not skimp the thinking on this part of the knitting. There is no need to dread the job. If you feel that simple calculations will confuse you, ignore all so-called 'correct' methods and find a simple 'rule of thumb' system which works for you. Whether or not anyone else understands it is of no importance! Just keep your thinking simple and operate on the same system as the old craftsmen used to do. They did not have books of rules — in fact most of them could not even read — but this did not prevent them from producing the most beautiful work, perhaps because they trusted their eyes and instincts in those days. A good finish is achieved by setting your standards high and constantly working towards that standard. Progress will be made far more quickly by studying the finish of ready-made garments rather than by trying to adapt ideas from your old handknitting patterns.

ROUND THE PATTERN DIAL

The letters A—G on the pattern dial are a method of identifying the various cam settings for producing particular types of stitch. This type of identification varies from one machine to another; for example, EX indicates Fisherman Rib on the DUO, whereas the letter P is used for the same purpose on other machines.

A cam is a piece of mechanism made of metal or some other unbreakable material which is used to make another piece of mechanism either operative or inoperative. In the case of a knitting machine, the cams work in conjunction with the needles, and according to the position in which they are set, needles will knit either pattern or plain stitches. The cams are situated underneath the knitting carriage, and they work rather like traffic signs, diverting and re-routing needles as the pattern requires.

At the back of this book there is a simplified diagram with only the main operating cams drawn in. Used in conjunction with this section they should help you to have a better understanding of the machine. There are many specialised parts in the DUO locks which do not have to be understood by the knitter, but it is useful to have some knowledge of the parts. Once the main points become clear, patterning seems much less complicated.

N. When the machine is set to N, all cams are working, and the needles are being guided in at one end of the lock by their butts, following their normal route until pushed up the bed far enough for the stitch to go behind the latch. By then the black feeding eyelet is in the correct position to lay the yarn across the needle hook. The needle is then pulled down, the latch closes and new yarn is pulled through the old stitch.

AX. To understand what happens on patterning, remove the front lock and set to the first pattern letter, which is A. Now turn the lock upside down and move the lever across to X. The two cams which are marked A on the diagram are pulled out of action. When they are in action, the needles are forced to go round them, so that they move right up the bed and knit normally. When the cams are out of action, the needles are able to take a short cut, and reach the other side of the lock by travelling a shorter distance. But by taking this route, they are no longer forced to go up and knit the stitch. They only move far enough up the bed to catch the yarn in the hooks and no more — so altogether, they do about half the travelling and half the work than when knitting normally.

This is pretty useless for producing a piece of knitting. If the lock is moved twice across the needlebed, all the needles will have 2 loops on the hooks but nothing will have actually been knitted. AX is a selective tuck stitch, and to "tuck" in this context means to collect loops; but it is now necessary to understand the word 'selective' if any progress is to be made. This word indicates a choice, and the knitter is thus able to choose which needles are going to collect loops and which are going to knit in the normal way. Having done this, and assuming the needle set-up is for K/K and that every alternate needle has been chosen to knit, then something must be done to these needles to stop them taking their short cut, and make them go up the needlebed and knit in the normal way.

In the main part of the lock there is nothing to do this job on an AX setting, so this is where the lower parts of both the lock and the needlebed take over. In the lower part of the bed there are shaped pieces of metal called 'pushers'. These are actually jacks, and they do exactly the same thing as a jack will do on a vehicle. When put to work under the needles they will push them up the bed and make them knit normally. The remaining question is: What is going to operate the jacks themselves?

The answer is in the lower portion of the lock, where there are further pieces of mechanism designed to push the jacks up and down. While looking at the A cams, alternately press the arrow keys up and down also. You will then see the two cams being put in and out of action, whose sole job it is to completely reverse the position of the pushers (or jacks) when required. It very soon becomes clear that the needles which are collecting the loops cannot go on doing so indefinitely. The moment must come when those needles are given their turn to knit. This can be done by bringing pushers up into working position under these needles, and taking the pushers under the other needles down to neutral position, so that the corresponding needles have their turn to tuck. Simply by pressing the arrow key down which is nearest to the knitting, a cam is brought into action which will do this job automatically. When the row is knitted the needles have changed jobs with each other, because the jacks operating them have changed position. If the left arrow is pressed, this reversal takes place

when knitting to the left. When the right arrow key is pressed down, it operates when knitting to the right. If both are pressed down, the pushers will reverse every row.

If the arrow keys are not going to be used to give the tucking needles a chance to knit, then at regular intervals the lock must be set to N so that the loops can be knitted off and the work progress.

BX. Again study the lock by setting to B and turning it upside down. Move the lever to X, and you will see that the cams marked A and B are taken out of action. This is even more drastic than A, since the way has been cleared right through the centre of the lock. The needles do not take a short cut with a slight detour this time. They are able to go straight through the centre without doing any work at all. In other words, absolutely nothing happens. So it is back to the pushers to make them knit in exactly the same way as with AX, the only difference being that the needles without pushers in working position do not do anything at all and become as slipped stitches in handknitting. This is sometimes known as 'Float stitch', since the yarn just floats from one working needle to the next, ignoring the others. Since the setting uses pushers, it also is classed as 'Selective'.

CX. This one is a combination of one A cam and one B cam being put out of action both on the same half of the lock; the result being that as there is still an A and a B cam left operating, the machine will knit normally when the lock is moved to the left, but the other pair of cams which are out of action prevent it from doing anything at all when travelling to the right. For circular knitting, both locks are set to CX. On the back lock the opposite pair of cams are immobilised so that one bed of needles is knitted by one lock when it is moved across the knitting and when it is moved in the opposite direction the other bed will knit.

DX. is rarely used, so there is little point in going into detail. Basically, its function is to enable the knitter to do a simple and rather uninteresting tuck stitch while set for circular knitting. It only operates with pushers, and can best be summed up as a very modest variation of CX.

EX. This is explained further on, and is simple to understand. Mechanically, all that is required is to withdraw one of the A cams, leaving the other one in operation. By doing this, all the needles collect loops in one direction, while the remaining operative cam forces them all to knit normally in the opposite direction.

FX. This provides a variation on EX and produces a single row selective tuck stitch. Whereas on the EX the needles tuck one way and knit the other, FX (which operates only with pushers so is therefore 'selective') gives a selection of single loop tucking and normal knitting within the same row. Where the pushers are placed in working position on an FX setting, the needles will knit normally, while the remaining needles will continue to knit one row tuck, one row normal (Fisherman Rib).

This is clearly shown on stitch pattern No. F1 in the Instruction Book. The cam operation is one A cam out of action, but additional cams on the lower portion of the lock are brought into action to operate the pushers.

GX. The action when GX is set to withdraw stationary as well as moving cams in the main part of the lock. This provides a 'Free Move' when the lock is jammed. Always remove strippers when this setting becomes necessary.

NOTE. On the Duo with the Fair Isle lock, FX has been altered so that single bed type Fair Isle can be knitted on circular garments.

AX AND BX SETTINGS ON ONE BED ONLY

All previous information on pushers, pattern settings and arrow keys still applies when knitting these patterns on one bed only, the only difference being that the variety of stitches possible is not so great, neither are the results so impressive.

In most cases, the purl side of the knitting becomes the 'right side', since all the Loop patterns or slip stitches produce the pattern on the back of the work.

Two points in favour of this type of knitting are that it provides a fancy stitch pattern for those who lack the confidence to knit on two beds, and produces a less bulky garment if fine yarn is not available. A few of the best examples are given in the section on 'stitches'. When knitting these stitches, it is necessary to remember that single bed knitting, whether patterned or plain, is stocking stitch based, and the stitch size needs to be proportionately larger. Black strippers are used without exception.

N-STOCKING STITCH AND RIBS

When both locks are set on N, every piece of mechanism in the locks is working to knit a straight-forward stitch on both beds. When the cast on is complete the stitches can be transferred to give a variety of rib settings, or remain as they are so that a complete garment can be knitted in a plain rib stitch. Everyone is familiar with garments knitted in 2x2 rib, but few knitters seem to realise that K/K rib has great possibilities. It will give the close fit so often demanded in young fashion, providing the garment is knitted to slightly less than body size, yet it can be worn equally well by older people if treated as normal fabric, and 'room for movement' allowed.

The shapings are as easy as for stocking stitch garments. BX with pushers can be used at the neck and a touch of colour in the form of a few stripes is easily added. If the texture is correct (firm but not hard) the garment will have a classic appearance in the best sense of the word.

IRREGULAR PATTERN SETTINGS

In double bed knitting there are many stitch set-ups which present a mathematical problem in terms of tension swatches, shapings, etc. These can involve a knitter in a great deal of wasted time and frustration. Take for example patterns A2 and A3 in the Duomatic Instruction Book. Both of these set-ups have every needle knitting on the back bed, with a different arrangement on the front. With these patterns it is easy enough to set up the machine just to see what the stitch looks like, but what happens when a specified total number of stitches is required — such as 100 for a tension swatch, or when a garment is being designed? How do you go about working out the shapings?

The correct way to cope with these patterns is to treat them as stocking stitch, counting and calculating on the one bed which has a regular needle setting. The stitches on the other bed are then brought into (or taken out of) work as required to maintain the pattern.

To knit a tension swatch of 100 stitches, 50 needles would be put into W.P. on each bed. When the cast-on is complete, the stitches on the back or front bed are transferred according to the diagram, the required number of rows knitted, and the work removed from the machine. After pulling it lengthways it is measured, but the measurement of the width is only calculated as being worked on 50 stitches. Therefore, if the Ready Reckoner chart is being used to design a garment, the measurement obtained must be doubled in order to give the equivalent of a 100-stitch test piece. For example, if the width measures 7" throughout the calculating, it must be considered as a 100-stitch test piece measuring 14". (35.5 cms).

AX — SELECTIVE TUCK STITCH

This should be the most used part of your patterning mechanism; but to use it blindly is confusing for you and not doing justice to your machine.

Tucking is a simple principle for producing an almost endless variety of fancy stitches. All it means is that certain needles are selected to knit normal stitches while others only move far enough up the bed to catch the yarn as it passes but do not knit a normal stitch.

When knitting on N the mechanism operates on the butts of the needles, pushing them up to catch the yarn and pulling them back down to pull the yarn through the stitch. On an industrial machine the needles often have butts which are at different levels, and the machine can be set to operate on either the high or the low butts. This gives a system of needle selection for knitting combinations of pattern and plain on the same row. On the Duomatic it is the pushers which provide extra butts at a different level. When the AX setting is used and the butts of the needles are no longer being used for their normal purpose, it becomes necessary to put some kind of jack under the needles to push them up the bed and make them knit normally.

This is exactly what the pushers do; the needles which do not have pushers under them can do no more than catch the yarn as it passes. AX is classed as selective because the pusher system enables the operator to choose the needles which will knit and those which will tuck.

After knitting 4 rows on a tuck pattern the needles with pushers in W.P. will all have knitted in the normal way, the needles without pushers will be carrying the original stitch plus 4 loops of yarn. There are several ways of knitting Tuck patterns, but whatever the set-up on the needlebed, at some stage of the pattern sequence the machine must be set to knit the loops off the tucking needles. This is sometimes done by knitting a certain number of rows on N (usually 2) after the specified number of tuck rows have been knitted. An alternative method is to use the Arrow Keys (or Key). This method is used for an alternating tuck pattern. The machine is set with pushers under all working needles, some in W.P. and some in N.W.P. The automatic pusher reversing mechanism (Arrow Key) is set by pressing down the appropriate key (or keys). If one key is pressed down the pushers will reverse every two rows; if both keys are pressed down they will reverse every row. (See Pattern A.7 of the Instruction Book). This pattern can be beautifully knitted on a K/K setting and 3-ply yarn. There is no need to feel confused by the arrow keys, their only function is to reverse the pushers. Remember that when the key nearest to the work is pressed, it will reverse the pushers on the very next row. When an Arrow Key is left pressed down, the tucking needles are only able to collect two loops before the pushers change position and the loops are knitted off. For many of the tucking patterns more than two loops are required to give the correct stitch formation. To achieve this, at a certain stage of the pattern, the Arrow Key is released so that more loops can be collected on the needles before the pushers are allowed to change their position. This type of stitch pattern usually reads "2rs AX ←, 2rs AX O", the "O" indicating that the release button between the Arrow Keys is pressed so that the Arrow Key which is operating will be released and the needles will be able to collect two more loops. The pattern is then repeated and as the Arrow Key is again pressed down, the loops are knitted off as the pushers reverse their position, bringing the needles which tucked on the last sequence up to knit.

Never knit a tuck stitch without making an effort to understand what happens on the machine. It is no use hoping you will not be interrupted so will be able to count the rows. The only way to knit patterns is to understand what is happening on the machine the whole time; then if you are called away, it is quite simple to check the machine when you return and see what to do next.

Even when tucking and racking on the same pattern there is no great problem.

Example: One of the Passap crochet stitches.

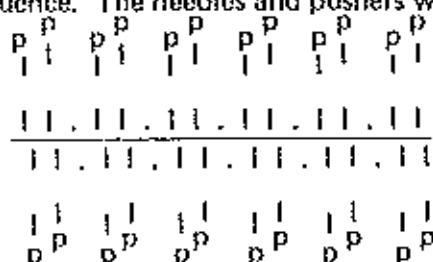


Both locks AX
Knit 4 rows

2. On the above setting, 1 needle in every pair has a pusher in W.P. so these will knit. The others have pushers in R.P., so they will be tucking for 4 rows. If you have to break off, it is simple to

check that there are 4 loops on the needles before continuing with the next stage of the pattern.

3. Rack the needlebed to the left. With both Locks on N and with the left Arrow Key pressed down on each Lock, knit two rows. The effect will be to knit 2 normal rows and knit all the tucking loops off the needles, but at the same time reversing the position of the pushers ready for the next AX sequence. The needles and pushers will then be as diagram:



4. After knitting the two N rows, the needles on the back bed are one position over to the left, and the pusher positions have been reversed. At this point it is easy to check that the N rows have been knitted, as there will be no loops on any of the needles. The Arrow Keys have done their job so they are released, and as the needles are always in the same position for the AX rows, the bed must be racked back to the right — so you are now back where you started and ready to repeat.

If you make a mistake or get confused and have to pull back rows, pull back to the N rows. Then take a tool, and a little probing at the base of one pair of needles will soon show you which of the pair tucked last time, and you can re-set your pushers so that the opposite needle of the pair tucks on the next sequence.

Many knitters complain that their machine keeps jamming when knitting patterns, and they are quite convinced that there is something wrong with the machine. If a hand knitter were asked to knit Triple Knitting with size 12 needles she would know at once that the needles were far too small for such thick wool. Yet knitters constantly try to knit 4-row tuck patterns with 4-ply wool on a close needle set-up. The machine is being asked to cope with 4 loops and the original stitch on the tucking needles. No wonder it protests!

The Golden Rule is:— the more loops there are on the needles at any one time, the finer the yarn to be used.

i.e. 2-row Tuck stitch — 4-ply yarn
4-row Tuck stitch — 2 or 3-ply yarn

When tucking on both beds (crochet stitch) it is not possible to produce a satisfactory result with anything thicker than 2-ply.

It is easy to knit a 4-row tuck pattern with 4-ply yarn if using a 1:1 setting. By knitting on every alternate needle the gauge (space between the needles) of the machine is widened, and it then becomes possible to use heavier yarn. But do not forget that this is also going to make a much heavier garment, perhaps unsuitable for anything but outdoor wear.

Another point worth remembering is that the more tucking rows per sequence, the wider the knitting. Simply put, the more loops collected on the needles at any one time, the more the ribs will be pushed sideways. This is often a vital point when a large size garment is required.

Always remember on AX patterns to bring an extra needle into work on the back left in order to produce a neat edge.

AX patterns can also be knitted in two colours, and this is quite a good starting point for beginners to learn how to cope with two colour knitting. Unlike Fair Isle knitting, the pusher selection is far easier as the Arrow Keys make most of the changes. Attractive evening wear can be made by using yarns not only in different colours but also different types, such as a plain Botany and one with Lurex added.

BX — SLIP STITCH OR FLOAT STITCH

This works on a principle similar to AX, the difference being that the needles with pushers in working position knit but the needles with pushers in rest position do not tuck or do anything at all. They do not move, so the wool misses them altogether. The arrow keys do the same job as they did with AX, reversing the pushers wherever the pattern requires.

The BX setting is classed as selective as the pushers enable the operator to select which needles will knit and those which will miss or slip.

If you have to pull back a few rows, stop to think what you want to happen on the next row of knitting. Pushers under the needles you want to knit; pushers in rest position under the needles you want to miss — always remembering that, if an arrow key is pressed down nearest to the knitting, it will reverse the position of all the pushers on the next row.

BX — Holding Position

If you are knitting with both locks on N, BX takes the place of a stitch-holder when you reach the neck. If knitting a V neck the knitting will be divided in the centre — set in W.P. pushers under the needles on the right half of both beds. Set both locks to BX and knit. Only the needles on the right will knit — you can safely move the lock across the needles on the left, as BX without pushers will not knit.

If knitting a round neck, take an odd length of matching yarn and cast off centre stitches according to pattern, then continue as for V neck. If knitting stocking stitch, the same instructions apply but of course to the front bed only.

What happens when you are already using your patterning dial for a fancy stitch so you cannot use BX without pushers to keep the needles from knitting? This is the point where you are most likely to get into difficulties.

The standard method is as follows:—

Where either bed is set to N, BX can be used as previously explained. Where the pattern dial is in use the stitches to be immobilised must be knitted by hand with a piece of waste yarn and the needles pulled down to Non-working position. The needles will then be carrying long loops of waste yarn which can easily be unravelled when this side is to be knitted. If the pattern mechanism is being used on both beds anything but a Cut-and-Sew neck is most ill-advised. (See section on 'Cut and Sew').

Shortened Rows

Duomatic owners are constantly opting out of this job, mainly because the diagrams in the Model Books show a wedge shape with 2 black triangles and figures. It may look a little confusing but it is one of the easiest things to knit and is exactly the same as in handknitting when a pattern may read: 'knit 46 stitches, turn, knit 40 stitches, turn, knit 34 stitches, turn' and so on. It is simply a method of continuing to knit on one side of the work while rows are gradually shortened at the other side. Or it could be that the work in the centre continues to grow while the rows at either side are shortened, such as for a curved hem.

Detailed instructions for knitting a curved hem are given in Master Pattern No. 1. When shortened rows are knitted it is very important to take the yarn round the hook of the adjacent needle to avoid a small hole in the work. When pushers have been put into rest position at the opposite end to the lock knit the row, but before knitting back take a tool and lift the yarn which is coming from the last knitted stitch onto the hook of the adjacent needle which was the first of the block which did not knit. Knit the row and repeat at the other side if pushers have been put into rest position.

To return all needles to W.P. will require two rows of knitting if the work is being shaped at both sides. At the opposite end to the Lock bring all pushers back into W.P. Knit the row. The Lock

has now been taken to the very edge of the work and the yarn is in a suitable position to knit the next row on N to enable the remaining needles which are in H.P. to be brought back into work.

The BX setting is often neglected because it is associated with knitting Fair Isle, which new knitters feel is beyond them. This may well be so in the early stages, but this very same setting produces a beautiful fabric stitch when knitted in just one colour. Here again we come to the problem of yarn and stitch size. Certainly loops are not being collected on the needles but the machine is being asked to knit a fine woven fabric automatically. It is therefore reasonable to use a fairly fine, soft yarn and the right stitch size. As a rough guide 2-ply yarn and stitch size $3\frac{1}{4}$ knits a perfect fabric and is trouble-free. One very good design to knit in this way is No. 1745 in Model Book 12, omitting the Fair Isle pattern. It is possible to knit this stitch in heavier yarns with a larger stitch size but the garment will tend to be thick and heavy.

When knitting a garment in the BX weaving stitch, care should be taken in the choice of the stitch used for the welts. A K/K setting will produce a rib wider than the garment. Tubular will give a welt about the same size as the knitting very suitable for the longer type of garment which looks unattractive when pulled in at the bottom.

A 1x1 rib knitted double the length and then turned up when the garment is finished to form a ribbed hem gives a quality finish and fits well.

Many new knitters who try "pusher patterns" for the first time are completely baffled by them when, after knitting a fair number of rows with everything seeming to go well, they suddenly find either all or a large number of pushers have gone down to the bottom of the bed. Think back and the answer is simple. The needles are not being operated by the butts — instead pushers are being used to jack the needles up and make them knit. Where is the mechanism in the lock which operates these pushers? In the extreme ends of the lower part of the lock. So if, when knitting a row, the lock is not moved far enough across to clear the pushers the mechanism in the lock cannot click back to position ready to knit the next row and the pushers go down to the bottom of the bed. The same thing happens when a knitter leans across the bed for some reason — perhaps to loosen wool in the tension mast — and catches her sleeve on a couple of pushers without noticing and goes on knitting. The pushers have either been dislodged from the bed and are protruding or have been pushed out of line. At some point she looks down and notices that the pattern setting is now a mess and has no idea how it happened.

One big danger is that few knitters are sitting high enough at the machine. When knitting on any machine the arm, from the elbow to the hand, should be at a downward angle not pointing upwards. In fact it is almost the same angle as used for ironing. If the arm is in this position then the rest of the body is at the correct height and it is possible to lean across the needle bed without disturbing the pattern setting.

Pushers also refuse to knit properly when they become dry. A generous brush with surgical spirit and a light smear of oil is all that is needed.

BX for Fair Isle knitting on both beds

The Fair Isle produced on the Duomatic is the industrial type, i.e. the backing is known as Birdseye since it is being woven in on every alternate needle on the back bed and there are no loose strands. The finish is beautiful but far too few knitters seem to realise that it is a section for good knitters only — and a good knitter means one who really understands the mechanism of her machine and who understands how to simplify the job as much as possible.

First the strippers. Such a vital asset and the Duomatic is the only double bed machine available on the domestic market which provides this simple substitute for weights. Only those who have knitted on a machine with weights understand the pleasure of double bed knitting without them. However, there are times when a new knitter is learning to knit two-colour patterns that the strippers cause them more trouble than the actual pattern. This is because they have not yet developed the necessary rhythmic movement required to avoid tangling the yarns in the strippers as the colours are changed. It is vital to take the Lock right to the end of the needle bed and check that one colour is free from the strippers before knitting with the next colour. A simple alternative is to

substitute a weighting comb for the strippers — this is easily obtained and not too expensive. The comb should be inserted after the cast-on row. The strippers can be left in the machine until the actual two-colour knitting is started. When the strippers are removed weights must be hung on to the comb to pull the work down. If the Passap 4 feed automatic colour changer is either added to or purchased with the machine then even beginners can knit two-colour patterns very fast and without difficulty. Duo owners may feel that new and sometimes expensive additions to the machine are merely a way of inducing them to spend more money. This reaction is quite reasonable but it should be remembered that Passap operate on a principle of modification rather than make the whole machine obsolete as domestic knitting machine technology advances.

THE JAC 40

By studying the instructions for knitting Fair Isle in Passap Stitch Book No. 1 it soon becomes obvious that only by resetting the pushers on every 4th row can the needles be selected to knit the design. This is not too difficult on a small piece of knitting but, when two-thirds of the machine is in use, the method is full of pitfalls. It becomes difficult to count accurately if you are tired or have a certain amount of disturbance going on around you. This is where the JAC 40 can be of considerable help.

JAC is short for Jacquard, which is the name the industry usually uses for Fair Isle. 40 means that 40 pushers can be selected at any one time.

The JAC is a convenient piece of equipment into which a ready-punched card is fed. There is a knob at one end which, when turned, will feed the card through row by row. The JAC has a row of metal prongs on one side and, as the punched card goes through, the prongs shoot through the design holes in the card. The method is to put all the pushers under the needles in one straight line in working position, then with the JAC prongs push down the pushers required for the trimming (or contrast) colour to the bottom of the bed. With contrast yarn knit 2 rows, remembering that it will be the needles with the pushers at the bottom of the bed that will knit, since the left arrow key on the front bed is pushed down and on the first row of contrast the pusher positions will all be reversed. At the end of these two rows the needles which have knitted the contrast will have pushers in working position, while the needles required to knit the background will have pushers in rest position.

The next step is to knit the two rows of background colour and this is done simply by changing yarns. There are no alterations to be made to the pushers as the left arrow key will see that the pushers reverse and the needles with pushers in rest position will then be made to knit.

CX TUBULAR OR CIRCULAR KNITTING

This setting often tends to be neglected as those not familiar with its versatility usually think of it in terms of circular knitted garments. Its function is for edgings, garment bands and fabric type stitches as well as the obvious socks and trousers with seamless legs.

Stitch patterns using CX are usually simple, effective and present few problems to beginners. One of the best known uses for this stitch setting is the one which is called 'Longstitch'. This has long been used in industrial knitting and interesting versions can be seen in most of the big stores. On the mass produced garments it is often used as a basis for cable panels and embossed designs and in the older Model Books there are several patterns for jackets with embossed panels running up the fronts or sleeves. Because there is a certain amount of hand transfer to be done these patterns tend to look more complicated than they really are. Most of the patterns require the minimum of tool work and are very easy to follow.

The setting for 'Longstitch' is N on the back bed and CX on the front. Used in its simplest form it is a straightforward, automatic stitch, the result being a firm, jersey type fabric which comes off the machine perfectly flat. This has obvious advantages over stocking stitch when it comes to making up.

As stocking stitch is a single fabric and all the stitches are thrown off in the same direction there is an unequal tension between the back and the front of the fabric. This causes it to roll back on itself, making much more work in the pressing and making up. When knitting Longstitch a slightly larger stitch size is used on the front bed and the result is a fabric with a firm, tight back with larger loops on the face of the work.

It is usual to knit a tubular hem on garments knitted in Longstitch, always remembering that, contrary to a ribbed welt, tubular is stocking stitch and will need to be knitted on a stitch size slightly larger than the stitch size which is being used on the main part of the garment. The hem will be knitted with black Strippers but the Strippers required for the main part will depend on the needle set-up being used — for a plain fabric in 3-ply use Pink; for a plain fabric in 4-ply use Blue, but when a pattern is being knitted and a number of needles on the front bed are empty then Black will be needed.

As with most knitting stitch sizes are difficult to give, as so much depends on the twist of the yarn. For a rough guide try using 4 on the back and 4½ on the front for 2-ply; 5 on the back and 5½ on the front for 3-ply. Cast on in the usual way and knit a tubular hem. Reset the machine to N on the back bed and CX on the front and knit a trial piece. Many simple patterns are possible and when a trial piece is on the machine it is interesting to experiment with some of the variations possible.

Knit tubular hem and finish with the lock at the right. Working from the centre outwards, transfer blocks of stitches from the front bed to the back bed, i.e. leave 3 on the front, transfer 3 to back, leave 2 on the front and transfer 3 to the back; repeat across the work. Set the machine for pattern and knit 20rs. Now cross all the groups of 2sts one stitch over the other to produce a single cable. The groups of stitches at the front can be widened if you wish and the groups for cabling can be increased to 4sts so that you cross 2 over 2. In fact the stitches on the front bed can be set to any formation you require and if the cables put you off initially, try knitting it as a plain, flatbacked rib. Simply transfer groups of stitches (3 on front and 4 on back) and continue knitting. A perfect example of this type of pattern which produces an outstanding garment is a pattern in one of the older Model Books (Design No. 1443, Book No. 6).

When knitting Longstitch break the needle rule by giving both ends of the work exactly the same needle set-up. This usually means that an extra needle is put into work on the back left of the needle bed. This system of identical ends should be maintained right to the end of the garment.

CX is often used in conjunction with other stitch settings to produce fine, firm fabrics. These are usually knitted in fine yarns and are so effective that it is often difficult to believe that they have been knitted on a domestic machine.

Cardigan stitch which is used on a jacket in Model Book 14, Design No. 1793A is also based on the

CX setting. For this pattern both beds are set to CX for 2rs then both beds set to N for 2rs.

CX combined with BX also gives a most attractive fabric stitch. This was used on Design No. 1750 in Model Book 12 and should be knitted in 2-ply which, on this type of setting, gives a firm fabric very suitable for suits.

Pattern Panels for Longstitch

- 1) On the front bed select 21 needles for pattern panel
Working from the left, transfer stitches Nos. 1 and 2 to the back bed
Leave the next 3sts, transfer the following 2sts as before.
Miss the next 7sts which form the centre of the panel.
Transfer the next 2, leave 3, transfer the next 2.
The 8 needles which have been emptied are put into N.W.P.
Set for Longstitch and knit 2rs
Counting from the left, use a single eyelet tool and place the first of the 7 centre stitches onto its adjacent needle at the right. Leave empty needle in working position. Knit 2rs.
Now transfer the 2nd stitch in the same way and leave the empty needle in work.
Knit 2rs.
Continue in this way until the 7th needle is reached. As the needle at the right of this one is out of work the stitch is transferred to the adjacent needle at the left and the empty needle left in work.
This completes one pattern and is a simple procedure of transferring 1 stitch every 2 rows. It is always easy to see which stitch is to be moved next as the previous 'made' stitch is always visible on the needle.
To repeat the pattern start again at stitch No. 1.

2) Embossed diamond

On the front bed select 29sts for pattern panel.
Counting from the left, transfer the first stitch to the back bed.
Leave the next 2 needles in work, transfer the next 11sts to the back bed.
Leave the next needle (this forms the centre, lower point of the diamond).
Transfer the next 11sts, leave 2, transfer 1.
Set for Longstitch and knit 2 rows.
On the front bed bring an empty needle back into work on each side of the centre stitch. Knit 2 rows. Bring another needle back into work at each side of the centre 3sts. Knit 2rs.
Continue bringing another needle back into work at each side of the diamond on every 2rs until there are 15 needles knitting across the centre of the pattern.
Using a single eyelet tool transfer 1 stitch at each edge of the diamond to its adjacent needle towards the centre. Knit 2rs.
Continue in this way until the 15sts on the diamond have been reduced to a single stitch. Transfer this stitch to the back bed and knit 2rs.
Bring the centre stitch back into work and start another diamond.

EX. NON-SELECTIVE, SINGLE ROW TUCK STITCH

This is the simplest form of tuck stitch for double bed knitting. In fact on many double bed machines it is the only form of Tuck Stitch.

Again it works on the principle of withdrawing the mechanism on one or both locks which operate the needles for normal knitting. When EX is set on the front lock the machine will knit a normal row from right to left, but from left to right the needles will only move far enough up the bed to catch the yarn in the hooks and will therefore tuck. The same thing will happen if the back bed is set to EX, except that the knitting and the tucking rows will be reversed.

Non-selective because neither pushers nor high and low butt needles are used for this setting, therefore it is not possible to select certain needles for tucking while the rest are knitting.

Single Row. Without the aid of pushers it is not possible to tuck for more than one row before the loops are knitted off. This is a good stitch for beginners who do not understand their machines properly. It also provides the opportunity to use the racking mechanism to produce a simple variation. (See the Passap Fisherman Rib book).

EX should not be set on both beds unless it is being used for a racked pattern, since it is liable to produce a garment which will stretch badly in wear. Many knitters seem to be uncertain about which is the right side of Half Fisherman Rib. It is the side which has lines of seemingly loose stitches in vertical rows, one on top of the other. It is not the side which looks like a normal rib.

A lesser machine than the Duo has to rely on a combination of Fisherman Rib and racking to produce most of the fancy patterns but the additional cam settings on the Duo make so many stitch patterns possible that knitters tend to outgrow the standard EX settings.

Fisherman Rib can be knitted on a K/K setting and Pink strippers when 3-ply yarn is being used, or 1x1 rib setting and Blue strippers when you are using a 4-ply. Do not allow 'room for movement' on garments knitted in the straightforward Fisherman Rib. This stitch has considerable 'give' so garments should be made to body size. This is also a simple but effective stitch for garment bands.

If a plain garment is to be made with fine yarn used 3-fold, bands in Fisherman or racked Fisherman Rib knitted on a K/K setting and small stitch size with 2 strands only will give a finish which will improve the appearance considerably.

If a sample piece of Fisherman Rib is knitted and, when taken from the machine, presents a lumpy, uneven appearance the strippers are usually the cause. The yarn is a little heavier than you estimated and Pink strippers do not give quite enough 'push' to clear the loops from the needles. Try Blue strippers instead.

This stitch needs another needle working on the back left-hand side so that fashioned shapings on the raglan will be identical.

CABLES

Cabling on a domestic machine is a hand operation which is much the same as in handknitting. Only industrial machines are capable of crossing two sets of stitches automatically; the home knitter must use two tools, either 2- or 3-decker to across the sets of stitches by hand. First there is the pattern set-up to consider. Most simple cable patterns are mainly stocking stitch, with a rib stitch on each side of the sets of stitches to be crossed, so a 1x1 rib is usually the easiest method to use for the welt. Once the rib has been knitted, most of the stitches are transferred to the front bed and only the purl stitches which will come at either side of the cable stitches are left at the back.

As in handknitting, a specified number of rows are knitted and then the cable stitches are crossed. This is a fairly simple operation for the experienced knitter, but those who are not used to a machine tend to be clumsy with tools. While holding two tools, each one containing 2 or 3 stitches, they are inclined to drag on the purl stitches on the back bed and either pull them off the needles or unknit them. For these knitters it is better to abandon the idea of having purl stitches in the first place and have a needle out of work on either side of the cable stitches instead. To do this the ribbed welt is knitted and the stitches transferred to the front bed. One stitch at either side of the cable block is transferred to the adjacent needle and the empty needle is put out of work. This will produce a 'ladder' at each side and will serve to emphasize the cable pattern.

Once again it is quite important to understand about tension (stitch size) when considering cable patterns. When using 3-ply yarn and the appropriate stitch size, which will produce about 8sts/11rs to 1" (2.5 cms), it is almost impossible to cross six stitches (3 over 3). There is just not enough 'give' to allow for the amount of pull which a 3-stitch crossover will exert on the work. For the finer types of knitting no more than 4 stitches should be used, as a 2-over-2 crossover is the maximum if yarn breakages are to be avoided. For a 6-stitch cable a tension of 7sts and 10 rows per inch (2.5 cms) is suitable, the larger stitch size giving a much looser fabric which will allow for a 3-over-3 crossover.

A beginner should avoid the more complicated cables which, although very attractive, need quite a lot of concentration once the garment shapings are reached. A 10-row cable pattern is quite effective and if a knitter knows that the crossover is to take place on every 10th row, it is only a matter of watching the row counter and there is no need to try to remember anything. If a little more interest is required and the tension of the knitting will allow it, cables of two different sizes can be used quite easily. For example, for a pattern down the front of a garment, select 22 needles, transfer the first stitch on this panel and put the needle out of work, leave the next 2 stitches for a 1-over-1 cable.

Transfer the next stitch

Leave the next 3 needles which will knit plain throughout

Transfer the next stitch

Leave the next 6 stitches for a 3-over-3 cable

Transfer the next stitch

Leave the next 3 needles which will knit plain throughout

Transfer the next stitch

Leave 2 stitches for a 1-over-1 cable

Transfer the next stitch

The Diagram for this is given in the Stitch Pattern Section

Cables are very effective on a garment which is being knitted in Longstitch. The fabric is heavier and is very suitable for sports sweaters. Examples of this are also given in the Stitch Section, but no attempt should be made to knit Longstitch unless the structure of the stitch is understood. Few things could be easier, but the correct tension is essential and also some understanding of how the needlebed should be set to obtain a simple but effective pattern.

USING THE RACKING HANDLE

This is the one which knitters avoid, yet it is simple and transforms a straightforward stitch pattern into something which is most impressive. Those not used to double bed knitting always have the fear that they will forget the direction in which they should rack the bed on the next sequence. There is no need to even try to remember — it is a waste of mental energy.

1. Most patterns are racked every 2 rows.
2. The usual method is to rack first to the right and then to the left.
3. Any stitch pattern which says "Knit 2 rows and rack to the left" twice; Knit 2 rows and rack to the right" twice should be strictly avoided by beginners. This type of pattern requires four racking movements and on the third one new knitters can all too easily get lost.
4. If the centre of the needle bed is properly marked it is hardly possible for anyone to lose themselves and rack in the wrong direction.

There are a few ordinary, commonsense points to think about in connection with racking. Starting with No. 2: When the pattern is set up the needle rule is observed, so that the needle on the back bed at the right is the first to knit. When starting the pattern the position of this needle is quite clear. Should a certain amount of knitting be done and the bed has been racked to the right when some interruption occurs, it is perfectly obvious to the returning knitter that this needle is out of the 'needle-rule' position and the bed must be racked back to its normal position on the next sequence.

The instruction "Rack to the right" and "Rack to the left" make it sound more difficult than it really is — it gives the impression that there are two things to remember, which is not so. Racking to the right is easy and obvious but the second movement should always come to mind as "rack back again". Always think of this racking back to the normal 'needle-rule' position. If the instruction is in reverse and says "rack to the left" on the first part and then to the right, all the preceding remarks apply in exactly the same way. It is equally obvious and easy to see whether or not the 2 knit rows have been carried out since the bed was racked. If they are not the existing loops on the needles will clearly be pulled in one particular direction, therefore they must be knitted before the next racking movement. If the stitches appear normal then the 2 rows have been knitted and the next movement is to rack the bed.

Point No. 4. Marking the bed

Rack the bed to its normal position. Select the 2 central teeth at the top of the front needle bed and mark them clearly with bright red nail varnish. Now select a single tooth on the back bed which comes between the 2 at the front and mark this one in the same way. When knitting a racked pattern your eyes will always be noting the position of these 3 marked teeth and will assist you to move in the right direction. Should you make a wrong move you will see it almost at once and will probably only need to pull back 2 rows to get going in the right direction again.

By studying the Passap stitch patterns you will notice that, whatever the other settings on the beds and the pattern mechanism, the racking usually remains the same.

How Racking affects the Stitch Pattern

By using a simple Tuck setting (AX or EX) on one bed of a machine and using a simple racking sequence between rows, a large selection of attractive patterns are possible on a double bed machine. Most of them you will have seen many times on ready-made garments. They are in no way difficult to knit on the machine which you now have, the only requirement is that you understand what you are doing. This will involve you in reading and re-reading and then trying some of the stitches on the machine. Never start a garment in this type of stitch pattern without some understanding of how the stitch pattern is produced.

For general racking pattern work the back bed is set for normal plain rib knitting (N).

The front bed is set for the Tuck pattern.

2 rows are knitted and the selected needles on the front bed knit the Tuck stitch — this creates the texture.

The Racking Handle is then moved to the right or left, according to the pattern instructions.

This pulls the knitting in a diagonal direction.

2 more rows are now knitted with the needles in this new position. This knits the diagonal pull into the work and it becomes part of the stitch design.

The Racking Handle is now used to move the needle beds back to their starting position, creating another diagonal pull in the work.

Again 2 more rows are knitted so that this pull in the opposite direction is also knitted into the fabric.

All patterns of this type have a right and wrong side.

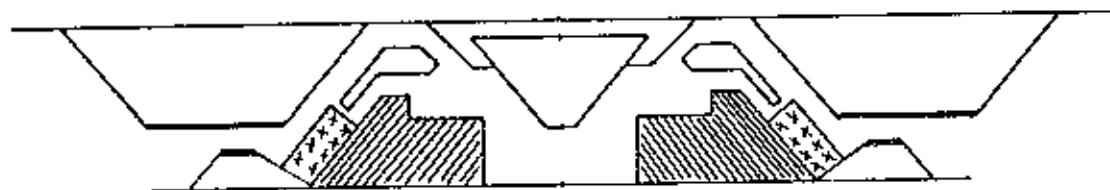
More ambitious patterns which are the same on both sides are knitted by using a Tuck setting on both beds. This increases the thickness and texture so for most purposes a fine yarn such as 2-ply should be used. The best examples of this type of knitting are the Passap Crochet stitches.

DIAGRAM OF UPPER PORTION OF LOCK

A cams shown by crosses

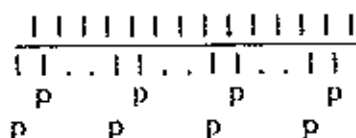
B cams shown by shaded lines

Setting N		All cams in normal working position
Setting AX		Both A cams withdrawn
Setting BX		Both A and B cams withdrawn
Setting CX		One A and one B cam withdrawn, at same side
Setting EX		One A cam withdrawn
Setting DX		Both A cams and one B cam withdrawn
Setting FX		One A cam withdrawn
Setting GX		All main cams shown on diagram withdrawn



AX PATTERNS — DOUBLE BED

1. Welt Tubular s.s. 5 — 5½ for 3-ply
Transfer as diagram for pattern
Pattern: s.s.4 on both beds
Handle down. Black strippers
Stitches counted on back bed only.



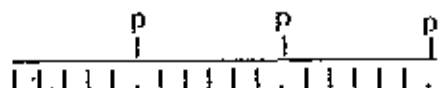
Back N
Front AX ←
Knit 2rs. Rack to left
Knit 2rs. Rack to right

2. Welt 1x1 Rib s.s.2 for 3-ply
Pattern transfer as diagram
Handle up. Black strippers. s.s.3½ on back bed, 5½ on front
Stitches on both beds are counted.



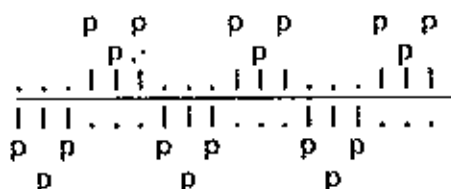
Back N
Front 4rs AX
2rs N

3. Welt knitted in 1x1 Rib (every alternate needle) on s.s.2 for 3-ply
Pattern: Back bed s.s. 2½, Front bed s.s. 5 — 5½
Racking handle up
Black strippers
All stitches are counted on both beds.



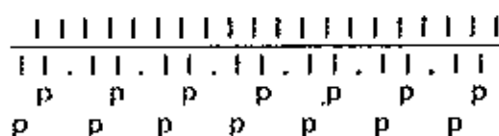
AX ←
N

4. Welt knitted in 1x1 Rib on s.s.2 for 3-ply
Pattern: s.s.4½—5 (for 2-ply use s.s. 3½—4)
Racking handle up
Strippers: Pink for 1x1 Rib
Black for pattern
All stitches are counted on both beds



Back AX ←
Front AX ←

5. Welt 2x2 Rib s.s. 2½ for 2-ply
Pattern: s.s. 3½ Racking handle down
Pink strippers
Stitches counted on back bed only



N
AX ←
Knit 2rs. Rack to left
Knit 2rs. Rack to right

10. This is a lace pattern suitable for anything not requiring a great deal of shaping, i.e. stoles, shawls, wide full sleeves for square armholes, etc.
 When casting off bring stitches from back to front bed.
 Set Lock to N. On front bed where pairs of needles are missing, push 1 needle of each pair into working position. Knit 1 row. Now push the other empty needle into W.P. Knit 1 row and cast off, remembering to hook up at regular intervals.

Cast on with needles set as shown in Diagram 1.

Knit 2rs CX s.s.4

Transfer all needles marked * to the opposite needle on front bed.

Knit 1 row and set for pattern.

For a neat edge an extra needle at each end on back bed may be required (See Diagram 2)

Diagram 1

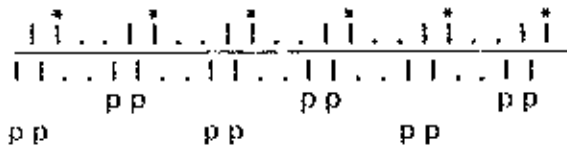
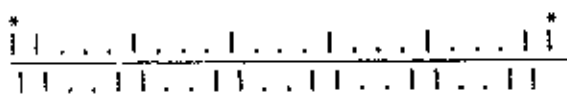


Diagram 2



Pushers as diag 1

	Back	Front
4rs	N	AX
2rs	N	N ←

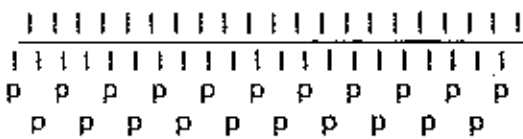
11. Welt K/K Rib, s.s.3

Pattern: s.s. 3½

Pink strippers. 3-ply yarn

Stitches counted on both beds.

Racking handle down.



	Back	Front
Back N		
Front	2rs AX ←	
	2rs AX O	

12. Welt K/K Rib, s.s.3

Pattern: s.s. 3½ 3-ply yarn.

Pink strippers

Racking handle down

For 4-ply yarn set up for 1x1 Rib, stitch sizes approximately ½ size larger.

Pushers at front in 1 up, 1 down position as in diagram.

All stitches are counted.



	Back	Front
Back N		
Front	AX ←	

16. Crochet stitch No. 3

If a welt is required Tubular can be used but there is rather a lot of stitch transferring to be done.

Tubular welt — s.s.4½

The pattern can be started as soon as the cast-on is complete — use a racking cast-on.

(Set needles as diagram, rack bed one turn to the left, knit the zig-zag row on s.s.3, rack back to the right, knit 1 row).

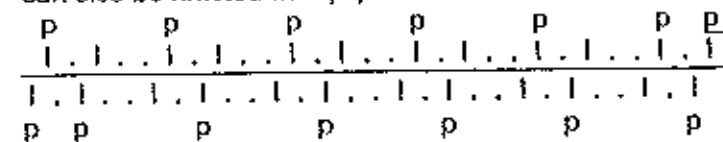
Cast-on is then complete and pattern can be started.

Pattern s.s.4½ 2-ply yarn

Racking handle down. Pink strippers

Note extra pushers at ends (p)

Can also be knitted in 1-ply s.s.3½ — 4



Back and front alike

2rs	N	
4rs	AX	Rack to left
2rs	N	
4rs	AX	Rack to right

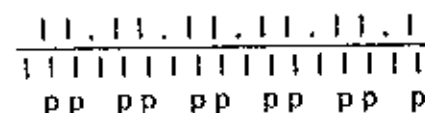
All stitches are counted

17. Welt K/K s.s.3 (every 3rd stitch to be transferred at back for pattern)
or Tubular s.s.5½ (every 3rd stitch transferred as for K/K)

Pattern s.s.4½ 3-ply yarn

Pink strippers Racking handle down

Stitches counted on front bed only



Back N

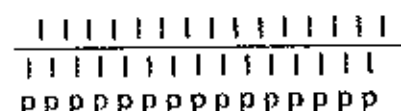
Front	4rs	AX
	4rs	N

18. Welt K/K s.s.3

Pattern s.s.3½ Pink strippers

3-ply yarn

Racking handle down



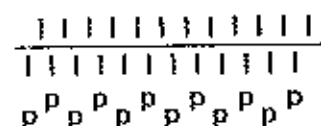
Back N

Front AX ←

19. Welt K/K s.s.3

Pattern s.s.3½ Pink strippers

Racking handle down



Back N

Front	AX	O	2rs
	N	←	2rs

AX PATTERNS – SINGLE BED

1. Welt 1x1 Rib s.s.2, or stocking stitch hem

Pattern s.s.5½

Black strippers for pattern

3-ply yarn

1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
p	p		p	p		p	p		p	p		p	p		p	p		p	p

Back GX

Front	AX	←	2rs
	N	O	2rs

2. Welt 1x1 Rib s.s.1½, or tubular hem s.s.4

Pattern s.s.4

Black strippers for pattern

2-ply yarn

1																			1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
p	p		p	p		p	p		p	p		p	p		p	p		p	p

Back N

Front	AX	←	2rs
	N	O	2rs

3. Welt: knit a tubular hem using every alternate needle on each bed (same set-up as for 1x1 rib) on s.s.2½ – 3

Pattern s.s.4

Black strippers for hem and pattern

3-ply yarn

When transferring stitches ready for pattern place the stitches from back bed onto the needles which are already holding stitches on the front bed

1	.	1	.	1	.	1	.	1	.	1	.	1	.	1	.	1	.	1	.
p		p		p		p		p		p		p		p		p		p	

Back GX

Front	AX	O	3rs
	N	→	1 row

4. Welt as for Pattern No. 3, s.s.2½ – 3

Pattern s.s.3½ – 4

Black strippers

3-ply yarn

1	.	1	.	1	.	1	.	1	.	1	.	1	.	1	.	1	.	1	.
p		p		p		p		p		p		p		p		p		p	

Back GX

Front AX ←

BX PATTERNS – DOUBLE BED

1. Welt 1x1 Rib, s.s.2 or
Tubular s.s.5. 3-ply yarn (2-ply s.s.4)

Pattern s.s.4½ (3½ on 2-ply)
Racking handle down. Pink strippers
3-ply yarn

```

  p p p p p p p p p p p p
  | | | | | | | | | | | |
  | | | | | | | | | | | |
  p p p p p p p p p p p p

```

Back BX ↔
Front BX ←

This is the basic setting for Fair Isle but it produces a very attractive woven stitch when knitted in one colour only.
Stitches are counted on both beds.

2. Welt tubular s.s.5 or 1x1 rib s.s.2

Pattern: Front 5½, Back 3
Handle up Black strippers
3-ply yarn
All stitches are counted.

This is a slip-stitch woven rib.

```

  . . . | . . . . . | . . . . . | . .
  | | | | | | | | | | | | | |
  p p p p p p p p p p p p
  p      p p      p p      p

```

Back EX
Front BX ←

3. Welt tubular s.s.4 – 4½

Pattern: Front 2½ Back 3
Handle down Pink strippers
2-ply yarn

After the welt transfer every 7th stitch at front to back and
put empty needles into non-working position.

```

  | | | | | | | | | | | | | |
  | | | | | | | | | | | | | |
  p p p p p p p p p p p p
  p p p p p p p p p p p

```

Back CX
Front BX ←

4. Welt K/K rib, s.s.2 or tubular s.s.5 – 5½

Pattern s.s.4
Racking handle down Pink strippers
3-ply yarn (For 2-ply reduce stitch size one whole number)
Only the stitches on the back bed are counted.
This is an attractive woven rib which does not cling.

```

  p p p p p p p p p p p p
  p p p p p p p p p p p p
  | | | | | | | | | | | | | |
  . | | | | . | | | | . | | | | .

```

Back BX ↔
Front N

5. K/K setting, s.s.3 for welt or Tubular s.s.5 — 5½

Pattern: Pink strippers Racking handle down
 s.s.3½ Back 4½ Front
 Pushers on front bed 1 up 1 down

This is a firm fabric stitch with smooth twisted rib finish.

Back Bed	N
Front	BX ←

BX PATTERNS — SINGLE BED

1. Welt will need to be a stocking stitch hem knitted on s.s.5

Pattern: s.s.5 3-ply yarn
 Black strippers

This pattern can be knitted without the N rows.
 Set Front to BX — and continue knitting.
 The result is a firm single bed fabric type stitch,
 very suitable for skirts.

It can also be set with both arrow keys down at front.

```

  | | | | | | | | | | | | | | | |
  p p p p p p p p p p p
  p p p p p p p p p p
  
```

Back	GX		
Front	4rs	N	O
	6rs	BX	←

2. Welt 1x1 rib s.s.2

Pattern: s.s.4½ 3-ply yarn
 Black strippers

```

  | | | | | | | | | | | | | | | |
  p p p p p p p p p p p
  p p p p p p p p p p
  
```

Back	GX		
Front	2rs	BX	←
	2rs	N	O

CX PATTERNS

1. Welt Tubular s.s.5 — 5½ for 3-ply yarn

Pattern: s.s.5 for Back bed, 4 for Front

Transfer stitches as diagram.

Only the stitches on the back bed are counted.

Black strippers. Handle down.

```

  | | | | | | | | | |
  | . . | . . | . . | . .

```

Back and Front

Knit 4rs N

4rs CX

2. Welt Tubular s.s.5 — 5½ for 3-ply or

1x1 rib s.s.2

Pink strippers. Handle down

Pattern s.s.4½ — 5

Stitches counted on front bed only

```

  | . | . | . | . | . | . | . | . | . | . | . | . |
  | | | | | | | | | | | | | | | | | | | | | |

```

Back CX

Front N

Simple Cables for Longstitch

3.

```

  | | | | | | | | | | | | | | | | | |
  | | | | . . . . | | | | . . . . | | | |
  1 2 3 4             1 2 3 4

```

Cross 1 and 2 then 3 and 4

or

Place 1 onto 2 and 4 onto 3
and leave empty needles in work

4.

```

  | | | | | | | | | | | | | | | | | |
  | | . . . . | | . . . . | | . . . . | | . . . .
  1 2             1 2

```

Cross 1 and 2 every 20rs

5.

```

  | | | | | | | | | | | | | | | | | |
  | | | | . . . . | | | | . . . . | | | |
  1 2 3             1 2 3             1 2 3

```

Place 1 and 3 onto 2 every 10rs.

Leave empty needles in work.

6.

```

  | | | | | | | | | | | | | | | | | |
  | | | | . . . . | | | | . . . . | | | |
  1 2 2 1             1 2 2 1

```

Cross 1 and 2 or place 2 onto 1 and leave
empty needles in work.

Every 10 or 20rs will make counting easier.

EX PATTERNS

1. Welt K/K rib s.s.3 or Tubular s.s.5 — 5½

Pattern s.s.4½
 Black strippers Handle down
 3-ply yarn
 All needles working on back
 1 working 2 empty at front

1 1 1 1 1 1 1 1 1 1
 1 . . 1 . . 1 . . 1

Back N
 Front EX

Knit 2rs, rack to the right
 Knit 2rs, rack to the left

2. Welt 2x2 rib s.s.3½ — 3½

Pattern s.s.4
 Black strippers Handle down
 3-ply yarn

. 1 1 . 1 1 . 1 1 . 1 1
 1 1 . 1 1 . 1 1 . 1 1

Back and Front: EX
 Knit 2rs, then rack to left
 Knit 2rs, then rack to right

3. Welt Tubular s.s.4½ for 2-ply 5 for 3-ply
 Welt K/K s.s.2 for 2-ply 3 for 3-ply

Pattern s.s.3 for 2-ply 3½ — 4 for 3-ply
 Pink strippers Racking handle down
 Only stitches on Front bed are counted
 With either welt, every 3rd stitch on back bed
 must be transferred for pattern

1 1 . 1 1 . 1 1 . 1 1 . 1 1
 1 1 1 1 1 1 1 1 1 1 1 1 1 1

Back N
 Front EX

Knit 2rs, rack to left
 Knit 2rs, rack to right

4. Welt 2x2 rib s.s.3½ for 3-ply yarn

Pattern: Back bed s.s.3 Front bed s.s.5
 Black strippers Racking handle down
 Transfer stitches as diagram.
 Only the stitches on the Front bed are counted.

. 1 1 1 .
 1 1 1 1 1 1 1 1 1 1 1 1 1 1

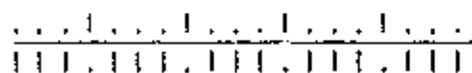
Back EX
 Front N

5. Welt 1x1 rib s.s.2 for 3-ply

Pattern: Back bed s.s.4 Front bed s.s.4½

Black strippers Racking handle up

Transfer stitches as diagram



Back EX

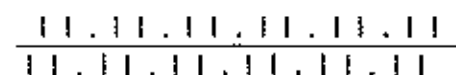
Front N

6. Welt 2x2 Rib s,s,3½ for 3-ply

Pattern: s.s.4

Pink strippers Racking handle down

Rack bed as diagram for pattern



Back EX

Front EX

Knit 2rs, rack to left

Knit 2rs, rack to right

COLOUR PATTERNS (NOT FAIR ISLE)

1. Welt Tubular s.s.5 or 1x1 rib s.s.2

Pattern s.s.5 3-ply yarn
Black strippers

```

| | | | | | | | | | | | | | | |
p p p p p p p p p p
p p p p p p p p p p

```

Back GX
Front AX ←
2rs Brown
2rs White

2. Welt 1x1 Rib s.s.2 or Tubular s.s. 5 – 5½

Pattern s.s.5 3-ply yarn
Black strippers

```

| | | | | | | | | | | | | | | |
p p · p p p · p p p · p p p · p p

```

Back GX
Front: 2rs N Red
2rs BX White

3. Welt Tubular, s.s.5 or 2x2 Rib s.s.3½
-
- (Bring empty needles into work for pattern)

Pattern s.s.4½ 3-ply yarn (1 number lower for 2-ply)
Pink strippers Racking handle down
All stitches are counted

```

| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
p p p p p p p p p p p p p p p p

```

Back N
Front BX ← 2rs Green
2rs White

4. Welt 1x1 Rib s.s.2 or Tubular s.s.5 – 5½

Pattern s.s.3 3-ply yarn
Pink strippers Racking handle up
All stitches are counted

```

| . | . | . | . | . | . | . | . | . |
| . | . | . | . | . | . | . | . | . |
p p p p p p p p p p p p p p p p

```

Back N
Front 4rs AX Red
2rs N ← White

5. Welt 1x1 Rib s.s.3, 4-ply yarn (s.s.2 for 3-ply or
-
- Tubular s.s.6 for 4-ply, 5 – 5½ for 3-ply)

Pattern Back s.s.4, Front s.s.7 for 4-ply yarn
(s.s.2 and s.s.5 for 3-ply)
Black strippers Racking handle up All stitches are counted

```

| | | | | | | | | | | | | | | |
| | | . | | | . | | | . | | | . | | | . |

```

Back Front
4rs AX N White
4rs N AX Violet

6. Welt 1x1 Rib s.s.3 4-ply yarn (s.s.2 for 3-ply)

Pattern Back s.s.5 Front s.s.3½ (s.s.4 and 2½ for 3-ply)
 Black strippers Racking handle up
 Stitches counted on back bed only

```

      p      p
p  p  p  p  p  p  p  p
|  |  |  |  |  |  |  |
.  .  .  .  .  .  .  .
      p      p      p

```

Back	BX ←	
Front	AX ←	2rs Blue
		2rs White

7. Welt Tubular s.s.4 — 4½ 2-ply yarn

Pattern s.s.4½
 Pink strippers Racking handle down

```

      p p  p p  p p  p p
p p  p p  p p  p p
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
      p p  p p  p p  p p
p p  p p  p p  p p

```

Back and Front		
BX	6rs	Black
N ←	2rs	White

8. Shell pattern for knitting on stocking stitch
 Knit 12 — 20 rows plain between each pattern sequence

Pattern s.s.5½ for 3-ply

(a)

```

| | | | | | | | | | | | | | | |
p p  p p p p p p  p p p p p p  p p
      p              p              p

```

Back	GX	
Front	AX	4rs Black
		4rs White

(b)

```

| | | | | | | | | | | | | | | |
p p p p p p  p p p p p p  p p p p p p
      p              p

```

Work (a) then knit plain rows
 and change to (b)
 Repeat if required

The size of "shells" can be varied by the number of stitches which are left between the pushers which are in N.W.P.

9. Welt K/K Rib s.s.3
 Stitches must be transferred at back before starting pattern.

Pattern Back s.s.4 Front s.s.4½ 3-ply yarn
 Pink strippers Racking handle down

```

.  .  .  .  .  .  .  .  .  .
|  |  |  |  |  |  |  |  |  |

```

Back	Front	
AX	N	4rs White
N	AX	4rs Beige

Can also be knitted 2rs AX
 2rs N

10. Welt 1x1 Rib s.s.2

Pattern s.s.4½ 3-ply yarn
Pink strippers Racking handle up

```

      | . | . | . | . | . | . | . | . | . |
      | . | . | . | . | . | . | . | . | . |
      p   p   p   p   p   p   p
        p     p     p     p
  
```

Back	Front	
N	AX	4rs Blue
GX	N ←	2rs White

11. K/K Welt s.s.3

Pattern s.s.4
Pink strippers Racking handle down
3-ply yarn

```

      | | | | | | | | | |
      | | | | | | | | | |
      p p p p p p p p p p
  
```

Back	N
Front	AX ←

Knit 2rs of each colour alternately

12. Welt 1x1 Rib s.s.2 for 3-ply

Pattern s.s.5
Transfer stitches to front bed
Pushers 1 up 1 down Black strippers

```

      | | | | | | | | | |
      p p p p p p p p
      p p p p p p p p
  
```

Back	GX	
Front	N	2rs with colour 1
	AX ←	2rs with colour 2

13. Stole stitch — contributed by Graham Ellis

```

      * p       p       p       p*
        p       p       p       p
      | | . . | . . | . . | . . |
      | | . . | . . | . . | . . |
      * p       p       p       p*
        p       p       p       p
  
```

Back	FX ←	2rs
	FX O	2rs

Front	AX ←	2rs
	AX O	2rs

Note: At each end of the work an extra needle must be brought into work and the pushers set accordingly as marked with *

Colour 1 for 4rs
Colour 2 for 4rs

MAKING UP

Every knitting magazine, whether for hand or machine, devotes at least one page to instructions for making up the garments. The result of this effort is that the majority of knitters remain confused and either spend hours making up a garment, or throw it together without any system at all.

The problems seem to arise from a feeling of uncertainty about which method to use and where to use it. To begin with, articles on yarns and the handknitting spinners ball-bands state quite clearly that man-made fibres should be pressed with a cool iron and dry cloth on the wrong side. That is simple enough but what about all the instructions which say that a garment cannot be successful unless it is blocked and pressed?

By now most knitters know that the aim when pressing high bulk yarns is to avoid excessive heat which will cause the yarn to 'die' and elongate. The sheer commonsense of the situation establishes that blocking would be a waste of time. In industry garments knitted in these yarns are subjected to both heat and shaping processes but shaping boards are used in conjunction with heat methods which are exactly right. For the home knitter, gentle pressing with a dry cloth and the iron on a low temperature setting is all that is needed. Always move the iron up and down the garment rather than from side to side as man-made fibres have a tendency to spread widthways.

This method would be quite unsuitable if the garment is knitted in wool, which needs damp pressing. A steam iron does not do a very good job — the ideal is a damp cloth with the iron on a fairly high setting. Whether or not to pin out again depends on the requirements of the yarn being used. Certain procedures are developed at every stage of our lives to fill a certain need. Often the procedure pattern is still in existence long after the need for it has gone. This applies to many of the present-day wools; the days when a little heat and steam would cause a piece of knitting to stretch in all directions are gone. Today's materials are spun to withstand all kinds of treatment and, with care and gentle handling, many of them are quite easy to press without pinning.

The finest yarn which is likely to be used is 2-ply. This is going to produce a fine, soft knit which needs careful handling, otherwise it will stretch badly. Unless you are fairly expert at pressing it will need to be pinned to retain its size. After pressing it may well need to be left in the pinned position until dry, as handling when damp could cause stretching and shape loss.

The next is 3-ply which is not so bad and whether or not it needs to be pinned depends only on the way in which you normally handle an iron. If you are able to press the work properly without changing the shape there is no need to pin.

4-ply wool usually gives a good solid fabric and should be quite easy to press without blocking. Double knitting should also be well able to retain its shape.

All you can do is try to develop a 'feel' for the particular job you are doing. This will enable you to judge more accurately the best way of dealing with each garment you knit. There are several ways in which you can help yourself so that your methods are not too reckless.

Before pressing, make sure that the garment pieces have been pulled lengthways and have been allowed to rest. Then check all the main measurements on the pieces. Having decided that everything is all right so far, consider how to press without unnecessary work. You may feel that there is no great need to block but, at the same time, feel that you are not entirely prepared to press freehand. Work by the following method:—

To ensure that a garment will hang and fit correctly it is essential that any two identical pieces should match in size and shape. The easiest way to achieve this is to pin or tack the two pieces together, wrong side out, and then press. This is particularly useful with skirt panels and sleeves. Body pieces can be folded in half lengthways; the sides, shoulders and neckline can then be matched up and a few pins put in to hold the work in the correct shape. Care should be taken not to press the centre foldline, this part can be pressed when the work has been opened out flat. Keep a tape handy on the ironing board and check as the pressing is being carried out. If the stitch pattern used tends to push the work out sideways, making a section a little too wide and too short, be sure to move the iron vertically. If the stitch pattern used tends to pull in and lengthen the

work, make all movements with the iron in a horizontal direction. If you are using a damp cloth you must be careful not to stretch the work as the steam penetrates. Straighten a piece of fabric on the board and cover with a damp cloth. Each time the iron is moved lift it straight up and bring it straight down again. As the cloth begins to dry the iron can be gently rubbed across to remove the imprints of the iron.

In knitting, as in dressmaking, there are always the odd things which can be trouble some when it comes to pressing. These are usually the fine, soft knits. Take extra care with these but do not waste time on things which can be dealt with much more easily and quickly. Remember that in spite of all the blocking and pressing, wool has a natural, built-in shape retention and whatever changes you may make on the ironing board, once washed it is more than likely that it will revert to its original size and shape.

Garments knitted in a rib-based stitch need minimum pressing on the seams only. Never allow the work to take the weight of the iron and so flatten the pattern.

A knitting machine is an advanced form of knitting production. In a business sense, any piece of machinery which advances production demands that any relative operations connected with this production should advance also. Without this speeding up the object of efficient machinery would be defeated and the goods produced would pile up until the whole operation came to a standstill. This can happen to the home knitter who does not have a positive system for making up. Untidy unpressed pieces are allowed to pile up and the enthusiasm which was felt when the garment was commenced has long since evaporated. It is not unknown for a machine to fall into disuse, simply because the knitter feels unequal to the task of making up.

With the pressing done, the next step is to decide which seaming method to use. There are many ways of joining seams but which one to use becomes a process of elimination. The stitch to use for joining depends mainly on the method which was used to shape the garment. When this connection between knitting and sewing becomes clear the problems are far less.

The Purpose of the Seam:

This splits off into two parts:

- (a) To join two pieces of knit fabric by a method which is both flat and almost invisible.
- (b) To join two pieces of knit fabric in a way which will provide a firm and perhaps unobtrusive seam on the right side of the work, while on the wrong side there is a positive seam allowance which may consist of up to one whole stitch on each section of the pieces to be joined.

Methods which can be used for (a):

Grafting which gives the best possible finish on parts of the garment where it is possible for it to be used.

Mattress Stitch: good if used, not in the usual way, but worked as near to the edge of the work as possible.

Methods which can be used for (b):

Backstitch: This is the one which has been in general use for a number of years and is familiar to most knitters. If properly worked it gives a firm tailored seam, is reasonably quick and the garment will hold its shape well. If badly sewn, when the seam is pulled widthways there are small gaps between the stitches.

Mattress Stitch: There is a general trend for this to be used more and more and diagrams for the method of stitching are in almost every knitting book. Many knitters have tried it, most have failed to get a satisfactory result.

This may well be caused, not by their inability to work the stitch, but an uncertainty about what

the finished result should be. Mattress Stitch is constantly being recommended as 'the best method for invisible seams' and this may lead some knitters to think that the seam should be invisible on both sides of the work. Once stitching is commenced and the seam is drawn together they feel that something is wrong because there is such a pronounced seam on the inside. They often try to avoid this by not pulling the seam together properly. This looks far worse as all the bars of the stitching yarn then show on the right side. It should be clearly understood that for all general seaming one full stitch at each edge of the work is drawn to the inside of the garment. On the right side of the garment the seaming can hardly be seen. One very useful aspect of Mattress Stitch is that it is worked on the right, not the wrong side of the garment which makes the matching of stripes and colour patterning far easier. Another helpful point is that the yarn does not have to be changed at any part of the seam to match the colour of the work being sewn. With any other method patterning in the form of stripes is always a little tiresome to match up accurately and the sewing yarn needs to be the same colour as each individual stripe if it is not to show on the right side.

Joining on the Knitting Machine

This is not used to any great extent but there are knitters who prefer this method of joining seams. The edges of the pieces to be joined are picked up onto the machine, one row is knitted and then the work is cast off in the usual way. There is not much point in thinking about this on a double-bed machine as it would be too tedious to be worthwhile.

Crochet: For those who can crochet and want a change from the more usual methods, joining the two pieces with a double crochet seam gives a firm, neat finish.

Latch Up: This is both interesting and decorative. It is well worth trying if only to relieve the monotony of normal seaming methods. The first thing to realise if this method is used is that shaping cannot be carried out on the edge stitches of the knitting and the fully-fashioned method must always be used. It is also more effective on plain work.

Each section of the garment is knitted in the normal way, right up to the casting off. At this stage the first stitch which should be cast off is dropped off the needle and left (it does not matter if it runs down) then all the remaining stitches are cast off up to the last one. This is also dropped off and the work is removed from the machine. When the time comes to join the two pieces together the end stitches which were dropped are pulled down to form a loop-ladder at each edge of each piece to be joined. Using the latch tool which is part of the basic tool kit with the main machine, insert the hook through the first two loops on one section, push it far enough in for the loops to go behind the latch. Now insert it through the first two loops on the second piece (these should remain in the hook) and pull through. The first two loops have now been dropped off the tool.

Insert tool in the next two loops on the first piece as before, pull these two loops through the two which are already on the tool. In other words, crochet the two edges together with the latch tool, using two loops from each edge for each stitch. This method can be used in exactly the same way to give a bolder effect by taking up three loops at a time instead of two. Remember that if a hem is knitted, the edge stitch must be left free when the hem is turned, otherwise in the final stages the stitch cannot be laddered right down to the bottom of the work.

This method can be used to join skirt sections, raglans, or any part of the garment which would be given interest by a fancy, pronounced type of seam. Many children's garments such as capes, ponchos, etc. look very attractive when finished in this way.

The Domestic Sewing Machine

As small manufacturing with domestic knitting machines is increasing, more people are turning to the domestic sewing machine in an effort to avoid a 'bottle neck' in the making up. In the Knitwear industry all garments are made up by machine. These machines are built for the job, are high speed, accurate and usually have clutch motors. The capital outlay is more than a small concern or the individual is prepared to invest and the answer for some is in the domestic sewing machine. For the most successful finish the machine needs to have a built-in stretch stitch setting. Many good quality machines now have this for the benefit of dressmakers using knit fabric, but it does need to be

used with caution if trying it on knitwear for the first time.

Ordinary sewing thread can be used in the usual way.

The presser foot must be set to minimum pressure to avoid the work getting stuck on the feed dog.

The work needs to be eased towards the needle but no undue pressure should be exerted on the far side or the seam will be stretched and 'wavy'.

Tacking threads are not much help to keep the pieces in position. They tend to get machined over and are difficult to remove. The machine stitching should be worked on the second row of stitches from the edge of the work. Pins placed about every 4" (10 cms) is probably the best method.

Ribbed garments, ribbed welts or hems should not be joined by this method. It is almost impossible to make a straight seam on a garment knitted in rib — the results can be seen on many of the cheaper ready-made garments. Hems would be far too bulky and are best flat-sewn by hand. However, machine stitching is very useful if time is important, providing it is used with care on long, uncomplicated sections.

Which Method to Use and Where

Starting at the top of the garment and taking the seams in their sewing order.

Shoulders

On plain work the perfect joining method is grafting. Knitters are not going to be too happy about that statement but there really is no other way to make a good join. The shoulders are on plain view the whole time and many attractive garments are ruined by these small portions being 'cobbled'. Grafting failures are often caused by using handknitting methods. Try the machine knitters' way — once you get the hang of it you will find it as quick as any other. Instructions for grafting are at the end of this section of the book with the diagrams for Mattress Stitch.

For patterned work it will have to be Backstitch or Mattress Stitch. Backstitch will give a good seam providing that it is not worked on the extreme edges. This is the cause of much of the bad finishing; so many people think that it is wrong to have a positive seam on a piece of knitting. This feeling is a hang-over from way back when Grandmothers used to oversee all the seams and at that time no one even used Backstitch. Knitting, like most other things, has moved forward and in recent years has been elevated to the fabric class. Treat it as such in both pressing and seaming, taking care where it is needed with small neat seams in the right places, complemented by bolder methods where suitable. For those who get on well with Mattress Stitch, it can often be used for joining parts other than side seams. Patterned work can be much easier to match if this is used on the shoulder seams, although the stitching is not by the usual method of picking up the vertical 'bars' on the pieces. It has to be worked across the knitting in a diagonal direction and you need to use your own judgement on where to pick up the threads.

To sum up — the ideal is to have an invisible seam. If that is not possible then do make sure that the 'steps' which have been cast off on the shoulders do not reveal themselves on the right side of the garment.

Stitching in the Sleeves

This needs to be done as early as possible in the making up so that the garment can still be opened out and the armhole pressed before completion. On Raglan garments it is always the first job; with set-in sleeves it is the second. Mattress stitch will make a wonderful job of a Raglan but to get the most effective finish change from a 3-decker tool to a 5 when working the decreases. It is quite possible to move 5 stitches in with a smaller tool but this involves an extra movement on every decrease. A 5-decker tool is available as an extra and is well worth buying. This will take the fashioning marks further away from the seam and give a more effective finish. There is little point in using anything but Backstitch for a shaped set-in sleeve.

Joining the Side Seams

Whether or not Mattress Stitch can be used here depends largely on how the shaping has been worked during knitting. It can be used to join pieces which have been shaped on the edge stitches but this means that you have to make your own guideline for stitching as the work is done on rows of edge stitches which are constantly broken by increases or decreases. Generally Mattress Stitch is used on seams with fully fashioned shaping as with this method the edge stitches are in a continuous unbroken line.

As an alternative use Backstitch, making it firm and neat for a tailored seam.

Sleeve Seams

The same things apply here as for side seams. If the increases on the main part of the sleeve have been worked by the fully-fashioned method use Mattress Stitch. If not then use Backstitch.

Ribbed Welts

These can be over-sewn on the wrong side to give a flat finish, or Mattress Stitch can be used. Whichever method of seaming is chosen it is most important to see that the lower edges are exactly in line -- no small 'steps' between the two cast on edges.

Hems

On double bed knitting these will be knitted on a circular setting and will be double from the very first row. For single bed hems do not attempt to sew through four thicknesses of fabric -- on the outer side of the hem over-sew on the wrong side of the work. On the inner half (the piece which has been turned up, over-sew on the right side of the knitting. Make certain that you have an exact match on the two pieces on the Crease Line (the loose row at the centre of the hem).

Two Ends of Neckbands

These need to be joined as neatly and invisibly as possible. Either over-sew on the wrong side or Mattress Stitch on the right side, using only the edge loop for either method.

Garments in a Rib-based Stitch

The information already given is applied in just the same way for double bed knitting. Do not sew this type of knitting with a sewing machine. Garments knitted in these stitches depend on long, vertical and unbroken seam lines. On a sewing machine the slightest 'wobble' will cut into a line and show on the right side.

Garments in Fabric-type stitches -- usually BX Setting

Long seams on this fabric-type knitting can well be finished on a suitable sewing machine. Again it must be stressed that a Stretch Stitch gives the best finish. If a skirt is being sewn apply the same principle as in dressmaking. Never sew side seams from waist to hem. This can cause a stretched seam. Work from the lower edge up to the waist. If a machine has only got a zig-zag setting, this can be used on a low setting. Many knitters complain of 'hem droop' on the side seams of dresses and skirts. To eliminate this a single bed knitting pattern usually gives instructions for curving the hem by knitting shortened rows. To understand what you are trying to achieve, you need to understand what is happening during knitting. On a skirt or the skirt section of a dress there are quite a number of decreases on the side seams up to the waist -- this creates a diagonal line up the side of a garment which is about 1" (2.5 cms) longer than the centre line of the knitting when measured vertically. It is the old thing from school: 'A straight line is the shortest distance between two points', so a diagonal line at the side is bound to be longer. When a curve is knitted into the hemline approximately 1" (2.5 cms) of knitting is cut out at the widest point of the shaping. If you look on any dressmaking pattern you will see that the hemline is curved in just the same way, for the same reason. If the knitting is curved there should be no difficulty in obtaining a straight hemline if you can keep this in mind before the sewing and during

the pressing. This is the stage at which a crooked hem is often made — with the iron. Never move the iron up and down near the side edge of the work, always move it in a horizontal direction so that, when pressing is finished, the sides of the work measure approximately the same length as the centre. Take the same care when stitching. There are knitters who end up with a strange looking point on the hemline of the side seams.

Skirts in double bed knitting will most likely need to be cut, curved and finished with a hem tape. (See 'Cut and Sew', page 72).

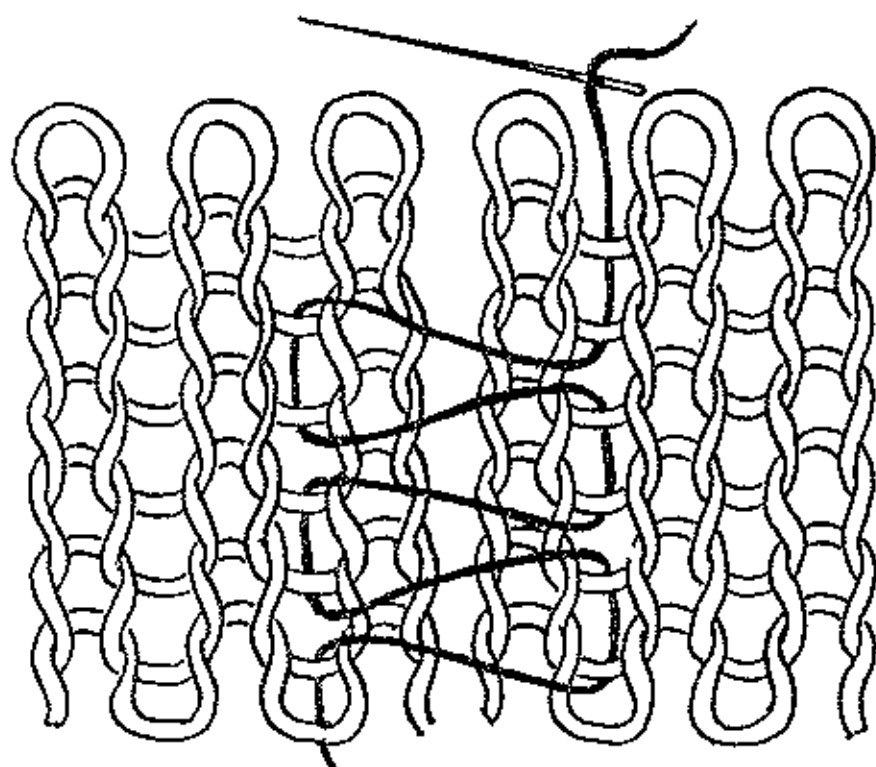
Garments knitted in single bed Tuck Stitch

This stitch is usually used with the purl side as the face (right side) of the garment. Anyone who has sewn work knitted in this type of stitch will know that producing a 'clean' looking seam is not always easy. Somehow it always looks a little uneven and wobbly. It needs very small firm stitches to give a good seam, so again the sewing machine can be as good a solution as hand sewing, providing that stretching can be avoided. Even on garments for your 'top half' you need to be careful if the side seams have much shaping as you will be faced with the same result as on hems — two points on the side seams. Again, always work from bottom to top, easing in the seam to avoid a stretched hemline.

Ribbed Bands

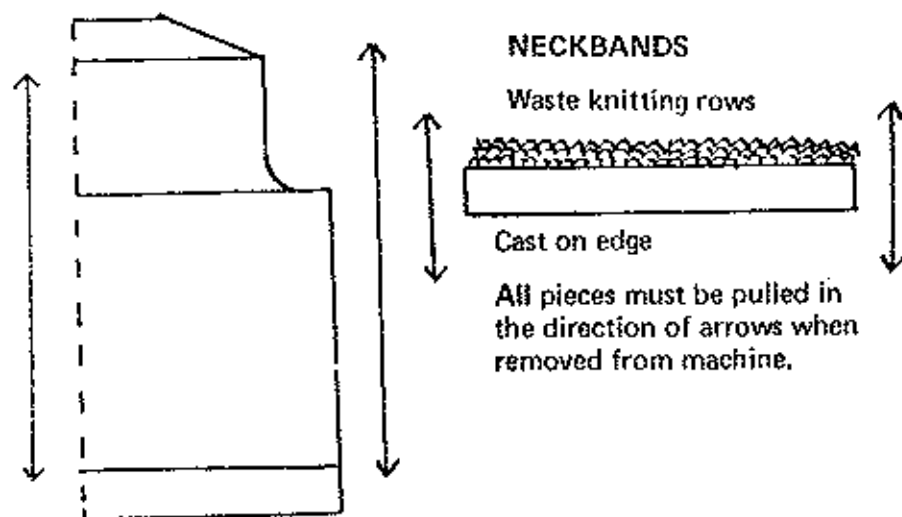
Use either Mattress Stitch on the right side or over-sewing on the wrong side for cardigan bands if they are strips of rib. All bands with tubular rows are backstitched to the garment by the method given in the Section on Bands, Buttonholes, etc. Ribbed bands on pullover armholes, etc., are Backstitched on the wrong side in the following way. Join the band ends, turn the garment inside out and pin bands round armhole (right side of band to right side of garment) and neatly Backstitch. When stitching, keep the main part of garment facing you so that you can follow the lines of the knitting and keep the stitching straight.

An alternative method for joining ribbed bands to the garment is given in the additional note at the end of 'Neckbands, Borders and Buttonholes'.

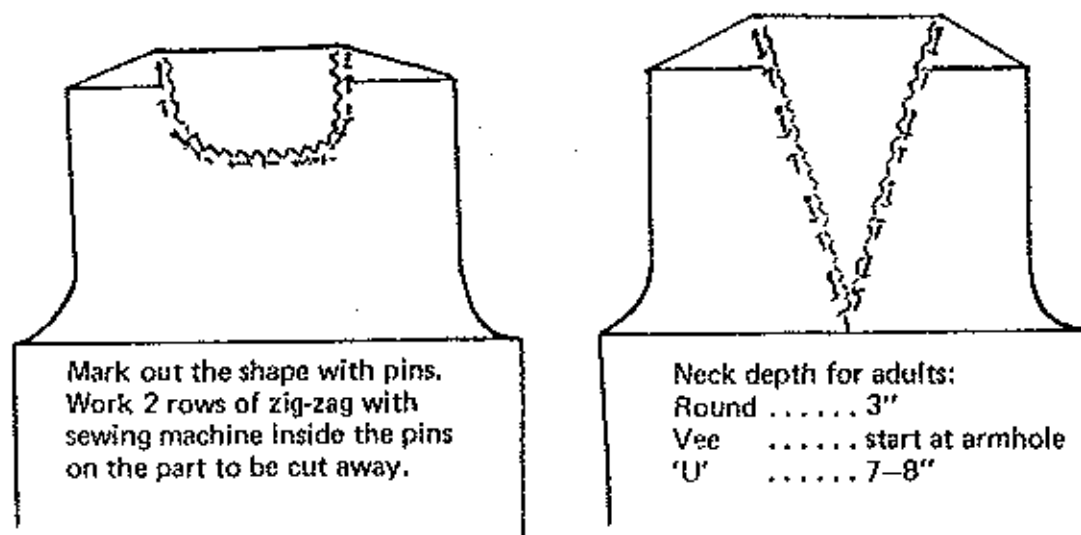


MATTRESS STITCH

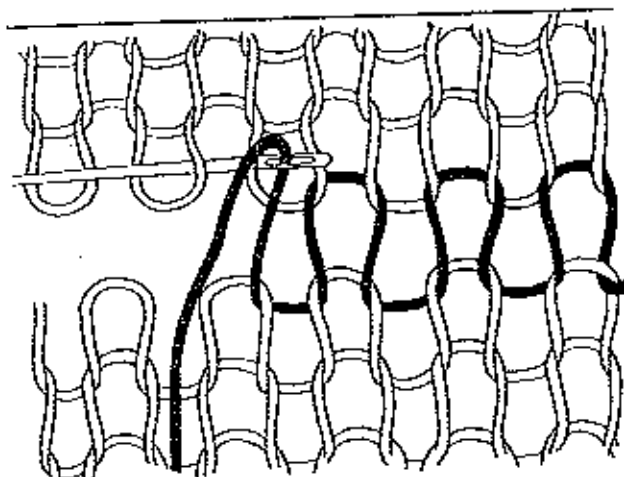
This is the ideal alternative to Backstitch for main seams. When starting to sew, leave a long end of yarn which is darned into the seam afterwards. Work about 2", making no attempt to pull the edges of the work together while sewing. Then pull the yarn so that the stitch at each edge is pushed into the inside of the garment and the sewing (which is on the right side of the work) becomes almost invisible. Ends must be darned into the seams not into the stitches on the main part of the work. Be sure to leave enough 'stretch' in the seams.



'CUT AND SEW' NECKLINES as given below



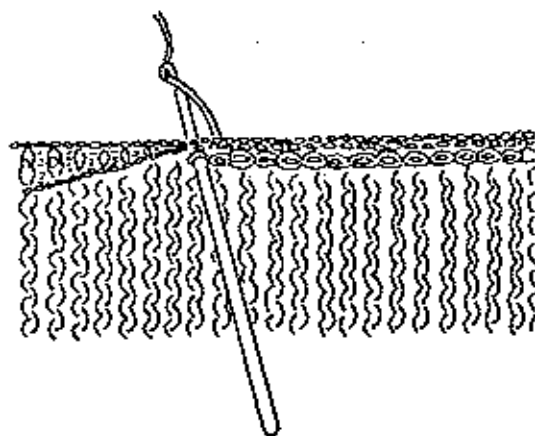
GRAFTING WITH THE RIGHT SIDE FACING



When the final row of the knitting is reached, do not cast off.

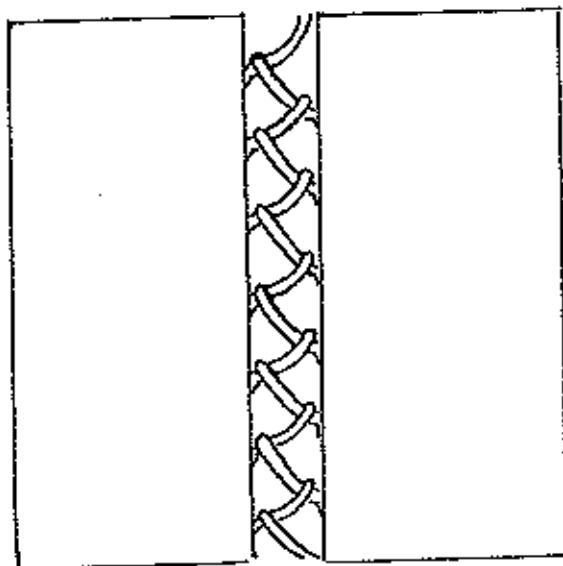
Thread up some waste yarn and knit about 6 rows. Break yarn and remove from machine. Repeat with the second piece. Do not attempt to start grafting until the last few rows in the main yarn have been pressed. This will 'set' the stitches and make the joining easy.

After pressing, unravel waste yarn and join as diagram. Try to make the grafting stitches the same size as the knitted stitches.



Joining Seams by Crochet Method

Insert crochet hook through both edges, yarn over and pull through. Move hook along, insert again. Yarn over and pull through loop on hook (Chain stitch). Double Crochet stitch can be used.



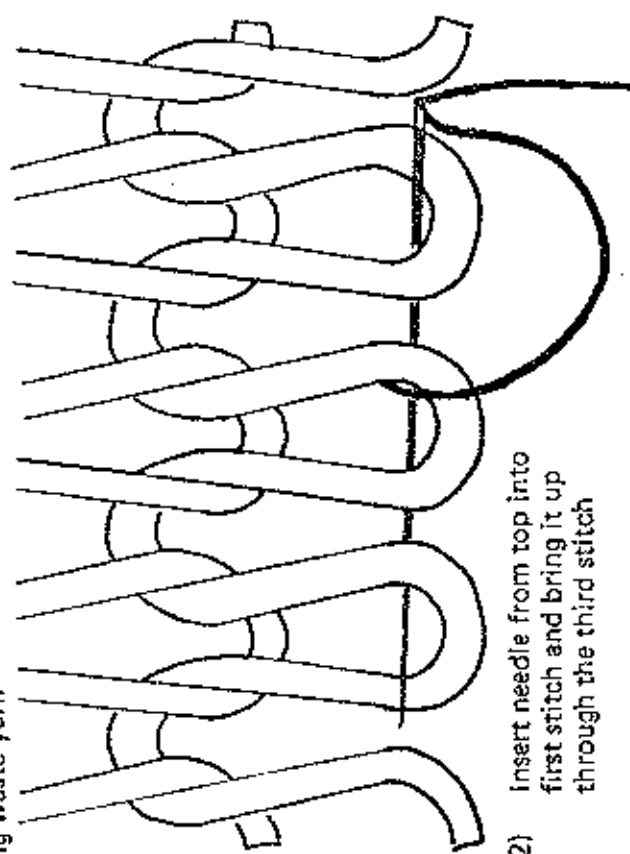
Joining Seams by Latch-up Method

Unravel edge stitches on each piece to be joined. Use Latch Tool or Crochet Hook to pull 2 loops on opposite edge. Repeat.

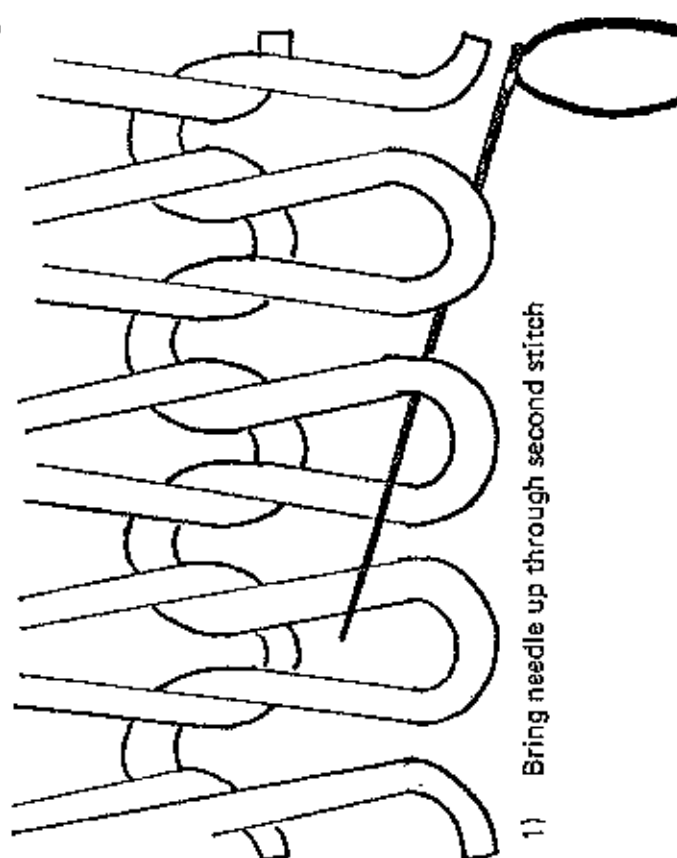
Only suitable for work with fully-fashioned shaping.

BACKSTITCH THROUGH OPEN STITCHES FOR TUBULAR BANDS, ETC.

Press thoroughly before unravelling waste yarn

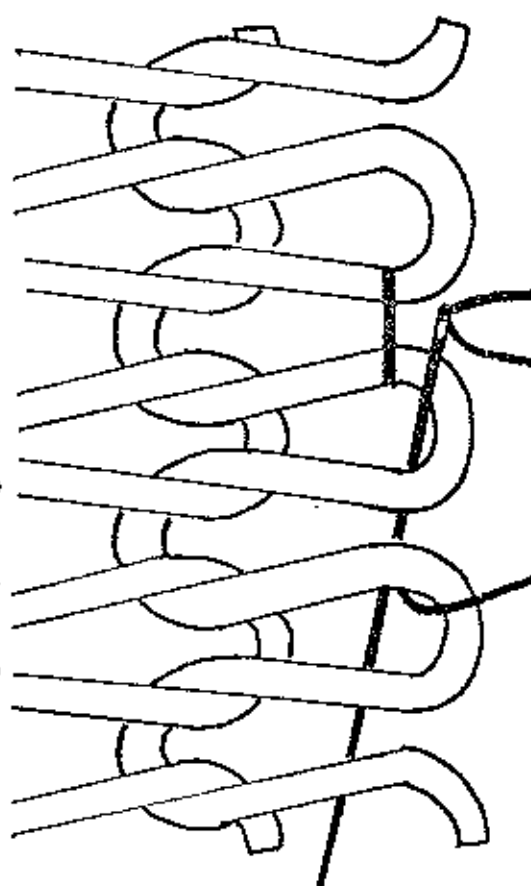


- 2) Insert needle from top into first stitch and bring it up through the third stitch

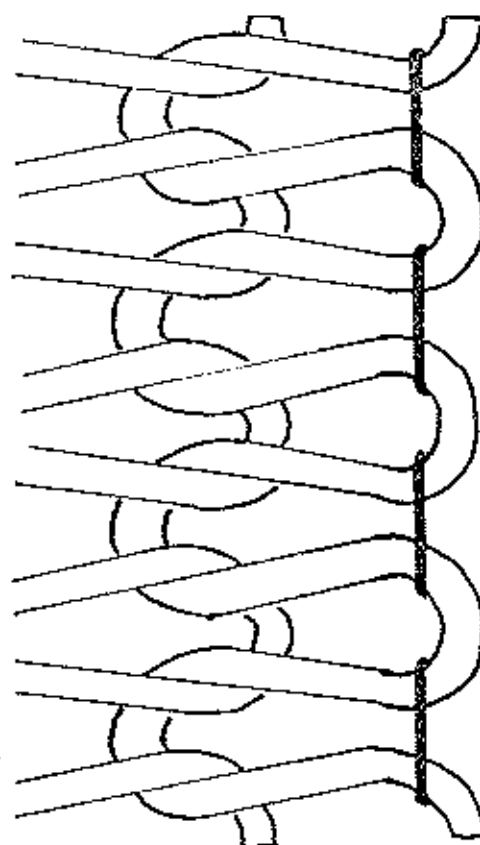


- 1) Bring needle up through second stitch

- 3) Insert needle from top through second stitch, through knitting and up through fourth stitch



- 4) Completed work, showing right side



CUT AND SEW

This is the land of the unknown for the majority of knitters. The very idea of cutting knitting usually produces a sort of stunned resistance! For home knitters, the amount of cutting which can be done is very little, due to the lack of professional finishing machines. That which can be done can transform the knitter who is fearful of neck shaping on a complicated stitch into a knitter with the confidence to knit almost anything.

Most double bed knitters are fully aware of the time and margin of error involved in knitting many double bed patterns while attempting to shape a neck at the same time. Many people, after the first few disastrous attempts, go back to the plainer patterns and stay there. Some of the Model Books have brief and rather cautious instructions dealing with small pieces of cutting, but these are generally ignored due to lack of proper explanation.

There is nothing in the least unusual about cutting knitwear. The industries have been doing a large-scale cut and sew trade for years and this is increasing all the time. The manufacturers' main advantage over the home knitter is their seaming machines. Overlockers with clutch motors and three threads are usually used. These produce the garments which have the rather pronounced ridged seam and the fabric in the seam almost completely covered by the stitching.

The knitwear trade is divided into several sections.

1. **Fully fashioned garments.** These are made up of flat garment sections knitted to the shape required and joined together with suitable seaming machines. This is the traditional system of machine knitting which follows the principle of the Lee Hand Frame of 1589. The present-day machines, though highly mechanised, are producing this type of garment which is familiar to all knitters.
2. **Yarn or Piece Goods.** Straight lengths of knitted fabric made on circular, flat-bar or warp-knitting machines. Long tubes of knitting come off the machines and are then pressed flat and slit open on one side, giving a 60" (152 cms) wide fabric with which most people are familiar. Many crimplene fabrics are knitted in this way, also jersey, both printed and plain, and dozens of others. Most men are wearing more than one garment every day which is made from knit fabric, e.g. Nylon, Terylene, Crimplene shorts/underwear, Crimplene trousers, suits and jackets — even ties. In fact, the majority of knit fabric garments which do not require a rib trim are made from piece goods. Even knitted outerwear such as raincoats, heavy jackets and topcoats have become commonplace since foam bonding was perfected. This gives a fine-knit fabric more stability and so greatly increases the range of garments possible. Most of the knit dresses on sale in stores are made from knit fabric — a quick look at the type of seaming used will soon disclose the type of production. Piece goods are sewn with overlocking machines. The seaming method used on a garment will always disclose the method of production. All yard and piece goods will have a rather pronounced rolled seam completely covered by the overlocking thread.

A surprising amount of 'by the yard' knit fabric is being produced by young designers using the Duo. Having provided themselves with overlocking machines, they are able to combine several types of knit fabric in each garment. Some of the most spectacular results come from combining knit and woven fabrics or leather and knit fabric.

3. **Garment Blanks.** These products lie half-way between the yard goods and the fully-fashioned goods. The result is a garment blank with a rib trim which, although partly shaped, requires some cutting before the garment can be made up, but the feature of these goods is that the rib trims are already knitted onto the bodies and sleeves. This type of garment production is increasing very rapidly and this is the category into which the double bed machine owner should fall.

Shape everything possible and cut where necessary to save time and error, provided a suitable sewing machine is available. The old-type sewing machine which only does straightforward stitching is a lock-stitch machine. It is easy to use but the stitch lacks the elasticity which is necessary for knitwear seaming. Overlock machines are expensive and not a great deal of use in the average household. A linking machine is also an impractical proposition.

What is left? The very versatile modern sewing machine. Even if this is not within everyone's reach, a reasonably priced model with no more than a swing-needle setting is a great help. The better models are capable of an elastic stretch stitch. Knit fabrics have been in production for several years and good sewing machine manufacturers have provided for the home-dressmaker by producing machines capable of a type of stitching which will 'give'. Lesser models usually carry instructions for sewing the modern knit fabric, so these would apply to knitwear. Some machines with only a swing-needle setting can be used by setting a very small zig-zag which will provide sufficient stretch. Old machines which will only sew a straight stitch are not a great deal of use on seams as splitting will often occur if the garment is subjected to hard wear.

Domestic sewing-machine manufacturers do not seem to be particularly forthcoming when it comes to knitwear sewing. Only the top and more expensive models offer special facilities for stitching knitwear and even then they do not seem to offer instruction. They appear to be happy to ignore the possibility of thousands of future sales to people who are not necessarily dressmakers. For a long time to come people will probably continue to buy sewing machines without considering whether or not they are capable of sewing knitted garments.

When seaming on a sewing-machine do not tackle ribbed garments. You will not make a good job of it and a crooked ribbed seam is ugly. Plenty of bad seaming on ribbed knitwear can be seen in the shops, particularly on the cheaper imported goods.

Practise on odd bits of knitting first. Do not complicate the job by using masses of pins or tacking cotton. Use one pin to about every 4 inches (10 cms). Always release the pressure on the pressure foot as much as possible so that the knitting does not keep getting stuck on the feed dog. Ease the work gently towards the presser foot but do not pull through at the other side. Do not try to sew on the extreme edge of the work.

Last of all — but so very important — is which foot to use. Since so little has been done with the machine to assist the knitter, it is often difficult to find a suitable foot amongst the many attachments. If you want to sew on lace or binding, or make a ridged seam, the gadget will be there, but if you want to sew a straightforward knitwear seam it is more than likely you will find only an assortment of bits and pieces with sharp ends which will dig into the knitting. If nothing seems suitable, try the zipper foot. This usually has a nice blunt end which curls upwards and, as it is only one-sided, is simple to use.

Never sew garments which have not been pressed.

Cut and Sew Necklines

Every double bed can be tiresome at this point and cause even a good knitter considerably worry. Holding stitches on both beds at the left side is bad enough but if a racking/tucking pattern or the BX weaving stitch is being used the risk of a pattern mistake is high and not worth the effort.

There is a small diagram for this in the section on 'Making Up' and, although you may not realise it, basic neck sizing is simple and remains the same year after year. The only changes come from the current fashions. This may mean that a Vee neck gets a little higher or lower than the standard one, which always starts in line with the first row of the armhole shaping. A round neck cannot be varied much and it should be about 3" (7.5 cms) down from the top of the shoulder before the band is attached. Next there is the 'U' shape which has been so popular. This is just a matter of taste but should be from 6" — 8" (15 — 20.5 cms) from the top of the shoulder without the band. On this one the back is usually shaped as well and the shaping at the back should be about half the depth of the front. Then there is the Scoop — this again is a matter of taste but it should be wider than the usual round neck (about an extra 1" or 2.5 cms of each shoulder at the neck edge).

Knit the front but, instead of shaping the neck, knit as for the back. Do not cast off. Knit a couple of extra rows and remove from the machine. Press. Now mark out the neck with pins. The dimensions are quite clear on many of the diagrams in the Model Books. On the sewing-machine work at least two rows of wide, close zig-zag close to the pins on the side which is to be cut away. Now use a pair of sharp scissors and cut away the surplus. All told, not more than 10 minutes' work and, once you are confident, no bother at all. Most garments hang better if they

are gently scooped out on the back neck to a depth of $\frac{1}{2}$ " (1 cm). Do this at the same time as the front neck. It will make all the difference to the finish.

Remember that this method is only suitable when you are going to complete the garment with a band which is either tubular or has tubular rows on the rib. The cut edge will then be completely enclosed. Knit band as follows:—

Knit the rib in the usual way and then push up all the empty in-between needles as on standard-type finish. Instead of setting for tubular straight away, knit 1 row of rib on all the needles. (Be sure to have a ribbing, not a tubular stitch size). Now carry on with the tubular rows as the standard band. The rib row will seal the band and prevent any odd ends of cut fabric from creeping through to the right side.

There is nothing unusual about cutting knitwear fabric. The knitwear industry have been doing cut and sew work on a massive scale for years, so if you feel hesitant start to think about the trade itself and ask yourself how the manufacturer deals with his problems.

Although the scope is fairly limited, always consider your sewing-machine for jobs where it may be suitable. It could be a great help with knitted home furnishings, toys, blankets made from odd squares, weave stitch garments and sometimes on a garment which has been shaped but is not too successful. Perhaps you have made something which is sleeveless but it has turned out too wide on the shoulders. If left as it is the band will come over the shoulder bone. Use your machine to trim some of the surplus away just as you would on a neck, then attach a tubular or rib and tubular band.

If you have a garment such as a skirt, jacket or dress which has got a bad hemline or has 'dropped' use your sewing machine to make a new hem. Lay the garment out on a table and mark a new hem with a row of pins — remember that the hem will probably need to be curved. To position the curve, divide the front into roughly three equal parts at the hem. The centre portion is left straight, the hem marking at the side edges is positioned about 1" (2.5 cms) above the centre and each side portion is gently curved towards the centre portion. Work a row of stitching round the new line to act as a guide and remove pins. Now stitch hem tape to the marked line just as in dressmaking. Trim away the surplus knit fabric and stitch the tape on to the wrong side to form a normal sewn hem.

For those who still feel that using scissors on knitwear is an unprecedented step for the home knitter, the following extracts may be of interest:—

The first is from a top-selling sewing and handknitting magazine which is published in the U.S.A. The garment referred to is a Double Knitting pullover knitted on a circular needle as a tube, straight up to the top without armholes or neck.

1) **Finishing.** Run in all yarn ends on wrong side, matching shoulder markers, sew shoulder seams. **Slash armholes:** baste a curved line on back and front, from shoulder markers down for $6\frac{1}{2}$ " (15.5 cms) ($7\frac{1}{4}$ "/18.5 cms, 8"/20.5 cms) at each arm side to side edge to form armholes. Machine stitch twice, using a loose tension and small stitches $\frac{1}{4}$ " (.5 cm) each side of basting. **Slash Vee Neck:** baste a line from each front shoulder edge to centre front stitch $6\frac{1}{2}$ " (15.5 cms) ($7\frac{1}{4}$ "/18.5 cms, 8"/20.5 cms) down from cast-off stitches to form a Vee. Machine stitch $\frac{1}{4}$ " (.5 cm) each side of basting line. The instructions continue with the knitting of the bands which are then sewn on and folded to the inside and caught down to cover the raw edge.

2) This is an extract from a very good quality book of Norwegian designs which is published in Norway. This time it is a design for a patterned sweater with long sleeves and is knitted on a circular needle.

Knit this pattern for 15" (38 cms). Before beginning on the armholes we can decide which method to use: we can knit the shoulder pieces in two ways, either by dividing the work in two and knitting the front and back separately, or we can continue knitting the design on the round needle right up to the shoulder. This is much faster, but we must sew by machine, using very small stitches, twice round the armhole opening. Very carefully cut a slash between the machine stitching

TRIMMINGS

For those with automatic sewing machines very attractive braid can be produced. Knit a long length of tubular knitting with about 4-6sts on each bed. When long enough remove from the machine, pull hard lengthways and press. You now have a long flat strip. Set the sewing machine for an embroidery stitch of your choice and use it on the strip. This will give a firm fancy braid which can be cut and used on necks, armholes, jackets, dress hems, etc.

Remember when sewing any kind of knitted fabric — even braiding — to release the presser foot as much as possible so that the work will pass through easily. Many effective designs can be transferred to knitted garments, particularly animals on children's wear. The knitted fabric should first be pressed, then a piece of Vilene or Bondina slightly larger than the chosen design should be tacked to the underside. A shape can then be applied to the garment with very effective results.

Scalloped Edge in Rib

Pink strippers, handle down. Cast on. s.s.1
Knit 2rs CX. s.s.3. Put pushers under all needles on both beds except every 5th.
Knit 6-8rs depending on yarn thickness, with both locks set to BX.
Re-set locks to N and continue normal knitting.

Picot Edge Hem

Knit any hem to Crease Line. Transfer every alternate stitch to its adjacent needle. Leave empty needles in work, continue normal knitting.

Fringe

This is made quickly and beautifully on this machine. The braid part can be made in a variety of stitches and widths and the actual fringe any reasonable length. The method is as follows:—

Decide on the stitch to be used for the braid. Fisherman rib on front bed only is good for beginners (using a K/K set-up).

AX on front bed with pushers in 1 up and 1 down position, left arrow key pressed down is very effective — again with a K/K setting.

After trying these it will soon become obvious that almost any fancy stitch is suitable.

Several strands of fine yarn used together will produce a thicker, fluffier-looking fringe than a thicker single yarn. The width of braid and fringe length depends on personal choice but the following set-up covers most needs.

Push 2 needles in centre of both beds. On either side of these leave about 20 needles on each bed in N.W.P. Then push up about 10 needles on each bed on the left side of the 20 needles in N.W.P. Repeat on the right side. Cast on in the usual way. Set for pattern and knit a few rows. Now provide a little weight in centre by threading a strong piece of yarn up between the two beds, across the centre 4 stitches and back down between the two beds. Join ends to form a loop and hang on any small object which will provide a moderate amount of 'downpull' on the centre of the work.

Note: If using an AX setting remember to put the extra needle into work on both pieces of fringe on the back bed on the left side. Depending on the yarn used and chosen stitch, tension 3-4 should be suitable.

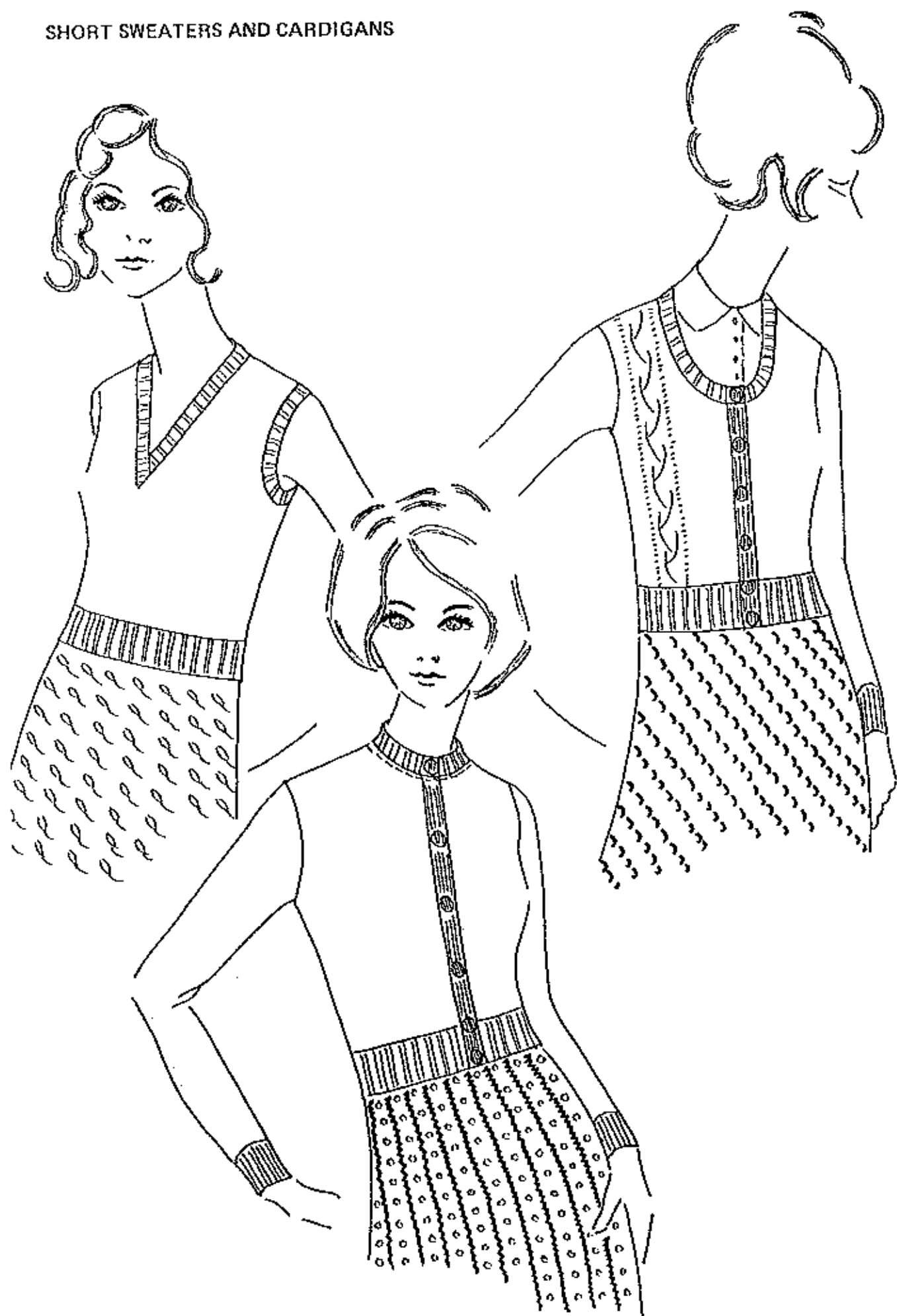
When fringe is the required length, remove from machine, cut down either side of the pair of stitches running down the centre. Remember that two lengths are being knitted at once.

Should mitred corners be required these again can easily be carried out after knitting if a swing needle sewing machine is available. Mark the mitre on the braid, sew several rows of straight stitching close together. Now work over these with a wide, close zigzag and trim away surplus material. When this part has been carried out the two pieces can be stitched together.

LADIES' LONGLINE CARDIGAN — with or without sleeves



SHORT SWEATERS AND CARDIGANS



MASTER PATTERN NO. 1 — LADIES'

The yarn used is a full 4-ply and the correct tension swatch is easily achieved, being based on a standard of 7sts and 10 rows per 1" (2.5 cms), regardless of whether wool or man-made fibre is knitted.

Cast on 49 stitches and knit 50 rows. Pull lengthways and allow to rest for about one hour. If correct it will measure 7" (18 cms) across and 5" (13 cms) in length. Do not hesitate to adjust stitch size if tension swatch is not correct. Different types of yarn may make this necessary.

Details of yarns and quantities are given further on.

Stitch sizes: Rib 3, hems 5 and stocking stitch 6 unless otherwise stated.

All garments are knitted in rib and stocking stitch.

Single stitch decreases are worked with a 3-decker tool.

As much helpful information as possible is given on the diagrams. Check them to see that the given measurements meet your requirements.

It is always possible to juggle a pattern so that pieces can be lengthened or shortened. Here are the instructions for properly balanced alterations:—

On these patterns 10 rows of knitting equal 1" (2.5 cms); therefore to lengthen (or shorten) any section by 1" (2.5 cms) knit 1 row extra (or less) between each of the first ten increases (or decreases), if 2" (5 cms) more (or less) are needed then knit two extra rows (or two less) between increases or decreases.

For example: On the three-quarter length Bell Sleeve there are 14 decreases on all sizes. To shorten by 1" (2.5 cms) knit the first ten of these decreases with one row less between each decrease. To lengthen reverse the procedure.

Should a short sleeve require alteration where there are not 10 or more increases or decreases, work out the number of rows you wish to add or omit and space them out as evenly as possible between each of the existing number of shapings.

By studying the main pattern you will soon realise that all the garments which follow are derived from this, with the minimum of alteration. No matter which style you choose to knit, the sleeves can be varied.

HELPFUL NOTE FOR INCREASING AND DECREASING

Edge springs are not required when knitting stocking stitch but they provide a useful means of keeping count of the increases and decreases. When decreases are to be worked a certain number of times (say 10), close the latch of the 11th needle in from the edge of the work and set the edge spring onto this needle. When increases are to be worked a certain number of times (say 10), count out from the edge of the work and set the edge spring into the 11th channel. In this way you will only need to keep count of the number of rows between and not the number of times as well. Never adopt the method of making little marks on a piece of paper to indicate how many times you have increased or decreased. The moment will come when you will forget to put one down..... If edge springs are not used and a paper-marking method is preferred, before starting each particular section of shaping, count off on the needlebed the stitches to be increased or decreased and note down the number of the needle where the shaping should end.

HELP FOR JOINING GARMENT PIECES

Try to develop the habit of using marker threads to help you to join pieces accurately when making up. For example, when a hem-to-hip section is complete put a small piece of contrast yarn into

each of the end stitches. When the hip-to-waist section is complete, repeat the process. This method is particularly useful for trousers. Marker threads make correct seam and shape matching very much easier.

PUSHERS

At no time throughout these patterns do pushers need to be returned to the blocking rail. As arrow keys are not used pushers will not operate unless brought into working position manually.

ABBREVIATIONS

These have been kept to a minimum to help knitters not yet familiar with machine knitting language.

r. rs.	=	Row(s)
St(s)	=	Stitches
s.s.	=	Stitch size
W.P.	=	Working position
N.W.P.	=	Non-working position
p	=	pushers (as used on diagrams)
RC	=	Row counter
x	=	Times
st.st.	=	Stocking stitch
H.P.	=	Holding position
- (or +) 10x2.4r	=	Dec. (or inc.) 2sts every 4th row, 10 times

When knitting with synthetic yarns hems have a tendency to curl outwards and be rather slack. It helps to knit these hems on the smallest possible stitch size and also knit at least 8 extra rows. Use stitch size 4½ for soft yarns and 4¾ for yarns with extra twist. These hems need a really hard pull lengthways to the knitting to close the stitches in as much as possible. It may also be necessary to use the bare minimum of steam on the wrong side of the hem when pressing.

When a garment with a one-piece front is to be knitted with a Vee Neck an odd number of stitches is required. For garments with hems put up an extra needle on each bed when casting on. When 1x1 rib is being used knit rib first and then increase 1 stitch when the transfer for stocking stitch is made.

Knitted braid trimmings can be used as a variation to replace bands. Knit a long length and then cut into the lengths required. Neaten ends and stitch on.

Any kind of simple/fancy panel can be knitted down the fronts of all garments, including dress and skirt. A very simple cable pattern is given for beginners. When used on the skirt sections take care not to lose count of the rows which are actually knitted on the cable stitches while the hem curve is being shaped, because at a certain point the cable stitches will be put into holding position while the hem curve rows are being worked. For these garments the needles which are to be put out of work throughout the pattern panel are set up when the crease line of the hem has been knitted. The first crossover of stitches takes place when the hem is complete and before the hem curve is started.

POSITIONING THE PATTERN PANELS

The best position for panels is vertical ending in the centre of the shoulder. The question is how to set the panel so that it will continue up the garment and end in the centre of the shoulder stitches. With the diagram you have in this pattern it is very simple. The unbreakable rule is — ignore all side shapings and do your counting from the centre outwards.

You will see from the diagrams that not only are you given the shapings for armhole, shoulder and neck, but you are also given the total number of stitches on each of these parts.

SETTING UP PANEL AT RIGHT SIDE

The total number of stitches decreased at neck is:

36 38 40 42 44

Working from the centre of the machine (towards the right) count off half this number.

The next section of stitches are going to be the ones which will be cast off at the shoulder and it is these which are to be used for the pattern panel.

28 29 30 30 31

If the pattern panel is 16 stitches wide, deduct this figure from the number of stitches on the shoulder and split whatever stitches remain so that the panel is in the centre.

Example: (For first size)

36sts at neck

Count off half neck stitches

18

Deduct 16sts (panel) from shoulder stitches (28) = 12

If these 12sts are split in half there will be 6 shoulder stitches on each side of the pattern panel, therefore, after counting off the 18sts count off 6 more and you are then at the correct point to set up the panel.

VARIATIONS

Use your imagination with this Master Pattern. It is designed for beginners who do not want to be knitting the same old raglan classics for their early knitting experience. Remember the following points:

If you can handle more than one colour stripes can be put anywhere.

Rib, hem or trimmings can be knitted in a contrasting colour.

A simple motif or initial can be Swiss-darned either directly onto a garment or onto a pocket or a bought motif can be stitched on.

Lurex can be used to knit the trimmings or bands.

When knitting the fronts of buttoned garments it is helpful to knit them on one half of the machine making the centre of the machine the front edge. This gives a clearer mental image of what you are knitting and the number of stitches decreased at front edge is quite clear.

U-necklines can be made deeper by starting this shaping 10 rows sooner than given on pattern and adding another 12 stitches to neckband.

Any reference to stitches cast off in centre on necklines does actually mean the centre stitches not, as is usual in diagram patterns, 'each side of centre'.

Vee neckbands are attached by the easiest method (joined to the garment on the machine) so that they do not have to be stitched. Two methods are used on the patterns. The first is to pick up the neck stitches on garment onto the needles holding the rib and then cast off. With this method the garment is left hanging over the front bed. The second method means a little more work but gives a slightly better finish. The front bed is dropped and the garment is brought up between the two beds. Stitches are picked up as before. The beds are closed and, using Black strippers, 1 row is knitted on s.s.7½. Cast off. The neckbands must be gently pressed out flat as on commercial garments. At the point of the Vee one rib is lapped over the other and the ends neatly stitched down.

HEMS

Plain Hem — see note on Crease Line

On the front bed push into W.P. the required number of needles

Take every alternate needle down to N.W.P.

Push up every alternate needle on back bed to form a 1x1 rib setting.
Row counter 000. Handle up. Pink strippers. Stitch size 1 Knit 1 row
On the front bed only push all the empty in-between needles into W.P.
Set Back lock to GX. s.s.3 Knit 1 row
s.s.4 Knit 1 row Change to Black strippers
s.s.5 Continue knitting until required number of rows are reached
Transfer loops on back bed to the needles at front. Hem complete.

Crease Line

For hems this is usually knitted on the row which is the halfway mark on the number of rows to be knitted, e.g. for a 30-row hem, row 15 would be knitted on a stitch size two numbers higher. This gives a row of slightly looser stitches which, when the hem is folded in half, will form a natural crease line. On the hem given here the loops which are left on the back bed are rather longer in depth than a single row of knitting, therefore the crease line should be knitted 1 row sooner than usual, i.e. for a 30-row hemline the crease line should be knitted on Row 14 and not Row 15. All hems on these patterns are:

Knit 13 rows. Knit crease line row. Knit 15 rows (lock now at left). Transfer loops from back bed to front. Knit 1 joining row on s.s.6
Hem complete.

Scalloped hem

This is knitted in the same way as a plain hem except for a certain number of rows which are knitted with a BX setting to form the scallops. The actual scallops are formed by putting pushers under all needles except every 6th. The lock is set to BX and 8 rows are knitted. Needles without pushers will not knit on these rows and will then draw the work up at regular intervals to form a scalloped edge. Although this has only been given as the edging for two of the sleeves it can be used on any part of the garment to replace a plain hem.

To knit:

Cast on and knit as for plain hem until RC is at 10
Set pushers in W.P. as diagram — the dots represent pushers which are left out of work.
Knit 7 careful rows
Re-set lock to N. Put pushers back into N.W.P. Knit 12 rows
Transfer back loops to front and knit 1 joining row on s.s.6
Hem complete.

Lock on BX s.s.5

```

11.11111.11111.11111.111
pp pppppp pppppp pppppp ppp

```

NECK SHAPING – Round or U

Remember to move RC trip to centre of work for right half and over to the other side for left half.

Taking an odd length of matching yarn, cast off in centre the required number of stitches. Set lock to BX, pushers in W.P. under all needles at right.

Continue shaping as pattern.

When right side is complete, re-set lock to N, put pushers down into N.W.P.

Re-set RC to the number on which the neck was started and continue knitting.

Vee Neck

Transfer the centre stitch to adjacent needle and continue as for other necks.

HOW TO ATTACH CUFF OR BAND TO FULL SLEEVE

Knit the sleeve first, starting as follows:

Using single bed cast-on, knit about 8 rows with waste yarn and knit the last row carefully on s.s.7. Join in main yarn, knit as pattern. When complete press — making sure that waste and first few main rows are pressed properly. Drop front bed and push into W.P. the given number of needles on front bed only. Pull thread through the last row of waste knitting on sleeve until the waste rows come off. Replace the stitches on sleeve onto the machine as evenly as possible. Always leave about 4–6 needles at each end with single stitches to avoid underarm bulk. Check that all stitches are properly on the needles.

Close beds.

Black strippers. s.s. as given on pattern. Knit as pattern and cast off.

Note: When knitting the first two rows knit carefully and hold work down from underneath.

SHOULDER SEAMS

For a really neat finish shoulders should be shaped, waste rows knitted and work removed from the machine. After pressing stitches from back and front shoulders are grafted together, making an invisible join.

When shoulder shaping on pattern is reached (right shoulder) the lock will be at the right. Knit one extra row — lock is now at the left. There are already pushers under the needles and lock is set to BX. Yarn must be taken round hook of inside needle in H.P. At the right edge, instead of casting off the number of stitches given on pattern, take the same number of pushers down into N.W.P. Knit 2 rows. Repeat until there is only one block of stitches left. Bring all the pushers back into W.P. and knit one row to the right. Break main yarn and join in waste yarn. Knit 6 rows. Break yarn and remove from the machine.

Left shoulder: When shoulder is reached, set lock to BX, pushers in W.P. under all needles (lock is at the right). Take pushers down into N.W.P. in blocks as before and complete as right shoulder.

The pieces must be properly pressed to set the stitches before grafting is commenced.

BANDS — RIB and TUBULAR

Pink strippers. s.s.1. Locks on N. RC 000 1x1 rib setting. Knit 1 row

Locks on CX. s.s.2 Knit 2 rows

Locks on N. s.s.3 Knit required number of rows.

Change to Black strippers. Locks on CX. s.s.6. Push up all the empty in-between needles on both beds.

Knit 10 rows.

Break main yarn and join in waste. Pink strippers. Locks on N. s.s.3 Knit 3 rows

Break yarn. Remove from machine.

Note: The number of stitches given are divided between the two beds.

BANDS WITH FANCY EDGING and TUBULAR

Push into W.P. the number of needles required. Working from the right, take out of work every 3rd needle on each bed. Check with diagram to see whether the beds need to be racked over to another position or if there are special instructions for casting on. If not, continue as given here.

Pink strippers. Locks on CX. Knit 2 rows

Locks on N. s.s.4 Continue as pattern.

When pattern rows are complete change to Black strippers. s.s.6. Locks on CX.

Push up all the empty in-between needles. Knit 10 rows.

Break main yarn. Join in waste. Pink strippers. s.s.3. Knit 3 rows.

Break yarn and remove work from machine.

MAKING UP

Press all pieces: hot iron/damp cloth for wool (not steam-iron which is insufficient); warm iron/dry cloth for man-made fibres. No blocking is necessary unless lambswool or cashmere has been used. These, being very soft yarns, need a little extra care.

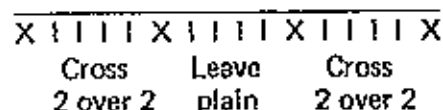
All main seams are joined with Mattress stitch.

If shoulders are not grafted do not sew too close to the casting-off 'steps' or the cast off stitches will show through and give a bad finish.

The sequence for joining pieces should be: Join shoulder seams — press. Stitch sleeves into armholes. Attach neckband. Open work out on ironing board, press armhole seams, shape and press neck. Join side and sleeve seams. Complete minor finishing and give final press.

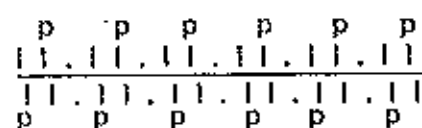
Standard garments — The rib on the bands for 'U' and Vee necks needs to be gently pressed out so that there will not be any undue pulling in on either of these necklines. The round neckband has double rib which is folded in half to inside and caught down.

1. Diagram for simple cable panel



X indicates stitches which have been transferred to adjacent needles. The empty needles are then left out of work throughout the pattern.

2. Diagram for picot edging (A) Model Book 17, with tubular rows



Back and front beds

Knit 1 row N

4 rows AX

Rack to right

Knit 1 row N

Rack to left

Knit 1 row N

3 row EX

1 row N

To cast on:

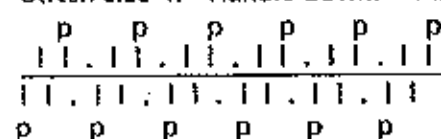
s.s.4 needles as shown

Do not rack or knit tubular rows.

After cast-on row, work exactly as given.

3. Diagram for fancy edging with tubular rows (B)

Stitch size 4. Handle down. Pink strippers.



Knit as for (A)

BASIC MEASUREMENTS — LADIES

Bust	32 81	34 86	36 91	38 97	40 ins 102 cms
Finished Measurement	34 86	36 91	38 97	40 102	42 ins 107 cms
Dress length	37½ 95	38 96.5	38½ 98	39 99	39½ ins 100 cms
Hips	34 86	36 91	38 97	40 102	42 ins 107 cms
Standard Sweater length	21½ 54.5	22 56	22½ 57	23 58.5	23½ 60 cms
Standard Cardigan length	22 56	22½ 57	23 58.5	23½ 60	24 ins 61 cms
Longline Tunic or Jacket	24 61	24½ 62	25 63.5	25½ 65	26 ins 66 cms
Short Tops or Waistcoat	18 46	18½ 47	19 48	19½ 49.5	20 ins 51 cms
Long Sleeves without turnback	16½ 42	17 43	17½ 44.5	18 46	18½ ins 47
Full Sleeves	15½ 39.5	16 40.5	16½ 42	17 43	17½ ins 44.5 cms
Three-quarter sleeves	11 28	11½ 29	12 30.5	12½ 32	13 ins 33 cms
Short Sleeves	Fitted 4½ ins (11.5 cms) Cuffed 6½ ins (16.5 cms) Short Bell 4 ins (10 cms) Puffed 5 ins (13 cms)				
Armhole depth	6½ 16.5	7 18	7½ 19	8 20.5	8½ ins 21.5 cms
Width of Upper Arm	12 30.5	12½ 32	13 33	13½ 34	14 ins 35.5 cms
Wrist	8 20.5	8½ 21	8½ 21.5	8½ 22	9 ins 23 cms
Back Neck	5½ 13.5	5½ 14	5½ 14.5	6 15	6½ ins 16 cms
Width at shoulder with Sleeves	13 33	13½ 34	14 35.5	14½ 37	15 ins 38

MATERIALS

4-ply handknitting yarn, either wool or man-made fibre.

Coned industrials: 2/16s Courtelle used 2-fold
 2/24s Courtelle used 3-fold
 2/30s Courtelle used 3 or 4-fold according to twist
 2/32s Courtelle used 3 or 4-fold according to twist
 2/8s Botany wool used singly
 2/20s Botany wool used 4-fold
 2/24s Botany wool used 5-fold

Tension swatches for Shetland or Lambswool must be washed before measuring.

YARN QUANTITIES

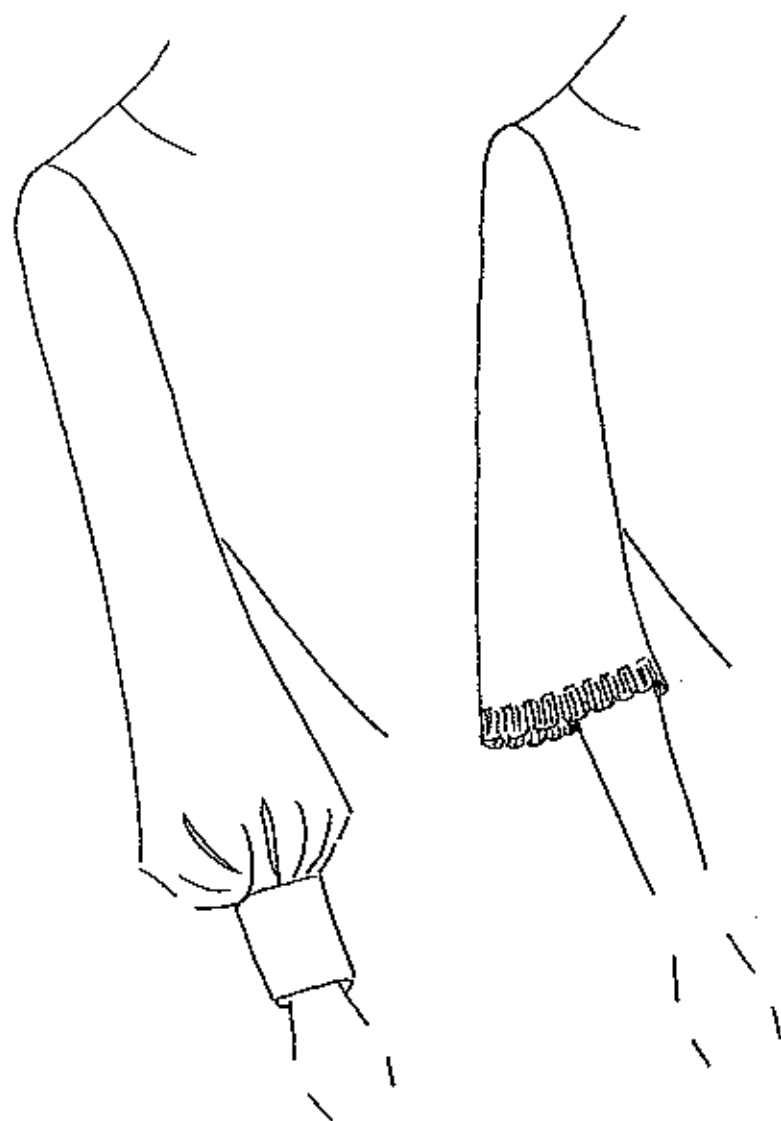
Dress: Back and Front		20	21	22	23	24 ozs
		568	596	625	653	681 grams
Sweater:	Standard	8	9	10	11	12 ozs
		227	256	284	312	341 grams
	Longline	9	10	11	12	13 ozs
		256	284	312	341	369 grams
	Short	5	6	7	8	9 ozs
		142	171	199	227	256 grams
Cardigan:	Standard	9	10	11	12	13 ozs
		256	284	312	341	369 grams
	Longline	10	11	12	13	14 ozs
		284	312	341	369	397 grams
	Short	5	6	7	8	9 ozs
		142	171	199	227	256 grams
Sleeves:	Short	3	3	3	4	4 ozs
		86	86	86	114	114 grams
	Three-quarter	5½	5½	6	6	6 ozs
		157	157	171	171	171 grams
	Long	5	5	5	6	6 ozs
		142	142	142	171	171 grams
	Long full	6	6	6	7	7 ozs
		171	171	171	199	199 grams

Neckbands: ½ oz. (15 grams). Armhole bands: ½ oz. (15 grams) Front bands: 1 oz. (29 grams)

Cardigan — Round neck — 9 buttons. Vee neck — 7 buttons. U neck — 8 buttons

Cardigan (longline): Round neck — 8 buttons. Vee neck — 6 buttons U neck — 6—6—6—7—7 buttons

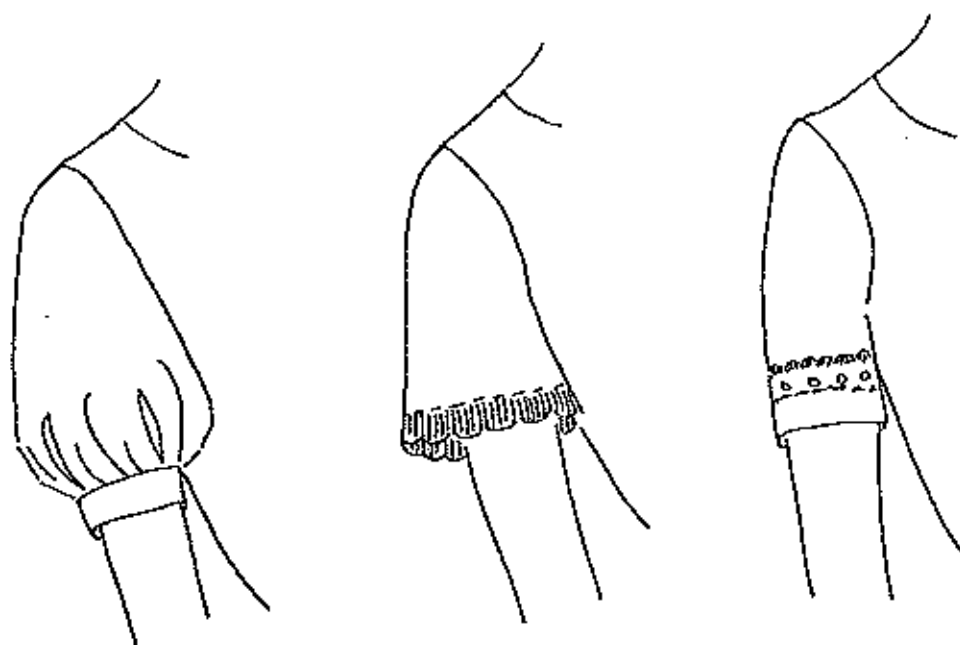
Cardigan (short): Round neck — 8 buttons Vee neck — 5 buttons U neck — 6 buttons



SLEEVE VARIATIONS



CROSSOVER TOP



BASIC SWEATER — Round, Vee or U Neck

BACK:

Cast on in 1x1 rib	120	126	134	140	146 sts
No. of working needles on each bed	60	63	67	70	73
Knit 30rs.					
Transfer stitches to front bed. RC 000					
Knit 116rs.					

ARMHOLE: RC 000

Cast off 6sts at beg. of next 2rs					
Cast off 2sts at beg. of next	2	2	4	6	8 rows
Dec. 1 st at each end of every alt. row	6	7	7	7	6 times
No. of sts dec. on each armhole	14	15	17	19	20
No. of sts rem.	92	96	100	102	106
Knit straight to row	66	70	76	80	86

SHOULDER and BACK NECK:

Using an odd length of matching yarn, cast off in centre	30	32	34	36	38 sts
Pushers under needles at right, lock to BX					
At neck edge on alt. rows dec. 1 st, 3 times at the same time shape shoulders as follows:					
5sts twice	5sts once	6sts 5 times	6sts 5 times	6sts 4 times	
6sts 3 times	6sts 4 times	—	—	7sts once	
No. of sts dec. on shoulder	28	29	30	30	31
Set lock to N and knit left side to match.					
Total No. of sts dec. at neck	36	38	40	42	44

FRONT — Round Neck:

Knit as for Back to armhole row	46	50	56	60	66
Using an odd length of matching yarn, cast off in centre	10	12	14	16	18 sts
Pushers under needles at right, lock to BX					
At neck edge on alt. rows shape as follows:-					
Cast off 3sts once					
Cast off 2sts on alt. rows, twice					
Dec. 1 st. at neck edge on alt. rows, 6 times					
Knit straight to row	66	70	76	80	86
Shape shoulder as for Back					
Set lock to N and knit left side to match					
Total No. of sts dec. at neck	36	38	40	42	44

FRONT — Vee Neck:

Inc. 1 st at one edge when ribbing is complete. This is used to start the Vee division.
 Knit as for Back to armhole. Transfer centre stitch to its adjacent needle.
 Pushers under all needles at right, lock to BX

ARMHOLE: RC 000

Cast off 6sts once					
Cast off 2sts at beg. of next	1	1	2	3	4 alt. rows
Dec. 1 st at beg. of every alt. row	6	7	7	7	6 times
at the same time shape neck as follows:-					

Dec. 1 st every 4th row	18	19	20	21	22 times
Remember to start shoulder shaping on row	66	70	76	80	86
Set lock to N and re-set RC 000					
Knit left side to match					
Total No. of sts dec. at neck	36	38	40	42	44

FRONT — U Neck:

Knit as for Back to armhole row	20	26	30	36	40
Using an odd length of matching yarn cast off in centre	16	18	20	22	24 sts
Pushers under needles at right, lock to BX					
On alt. rows at neck edge, cast off 2sts 5 times					
Keep neck edge straight and knit to row	66	70	76	80	86
Shape shoulder as for Back.					
Set lock to N and re-set RC 000					
Knit left side to match					
Total No. of sts dec. at neck	36	38	40	42	44

SLEEVES — Long:

Cast on in 1x1 rib	56	58	60	62	64 sts
Knit 36rs rib					
Transfer stitches to front bed. RC 000					
Inc. 1 st at each end of every	9	9	9	8	8th row
	14	15	16	17	18 times
No. of sts	84	88	92	96	100
No. of rows	126	135	144	136	144
Knit straight to row	140	146	150	156	160

SHAPE CAP: RC 000

Cast off 6sts at beg. of next 2rs					
Cast off 2sts at beg. of next 2rs					
Dec. 1 st each end of every alt. row	14	16	18	20	22 times
Dec. 1 st each end of every row	14	14	14	14	14 times
No. of rows	46	50	54	58	62
Cast off rem. 12sts					

SLEEVES — Short:

Cast on in 1x1 rib	74	78	82	86	90 sts
Knit 14rs.					
Transfer sts to front bed. RC 000					
Inc. 1 st at each end of every 4th row, 5 times					
No. of sts	84	88	92	96	100
Knit 4rs straight					
Shape cap as for Long sleeve.					

NECKBAND — Round:

Cast on in 1x1 rib	120	124	128	132	136 sts
Knit 24rs.					
Change to tubular and knit 10rs					
Remove with waste yarn					

NECKBAND — Vee: s.s.4

Join right shoulder seam					
Cast on in 1x1 rib	50	54	58	62	66 sts

Knit 14rs

Transfer stitches to back bed

Drop front bed and pick up the stitches down the left Vee of garment onto the needles which are holding the ribbing.

Cast off.

Right Vee and Back Neck:

Cast on in 1x1 rib

96

102

108

114

120 sts

Knit and transfer stitches

Pick up the same number of stitches as before down right Vee and use the remainder for back neck.

Cast off.

NECKBAND – U:

Cast on in 1x1 rib

164

168

172

176

180 sts

Knit 14rs.

Change to tubular and knit 10rs.

Release with waste yarn.

LONGLINE SWEATER

BACK:

Push into W.P. on each bed

126

132

140

146

154 needles

Knit 30 row hem RC 000

Knit 2rs.

Dec. 1 st at each end of every foll. 8th row, 10 times

No. of rows: 82 all sizes

No. of sts

106

112

120

126

134

RC 000 Inc. 1 st at each end of every

9

9

9

9

10th row

7

7

7

7

6 times

No. of sts

120

126

134

140

146

Knit straight to row 70

Continue from Armhole on Basic Sweater

FRONT:

Work as for Back.

Continue from Armhole on Basic Sweater, using any of the necks already given.

SLEEVES:

Work as for Basic Sweater or use one of the alternative sleeve patterns.

NECKBANDS:

Work as for Basic Sweater.

SHORT SWEATER

BACK:

Cast on in 1x1 rib	106	112	120	126	134 sts
Knit 56rs.					
Transfer stitches to front bed. RC 000					
Inc. 1 st at each end of every	7	7	7	7	8th row
	7	7	7	7	6 times
No. of sts	120	126	134	140	146
Knit straight to row 60					
Continue from Armhole on Basic Sweater					

FRONT:

Work as for Back.

Continue from Armhole on Basic Sweater, using any of the necks already given.

SLEEVES:

Work as for Basic Sweater or use one of the alternative sleeve patterns.

NECKBANDS:

Work as for Basic Sweater.

BASIC CARDIGAN — Round, Vee or 'U' Neck

BACK:

Cast on in 1x1 rib	120	126	134	140	146 sts
Knit 30rs.					
Transfer stitches to front bed. RC 000					
Knit 116rs.					

ARMHOLE: RC 000

Cast off 6sts at beg. of next 2rs.					
Cast off 2sts at beg. of next	2	2	4	6	8 rs
Dec. 1 st each end of every alt. row	6	7	7	7	6 times
No. of sts dec. at each armhole	14	15	17	19	20
No. of sts rem.	92	96	100	102	106
Knit straight to row	70	76	80	86	90

SHOULDER and BACK NECK:

Using an odd length of matching yarn, cast off in centre	30	32	34	36	38 sts
Pushers under needles at right, lock to BX					
At neck edge on alt. rows, dec. 1 st 3 times					
At the same time shape shoulder as follows:					
6sts twice	6sts once	6sts 5 times	6sts 5 times	6sts 4 times	
6sts 3 times	6sts 4 times	—	—	7sts once	
No. of sts dec. on shoulder	28	29	30	30	31
Set lock to N and knit left side to match.					
Total No. of sts dec. at neck	36	38	40	42	44

RIGHT FRONT — Round Neck

Knit on left half of machine so that neck edge is at centre of needlebed.

Cast on in 1x1 rib	60	62	66	70	72 sts
Knit 30rs.					
Transfer stitches to front bed.s RC 000					
Knit 116rs.					
Knit 1 row extra so that lock is at left.					

ARMHOLE: RC 000

Cast off 6sts once					
Cast off 2sts at beg. of alt. rows	1	1	2	3	4 times
Dec. 1 st at beg. of every alt. row	6	7	7	7	6 times
No. of sts dec. at armhole	14	15	17	19	20
No. of sts rem.	46	47	49	51	52
Knit straight to row	50	56	60	66	70

SHAPE NECK:

At beg. of next row cast off	5	5	6	8	8 sts
Cast off 3sts on following alt. row					
Cast off 2sts on alt. rows, twice					
Dec. 1 st at beg. of every alt. row, 6 times					
No. of sts dec. at neck	18	18	19	21	21
No. of sts rem.	28	29	30	30	31
Knit straight to row	70	76	80	86	90
Shape shoulder as for back.					

LEFT FRONT:

Work as for Right Front, reversing all shapings. Omit extra row when armhole is reached but knit 1 extra row before shaping neck.

SLEEVES — Long:

	60	62	64	66	68 sts
Cast on in 1x1 rib					
Knit 36rs.					
Transfer stitches to front bed. RC 000					
Inc. 1 st at each end of every	9	9	9	8	8th row
	14	15	16	17	18 times
No. of sts	88	92	96	100	104
No. of rows	126	135	144	136	144
Knit straight to row	140	146	150	156	160

SHAPE CAP: RC 000

Cast off 6sts at beg. of next 2rs					
Cast off 2sts at beg. of next 2rs					
Dec. 1 st at each end of every alt. row	15	17	19	21	23 times
Dec. 1 st at each end of every row	14	14	14	14	14 times
No. of rows	48	52	56	60	64
Cast off rem. 14sts					

SLEEVE — Short:

	78	82	86	90	94 sts
Cast on in 1x1 rib					
Knit 14rs.					
Transfer stitches to front bed. RC 000					
Inc. 1 st at each end of every 4th row, 5 times					
No. of sts	88	92	96	100	104
Knit 4rs straight.					
Shape Cap as for Long sleeve					

NECKBAND:

	132	136	140	144	148 sts
Cast on in 1x1 rib					
Knit 8rs.					
Make buttonhole 3 stitches in from one edge					
Knit 6rs.					
Change to tubular and knit 10rs.					
Release on waste yarn.					

BUTTONBAND:

	214	220	226	232	238 rows
Cast on 16sts in 1x1 rib.					
Knit					
Cast off.					

BUTTONHOLE BAND:

	28	28	29	30	31 rows
Cast on 16sts in 1x1 rib					
Knit 6rs. Make buttonhole					
Knit 22rs. Make buttonhole					
* Knit					
make buttonhole*					
Repeat from * to * 5 more times					
Knit	18	24	24	24	24 rows
Cast off.					

VEE NECK CARDIGAN

BACK:

Knit as for Main Pattern.

RIGHT FRONT:

Knit as for Main Pattern until armhole is reached.

Armhole shaping as already given.

At neck edge dec. 1 st at beg. of next and every following

	4	5	5	4	5th row
	17	17	18	20	20 times
Remember to start shoulder on row	70	76	80	86	90
Total No. of sts dec. on neck	18	18	19	21	21

LEFT FRONT:

Knit as for Right Front reversing shapings.

SLEEVES:

as for Main Pattern.

FRONT BAND:

Cast on 16sts in 1x1 rib

Knit 8rs. Make buttonhole

Knit 22rs. Make buttonhole

Knit 26rs. Make buttonhole

Repeat from * to * 4 more times

No. of rows 158

Knit to row

590 604 618 632 646

Release from machine.

U NECK CARDIGAN

BACK:

As for Main Pattern.

RIGHT FRONT:

Knit as for Main Pattern to armhole row

24 30 34 40 44

Cast off at neck edge

8 8 9 11 11 sts

Cast off 2sts every alt. row, 5 times

No. of sts dec. at neck

18 18 19 21 21

No. of sts rem.

28 29 30 30 31

Knit straight to row

70 76 80 86 90

Shape shoulder as for Main Pattern.

LEFT FRONT:

Knit as for Right Front reversing shapings.

SLEEVES:

As for Main Pattern.

NECKBAND:

Cast on in 1x1 rib	158	162	166	170	174 sts
Knit 8rs. Make buttonhole 3sts in from one edge.					
Knit 6rs.					
Change to tubular and knit 10rs.					
Release with waste yarn.					

BUTTONBAND:

Cast on 16sts in 1x1 rib					
Knit	174	180	186	192	198 rows
Cast off.					

BUTTONHOLE BAND:

Cast on 16sts in 1x1 rib					
Knit 6rs. Make buttonhole					
Knit 22rs. Make buttonhole					
*Knit	27	28	28	29	30 rows
make buttonhole*					
Repeat from * to * 4 more times					
Knit	11	12	18	19	20 rows
No. of rows	174	180	186	192	198
Cast off.					

SHORT CARDIGAN

BACK:

Cast on in 1x1 rib	106	112	120	126	134 sts
Knit 30rs.					
Transfer stitches to front bed. RC 000					
Inc. 1 st at each end of every	10	10	10	10	11th row
	7	7	7	7	6 times
No. of sts	120	126	134	140	146
Knit straight to row 80					

ARMHOLE: RC 000

Knit as for Basic Cardigan until Back is complete.

RIGHT FRONT:

Knit on left half of machine so that neck edge is at centre of needlebed.

Cast on in 1x1 rib	52	54	58	62	66 sts
Knit 30rs.					
Transfer stitches to front bed. RC 000					
At left edge on the 1st, 2nd, 3rd and 4th sizes, increase 1 stitch					
No. of sts	53	55	59	63	66
Knit as for Back, shaping left edge only. RC 70					
No. of sts	60	62	66	70	72

ARMHOLE: RC 000

Follow pattern for Basic Cardigan until front is complete.

LEFT FRONT:

Knit on right half of machine and reverse shapings.

SLEEVES:

As for Basic Cardigan

NECKBAND:

As for Basic Cardigan

BUTTONBAND — Round Neck:

Cast on 16sts in 1x1 rib					
Knit	164	170	176	182	188 rows
Cast off.					

BUTTONHOLE BAND — Round Neck:

Cast on 16sts in 1x1 rib					
Knit 6rs. Make buttonhole					
Knit 22rs. Make buttonhole					
*Knit	25	26	27	28	29 rows
make buttonhole*					
Repeat from * to * 4 more times					
Knit	11	12	13	14	15 rows
Cast off.					

BAND FOR VEE NECK

Cast on 16sts in 1x1 rib					
Knit 6rs. Make buttonhole					
Knit 22rs. Make buttonhole					
Knit 29rs. Make buttonhole					
Repeat from * to * twice more.					
Knit to row	504	518	532	546	560
Release from machine.					

NECKBAND FOR U NECK:

As Basic Cardigan

BUTTONBAND — U Neck:

Cast on 16sts in 1x1 rib.					
Knit	146	152	158	164	170 rows
Cast off.					

BUTTONHOLE BAND — U Neck:

Cast on 16sts in 1x1 rib					
Knit 6rs. Make buttonhole					
Knit 22rs. Make buttonhole					
*Knit	27	28	28	29	30 rows
Make buttonhole.* Repeat from * to * 3 more times					
Knit	10	12	18	20	22 rows.
Cast off.					

LONGLINE CARDIGAN

BACK:

Cast on and knit hem as for Longline Sweater. RC 000

Knit 2rs.

Dec. 1 st at each end of every following 8th row, 10 times

No. of rows 82

No. of sts	106	112	120	126	134
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RC 000

Inc. 1 st at each end of every	9	9	9	9	10th row
	7	7	7	7	6 times

No. of sts	120	126	134	140	146
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Knit straight to row 70

ARMHOLE: RC 000

Follow pattern for Basic Cardigan until back is complete.

RIGHT FRONT:

Knit on left half of machine so that neck edge is at centre of needlebed.

Push into W.P. on each bed	63	65	69	73	76 needles
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Knit hem.

Knit as for Back, shaping left edge only.

No. of sts at waist after decreasing	53	55	59	63	66
--------------------------------------	----	----	----	----	----

No. of sts at bust after increasing	60	62	66	70	72
-------------------------------------	----	----	----	----	----

Follow pattern for Basic Cardigan until front is complete.

LEFT FRONT:

Knit on right half of machine and reverse shapings.

Omit extra row at armhole but knit 1 row extra before neck shaping so that lock is at left.

SLEEVES:

As for Basic Cardigan or use one of the alternative sleeve patterns.

NECKBAND — Round:

As Basic Cardigan

BUTTONBAND — Round Neck:

Cast on 16sts in 1x1 rib

Knit	248	254	260	266	272 rows
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Cast off.

BUTTONHOLE BAND — Round Neck:

Cast on 16sts in 1x1 rib

Knit 66rs. Make buttonhole.

* Knit	25	26	27	27	28 rows
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Make buttonhole*.

Repeat from * to * 6 more times.

Knit	7	6	5	11	10 rows
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Cast off.

LOGLINE CARDIGAN – VEE NECK

Follow instructions as already given, then work from the Basic Cardigan pattern when armhole is reached.

FRONT BAND:

Cast on 16sts in 1x1 rib

Knit 64rs. Make buttonhole

Knit 26rs. Make buttonhole

Repeat from * to * 4 more times

No. of rows 194

Knit without further buttonholes to row

662

676

690

704

718

Release from machine.

LOGLINE CARDIGAN – U NECK

Follow instructions already given then work from the Basic Cardigan pattern when armhole is reached.

NECKBAND:

As given for Basic Cardigan

BUTTONBAND:

Cast on 16sts in 1x1 rib

Knit

216

222

228

234

240 rows

Cast off.

BUTTONHOLE BAND:

Cast on 16sts in 1x1 rib.

Knit 66rs. Make buttonhole.

*Knit

27

28

28

26

26 rows

Make buttonhole*.

Repeat from * to *

4

4

4

5

5

more times.

Knit

15

16

22

12

18 rows

Cast off.

ALTERNATIVE SLEEVES FOR SWEATERS

The Sleeve Cap is the same for all styles and the Basic Long or Short sleeve has already been given on pattern.

No. of sts on machine when Sleeve Cap is reached

	84	88	92	96	100
Cast off 6sts at beg. of next 2rs.					
Cast off 2sts at beg. of next 2rs.					
Dec. 1 st at each end of every alt. row	14	16	18	20	22 times
Dec. 1 st at each end of every row	14	14	14	14	14 times
No. of rows	46	50	54	58	62
Cast off rem. 12sts.					

SHORT BELL

Push into W.P.	96	100	104	108	112 needles
Knit scalloped hem.					
Dec. 1 st at each end of every 4th row, 6 times.					
Knit 4rs. (28rs)					
No. of sts	84	88	92	96	100
Shape Cap.					

THREE-QUARTER BELL

Push into W.P.	112	116	120	124	128 needles
Knit scalloped hem.					
Dec. 1 st each end of every	6	6	7	7	7th row
	14	14	14	14	14 times
No. of sts	84	88	92	96	100
Knit to row	90	96	100	106	110
Shape Cap.					

PUFFED SLEEVE

Cast on with waste yarn.	98	102	106	110	114 sts
Knit several rows.					
Dec. 1 st at each end of every 5th row, 7 times					
Knit 5rs.					
No. of sts	84	88	92	96	100
Shape Cap.					

CUFFED SLEEVE -- Short

On each bed push into W.P.	64	68	72	76	80 needles
Take out every third needle on each bed and knit the fancy edging rows.					
Push empty in-between needles back into work and knit 10rs tubular.					
Transfer stitches on front bed to back and knit 20rs s.s.5½					
Transfer all stitches to front bed. Cuff complete.					
inc. 1 st at each end of every 4th row, 10 times.					
Knit 4rs.					
No. of sts	84	88	92	96	100
Shape Cap.					

LONG FULL SLEEVE

Using waste yarn cast on 142sts.

Knit several rows.

Using main yarn dec. 1 st at each end of every 5th row

	29	27	25	23	21 times
No. of sts	84	88	92	96	100
Knit to row	154	160	164	170	174
Shape Cap.					

CUFF FOR LONG FULL SLEEVE

Push into W.P. on front bed	50	52	54	56	58 sts
Pick up stitches from lower edge of sleeve evenly onto these needles.					
Knit 60rs, s.s.6 (loose row is No. 30).					
Cast off.					

BAND FOR PUFFED SLEEVE

Push into W.P. on front bed	60	64	68	72	76 sts
Pick up stitches from lower edge of sleeve evenly onto these needles.					
Knit 34rs s.s.5½ (loose row is No. 17).					
Cast off.					

ALTERNATIVE SLEEVES FOR CARDIGANS

On these garments the armhole is a little deeper so sleeves need a slight adjustment.

Use any of the sleeves already given but cast on 4 extra stitches. Shape as given until Sleeve Cap is reached.

No. of sts on machine	88	92	96	100	104
Cast off 6sts at beg. of next 2rs.					
Cast off 2sts at beg. of next 2rs.					
Dec. 1 st at each end of every alt. row	15	17	19	21	23 times
Dec. 1 st at each end of every row	14	14	14	14	14 times
No. of rows	48	52	56	60	64
Cast off rem. 14sts.					

LONGLINE CARDIGAN — Round, U or Vee Neck — Sleeveless

BACK:

Knit as for Longline with Sleeves to armhole

No. of sts	120	126	134	140	146
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ARMHOLE: RC 000

Cast off 6sts at beg. of next 2rs

Cast off 4sts at beg. of next 4rs.

Cast off 2sts at beg. of next

	4	4	6	8	10 rows
--	---	---	---	---	---------

Dec. 1 st at each end of every alt. row	6	7	7	7	6 times
---	---	---	---	---	---------

No. of sts dec. on each armhole	24	25	27	29	30
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No. of sts rem.	72	76	80	82	86
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Knit straight to row	70	76	80	86	90
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SHOULDER and BACK NECK:

Using an odd length of matching yarn cast off in centre

	30	32	34	36	38 sts
--	----	----	----	----	--------

Pushers under needles at right. Lock to BX

At neck edge on alt. rows, dec. 1 st, 3 times

At the same time shape shoulder as follows:

6sts 3 times	6sts twice	6sts once	6sts once	7sts 3 times
—	7sts once	7sts twice	7sts twice	—

No. of sts dec. on shoulder	18	19	20	20	21
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Set lock to N and knit left side to match

Total No. of sts dec. at neck	36	38	40	42	44
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RIGHT FRONT — Round Neck:

Knit as for Longline with Sleeves to armhole

No. of sts	60	62	66	70	72
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ARMHOLE: RC 000

Knit 1 extra row, lock at left.

Dec. on next and following alt. rows

6sts once, 4sts twice, 2sts	2	2	3	4	5 times
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Dec. 1 st	6	7	7	7	6 times
-----------	---	---	---	---	---------

No. of sts dec. on armhole	24	25	27	29	30
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No. of sts rem.	36	37	39	41	42
-----------------	----	----	----	----	----

Knit straight to row	50	56	60	66	70
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SHAPE NECK:

At beg. of next row cast off	5	5	6	8	8 sts
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Cast off 3sts on following alt. row

Cast off 2sts on alt. rows, twice

Dec. 1 st at beg. of every alt. row, 6 times

No. of sts dec. at neck	18	18	19	21	21
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No. of sts rem.	18	19	20	20	21
-----------------	----	----	----	----	----

Shoulder shaping starts on row	70	76	80	86	90
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Work as for Back.

LEFT FRONT:

Knit on right half of machine.

Work as for Right Front with reversed shapings.

Omit extra row before armhole but knit 1 row extra before starting neck so that lock is at left.

NECKBAND and FRONT BANDS:

Cast on in 1x1 rib

Knit as given for Longline with sleeves.

ARMHOLE BANDS:

Join shoulder seams.

Cast on in 1x1 rib

114

120

126

132

138 sts

Knit 14rs.

Transfer stitches to back bed.

Drop front bed. With wrong side of work facing pick up stitches round armhole of garment onto needles holding the rib.

Cast off.

Rib bands are now joined to garment and no sewing is required.

RIGHT FRONT — Vee Neck:

Knit as already given to armhole

No. of sts

60

62

66

70

72

ARMHOLE and VEE NECK:

Work both at the same time

Armhole shaping as for Round Neck

For neck shaping dec. 1 st at beg. of next row.

Dec. 1 st every 4th row

17

17

18

20

20 times

Shoulder shaping starts on row

70

76

80

86

90

No. of sts dec. on neck

18

18

19

21

21

No. of sts rem.

18

19

20

20

21

Shape Shoulder as for Back.

LEFT FRONT:

Knit as for Right Front with reversed shapings.

Omit extra row at armhole but knit 1 row extra before neck shaping so that lock is at left.

FRONT BAND:

Knit as for Longline with Sleeves.

ARMHOLE BANDS:

As already given.

RIGHT FRONT — U Neck:

Knit as for Round Neck until armhole row

24

30

34

40

44

NECK SHAPING:

Cast off	8	8	9	11	11 sts
Cast off 2sts every alt. row, 5 times					
No. of sts dec. at neck	18	18	19	21	21
No. of sts rem.	18	19	20	20	21
Knit straight to row	70	76	80	86	90
Shape Shoulder as for Round Neck					

LEFT FRONT:

Knit as for Right Front with reversed shapings.

Omit extra row at armhole but knit 1 row extra before neck shaping so that lock is at left.

NECKBAND and FRONT BANDS:

Knit as given for Longline with Sleeves.

SHORT CARDIGAN — Round, Vee or U Neck — Sleeveless

BACK:

Knit as for Short Cardigan with Sleeves to armhole

No. of sts	120	126	134	140	146
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ARMHOLE: RC 000

Follow instructions for Longline Cardigan — Sleeveless.

RIGHT FRONT:

Knit as for Short Cardigan with Sleeves to armhole.

No. of sts	60	62	66	70	72
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ARMHOLE: RC 000

Follow instructions given for Longline Cardigan — Sleeveless.

LEFT FRONT:

Work as for Right Front with reversed shapings.

Omit extra row at armhole but knit 1 row extra before neck shaping so that lock is at left.

FRONT BANDS:

Knit as already given for styles with sleeves.

ARMHOLE BANDS:

As given for Longline Cardigan — Sleeveless.

CROSSOVER TOPLET – EASY FITTING

This is part of Master Pattern No. 1 so all yarn and stitch details apply.

MATERIALS:	Dark chocolate	9	10	11	12	13 ozs
		256	284	312	341	369 grams
	White	1 oz (29 grams) all sizes				
	Beige	1 oz (29 grams) all sizes				

Original was knitted in dark chocolate with beige and white trimming

SIZE:	Length	As in Main Pattern for short tops				
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BACK:

Cast on in 1x1 rib	120	126	134	140	148 sts
Knit 50rs, s.s.3 RC 000					
Change to st.st. and knit 70rs s.s.6					
Continue as from armhole on Main Pattern. (Any of the sleeves given in Main Pattern can be used).					

RIGHT FRONT:

Cast on in 1x1 rib, s.s.3	92	97	102	106	112 sts
Buttonholes are made on the following rows (same for all sizes)	9, 19, 29, 39, 49				
At the right edge work on the 5th and 6th stitches and at left side work on the 33rd and 34th stitches (counting from left).					
Knit 1 more row to complete the 50rs for welt.					
RC 000					
Transfer to front bed and knit 2rs.					
Front shaping is worked at right edge. At beg. of next and following alternate row cast off 5sts all sizes.					
Dec. 1 st. every row	21	24	25	26	29 times
Dec. 1 st. every 6th row	19	19	20	21	21 times
Remember to shape armhole at left when row 70 is reached.					
Also start shoulder when you reach row	136	140	146	150	156
Total No. of rows on st.st. body including shoulder					
	146	150	156	160	166
Total No. of shaping rows on front	141	144	151	158	161
Total No. of sts dec. on front edge	50	53	55	57	60
Total No. of sts dec. on armhole	14	15	17	19	21
Total No. of sts dec. on shoulder	28	29	30	30	31

LEFT FRONT:

Knit as for right front, reversing shapings and omitting buttonholes.

SLEEVES:

These are based on the short bell shape in Main Pattern

On both beds push into W.P.	96	100	104	108	112 needles
Take out every 3rd needle on each bed.					
Edging is Fancy Trimming with Tubular rows. Knit the pattern rows in beige on s.s.4					
Knit 6 tubular rows in white, s.s.5½					
Knit 6 tubular rows in chocolate, s.s.5½					
Transfer stitches to front bed and continue as for short bell sleeve from the completion of hem.					

FRONT BANDS: Knit 2 alike

These are knitted in exactly the same way as the edging on sleeves.

For right front edge to shoulder, on both beds push into W.P.

110 113 116 119 122 needles

When 2rs of tubular in chocolate have been knitted, work buttonhole on each bed with odd yarn over needles 3-4-5 from left edge.

For left front edge and back neck, push into W.P. on both beds

116 119 122 125 128 needles

Make this band without buttonhole.

MAKING UP:

Pull all pieces lengthways and press. Sew or graft shoulders. Sew sleeves into armholes. Join the bands and pin onto garment. On the left front the band starts at the end of the rows where single decreases were worked every row and then goes right round to the right shoulder.

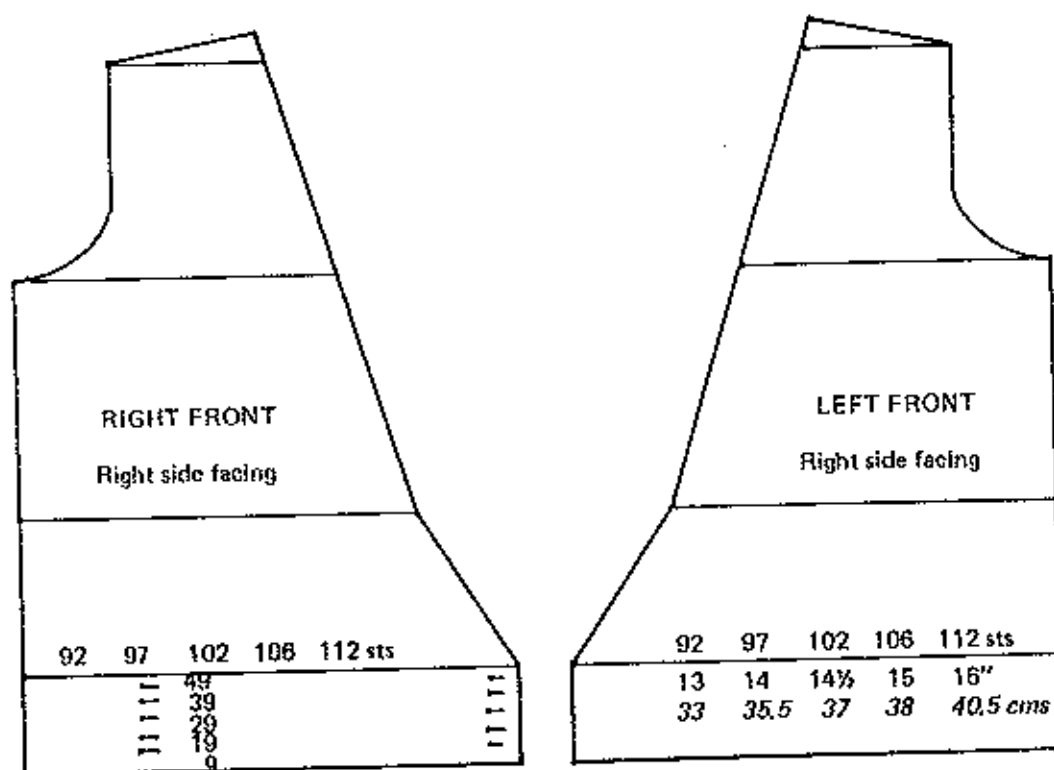
To complete buttonhole on right front:

On right side pull out odd yarn and neatly sew the open stitches over the last buttonhole which was worked on the right. Repeat on wrong side.

Press. Sew side and sleeve seams.

Sew 5 buttons on rib of left front 32 stitches in from side seam.

Sew 5 buttons onto left front edge 4sts in.



No. of sts dec. at armhole	14	15	17	19	21
No. of sts dec. at shoulder	28	29	30	30	31
No. of sts dec. at front edge	50	53	55	57	60

Figures in italics denote centimetres

QUICK ALTERNATIVE EDGING. Knitted on front bed only.

Black strippers, s.s.6

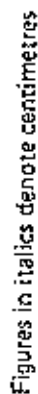
1 1 . 1 . 1 1
p p p p

Knit 6rs AX

2rs N

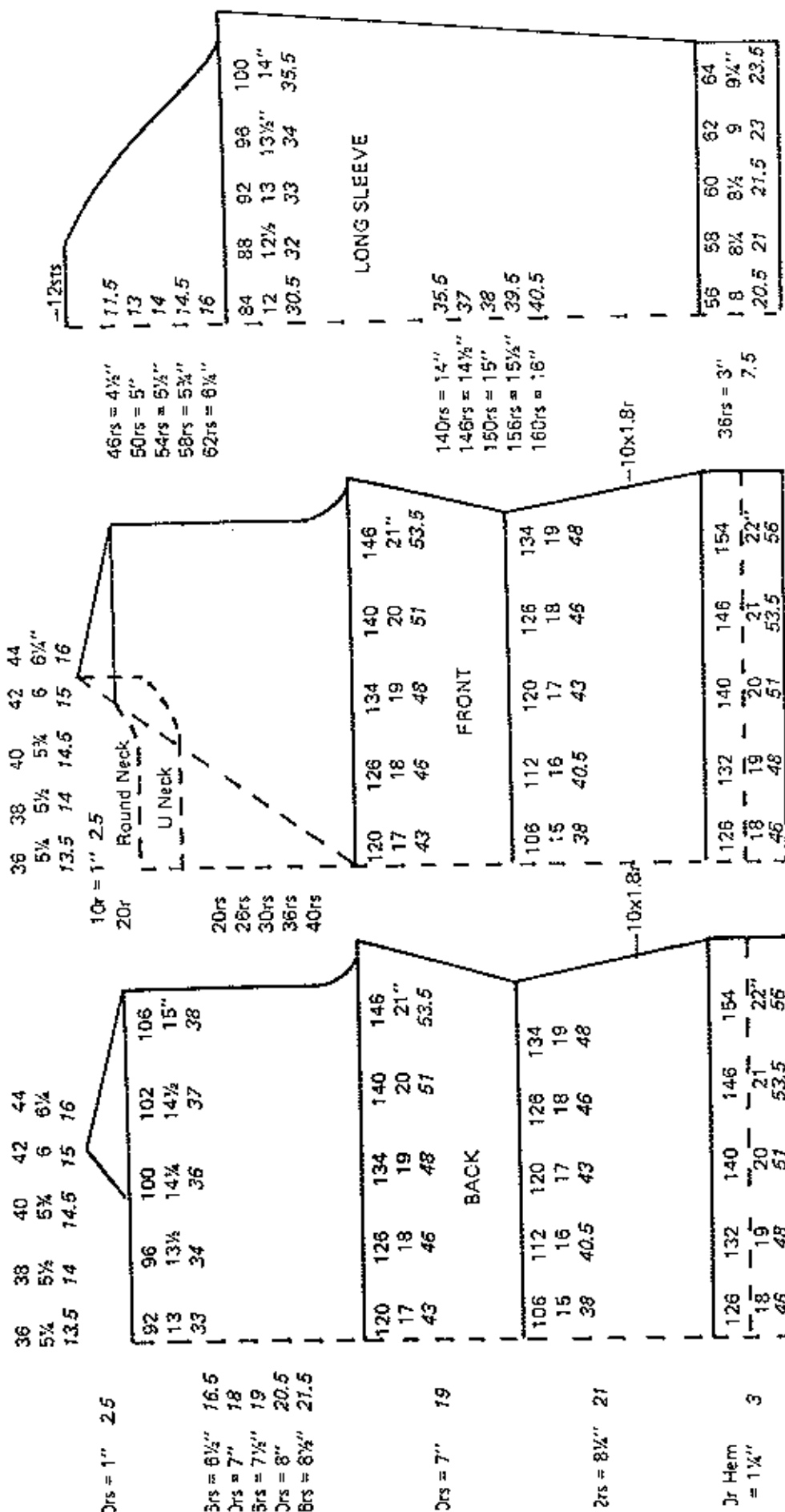
Repeat

(hold down underneath)



LONGLINE SWEATER

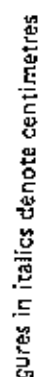
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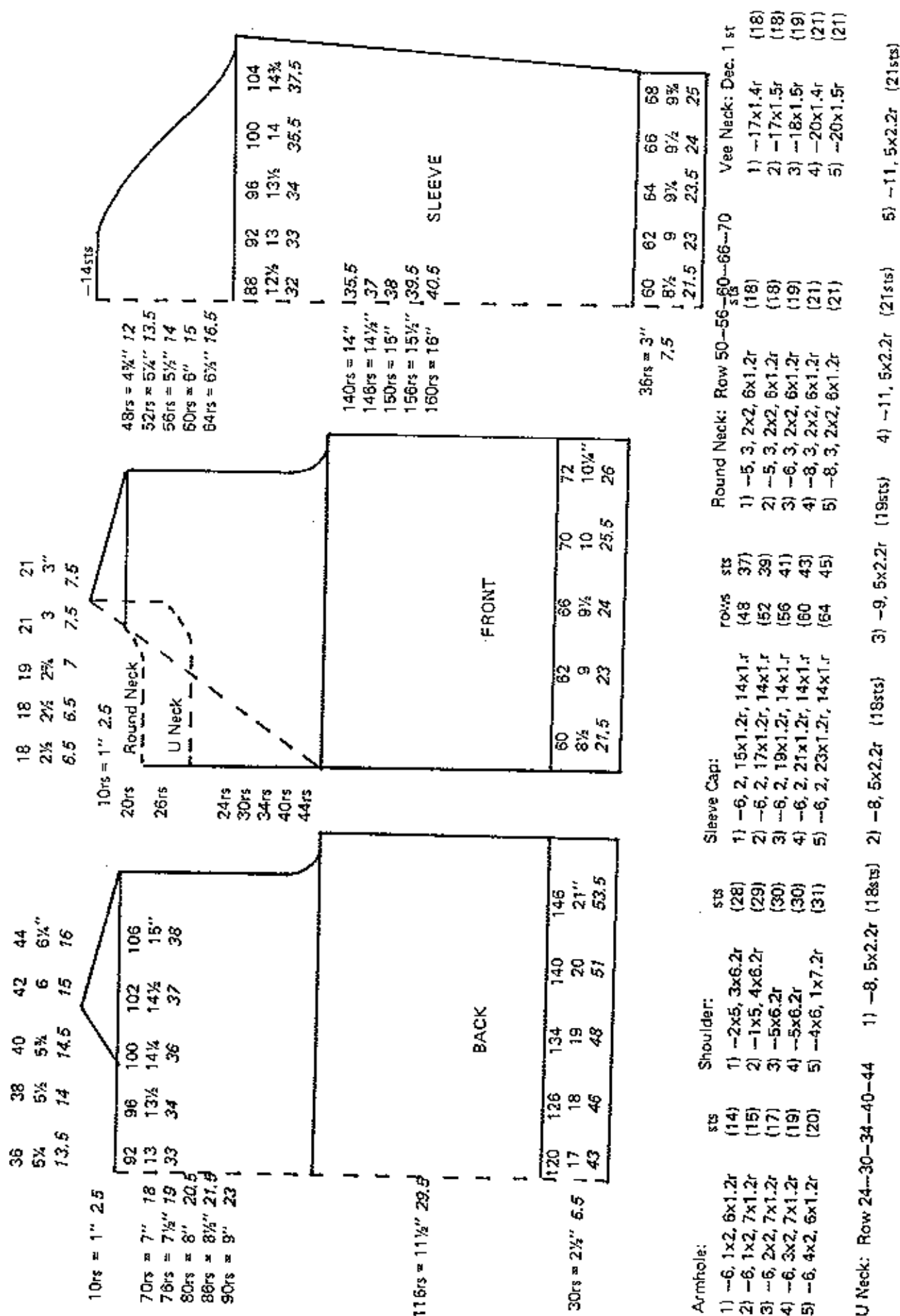
rmhole:	sts	Shoulder:	sts	Sleeve Cap:	rows	sts	Round Neck:	Row 46-50-56-60-66	sts	U Neck:	Row 20-26-30-36-40	sts	Vee Neck:	sts
1 -6, 1x2, 6x1.2r	(14)	1) -2x5, 3x6.2r	(28)	1) -6, 2, 14x1.2r, 14x1.1r	(46)	(36)	1) -10, 3, 2x2, 6x1.2r	(36)	1) -16, 5x2.2r	(36)	1) -18x1.4r	(36)	1) -18x1.4r	(36)
2 -6, 1x2, 7x1.2r	(15)	2) -1x5, 4x6.2r	(29)	2) -6, 2, 16x1.2r, 14x1.1r	(50)	(38)	2) -12, 3, 2x2, 6x1.2r	(38)	2) -18, 5x2.2r	(38)	2) -19x1.4r	(38)	2) -19x1.4r	(38)
3 -6, 2x2, 7x1.2r	(17)	3) -5x6.2r	(30)	3) -6, 2, 18x1.2r, 14x1.1r	(54)	(40)	3) -14, 3, 2x2, 6x1.2r	(40)	3) -20, 5x2.2r	(40)	3) -20x1.4r	(40)	3) -20x1.4r	(40)
4 -6, 3x2, 7x1.2r	(19)	4) -5x6.2r	(30)	4) -6, 2, 20x1.2r, 14x1.1r	(58)	(42)	4) -16, 3, 2x2, 6x1.2r	(42)	4) -22, 5x2.2r	(42)	4) -21x1.4r	(42)	4) -21x1.4r	(42)
5 -6, 4x2, 6x1.2r	(20)	5) -4x6, 1x7.2r	(31)	5) -6, 2, 22x1.2r, 14x1.1r	(62)	(44)	5) -18, 3, 2x2, 6x1.2r	(44)	5) -24, 5x2.2r	(44)	5) -22x1.4r	(44)	5) -22x1.4r	(44)

figures in italics denote centimetres

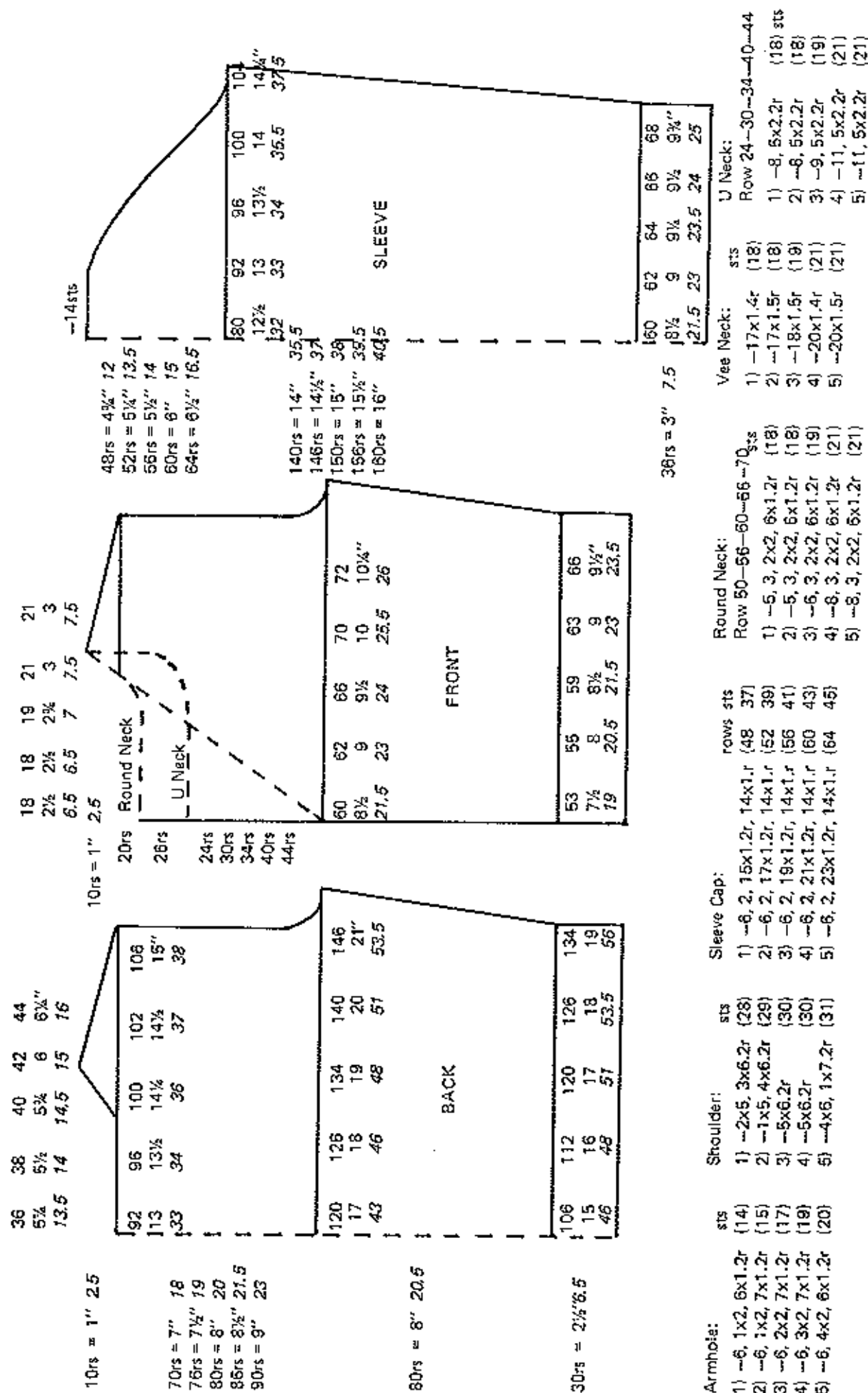
SHORT SWEATER



Figures in italics denote centimetres



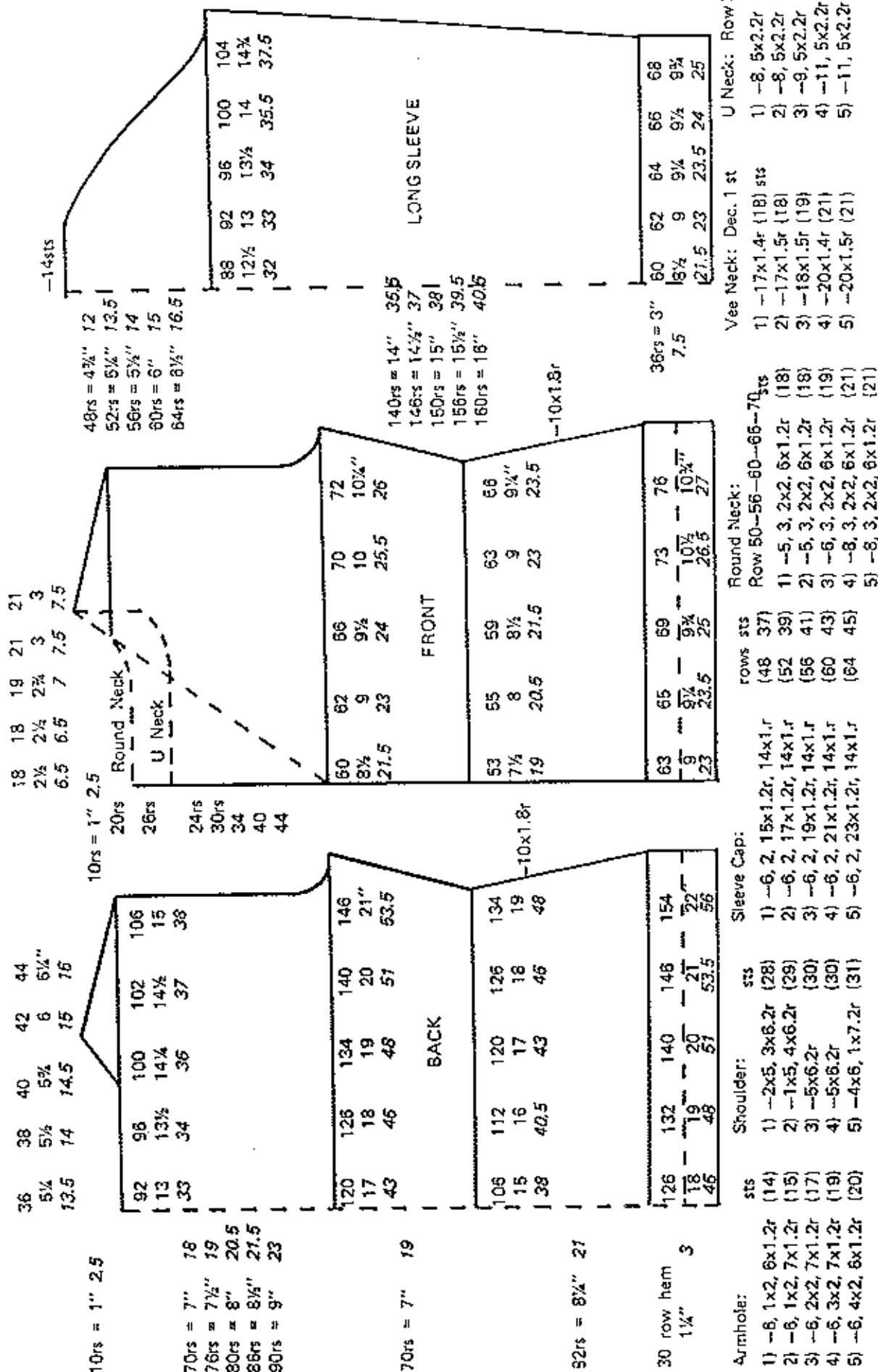
SHORT CARDIGAN



Figures in italics denote centimetres

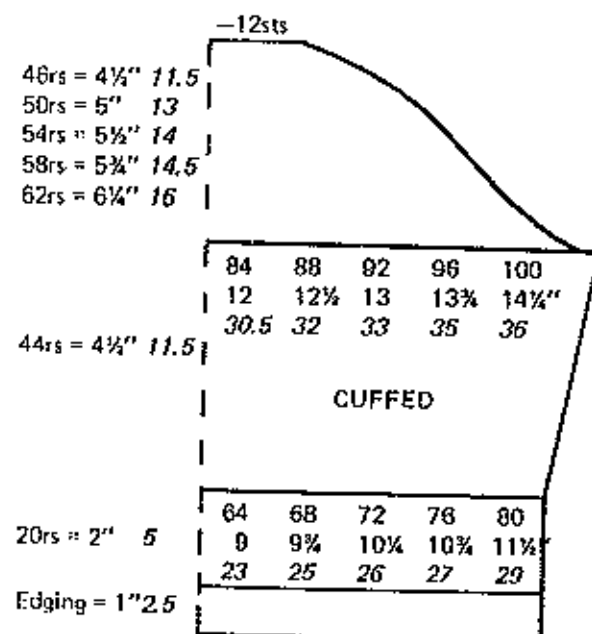
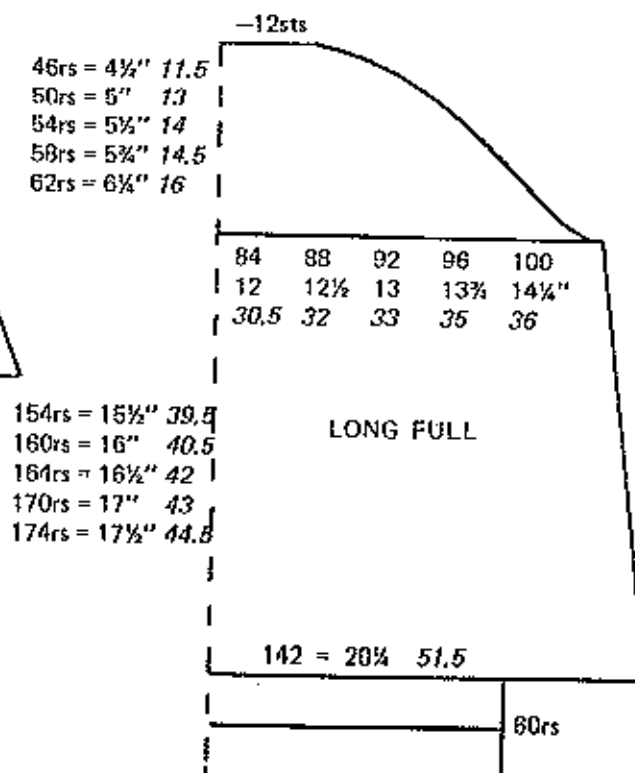
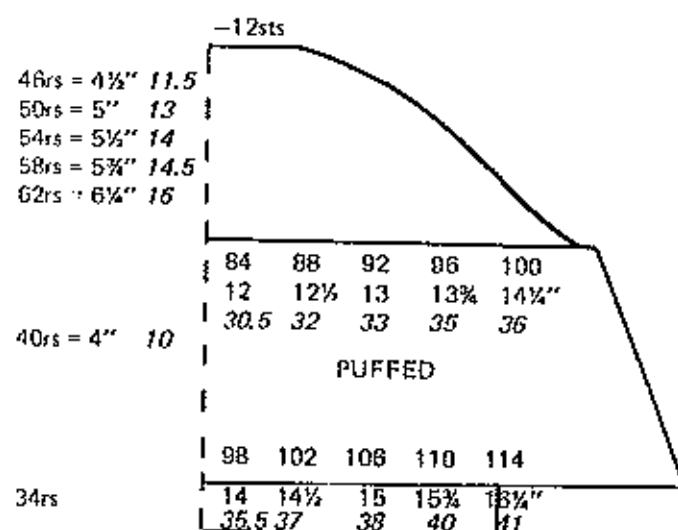
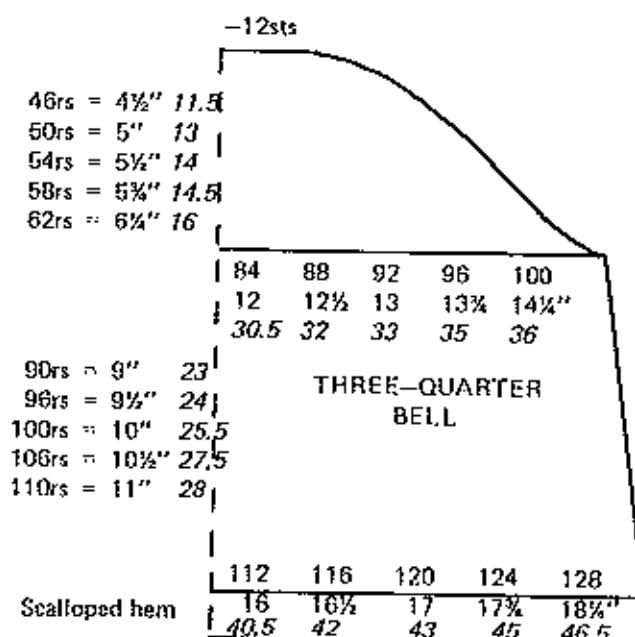
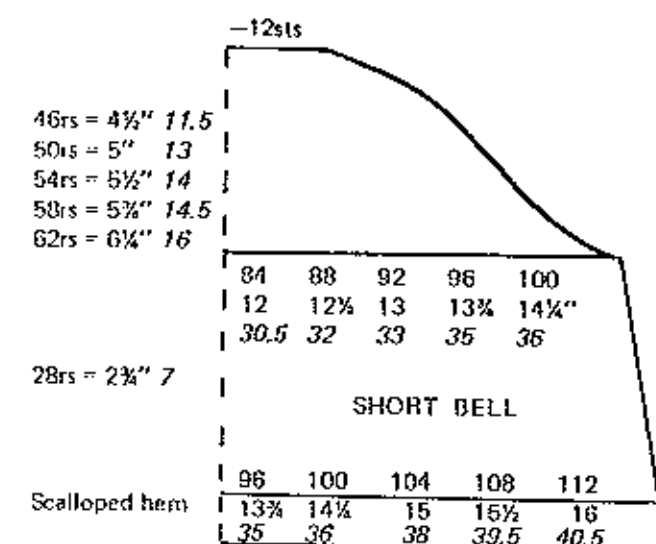
LONGLINE CARDIGAN

111



Figures in italics denote centimetres

ALTERNATIVE SLEEVES FOR SWEATERS

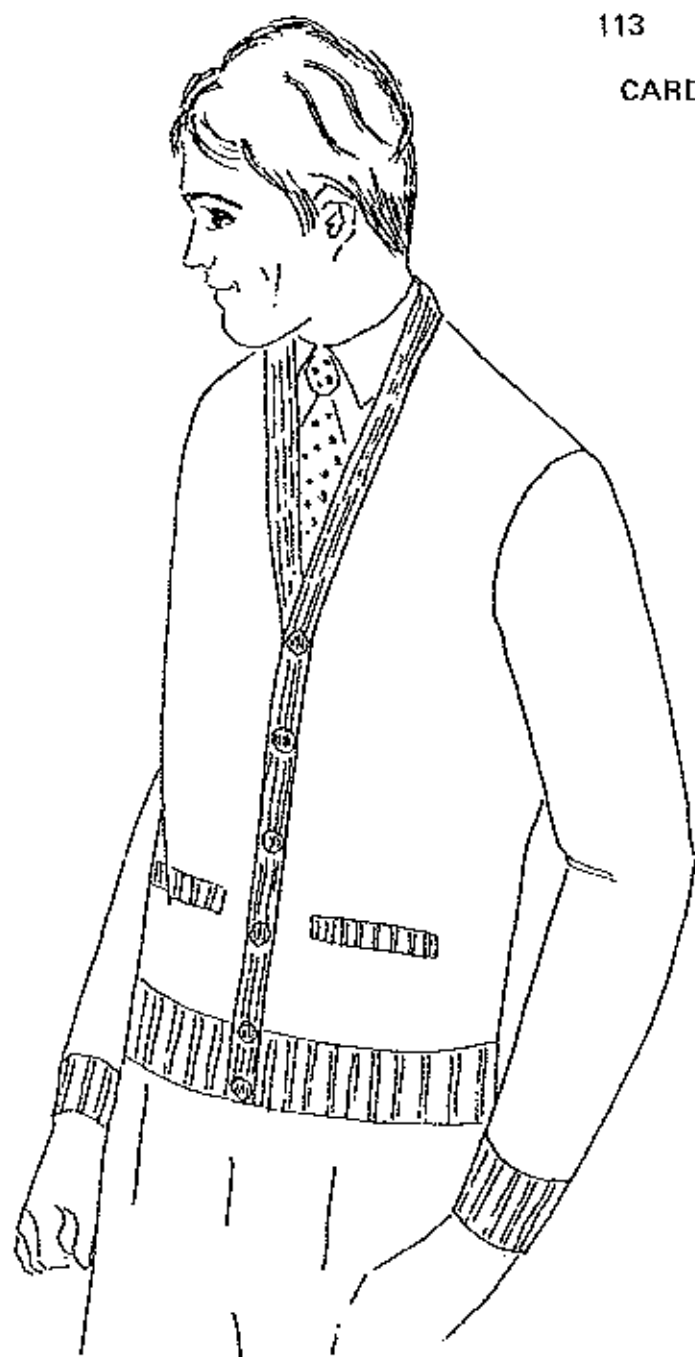


Sleeve Cap:

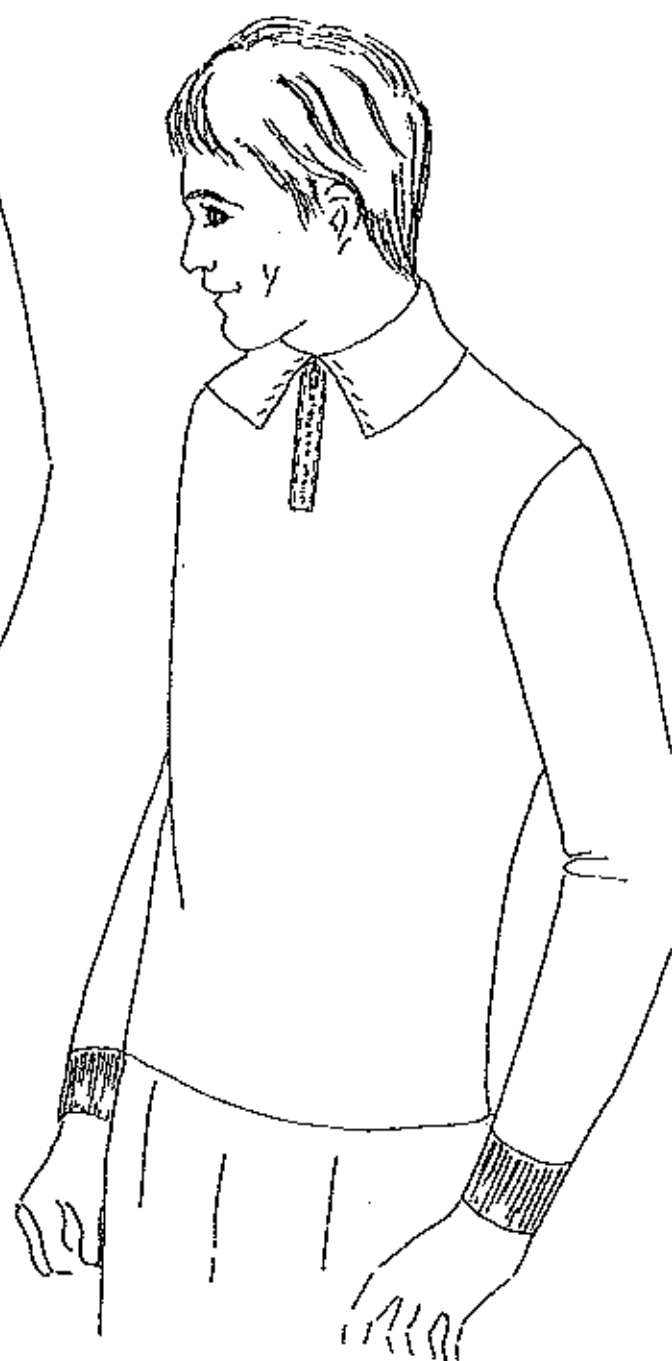
	rows	sts
1) -6, 2, 14x1.2r, 14x1.r	(46	36)
2) -6, 2, 16x1.2r, 14x1.r	(50	38)
3) -8, 2, 10x1.2r, 14x1.r	(54	40)
4) -6, 2, 20x1.2r, 14x1.r	(58	42)
5) -6, 2, 22x1.2r, 14x1.r	(62	44)

Figures in italics denote centimetres

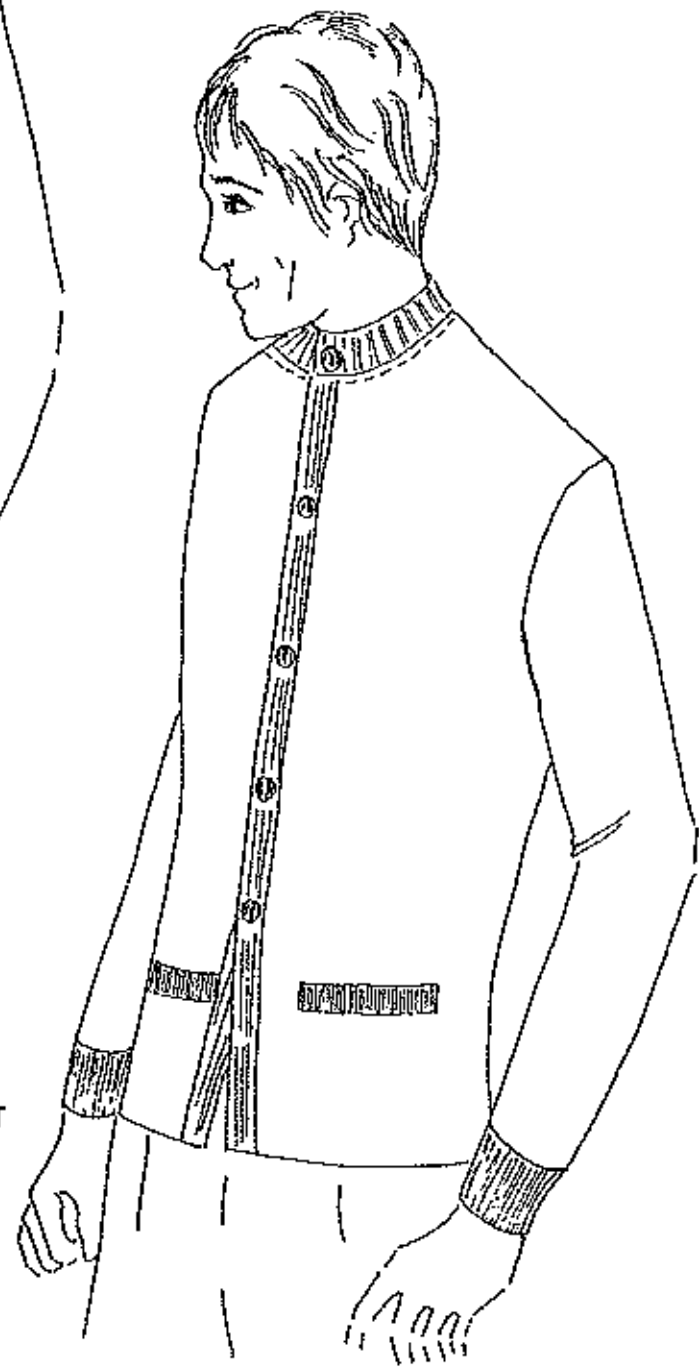
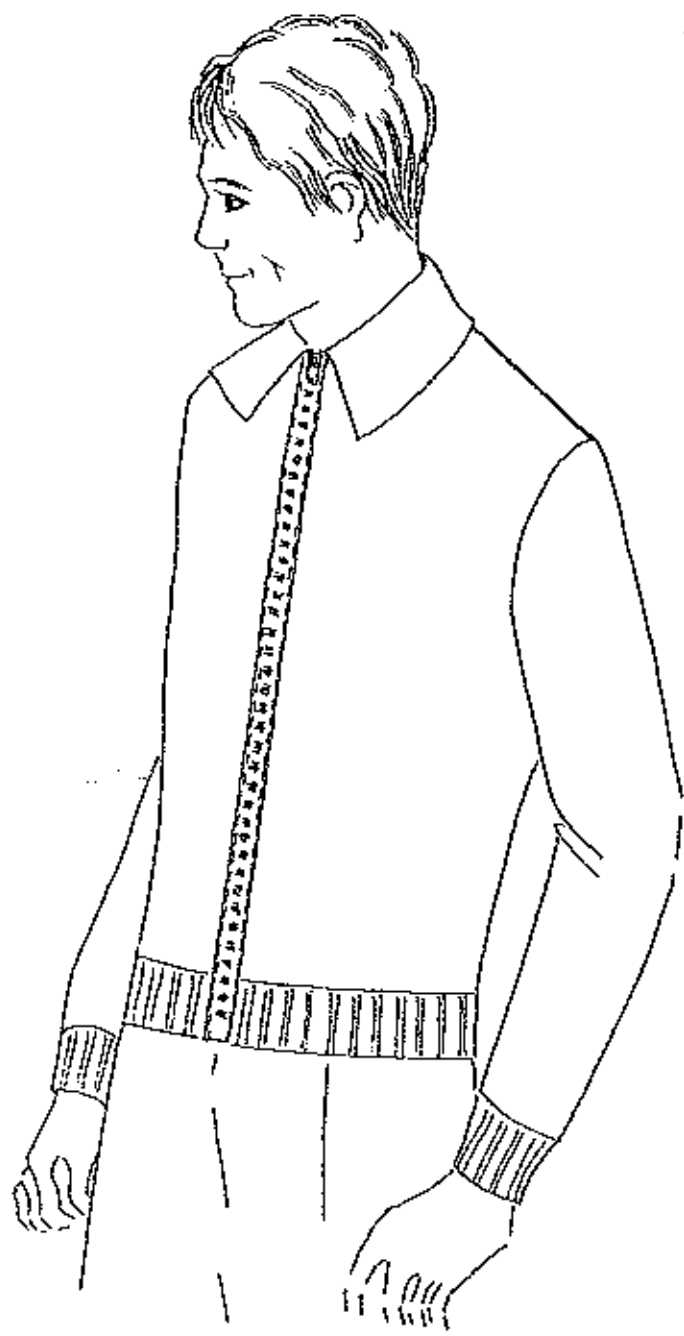
CARDIGAN



SHIRT



WINDCHEATER



JACKET

MAN'S SLEEVELESS WAISTCOAT

MAN'S STYLED
PULLOVER — TANK
TOP STYLE

MASTER PATTERN NO. 2 — STANDARD PROCEDURE

The garments in this pattern are knitted in exactly the same way as those in Master Pattern No. 1. Details of yarns and all other relevant information, such as methods for bands and stitch sizes, apply.

The basic pattern is a long-sleeved sweater and all subsequent garments are based on this.

RIBS:

These can be knitted on a 1x1 setting as on the previous garments but to add a little extra knitting experience they are given in this pattern as 2x2 (2 needles working, 2 in N.W.P. on each bed). Specific instructions for this are given further on.

Stripes can, of course, be added to any garments or a pattern panel can be run up the front, provided the positioning instructions on the previous pattern are followed.

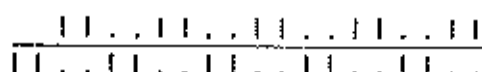
The sleeveless pullover in the younger style makes a very good, easy-to-knit tank top and looks smart if simple striping is put into the bands for neck and armholes.

A pattern is also given for a zip-up windcheater, a style which has once again become fashionable. If you wish to lengthen or shorten this garment, 20rs (2" or 5 cms) must be added or subtracted on the main body parts, as open-ended zips usually have a 2" (5 cms) length differential.

A jacket has also been given with slight shaping but, as with the windcheater, it can just as easily be knitted straight by casting on the number of stitches given for chest and knitting the total number of rows given on both parts of the two body sections.

The shirt has a 4" (10 cms) opening at the front. When garment is complete but before the collar is attached, 2 rows of double crochet are worked round the opening and a 4" (10 cms) zip is inserted.

2x2 RIB (2 needles in W.P., 2 in N.W.P. on both beds)



Pink strippers for soft yarn.

Blue strippers for yarns with tight twist (crepe, etc.)

Should any difficulty arise when knitting this, loosen the given stitch size by $\frac{1}{4}$ to $\frac{1}{2}$ a number. With tight-twist yarns it is possible that the stitches will not knit properly on stitch size 4.

Set the given number of needles in W.P. as diagram (only the working needles are counted).

Racking handle UP. s.s.1 N on both locks

Rack the bed $1\frac{1}{2}$ turns to the left. (Racking handle is now down).

Knit the cast-on row.

Knit 2rs on s.s.3, both locks CX. Lock is now at left.

Set RC to 001. Rack the bed $1\frac{1}{2}$ turns to the right.

s.s.4 Both locks N. Knit the required number of rows.

BASIC MEASUREMENTS — MEN'S

Chest		36	38	40	42	44 ins
		91	97	102	107	112 cms
Finished Measurement		38	40	42	44	46 ins
		97	102	107	112	117 cms
Length:	Sweater	25	25½	26	26½	27 ins
		63.5	65	66	67	68.5
	Cardigan	25½	26	26½	27	27½ ins
		65	66	67	68.5	70 cms
	Jacket	26	26½	27	27½	28 ins
		66	67	68.5	70	71 cms
	Windcheater	24½	24½	24½	26½	26½ ins
		62	62	62	67	67 cms
	Shirt	22½	23	23½	24	24½ ins
		57	58.5	60	61	62 cms
	Basic Pullover	24	24½	25	25½	26 ins
		61	62	63.5	65	66 cms
	Styled Pullover	22	22½	23	23½	24 ins
		56	57	58.5	60	61 cms
	Basic Waistcoat	22½	23	23½	24	24½ ins
		57	58.5	60	61	62 cms
	Styled Waistcoat	22	22½	23	23½	24 ins
		56	57	58.5	60	61 cms
Sleeve Seam:	Long	18	18½	19	19½	20 ins
		46	47	48	49.5	51 cms
	Short	With Rib 4½" (11.5 cms). With hem 4½" (12 cms)				

YARN QUANTITIES

Sweater	16	17	18	19	20 ozs
	454	483	511	544	568 grams
Cardigan	17	18	19	20	21 ozs
	483	511	544	568	596 grams
Jacket	17	18	19	20	21 ozs
	483	511	544	568	596 grams
Windcheater	16	17	18	19	20 ozs
	454	483	511	544	568 grams
Shirt	13	14	15	16	17 ozs
	369	397	426	454	483 grams
Basic Pullover	12	13	14	15	16 ozs
	341	369	397	426	454 grams
Styled Pullover	10	11	12	13	14 ozs
	284	312	341	369	397 grams
Basic Waistcoat	11	12	13	14	15 ozs
	312	341	369	397	426 grams
Styled Waistcoat	9	10	11	12	13 ozs
	256	284	312	341	369 grams

Shirt 4" (10 cms) Zip. Windcheater 22–24" (56–61 cms) Zip

Cardigan — Round neck — 9 buttons. Vee neck — 7 buttons. Jacket — 6 buttons

Waistcoat — 6 buttons

BASIC SWEATER

Round Neck

BACK:

Cast on in 2x2 rib	134	140	148	154	162 sts
No. of sts on each bed	67	70	74	77	81
Knit 30rs. RC 000					
Transfer all stitches to front bed and set back lock to GX.					
Knit 136rs in st.st.					

ARMHOLE: RC 000

Cast off 5sts at beg. of next 2rs					
At beg. of next 2rs cast off	3	3	4	4	4 sts
Cast off 2sts at beg. of next	2	2	4	4	6 rs
Dec. 1 st at each end of every alt. row	6	8	7	8	8 times
No. of sts dec. at each armhole	16	18	20	21	23
No. of sts rem.	102	104	108	112	116
Knit straight to row	80	86	90	96	100

SHOULDERS and BACK NECK:

Using an odd length of matching yarn, cast off in centre

	34	36	38	40	42 sts
--	----	----	----	----	--------

Set lock to BX and put pushers into W.P. under all needles at right

At neck edge dec. 1 st every alt. row 3 times. At the same time shape shoulders as follows:

6sts 4 times	6sts 4 times	6sts 3 times	6sts twice	6sts once	
7sts once	7sts once	7sts twice	7sts 3 times	7sts 4 times	
No. of sts dec. on each shoulder	31	31	32	33	34
Re-set lock to N and knit left side to match.					
Total No. of sts dec. on neck	40	42	44	46	48

FRONT:

Knit as for Back to armhole row	60	66	70	76	80
Using an odd length of matching yarn, cast off in centre	10	12	14	16	18 sts
Set lock to BX and put pushers under all needles at right					
On alt. rows, cast off 3sts once					
On alt. rows cast off 2sts 3 times					
Dec. 1 st every alt. row, 6 times (20rs)					
Row Counter reads	80	86	90	96	100
Shape shoulder as for back.					
Re-set lock to N					
Re-set RC to	60	66	70	76	80
Knit left side to match					

SLEEVE — Long:

Cast on in 2x2 rib	62	64	66	68	70 sts
No. of sts on each bed	31	32	33	34	35
Knit 42rs RC 000					
Transfer all stitches to front bed. Set back lock to GX					
Inc. 1 st at each end of every 6th row	19	20	21	22	23 times
No. of sts	100	104	108	112	116
No. of rows	114	120	126	132	138
Knit straight to row	140	144	150	154	160

SHAPE CAP: RC 000

At beg. of next 2rs cast off 5sts

At beg. of next 4rs cast off 2sts

Dec. 1 st at each end of every alt. row 17 19 19 21 23 times

Dec. 1 st at each end of every row 14 14 16 16 16 times

No. of rows 54 58 60 64 68

Cast off rem. 20sts.

SLEEVE — Short:

Cast on in 2x2 rib 92 96 100 104 108 sts

Knit 20rs. Change to st.st. RC 000

Inc. 1 st each end of every 6th row 4 times all sizes

No. of sts 100 104 108 112 116

Knit 6rs straight.

Shape Cap as Long sleeve.

NECKBAND:

2 up, 1 down, 2x2 rib

Push into W.P. on each bed 132 134 136 138 140 needles

Working from right to left, take every 3rd needle on both beds down to N.W.P.

Cast on and rack bed for correct setting.

Knit 30rs s.s.4

Bring empty in-between needles into W.P.

Black strippers, s.s.6 Both locks CX

Knit 10rs tubular

Remove with waste knitting.

Vee Neck

BACK and SLEEVES as for Sweater with Round Neck.

FRONT:

When ribbing is complete increase 1 st at one edge to give an odd number of stitches. This extra stitch is used to start the Vee division.

Knit front to armhole. Transfer centre stitch to its adjacent needle.

Set lock to BX and pushers in W.P. under all needles at right. RC 000

Shape armhole as before. Work neck shaping as follows:

Dec. 1 st at neck edge on every 4th row 20 21 22 23 24 times

Keeping neck edge straight, start shoulder shaping on row 80 86 90 96 100

NECKBAND: s.s.4

Press all pieces and join right shoulder seam.

Left Vee:

Push into W.P. on each bed 66 70 72 76 80 needles

Set for 2x2 rib as for Round neckband

Knit 14rs. Transfer stitches to back bed (2sts from front bed onto 1 empty needle on back bed)

Drop front bed. With wrong side of work facing pick up stitches along front edge of left Vee onto the needles holding the rib. Garment can hang over the front bed which will make the picking up easier.

Cast off. Neckband is now joined to garment and no stitching is required.

Right Vee and Back Neck:

Push into W.P. on each bed 112 118 122 128 134 needles
 Work as before. When picking up stitches on Vee make sure you pick up the same number as on left Vee.
 When finishing garment either stitch the two ends to form a mitre or lap one end over the other and stitch down.

BASIC CARDIGAN

Round Neck

BACK:

Cast on in 1x1 rib	134	140	148	154	162 sts
Knit 30rs. RC 000					
Transfer all stitches to front bed.					
Knit 136rs.					

ARMHOLE: RC 000

Work shaping as given for Sweater					
No. of sts rem.	102	104	108	112	116
Knit straight to row	86	90	96	100	106

SHOULDER AND BACK NECK:

Work as for Sweater

RIGHT FRONT:

Knit on left half of machine so that neck edge is at centre of machine.

Cast on in 1x1 rib	68	70	74	76	80 sts
Knit as for Back to armhole. Knit 1 extra row, lock at left.					

ARMHOLE:

Cast off 5sts.					
On following alt. row cast off	3	3	4	4	4 sts
On alt. rows, cast off 2sts	1	1	2	2	3 times
Dec. 1 st every alt. row	6	8	7	8	8 times
No. of sts dec. at armhole	16	18	20	21	23
No. of sts rem.	52	52	54	55	57
Knit straight to row	66	70	76	80	86

NECK:

Cast off	6	6	7	7	8 sts
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Cast off 3sts, all sizes

Cast off 2sts on alt. rows, 3 times

Dec. 1 st every alt. row, 6 times

No. of sts dec. at neck

21	21	22	22	23
----	----	----	----	----

No. of sts rem.

31	31	32	33	34
----	----	----	----	----

Knit straight to row

86	90	96	100	106
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Shape Shoulder as for Back.

LEFT FRONT:

Knit as for Right Front on right half of machine. Reverse all shapings.

Omit the extra row at armhole but knit 1 extra row before shaping neck.

SLEEVES:

Cast on in 1x1 rib

66	68	70	72	74 sts
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Knit 42rs. RC 000

Transfer stitches to front bed.

Inc. 1 st at each end of every 6th row

19	20	21	22	23 times
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No. of sts

104	108	112	116	120
-----	-----	-----	-----	-----

No. of rows

114	120	126	132	138
-----	-----	-----	-----	-----

Knit straight to row

140	144	150	154	160
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SHAPE CAP:

Cast off 5sts at beg. of next 2rs

Cast off 2sts at beg. of next 4rs

Dec. 1 st at each end of every alt. row

19	21	21	23	25 times
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Dec. 1 st at each end of every row

14	14	16	18	16 times
----	----	----	----	----------

Cast off rem. 20sts.

NECKBAND:

Cast on in 1x1 rib s.s.3

136	138	140	142	144 sts
-----	-----	-----	-----	---------

Knit 8rs.

Make buttonhole 4sts in at one edge.

Knit 12rs.

Make another buttonhole.

Knit 8rs.

Black strippers. s.s.5%. Both locks on CX. Push up empty in-between needles.

Knit 10rs tubular.

Remove with waste knitting.

BUTTONBAND:

Cast on 8sts on each bed in 1x1 rib

244	250	256	262	268 rows
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Using s.s.3 knit

Cast off.

BUTTONHOLE BAND:

Cast on 8sts on each bed in 1x1 rib.

Knit

6	6	6	6	6 rows
---	---	---	---	--------

Make buttonhole, knit

24	24	24	24	24 rows
----	----	----	----	---------

Make buttonhole. *Knit

31	32	33	34	35 rows
----	----	----	----	---------

Make buttonhole*. Repeat from * until a total of 8 buttonholes has been made.

Knit

28	28	28	28	28 rows
----	----	----	----	---------

No. of rows

244	250	256	262	268
-----	-----	-----	-----	-----

Cast off.

Vee Neck

BACK:

Knit as for Main Pattern.

RIGHT FRONT:

Knit as for Main Pattern to armhole.

Shape armhole as for back, at the same time shape Vee as follows:

Dec. 1 st on next and every following	4	5	5	5	5 th row
	20	20	21	21	22 times
(Remember shoulder shaping must be started on row	86	90	96	100	106

LEFT FRONT:

Knit as for Right Front, reversing all shapings.

BAND:

Cast on in 1x1 rib 8sts on each bed, s.s.3

Knit 6rs. Make buttonhole.

Knit 24rs. Make buttonhole.

Knit 30rs, make buttonhole

Repeat from * to * until there are 7 buttonholes in all.

Knit to row 666 678 690 700 712

Remove from machine without casting off and run end of yarn through open stitches.

OPTIONAL POCKETS:

Knit pocket linings before starting fronts.

Using single bed cast on 36sts.

Knit 44rs in st.st. Knit several rows in waste yarn and release from machine.

Press.

TO INSERT POCKET:

Knit to row 44 of body section.

Starting at front edge count off 21 21 22 22 23 sts

Take the next 36sts onto a piece of yarn and tie the ends for safety.

Unravel waste rows on lining until 1 row remains and, with right side facing, replace stitches onto empty needles. Continue knitting.

TO FINISH POCKET TOP:

When fronts are finished cast on 38sts in 1x1 rib. Knit 14rs.

Transfer stitches to back bed. Drop front bed.

Miss 1 needle at each end and replace the 36sts on thread onto the needles holding the rib. Close beds.

Black strippers. Knit 1 row s.s.6.

Cast off.

JACKET

BACK:

On front bed push into W.P.	138	144	152	158	166 needles
Knit 46 row single bed hem. RC 000					
Dec. 1 st at each end of every 10th row, 6 times					
No. of sts	126	132	140	146	154
Knit 4rs. No. of rows: 64 all sizes					
RC 000					
Inc. 1 st each end of every 12th row, 6 times					
No. of sts	138	144	152	158	166
Knit straight to row 80					

ARMHOLE: RC 000

Cast off 5sts at beg. of next 2rs					
At beg. of next 2rs cast off	3	3	4	4	4 sts
Cast off 2sts at beg. of next	2	2	4	4	6 rs
Dec. 1 st at each end of every alt. row	6	8	7	8	8 times
No. of sts dec. at each armhole	16	18	20	21	23
No. of sts rem.	106	108	112	116	120
Knit straight to row	86	90	96	100	106

SHAPE SHOULDER and BACK NECK:

Using an odd length of matching yarn, cast off in centre	34	36	38	40	42
Set lock to BX, pushers under needles at the right.					
At neck edge on alt. rows, dec. 1 st 3 times. At the same time shape shoulder as follows:					
6sts twice 6sts twice 6sts once 7sts 5 times 7sts 4 times					
7sts 3 times 7sts 3 times 7sts 4 times — 8sts once					
No. of sts dec. at shoulder	33	33	34	35	36
Re-set lock to N and knit left side to match.					
Total No. of sts dec. at neck	40	42	44	46	48

RIGHT FRONT:

Knit on left side of machine so that neck edge is at centre of needlebed.					
On front bed push into W.P.	70	72	76	78	84 needles
Knit hem. RC 000					
At left edge dec. 1 st every 10th row, 6 times					
No. of sts	64	66	70	72	78
Knit 4rs.					
At left edge inc. 1 st every 12th row, 6 times					
No. of sts	70	72	76	78	84
Knit straight to row 80					

ARMHOLE: RC 000

Knit 1 extra row, carriage at left.					
Cast off 5sts.					
On next alt. row cast off	3	3	4	4	4 sts
On alt. rows cast off 2sts	1	1	2	2	3 times
Dec. 1 st every alt. row	6	8	7	8	8
No. of sts rem.	54	54	56	57	61
Knit straight to row	70	74	80	84	90

SHAPE NECK:

Cast off	6	6	7	7	9 sts
On following alt. row cast off 3sts all sizes					
Cast off 2sts every alt. row, 3 times all sizes					
Dec. 1 st every alt. row	6	6	6	6	7 times
(Remember that shoulder shaping must be started on row	86	90	96	100	106)
No. of sts dec. at neck	21	21	22	22	25

LEFT FRONT:

Knit as for Right Front, reversing all shapings. Omit extra row at armhole but knit 1 row extra before neck shaping so that lock is at left.

SLEEVES:

On front bed push into W.P.	66	68	70	72	74 needles
Knit 46 row single bed hem. RC 000					
Inc. 1 st at each end of every 7th row	19	20	21	22	23 times
No. of sts	104	108	112	116	120
No. of rows	133	140	147	154	161
Knit straight to row	150	154	160	164	170

SHAPE CAP:

Cast off 5sts at beg. next 2rs					
Cast off 2sts at beg. next 4rs					
Dec. 1 st on every alt. row	19	21	21	23	25 times
Dec. 1 st every row	14	14	16	16	16 times
Cast off rem. 20sts.					

NECKBAND – Tubular:

Cast on	126	128	130	132	134 sts each bed
Knit 12rs.					
Make buttonhole over 3sts on each bed with waste yarn, 3sts in from one end.					
Knit 12rs.					
Remove with waste yarn.					

BUTTON BAND – Tubular:

Cast on	130	134	138	142	146 sts each bed
Knit 24rs.					
Remove with waste knitting.					

BUTTONHOLE BAND:

Cast on as before and knit 12rs					
Counting from the right, miss 53sts each bed. Make buttonhole over next 3sts on each bed.					
*Miss	13	14	15	16	17 sts each bed
Make buttonhole over next 3sts*					
Repeat from * to * 3 more times. There should be 10 sts left on each bed at left.					
Knit 12rs.					
Remove with waste yarn.					

OPTIONAL POCKETS:

Complete the hem and knit 44rs of first part of body section.

Count off from front edge	21	21	22	22	25 sts
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Put pushers in W.P. under the next 36sts (These are for the pocket).

Set lock to BX and knit 88rs.

As the knitting progresses pull down from underneath with one hand.

POCKET TOP:

s.s. 5½ Put in a small piece of cotton on first and last of the 36sts to mark the row.

Knit 24rs.

Drop front bed. Pick up the loops from the first marked row onto the needles holding the 36sts.

Close beds and continue knitting as pattern.

Remember to set RC back to 44 as pocket rows do not count.

WINDCHEATER

BACK:

Cast on in 2x2 rib	134	140	148	154	162 sts
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Knit 30rs. RC 000

Transfer stitches to front bed

Knit straight to row	126	120	116	130	126
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ARMHOLE:

Shape as for Sweater

No. of sts rem.	102	104	108	112	116
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Knit straight to row	86	90	96	100	106
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Work shoulder shaping as for Sweater but do not shape back neck.

Cast off rem.	40	42	44	46	48 sts
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RIGHT FRONT:

Knit on left half of machine so that neck edge is to centre of needlebed.

Cast on in 2x2 rib	68	70	74	78	82 sts
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Knit 30rs RC 000

Transfer stitches to front bed. Cast on 6 extra stitches on front edge. (This is to form facing for zip).

No. of sts	74	76	80	84	88
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Knit straight to row	126	120	116	130	126
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ARMHOLE: RC 000

Knit 1 extra row, lock at left

Cast off 5sts.

On next alt. row cast off	3	3	4	4	4 sts
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Cast off 2sts on alt. rows	1	1	2	2	3 times
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Dec. 1 st every alt. row	6	8	7	8	8 times
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No. of sts dec. at armhole	16	18	20	21	23
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No. of sts rem.	58	58	60	63	65
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Knit straight to row	70	74	80	84	90
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NECK:

Cast off	11	11	12	14	15 sts
Cast off 4sts on next alt. row					
Cast off on alt. rows 2sts 4 times					
Dec. 1 st every alt. row, 4 times					
Remember to start shoulder shaping on row	86	90	96	100	106
No. of sts dec. at neck edge	27	27	28	30	31
No. of sts dec. at shoulder	31	31	32	33	34

LEFT FRONT:

Knit on right half of machine and reverse all shapings.

Knit 1 extra row before starting neck so that carriage is at the left.

SLEEVES:

Knit as for Cardigan but use 2x2 rib instead of 1x1 on Cuff.

COLLAR:

Knit as given for Shirt.

OPTIONAL POCKETS:

Knit lining as given for Cardigan.

Knit to row 44 on body section.

Count off front front edge	27	27	28	30	31 sts
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Then insert lining as for Cardigan and continue knitting.

POCKET TOP:

This must be knitted in 2 up, 1 down 2x2 rib

Push into W.P. 38sts on each bed

Working from right, take out every 3rd needle on each bed.

Knit 14rs rib, transfer stitches from front to back bed.

Replace the pocket stitches onto the needles holding the rib, missing out the first and last needles.

(These stitches are used in the pocket top seam.

Cast off loosely.

SHIRT WITH NECK ZIP — Long or Short Sleeves**BACK:**

On front bed push into W.P.	122	128	136	142	150 needles
Knit 30 row single bed hem as given. RC 000					
Inc. 1 st at each end of every 18th row, 6 times					
No. of sts	134	140	148	154	162
Knit 14rs straight.					

ARMHOLE: RC 000

Knit as for Sweater

No. of sts	102	104	108	112	116
Knit straight to row	80	86	90	96	100
Work shoulder shaping as given for Sweater but do not shape back neck.					
Cast off rem.	40	42	44	46	48 sts

FRONT:

Knit as for Back to armhole row	24	30	34	40	44
Divide work in centre. BX and pushers under right half.					
Knit to row	64	70	74	80	84

NECK SHAPING:

Knit 1 extra row so that lock is at the left.					
Cast off	5	6	7	8	9 sts
On following alt. row cast off 3 sts, all sizes					
Cast off 2sts every alt. row 3 times all sizes					
Dec. 1 st every alt. row 6 times all sizes					
No. of sts decreased	20	21	22	23	24
Knit straight to row	80	86	90	96	100
Shape Shoulder as for Back					
Re-set lock to N and RC to	24	30	34	40	44
Shape left half of neck.					

SLEEVES — Long:

On front bed push into W.P.	62	64	66	68	70 needles
Knit 46 row single bed hem. RC 000					
Inc. 1 st at each end of every 7th row	19	20	21	22	23 times
No. of sts	100	104	108	112	116
No. of rows	133	140	147	154	161
Knit straight to row	150	154	160	164	170

SHAPE CAP:

Work as for Sweater

SLEEVES — Short:

On front bed push into W.P.	88	92	96	100	104 needles
Knit 30 row single bed hem. RC 000					
Inc. 1 st at each end every 4th row, 6 times					
No. of sts	100	104	108	112	116
Knit 6rs straight.					

SHAPE CAP:

Work as for Sweater

COLLAR:

This is knitted in tubular. The stitch size on back bed is kept $\frac{1}{4}$ lower than the front for most of the knitting. This tightens what will be the underside of the collar and makes it "sit" better. Decreases at collar edge are with a 5-decker tool.

Push into W.P. on both beds	140	142	144	146	148 needles
Knit 2rs CX, s.s.3					
Knit 1 row on N, s.s.3 — Lock at right					
Decreases are worked at both ends on both beds and are every 10th row, 8 times altogether.					
RC 000 Black strippers					
s.s.6 and 5% Knit until RC 40					

s.s.5½ and 5%. Knit until RC 80. Decrease complete.
 s.s.5½ and 5%. Knit until RC 90
 Red strippers, s.s.3 Knit 1 row N
 Black strippers, s.s.5½ and 5%. Knit 10rs CX
 Red strippers, s.s.3 Knit 3rs waste on N.
 Break yarn and remove from machine.

BASIC PULLOVER:

Round Neck

BACK:

Cast on in 2x2 rib	134	140	148	154	162 sts
Knit 30rs. RC 000 Transfer stitches to front bed.					
Knit 126rs					

ARMHOLE: RC 000

Cast off 8sts at beg. of next 2rs.					
Cast off 4sts at beg. of next 2rs.					
Cast off 3sts at beg. of next	4	4	6	6	8 rows
Dec. 1 st at each end of every alt. row	6	8	7	9	8 times
No. of sts. dec. at each armhole	24	26	28	30	32
No. of sts rem.	86	88	92	94	98
Knit straight to row	80	86	90	96	100

SHOULDER and BACK NECK:

Using an odd length of matching yarn, cast off in centre	34	36	38	40	42 sts
Set lock to BX, pushers under all needles at right					
At neck edge dec. 1 st every alt. row, 3 times					
At the same time shape shoulder as follows:					
5sts 3 times	5sts 3 times	5sts 4 times	5sts 4 times	5sts 5 times	
4sts twice	4sts twice	4sts once	4sts once	—	
No. of sts dec. on shoulder	23	23	24	24	25
Re-set lock to N and knit left side to match.					
Total No. of sts dec. on neck	40	42	44	46	48

FRONT:

Knit as for Back to armhole row	60	66	70	76	80
Shape Neck as given for Sweater. Shape shoulder as given for Pullover.back.					

NECKBAND:

As given for Sweater.

ARMHOLE BANDS: Rib or Rib and tubular

Push into W.P. on each bed 138 144 150 156 162 needles
 Take out every 3rd needle for 2 up 1 down 2x2 rib.
 Cast on and knit 14rs.
 If bands are to be rib only transfer to back bed and finish as already given for Vee Neck Sweater bands.
 For tubular finish push empty in-between needles into W.P. and knit 10rs tubular. Remove with waste knitting.

Vee Neck**BACK:**

Knit as for Round Neck Pullover

FRONT:

When rib is complete increase 1 stitch at one end. This is used to start Vee division.
 Knit as for back to armhole.

ARMHOLE and NECK SHAPING:

Transfer centre stitch to its adjacent needle.

Set lock to BX with pushers under all needles at right.

To shape armhole:

Cast off 8sts

Cast off 4sts on next alt. row

Cast off 3sts every alt. row

Dec. 1 st every alt. row

At the same time shape neck edge as follows:

Dec. 1 st every 4th row

(Remember that shoulder shaping must be started on row

80 86 90 96 100)

Re-set lock to N.

Knit 1 row on stitches at left and shape to match right half.

No. of sts dec. on each armhole

Total No. of sts dec. at neck

Press pieces and join right shoulder seam.

NECKBAND:

Work as for Sweater

ARMHOLE BANDS:

Work as for Round Neck Pullover

STYLED PULLOVER

Vee Neck

BACK:

Cast on in 2x2 rib	122	128	136	142	150 sts
No. of sts on each bed	61	64	68	71	75
Knit 60rs.					
Transfer stitches to front bed. RC 000					
Inc. 1 stitch at each end of every 12th row, 6 times					
No. of sts	134	140	148	154	162
No. of rows	72 all sizes				
Knit straight to row 80					

ARMHOLE: RC 000

Cast off 8sts at beg. of next 2rs					
Cast off 4sts at beg. of next 2rs					
Cast off 3sts at beg. of next	6	6	8	8	10 rows
Dec. 1 st at each end of every alt. row	6	8	7	9	8 times
No. of sts dec. at each armhole	27	29	31	33	35
No. of sts rem.	80	82	86	88	92
Knit straight to row	80	86	90	96	100

SHOULDER and BACK NECK:

Using an odd length of matching yarn cast off in centre	34	36	38	40	42 sts
Pushers under needles at right, set lock to BX					
At neck edge dec. 1 stitch every alt. row, 3 times					
At the same time shape shoulder as follows:					
4sts 5 times	4sts 5 times	4sts 4 times	4sts 4 times	4sts 3 times	
—	—	5sts once	5sts once	5sts twice	
No. of sts dec. at shoulder	20	20	21	21	22
Re-set lock on N. Knit left side to match.					
Total No. of sts dec. at neck	40	42	44	46	48

FRONT:

When rib is complete, increase 1 stitch at one edge. This is used to start Vee division at neck.

ARMHOLE: RC 000

Shape as given for back.					
At the same time shape Vee neck as given for Sweater.					
Start shoulder shaping when row reached.	80	86	90	96	100 is

NECKBAND:

As for Vee Neck Sweater.

ARMHOLE BANDS: (2 up, 1 down 2x2 rib)

Push into W.P.	144	150	156	162	168 needles
Take out every 3rd needle and work 14rs rib.					
Complete as given for bands on Vee Neck Sweater.					

'U' Neck

BACK:

Knit as for Vee Neck Styled Pullover

FRONT:

Knit to armhole row	16	22	26	32	36
Using an odd length of matching yarn cast off in centre	20	22	24	26	28 sts
Pushers under needles at right. Lock on BX.					
Continue with armhole shaping if not complete.					
At the same time cast off 2sts at neck edge on alt. rows, 5 times.					
Neck is now kept straight.					
When row	80	86	90	96	100 is
reached shape shoulder as already given.					
Knit left side to match.					
No. of sts dec. at each armhole	27	29	31	33	35
No. of sts dec. at each shoulder	20	20	21	21	22
Total No. of sts dec. at neck	40	42	44	46	48

NECKBAND:

Push into W.P.	162	164	166	168	170 needles
Take out every 3rd needle for 2x2 rib.					
Knit and attach to garment as given for Vee Neck Sweater.					

BASIC WAISTCOAT — Vee Neck

BACK:

Cast on in 1x1 rib	134	140	148	154	162 sts
No. of sts on each bed	67	70	74	77	81
Knit 30rs.					
Transfer stitches to front bed. RC 000					
Knit 110rs. RC 000					

ARMHOLE:

Cast off 8sts at beg. of next 2rs					
Cast off 4sts at beg. of next 2rs					
Cast off 3sts at beg. of next	4	4	6	6	8 rows
Dec. 1 st at each end of every alt. row	6	8	7	9	8 times
No. of sts dec. at each armhole	24	26	28	30	32
No. of sts rem.	86	88	92	94	98
Knit straight to row	80	86	90	96	100

SHOULDER and BACK NECK:

Using an odd length of matching yarn cast off in centre	34	36	38	40	42 sts
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Pushers under needles at right. Lock to BX
 At neck edge dec. 1 stitch every alt. row, 3 times
 At the same time shape shoulder as follows:

5sts 3 times 4sts twice	5sts 3 times 4sts twice	5sts 4 times 4sts once	5sts 4 times 4sts once	5sts 5 times —	
Re-set RC. Lock on N. Knit left side to match.					
No. of sts dec. at each shoulder		23	23	24	24
Total No. of sts dec. at neck		40	42	44	46
					25
					48

RIGHT FRONT:

Knit on left half of machine so that front edge is at centre of needlebed.

Cast on in 1x1 rib	68	70	74	76	80 sts
Knit 30rs.					
Transfer stitches to front bed. RC 000					
Knit 110rs.					

ARMHOLE and NECK SHAPING:

Work both at the same time.

Shape armhole on alt. rows as follows:

Cast off 8sts once					
Cast off 4sts once					
Cast off 3sts	2	2	3	3	4 times
Dec. 1 st every alt. row	6	8	7	9	8 times
No. of sts dec. at armhole	24	26	28	30	32

To shape neck:

Dec. 1 st on first row of armhole, then dec. 1 st every	4	5	5	5	5th row
	20	20	21	21	22 times
Shoulder shaping starts on row	80	86	90	96	100
No. of sts dec. at neck	21	21	22	22	23
No. of sts dec. at armhole	24	26	28	30	32
No. of sts dec. at shoulder	23	23	24	24	25

LEFT FRONT:

Work as for Right and reverse shapings.

FRONT BAND: Worked in one piece

Cast on 8sts on each bed in 1x1 rib. s.s.3

Knit 6rs. Work buttonhole.

Knit 27rs. Work buttonhole

Repeat from * to * 4 more times (141rs).

Knit without further buttonholes to row	588	602	616	630	644
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Release from machine and run end of yarn through open stitches.

ARMHOLE BANDS:

Join shoulder seams.

Cast on in 1x1 rib	138	144	150	156	162 sts
Knit 14rs.					

Transfer all stitches to back bed. Drop front and pick up stitches round armhole of garment onto the needles holding the rib.

Cast off.

If tubular finish is required knit rib, bring empty in-between needles into work and knit 10rs tubular. Remove from machine with waste knitting.

OPTIONAL POCKET:

Knit and insert pocket exactly as given for Cardigan.

STYLED WAISTCOAT — Vee Neck

BACK:

Cast on in 1x1 rib	122	128	136	142	150 sts
Knit 60rs.					
Transfer stitches to front bed. RC 000					
Inc. 1 stitch at each end of every 12th row, 6 times					
No. of sts	134	140	148	154	162
Knit straight to row 80					

ARMHOLE: RC 000

Cast off 8sts at beg. of next 2rs					
Cast off 4sts at beg. of next 2rs					
Cast off 3sts at beg. of next	6	6	8	8	10 rows
Dec. 1 st at each end of every alt. row	6	8	7	9	8 times
No. of sts dec. at each armhole	27	29	31	33	35
No. of sts rem.	80	82	86	88	92
Knit straight to row	80	86	90	96	100

SHOULDER and BACK NECK:

Using an odd length of matching yarn, cast off in centre	34	36	38	40	42 sts
Pushers under needles at right. Lock on BX					
At neck edge dec. 1 stitch every alt. row 3 times					
At the same time shape shoulder as follows:					
4sts 5times 4sts 5 times 4sts 4 times 4sts 4 times 4sts 3 times					
— — 5sts once 5sts once 5sts twice					
No. of sts dec. on each shoulder	20	20	21	21	22
Re-set RC. Lock on N. Knit left side to match.					
Total No. of sts dec. on neck	40	42	44	46	48

RIGHT FRONT:

Knit on left half of machine so that front edge is at centre of needlebed.

Cast on in 1x1 rib	62	64	68	70	74 sts
Knit 60rs.					
Transfer stitches to front bed. RC 000					
Shape side edge only.					
No. of sts	68	70	74	76	80
Knit straight to row 80					

ARMHOLE and NECK SHAPING:

Work both at the same time.

Shape armhole on alt. rows as follows:

Cast off 8sts once

Cast off 4sts once

Cast off 3sts	3	3	4	4	5 times
Dec. 1 st on every alt. row	6	8	7	9	8 times

To shape neck edge:

Dec. 1 st on first row of armhole then dec. 1 st every

	4	5	5	5	5th row
	20	20	21	21	22 times
Shoulder shaping starts on row	80	86	90	96	100
No. of sts dec. at neck	21	21	22	22	23
No. of sts dec. at armhole	27	29	31	33	35
No. of sts dec. at shoulder	20	20	21	21	22

LEFT FRONT:

Knit as for Right Front, reversing all shapings.

ARMHOLE BANDS:

Join shoulder seams.

Cast on in 1x1 rib	162	164	166	168	170 sts
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Knit 14rs.

Transfer stitches to back bed and complete as already given on Basic Waistcoat.

FRONT BAND: Knitted in one piece

Cast on 8sts in 1x1 rib. s.s.3

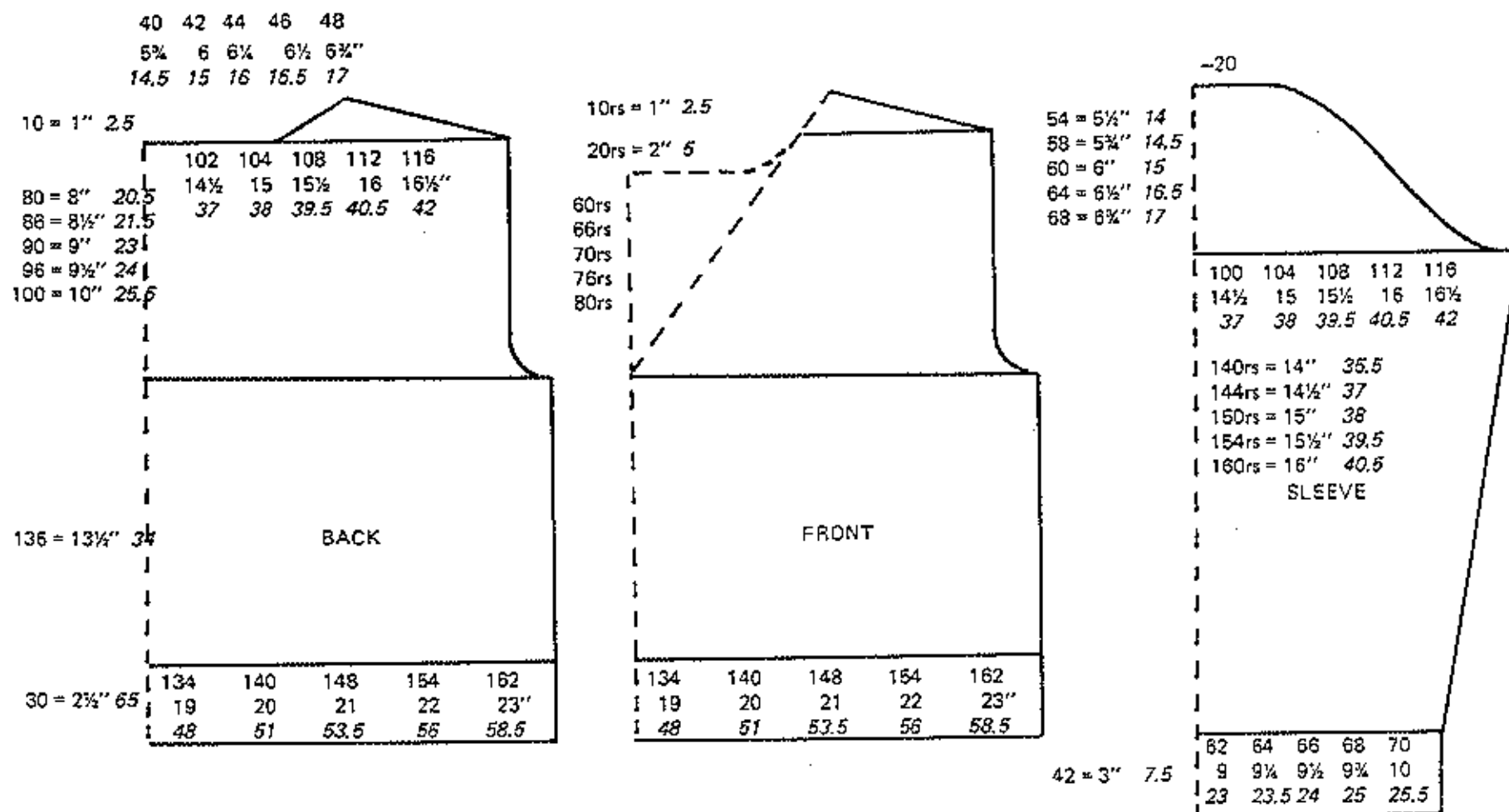
Knit 6rs. Work buttonhole.

Knit 26rs, work buttonhole

Repeat from * to * 4 more times.

Knit without further buttonholes to row	578	592	606	620	634
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Release from machine and run end of yarn through open stitches.



Armhole:

	sts
1) -5, 3, 1x2.2r, 6x1.2r	(16)
2) -5, 3, 1x2.2r, 8x1.2r	(18)
3) -5, 4, 2x2.2r, 7x1.2r	(20)
4) -5, 4, 2x2.2r, 8x1.2r	(21)
5) -5, 4, 3x2.2r, 8x1.2r	(23)

Shoulder:

	sts
1) -4x6, 1x7	(31)
2) -4x6, 1x7	(31)
3) -3x6, 2x7	(32)
4) -2x6, 3x7	(33)
5) -1x6, 4x7	(34)

Sleeve Cap:

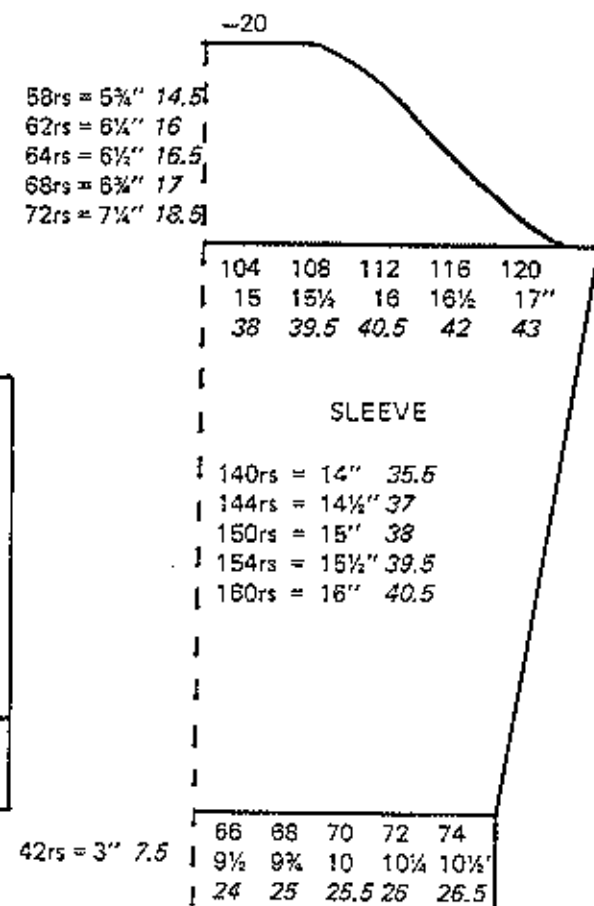
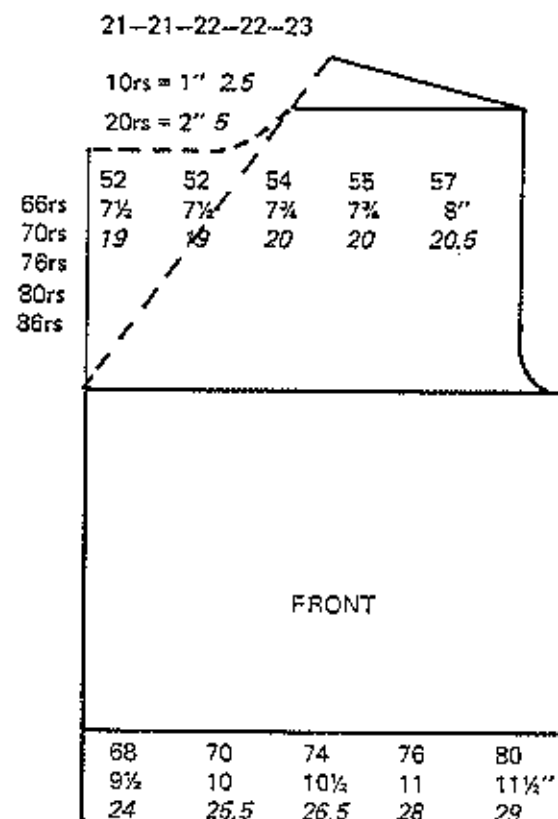
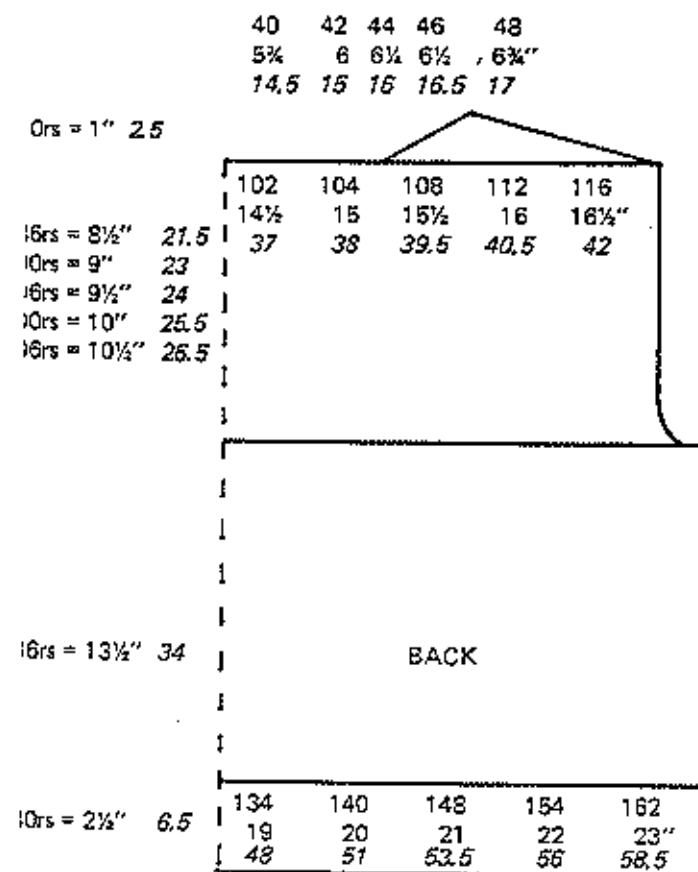
	sts	rows
1) -5, 2x2, 17x1.2r, 14x1.r	(40)	54
2) -5, 2x2, 19x1.2r, 14x1.r	(42)	58
3) -5, 2x2, 19x1.2r, 16x1.r	(44)	60
4) -5, 2x2, 21x1.2r, 16x1.r	(46)	64
5) -5, 2x2, 23x1.2r, 16x1.r	(48)	68

Vee Neck:

	Total sts
1) -20x1.4r	(40)
2) -21x1.4r	(42)
3) -22x1.4r	(44)
4) -23x1.4r	(46)
5) -24x1.4r	(48)

Round Neck:

Rows	60	66	70	76	80	Total sts
1) -10), 3, 3x2, 6x1, 2r						(40)
2) -12), 3, 3x2, 6x1, 2r						(42)
3) -14), 3, 3x2, 6x1, 2r						(44)
4) -16), 3, 3x2, 6x1, 2r						(46)
5) -18), 3, 3x2, 6x1, 2r						(48)

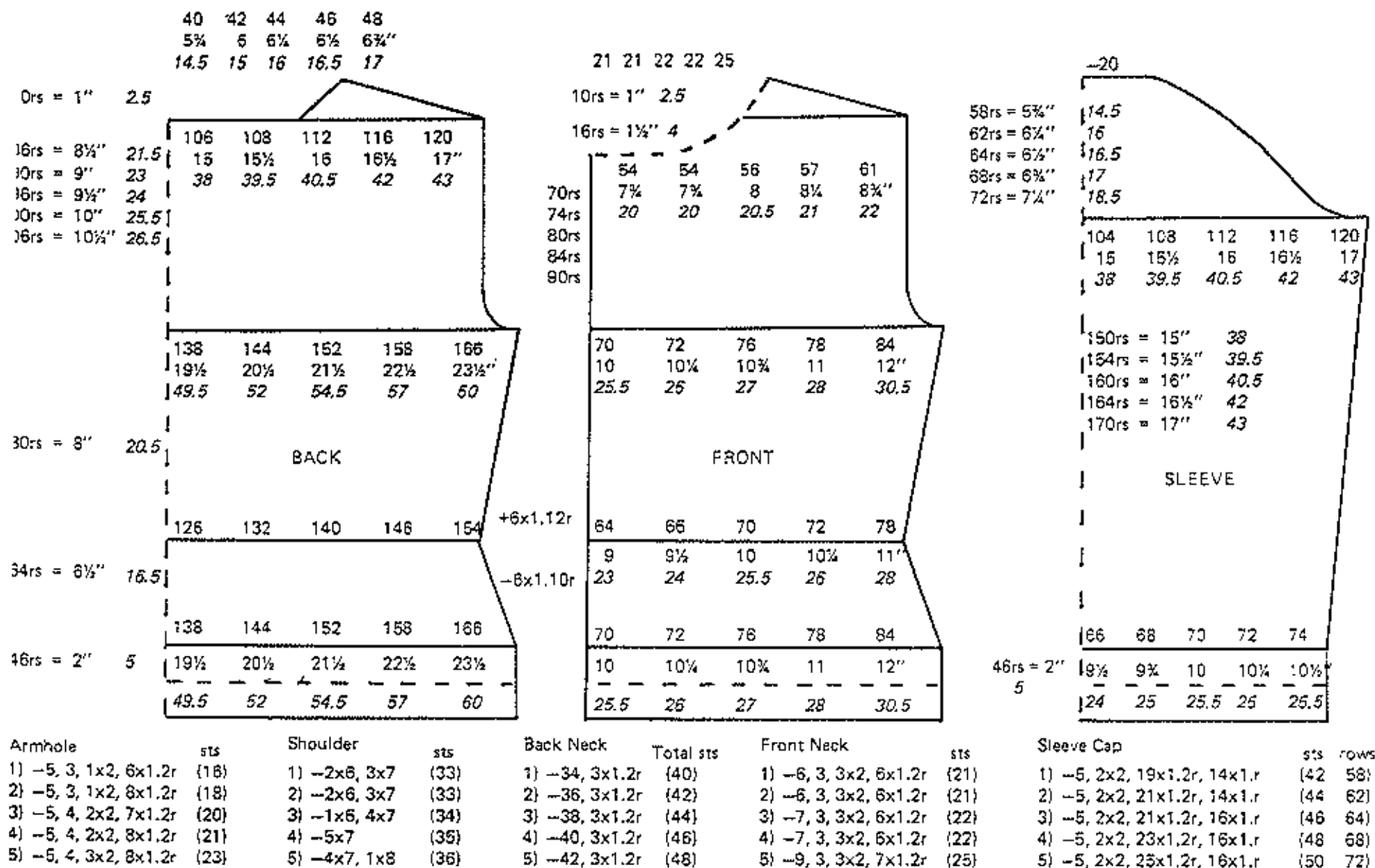


Armhole:	sts	Shoulders:	sts
1) -5, 3, 1x2, 6x1.2r	(16)	1) -4x6, 1x7	(31)
2) -5, 3, 1x2, 8x1.2r	(18)	2) -4x6, 1x7	(31)
3) -5, 4, 2x2, 7x1.2r	(20)	3) -3x6, 2x7	(32)
4) -5, 4, 2x2, 8x1.2r	(21)	4) -2x6, 3x7	(33)
5) -5, 4, 3x2, 8x1.2r	(23)	5) -1x6, 4x7	(34)

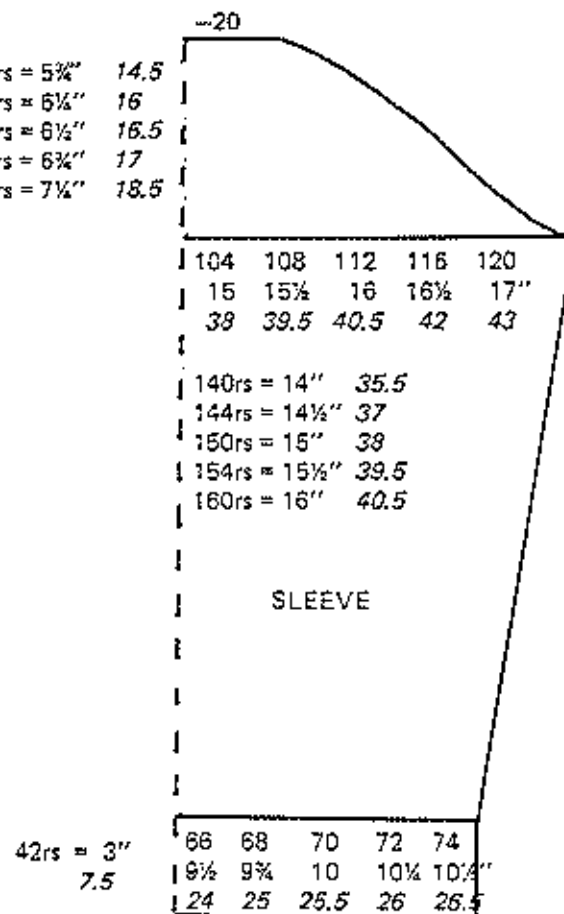
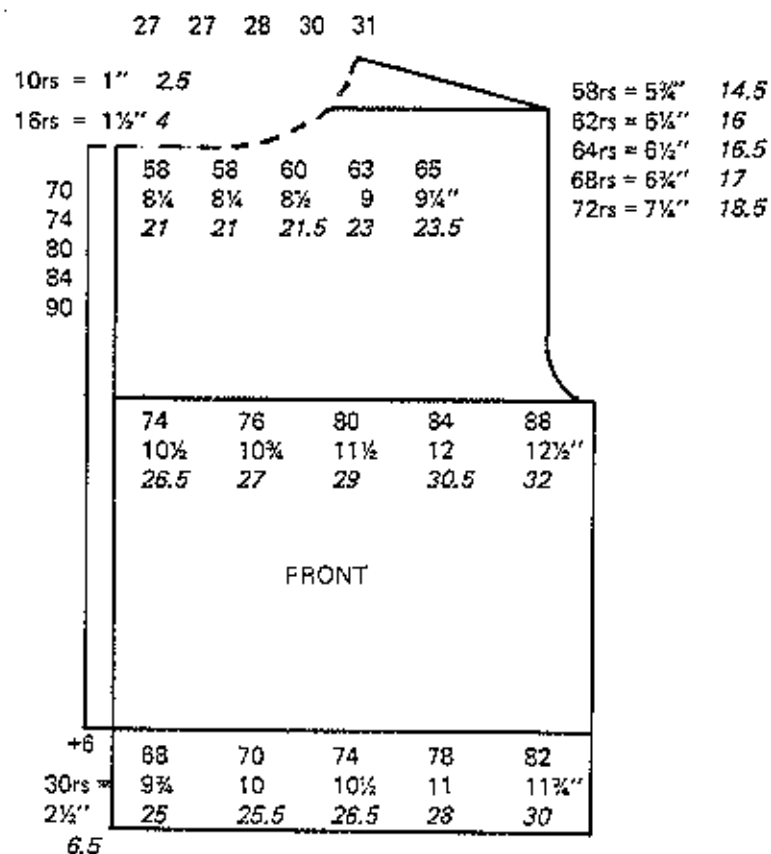
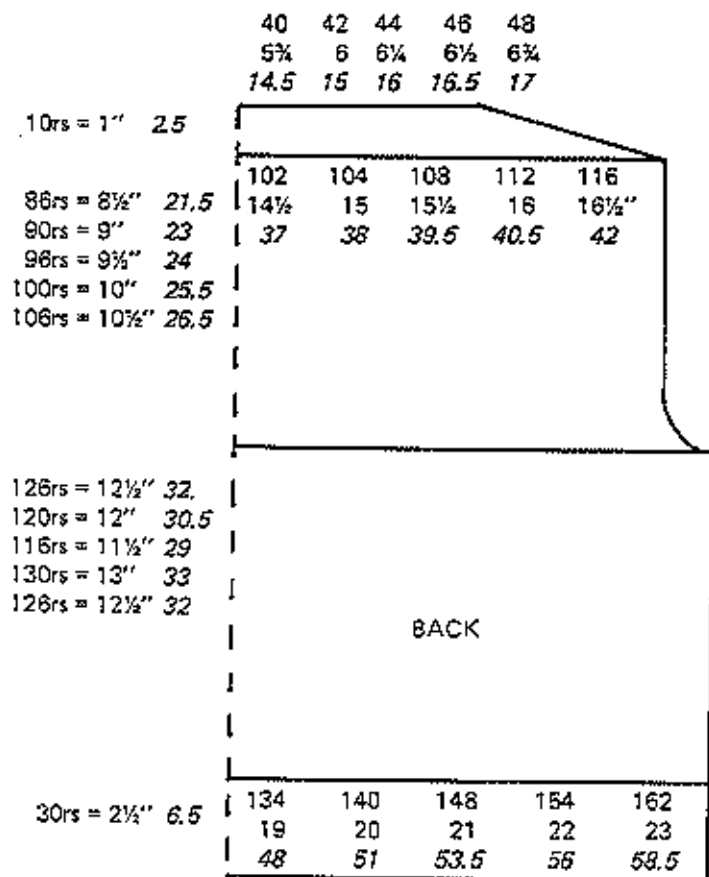
Sleeve Cap:	sts	rows
1) -5, 2x2, 19x1.2r, 14x1.r	(42)	(58)
2) -5, 2x2, 21x1.2r, 14x1.r	(44)	(62)
3) -5, 2x2, 21x1.2r, 16x1.r	(46)	(64)
4) -5, 2x2, 23x1.2r, 16x1.r	(48)	(68)
5) -5, 2x2, 25x1.2r, 16x1.r	(50)	(72)

Vee Neck:	Round Neck:
1) -20x1.4r	Row 66-70-76-80-86
2) -20x1.5r	1) -6, 3, 3x2, 6x1.2r
3) -21x1.5r	2) -6, 3, 3x2, 6x1.2r
4) -21x1.5r	3) -7, 3, 3x2, 6x1.2r
5) -22x1.5r	4) -7, 3, 3x2, 6x1.2r
	5) -8, 3, 3x2, 6x1.2r

Figures in italics denote centimetres



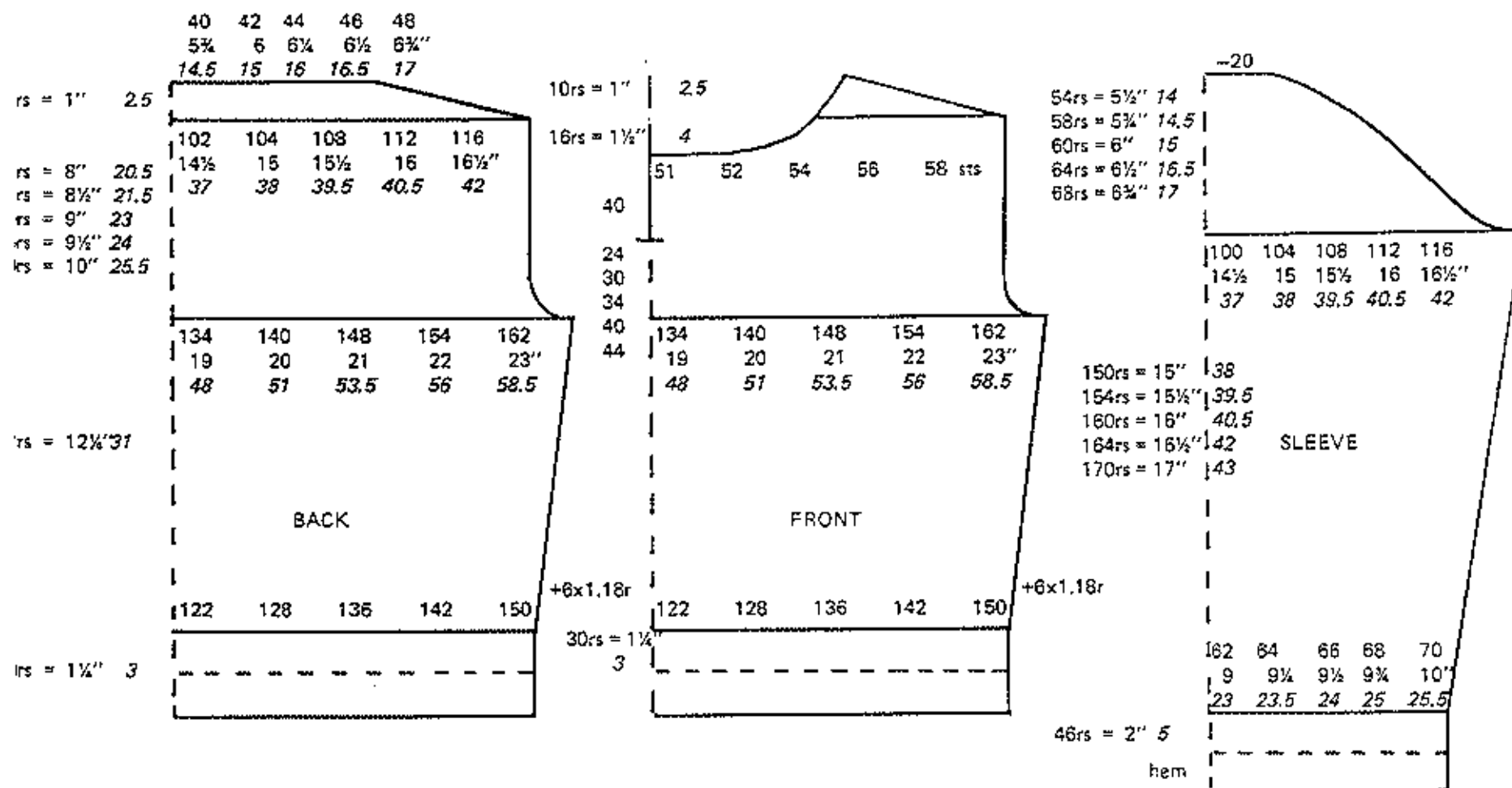
Figures in italics denote centimetres



Armhole	sts	Shoulder	sts
1) -5, 3, 1x2, 6x1.2r	(16)	1) -4x6, 1x7	(31)
2) -5, 3, 1x2, 8x1.2r	(18)	2) -4x6, 1x7	(31)
3) -5, 4, 2x2, 7x1.2r	(20)	3) -3x6, 2x7	(32)
4) -5, 4, 2x2, 8x1.2r	(21)	4) -2x6, 3x7	(33)
5) -5, 4, 3x2, 8x1.2r	(23)	5) -1x6, 4x7	(34)

Front Neck	sts	Sleeve Cap	sts	rows
1) -11, 4, 4x2, 4x1.2r	(27)	1) -5, 2x2, 19x1.2r, 14x1.r	(42)	(58)
2) -11, 4, 4x2, 4x1.2r	(27)	2) -5, 2x2, 21x1.2r, 14x1.r	(44)	(62)
3) -12, 4, 4x2, 4x1.2r	(28)	3) -5, 2x2, 21x1.2r, 16x1.r	(46)	(64)
4) -14, 4, 4x2, 4x1.2r	(30)	4) -5, 2x2, 23x1.2r, 16x1.r	(48)	(68)
5) -15, 4, 4x2, 4x1.2r	(31)	5) -5, 2x2, 25x1.2r, 16x1.r	(50)	(72)

Figures in italics denote centimetres



hole	sts	Shoulder	sts	Sleeve Cap	sts	rows
-5, 3, 1x2.2r, 6x1.2r	(16)	1) -4x6, 1x7	(31)	1) -5, 2x2, 17x1.2r, 14x1.r	(40)	(54)
-5, 3, 1x2.2r, 8x1.2r	(18)	2) -4x6, 1x7	(31)	2) -5, 2x2, 19x1.2r, 14x1.r	(42)	(58)
-5, 4, 2x2.2r, 7x1.2r	(20)	3) -3x6, 2x7	(32)	3) -5, 2x2, 19x1.2r, 16x1.r	(44)	(60)
-5, 4, 2x2.2r, 8x1.2r	(21)	4) -2x6, 3x7	(33)	4) -5, 2x2, 21x1.2r, 16x1.r	(46)	(64)
-5, 4, 3x2.2r, 8x1.2r	(23)	5) -1x6, 4x7	(34)	5) -5, 2x2, 23x1.2r, 16x1.r	(48)	(68)

Round Neck - Row	64	70	74	80	84
1) -5, 3, 3x2, 6x1.2r	(20)	sts			
2) -6, 3, 3x2, 6x1.2r	(21)				
3) -7, 3, 3x2, 6x1.2r	(22)				
4) -8, 3, 3x2, 6x1.2r	(23)				
5) -9, 3, 3x2, 6x1.2r	(24)				

figures in italics denote centimetres

BASIC PULLOVER

40	42	44	46	48
5%	6	6%	6%	6%
14.5	15	16	16.5	17

10rs = 1" 2.5

80rs = 8" 20.5

86rs = 8½" 21.5

90rs = 9" 23

96rs = 9½" 24

100rs = 10" 25.5

86	88	92	94	98
12½	12½	13	13½	14
31	32	33	34	35

126rs = 12½" 32

BACK

30rs = 2½" 6.5

134	140	148	154	162
19	20	21	22	23
48	51	53.5	56	58.5

Armhole:

	sts
1) --8, 4, 2x3, 6x1.2r	(24)
2) --8, 4, 2x3, 8x1.2r	(26)
3) --8, 4, 3x3, 7x1.2r	(28)
4) --8, 4, 3x3, 9x1.2r	(30)
5) --8, 4, 4x3, 8x1.2r	(32)

Shoulder:

	sts
1) --3x5, 2x4	(23)
2) --3x5, 2x4	(23)
3) --4x5, 1x4	(24)
4) --4x5, 1x4	(24)
5) --5x5	(25)

Back Neck:

	sts
1) --34, 3x1.2r	(40)
2) --36, 3x1.2r	(42)
3) --38, 3x1.2r	(44)
4) --40, 3x1.2r	(46)
5) --42, 3x1.2r	(48)

Vee Neck:

	Total sts
1) --20x1.4r	(40)
2) --21x1.4r	(42)
3) --22x1.4r	(44)
4) --23x1.4r	(46)
5) --24x1.4r	(48)

Round Neck:

Row 60-66-70-76-80

	Total sts
1) --10, 3, 3x2, 6x1.2r	(40)
2) --12, 3, 3x2, 6x1.2r	(42)
3) --14, 3, 3x2, 6x1.2r	(44)
4) --16, 3, 3x2, 6x1.2r	(46)
5) --18, 3, 3x2, 6x1.2r	(48)

10rs = 1" 2.5

20rs = 2" 5

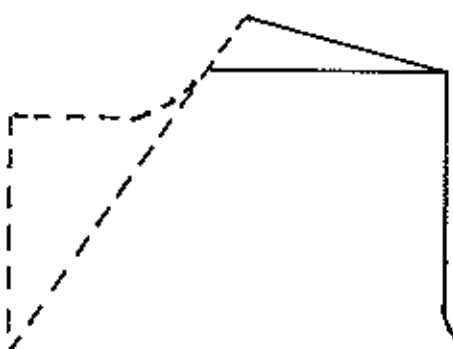
60rs = 6" 15

66rs = 6½" 16.5

70rs = 7" 18

76rs = 7½" 19

80rs = 8" 20.5



126rs = 12½" 32

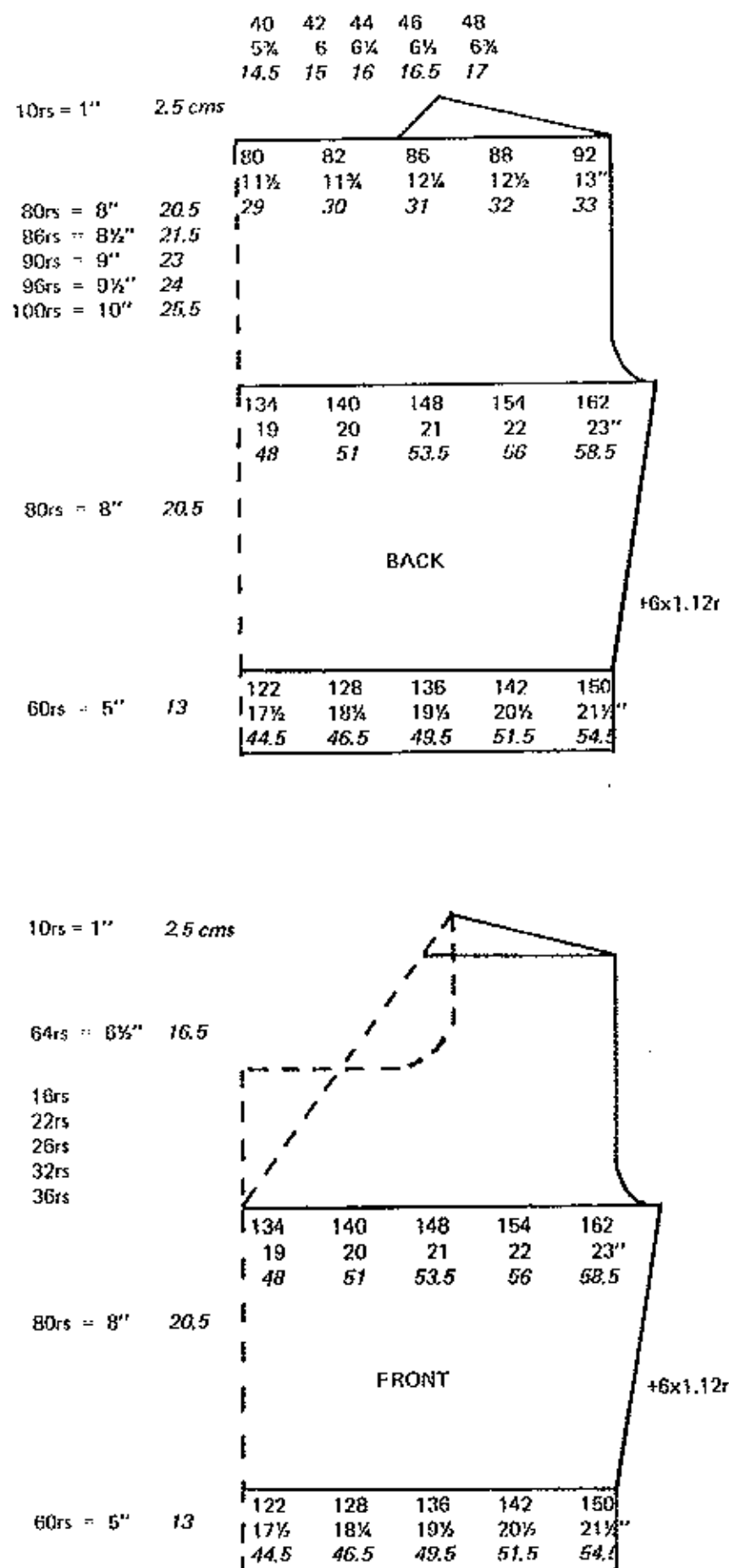
FRONT

30rs = 2½" 6.5

134	140	148	154	162
19	20	21	22	23
48	51	53.5	56	58.5

Figures in brackets denote centimetres

STYLED PULLOVER



Armhole sts

1) 8, 4, 3x3, 6x1.2r (27)
2) -8, 4, 3x3, 8x1.2r (29)
3) -8, 4, 4x3, 7x1.2r (31)
4) -8, 4, 4x3, 9x1.2r (33)
5) -8, 4, 5x3, 8x1.2r (35)

Shoulder sts

1) 5x4.2r (20)
2) 5x4.2r (20)
3) 4x4, 1x5.2r (21)
4) 4x4, 1x5.2r (21)
5) 3x4, 2x5.2r (22)

Back Neck sts

1) -34, 3x1.2r (40)
2) -36, 3x1.2r (42)
3) -38, 3x1.2r (44)
4) -40, 3x1.2r (46)
5) -42, 3x1.2r (48)

'U' Neck sts

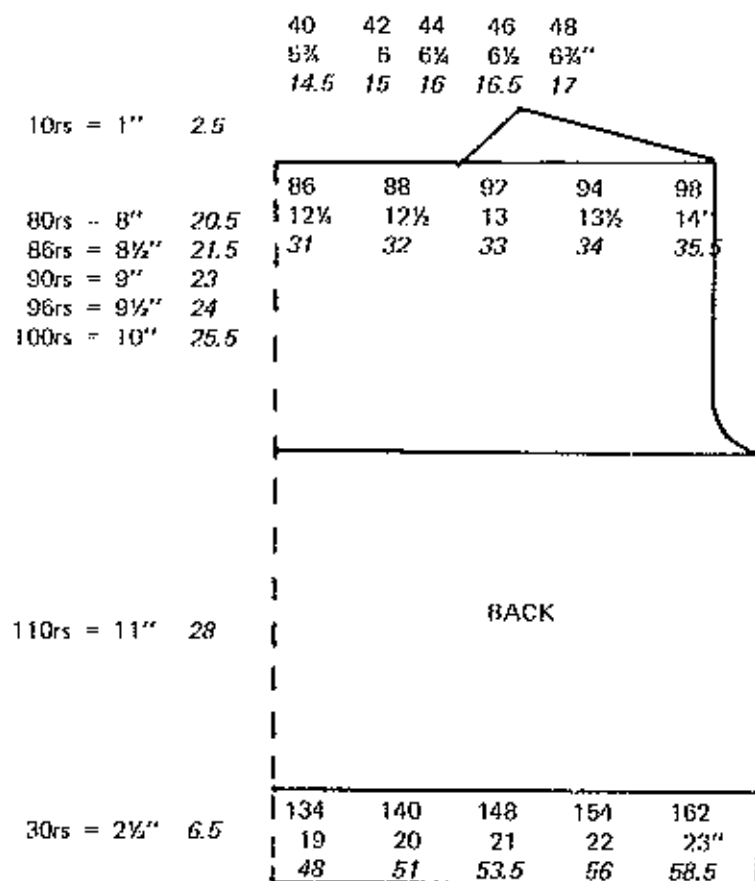
1) -20, 5x2.2r (40)
2) -22, 5x2.2r (42)
3) -24, 5x2.2r (44)
4) -26, 5x2.2r (46)
5) -28, 5x2.2r (48)

Vee Neck sts

1) -20x1.4r (40)
2) -21x1.4r (42)
3) -22x1.4r (44)
4) -23x1.4r (46)
5) -24x1.4r (48)

Figures in italics denote centimetres

BASIC WAISTCOAT



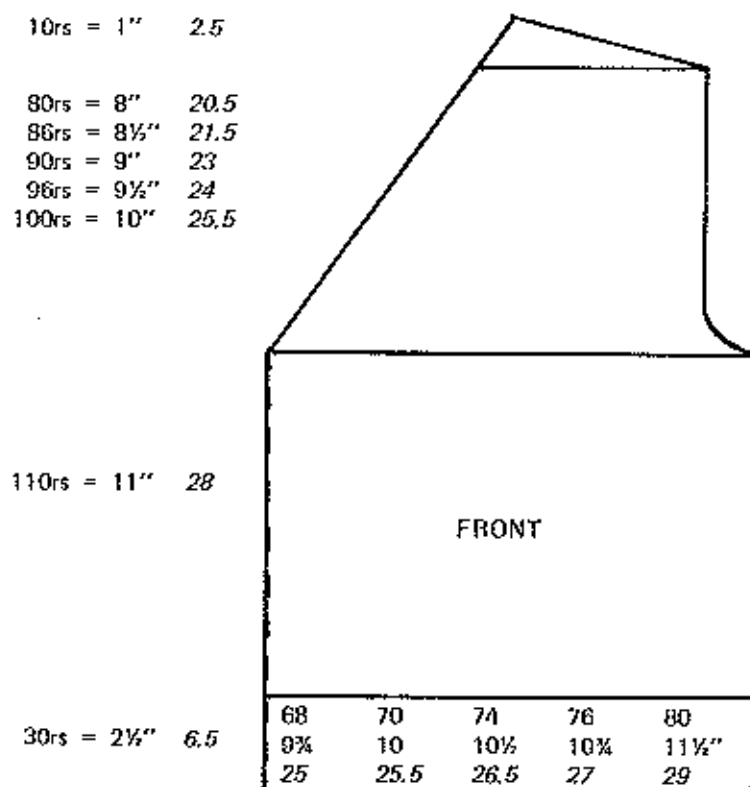
Armhole	sts
1) -8, 4, 2x3, 6x1.2r	(24)
2) -8, 4, 2x3, 8x1.2r	(26)
3) -8, 4, 3x3, 7x1.2r	(28)
4) -8, 4, 3x3, 9x1.2r	(30)
5) -8, 4, 4x3, 8x1.2r	(32)

Shoulder	sts
1) -3x5, 2x4	(23)
2) -3x5, 2x4	(23)
3) -4x5, 1x4	(24)
4) -4x5, 1x4	(24)
5) -5x5	(25)

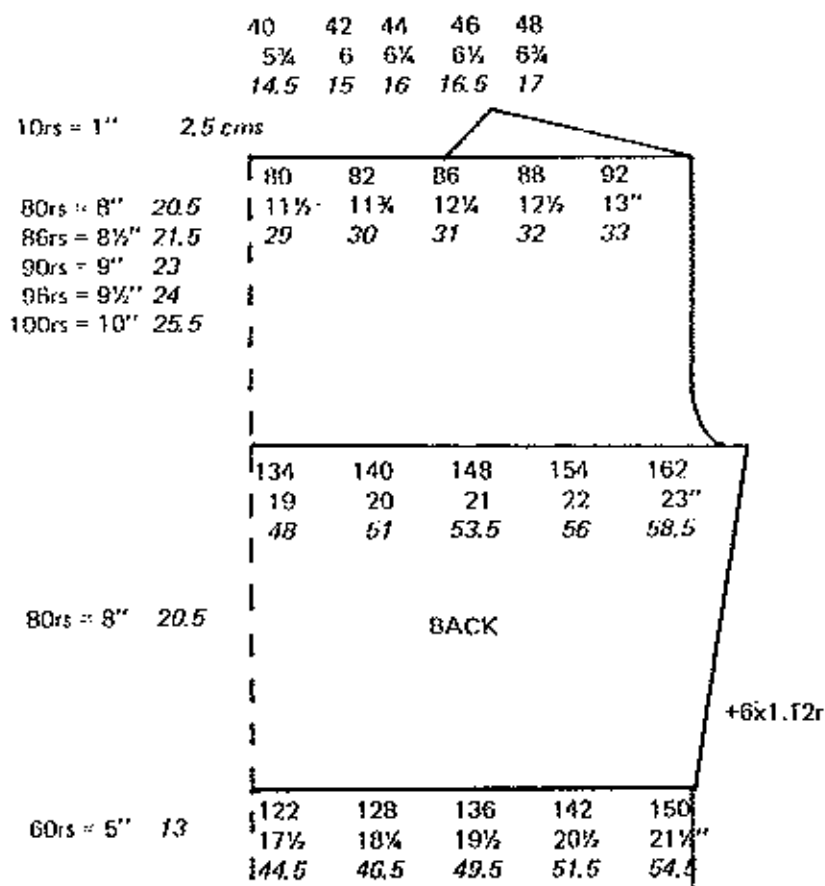
Back Neck	sts
1) -34, 3x1.2r	(40)
2) -36, 3x1.2r	(42)
3) -38, 3x1.2r	(44)
4) -40, 3x1.2r	(46)
5) -42, 3x1.2r	(48)

Vee Neck
1) -20x1.4r
2) -20x1.5r
3) -21x1.5r
4) -21x1.5r
5) -22x1.5r

Figures in italics denote centimetres



STYLED WAISTCOAT

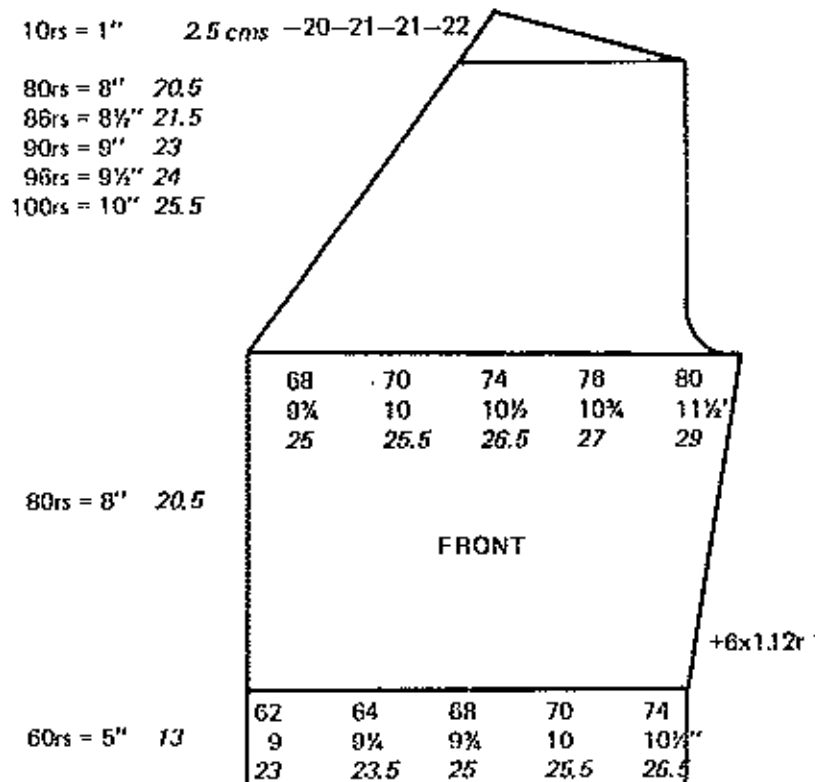


Armhole	sts
1) -8, 4, 3x3, 6x1.2r	(27)
2) -8, 4, 3x3, 8x1.2r	(29)
3) -8, 4, 4x3, 7x1.2r	(31)
4) -8, 4, 4x3, 9x1.2r	(33)
5) -8, 4, 5x3, 8x1.2r	(35)

Shoulder	sts
1) 5x4.2r	(20)
2) 5x4.2r	(20)
3) 4x4, 1x5.2r	(21)
4) 4x4, 1x5.2r	(21)
5) 3x4, 2x5.2r	(22)

Vee Neck
1) -20x1.4r
2) -20x1.5r
3) -21x1.5r
4) -21x1.5r
5) -22x1.5r

Back neck as page 142



Figures in italics denote centimetres

RAGLANS IN 4-PLY

This section contains some of the basic garment patterns which knitters require knitted in 4-ply yarn, which is easily obtained. The tension is very much a standard one of 7sts and 10rs to 1" (2.5 cms) and it should be possible to obtain this with most 4-plys, whether wool or synthetics. It is very suitable for bulked yarns (courtelles or acrylics) and wools with a fairly high rate of twist, such as crepe.

This does not mean that the softer yarns cannot be used — in fact for some of the patterns they are more suitable, giving the slightly softer texture required for young children's garments. For this type of yarn the main stitch size given should be quite suitable but the ribs will lack grip, so should be knitted on stitch size 2½ and a few extra rows added to the given number. Do not hesitate to change the main stitch size either way if the test square is not quite right.

These garments are generally described as classics, which in this case is perhaps a polite word for ordinary. Few of us feel excited about knitting this style of garment but straightforward designs are necessary when learning. Machine language gradually becomes familiar, re-setting the row counter for each section and changing strippers becomes habit, making pattern-knitting much easier when the moment arrives to be more adventurous.

Even plain basic patterns can be much improved. The best way to do this is to deepen the rib and wear sweaters with a belt. The number of rows given on the pattern for the welt should then be doubled and the equivalent deducted from the stocking stitch rows. Remember that the rib is knitted on a smaller stitch size, so is not knitting quite the same number of rows per 1" (2.5 cms). As a general guide it will require 11rs of rib to equal 10rs of stocking stitch. Ribs on cuff should also be increased if possible — not quite so easy as the body parts but no real problem.

If the rib is to be lengthened by 2" (5 cms) then 20rs will need to be deducted from the main sleeve part. It is always possible to "juggle" this kind of alteration but it is more easily done by working to a system. Look at the pattern to see how many times increases are worked on the main sleeve part. If the number of increases are the same (or more) than the number of rows to be deducted, knit 1 row less between each increase until the adjustment has been made, e.g. if the pattern reads: 'Inc. 1 st. ea. and every 6th row 24 times' and 20rs are to be deducted, then 20 of the total number of increases will be worked on every 5th row and the remaining 4 increases every 6th row as pattern.

It sometimes happens on smaller garments that the number of increases to be worked are less than the rows to be deducted, e.g. if pattern reads: 'Inc. ea. end every 6th row 15 times' and 20rs need to be deducted, in this situation knit 2rs less between each of the first 10 increases. The pattern would then read: 'Inc. ea. end every 4th row 10 times, Inc. ea. end every 6th row 5 times.'

All round necklines can be changed to polo necks simply by knitting double the number of rib rows and turning the rib over onto the right side of the garment.

Pockets can be added to any garment. These can be left plain, or a simple motif added by Swiss Darning. A small breast-pocket with Swiss-darned initials can transform a very simple garment. For those who wish to add a little contrasting colour stripes in the ribbing will give the garment 'life'.

Short sleeved raglan sweaters can easily be updated in the following way:—

Increase the rib depth and, apart from taking rows off the body to compensate, take off an extra 2" (5 cms) making about 40rs in all. Knit the body part in bright red and work the sleeves in 2-row stripes of navy and white. This type of alteration will give a smart young fashion sweater which, in keeping with the current style, can be worn over another garment which has long sleeves. A longer rib, belted sweater could provide a simple answer to an informal evening out when something more than an ordinary sweater is needed. Knitted in one of the fashion yarns containing a small proportion of Lurex it would team well with trousers.

Sweaters for children can all be given interest, again by striping, Swiss darning, a small animal shape or, for the older ones, pocket initials.

MAN'S RAGLAN SWEATER WITH ROUND OR V NECK Knitted in 4-ply, 7 sizes (stocking stitch)

SIZE:	Chest	32 81	34 86	36 91	38 97	40 102	42 107	44 ins 112 cms
	Length	24 61	24½ 62	25 63.5	25½ 65	26 66	26½ 67	27 ins 68.5 cms
	Sleeve	16½ 42	17 43	17½ 44.5	18 46	18½ 47	19 48	19½ ins 49.5 cms

MATERIALS:

Any 4-ply yarn which will give the correct tension, such as Botany, Grepe, Acrylic, Courtelle.

Handknitting yarns require approximately:—

12	13	14	15	16	17	18 ozs
341	369	397	426	454	482	511 grams

Industrial yarns will require at least 2 ozs (57 grams) less.

For coned industrial yarns use:—

Shetland wool	2/8s used singly 2/16s used 2-fold
Botany	2/24s used 4- or 5-fold depending on twist
Courtelle	2/16s used 2-fold 2/24s used 3-fold 2/30s used 3- or 4-fold depending on twist

TEST SQUARE:

49sts = 7" (18 cms) 7sts and 10rs = 1" (2.5 cms)
50rs = 5" (13 cms)

Use 3- or 5-decker tool for fully fashioned shaping.

s.s.3 for 1x1 rib s.s.6 for stocking stitch s.s.6 for tubular

PATTERN ALTERATIONS:

To change length of body add or omit 10rs for every 1" (2.5 cms)
Sleeve alterations: For every 1" (2.5 cms) extra on length, knit 1 extra row between each of the first 10 increasings. For every 1" (2.5 cms) less on length, knit 1 row less between the first 10 increasings.

BACK:

Cast on in 1x1 rib	118	126	134	140	146	154	162
Knit 30rs and transfer stitches to front bed.							
Black strippers s.s.6							
Knit 130rs all sizes							

SHAPE RAGLAN:

Cast off at beg. of next 2rs	5	6	5	6	5	6	6 sts
Dec. 1 st. at each end of every 3rd row							
	8	10	4	8	6	8	6 times
No. of rows	26	32	14	26	20	26	20
No. of sts	92	94	116	112	124	126	138
Dec. 1 st. at each end of every alt. row							
	29	29	40	37	42	42	47 times
No. of rows	84	90	94	100	104	110	114
No. of sts	34	36	36	38	40	42	44
Cast off.							

FRONT: V NECK

Inc. 1 st. at one edge before starting stocking stitch. This is used to start the Vee division

Knit as for back to raglan

Set lock to BX

Dec. 1 st. at centre. Put pushers in W.P. under all stitches at right

Shape raglan as for back.

At neck edge dec. 1 st. every 6th row

14	15	15	16	17	18	19 times
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Keep neck edge straight until raglan is complete and 3sts remain.

Cast off.

Re-set lock to N, RC to 000 Knit left side to match

Total No. of sts dec. at neck

34	36	36	38	40	42	44
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FRONT: ROUND NECK

Knit as for back to armhole row

60	66	70	76	80	86	90
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Using an odd length of matching yarn cast off in centre

10	12	12	14	16	18	20 sts
----	----	----	----	----	----	--------

Set lock to BX, pushers under needles at right.

Continue to shape raglan as before but shape neck edge as follows:—

Dec. 1 st. every alt. row	9	9	9	9	9	9 times
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Keeping neck edge straight, complete raglan.

Cast off remaining 3sts. R.C.000 Lock to N knit left side to match.

SLEEVES:

s.s.3 Pink strippers

Cast on in 1x1 rib	60	62	64	66	68	70	72 sts
--------------------	----	----	----	----	----	----	--------

Knit 36rs

Transfer stitches to front bed. Black strippers s.s.6 RC to 000

Inc. 1 st. at each end of every 6th row

19	20	21	22	22	23	24 times
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No. of sts.	98	102	106	110	112	116	120
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Knit straight to row	134	140	144	150	154	160	164
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SHAPE RAGLAN:

Cast off at beg. of next 2rs	5	6	5	6	5	6	6 sts
------------------------------	---	---	---	---	---	---	-------

Dec. 1 st. at each end of every 3rd row

8	12	10	14	14	18	18 times
---	----	----	----	----	----	----------

No. of rows

26	38	32	44	44	56	56
----	----	----	----	----	----	----

Dec. 1 st. at each end of every alt. row

29	26	31	28	30	27	29 times
----	----	----	----	----	----	----------

No. of rows

84	90	94	100	104	110	114
----	----	----	-----	-----	-----	-----

Cast off rem. 14sts.

SHORT SLEEVES:

s.s.3 Pink strippers

Cast on in 1x1 rib	86	90	94	98	100	104	108 sts
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Knit 20rs. Transfer stitches to front bed.

RC 000 Black strippers s.s.6

Inc. 1 st. at each end of every 4th row, 6 times

Knit 4rs straight

No. of sts	98	102	106	110	112	116	120
------------	----	-----	-----	-----	-----	-----	-----

No. of rows: 28 all sizes
Shape raglan as for long sleeve.

NECKBAND: V NECK

s.s.4½ Pink strippers

Cast on in 1x1 rib	152	156	160	164	168	172	176 sts
--------------------	-----	-----	-----	-----	-----	-----	---------

Knit 12rs decreasing 1 st. at each end of every alt. row

Knit 12rs increasing 1 st. at each end of every alt. row

Black strippers s.s.6 Racking handle down

Push up empty in-between needles.

With both locks on CX knit 4rs.

Set Back lock to GX, Front lock to N.

Increase 1 st. at each end of next and following 4th row, then knit 2 more rows (6)

Break yarn and set Front lock to GX, Back lock to N.

Knit as first half.

Waste knitting: Change to Pink strippers, s.s.3, and join in waste yarn. With both locks on N, knit 3rs. Break yarn and remove from machine.

NECKBAND: ROUND NECK

Cast on in 1x1 rib	128	130	132	134	136	138	140 sts
--------------------	-----	-----	-----	-----	-----	-----	---------

Knit 28rs.

Push empty in-between needles into W.P. on both beds, Black strippers, s.s.5½, Racking handle down.

With both locks on CX, knit 4rs.

Set Back lock to GX, Front lock to N and knit 6rs on front bed only.

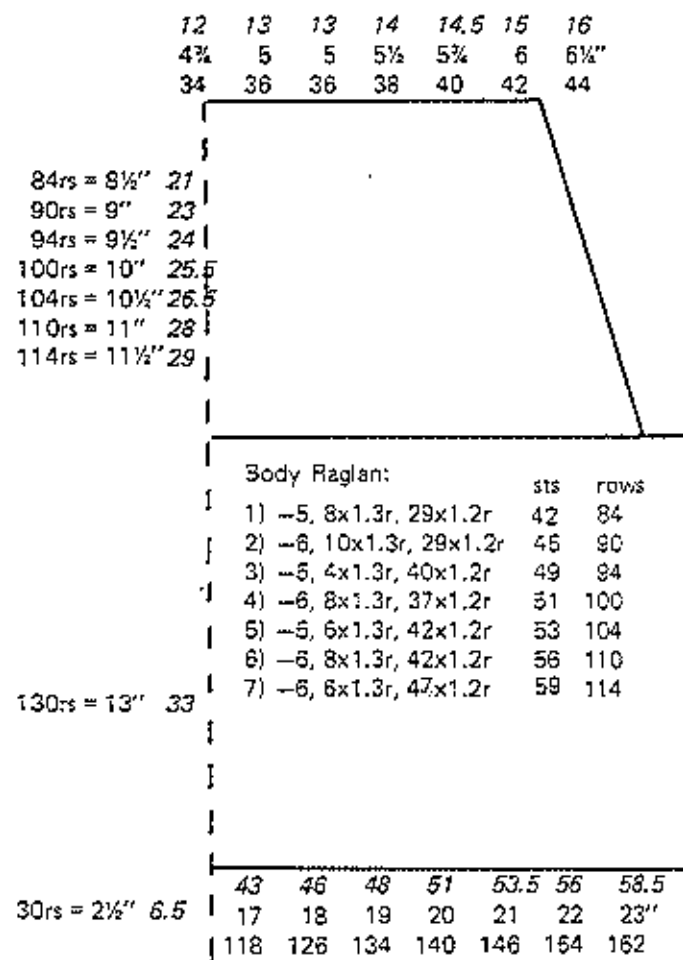
Break yarn, reverse settings and knit 6rs on back bed only.

Waste knitting: Pink strippers, s.s.3. Join in waste yarn and knit 3rs.

Remove from machine.

MAKING UP:

Pull all pieces lengthways. Join raglans, open out flat and press. Join side and sleeve seams. Press neckband, unravel waste and join seam. Position band around neck, inserting main part of garment between the stocking stitch rows. On right side, backstitch through the open stitches. On wrong side, catch down stitch by stitch.



Vee Neck:

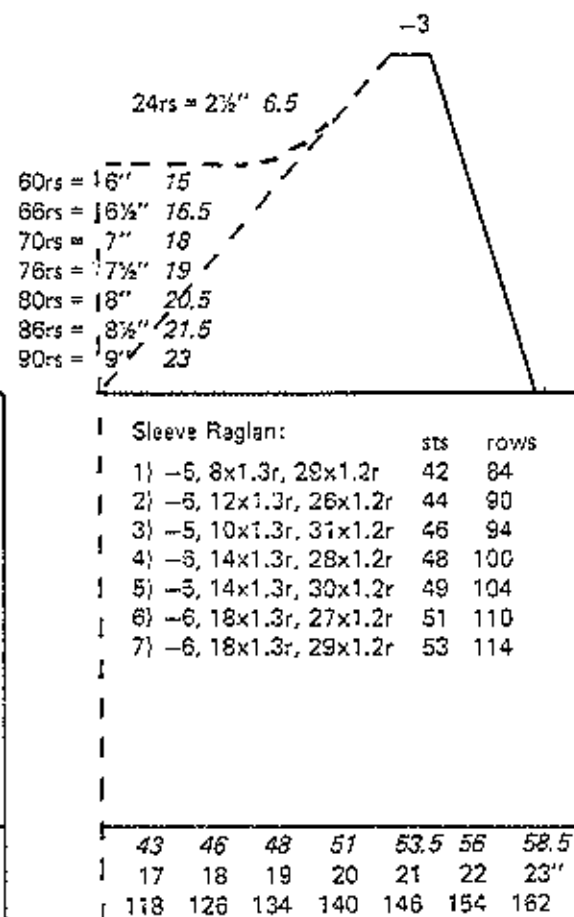
- 1) -14x1.6r
- 2) -15x1.6r
- 3) -15x1.6r
- 4) -16x1.6r
- 5) -17x1.6r
- 6) -18x1.6r
- 7) -19x1.6r

Round Neck:

- 1) -10, 9x1.2r
- 2) -12, 9x1.2r
- 3) -12, 9x1.2r
- 4) -14, 9x1.2r
- 5) -16, 9x1.2r
- 6) -18, 9x1.2r
- 7) -20, 9x1.2r

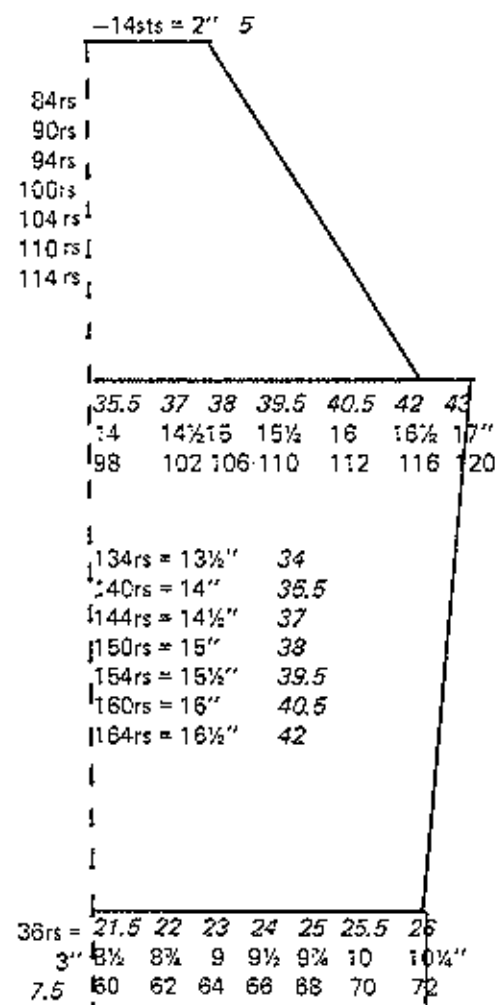
Long Sleeve:

- 1) +19x1.6r
- 2) +20x1.6r
- 3) +21x1.6r
- 4) +22x1.6r
- 5) +22x1.6r
- 6) +23x1.6r
- 7) +24x1.6r



Short Sleeve:

- 1) +6x1.4r all sizes



Figures in italics denote centimetres

LADIES' RAGLAN SWEATER WITH ROUND OR V NECK

In 7 sizes (stocking stitch)

SIZE:	Bust	32	34	36	38	40	42	44
		81	86	91	97	102	107	112
	Length	22	22½	23	23½	24	24½	25
		56	57	58.5	59.5	61	62	63.5
	Sleeve	15½	16	16½	17	17½	18	18½
		39.5	40.5	42	43	44.5	46	47

MATERIALS:

Any 4-ply yarn which will give the correct tension such as Botany, Grape, Acrylic, Courtelle.

Handknitting yarns will require approximately

11	12	13	14	15	16	17 ozs
312	341	369	397	426	454	482 grams

Industrial yarns will require at least 2 ozs (57 grams) less.

For coned industrial yarns use:—

Shetland wool	2/8s used singly 2/16s used 2-fold
Botany	2/24s used 4- or 5-fold, depending on twist
Courtelle	2/16s used 2-fold 2/24s used 3-fold 2/30s used 3- or 4-fold depending on twist

TEST SQUARE:

49sts = 7" (18 cms) 7sts and 10rs = 1" (2.5 cms)
50rs = 5" (13 cms)

Use 3- or 5-decker tool for fully fashioned shaping

s.s.3 for 1x1 rib s.s.6 for stocking stitch s.s.6 for tubular

PATTERN
ALTERATIONS:

Add or omit 10rs for every 1" (2.5 cms).

Sleeve alterations: For every 1" (2.5 cms) extra on length knit 1 extra row between each of the first 10 increasings. For every 1" (2.5 cms) less on length, knit 1 row less between the first 10 increasings.

BACK:

Pink strippers

Cast on in 1x1 rib 118 126 132 140 146 154 160 sts

Knit 30rs. Transfer stitches to front bed. Black strippers.

RC 000 s.s.6 Knit 116rs all sizes

SHAPE RAGLAN: RC 000

Cast off at beg. of next 2rs	5	6	5	6	5	6	6 sts
Dec. 1 st. at ea. end of every alt. row	39	41	44	46	49	51	54 times
No. of sts	30	32	34	36	38	40	40
No. of rows	80	84	90	94	100	104	110
Cast off.							

FRONT: V NECK

Inc. 1 st. at one edge before starting st.st. This is used to start the Vec division

Knit as for back to raglan

Set lock to BX

Dec. 1 st. at centre. Put pushers into W.P. under all stitches at right.

Shape raglan as for back.

At neck edge dec. 1 st. every 6th row

	12	13	14	15	16	17	17 times
--	----	----	----	----	----	----	----------

Keep neck edge straight until raglan shaping is complete and 3sts remain.
Cast off. Re-set lock to N, RC to 000 Knit left side to match

FRONT: ROUND NECK

Knit as for back until raglan row

	56	60	66	70	76	80	86
--	----	----	----	----	----	----	----

Using an odd length of matching yarn cast off in centre

	8	10	12	10	12	14	14 sts
--	---	----	----	----	----	----	--------

Set lock to BX, pushers under needles at right.

On first 3 sizes dec. 1 st. at neck edge every alt. row 8 times

On other 4 sizes dec. 1 st. every alt. row 10 times

Knit straight until raglan is complete. Cast off remaining 3sts.

RC 000 Set lock to N Knit left side to match.

SLEEVES:

Cast on in 1x1 rib	56	58	60	62	64	66	68 sts
--------------------	----	----	----	----	----	----	--------

Knit 36rs.

RC 000 Black strippers s.s.6 Transfer stitches to front bed

Inc. 1 st. at each end of every 6	6	6	6	6	6	6	6th row
	17	18	19	20	21	22	22 times

No. of sts	90	94	98	102	106	110	112
------------	----	----	----	-----	-----	-----	-----

Knit straight to row

	120	124	130	134	140	144	150
--	-----	-----	-----	-----	-----	-----	-----

SHAPE RAGLAN: RC 000

Cast off at beg. of next 2rs	5	6	5	6	6	6	6 sts
------------------------------	---	---	---	---	---	---	-------

Dec. 1 st. at each end of every 3rd row

	6	8	8	10	12	12	16 times
--	---	---	---	----	----	----	----------

No. of rows

	20	26	26	32	38	38	50
--	----	----	----	----	----	----	----

Dec. 1 st. at each end of every alt. row

	30	29	32	31	31	33	30 times
--	----	----	----	----	----	----	----------

No. of rows

	80	84	90	94	100	104	110
--	----	----	----	----	-----	-----	-----

Cast off rem. 8sts.

SHORT SLEEVES:

Cast on in 1x1 rib	78	82	86	90	94	98	100 sts
--------------------	----	----	----	----	----	----	---------

Knit 20rs. Transfer stitches to front bed.

RC 000 Black strippers s.s.6

Inc. 1 st. at each end of every 4th row, 6 times

Knit 4rs.

No. of sts	90	94	98	102	106	110	112
------------	----	----	----	-----	-----	-----	-----

No. of rows: 28 for all sizes

Shape raglan as for long sleeve.

NECKBAND: V NECK

s.s.4 for 1x1 rib

Cast on in 1x1 rib 152 156 160 164 168 172 176 sts

Knit 12rs decreasing 1 st. at each end of every alt. row

Knit 12rs increasing 1 st. at each end of every alt. row. Push up empty in-between needles.

Black strippers s.s.6 Racking handle down

With both locks on CX knit 4rs.

Set Back lock to GX, Front lock to N.

Increase 1 st. at each end of next and following 4th row, then knit 2rs more (6).

Break yarn and set Front lock to GX, Back lock to N.

Knit as first half.

Waste knitting. Change to Pink strippers, s.s.3 and join in waste yarn.

With both locks on N knit 3rs.

Break yarn and remove from machine.

NECKBAND: ROUND NECK

Cast on in 1x1 rib 118 120 122 124 126 128 130 sts

Knit 28rs.

Push empty in-between needles into W.P. on both beds.

Black strippers s.s.6 Racking handle down.

With both locks on CX knit 4rs.

Set Back lock to GX, Front lock to N and knit 6rs on Front bed only.

Break yarn, reverse settings and knit 6rs on Back bed only.

Waste knitting. Pink strippers s.s.3 Join in waste yarn and knit 3rs.

Remove from machine.

MAKING UP:

Pull all pieces lengthways. Join raglans, open out flat and press. Join side and sleeve seams.

Press neckband, unravel waste and join seam. Position band around neck, inserting main part of garment between the stocking stitch rows. On right side backstitch through the open stitches. On wrong side catch down stitch by stitch.



CHILDREN'S RAGLAN SWEATERS — ROUND OR VEE NECK

4 sizes (stocking stitch)

SIZE:	Chest	24 61	26 66	28 71	30 ins 76 cms
	Length	14½ 37	16 40.5	17½ 44.5	19½ 49 cms
	Sleeve	10½ 26.5	12 30.5	13½ 34	14½ 37 cms
MATERIALS:		6 171	7 199	8 227	9 ozs 256 grams

4-ply yarn or the equivalent in coned industrials.

Courtelle 2/16s used 2-fold

2/24s used 3-fold

2/30s used 3- or 4-fold according to twist

Botany 2/24s used 4- or 5-fold according to twist

TEST SQUARE:	49sts = 7" (18 cms)	7sts and 10rs = 1" (2.5 cms)
	50rs = 5" (13 cms)	
	s.s.3 for rib	s.s.6 for stocking stitch s.s.6 for tubular

Raglan decreases with a 3-decker tool.

SWEATER — ROUND NECK

BACK:

Cast on in 1x1 rib	92	100	106	114 sts
Knit 24rs RC 000 Transfer stitches to front bed				
Black strippers s.s.6				
Knit	66	76	86	100 rows

RAGLAN: RC 000

Cast off at beg. of next 2rs	4	4	4	4 sts
Dec. 1 st. at each end of every alt. row	29	32	34	37 times
No. of rows	60	66	70	76
No. of sts rem.	26	28	30	32
Cast off.				

FRONT:

Knit as for back to armhole row	40	46	50	52
Using an odd length of matching yarn, cast off in centre	10	12	14	14 sts
Lock on BX, pushers under all needles at right.				

RAGLAN:

Knit as for back, shape neck edge as follows:—

Dec. 1 st. every alt. row	5	5	5	6 times
Keep neck edge straight until raglan is complete and 3sts rem.				
Cast off.				

Re-set RC Lock to N.

Knit left side to match.

No. of sts. dec. at neck	26	28	30	32
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SWEATER - VEE NECK

Inc. 1 st. at one edge when rib is complete. This odd stitch is used to start the Vee division.

Knit as for back to raglan armhole. Divide work by transferring centre stitch to its adjacent needle.
RC 000

Lock on BX, pushers under all needles at the right.

Knit raglan shaping as for back.

Shape neck edge as follows:—

Dec. 1 st. every 5th row	11	12	13	14 times
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Knit straight until raglan is complete and 2sts remain.

Cast off.

Re-set RC. Lock to N.

Knit left half to match.

No. of sts dec. at neck	26	28	30	32
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SLEEVES:

Cast on in 1x1 rib	46	48	50	52 sts
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Knit 24rs. RC 000

Transfer stitches to front bed. Black strippers. s.s.6

Inc. 1 st. at each end of every	6	6	7	7th row
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No. of sts	12	14	15	16 times
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Knit straight to row	70	76	80	84
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	86	100	116	126
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RAGLAN: RC 000

Cast off at beg. of next 2rs	4	4	4	4 sts
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Dec. 1 st. at each end of every 3rd row	4	4	4	6 times
---	---	---	---	---------

Dec. 1 st. at each end of every alt. row	23	26	28	28 times
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No. of rows	60	66	70	76
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Cast off rem. 8sts.

NECKBAND - ROUND: (Can be knitted with or without tubular rows)

Cast on in 1x1 rib	94	98	102	108 sts
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Knit 24rs

Push up empty in-between needles

Racking handle down. Black strippers. Both locks CX. Knit 10rs.

Change to Pink strippers and waste yarn. s.s.3. Both locks on N. Knit 3rs.

Break yarn and strip from machine.

NECKBAND - VEE: (Can be knitted with or without tubular rows)

Cast on in 1x1 rib	124	133	136	144 sts
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Knit 14rs.

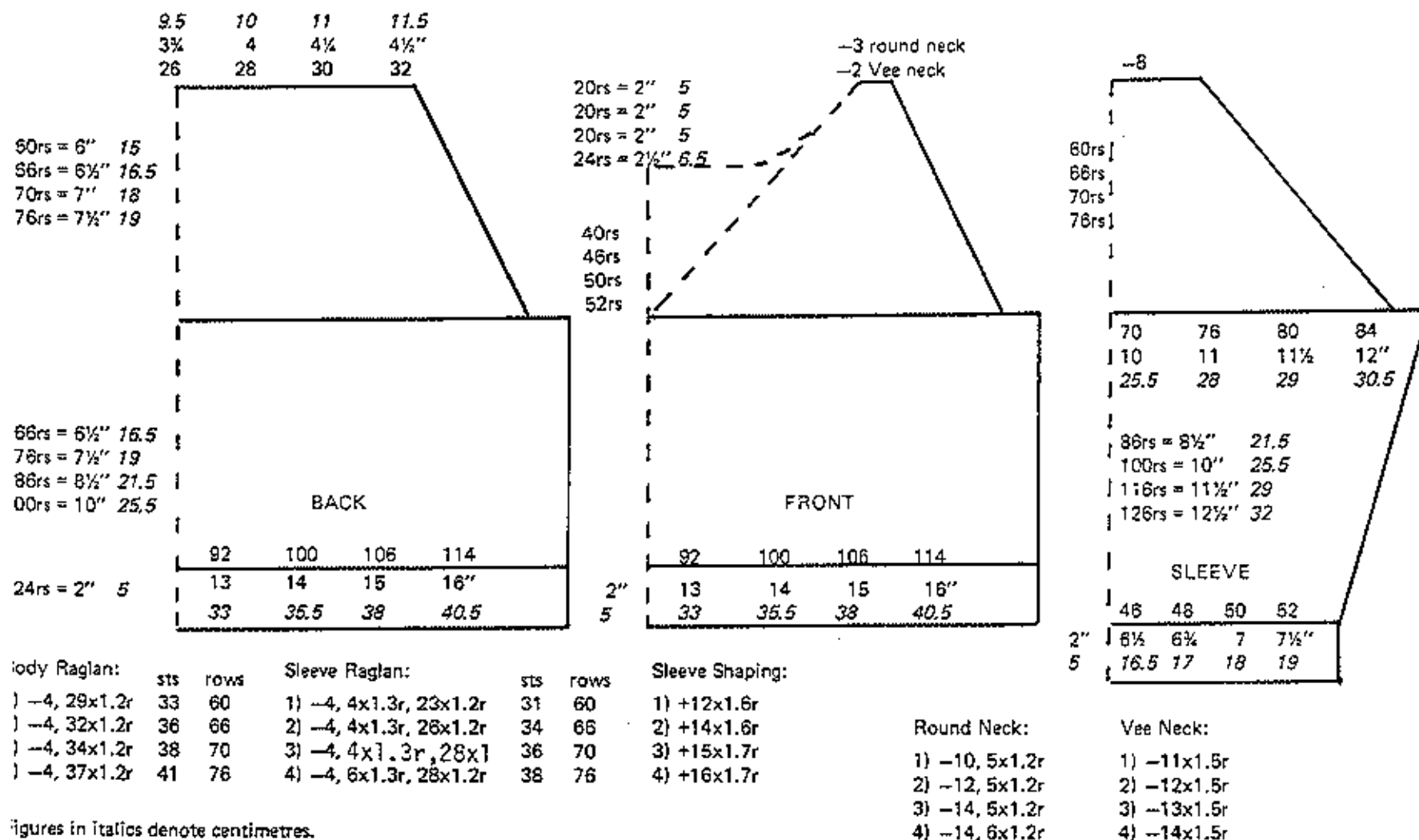
Push up empty in-between needles.

Racking handle down. Black strippers. Both locks on CX. Knit 10rs.

Join in waste yarn -- Pink strippers. s.s.3 both locks to N knit 3rs.

Break yarn and strip from machine.

If tubular rows are not knitted, cast off in the usual way when rib rows have been knitted.



MAKING UP:

Pull all pieces lengthways. Man-made fibres dry-press only.

Sew up raglans. Open out flat and press.

Sew side and sleeve seams.

Press tubular rows on neckband — this must be done.

Unravel waste yarn, insert main part of garment between the tubular rows, pin and backstitch through the open loops. Tubular on the inside is caught down stitch by stitch.

The ribbed neckband is not mitred — the end of band at left side is crossed over the end of band at the right and stitched to form Vee (opposite way for girl). On band with tubular rows, ends are mitred by stitching.

BOBBLE CAP**SIZE:**

To fit average size head.

MATERIALS:

Approximately 2½ ozs (71 grams) of 4-ply

TEST SQUARE:

Not needed.

Use Blue strippers

Cast on in 1x1 rib 130sts. Knit 36rs on s.s.4

RC 000

N on back bed, EX on front, s.s.4 Knit 70rs

If striping is required, knit as follows:

12rs main, 12rs contrast, 12rs main, 6rs contrast, 12rs main, 4rs contrast, 12rs main.

RC 000

N on both beds, s.s. 3½ Knit 16rs

Transfer every alternate stitch on back bed to the nearest needle on the front bed, then transfer every alternate stitch on the front bed on to the appropriate needles on the back bed which are carrying the remaining stitches. The needle set-up is now:

1 needle working and 3 needles empty.

Put all empty needles into N.W.P.

RC 000

N on both beds, s.s.3

Knit 10rs.

Work 2rs in waste yarn and remove from the machine.

MAKING UP:

Unravel the waste rows. Using a blunt needle run a matching thread through the open stitches and pull up as tightly as possible. Fasten off securely. Join main seam. Pull the crown section hard in a lengthways direction to close in the stitches as much as possible.

BOBBLE:

Wind yarn 120 times round a matchbox (lengthways) or something similar. Cut yarn very carefully at both ends. Tie a strong piece of yarn as tightly as possible round the centre of bundle. Fluff out to form bobble and trim to round shape with sharp scissors.

TODDLER'S RAGLAN SWEATER IN 4-PLY

In 3 sizes (stocking stitch)

SIZE:	Chest	19 48	21 53	23 ins 58 cms
	Length	10 25.5	11½ 29	13 ins 33 cms
	Sleeve	6 15	7½ 19	9 ins 23 cms
MATERIALS:		4 114	5 142	6 ozs 171 grams

Industrial yarn on cone use:

Courtelle: 2/16s used 2-fold

2/24s used 3-fold

2/30s used 3- or 4-fold according to twist

TEST SQUARE:	49sts = 7" (18 cms)	7sts and 10rs = 1" (2.5 cms)
	50rs = 5" (13 cms)	
	s.s.3 for 1x1 rib	s.s.6 for stocking stitch s.s.6 for tubular

PATTERN NOTES: For raglan shapings use 3-decker tool.
Pink strippers for rib.
Black strippers for stocking stitch and tubular

ROUND NECK

BACK:

Cast on in 1x1 rib	74	82	88 sts
Knit 16rs. Change to s.s.6			
RC 000 Transfer stitches to front bed.			
Knit	46	50	56 rows

SHAPE RAGLAN: RC 000

Cast off at beg. of next 2rs	2	3	2 sts
Dec. 1 st. at each end of every alt. row	22	24	27 times
No. of rows	46	50	56
No. of sts	26	28	30
Cast off.			

FRONT:

Knit as for back to raglan row	32	36	42
Using an odd length of matching yarn, cast off in centre	4	6	8 sts
Lock on BX, pushers under needles at right, continue shaping raglan.			
At neck edge cast off on alt. rows	2	2	2 sts twice

Dec. 1 st. every alt. row 5 times. Knit 2rs.

Cast off rem. 2sts.

Re-set RC. Lock on N. Knit left side to match.

SLEEVES:

Cast on in 1x1 rib	44	48	50 sts
Knit 18rs.			
RC 000 Transfer stitches to front bed. Black strippers			
Inc. 1 st. at each end of every	8	8	9th row
	5	6	7 times
Knit	4	10	11 rows
No. of rows	44	58	74
No. of sts	54	60	64
Shape raglan as for back.			
Cast off rem. 6sts.			

NECKBAND:

Cast on in 1x1 rib	70	74	78 sts
Knit	24	24	24 rows
Push up empty in-between needles			
Racking handle down Black strippers			
Both locks CX, s.s.6			
Knit 10rs.			
Change to Pink strippers and waste yarn. s.s.3 Both locks on N.			
Knit 3rs			
Break yarn and strip from machine.			

MAKING UP:

Pull all pieces hard lengthways. Man-made fibres dry-press only.
 Sew up raglans, leaving one seam partly open for 3 buttons. Open out flat and press. Sew side and sleeve seams. Press tubular rows on neckband — this must be done. Unravel waste yarn, insert main part of garment between the tubular rows, pin and backstitch through the open loops. Tubular on the inside is caught down stitch by stitch. Fold rib in half to inside and catch down above tubular rows. On open part of raglan finish with double crochet, at the same time making 3 loops for buttons.

2x2 RIBS

These are explained in 'Casting on and Welts' and in 'Stitch Distortion'. The needle bed set-ups are in the Stitch section. The following information may be helpful to those who are new to this particular stitch.

This type of rib can be knitted in two different ways:

- 1) Both needle beds set up with 2 needles in working position and 1 needle in non-working position. This gives a firm close knit but can be a little confusing once decreasing is commenced, as new knitters are never sure of how to count their stitches. On the following patterns this set-up is used for some of the neckbands as it gives a slightly better finish to Polo necks. For these bands the number of stitches given refers to the total number of needles knitting, the needles which are not knitting are not counted.
- 2) Both needle beds are set up with 2 needles in working position and 2 needles in non-working position, which is really only one full bed of stitches divided up between the two beds and is almost as easy to count as single bed knitting. The rib is not quite as firm as No. 1 but if knitted on the correct stitch size gives a satisfactory finish and is simple to knit. The given number of needles refers to the working needles only.

There is one important point to note: all 2x2 ribs can be troublesome to make up if an equal number of stitches are cast on on each bed — the shoulders will not match and the 'ribbing lines' around the armholes are not the same. To avoid this the number of stitches cast on should always be a figure which, when divided by 2, gives an odd number for the answer e.g. 50 divided by 2 = 25.

This means that the needle beds can be set up with an equal number of stitches on each bed, plus an extra 2 stitches on one bed. Do not put these extra stitches on one bed when casting on — put one on each bed, otherwise the stitches will not lock on the first row and will keep 'running' up the work. Knit the zig-zag row, 2 rows of tubular and 1 row rib, then put the 2 odd stitches on one bed. This setting is maintained right through the garment. Should you find you have made a minor decreasing mistake and upset this setting, correct it as soon as possible.

The following patterns have all been calculated to give the odd 2 stitches.

NECKBANDS: Courtelle was used for the original garments but Botany can also be used.

The bands on the Tank Tops are given as 24rs of rib. When the bands are sewn onto the garment the rib is doubled and caught down on the inside as this gives a firmer finish and pulls in better when man-made fibres are used. When wool is used a single rib of 12rs should be sufficient.

MAKING UP: A good finish on ribbed garments is almost impossible to obtain by machine stitching. It has been customary for a long time to join this type of knitting by over-sewing the two edges on the wrong side to give a flat seam. For a new knitter who has perhaps failed to get a perfect edge on the knitting this method of stitching can be a disaster as every imperfect stitch will show on the right side. The best and easiest method to use is Mattress Stitch. This makes an almost invisible seam on the right side but, as it is not worked on the very edge stitch, it produces a fairly pronounced seam on the inside, completely concealing any faulty stitches. Mattress Stitch has a considerable advantage when garments with stripes are to be sewn. When other methods of stitching are used it is necessary to use matching yarn for each stripe — with Mattress Stitch the same colour can be used all the way up the seam and it will not show.

MAN'S SWEATER IN 2x2 RIB

These sweaters are made to body size to provide a close fit.

SIZE:	Chest	36 91	38 97	40 102	42 107	44 ins 112 cms
	Length	25 63.5	25½ 65	26 66	26½ 67	27 ins 68.5 cms
	Sleeve seam	18 46	18½ 47	19 48	19½ 49.5	20 ins 51 cms
MATERIALS:		12 341	13 369	13 369	14 397	15 ozs 426 grams

Soft 3-ply yarn

Coned industrial yarns:

2/24s used 2-fold

2/28s used 2-fold

2/30s used 3-fold

2/32s used 3-fold

2/24s Botany used 3-fold

TEST SQUARE:

100sts = 12½" (32 cms)

100rs = 9" (23 cms) using s.s.5

Welts in 2x2 rib s.s.4½

8sts & 11rs = 1" or 2.5 cms

PATTERN ALTERATIONS:

On body, add or deduct 11rs for every 1" (2.5 cms) more (or less) required. Round the figure up or down to give an even number.

On sleeves, add or deduct 2rs between each increase until the alteration rows have been worked into the pattern, then continue as pattern instructions.

PATTERN NOTES:

The rib used in this pattern is 2 up, 2 down (2 needles in W.P., 2 needles in N.W.P.).

The 2 up, 1 down setting can be used if required. s.s. will need to be slightly larger.

BACK:

Cast on	146	154	162	170	178 sts
No. of sts on each bed	73	77	81	85	89
Knit 36rs for welt, change stitch size, RC 000 and knit 142rs.					

ARMHOLE:

Cast off 6sts at beg. of next 2rs, then 2sts at beg. of next

	4	6	6	6	8 rows
Dec. 1 st. at each end every alt. row	6	6	8	10	10 times
No. of sts dec. at each armhole	10	18	20	22	24
No. of sts rem.	114	118	122	126	130
No. of sts on each bed	57	59	61	63	65
Knit straight to row	90	94	100	104	110

SHOULDERS:

Dec. on each side and then knit 2rs straight so that casting off is every 3rd and 4th row.
On each shoulder cast off as follows:—

11sts twice 12sts once	12sts twice 11sts once	12sts 3 times —	12sts twice 13sts once	13sts twice 12sts once	
No. of sts dec. on each shoulder		34	35	36	37
Cast off rem.		46	48	50	52
					54 sts.

FRONT:

Knit as for back until armhole row	68	72	78	82	88
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NECK:

Using an odd length of matching yarn, cast off in centre	6	8	10	12	14 sts
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Divide work and knit left side.

At neck edge, on alt. rows, shape as follows:—

All sizes: Cast off 4sts, then 2sts 3 times.

Dec. 1 st. every alt. row 10 times.

	start shoulder shaping on row				
	90	94	100	104	110
Reset machine and knit left half to match.					
Total No. of sts dec. at neck	46	48	50	52	54

SLEEVES:

Cast on in 2x2 rib	76	76	80	80	84 sts
No. of sts on each bed	38	38	40	40	42
Knit 48rs on s.s.4½ RC 000 s.s.5					
Inc. 1 st at each end of every 6th row	20	22	22	24	24 times
No. of sts	116	120	124	128	132
Knit straight to row	144	150	156	162	168

SLEEVE CAP:

At beg. of next 2rs, cast off 4sts all sizes. Then cast off 2sts at beg. of next 4rs.

Dec. 1 st. at each end of every alt. row	12	12	14	16	18 times
Dec. 1 st. at each end of every row	30	32	32	32	32 times
Cast off rem. 16sts.					

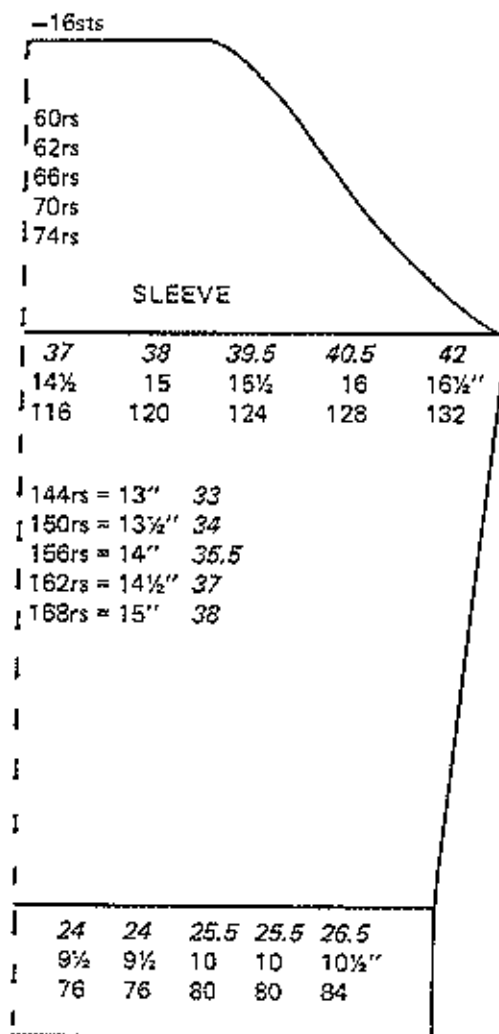
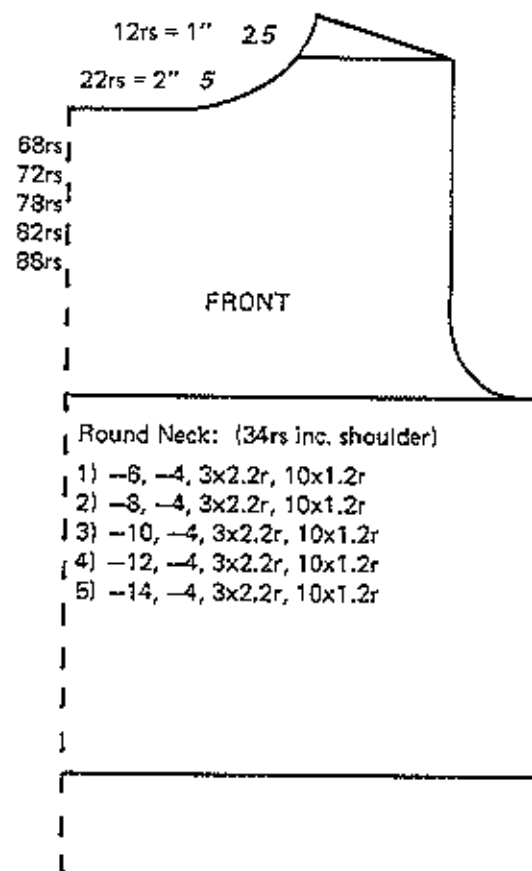
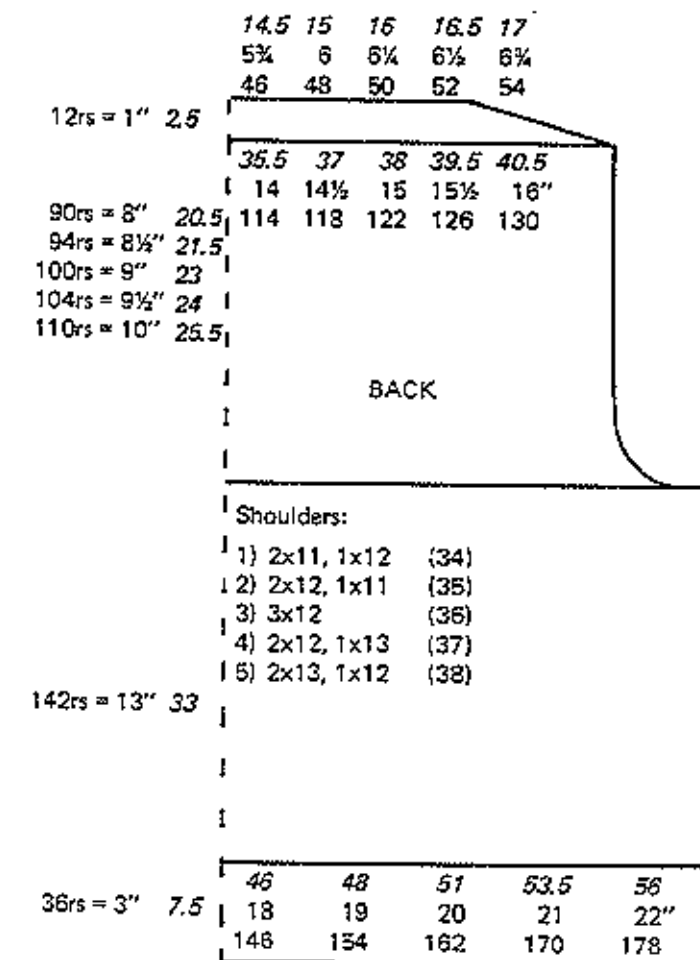
POLO NECKBAND:

This is knitted in 2x2 rib which is set up with 2 needles in W.P. and 1 needle in N.W.P. on each bed.

Cast on	132	136	136	140	140 sts
On s.s.4½ knit 60rs. Push up all the empty in-between needles and set machine for tubular knitting, s.s.5, knit 12rs. Join in waste yarn, set machine for rib, s.s.3 and knit 3rs. Break yarn and carefully remove from the machine.					
For Standard band work 30rs of rib instead of 60.					

MAKING UP:

Join shoulder seams and sew sleeves into armhole. Sew side and sleeve seams. Press tubular and waste rows on neckband. Unravel waste rows and sew one section of tubular rows to right side of garment with backstitch. Catch the other section down on the inside stitch by stitch. For the round band attach as for Polo then fold rib in half to inside and catch down above the line of holes.



Armhole:

- 1) -6, 2x2, 6x1.2r (16sts)
2) -6, 3x2, 6x1.2r (18)
3) -6, 3x2, 8x1.2r (20)
4) -6, 3x2, 10x1.2r (22)
5) -6, 4x2, 10x1.2r (24)

Start round neck on row:

68 72 78 82 88

Sleeve Cap:

- 1) -4, 2x2, 12x1.2r, 30x1.r (50)
2) -4, 2x2, 12x1.2r, 32x1.r (52)
3) -4, 2x2, 14x1.2r, 32x1.r (54)
4) -4, 2x2, 16x1.2r, 32x1.r (56)
5) -4, 2x2, 18x1.2r, 32x1.r (58)

Sleeve Shaping:

Every 6th row 20 22 22 24 24 times

Figures in italics denote centimetres

MAN'S TANK TOP IN 2x2 RIB

SIZE:	Chest	36 91	38 97	40 102	42 107	44 ins 112 cms
	Length	23 58.5	23½ 60	24 61	24½ 62	25 ins 63.5 cms

MATERIALS and TEST SQUARE as for Main pattern.

8 227	8 227	9 256	10 284	11 ozs 312 grams
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Main Colour — Camel

PATTERN NOTES:

Optional stripes:

Knit to body row 57.

Knit 10rs Black, 6rs Camel, 20rs Grey, 6rs Camel,
10rs Black, 1 row Camel (110rs)

BACK:

Knit as for Sweater, working 110rs on body section.

ARMHOLE:

Cast off at beg. of next 2rs	6	6	6	6	6 sts
Cast off at beg. of next 4rs	4	4	4	4	4 sts
Cast off 2sts at beg. of next	4	6	6	6	8 rows
Dec. 1 st. every alt. row	6	6	8	10	10 times
No. of sts dec. at each armhole	24	26	28	30	32
No. of sts rem.	98	102	106	110	114
Knit straight to row	62	66	72	76	82

NECK:

Cast off in centre 22 24 26 28 30 sts

Put needles at left into H.P. Shape neck edge on alt. rows as follows:—

Cast off 4sts once, dec. 2sts 6 times.

Knit straight to shoulder row 90 94 100 104 110

SHOULDER:

Shape on alt. rows as follows:—

7sts twice 8sts once	8sts twice 7sts once	8sts 3 times —	8sts twice 9sts once	9sts twice 8sts once	
No. of sts cast off on each shoulder	22	23	24	25	26
No. of sts cast off at neck	54	56	58	60	62

FRONT:

Knit as for back to armhole row 26 30 36 40 46

NECK:

Work shaping exactly the same as for back, then knit straight to shoulder.

NECKBAND:

Knit 2 pieces.

Cast on in 2x2 rib	136	136	140	140	140 sts
No. of sts on each bed	68	68	70	70	70
Knit 14rs (wool) 28rs (synthetic). Transfer stitches to one bed and cast off.					
Cast on in 2x2 rib	80	80	84	84	84 sts
No. of sts on each bed	40	40	42	42	42
Knit as first piece.					

ARMHOLE BANDS:

Cast on in 2x2 rib	144	152	160	168	172 sts
No. of sts on each bed	72	76	80	84	86
Knit as before.					

MAKING UP:

Join seams and short ends of bands. With cast off edge of band to garment, pin band onto right side of garment and neatly backstitch the two edges together.

LADIES' SWEATER IN 2x2 RIB

SIZE:	Bust	32 81	34 86	36 91	38 97	40 ins 102 cms
	Length	21 53.5	21½ 54.5	22 56	22½ 57	23 ins 58.5 cms
	Sleeve seam	16 40.5	16½ 42	17 43	17½ 44.5	18 ins 46 cms

MATERIALS and TEST SQUARE:

As for Main pattern

9 256	10 284	10 284	11 312	12 ozs 341 grams
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BACK:

Cast on in 2x2 rib	130	138	146	154	162 sts
No. of sts on each bed	65	69	73	77	81
Knit 36rs on s.s.4½ RC 000 s.s.5					
Knit 116rs.					

ARMHOLE:

Cast off at beg. of next 2rs	4	4	6	6	8 sts
Cast off 2sts at beg. of next	2	4	4	6	6 rows
Dec. 1 st. every alt. row	6	6	6	6	8 times
No. of sts dec. at each armhole	12	14	16	18	20
No. of sts rem.	106	110	114	118	122
Knit straight to row	74	78	84	90	94

SHOULDERS:

Cast off at each side of work, then knit 2rs so that dec. is every 3rd and 4th row.

11sts twice	11sts 3 times	11sts twice	12sts twice	12sts 3 times	
10sts once	—	12sts once	11sts once	—	
No. of sts cast off on each shoulder	32	33	34	35	36
Cast off rem.	42	44	46	48	50 sts

FRONT:

Knit as for back to armhole row	54	58	62	68	72
Using an odd length of matching yarn, cast off in centre	6	8	6	8	10 sts
Put stitches at left into H.P.					
Work neck shaping on alt. rows as follows:—					
On sizes 36, 38 and 40, cast off			4	4	4 sts
Cast off 2sts	4	4	3	3	3 times
Dec. 1 st. every alt. row 10 times (all sizes)					
Remember to start shoulder on row	74	78	84	90	94
Knit the left side to match reversing all shapings.					
Total No. of sts dec. on neck	42	44	46	48	50

SLEEVES:

Cast on in 2x2 rib	64	68	68	72	72 sts
No. of sts on each bed	32	34	34	36	36
Knit 48rs s.s.4½. RC 000 s.s.5					
Inc. 1 st. at each end of the next row on sizes 32, 36, 40.					
Inc. 1 st. at each end of every 6th row	15	16	17	18	19 times
No. of sts	96	100	101	108	112
Knit straight to row	134	140	144	150	154

SHAPE CAP:

Cast off 4sts at beg. of next 4 rows					
Sizes 36, 38 and 40, cast off 2sts at beg. of next 2 rows					
Dec. 1 st. at each end of every alt. row	14	14	16	18	20 times
Dec. 1 st. at each end of every row	18	20	18	18	18 times
Cast off rem. 16sts.					

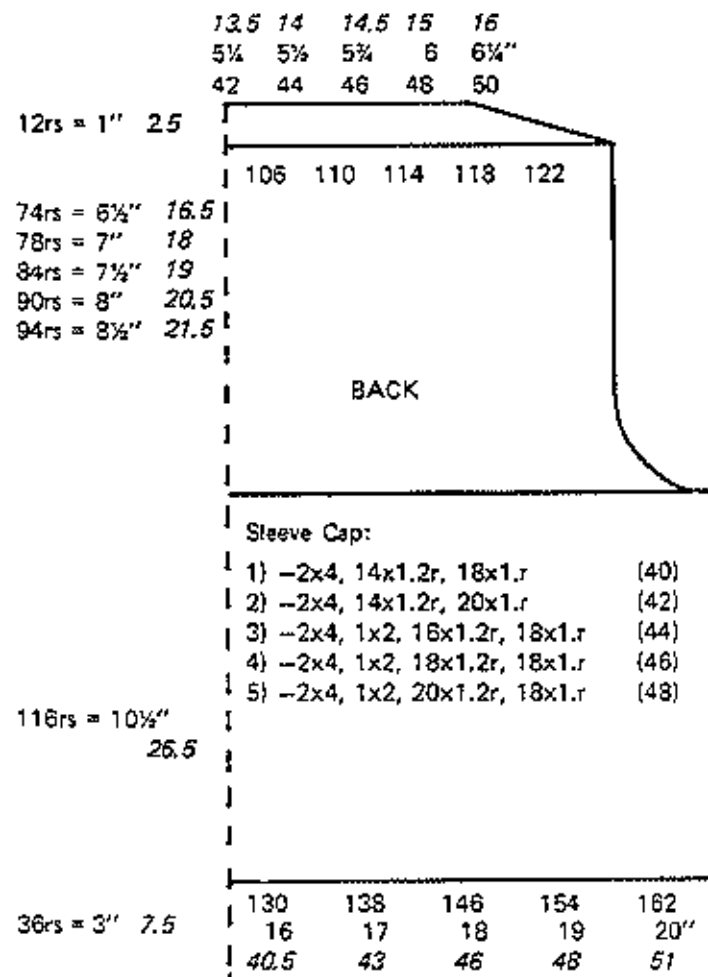
NECKBAND:

This is knitted in 2x2 rib which is set up with 2 needles in W.P. and 1 needle in N.W.P. on each bed.

Cast on	118	120	122	124	126 sts
For Polo band knit 60rs, for standard band knit 30rs.					
Push up all the empty in-between needles and set machine for tubular knitting, s.s.5. Knit 12rs.					
Join in waste yarn, set machine for rib, s.s.3 and knit 3rs.					
Break yarn and carefully remove from the machine.					

MAKING UP:

As for Main pattern.



Armhole:

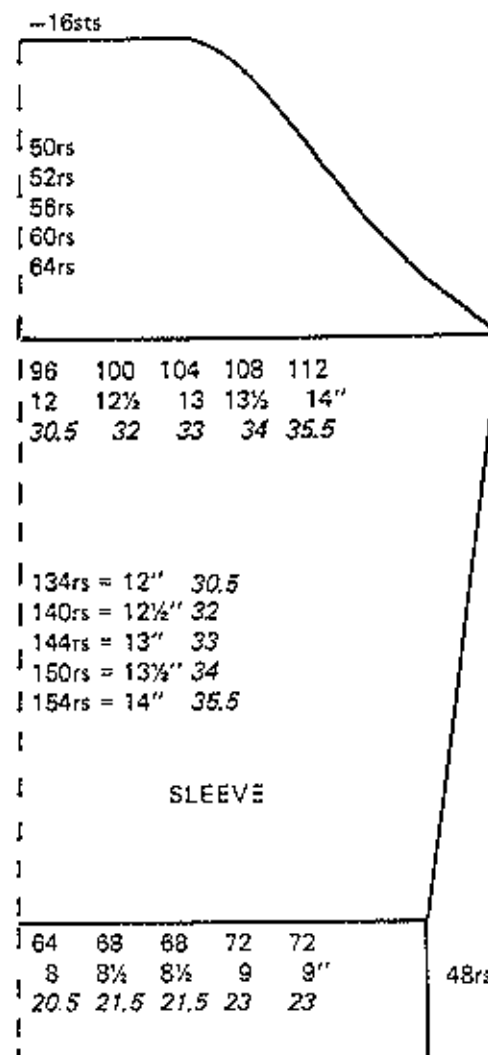
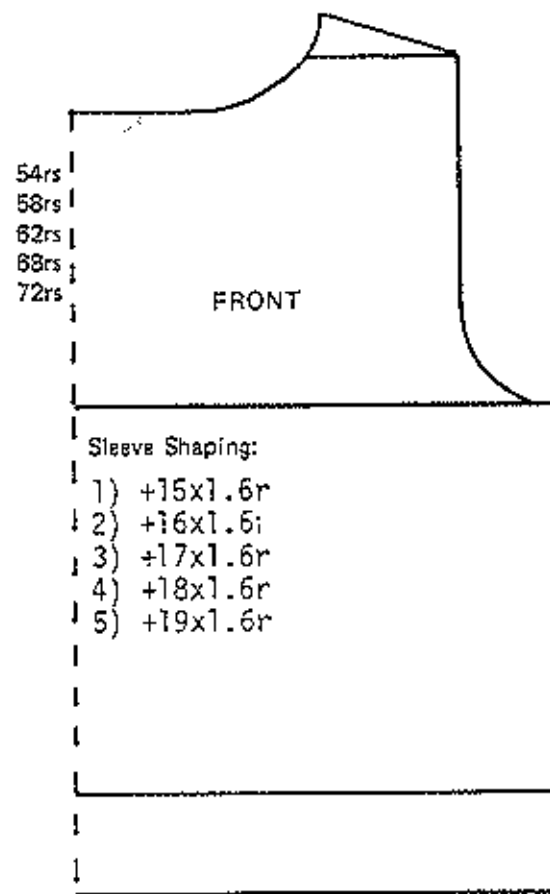
- 1) -4, 1x2, 6x1.2r (12sts)
2) -4, 2x2, 6x1.2r (14)
3) -6, 2x2, 6x1.2r (16)
4) -6, 3x2, 6x1.2r (18)
5) -6, 3x2, 8x1.2r (20)

Neck: on row 54 58 62 68 72

- 1) -6, 4x2, 10x1.2r
2) -8, 4x2, 10x1.2r
3) -6, 4, 3x2, 10x1.2r
4) -8, 4, 3x2, 10x1.2r
5) -10, 4, 3x2, 10x1.2r

Shoulders:

- 1) 2x11, 1x10 (32)
2) 3x11 (33)
3) 2x11, 1x12 (34)
4) 2x12, 1x11 (35)
5) 3x12 (36)



Figures in italics denote centimetres

LADIES' TANK TOP IN 2x2 RIB

SIZE:	Bust	32	34	36	38	40 ins
		81	86	91	97	102 ins
	Length	19	19½	20	20½	21 ins
		48	49.5	51	52	53 cms

MATERIALS and TEST SQUARE:

As for Main pattern,

6	6	7	7	8 ozs
171	171	199	199	227 grams

Main Colour is Apricot

PATTERN NOTES:

Optional stripes:

Knit to body row 49.

Knit 10rs Chocolate, 6rs Apricot, 20rs Rust,

6rs Apricot, 10rs Chocolate, 1 row Apricot, (110rs)

BACK:

Cast on and knit as for sweater, working 102rs on body section.

ARMHOLES:

Cast off at beg. of next 2rs	4	4	6	6	6 sts
Cast off at beg. of next 2rs	4	4	4	4	4 sts
Cast off 2sts at beg. of next	6	8	8	10	10 rows
Dec. 1 st. at each end of every alt. row	6	6	6	6	8 times
No. of sts dec. at each armhole	20	22	24	26	28
No. of sts rem.	90	94	98	102	106
Knit straight to row	44	48	54	60	64

NECK:

Cast off in centre 18 20 22 24 26 sts

Put stitches at left into H.P. At neck edge shape as follows:—

Cast off 4sts once (all sizes).

Cast off 2sts 6 times (all sizes)

Knit straight to row 74 78 84 90 94

SHOULDER:

Shaping worked on alt. rows

10sts twice —	10sts once 11sts once	11sts twice —	11sts once 12sts once	12sts twice —		
No. of sts dec. at each shoulder		20	21	22	23	24
Knit left side to match, reversing all shapings.						
Total No. of sts dec. at neck		50	52	54	56	58

FRONT:

Knit as for back to armhole row 10 14 20 26 30

NECK:

Work shaping exactly the same as for back, then knit straight to shoulder.

NECKBAND: 2 pieces

Cast on in 2x2 rib	128	128	132	132	132 sts
No. of sts on each bed	64	64	66	66	66
Knit 14rs (wool) 28rs (synthetics). Transfer stitches to one bed and cast off.					
Cast on in 2x2 rib	76	76	80	80	80 sts
No. of sts on each bed	38	38	40	40	40
Knit as first piece.					

ARMHOLE BANDS:

Cast on in 2x2 rib	124	132	140	148	156 sts
No. of sts on each bed	62	66	70	74	78
Knit as before.					

MAKING UP:

As for Main pattern.

CHILDREN'S SWEATERS IN 2x2 RIB

SIZE:	Chest	22 56	24 61	26 66	28 71	30 ins 76 cms
	Length	15 38	16 40.5	17 43	18 46	19 ins 48 cms
	Sleeve seam	11 28	12 30.5	12½ 32	13 33	14 ins 35.5 cms

MATERIALS and TEST SQUARE:

As for Main pattern

5 142	5 142	6 171	7 199	8 ozs 227 grams
----------	----------	----------	----------	--------------------

BACK:

Cast on in 2x2 rib	98	106	114	122	130 sts
No. of sts on each bed	49	53	57	61	65
RC 000 Knit 20rs s.s.4½ RC 000 s.s.5 Knit	88	96	104	112	120 rows

ARMHOLE:

Cast off at beg. of next 2rs	2	2	2	4	4 sts
Cast off at beg. of next 2rs	2	2	2	2	4 sts
Cast off at beg. of next 2rs	—	—	2	2	2 sts
Dec. 1 st. at each end of every alt. row	4	6	6	6	6 times
No. of sts dec. at each armhole	8	10	12	14	16
No. of sts rem.	82	86	90	94	98
Knit straight to row	56	58	60	62	66

SHOULDER:

Cast off on each shoulder as follows:—

8sts twice 7sts once	8sts 3 times —	9sts twice 8sts once	9sts 3 times —	10sts twice 9sts once	
No. of sts dec. at each shoulder	23	24	26	27	29
Cast off rem.	36	38	38	40	40 sts

FRONT:

Knit as for back to armhole row	40	42	38	40	44
Cast off in centre	6	6	6	8	8 sts
Put stitches at left into H.P.					
Dec. neck edge as follows:—					
Cast off 4sts twice					
Cast off 2sts	1	2	2	2	2 times
Dec. 1 st. on every alt. row	6	4	4	4	4 times
Shape shoulder on row	56	58	60	62	66
Knit left side to match, reversing shapings.					

SLEEVES:

Cast on in 2x2 rib	56	56	60	60	64 sts
No. of sts on each bed	28	28	30	30	32
Knit 26rs for welt.					
Inc. 1 st. at each end of next row on sizes 24 and 28					
Inc. 1 st. at each end of every	8	8	8	8	7th row
	10	11	12	13	16 times
No. of sts	76	80	84	88	96
Knit straight to row	100	110	116	122	132

SLEEVE CAP:

Cast off at beg. of next 2rs	2	2	2	4	4 sts
Cast off at beg. of next 2rs	2	2	2	2	4 sts
Cast off at beg. of next 2rs	—	—	2	2	2 sts
Dec. 1 st. at ea. end of every alt. row	4	4	4	6	8 times
Dec. 1 st. at ea. end of every row	24	26	26	24	22 times
Cast off rem.	12	12	12	12	16 sts

NECKBAND — POLO:

(For standard band knit 28rs)

This is knitted in 2x2 rib which is set up with 2 needles in W.P. and 1 needle in N.W.P. on each bed.

Cast on	112	114	114	116	116 sts
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Knit 50rs.

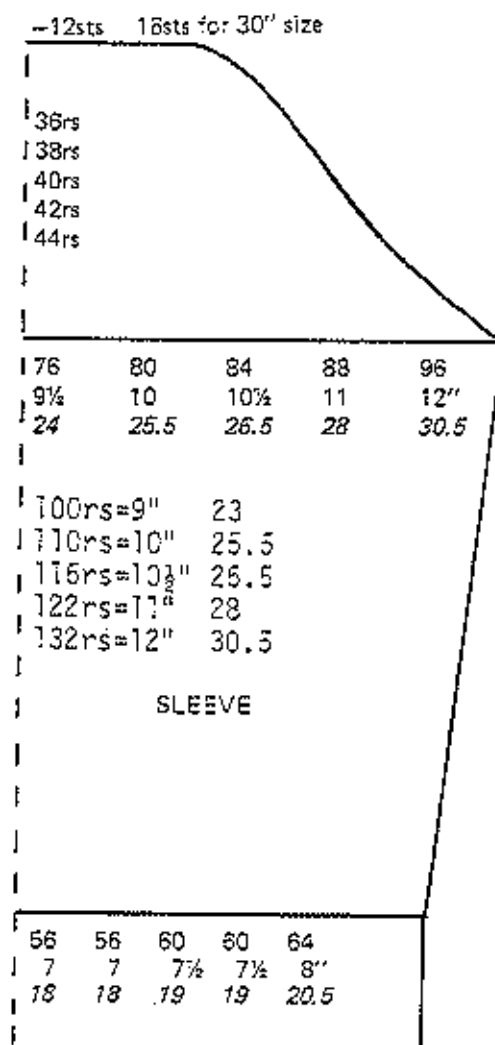
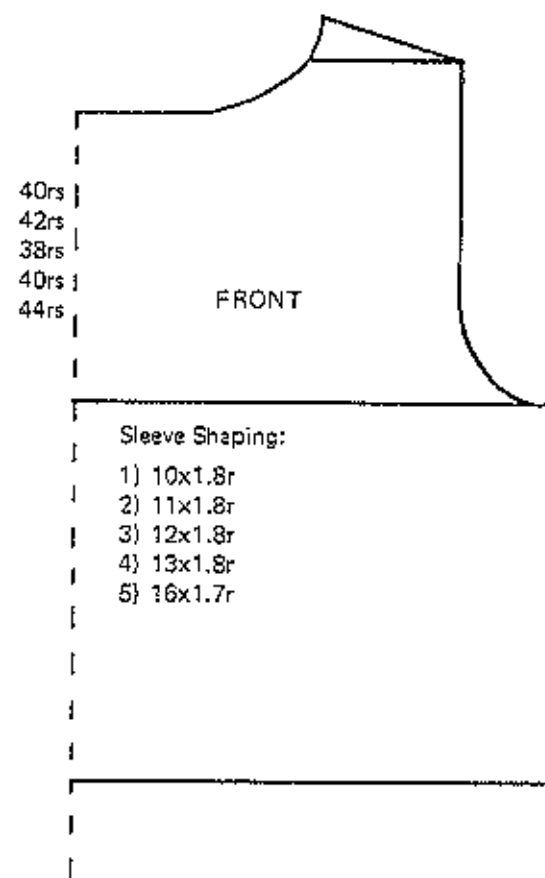
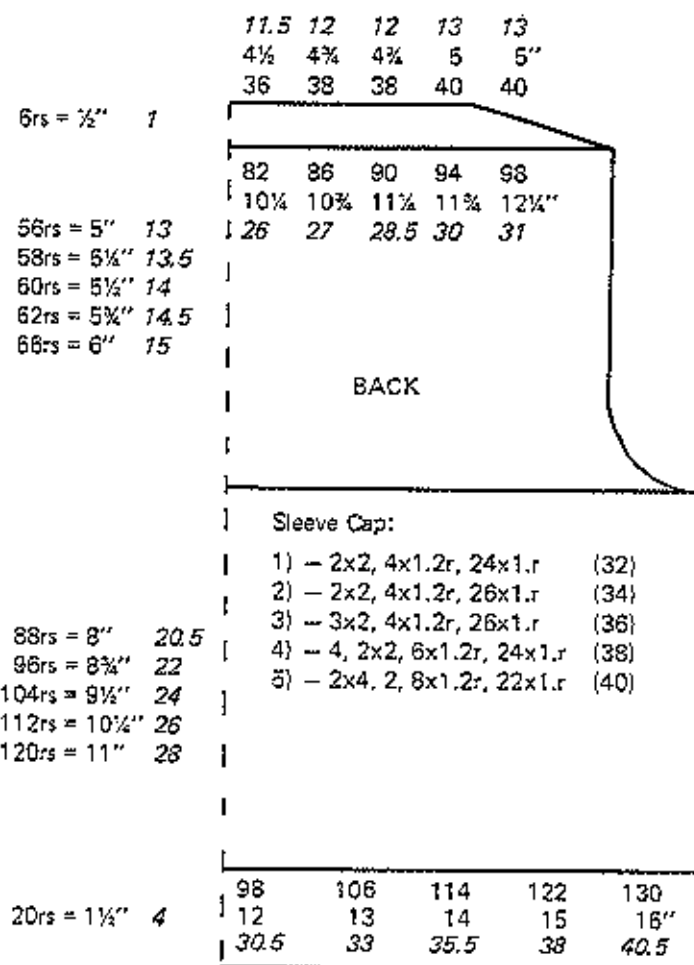
Push up empty in-between needles on both beds and set machine for tubular knitting.

Knit 12rs, set machine and s.s. for rib and knit 3rs in waste yarn.

Carefully remove from machine.

MAKING UP:

As for Main pattern.



Armhole:

- 1) - 2x2, 4x1.2r (8sts)
- 2) - 2x2, 6x1.2r (10)
- 3) - 3x2, 6x1.2r (12)
- 4) - 4, 2x2, 6x1.2r (14)
- 5) - 2x4, 2, 6x1.2r (16)

Neck: Row 40 42 38 40 44

- 1) - 6, 2x4, 1x2, 5x1.2r
- 2) - 6, 2x4, 2x2, 4x1.2r
- 3) - 6, 2x4, 2x2, 4x1.2r
- 4) - 8, 2x4, 2x2, 4x1.2r
- 5) - 8, 2x4, 2x2, 4x1.2r

Shoulders:

- 1) 2x8, 1x7 (23sts)
- 2) 3x8 (24)
- 3) 2x9, 1x8 (26)
- 4) 3x9 (27)
- 5) 2x10, 1x9 (29)

26rs = 2" 5

Figures in italics denote centimetres

CHILDREN'S TANK TOPS IN 2x2 RIB

SIZE:	Chest	22 56	24 61	26 66	28 71	30 ins 76 cms
	Length	13 33	14 35.5	15 38	16 40.5	17 ins 43 cms

MATERIALS and TEST SQUARE:

As for Main pattern.

3 86	3 86	3 86	4 114	4 ozs 114 grams
---------	---------	---------	----------	--------------------

Main Colour is Cerise

PATTERN NOTES:

Optional stripes:

Knit to body row

35	43	51	59	67
----	----	----	----	----

Knit 6rs Grape, 4rs Cerise, 10rs White, 4rs Cerise
6rs Grape, 1 row Cerise (31rs)

Without stripes knit

66	74	82	90	98rs
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BACK:

Knit as for Sweater to Armhole

ARMHOLE:

Cast off at beg. of next 2rs	4	4	4	4	4 sts
Cast off at beg. of next 2rs	—	—	—	4	4 sts
Cast off 2sts at beg. of next	4	4	6	4	6 rows
Dec. 1 st. at each end of every alt. row	4	6	6	6	6 times
No. of sts dec. at each armhole	12	14	16	18	20
No. of sts rem.	74	78	82	86	90
Knit straight to row	44	46	48	50	54

NECK:

Cast off in centre	16	18	18	20	20 sts
--------------------	----	----	----	----	--------

Put stitches at left into H.P. At neck edge shape as follows:—

Cast off on alt. rows, 2sts 5 times.

Remember to start shoulder on row	56	58	60	62	66
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SHOULDER:

Cast off as follows:—

9sts once	10sts twice	11sts twice	11sts once	12sts once	
10sts once	—	—	12sts once	13sts once	
No. of sts dec. on each shoulder	19	20	22	23	25
Knit left side to match reversing all shapings.					
No. of sts dec. at neck	36	38	38	40	40

FRONT:

Knit as for back to armhole row	10	12	14	16	20
Work shaping exactly as for back, then knit straight to shoulder.					

NECKBAND: 1 piece

Cast on in 2x2 rib	148	156	156	164	164 sts
Knit 12rs (wool) 24rs (synthetic)					
Transfer stitches to one bed and cast off.					

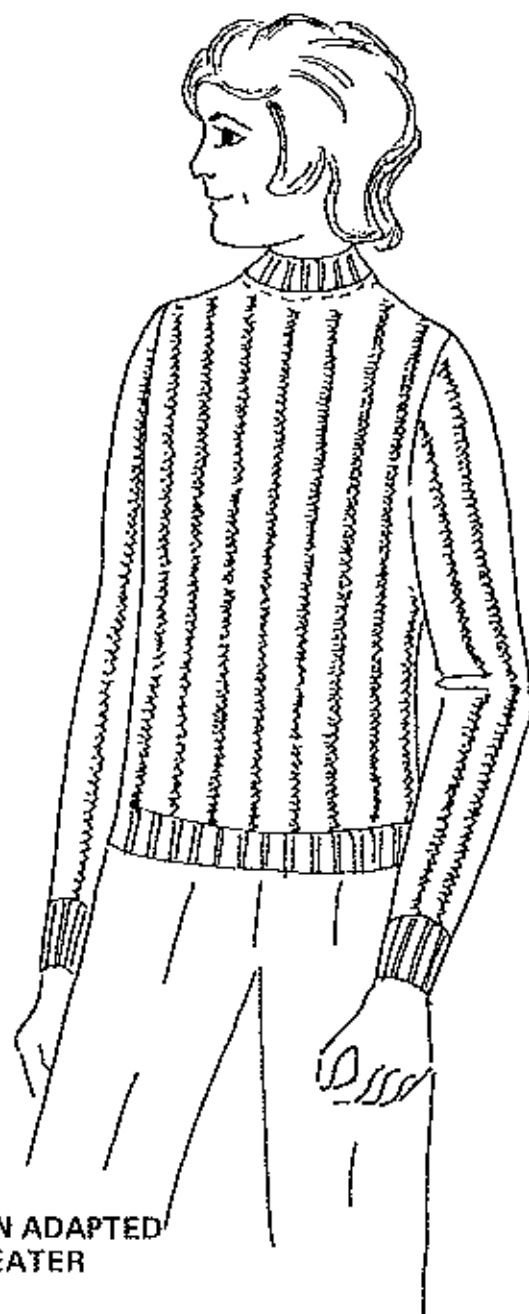
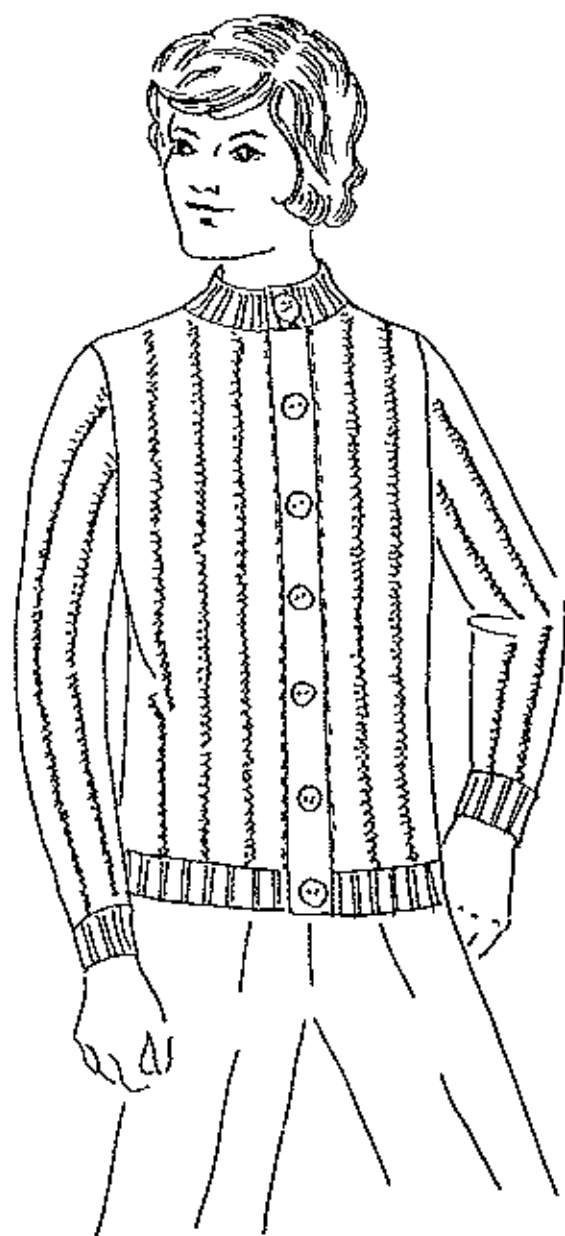
ARMHOLE BANDS:

Cast on in 2x2 rib	104	108	112	116	120 sts
Knit as neckband.					

MAKING UP:

As for Main pattern.

MAN'S CARDIGAN IN WIDE SIMPLE RIB



PATTERN ADAPTED
FOR SWEATER

MAN'S CARDIGAN IN WIDE, SIMPLE RIB

SIZE:	Chest	38 97	40 102	42 ins 107 cms
	Length	26½ 67	27 68.5	27½ ins 70 cms
	Sleeve seam	18 46	18½ 47	19 ins 48 cms

MATERIALS:	19 539	20 568	22 ozs 625 grams
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4-ply yarn,
10 buttons

TEST SQUARE:

50sts = 8" (20.5 cms)
50rs = 4¼" (11 cms)
Approx 6sts and 12rs = 1" (2.5 cms)
2x2 rib s.s.4½
Pattern: Back bed s.s.5
Front bed s.s.5½

PATTERN NOTES:

.. 	Back EX
	Front N

When stitches have been transferred check that the number of stitches on front bed is correct according to pattern.

On pattern only the stitches on the front bed are counted, those on the back bed being decreased where required to keep pattern correct.

BACK:

Push into W.P.	126	132	138 needles on each be
Take every 3rd needle on each bed down to N.W.P.			
Cast on in 2x2 rib s.s.4½ and knit 20rs. Lock at right			
Working from right to left, transfer stitches on back bed to front, leaving 3rd then every 6th needle on back bed with a stitch.			
No. of sts. on front bed	126	132	138
RC 000 Set back lock to EX, front to N. Knit 178rs.			

ARMHOLE: RC 000

At beg. of next 2rs cast off	5	6	7 sts
At beg. of next 2rs cast off 2sts			
Dec. 1 st at each end of every foll. 3rd row, 8 times			
No. of sts rem.	96	100	104
Knit straight to row	100	106	112

SHOULDERS:

Cast off 4sts at beg. of next 12rs, then cast off of next 2rs.	5	6	7 sts at the beg.
Cast off rem.	38	40	42 sts
No. of sts cast off on each shoulder	29	30	31

RIGHT FRONT:

Knit on left half of machine so that neck is at centre of needlebed.

Push into W.P.	58	62	64 needles on each bed
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Take every 3rd down to N.W.P.

Work as for Back until rib is complete.

Transfer stitches for pattern, counting from left to right

No. of sts at front	58	61	64
---------------------	----	----	----

Knit to row 177. Lock at left

ARMHOLE: RC 000

Cast off	5	6	7 sts
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Cast off 2sts at beg. of foll. alt. row

Dec. 1 st on every 3rd row, 8 times

No. of sts	43	45	47
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Knit to row	76	82	88
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SHAPE NECK:

At beg. of next row cast off 2sts

Cast off on foll. alt. row	2	3	4 sts
----------------------------	---	---	-------

Dec. 1 st on every foll. alt. row, 10 times

No. of sts dec. at neck	14	15	16
-------------------------	----	----	----

No. of sts rem.	29	30	31
-----------------	----	----	----

Knit straight to row	100	106	112
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SHOULDER:

Cast off 4sts at beg. of next and foll. 5 alt. rows

Cast off	5	6	7 sts
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LEFT FRONT:

Work as for Right Front but, when setting pattern, count from right to left.

Knit to row 178 for Armhole.

Start neck shaping on row	75	81	87
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SLEEVES:

Cast on in 2x2 rib, s.s.4½	54	60	66 sts
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Work as for Back until rib is complete.

Transfer stitches for pattern. RC 000

Inc. 1 st at each end of every 8th row	20	21	21 times
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No. of sts	96	102	108
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Knit straight to row	176	182	188
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SHAPE CAP: RC 000

At beg. of next 2rs cast off	5	6	7 sts
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Cast off 2sts at beg. of next 2rs

Dec. 1 st at each end of every 3rd row	8	9	10 times
--	---	---	----------

Dec. 1 st at each end of every alt. row	13	14	15 times
---	----	----	----------

Dec. 1 st at each end of every row	12	11	10 times
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No. of rows	66	70	74
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Cast off rem.	16	18	20 sts
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RIGHT FRONT BAND: Knitted in tubular

s.s.5½ Black strippers

Cast on 154 157 160 sts

Knit 2rs s.s.4½

Knit 40rs. Change to Pink strippers s.s.3

N on both beds. Knit 3rs with waste yarn and remove from machine.

LEFT FRONT BAND:

Cast on as for Right Front band.

Knit 2rs s.s.4½ then 18rs s.s.5½

BUTTONHOLES:

Counting from the right make buttonhole with small piece of odd yarn over needles 11, 12 and 13 on each bed.

Miss 13 needles on each bed and make buttonholes over needles 14, 15 and 16

Repeat from * to * 7 times more. There are now 9 buttonholes and there should be

13 16 19 sts on each bed

at left after the last buttonhole.

NECKBAND:

Push into W.P. 135 138 141 needles on each bed

Take every 3rd down to N.W.P. Knit 8rs.

Counting from the right work a buttonhole over the 8th, 9th and 10th needles.

Knit 12rs. Work another buttonhole as before.

Knit 8rs.

Push empty in-between needles into W.P. and rack bed one complete turn to the left.

Black strippers. s.s.5½. Work 12rs tubular.

Change to Pink strippers. Locks on N. s.s.3

Knit 3rs with waste yarn and remove from the machine.

MAKING UP:

Pull all pieces lengthways and press. Join shoulder seams, press. Set sleeves into armhole, press. Join side and sleeve seams. Remove waste knitting from bands and pin upper edge of each band onto the right side of jacket and backstitch through the open stitches. On wrong side catch down stitch by stitch. Remove waste knitting from neckband and, taking care to have buttonhole on left front, stitch to garment in the same way. Fold rib in half to inside and catch down. Finish buttonholes and sew on buttons.

TO CONVERT JACKET PATTERN TO SWEATER

The stitch transfer after the welt should be worked from the centre outwards, not from right to left.

BACK:

Knit as for Back of Jacket.

FRONT:

Knit as for Jacket until armhole row 76 82 88

NECK:

Using an odd length of matching yarn cast off in centre 14sts all sizes.

Make a note of the needle numbers on the back bed at left which are holding stitches.

Transfer these stitches onto the front bed. Set front lock to BX with pushers under all working needles at the right.

Knit 1 row then at neck edge cast off

Dec. 1 st on every foll. alt. row

Knit straight to row

Shape Shoulder as for Jacket

At the left transfer the stitches which were brought from the back bed to their correct needles.

Set front lock to N, re-set RC and knit left side to match.

2	3	4 sts
10	10	10 times
100	106	112

SLEEVES:

As for Jacket

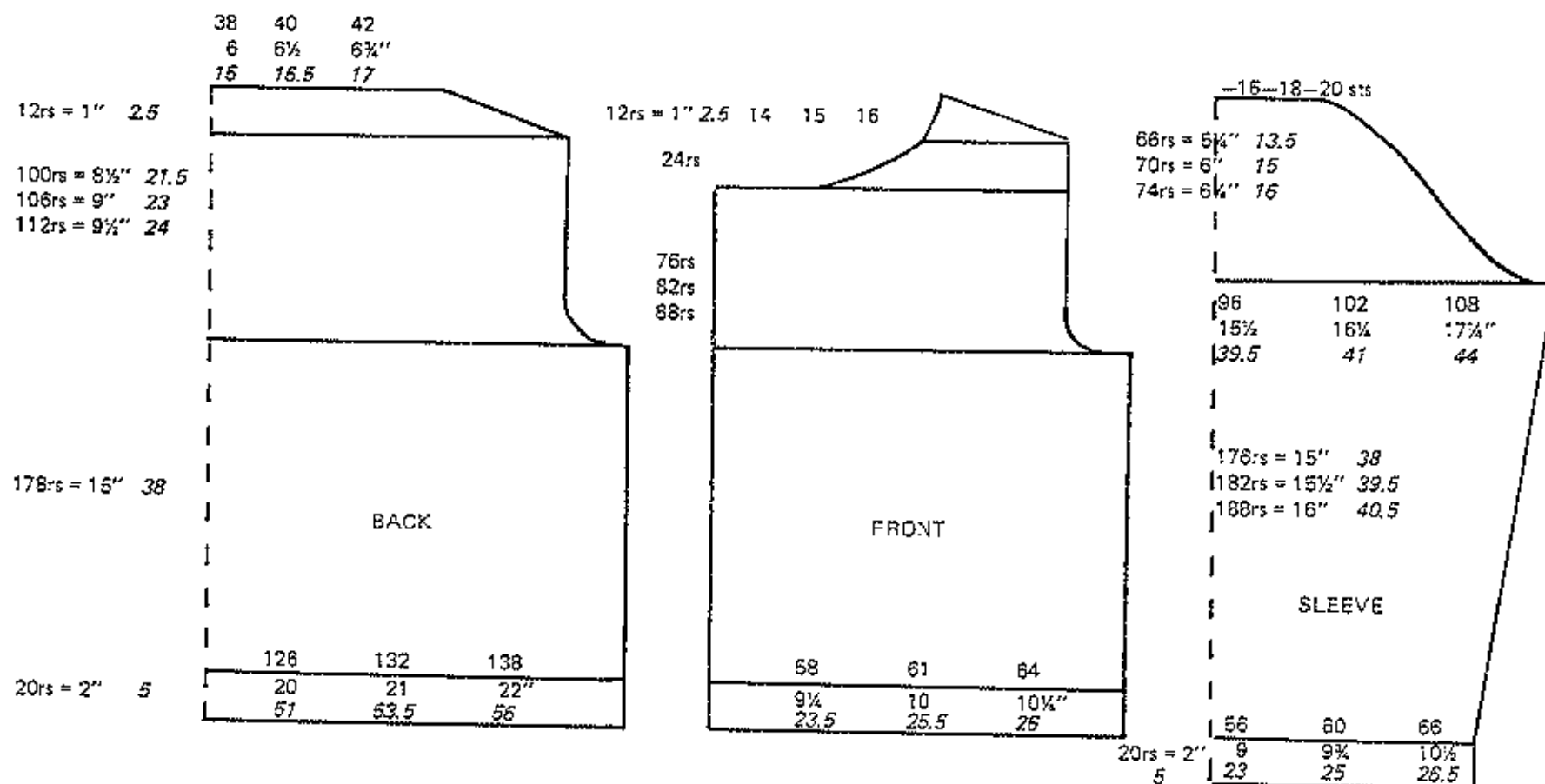
NECKBAND:

Push into W.P.

Set for 2x2 rib.

Knit as for Jacket but omit buttonhole.

124	128	132 needles on each bed
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Armhole:

- 1) -5, 2, 8x1.3r (15)
2) -6, 2, 8x1.3r (16)
3) -7, 2, 8x1.3r (17)

sts
(15)
(16)
(17)

Shoulder:

- 1) -6x4, 1x5 (29)
2) -6x4, 1x6 (30)
3) -6x4, 1x7 (31)

sts
(29)
(30)
(31)

Neck: Start on row 76-82-88

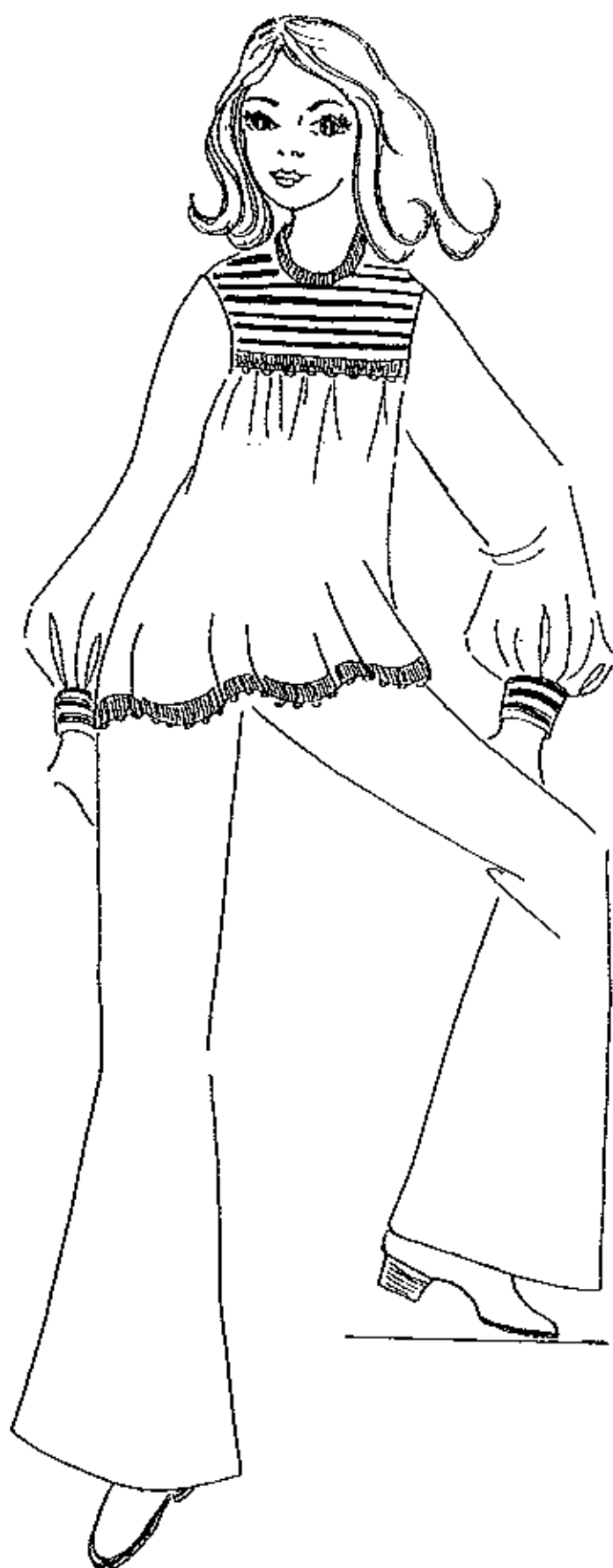
- 1) -2, 2, 10x1.2r (14) sts
2) -2, 3, 10x1.2r (15)
3) -2, 4, 10x1.2r (16)

Sleeve Cap:

- 1) -5, 2, 8x1.3r, 13x1.2r, 12x1.r (40) rows
2) -6, 2, 9x1.3r, 14x1.2r, 11x1.r (42) rows
3) -7, 2, 10x1.3r, 15x1.2r, 10x1.r (44) rows

sts
(40) rows
(42) rows
(44) rows

SMOCK TOP



SIMPLE SMOCK IN 3-PLY

SIZE:	Bust	32 81	34 86	36 91	38 ins 97 cms
	Length	24 61	24 61	25 63.5	25 ins 63.5 cms

MATERIALS: Approx. 14 — 16 ozs (397 — 454 grams) 3-ply yarn, or equivalent thickness in coned industrial yarn.

TEST SQUARE: 48sts = 6" (15 cms)
 55rs = 5" (13 cms) 8sts & 11rs per 1" (2.5 cms)
 s.s.4½ for hems s.s.5 for Main part

The pattern is given in its simplest form in one colour. Simple variations can be added as follows:—

Skirt and/or sleeves can be striped.

Cuffs and yoke striped and the rest plain.

The rows knitted on a larger stitch size for picot edge for hems can be knitted in contrasting colour.

Skirt and sleeves in plain one-colour yarn, yoke and cuffs in Lurex mixture yarn.

SKIRT: Knit 2 pieces alike

RC 000 Racking handle up

Hem:

Push into W.P. on front bed	168	168	176	176 needles
Take every alternate needle out of work.				
Bring every alternate needle on back bed into W.P. so that machine is set for 1x1 rib.				
Knit cast on row s.s.1 Lock at left.				
Bring empty in-between needles on front bed into W.P.				
Set back Lock to GX and knit 1 row on s.s.3				
Change to Black strippers.				
Knit 1 row on s.s.4, change to s.s.4½				
Knit to RC 10				
Knit 1 row s.s.6				
Transfer every alternate stitch on front bed to its adjacent needle, leave empty needles in W.P.				
Knit 1 row on s.s.6				
Knit 11rs s.s.4½ RC 23 Lock at left.				
Transfer the loops from back to front bed and knit 1 row on main stitch size (5)				
Hem with picot edge now complete.				
RC 000				
Change to s.s.5 and knit	186	186	198	198 rs
Cast off.				

SLEEVES: RC 000

With waste yarn cast on front bed.	150	150	160	160 sts on
Knit 7rs				
Knit 1 row on larger stitch size (about 7).				
Change to main yarn and knit	176	176	186	186 rs
Cast off. Press.				

CUFFS:

On front bed push into W.P.	48	48	52	52 needles
Drop front bed and pull the thread in the last row of waste knitting on sleeves.				

With right side of work to the front of machine replace the sleeve stitches onto machine as follows:—

First 2 sizes: 4sts on 3 needles, 3sts on 42 needles, 4sts on 3 needles
 Second 2 sizes: 4sts on 2 needles, 3sts on 48 needles, 4sts on 2 needles

Carefully close beds.

Hold work down from underneath, set to s.s.5

RC 000 Knit first row carefully, still holding work down.

Knit 88rs.

Cast off.

YOKE — BACK:

Hem is knitted in same way as hem on skirt parts.

Push into W.P.

96 100 104 108 needles

Knit 6rs s.s.4½

Knit 1 row s.s.6

Transfer stitches for picot edge.

Knit 1 row s.s.6

Knit 7rs s.s.4½

Transfer stitches from back to front bed.

Knit 1 row on main stitch size to complete hem.

Lock at right. RC 000

Knit

50 50 56 56 rs
straight

BACK NECK SHAPING: RC 000

Cast off centre

40 44 48 52 sts

Set Lock to BX and put pushers into W.P. under needles at right.

Continue knitting decreasing 1 stitch at neck edge on next and every following alternate row, 5 times

Cast off rem. 23sts.

Re-set Lock to N and knit left side to match.

Total No. of sts dec. on neck

50 54 58 62

YOKE — FRONT:

Knit as for back until

16 16 22 22 rs

have been knitted. RC 000

Cast off centre

30 34 38 42 sts

Use BX and pushers as before.

At neck edge dec. 1 stitch on next 5 alternate rows

At neck edge dec. 1 stitch on every following 3rd row 5 times

No. of sts rem. 23 all sizes. Knit straight to row 44

Knit left side to match.

NECKBAND — TUBULAR:

On each bed cast on

120 124 130 136 sts

Knit 2rs s.s.3

Knit 4rs s.s.4

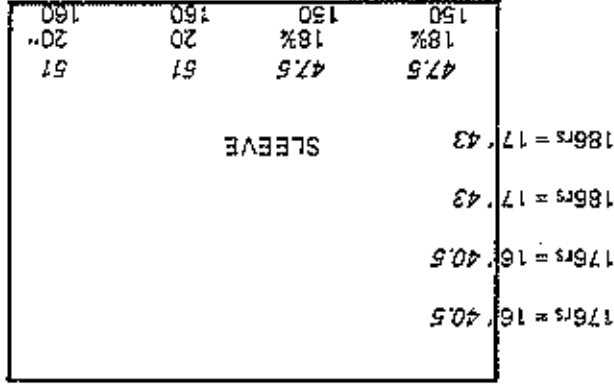
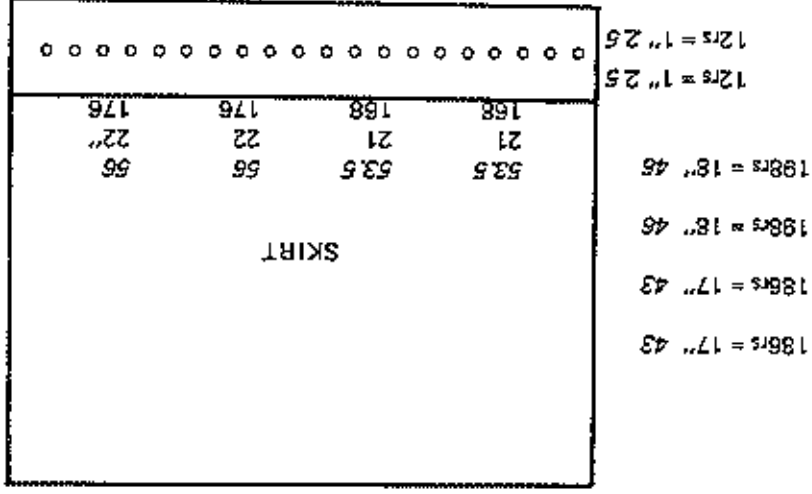
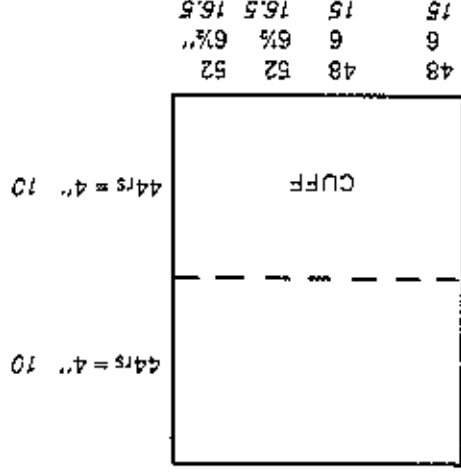
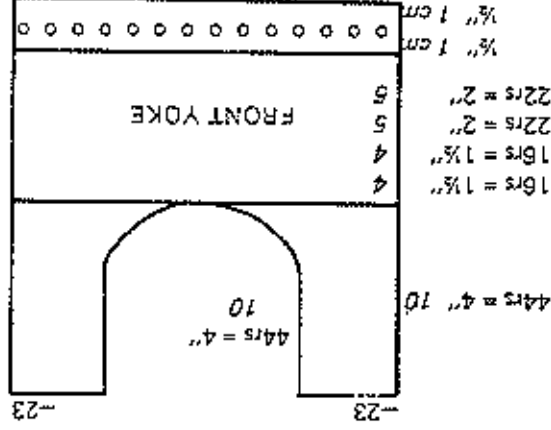
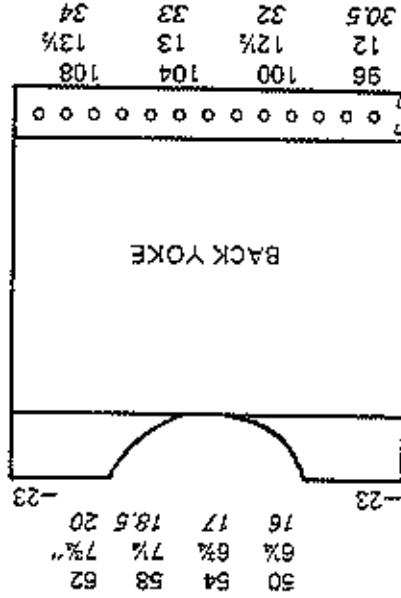
Knit 6rs s.s.5

Knit 6rs s.s.5½

MAKING UP:

Pull and press all pieces. Run thread through top of skirt pieces and pull up to fit yokes. Sew neatly onto the underside of the final hem row. Pull and press neckband and sew on with backstitch through the open loops. Fold cuff to inside and catch down. Sew up side seams of skirt, leaving 3" (7.5 cms) open at top, which then becomes part of the opening for sleeve. The sleeves are sewn to the side of yoke and the opening at top of skirt seams.

Figure 1: A schematic diagram of a rectangular container with a curved bottom-left corner. The container is divided into two main sections by a vertical line. The left section is labeled "BAC" and contains a series of circles representing particles. The right section is labeled "10ms = 1''" and contains a series of circles representing particles. The top of the container is labeled "50ms = 5''" and "50ms = 4 1/2''" on the right side. The bottom of the container is labeled "2.5" and "2.5" on the right side. The left side of the container is labeled "1 cm" and "1 cm" on the right side. The bottom-left corner is labeled "23" and "23" on the right side.



SHAWL IN CROCHET STITCH



LADIES' SHAWL IN CROCHET STITCH — 2-ply yarn

SIZE:

As shown on diagram.

Larger shawl can be made by increasing the stitch size by $\frac{1}{4}$ -- $\frac{1}{2}$

MATERIALS:

Use any fine yarn which will give a 2-ply equivalent
Approximately 9 ozs (256 grams) will be required.Coned industrials: 2/16s Courtelle used singly
2/30s Courtelle used 2-fold
2/32s Courtelle used 2-fold
2/24s Botany used 2-fold

TEST SQUARE:

100sts = 15" (38 cms) s.s.5 for Main part
100rs = 5½" (14 cms) s.s.5 for Fringe

Approx. 6½sts and 18rs = 1" (2.5 cms)

PATTERN NOTES:

For Main part pushers must be brought out of Blocking Rail and set in correct position when increasing. They must also be returned to the Blocking Rail when decreasing. This is not necessary on fringe as Arrow Keys are not used.

PATTERN SETTING:

Main part. Racking Handle down.

p		p		p		p		p		p		p		p
	p		p		p		p		p		p		p	
	p		p		p		p		p		p		p	
p		p		p		p		p		p		p		p
	p		p		p		p		p		p		p	

Back and Front Bed: Set to AX
Knit 4rs and rack to leftBack and Front Bed: Set to N ←
Knit 2rs and rack to right

Repeat throughout

Pink strippers should be adequate but if stitches do not knit off properly use Blue.

Fringe:

Needle setting is exactly the same as for Main part but pusher setting is slightly different. This is pattern A.V.2 in the Passap Instruction book.

p		p		p		p		p		p		p		p
	p		p		p		p		p		p		p	
	p		p		p		p		p		p		p	
p		p		p		p		p		p		p		p

*

Back and Front Bed: Set to AX
Knit 4rs and rack to leftBack and Front Bed: Set to N
Knit 2rs and rack to right

When increasing is finished add extra pushers as *

MAIN PART:

At left side of machine cast on 2sts on each bed. Both Locks on CX

Knit 2rs on s.s.3. Knit 1 row N.

Lock at right, set for pattern. (RC 000)

Increase 2sts at right edge every 6th row until there are 176sts and 516rs on RC.

RC 000

Dec. 2sts at right edge every 6th row until 2sts remain on each bed and 516rs have been knitted.

Cast off.

FRINGE:

Weight must be attached to the 2 centre stitches.

Knit 2 pieces at the same time.

Shape as diagram.

In centre of machine push 2 needles on each bed into W.P.

At each side of these leave 30 needles on each bed in N.W.P.

Now push 2 needles on each bed at each end into W.P.

Cast on and knit 2rs CX on s.s.3 then 1 row N.

Lock at right, set for pattern. RC 000

At each end increase 2sts every 6th row until there are 10sts on each bed at each end.

Knit 728rs straight.

Dec. 2sts at each end of next and every following 6th row until 2sts remain on each bed.

Knit 6rs.

Cast off.

Pull fringe lengthways and, using sharp scissors, cut down each side of the 2 centre stitches.

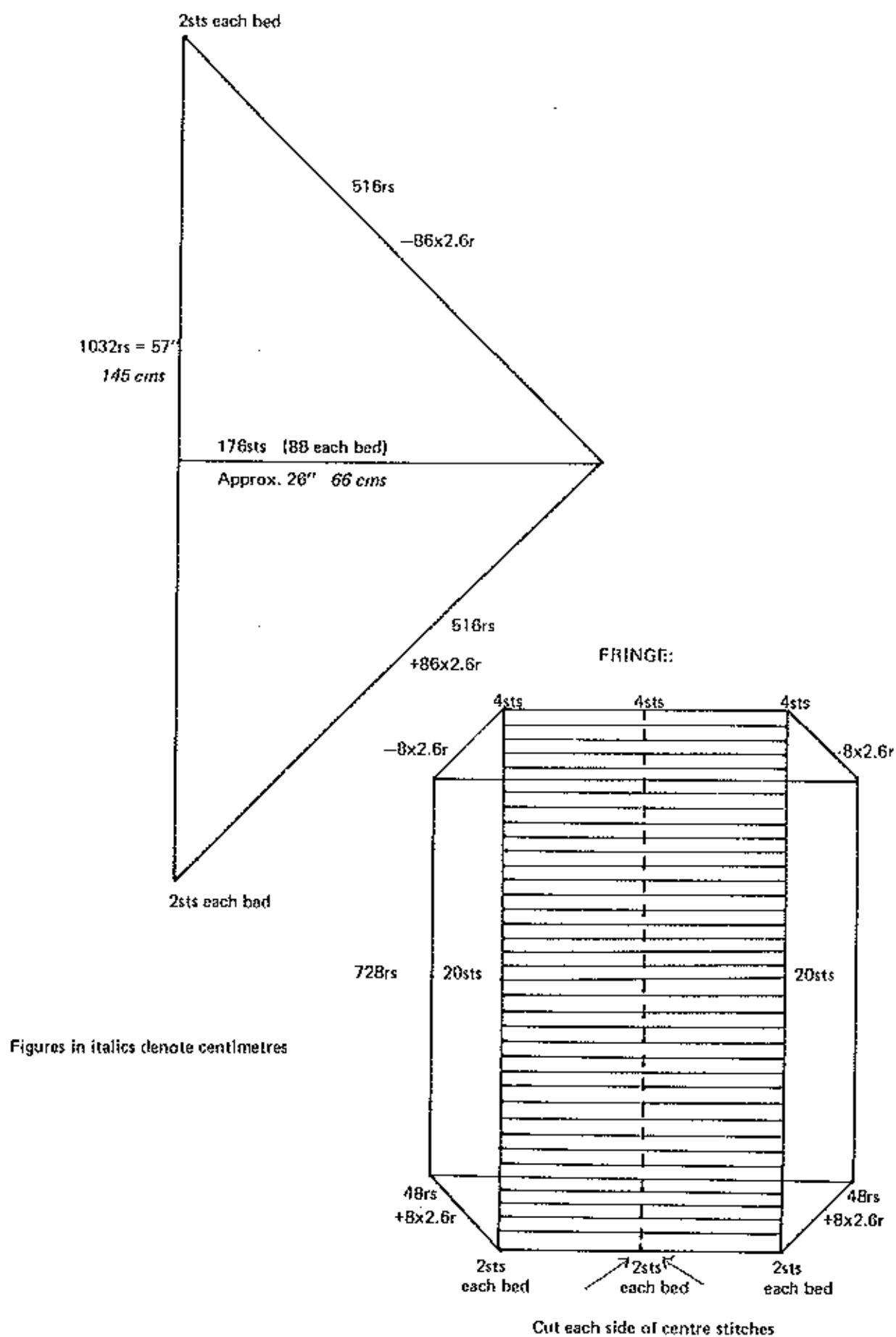
MAKING UP:

Join two ends of fringe to form mitre. Sew to main part with fairly loose over-sewing on edge stitches to make an unobtrusive join. Work 1 row of double crochet along neck edge.

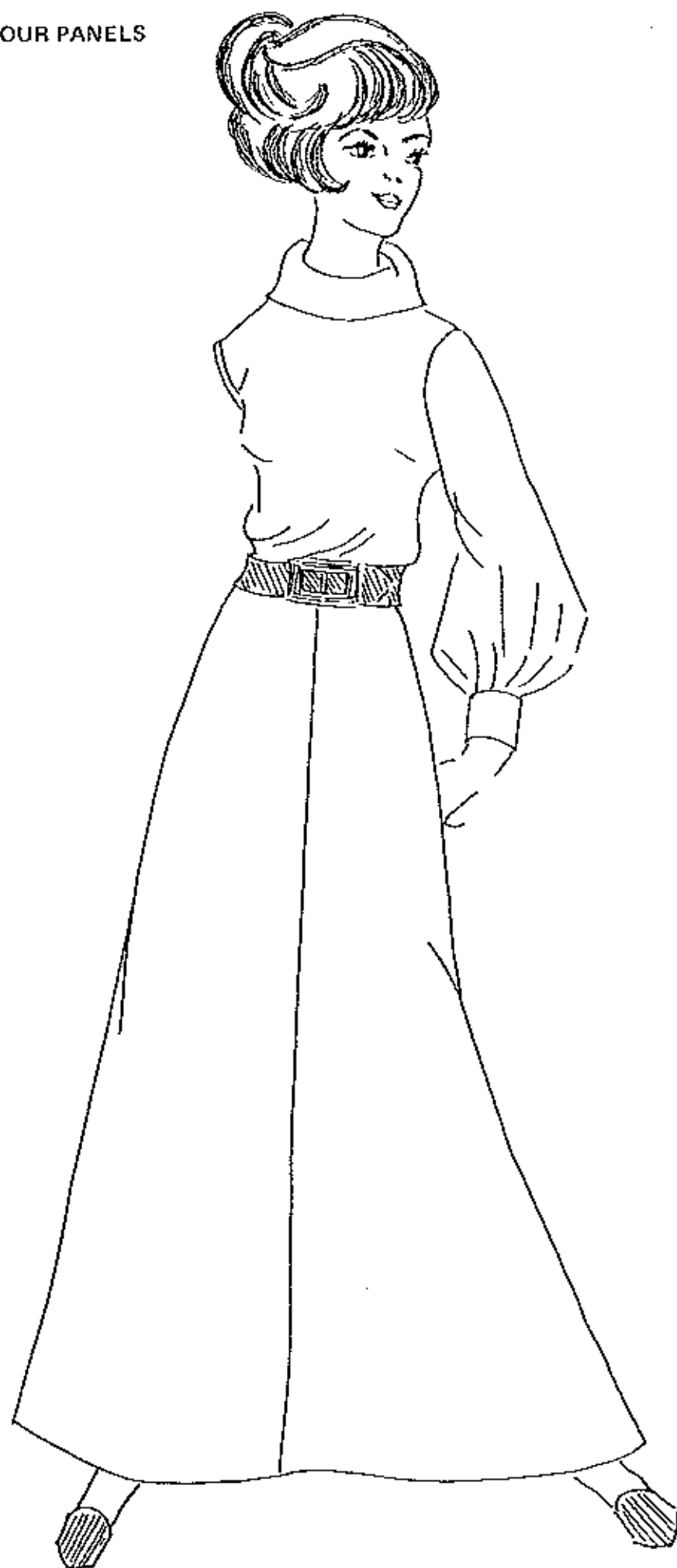
PATTERN VARIATION:

Main part of shawl can be knitted in the same stitch as given for fringe without any alteration to pattern.

LADIES' SHAWL IN CROCHET STITCH



LONG SKIRT IN FOUR PANELS



LONG SKIRT IN FOUR PANELS — 3-ply yarn

SIZE:	Hip	34 86	36 91	38 97	40 102	42" 107 cms
	Length	39½" (100 cms) all sizes (adjustable)				
MATERIALS:		20 567	21 595	22 629	23 652	24 ozs 680 grams
	Soft 3-ply wool					
	If handknitting wool is used allow an extra 3 ozs (86 grams)					
TEST SQUARE:		48sts = 6" (15 cms)	8sts & 11rs = 1" (2.5 cms)			
		66rs = 6" (15 cms)	s.s. 4½ for hems			
			s.s. 5 for main knitting			
PATTERN ALTERATIONS:	Length adjustment should be worked on the Hem to Hip section. For every extra 1" (2.5 cms) required knit 1 extra row between each of the first 11 decreases. For every 1" (2.5 cms) less knit 1 row less between each of the first 11 decreases.					
	There are 44 decreases on this section which allows for a 4" (10 cms) adjustment.					

KNIT FOUR PANELS ALIKE.

HEM:

Racking Handle up.

On front bed push into W.P.

160

164

168

172

176 needles

Then take every alternate needle down to N.W.P.

On back bed push up every alternate needle to make a 1x1 rib setting.

Pink strippers, both locks on N, stitch size 1.

Knit the cast-on row

Push up the empty in-between needles on front bed.

Set back lock to GX, RC 000

s.s. 3. Knit 1 row, s.s.4 Knit 1 row

Black strippers, s.s.4½ Knit 28rs

Lock at left. Transfer loops from needles on back bed to front.

Hem is now complete.

Knit 1 row to the right.

HEM CURVE: RC 000

Lock on BX Black strippers

Pushers in W.P. under all needles except the last 54 at left side.

Knit 1 row

Take down 54 pushers at right. (Always take the yarn round the hook of the first inside needle in H.P. Knit 1 row

There are now 54sts at each side in H.P.

At the opposite end to the lock bring back 9 pushers into W.P. under 9 inside needles on the next 12rs (14rs altogether).

Insert coloured marker thread on both end stitches.

HEM TO HIP:

Lock on N. RC 000 s.s.5

Decrease 1 stitch at each end of every 7th row, 44 times

No. of rows: 308

No. of stitches	72	76	80	84	88
-----------------	----	----	----	----	----

HIP TO WAIST:

Insert coloured marker thread in end stitches.

Dec. 1 stitch at each end of every 10th row, 8 times

Knit 8rs straight.

No. of sts.	56	60	64	68	72
-------------	----	----	----	----	----

No. of rows	88 all sizes				
-------------	--------------	--	--	--	--

Cast off loosely

WAISTBAND: 2 pieces

Cast on	110	118	126	134	142 sts on each bed
---------	-----	-----	-----	-----	------------------------

Locks on CX Pink strippers

Knit 2rs on s.s.3 and 2rs on s.s.4

Black strippers

Knit 36rs s.s.4½

Pink strippers. Both locks on N. s.s.3

Knit 3rs with waste yarn.

Strip from machine.

MAKING UP:

Pull all pieces lengthways and press as follows:

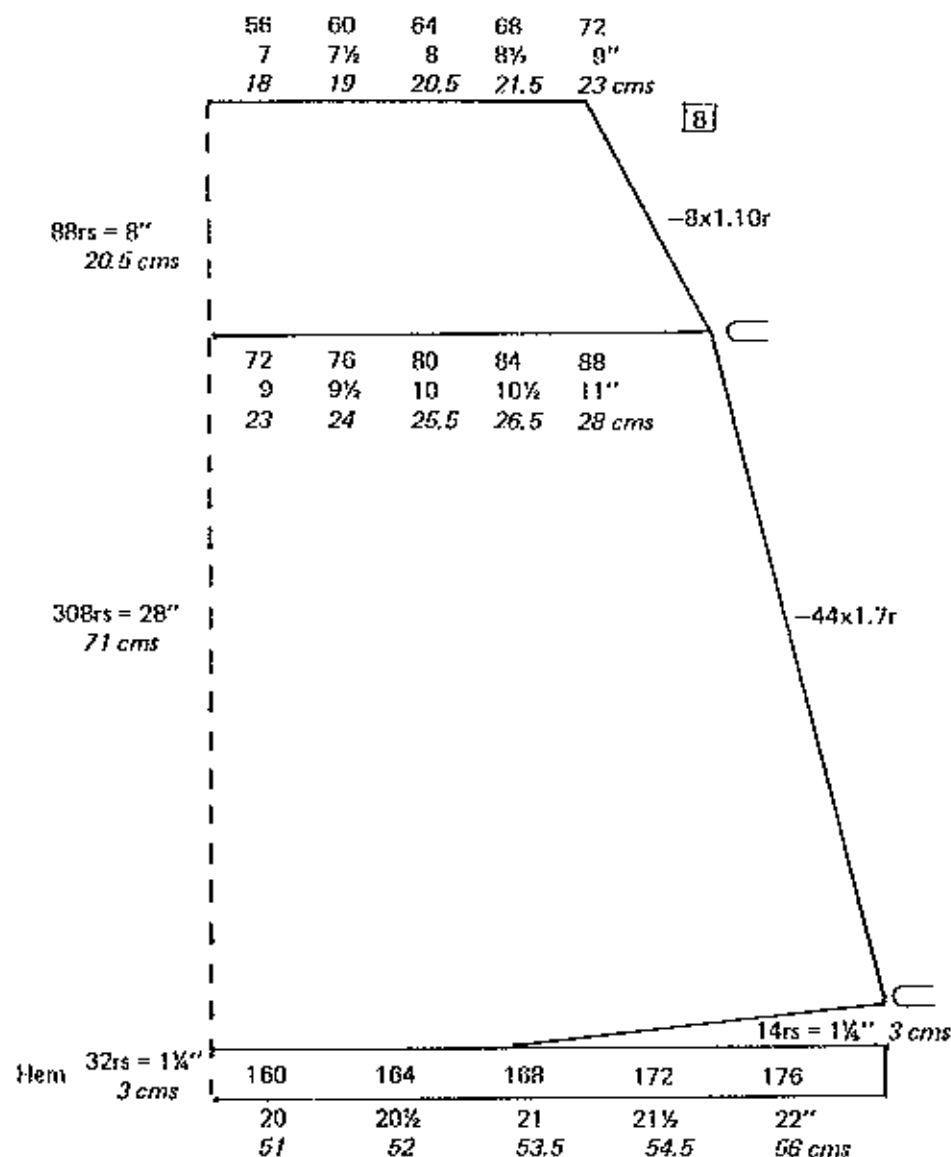
Pin two sections together wrong side out, matching the marker threads — press.

Be sure to pull the rows on the hem hard so that the stitches close in and hem does not flare.

Repeat with other two sections. Backstitch the seams and press.

Unravel waste rows on band and join seams, leaving inside of one side open for elastic. Pin band on to skirt overlapping several rows and backstitch through open stitches on the right side. On inside catch down band stitch by stitch.

LONG SKIRT IN FOUR PANELS — 3-ply yarn



Alternative waistband in 1x1 rib:

Finish each panel with several rows of waste yarn instead of casting off.

Press panels and join each of the two sets together.

On Back bed, push into W.P. 110 118 126 134 142 needles

Unravel waste yarn down to first row and replace work on machine.

Close bed and transfer every alternate stitch to Front bed.

Set for 1x1 rib, s.s.2½ and knit 32rs.

Cast off.

Fold rib in half to inside and catch down.

Figures in *italics* denote centimetres

LADIES' TROUSERS IN 3-PLY YARN



LADIES FOUR-PIECE TROUSERS

9 Leg lengths — 3-ply yarn

SIZE:	To fit Hips	34	36	38	40	42 ins
		86	91	97	102	107 cms

Inside leg length is related to height, regardless of hip size. See PATTERN ALTERATIONS.

Crotch depth is 9½" (25 cms) at front and 10½" (27 cms) at back, plus waistband.

MATERIALS:

18	19	20	21	22 ozs
511	539	567	596	624 grams

Soft 3-ply yarn or equivalent in coned yarn.

The given quantity applies to the various hip sizes but to the first leg length only. On each subsequent size there are approx. 6 extra rows on each leg section so extra yarn must be allowed.

Any yarn or mixture of yarn can be used as long as it can be damp pressed. The finished fabric should be a little firmer than for most other garments.

TEST SQUARE:

48sts = 6" (15 cms)	8sts and 11rs = 1" (2.5 cms)
66rs = 6" (15 cms)	s.s.5—5½ according to yarn

PATTERN NOTES:

All single stitch increases and decreases are worked by the Fully Fashioned method.

To increase — use 2-eyelet tool

To decrease — use 3-eyelet tool

On the trouser diagram the position of marker threads is indicated by *. To insert the thread bring the end needle slightly forward and hang thread over needle hook. Take needle back to its normal position.

PATTERN VARIATIONS:

A band of patterning can be added to the lower leg in the form of single bed Fair Isle but remember that this may add a little to the length as a slightly larger stitch size is required for the Fair Isle knitting.

PATTERN ALTERATIONS:

Section B of pattern is given in 9 different lengths as follows:

Height	5' 0"	5' 1"	5' 2"	5' 3"	5' 4"	5' 5"	5' 6"	5' 7"	5' 8"
	152.5	155	157.5	160	162.5	165	168	170.5	173 cms
Inside	27½	28	28½	29	29½	30	30½	31	31½ ins
leg	69.5	71	72.5	73.5	75	76	77.5	79	80 cms

Any one of the 9 sizes (leg lengths) on Section B can be used on the appropriate hip size.

For example — one person with 36" (91 cms) hip may be 5' 2" (157 cms) in height and would require the third size of the leg lengths given. Another person may be 36" (91 cms) hip but be 5' 5" (165 cms) tall and would then need the No. 6 leg length.

Select whichever one of the 5 hip sizes is required and cast on the given number of stitches. Knit the hem rows, then use any one of the 9 leg lengths given on Section B.

Unless you are quite certain that the leg length will be exactly right, it is better to cast on with waste yarn and turn the hem when the trousers are finished. If the legs are too long a few rows of the main knitting can be unravelled to give the correct length.

PRESSING AND MAKING UP:

Pin the 2 back legs together, wrong side out. Damp press, taking care not to distort the fabric.

Repeat with front leg sections. Remove pins but not marker threads. Press the crease into each

piece before joining seams (see diagram). Join leg seams with Mattress Stitch if possible, otherwise Backstitch. Press seams. Join crotch seam, fold waist hem to inside and stitch (leaving opening for elastic). Try on trousers and finish hem. Give final press.

PRESSING IN THE CREASES:

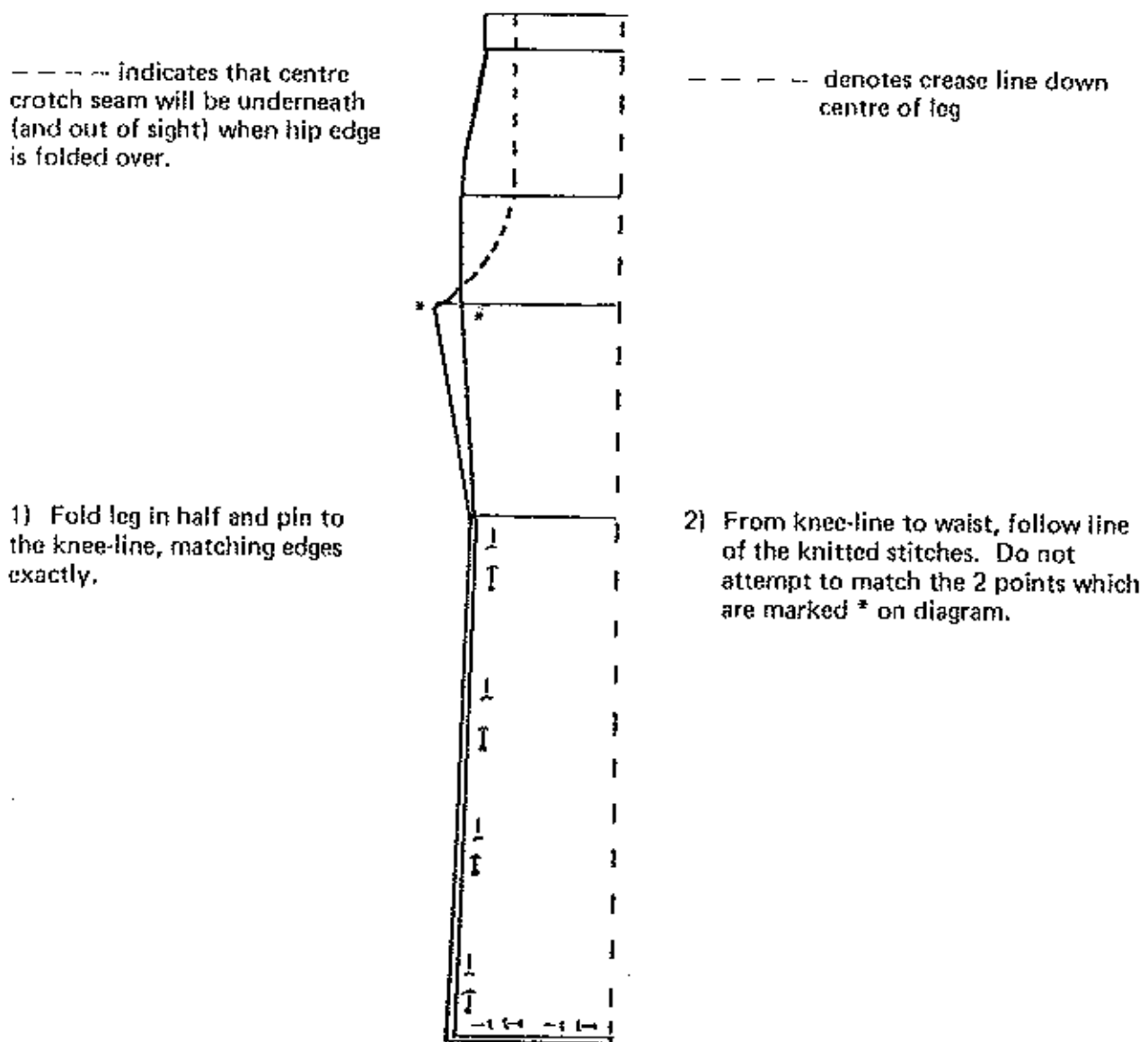
It is far easier to press the creases into the trousers before making up. To do this, fold each section — right side out — as follows:

Fold hem in half and pin edge.

Fold lower leg in half up to the straight rows at knee and position several pins at the edge.

Press, checking that the knitting is straight on the crease line.

Fold the remaining part of leg according to the line of stitches on the crease, not by matching the edges.



LADIES' FOUR-PIECE TROUSERS IN 3-PLY

Left front leg with right side facing

A) Knit 32 row hem

- B) 1) -8x1.22r Knit 6rs
 2) -8x1.23r Knit 4rs
 3) -8x1.24r
 4) -8x1.24r Knit 6rs
 5) -8x1.25r Knit 2rs
 6) -8x1.26r
 7) -8x1.26r Knit 4rs
 8) -8x1.27r Knit 4rs
 9) -8x1.28r Knit 2rs

C) Knit 6rs straight

- D) At right +5x1.20r
 At the same time
 At left +7x1.14r
 Knit to row 101 (row 102 on
 right leg)

- E) At left -6 Knit 2rs
 -3 Knit 2rs
 Dec. 1 stitch on next and every
 foll. 4th row, 7 times

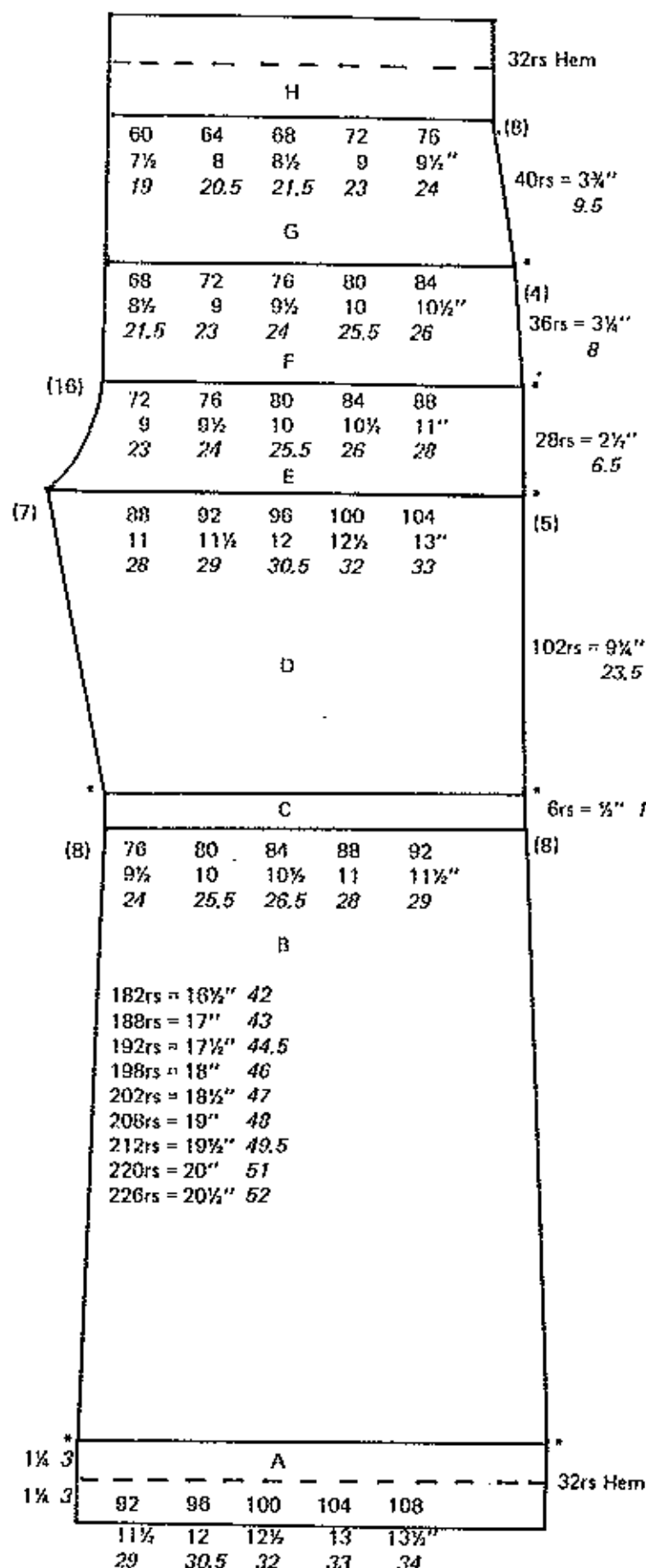
F) At right -4x1.9r

G) At right -8x1.5r

- H) Change to smaller s.s. and
 knit waist hem.
 Cast off loosely

Figures in brackets show the number of
 stitches increased or decreased on each
 section.

Figures in italics denote centimetres



LADIES' FOUR-PIECE TROUSERS IN 3-PLY

Right back leg with right side facing

A) Knit 32rs Hem

- B) 1) -8x1.22r Knit 6rs
 2) -8x1.23r Knit 4rs
 3) -8x1.24r
 4) -8x1.24r Knit 6rs
 5) -8x1.25r Knit 2rs
 6) -8x1.26r
 7) -8x1.26r Knit 4rs
 8) -8x1.27r Knit 4rs
 9) -8x1.28r Knit 2rs

C) Knit 6rs straight

- D) At right +5x1.20r
 At same time:
 At left +11x1.9r
 Knit to row 101 (102 for left leg) (11)

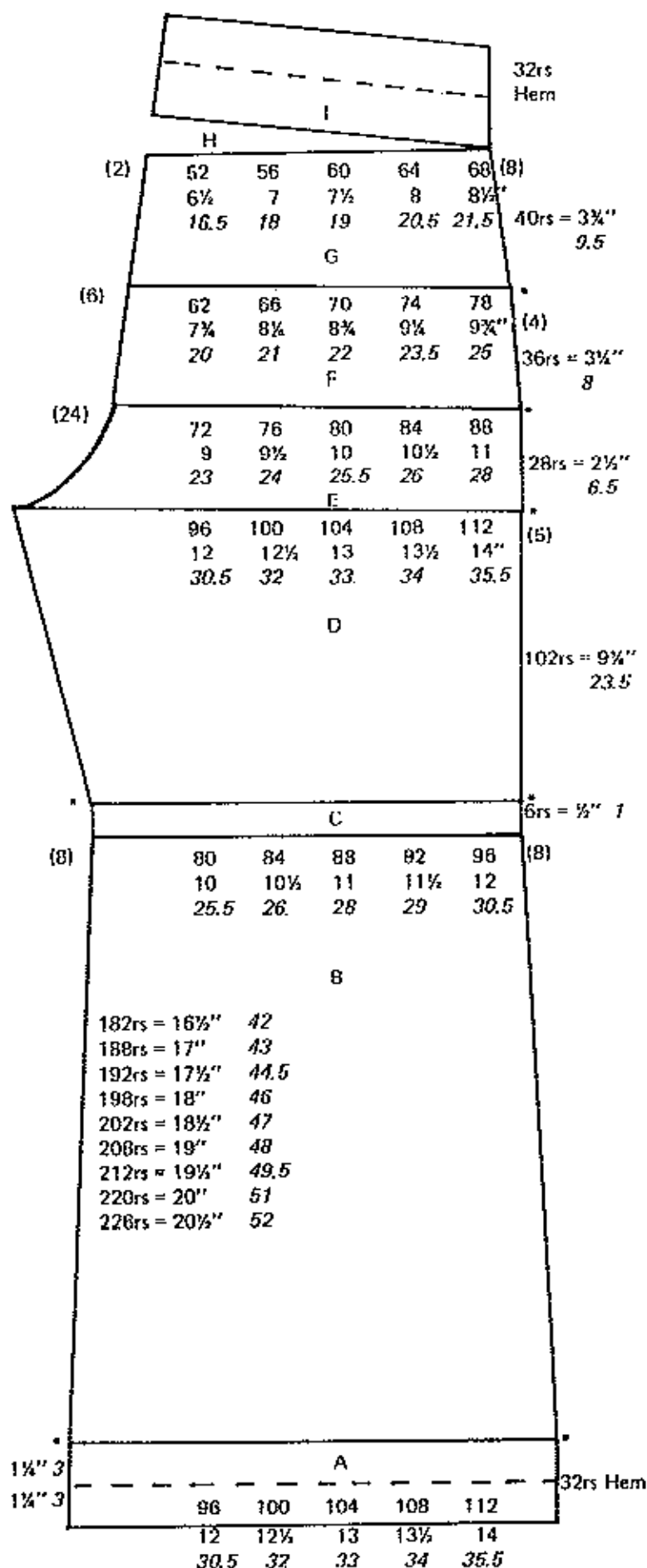
- E) At left -6 Knit 2rs
 -3 Knit 2rs
 -2 Knit 2rs
 -2 Knit 2rs
 Dec. 1 stitch on next and every
 foll. alt. row, 11 times

- F) At right -4x1.9r
 At same time
 At left -6x1.6r

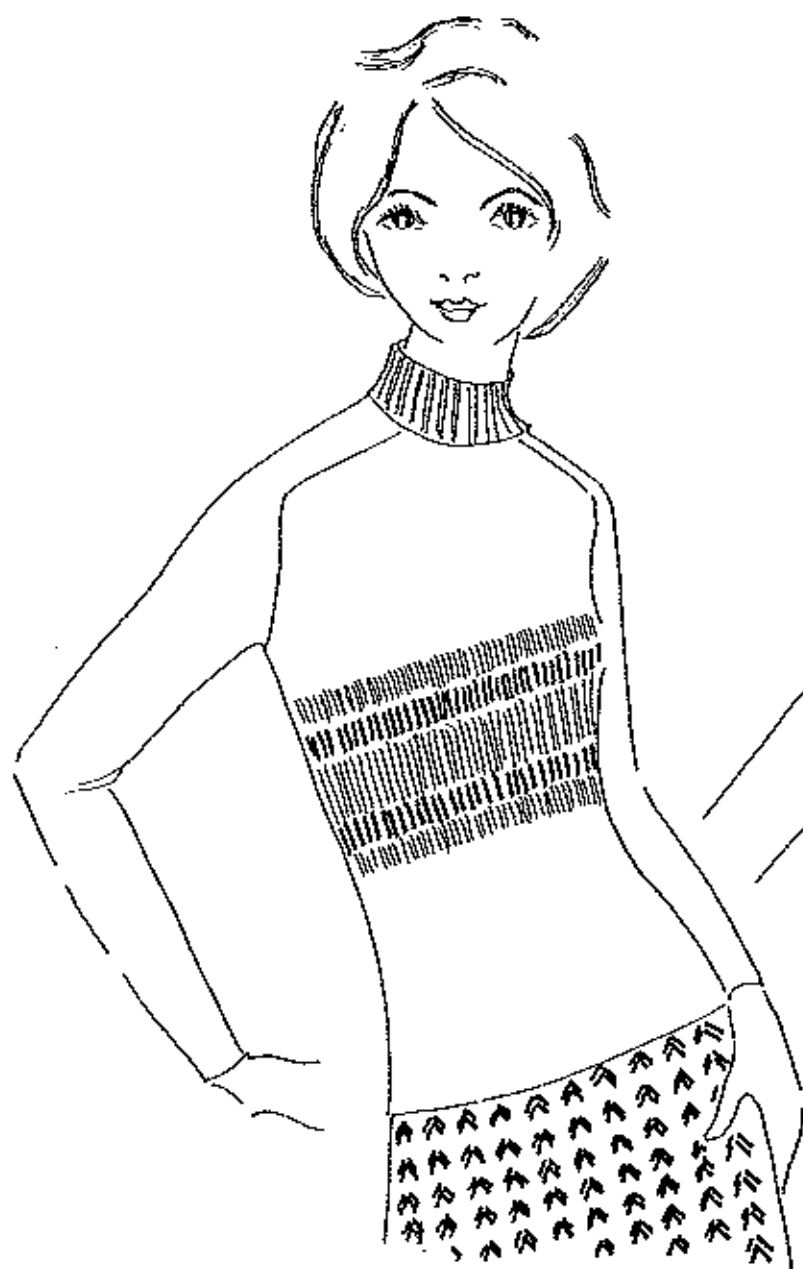
- G) At right -8x1.5r
 At same time
 At left -2x1.10r

- H) Knit 1 row (omit on left leg)
 At right take 7-8-8-9-10 pushers
 down to N.W.P. on next and every
 foll. alt. row, 5 times
 No. of needles rem. in W.P.
 17-16-20-19-18
 Take rem. pushers down to N.W.P.
 Set lock to N and knit 1 row
 across all stitches
 Reduce s.s. and knit 32rs hem
 Cast off loosely

Figures in italics denote centimetres

Figures in brackets show the number of
stitches increased or decreased on each
section.

SWEATER IN K/K RIB WITH SADDLE SHOULDERS

TANK TOP IN K/K RIB WITH
OPTIONAL STRIPING

K/K RIBBED SWEATER WITH SADDLE SHOULDERS

SIZE:	Bust	32	34	36	38 ins
		81	86	91	97 cms
	Length	22	22½	23	23½ ins
		56	57	58.5	60 cms

MATERIALS:	11	12	13	14 ozs
	312	341	369	397 grams

Soft 3-ply yarn or equivalent in coned yarn

TEST SQUARE:	100sts = 8" (20.5 cms) when slightly stretched
	100rs = 10" (25.5 cms) widthways
	Approx. 12sts and 10rs = 1" (2.5 cms)
	s.s.3 and 3½ for rib s.s.5½ for tubular
	Use 5-decker tool for decreases

PATTERN NOTE:	Original was knitted in deep clover pink.
	Striping colours as follows:
	10rs Violet, 6rs Turquoise, 20rs Lilac
	6rs Turquoise, 10rs Violet (52rs)
	Start stripes 54rs before armhole. On given pattern this would be row 66 on main body section.

BACK:

Cast on in K/K rib	212	224	236	248 sts
No. on each bed	106	112	118	124
s.s.3 Knit 24rs				
RC 000 s.s.3½ Knit 120rs (To shorten: deduct 10rs for every 1"/2.5 cms)				

ARMHOLE:

Cast off 6sts at beg. of next 2rs				
Cast off 4sts at beg. of next 2rs				
Dec. 2st at each end of every 6th row	10	11	12	13 times
No. of sts dec. at each armhole	30	32	34	36
No. of sts rem.	152	160	168	176
Knit straight to row	70	74	80	84

SHOULDERS:

Cast off for each shoulder as follows:

6sts twice	8sts 6 times	8sts 5 times	8sts 3 times	
8sts 4 times	—	10sts once	10sts 3 times	
No. of sts dec. on each shoulder		44	48	50
Cast off rem.		64	64	68

FRONT:

Knit as for back until shoulder is reached.				
Shape neck and shoulder at the same time.				
Using an odd length of matching yarn, cast off in centre	24	24	28	28 sts

Lock at right, back and front on BX

Pushers in W.P. under both sets of needles at right.

Shape shoulder as for back at the same time at neck edge on alt. rows, cast off 6sts twice, then 4sts twice

Re-set lock to N and knit left side to match

Total No. of sts dec. at neck	64	64	68	68
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SLEEVES:

Cast on in K/K rib	76	80	84	92 sts
s.s.3 Knit 24rs				
RC 000 s.s.3½				
Inc. 2 sts at each end of every	7	7	8	8th row
	18	18	18	18 times
No. of sts	148	152	156	164
Knit straight to row	140	144	150	154

SHAPE TOP: RC 000

Cast off 6sts at beg. of next 2rs

Cast off 4sts at beg. of next 2rs

Dec. 2sts at each end of every 3rd row	21	22	23	25 times
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No. of sts dec. at each side	52	54	56	60
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No. of sts rem. 44 all sizes

Knit to row	70	74	80	84
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RC 000 Knit	42	44	46	48 rows
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At right edge (left for 2nd sleeve) cast off 10sts twice, 12sts twice

NECKBAND:

Cast on in 1x1 rib	120	124	128	132 sts
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Knit 30rs for standard band, 60rs for polo

Bring empty in-between needles into W.P. and knit 12rs tubular, s.s.5½

Knit 3rs waste and release from machine.

MAKING UP.

Join seams with mattress stitch — long edge of saddle goes to back shoulder.

Attach neckband in the usual way.

K/K RIBBED TANK TOP

SIZE:	Bust	32 81	34 86	36 91	38 ins 97 cms
	Length	20 51	20½ 52	21 53.5	21½ ins 54.5 cms

MATERIALS:	6 171	7 199	7 199	8 ozs 227 grams
	3-ply as for Sweater			

TEST SQUARE:	As for Sweater
	Increases worked by moving 2 end stitches outwards (both beds) and filling empty needle with heel thread from previous row.
	Decreases worked with 5-decker tool

PATTERN VARIATION:	Stripes can be used as for Sweater. Start on row 36 of main body parts
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KNITTING NOTE:	Read 'Avoiding "steps" on armhole and neck shaping' following this pattern
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BACK:

Cast on in K/K rib	176	188	200	212 sts
Knit 30rs s.s.3				
RC 000 Inc. 2 sts at each end of every 12th row, 6 times				
No. of sts	200	212	224	236
Knit straight to row 90				

ARMHOLE: RC 000

Cast off 6sts at beg. of next	2	2	4	4 rows
Cast off 4sts at beg. of next	6	6	6	6 rows
Dec. 2 sts at each end of every alt. row	8	9	8	9 times
No. of sts dec. on each armhole	34	36	40	42
No. of sts rem.	132	140	144	152
Knit straight to row	56	60	66	70

SHAPE NECK:

Using an odd length of matching yarn, cast off in centre	28	36	40	48 sts
Set lock to BX, pushers under all needles (both beds) at right				
At neck edge, dec. on alt. rows as follows: 4sts 4 times, 2sts 6 times				
No. of sts rem. 24 all sizes				
Knit straight to row	80	84	90	94

SHAPE SHOULDER:

On alt. rows cast off 8sts 3 times.				
Lock to N. Re-set RC and knit left side to match.				
Total No. of sts dec. on neck	84	92	96	104

FRONT:

Knit as for back to armhole row	26	30	36	40
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NECK:

Work neck shaping as for back then knit straight to row	80	84	90	94
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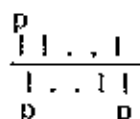
SHOULDER:

As for back

NECKBANDS & ARMHOLE BANDS:

Cast on and knit a few rows

Transfer stitches and set pushers as diagram — s.s.4—4½



Both locks AX. Knit 4rs

Rack to left. Knit 2rs N

Rack to right

Repeat until length required

AVOIDING "STEPS" ON ARMHOLE AND NECK SHAPING

When groups of stitches are cast off at armhole and neck there will be a series of small "steps" on the garment which are difficult to conceal when trimming braid is attached. These can be avoided on any sleeveless garment when the pushers are not being used for patterning.

Instead of casting off the given number of stitches in blocks on alternate rows, use the "shortened row" method to give the shape, then cast off the given number of stitches altogether, or if ribbed bands are to be used, take them onto a piece of spare yarn.

Example — Armholes:

Before starting to shape set lock(s) to BX. Put pushers into W.P. under all needles.

Pattern reads: 'Cast off 6sts at beg. of next 2rs'. Instead of casting off 6sts at the right, take 6 pushers down to N.W.P. at the left (short row shaping is always worked at the opposite end to the lock). Knit the row and wrap the first inside needle in H.P. At right take 6 pushers down to N.W.P. and knit the row.

Pattern now reads: "cast off 4sts at beg. of next 6rs". Work as already given, taking down 4 pushers each time instead of 6.

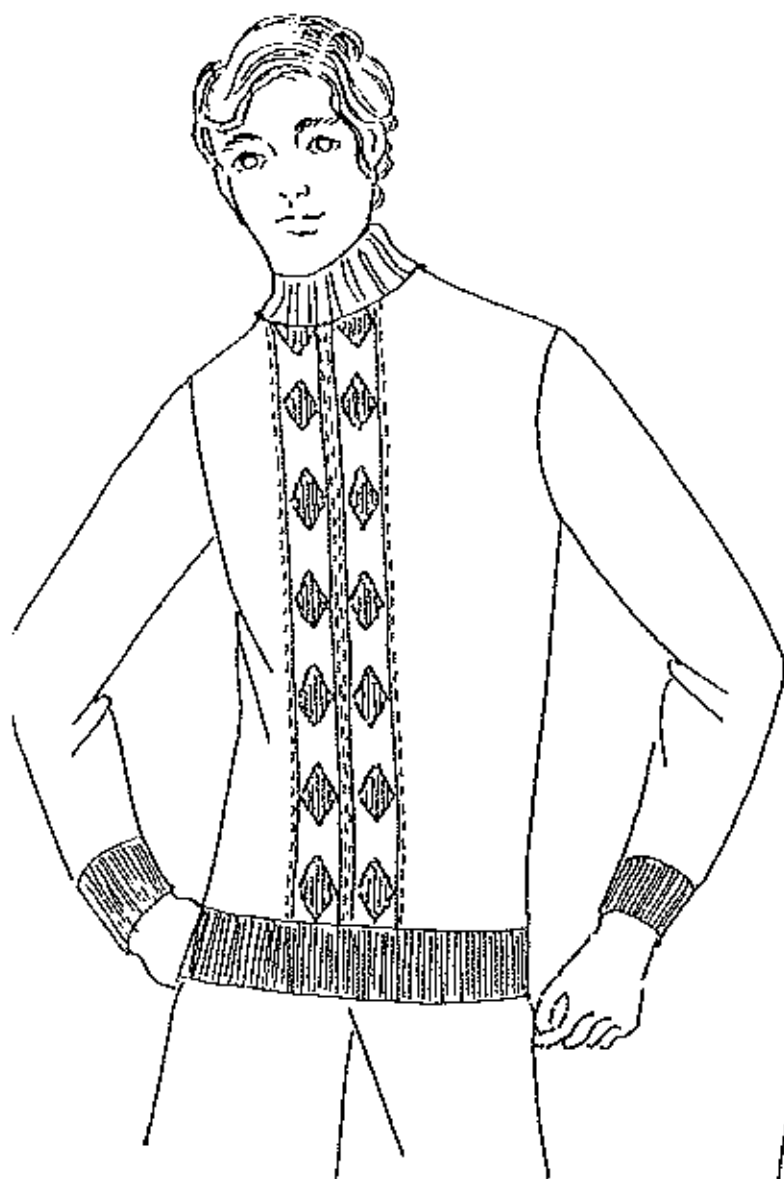
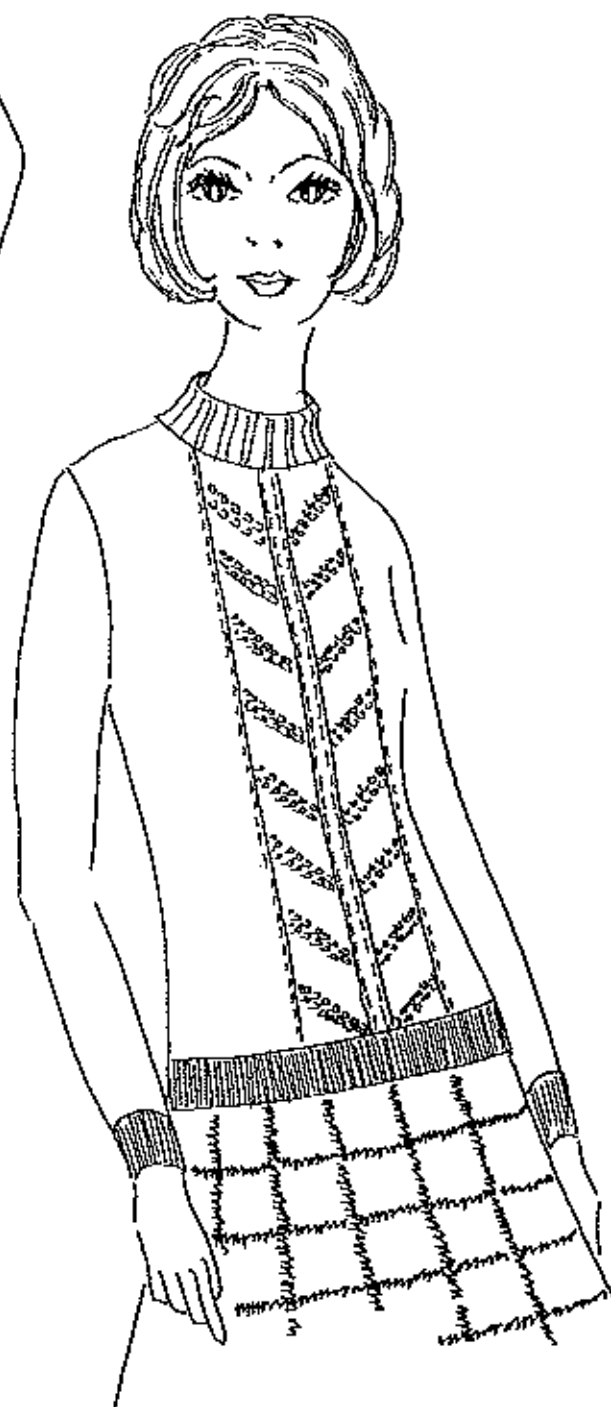
There are now 18sts at each end of the work which are in H.P.

Pattern now reads "Dec. 2sts (1 st for single bed knitting) each end of every alt. row 8 times"

These are the single decreases — never more than one on each bed — so before starting these the stitches in H.P. should be taken off with a piece of spare yarn (tie the ends) or cast off in one complete block at the beginning of the next 2rs. Continue knitting, working the single decreases by the Fully Fashioned method.

Shoulder shaping can be worked by the same method.

MAN'S SWEATER IN LONGSTITCH WITH EMBOSSED DIAMOND PANEL

LADIES' SWEATER IN LONGSTITCH
WITH EYELET DESIGN

MAN'S SWEATER AND JACKET IN LONGSTITCH

Pattern panels are optional. Garments can be knitted straight or styled.

SIZE:	Chest	36	38	40	42	44 ins
		91	97	102	107	112 cms
	Length (Sweater)	25	25½	26	26½	27 ins
		63.5	65	66	67	68.5 cms
	Length (Jacket)	25½	26	26½	27	27½ ins
		65	66	67	68.5	70 cms
	Sleeve seam	18	18½	19	19½	20 ins
		46	47	48	49.5	51 cms

MATERIALS:	Sweater	18	19	20	21	22 ozs
		511	540	568	596	624 grams

Jacket Allow 1 oz (29 grams) extra

3-ply Courtelle (not Crepe) or Botany wool can be used.
Check test square carefully.

Coned Industrials:	2/24s used 2-fold	Jacket — Round neck — 8 buttons Vee neck — 7 buttons
	2/28s used 2-fold	
	2/30s used 3-fold	
	2/32s used 3-fold	

TEST SQUARE:	100sts = 8" (20.5 cms)	Knitted in pattern on s.s.5 Back bed s.s.5½ Front bed
	100rs = 8" (20.5 cms)	
	Tubular knitted on s.s.5	Slightly more than 12sts and 12rs = 1" 2.5 cms
	1x1 rib knitted on s.s.2½	

PATTERN NOTES: Push up 1 extra needle into work on back bed at left side on every piece knitted. This extra stitch is necessary to give identical edges to the work but is not included in the figures on the pattern as odd numbers are confusing on double bed work. Cast off 1 extra stitch at end of work.
Use Pink strippers for pattern.
Use Black strippers for tubular.
Setting for Longstitch is N on the back bed and CX on the front.

SWEATER — STRAIGHT VERSION

BACK:

Push into W.P.	236	248	260	272	284 needles
No. of needles on each bed	118	124	130	136	142
Knit the 3 cast-on rows and 1 row rib. Carriage is at right.					
Set RC to 002, set for tubular knitting and knit 50rs.					
Set RC to 000 Knit 172rs in Longstitch (See notes).					

ARMHOLES:

RC 000 All shapings are worked every 4th row					
Cast off 8sts at beg. of next 2rs, knit 2rs. Repeat these 4rs once.					
Cast off 6sts at beg. of next 2rs, knit 2rs.					
Cast off 4sts at beg. of next 2rs, knit 2rs. Repeat these last 4rs once for sizes 42 and 44.					
Dec. 2sts at each end of next row, knit 3rs.					
Repeat last 4rs	1	3	4	4	5 times more

No. of sts dec. at each armhole	30	34	36	40	42
Total No. of sts remain	176	180	188	192	200
Knit straight to row	100	106	112	118	124

SHOULDERS:

On each shoulder cast off as follows, knitting 2 straight rows between decreases:—

16sts twice 20sts once	16sts twice 20sts once	18sts 3 times —	18sts 3 times —	18sts once 20sts twice
No. of sts cast off on each shoulder	52	52	54	54
Cast off rem.	72	76	80	84

FRONT:

Cast on and knit tubular welt as for back. RC 000 Set for Longstitch.

Transfer stitches for pattern panel (29sts) as follows:—

Working from centre of front bed towards the right: transfer first stitch to back bed, miss the next 2sts, transfer the next 23sts to back bed, miss the next 2sts and transfer the next stitch to back bed. Repeat at left side of centre to make double panel.

Push all the empty needles out of work and knit 2rs.

On the front bed bring the centre empty needle on the block of 23 back into work and knit 2rs.

Now bring a needle on each side of the one in the centre back into work, knit 2rs.

Continue in this way until there are 15 needles back into W.P., knit 2rs.

Now start the second half of the Diamond by transferring the 2 outer stitches (Nos. 1 and 15) onto the adjacent needles toward the centre of the Diamond, knit 2rs.

Continue until the 15sts are reduced to 1 only. Transfer this one stitch to back bed.

(Repeat this pattern all the way up to the shoulders).

NOTE: When the neck shaping is worked, the needles which are out of work are counted as stitches.

Knit 172rs (Longstitch)

Shape Armhole as for back.

ROUND NECK:

Start neck shaping on armhole row	72	78	84	90	96
Using an odd length of matching yarn, cast off in centre	16	16	16	16	16 sts

Put stitches at left into H.P.

Working on right half only, dec. on every alt. row as follows:—

At neck edge, cast off	8	6	6	8	8 sts
Then cast off 4sts	2	3	3	3	3 times
Dec. 2sts every 4th row	6	6	7	7	7 times

While shaping neck remember to start shoulder shaping on the appropriate row.

	(100	106	112	118	124)
Left half: Bring needles back into W.P.					
Reset RC to	74	80	86	92	98 rs
Knit and shape as for right half.					
Total No. of sts dec. on neck	72	76	80	84	84

SWEATER — STYLED VERSION

This is knitted in exactly the same way as the straight garment except for the body shaping up to the armholes.

BACK AND FRONT:

Cast on	220	232	244	256	268 sts
No. of sts on each bed	110	116	122	128	134
Knit welt. RC 000. Change to pattern and increase 2sts at each end of every 30th row, 4 times					
No. of sts	236	248	260	272	284
No. of sts on each bed	118	124	130	136	142
Knit straight to row 172, then continue as main pattern.					

Pattern panel is set up in centre as before.

NECKBAND:

Cast on in 1x1 rib	132	134	136	138	140 sts
Knit 30rs for standard band, 60rs for polo					
Push up empty in-between needles and knit 12rs tubular s.s.5					
Knit 3 waste rows and release from machine.					

JACKET — STRAIGHT VERSION

BACK:

Knit as for Sweater, but knit 178rs to armhole.

RIGHT FRONT:

(Half the number of stitches cast on for back less 6)

Knit on the left side of centre. The neck edge will then be at the centre of needle bed and it will be easier to keep count of decreasings.

Cast on	112	118	124	130	136
No. of sts on each bed	56	59	62	65	68
Knit welt. Set up pattern panel by transferring the 5th stitch from front edge on the front bed to the back bed. Continue with the rest of the set-up as for Sweater but with one panel of pattern only.					
Knit 178rs Longstitch, then knit to armhole row	72	78	84	90	96

ROUND NECK:

Cast off	8	6	6	8	8 sts at neck edge
On foll. alt. rows, cast off 4sts	2	3	3	3	3 times
Dec. 2sts every 4th row	7	7	8	8	8 times
No. of sts dec. at neck edge	30	32	34	36	36

LEFT FRONT:

Knit on right half of machine, reversing all shapings and knitting 1 row extra before starting neck shaping so that carriage is at the left side.

NECKBAND:

Push into W.P. on each bed 104 108 110 114 116 needles
 Knit 12rs tubular s.s.4½
 Counting from left, miss 3sts on each bed and make buttonholes over the following 3sts on each bed
 with waste yarn. Knit 12rs. s.s.5
 Knit 3rs in waste yarn and release.

BUTTONBAND:

Push into W.P. on each bed 126 130 134 138 142 needles
 Knit 24rs tubular s.s.5
 Release with waste yarn.

BUTTONHOLE BAND:

Cast on the same number of stitches as Buttonband and knit 12rs.
 Counting from the right (lower edge) miss 11sts on each bed. Make buttonhole on the next 3sts.
 *Miss 15 16 17 18 19 sts on
 each bed, make buttonhole over next 3sts*
 Repeat from * to * 5 more times, making 7 buttonholes in all.
 At left edge 15 13 11 9 7 sts rem.
 on each bed. Knit 12rs. Release with waste yarn.

VEE NECK:

Knit as for round neck to armhole. Shaping armhole as before, at neck edge dec. 2sts on next
 and every following 7th row 15 16 17 18 18 times
 altogether
 Remember to start shoulder shaping on row 100 106 112 118 124
 Knit second front to match, reversing all shapings.

FRONT BAND:

Cast on 16sts in 1x1 rib, s.s.2½. Knit 6rs. Make buttonhole.
 Knit 16rs. Make buttonhole.
 Knit 27rs, make buttonhole Repeat from * to * 4 more times, making 7 buttonholes in all.
 Knit to row 552 562 578 594 606
 Release from machine.

JACKET – STYLED

BACK:

Cast on 220 232 244 256 268 sts
 No. of sts on each bed 110 116 122 128 134
 Knit welt. Follow pattern for Styled Sweater, but knit 178rs to armhole instead of 172.
 Continue as for main pattern from armhole.

RIGHT FRONT:

(Half the number of stitches on back, less 6)

Cast on	104	110	116	122	128 sts
No. of sts on each bed	52	55	58	61	64
Knit welt. RC 000					
Count off 4sts from front edge and transfer 5th stitch to back bed.					
Set up panel as before.					
Knit 178rs in Longstitch, at the same time increasing 2sts at side edge every 30th row, 4 times.					
No. of sts	112	118	124	130	136
No. of sts on each bed	56	59	62	65	68
Continue from armhole as for main pattern.					
Knit a second piece, reversing all shapings.					

BANDS:

As for Main pattern.

SLEEVE: (Same for all styles)

Cast on	120	120	120	124	124 sts
No. of sts on each bed	60	60	60	62	62
Knit 64rs in tubular.					
RC 000 Change to Longstitch setting.					
(If required set up single pattern panel in centre of sleeve)					
Inc. 2sts at each end of every	8	8	8	8	8th row
	18	20	21	22	23 times
Total No. of sts	192	200	204	212	216
Knit straight to row	176	182	188	196	200

SLEEVE CAP: RC 000

Cast off 6sts at beg. of next 2rs. Knit 2rs.

Cast off 6sts at beg. of next 2rs.

Dec. 2sts at each end of every foll. 4th row

Dec. 2sts at each end every foll. alt. row

Dec. 4sts at beg. of every row 20 times, all sizes. (10 times at each edge)

Cast off rem. 20sts.

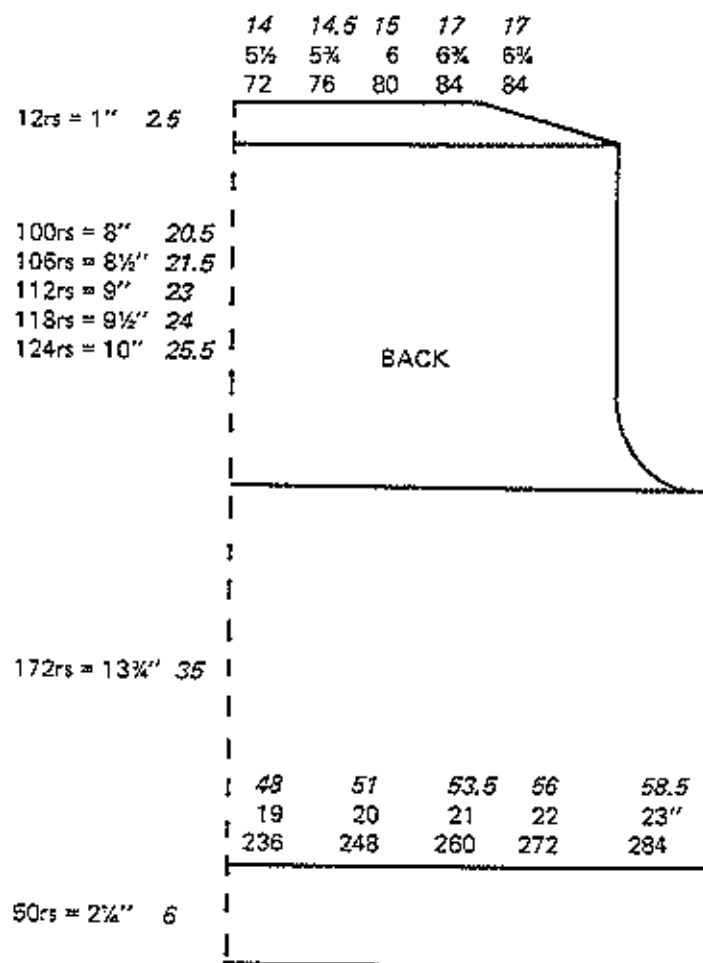
MAKING UP:

Join shoulders, sew sleeves into armholes.

Press according to yarn used.

Join main seams.

Press all tubular knitting on bands, taking care to shape tubular neckband as near to circular shape as possible.

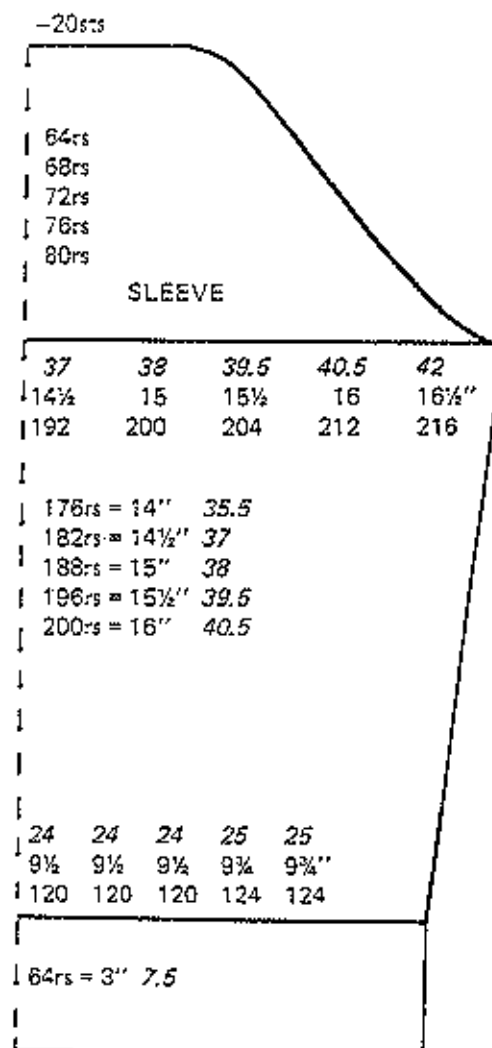
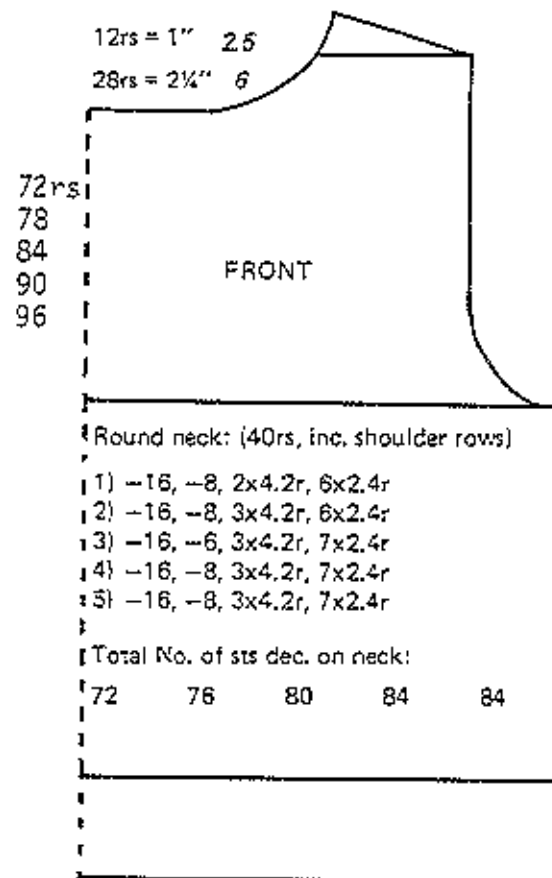


Sleeve Cap:

- 1) -2x6.4r, 2x2.4r, 15x2.2r, 10x4.2r = 64rs and 86sts
- 2) -2x6.4r, 2x2.4r, 17x2.2r, 10x4.2r = 68rs and 90sts
- 3) -2x6.4r, 3x2.4r, 17x2.2r, 10x4.2r = 72rs and 92sts
- 4) -2x6.4r, 3x2.4r, 19x2.2r, 10x4.2r = 76rs and 96sts
- 5) -2x6.4r, 4x2.4r, 19x2.2r, 10x4.2r = 80rs and 98sts

Sleeve Shaping:

- 1) + 2sts every 8th row 18 times
- 2) + 2sts every 8th row 20 times
- 3) + 2sts every 8th row 21 times
- 4) + 2sts every 8th row 22 times
- 5) + 2sts every 8th row 23 times



Figures in brackets denote centimetres

LADIES' SWEATER AND JACKET IN LONGSTITCH

Pattern panels are optional.

SIZE:	Bust	32 81	34 86	36 91	38 97	40 102	42 ins 107 cms
	Length:						
	Sweater	21 53.5	21½ 54.5	22 56	22½ 57	23 58.5	23½ ins 60 cms
	Jacket	21½ 54.5	22 56	22½ 57	23 58.5	23½ 60	24 ins 61 cms
	Sleeve seam	16½ 42	17 43	17½ 44.5	18 46	18½ 47	19 ins 48 cms
MATERIALS:	Sweater	14 397	15 426	16 454	17 482	18 511	19 ozs 540 grams

Allow 1 oz (29 grams) extra for Jacket

Materials, Test Square and stitch sizes as for Man's Sweater

BACK:

Push into W.P.	212	224	236	248	260	272 needles
No. on each bed	106	112	118	124	130	136
Knit 50rs tubular						
RC 000 Change to Longstitch and knit 144rs.						

ARMHOLE: RC 000

All shapings are worked every 4th row

At beg. next 2rs cast off	6	8	8	8	8	8 sts
Knit 2rs, repeat once						
At beg. next 2rs cast off	4	4	6	6	6	6 sts
Knit 2rs.						
Sizes 38, 40 and 42 only, cast off 4sts at beg. next 2rs.						
Dec. 2sts at each end every 4th row	3	3	4	3	5	6 times
No. of sts dec. at armhole	22	26	30	32	36	38
No. of sts rem. on each bed	84	86	88	92	94	98
Knit straight to row	82	88	94	100	106	112

SHOULDERS:

On each shoulder cast off as follows, knitting 2 straight rows between decreasings:—

16sts twice 18sts once	16sts twice 18sts once	16sts twice 20sts once	18sts 3 times —	18sts twice 20sts once	18sts once 20sts twi
No. of sts dec. at each shoulder	50	50	52	54	56
Cast off rem.	68	72	72	76	76
					80 sts

FRONT:

Knit welt as for back. RC 000

Change to Longstitch and set up panel as follows:

Working from the right side of centre, transfer 2sts from front to back bed, miss the next 3sts, transfer the next 2sts.

Now miss the next 7sts on front, transfer the next 2sts.

Miss 3sts and transfer the next 2sts.

This completes the pattern panel set-up of 21sts.

Repeat at left side of centre.

The pattern is worked over the panel of 7sts as follows:—

Knit 2rs. Working from the centre of machine outwards, transfer the first stitch on the panel of 7sts to its adjacent needle on the front bed, knit 2rs.

Transfer the second stitch onto its adjacent needle and knit 2rs.

Continue in this way until the 7th stitch is reached. Transfer this one onto the 6th needle.

Repeat by starting again with the first stitch of the panel.

All empty needles are left in W.P. after stitch transfer.

When neck shaping is reached all empty needles are counted as stitches.

As soon as shaping is started on 7 stitch panel, the stitch transfer is finished.

ROUND NECK:

Knit as for back until armhole row	54	60	66	72	78	84
Using an odd length of matching yarn, cast off 16sts in centre, all sizes.						
Put needles at left into H.P. and knit right half as follows:—						
On alt. rows, cast off	4	8	8	6	6	6 sts once
On alt. rows, cast off 4sts	2	2	2	3	3	3 times
Dec. 2sts every 4th row	7	6	6	6	6	7 times
Knit left half to match, reversing all shapings.						
Total No. of sts dec. on neck	68	72	72	76	76	80

SLEEVES:

Cast on	104	104	112	112	120	120 sts
No. on each bed	52	52	56	56	60	60
Knit 64rs in tubular knitting.						
RC 000 Change to Longstitch pattern.						
Size 42 only: Increase 2sts at each end of next and every following 10th row, 18 times altogether.						
All other sizes: Increase 2sts at each end every 10th row						
No. of sts	14	15	15	16	16 times	
Knit straight to row	160	164	172	176	184	192
	158	164	170	176	182	188

SHAPE CAP:

At beg. next 2rs, cast off	6	6	6	6	6	6 sts
Knit 2rs and repeat the cast off rows once.						
Dec. 2sts each end every 4th row	4	5	5	6	6	6 times
Dec. 2sts at each end every alt. row	5	5	7	7	9	11 times
Cast off 4sts at beg. of every row 20 times all sizes. (10 times at each edge)						
Cast off rem. 20sts.						

NECKBAND FOR SWEATER — POLO (For standard band knit 30rs of rib only)

Cast on in 1x1 rib	122	124	126	128	130	132 sts
Knit 60rs						
Push up all empty in-between needles on each bed and knit 12rs in tubular.						
Break yarn and join in some waste, knit 3rs in rib.						
Break yarn and carefully remove from machine.						

JACKET — STRAIGHT

Knit as for Sweater but knit 150rs to armhole.

RIGHT FRONT:

(Half the total number of stitches on back, less 6)

Knit at left side of centre, the neck edge will then be at centre of needle bed and it will be easier to keep count of decreasings.

Cast on	100	106	112	118	124	130 sts
No. of sts on each bed	50	53	56	59	62	65

Knit welt.

RC 000 Set up pattern panel by starting from the 5th stitch from the front edge and set up as a single panel only.

Knit 150rs in Longstitch and then knit to armhole row

54	60	66	72	78	84
----	----	----	----	----	----

ROUND NECK:

At neck edge, cast off	6	10	10	8	8	8 sts
On foll. alt. rows, cast off 4sts	2	2	2	3	3	3 times
Dec. 2sts every 4th row	7	6	6	6	6	7 times
No. of sts dec. at neck edge	28	30	30	32	32	34
Remember to start shoulder on row	82	88	94	100	106	112

LEFT FRONT:

Knit on right half of machine, reversing all shapings.

VEE NECK:

Knit as for Round Neck to first row of armhole

Shaping armhole as before, at neck edge dec. 2sts on next and every foll. 7th row

	14	15	15	16	16	17 times
No. of sts dec. at neck edge	28	30	30	32	32	34

Remember to start shoulder on correct row.

NECKBAND: ROUND NECK

Push into W.P. on each bed	92	96	98	102	104	108 needles
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Knit 12rs tubular s.s.4½

Counting from right, miss 3sts on each bed and make buttonhole over the following 3sts on each bed with waste yarn. Knit 12rs s.s.5

Knit 3rs waste and release.

BUTTONBAND:

Push into W.P. on each bed	116	120	124	128	132	136 needles
Knit 24rs tubular s.s.5. Release with waste rows.						

BUTTONHOLE BAND:

Cast on the same number of stitches as Buttonband and knit 12rs

Counting from left (lower edge) miss 11sts on each bed

Make buttonhole on next 3sts.

*Miss	14	15	16	17	18	19 sts on each bed
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make Buttonhole* Repeat from * to * 4 times more, making 6 buttonholes altogether.

At right edge	17	16	15	14	13	12 sts rem.
on each bed. Knit 12rs. Release with waste rows.						

FRONT BAND -- VEE NECK:

Cast on 16sts in 1x1 rib s.s.2%. Knit 6rs. Make buttonhole.

Knit 16rs. Make buttonhole.

Knit 28rs. Make buttonhole Repeat from * to * 3 more times, making 6 buttonholes in all.

Knit to row

472

486

496

508

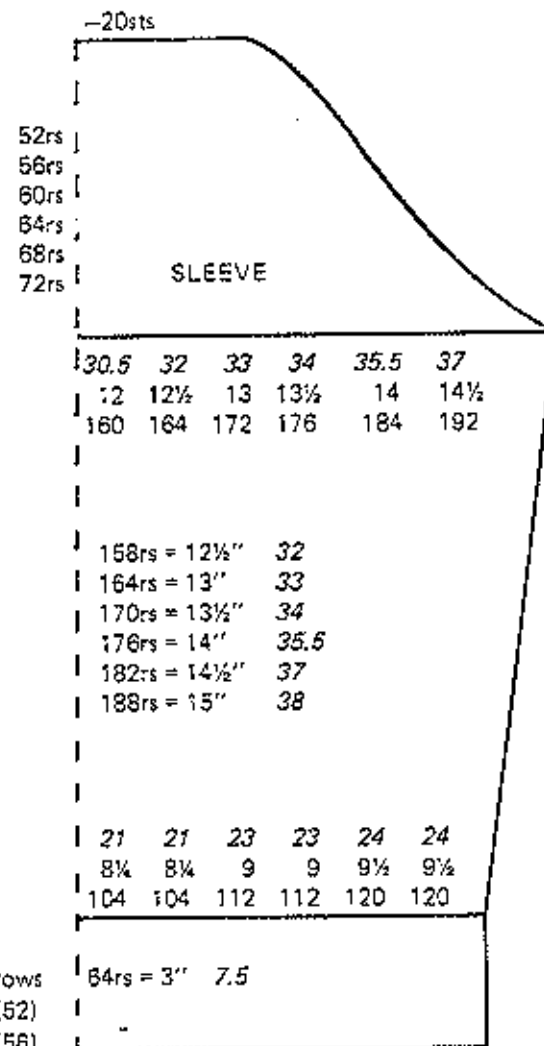
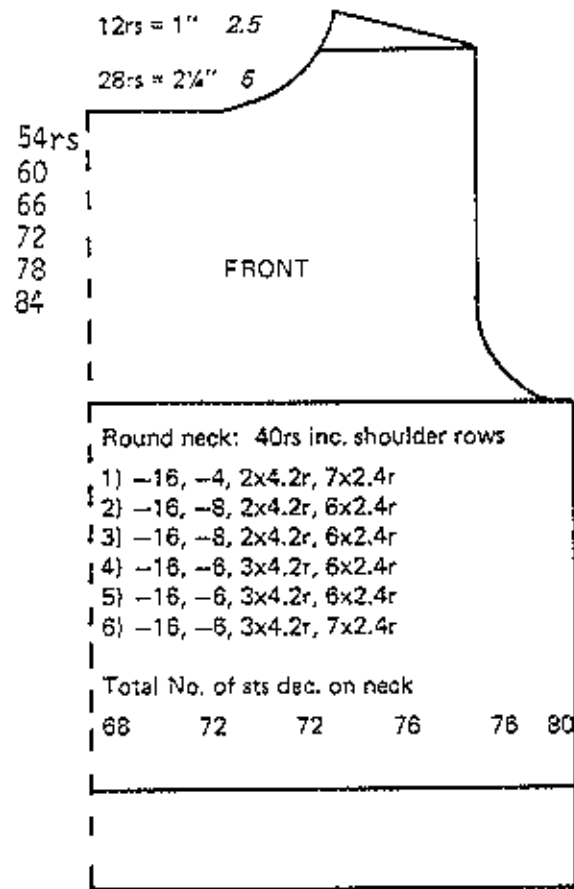
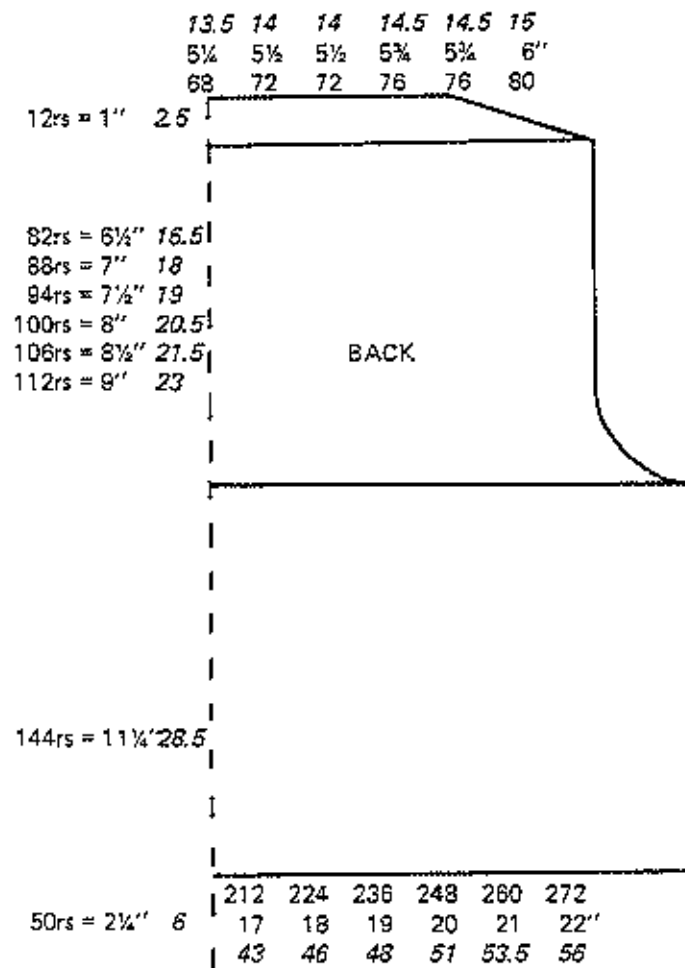
518

532

Release from machine.

MAKING UP:

As for Main Pattern.



Armhole:

- 1) -2x6, 4, 3x2.4r (22)
- 2) -2x8, 4, 3x2.4r (26)
- 3) -2x8, 6, 4x2.4r (30)
- 4) -2x8, 6, 4, 3x2.4r (32)
- 5) -2x8, 6, 4, 5x2.4r (36)
- 6) -2x8, 6, 4, 6x2.4r (38)

Shoulder:

- 1) 2x16, 1x18 (50)
- 2) 2x16, 1x18 (50)
- 3) 2x16, 1x20 (52)
- 4) 3x18 (54)
- 5) 2x18, 1x20 (56)
- 6) 1x18, 2x20 (58)

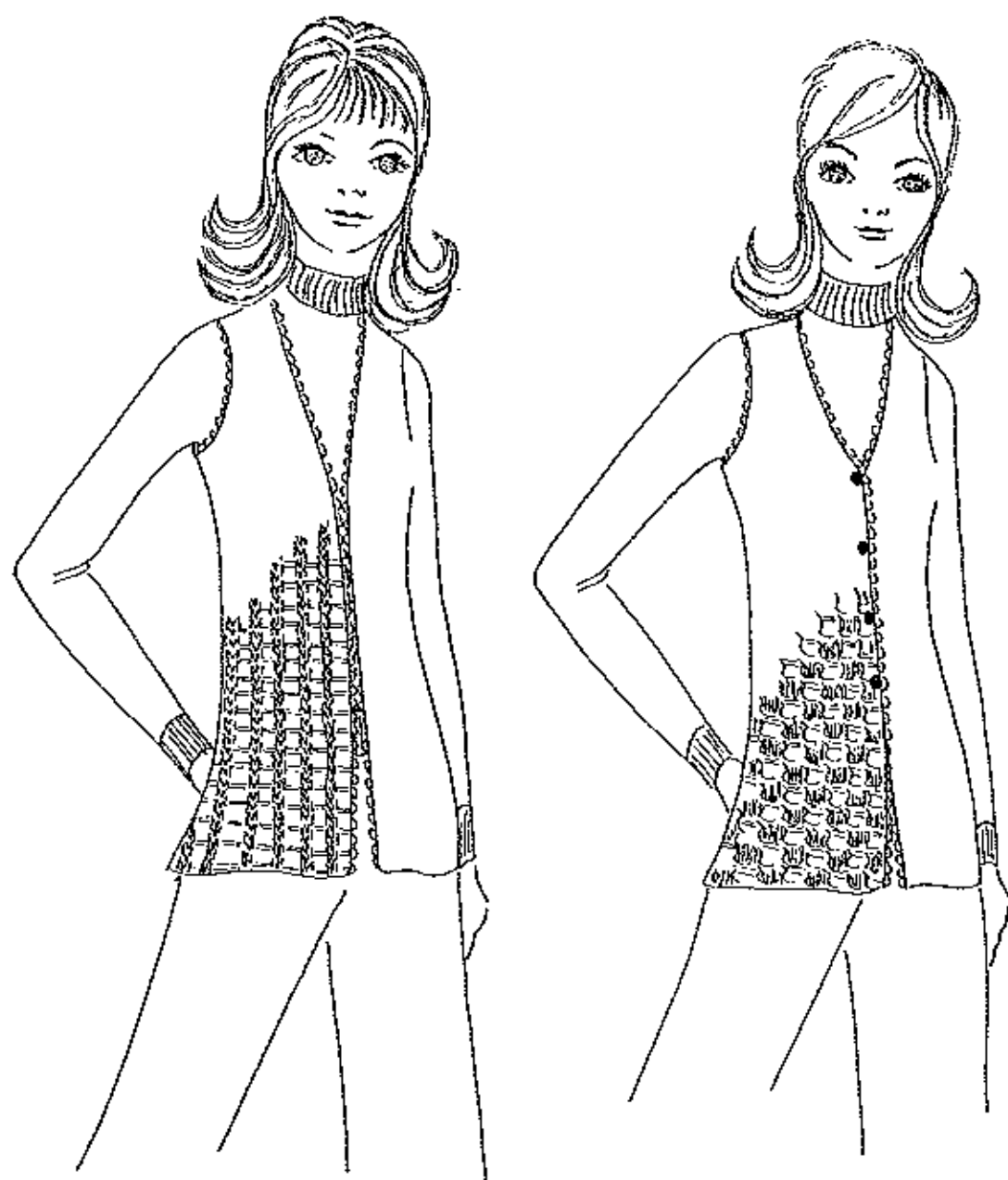
Sleeve Cap:

- 1) -2x6.4r, 4x2.4r, 5x2.2r, 10x4.2r
- 2) -2x6.4r, 5x2.4r, 5x2.2r, 10x4.2r
- 3) -2x6.4r, 5x2.4r, 7x2.2r, 10x4.2r
- 4) -2x6.4r, 6x2.4r, 7x2.2r, 10x4.2r
- 5) -2x6.4r, 6x2.4r, 9x2.2r, 10x4.2r
- 6) -2x6.4r, 6x2.4r, 11x2.2r, 10x4.2r

sts rows
(70) (52)
(72) (56)
(76) (60)
(78) (64)
(82) (68)
(86) (72)

Figures in italics denote centimetres

WAISTCOATS IN CROCHET STITCH



STRAIGHT WAISTCOAT KNITTED IN CROCHET STITCH

SIZE:	Bust	32	34	36	38	40	42	44 ins
		81	86	91	97	102	107	112 cms
	Length	25½	26	26½	27	27½	28	28½ ins
		65	66	67	68.5	70	71	72.5 cms
MATERIALS:		8	8	8	9	9	9	10 ozs
		227	227	227	256	256	256	284 grams

Any soft 2-ply yarn or equivalent

Coned industrials: 2/16s Courtelle used singly
 2/30s Courtelle used 2-fold
 2/32s Courtelle used 2-fold
 2/24s Botany used 2-fold

TEST SQUARE: 100sts = 15" (38 cms) s.s.5
 100rs = 5½" (14 cms) Approx. 6½sts & 18rs = 1" (2.5 cms)

PATTERN SETTING: Racking handle down

```

      p   p   p   p   p   p   p p*
      | | . | | . | | . | | . | | . | |
      | | . | | . | | . | | . | | . | |
  *p p   p   p   p   p   p   p

```

Note extra pushers marked *

Back and Front: Set to AX
 Knit 4rs - rack to left

Back and Front: Set to N
 Knit 2rs - rack to right

Pink strippers should be adequate; if not use Blue

PATTERN ALTERATIONS:

For every 1" (2.5 cms) alteration add or deduct 18rs

BACK:

Position needles as given for pattern setting

Cast on	116	120	128	132	140	148	152 sts
No. of working needles on each bed	58	60	64	66	70	74	76
Knit 2rs CX s.s.3. Knit 1 row N.							
Lock at right RC 000							
Bring pushers into W.P. and set for pattern							
Knit 326rs.							

ARMHOLE: RC 000

Cast off 4sts at beg. of next	4	4	4	4	6	6	6 rs
Dec. 2sts at each end of every following 6th row	6	6	7	7	6	6	7 times
No. of sts dec. on ea. armhole	20	20	22	22	24	24	26

No. of sts rem.	76	80	84	88	92	100	100
No. of sts on ea. bed	38	40	42	44	46	50	50
Knit straight to row	118	128	136	146	154	164	174

SHOULDERS:

Shaping is worked on every 4th row as follows:

Cast off the given number of stitches at right edge and knit the row. Repeat at left edge and knit the row. Knit 2rs without shaping. Repeat.

At each shoulder edge, cast off:—

6sts once	6sts twice	6sts twice	6sts 3 times	6sts 3 times	6sts 4 times	6sts 4 times	
4sts 3 times	4sts twice	4sts twice	4sts once	4sts once			
No. of sts dec. on each shoulder							
	18	20	20	22	22	24	24
Cast off rem.	40	40	44	44	48	52	52 sts

FRONTS — Knit 2 alike — no need to reverse shapings

Cast on	56	60	64	68	72	76	80 sts
No. on ea. bed	28	30	32	34	36	38	40
Knit as for back to row	308	310	310	310	312	312	312
Dec. 2sts at front edge							
Knit straight to row 326							

ARMHOLE AND FRONT EDGE: RC 000

Armhole shaping as for back, at the same time shape front edge as follows:—

Dec. 2sts on next and every following							
	18	16	16	15	14	14	14th row
	8	9	10	11	12	13	14 times
Remember to start shoulder on row							
	118	128	136	146	154	164	174
No. of sts dec. on front edge — including the 2sts before armhole							
	18	20	22	24	26	28	30
No. of sts dec. on shoulder	18	20	20	22	22	24	24

MAKING UP:

Pull pieces lengthways, press and join seams.

Edging can be made in any suitable trimming such as long lengths of braid, maximum width ½" (1 cm)
Alternatively work 1 row double crochet and 1 row picot round armholes and down fronts.

SHAPED WAISTCOAT IN CROCHET STITCH

Materials and Measurements are the same as for the straight cardigan. The needle setting is the same but pusher and pattern sequence is slightly different.

PATTERN SETTING:

Racking handle down

p	p	p	p	p	p	p	p
p	p	p	p	p	p	p	p
p	p	p	p	p	p	p	p
p	p	p	p	p	p	p	p

Back and Front: Set to AX
Knit 4rs - rack to left

Back and Front: Set to N ←
Knit 2rs - rack to right

BACK:

Set needles as diagram

Cast on	124	128	136	140	148	156	160 sts
No. on ea. bed	62	64	68	70	74	78	80

Both locks on CX s.s.3

Knit 2rs

Knit 1 row, lock at right

Bring pushers into W.P. and set for pattern s.s.5 RC 000

Dec. 2sts at each end of every 50th row, 4 times

No. of rows: 200 all sizes

No. of sts	108	112	120	124	132	140	144
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RC 000

Inc. 2sts each end of every 50th row, twice

No. of sts	116	120	128	132	140	148	152
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Knit 26rs straight

No. of rows: 126 all sizes

ARMHOLE: RC 000

Continue now as for straight cardigan, working the same shapings and knitting the same number of rows.

FRONTS: Knit 2 alike — no need to reverse shapings:

Cast on	60	64	68	72	76	80	84 sts
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Dec. as for back but on one side edge only

No. of sts	52	56	60	64	68	72	76
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RC 000

Inc. at side edge as for back

No. of sts	56	60	64	68	72	76	80
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Knit straight to row	108	110	110	110	112	112	112
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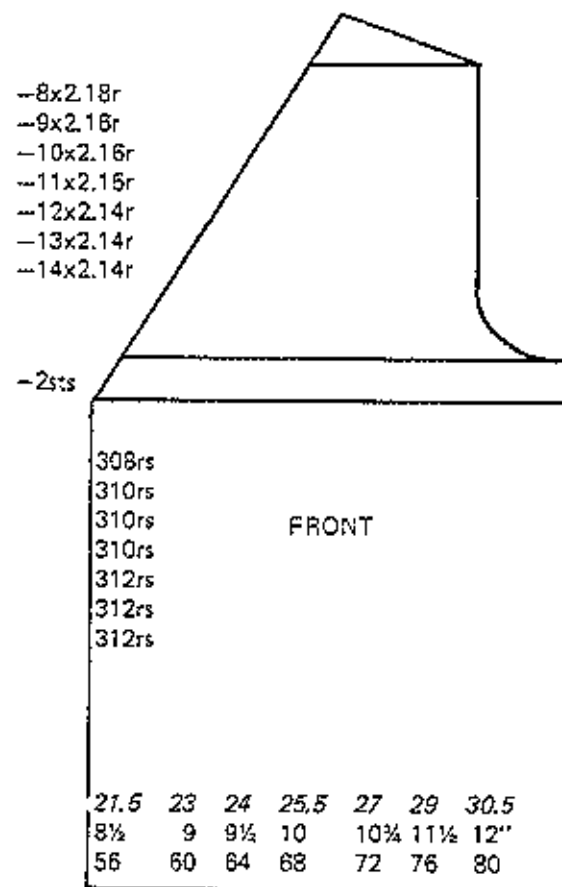
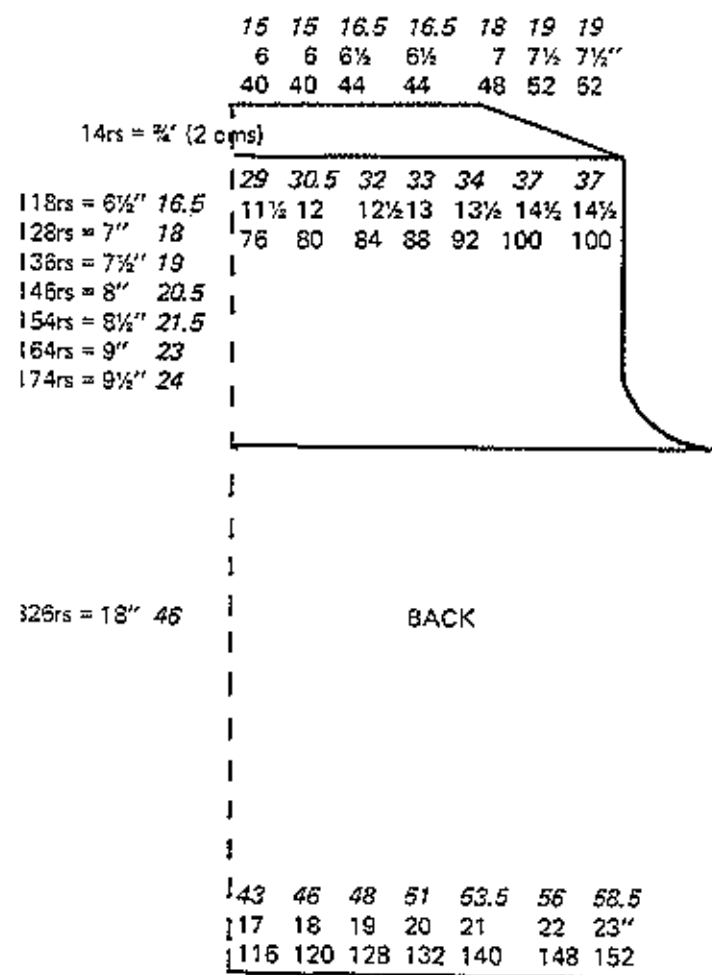
Dec. 2sts at front edge.

Knit straight to row 126

ARMHOLE AND FRONT EDGE: RC 000

Continue knitting and shaping as given for straight cardigan.

Make up and trim as for straight cardigan. Add 3 — 4 buttons at waistline if required.



Armhole shaping:

- 1) — 2x4, 6x2.6r (20sts)
- 2) — 2x4, 6x2.6r (20)
- 3) — 2x4, 7x2.6r (22)
- 4) — 2x4, 7x2.6r (22)
- 5) — 3x4, 6x2.6r (24)
- 6) — 3x4, 6x2.6r (24)
- 7) — 3x4, 7x2.6r (26)

Shoulder shaping:

- 1) — 1x6, 3x4.4r (18sts)
- 2) — 2x6, 2x4.4r (20)
- 3) — 2x6, 2x4.4r (20)
- 4) — 3x6, 1x4.4r (22)
- 5) — 3x6, 1x4.4r (22)
- 6) — 4x6.4r (24)
- 7) — 4x6.4r (24)

Figures in italics denote centimetres

SWEATER IN AUTOMATIC TUCK
STITCH WITH CUT AND SEW NECK



RIBBED SWEATER WITH FULL
SLEEVES IN CROCHET STITCH

LADIES' SWEATER IN AUTOMATIC TUCK STITCH

SIZE:	Bust	32	34	36	38	40	42"
		81	86	91	97	102	107 cms
	Length	21	21½	22	22½	23	23½" ins
		53.5	54.5	56	57	58.5	60 cms
	Sleeve						
	Seam	16	16½	17	17½	18	18½"
		40.5	42	43	44.5	46	47 cms
MATERIALS:		14	15	16	17	18	19 ozs
		397	426	454	482	510	539 grams

Soft 3-ply yarn or equivalent in coned industrial yarn -- use 2/24s 2-fold or 2/30s 2- or 3-fold depending on yarn texture.

Quantities given are for 2/30s Courtelle. If handknitting yarn is used several extra balls will be required.

TEST SQUARE:

100sts = 11½" (29 cms) s.s.3½/3½ for Pattern
 100rs = 6" (15 cms) s.s.3/3 for K/K rib
 s.s.2/2 for 1x1 rib
 Approx. 9sts and 16rs s.s.5½/5½ for Tubular
 = 1" (2.5 cms)

PATTERN SETTING:

Use K/K setting. Pink strippers. Racking Handle down

*
 | | | | | | | | | | Back Lock on N
 | | | | | | | | | | Front AX ←
 p p p p p
 p p p p p

* Extra needle in W.P. for AX pattern

Pushers must be returned to blocking rail when decreasing. Remember to bring them into work in the appropriate position when increasing.

Neck is Cut and Sew

PATTERN ALTERATIONS:

To adjust body length add or deduct 16rs for every 1" (2.5 cms) of alteration.

For sleeve alteration add or deduct 2rs between each of first 8 increases for 1" (2.5 cms), 4rs for 2" (5 cms)

CUT AND SEW NECKLINE:

Depth before band is attached: Round 3" (7.5 cms)
 U Neck 6" (15 cms)
 V Neck Just above first row of armhole shaping.

Join shoulder seams. Fold front in half lengthways, place pin at required depth from top. Open work out flat. Place pins in work to mark out neck shape up to shoulders. Work the machine stitching inside the pins on the part to be cut away. Presser foot must be released to maximum to allow work to move through freely. Working in the same way, scoop out a piece which is 1" (2.5 cms) in depth on the back neck to provide a shallow curve.

NECKBANDS:

Cast on required number of stitches in 1x1 rib. Knit as pattern instructions. Change to Black strippers. Push up all empty in-between needles, back and front. Racking handle down — s.s.5½ — CX on both locks. Knit 12rs. Change to Pink strippers, s.s.3: N on both locks. With waste yarn knit 3rs. Break yarn and remove from machine. Press and join seam. Unravel waste yarn. Lay one half of tubular on to right side of work, overlapping just far enough to cover stitching, backstitch through the open loops. On wrong side catch down the other half of tubular rows stitch by stitch. On round neck — fold rib in half to inside and catch down just above the row of holes in the band.

BACK AND FRONT:

Knit as shown on diagram to Armhole.

ARMHOLE: RC 000

Cast off at beg. of next 2rs	4	6	6	6	6	6 sts
Cast off at beg. of next 2rs	4	4	4	4	4	6 sts
Dec. 2sts ea. end of every 4th row	5	5	6	7	8	8 times
No. of sts dec. on each armhole	18	20	22	24	26	28
No. of sts remain	112	116	120	124	128	132
Knit straight to row	102	110	118	126	134	142

SHOULDERS: RC 000

Knit 2rs without shaping between each set of decreasings, thereby decreasing every 4th row. Cast off on each shoulder as follows:

8sts 4 times	8sts 4 times	8sts 3 times 10sts once	8sts 3 times 10sts once	9sts 4 times	9sts 4 times	
No. of sts dec. on each shoulder	32	32	34	34	36	36
No. of sts rem. for neck	48	52	52	56	56	60

Knit several rows in waste yarn, release work from machine.

SLEEVES:

Cast on in 1x1 rib	68	68	72	72	76	76 sts
Knit 58rs						
Change to pattern RC 000						
Inc. 2 sts each end every 18th row	9	10	10	11	11	12 times
No. of sts	104	108	112	116	120	124
Knit straight to row	184	192	200	208	216	224

SHAPE CAP: RC 000

At beg. of next 2rs cast off	4	4	4	4	4	4 sts
Knit 2rs straight						
At beg. of next 2rs cast off	4	4	4	4	4	4 sts
Dec. 2sts each end of every 6th row	2	2	2	4	4	4 times
Dec. 2sts each end of every 4th row	10	12	14	12	14	16 times
Dec. 2 sts each end of every alt. row	6	5	4	5	4	3 times
Total No. of rows	70	76	82	88	94	100

Cast off rem. 16sts.

NECKBAND --- Round:

Cast on in 1x1 rib	126	128	128	130	130	132 sts
Knit 40rs s.s.2						
Knit 12rs tubular s.s.5½						
Knit 3rs in waste yarn and release.						

NECKBAND — U:

Cast on in 1x1 rib	128	134	134	140	140	146 sts
Knit 5rs s.s.2½						
Knit 5rs s.s.3						
Change to tubular and knit 10rs s.s.5½						
Knit 3rs in waste yarn and release.						

NECKBAND — Vee:

Left Vee piece:

Cast on in 1x1 rib	54	58	62	66	70	74 sts
Knit as for 'U' band, increasing 1 stitch at one end of alternate rows, 4 times						
Change to tubular s.s.5½						
Inc. on both beds at shaped end on 4th and 8th rows.						
Knit 2rs.						
Knit 3rs in waste yarn and release.						

Right Vee piece and Back Neck:

Cast on in 1x1 rib	86	94	98	106	110	118 sts
Knit as for Left Vee.						

48 52 56 58 60
 5½ 6 6 6½ 6½ 7"
 14 15 15 16.5 16.5 18

1" (2.5)

102 = 6½" (15.5)
 110 = 7" (18)
 118 = 7½" (19)
 126 = 8" (20.5)
 134 = 8½" (21.5)
 142 = 9" (23)

112 116 120 124 128 132
 13 13½ 14 14½ 15 15½"
 33 34 35.5 37 38 39.5

BACK

148 156 164 172 180 188
 17 18 19 20 21 22"
 43 46 48 51 53.5 56

30 = 3½" (9)

Total No. of sts dec. on each armhole:

18 20 22 24 26 28

Total No. of sts dec. on each shoulder:

32 32 34 34 36 36

Total No. of sts on neck:

48 52 56 58 60

Figures in italics denote centimetres

~16 sts

70
 76
 82
 88
 94
 100

104 108 112 116 120 124
 12 12½ 13 13½ 14 14½"
 30.5 32 33 34 36.5 37

184 = 11" (28)
 192 = 11½" (29)
 200 = 12" (30.5)
 208 = 12½" (32)
 216 = 13" (33)
 224 = 13½" (34)

SLEEVE

68 68 72 72 76 76
 8 8 8½ 8½ 9 9
 20.5 21.5 23

58 = 4" (10)

Sleeve Cap:

	sts	rows
1) -4, 1x4.4r, 2x2.6r, 10x2.4r, 6x2.2r	(44)	(70)
2) -4, 1x4.4r, 2x2.6r, 12x2.4r, 5x2.2r	(46)	(76)
3) -4, 1x4.4r, 2x2.6r, 14x2.4r, 4x2.2r	(48)	(82)
4) -4, 1x4.4r, 4x2.6r, 12x2.4r, 5x2.2r	(50)	(88)
5) -4, 1x4.4r, 4x2.6r, 14x2.4r, 4x2.2r	(52)	(94)
6) -4, 1x4.4r, 4x2.6r, 16x2.4r, 3x2.2r	(54)	(100)

1" (2.5)

5" (13)

U-Neck

1" (2.5)

2" (5)

Round Neck

V-Neck

Cut just above first row of armhole

LADIES' RIBBED SWEATER WITH FULL SLEEVES IN CROCHET STITCH — 3 Lengths

SIZE:	Bust	32	34	36	38	40 ins
		81	86	91	97	102 cms
Length:	Long	24	24½	25	25½	26 ins
		61	62	63.5	65	66 cms
	Standard	21	21½	22	22½	23 ins
		53.5	54.5	56	57	58.5 cms
	Short	18	18½	19	19½	20 ins
		46	47	48	49.5	51 cms

MATERIALS:	Body sections				
	Long	7	8	8	8
		199	227	227	227
	9 ozs 256 grams				
	Standard	6	7	7	7
		171	199	199	199
	Short	5	6	6	6
		142	171	171	171
	7 ozs 199 grams				
Sleeves		Approx. 5 oz 2-ply equivalent for all sizes			
Industrial yarn — 3-ply equivalent		2/24s Courtelle 2-fold 2/30s Courtelle 3-fold 2/32s Courtelle 3-fold 2/24s Botany 3-fold (or 4 if yarn is very soft)			

TEST SQUARE:	100sts K/K rib = 10" (25.5 cms) when slightly stretched
	100rs K/K rib = 9" (23 cms) (10sts & 11rs = 1" (2.5 cms))
	100sts Crochet stitch = 15" (38 cms)
	100rs Crochet stitch = 6" (15 cms) (6½sts & 17rs = 1" (2.5 cms))
K/K rib s.s.3½ 1x1 rib s.s.2 Crochet stitch s.s.4½	

PATTERN SETTING:

p	p	p	p	p	p	p	p
p	p	p	p	p	p	p	p
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
p	p	p	p	p	p	p	p
p	p	p	p	p	p	p	p

Back and Front Beds

AX Knit 2rs - Back to left

N← Knit 2rs - Back to right

PATTERN NOTES:	Instead of the usual 4rs AX only 2rs are knitted. This gives a softer fabric which is more suitable for a full sleeve.
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BACK — Longline:

Cast on in K/K rib	160	170	180	190	200sts
Knit	138	144	150	156	162rs

ARMHOLE: RC 000

Cast off 16sts at beg. of next 2rs

No. of sts	128	138	148	158	168
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Knit straight to row 100

SHOULDER and BACK NECK: RC 000

Using an odd length of matching yarn, cast off in centre

	60	62	64	66	68 sts
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Pushers in W.P. on both beds under needles at right

Both Locks on BX

No. of sts rem. at right	34	38	42	46	50 sts
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Shape neck edge as follows:—

Dec. 2sts every alternate row 3 times all sizes then keep this edge straight until shoulder is complete.

At the same time shape shoulder edge.

SHOULDER SHAPING:

Cast off

4sts 4 times	6sts 4 times	6sts 6 times	6sts 4 times	8sts 4 times
6sts twice	4sts twice		8sts twice	6sts twice

Knit right half of neck to match.

Total No. of sts dec. at neck	72	74	76	78	80
No. of sts dec. on each shoulder	28	32	36	40	44

FRONT:

Knit as for back to armhole row 58.

Using odd length of matching yarn cast off 16sts in centre.

Divide work and knit right half as follows:

At neck edge, on alternate rows, cast off 6sts twice

At neck edge, on alternate rows, dec. 2sts 3 times

Dec. 1 stitch every 3rd row	10	11	12	13	14 times
-----------------------------	----	----	----	----	----------

Knit straight to row 100 then shape shoulder as for back.

No. of sts dec. at neck edge (not including 16 centre stitches)	28	29	30	31	32
---	----	----	----	----	----

Knit left side to match.

SLEEVES:

Set machine as diagram with a total of 140 needles actually working

Knit cast on row on s.s.1

Knit 2 CX rows on s.s.3

Knit 1 row N on s.s.3

Set for pattern s.s.4¾	Knit	234	242	250	258	266 rows straight
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TOP SHAPING:

At beg. of next 2rs cast off 8sts.

Knit 2 rows.

Repeat these 4 rows 5 times more.

Cast off rem. 44sts.

CUFFS:

1x1 rib s.s.2

Cast on 56 58 60 62 62 sts

Knit 60rs

Transfer stitches to Back bed. Drop front bed down and pick up stitches from lower edge of sleeve onto the needles holding the rib. Distribute the fulness as evenly as possible.

Black strippers s.s.5½

Holding the work down underneath, knit 1 slow careful row.

Cast off loosely.

NECKBAND:

Knitted in tubular s.s.5

Cast on 134 136 138 140 142 sts on ea. bed

Knit 10rs

On one bed only, transfer every 4th stitch to its adjacent needle.

Leave empty needles in work. Knit 10rs.

Change to s.s.3, waste yarn, locks on N and Pink strippers.

Knit 3rs.

Remove from machine.

STANDARD LENGTH:

Cast on as main pattern s.s.3½

Knit 102 108 114 120 126 rs

Continue as main pattern from armhole.

SHORT LENGTH:

Cast on as main pattern.

Knit 40rs on s.s.3

Knit 40rs on s.s.3½

Continue as main pattern from armhole.

MAKING UP:

Gently pull pieces lengthways and lightly press. The sleeves should be pressed to 19½" (49.5 cms) wide. Join shoulders and finish neck. On sleeve seams place pins 1½" (4 cms) down from top.

Sew sleeves into armholes, joining the 1½" (4 cms) marked off to the 16sts cast off at armhole.

Lightly press all seams and neck. Join side seams with flat over-sewn seam.

72 74 76 78 80
 7¼ 7½ 7½ 7½ 8"
 18.5 19 19 20 20.5

10rs = 1" 2.5

128	138	148	158	168
12½	13½	14½	15½	16½"
32.5	35	37.5	40	42.5

100rs = 9"
 23

138rs = 12½" 32
 144rs = 13" 33
 150rs = 13½" 34
 156rs = 14" 35.5
 162rs = 14½" 37

BACK
 LONG LENGTH

16	17	18	19	20"
40.5	43	46	47	51
160	170	180	190	200

58rs

-16

10rs

42rs

FRONT

-16

-44

24rs

234rs = 14" 35.5
 242rs = 14½" 37
 250rs = 15" 38
 288rs = 15½" 39.5
 266rs = 16" 40.5

SLEEVE

140 = 21" 53.5

CUFF

60rs 1x1 rib

56 58 60 62 62 sts

Figures in italics denote centimetres

Neck:

- 1) -16) 2x6.2r, 3x2.2r, 10x1.3r (72)
 2) -16) 2x6.2r, 3x2.2r, 11x1.3r (74)
 3) -16) 2x6.2r, 3x2.2r, 12x1.3r (76)
 4) -16) 2x6.2r, 3x2.2r, 13x1.3r (78)

- 5) -16) 2x6.2r, 3x2.2r, 14x1.3r (80)

BABY'S DRESS AND JACKET (Model Book 6, design No. 1490)

This is a simple well-designed pattern. Easy to knit because all shaping is done by change of stitch instead of decreasing.

SIZE:	18-20" (46-51 cms) Chest
MATERIALS:	Approx. 9 ozs (256 grams) 3-ply yarn. Ribbon.
TEST SQUARE:	100sts = 11 $\frac{3}{4}$ " (30 cms) 100rs = 6 $\frac{1}{4}$ " (16 cms)
	Use Pink Strippers

DRESS — Back and Front alike

Cast on 120 stitches K/K rib s.s.4. Knit 8rs

Change to pattern: Back bed on N, front bed AX 4— Pushers under all needles at front in I up, 1 down position.

Knit 130 rows, s.s.4 Change back to K/K rib. Knit 14 rows s.s.4, then 14 rows s.s.3

Transfer every alternate stitch on each bed to its adjacent needle (1x1 rib)

Knit 14 rows s.s.3

Make row of holes by transferring every alternate stitch from back bed to the nearest needle on the front bed. Leave empty needles in work. Knit 3 rows

Cast off remaining 60 stitches.

Knit second piece the same

SLEEVES

Cast on 60sts K/K rib s.s.4. Knit 6rs. Change to pattern, s.s.4 and knit 14rs

Change back to K/K rib and knit 14rs s.s.4

Knit 14rs s.s.3. Transfer for 1x1 rib and continue as main pattern.

JACKET

BACK

Cast on 80sts, knit 6rs K/K rib s.s.4.

Change to pattern, knit 90rs. Continue as for dress.

FRONTS

Cast on 40sts, knit as for back.

SLEEVES

Cast on 50sts, knit as for body but with only 64rs of pattern.

BOOTEES

Cast on 70sts in K/K rib, s.s.4.

Knit 4rs, change to pattern, knit 22rs.

Change to K/K rib. Knit 10rs s.s.3, at the same time dec. 2sts at each end of every alternate row 5 times. Make row of holes. Knit 12rs K/K rib s.s.3.

Cast off.

CHILD'S SLEEVELESS SUMMER TOP — Contributed by June Smith

SIZE:	Chest 26" (66 cms)	Length 18" (46 cms)
MATERIALS:	4 ozs (114 grams) 2/24s Courteille used 2-fold (3-ply equivalent)	
TEST SQUARE:	100sts = 12½" (32 cms) 100rs = 6¼" (16 cms)	Approx. 8sts & 16rs = 1" (2.5 cms)

Rib and pattern are knitted on s.s.3½

Pink Strippers for pattern (Fully automatic)

PATTERN SETTING:

1 . 1 . 1 . 1 . 1 . 1 . 1 . 1 . 1	Back N
. 1 . 1 . 1 . 1 . 1 . 1 . 1 . 1	Front AX ←
P p p p	
p p p	

BACK

Cast on in 1x1 rib 104sts, knit 20rs and set for pattern. Knit 160rs.

ARMHOLE

RC 000

At beg. of next 2rs cast off 4sts

Dec. 1 st at each end of every alt. row 8 times (No. of sts 80)

Knit straight to row 90

SHOULDERS

Cast off 2sts at beg. of the next 16rs

Cast off the rem. 48sts

FRONT

Knit as for back to armhole row 50

NECK

Using an odd length of matching yarn, cast off in centre 22sts

Make a note of the position of the pushers on front bed at left then, using waste yarn, knit these stitches down to the bottom of the bed and return pushers to the blocking rail. Set back lock to BX and put pushers in W.P. under all working needles at the right on the back bed.

Working at right half only, dec. 1 st every 3rd row 13 times. Knit 1 row. (40rs).

Shape shoulder as for Back.

LEFT HALF

Reset RC to 50, unravel waste yarn from stitches on front bed, bring pushers out from rail and set in correct position. Back lock on N. Knit to match right half.

NECKBAND

Cast on 112sts in 1x1 rib and knit 12rs.

Cast off.

ARMBANDS

Cast on in 1x1 rib 92sts and knit 12rs.
Cast off.

MAKING UP

Join shoulders. Sew on ribbed bands by laying cast-off edge just behind the patterned edge of neck and neatly backstitch. Join side seams. Do not press.

BOY'S VEE NECK SLEEVELESS SLIPOVER

SIZE:	Chest 30"	76 cms
	Length 18"	46 cms

MATERIALS:	6 ozs full 4-ply equivalent. (171 grams)
	2/24s Courtelle used 3-fold

TEST SQUARE:	100sts = 15"	38 cms	Approx. 6½sts
	100rs = 9¼"	23.5 cms	and 10½rs = 1"
			(2.5 cms)
	s.s. 4 for 1x1 rib.	s.s. 5½ for stocking stitch	

BACK:

Cast on in 1x1 rib 105sts. Knit 30rs.
Transfer to front bed and set for stocking stitch. Knit 88rs.

ARMHOLE:

At beg. of next 2rs cast off 7sts.
Dec. 1 stitch at each end of every alt. row, 7 times (77sts)
Knit straight to row 68

SHOULDERS:

Cast off 4sts at beg. of next 12rs. Cast off rem. 29sts.

FRONT:

Knit rib as for back. Knit 78rs stocking stitch. Divide for neck.
Dec. centre stitch. Neck edge is decreased every 6th row, 14 times.
On row 88 reset RC 000 and start armhole shaping (as for back).
When armhole shaping is complete continue knitting to row 68.
Shape shoulder as for back.
Knit left side to match.

NECKBAND:

Cast on in 1x1 rib 150sts. s.s. 3½. Knit 12rs and cast off.

ARMBANDS: (Knit two)

Cast on in 1x1 rib 100sts. s.s. 3½. Knit 12rs and cast off.

MAKING UP:

Join shoulder seams, sew on neck and armhole bands (by cast off edges).
Cross ends of neckband to form Vee. Join side seams.

CHILD'S REGULATION SCHOOL CARDIGAN IN STOCKING STITCH

SIZE:	Chest 30"	76 cms	
	Sleeve 14½"	37 cms	with cuff turned back
MATERIALS:	10 ozs (284 grams) 2/28s Courtele used 3-fold		
TEST SQUARE:	100sts = 14"	35.5 cms	Approx. 7sts and
	100rs = 9"	23 cms	11rs = 1" (2.5 cms)
	1x1 rib s.s.3. Stocking stitch s.s.5½		

BACK:

Cast on in 1x1 rib 106sts. Knit 22rs.
Transfer stitches to front bed, set for stocking stitch and knit 100rs.

ARMHOLE: RC 000

At the beg. of next 2rs cast off 4sts then dec. 1 stitch at each end of every alt. row, 7 times (84sts rem).
Knit straight to row 78

SHOULDERS:

At beg. of next 2rs cast off 6sts then cast off 7sts at beg. of next 6rs.
Cast off rem. 30sts.

FRONTS: (Knit 2 pieces with reversed shapings)

Cast on 54sts and knit as for back to armhole. Shape armhole as for back.
At the same time shape front edge by dec. 1 stitch on the next and every foll. 5th row, 16 times.
Knit straight to row 78.
Shape shoulders as for back.

SLEEVES:

Cast on in 1x1 rib 60sts and knit 52rs. Transfer to front bed and set for stocking stitch.
Inc. 1 stitch at each end of every 10th row, 13 times. Knit 14rs straight.
No. of rows: 144 No. of sts. 86

SLEEVE CAP:

At beg. of next 2rs cast off 5sts.
At beg. of next 2rs cast off 4sts.
At beg. of next 2rs cast off 3sts.
Dec. 1 stitch at each end of every 3rd row, 12 times
Dec. 1 stitch at each end of every row, 12 times
No. of rows: 54. Cast off rem. 14sts.

FRONT BAND:

Cast on in 1x1 rib 12sts. Knit 6rs and make Buttonhole. Knit 26rs and make 2nd Buttonhole.
Repeat until 5 Buttonholes have been worked.
Knit without further Buttonholes to row 432. Release work and finish band after sewing to cardigan, when length can be adjusted.

MAKING UP:

Pull and press pieces. Join shoulder seams, set in sleeves, then join side and sleeve seams. Sew on band and buttons.

Set RC to 40 and knit the left half to match.

SLEEVES:

Note: All increasings should be made on a row with an O key setting.

Cast on 1x1 rib 50sts using yarn 3-fold, knit 42rs.

Change to pattern and 2-fold yarn, inc. 2sts at each end of every 42nd row, 3 times. Knit 6rs straight.

No. of rows: 132

No. of sts: 62

SHAPE TOP:

Cast off 4sts at beg. of next 2rs.

Cast off 2sts at beg. of next 2rs.

Dec. 1 stitch every 4th row, 6 times, then dec. 2sts at each end of every alt. row, 7 times.

Cast off rem. 10sts.

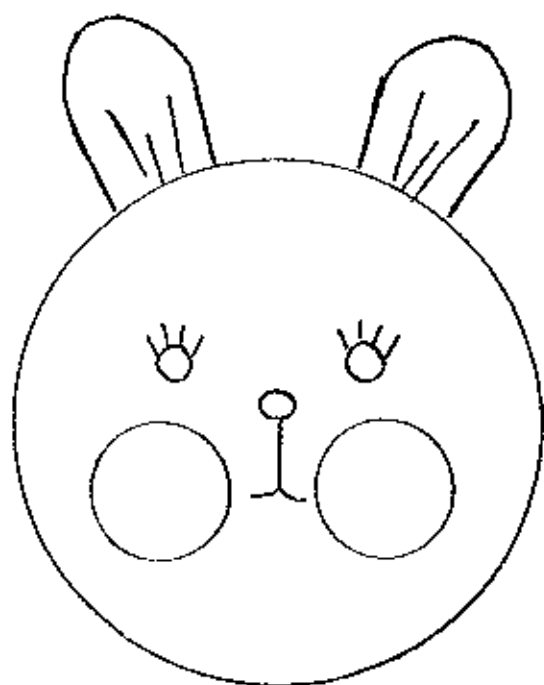
MAKING UP:

Join shoulder seams and sew sleeves into armholes. Join main seams.

Work 2rs of double crochet round neck and back opening, then work a row of picot round neck and a third row of double crochet round back opening making buttonholes.

Work row of embroidered chain stitch across base of yoke, back and front.

TOY FACES — Use Felt and/or Embroidery Thread

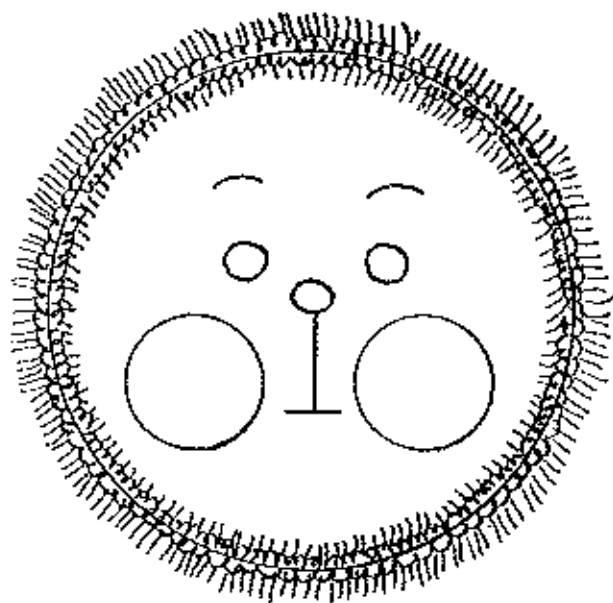


Rabbit

Eyes . . . Blue
 Lashes, line under nose, mouth . . . Black
 Cheeks . . . Pink
 Nose . . . Red

Note for all Toys

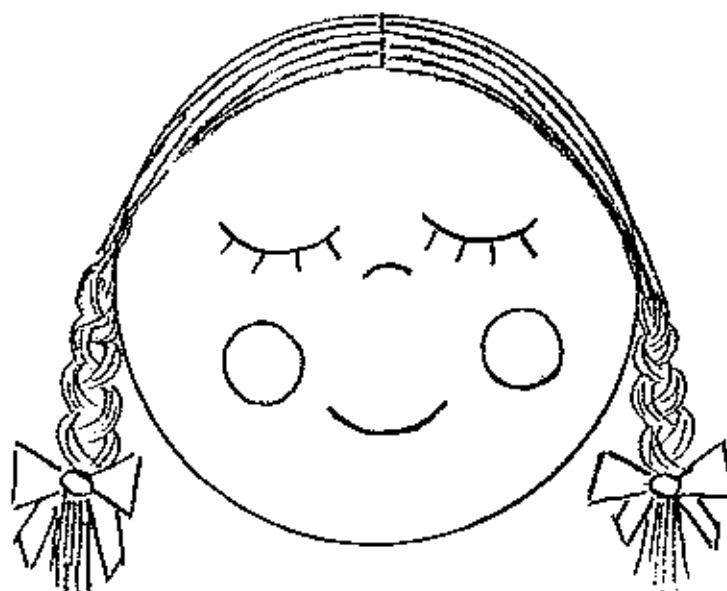
To position features: mark the approximate centre of face, place nose next to but above the mark. This will provide a good guide for the remaining features.



Lion

Double width of gold-coloured fringing, knitted or bought, sewn round head seam.

Eyebrows, eyes, line under nose, mouth . . . Black
 Nose . . . Red
 Cheeks . . . Orange



Doll

Eyes . . . all Black
 Nose and cheeks . . . Pink
 Mouth . . . Red
 Hair . . . Use strands of thick wool, long enough to go across head. Sew flat at centre and sew in a bunch to head at earline. Plait ends and tie on ribbons.

Face can be made more attractive if, before joining knitted sections, head and neck part is used as a pattern to cut a piece of suitable fabric. This can either be sewn in with the head and neck or stitched on separately, before hair.

SIMPLE TOYS FROM ODDMENTS

Pattern for Basic Doll

This is the simplest shape and quick to knit. The pattern is given in 4-ply yarn but it can be knitted in 3-ply (on a smaller stitch size) which will give a smaller toy, or in Double Knitting, giving a larger toy.

This pattern forms the basis of a variety of inexpensive toys such as a rabbit, lion or doll. When knitting the rabbit or lion the number of rows on the arms and legs are reduced by 4 to make them slightly shorter. Details for trimmings, faces, etc. are given but they can be varied as required.

MATERIALS:

Approx. 2 ozs (58 grains) 4-ply.
Oddments of trimmings

s.s. 6 All pieces in stocking stitch

FIRST LEG:

At right side of centre, cast on 4sts. Knit 1 row.
Set RC 001. Inc. each end every row, 7 times (8rs, 18sts)
Knit 35rs straight. Lock at left.
Shape top of leg: Set to BX. Pushers in W.P. under all needles.
Now take down 4 pushers at right on next and following 2 alt. rows (12sts in H.P.)
Bring all pushers back into work and knit 1 row. Break yarn.
Transfer stitches to back bed and set Back lock to GX.

SECOND LEG:

Miss the first 7 needles at the left side of centre and then cast on 4sts.
Knit as for first leg but finish on row 34. Lock at right.
Shape top of leg as before, taking pushers down at the left edge instead of the right.
Bring pushers back into work and knit 1 row.
Now bring the 18sts from the back bed over to the front.

BODY: RC 000

There are now 36sts in the centre of the machine.
Dec. 1 stitch at each end every 8th row, 3 times (24rs, 30sts)

CHEST: RC 000

Dec. 1 stitch at each end of every 4th row, 5 times (20rs, 20sts)

HEAD: RC 000

Continue knitting, at the same time increasing 1 stitch at each end of every 3rd row, 6 times
Knit 6rs. (24rs, 32sts).
Dec. 1 stitch at each end of every 3rd row, 6 times.
Dec. 1 stitch at each end of every row, 6 times (24rs)
Cast off rem. 8sts.
Knit another piece to match.

ARMS: (Knit 4 pieces)

Cast on 4sts. Inc. at each end of every alt. row, 5 times (14sts, 10rs)
Knit 20rs straight and cast off.

MAKING UP:

Pull all pieces lengthways and press. Join arms on to body, seam right the way round with

backstitch, leaving an opening for stuffing at one side of body.

Kapok can be used for stuffing but it tends to go lumpy when washed. The best filling for toys is waste yarn from knitting, old nylons or foam chips. If ends from sewing up, test squares and oddments of knit fabric are saved in a bag there is very soon enough stuffing for a toy and with this kind of filling toys can be easily washed, put in the spinner and will always come up soft.

RABBIT'S EARS: Knitted in tubular — work 2 alike

Cast on 12sts on each bed, s.s.6. Knit 40rs.

Dec. 2sts at each end of every 4th row, 5 times (20rs)

Fasten off remaining stitches.

When attaching to head, gather the straight edge slightly before sewing on.

LION'S TAIL Knitted in tubular (Length 7" 18 cms)

Cast on 3sts on each bed. s.s.6 Knit 140rs and cast off.

Pull a few ends of matching yarn through the cast-on edge and tie a knot in the end of tail.

CLOTHES FOR TOYS

TROUSERS: Knit 2 identical pieces

s.s.5 using 4-ply. 1x1 rib setting. Push 28 needles on each bed into W.P.
 Knit cast-on row. Set Back lock to GX.
 At front push up empty in-between needles.
 s.s.4. Knit 1 row. Change to Black strippers and s.s.5. Knit 9rs (lock at left).
 Transfer stitches on back bed to front, s.s.6. Knit hem joining row.
 RC 000. Knit 24rs.
 RC 000 Dec. 1 stitch at each end of next and every alternate row, 4 times.
 Knit to row 20.
 Knit 11 rows on s.s.5, 1 row on s.s.7, 11 rows on s.s.5.
 Cast off.

MAKING UP:

Pull and press pieces. Join leg and crotch seams. Catch down hem to inside and insert narrow elastic.

DRESS: Back and Front alike. 4-ply

Cast on with every alternate needle setting, 40sts on each bed.
 With both locks set to CX and s.s.5 knit 10rs.
 Rack bed so that needles with stitches are directly opposite, transfer the stitches on Back bed to the needles at the Front which are holding stitches.
 Put pushers under all working needles in 1 up, 1 down position. Black strippers.
 Lock to AX with left arrow key pressed down. s.s.4½
 Knit 45rs.
 Lock to N, knit 1 row.
 Transfer every alternate stitch at Front to Back bed, to give a widely spaced rib.
 With Blue strippers and s.s.4 knit 24rs.
 Cast off loosely.

SLEEVES:

Working as for skirt on dress, cast on with 1x1 rib setting 20sts on each bed.
 Complete hem and knit 28rs in pattern.
 Knit 1 plain row and cast off.

MAKING UP:

Pull pieces and join the back and front together by a couple of stitches on the cast-off edges at top. Join cast-off edge of sleeves to the rib section at top of dress. Sew main seams.

JERSEY: Back and front alike

Cast on in K/K rib, 60sts. Knit 16rs on s.s.4½ and insert marker threads in stitches at both ends of the work. Knit a further 28rs.
 Make a row of holes, transfer every alternate stitch on Back bed to the nearest needle at Front. Leave empty needles in work and knit 3rs. Cast off.

SLEEVES:

Cast on in K/K rib 46sts. Knit 16rs s.s.4½ and cast off.

MAKING UP:

Sew cast-off edge of sleeves to the 28rs at top indicated by marker thread. Join a couple of stitches at top for shoulder. Join remaining seams, thread cord or ribbon through neck holes.

GARMENT DESIGN

This section does not deal with the type of garment design which requires both flair and training. It is simply intended to clarify a great deal of the wholly unnecessary mystique and confusion which surrounds knitting patterns. Most women who are capable of simple dressmaking will take the minor alterations in their stride — in spite of the fact that cutting is involved and one wrong move with the scissors often means a ruined garment.

But for the majority any such alterations in knitting produce an 'I know I am not clever enough to do that' reaction. This is not a fact but a mental blockage brought about by years of hand-knitting patterns. Handknitters have never been called upon to think for themselves as dressmakers have to do. They have little knowledge of the basic dimensions of a garment and tension in terms of rows and stitches means very little. When faced with a knitting machine which requires a reasonable amount of logical thinking, they very quickly find themselves in difficulties.

Although knitting machines have been available for many years, only a minority of people who own them are able to fully understand the principles of machine knitting. It is so closely allied to industrial knitting that it requires a whole new way of thinking.

Most of the problems are not due to people being incapable of learning new methods but from having little or no information from which to learn. The majority of machine instruction books explain the mechanics of the machine but so many vital details about the actual production of garments are left out that the new knitter hardly knows where to begin.

When a garment is designed it is the designer's job to produce an interesting garment, while working within the limitations of the machine. Industrial designers are trained to do this and, although there is often heated argument about what constitutes 'the limitations of the machine', the designer must produce saleable designs.

For the home knitter the problem is rather different. Custom-made garments are often required, or garments knitted in a particular yarn or stitch for which no pattern is available. Eventually the ability to understand the basics of simple design becomes essential.

The Passap system of diagrams as a form of knitting instruction is the easiest possible method. Not only does this put the shapings into the easiest form to read but at every stage the knitter can see exactly what the shapings should produce.

A great deal of time and effort can be wasted with attempts to make numerous alterations to an existing pattern. With the help of the Passap Ready Reckoner chart, which is in the Instruction Book, all that is required is a sensible understanding of how a garment is constructed.

Knitting is one of our oldest crafts and from the earliest days the aim has been to produce three tubes — one for the body and two for the arms. The only things which have changed are the quality of the fabric and the refinements of shaping.

Thousands of knitting patterns are produced every year, their main object being to maintain the sales of the various spinners' yarns, not because there are that many new shapes to be knitted. Except for the advance fashion section there are very few totally new styles. The majority of new patterns are based on the shapes we have been wearing for years. A careful analysis of a pile of knitting patterns will show that the reason they all look so different lies mainly in the colour or texture. Once the basic shape ideas are mastered there are endless permutations of colours, even in the form of stripes or trimmings and a basic design can be changed many times.

Texture is just as effective in completely changing the appearance of a 'same shape' pattern. The Duomatic is capable of an endless variety of stitches and will knit many types of textured as well as standard yarns.

Once a knitter has finished learning the basics of machine knitting she begins to look around for interesting garment patterns — these are usually available but there are invariably problems. Perhaps the yarn used in the original is difficult to obtain or she wishes to use some she already has

and cannot find a pattern which is suitable. The sizing of the pattern may not be right for her, or perhaps there are certain features of the garment which are unsuitable to her figure.

Hours are wasted trying to find a pattern or trying to convert a handknitting pattern which, in most cases, is quite unsuitable. To those who are newcomers to machine knitting it all becomes so confusing that at this stage they begin to feel rather desperate and often lose heart altogether. They begin to see machine knitting as being very limited and worrying. Tackled in an unenlightened way it can be both, but when clear thinking methods are used there are none of the limitations which exist with handknitting.

To begin — forget about the numerous patterns and the confusing variety of stitches. Start off by deciding which stitches you are capable of doing without difficulty. You may only be at the stage where you can do three types of stitch — Fisherman's rib, K/K rib and stocking stitch. There is no problem here since you can knit an endless variety of garments even if you can only knit one type of stitch efficiently.

Knit a tension swatch with the yarn you wish to use and, even if it means several attempts, make sure that the texture is correct.

Use fairly large sheets of paper for your design — such as a cheap drawing pad. Never try to carry anything in your head — write down the details you will need as neatly as possible.

Now work out a pattern for the simplest possible shape and knit it. If you have made a mistake you will know when the first piece is knitted, providing you check the measurements when it comes off the machine. It can easily be re-knitted and your mistakes are going to teach you quicker than anything else.

When this first simple garment is complete, take a good look at the diagram you drew and let your imagination play around a little. How many garments could you get from this one pattern, just by altering neck, sleeves or body shaping? Assuming you started off with a straight, round-necked, sleeveless jumper, you could get at least half a dozen garments from this without a change of yarn or stitch. Never be tempted to get involved in endless pattern making or variety of stitches. Once you have a pattern and a stitch, work on it until you are bored and then get going on a new one. In this way you will find that the feeling of confusion disappears and you learn a great deal in a short time. It soon becomes obvious that most of the work on a pattern is repetitive and every garment you do gets a little easier.

The following pages deal with the actual working out of a simple garment and the possible variations but, before proceeding, think about the following points:

Is the yarn you are going to use suitable for the garment you have in mind? e.g. if it is a synthetic then it may only be suitable for a garment for the upper part of the body.

For an everyday garment remember that the thicker the yarn the more simple the stitch, otherwise it may be too heavy.

Having chosen your stitch are you quite sure you will be able to cope with it when you reach the armhole and neck shaping?

Have you chosen a needle set-up which you understand? In many cases where the needle setting is regular on one bed but interspersed with widely-spaced stitches on the other bed, only the stitches which are in regular formation are counted, the others being increased or decreased as required to maintain the continuity of the pattern. (See section on "Irregular Pattern Settings").

On adult garments certain measurements remain the same, others are altered to change the shape according to the current fashion trends. Make a list of the measurements you will require for the first basic garment as shown on the following pages.

These points may be useful for reference:—

Bust or chest should be actual measurement plus 2" (5 cms), so for a 36" (91 cms) bust the finished garment should be 38" (97 cms).

Wrist — actual size plus 1–1½" (2.5–4 cms) (The ribbing will ensure a good fit).

Upper arm — actual size plus 2" (5 cms); for young fashion add 1" (2.5 cms) only.

Sleeve seam — measure this but knit 1" (2.5 cms) less in length. The diagonal line as sleeve is shaped will give the correct length when finished.

Width of back after armhole shaping — take tape across back from shoulder bone to shoulder bone.

Back neck — this is a "standard" and need not be changed without good reason.

Round neck — this should be about 3" (7.5 cms) deep before neckband is attached.

All sleeveless garments need the armhole to be cut in at least 1" (2.5 cms) deeper to allow for a band to be added.

Armhole depth — another standard which only needs changing for a particular purpose, i.e. waistcoats for either sex will be worn over another garment so the armhole should be made deeper to avoid a "pulled" appearance.

Standard slope for a shoulder is 1" (2.5 cms). This can be changed to 1½" (4 cms) for greater slope.

For longer garments which go over the hip add 2" (5 cms) to actual measurement of hip.

When working out the shapings for a pattern on both beds remember that in most cases the needle rule must be maintained, therefore stitches will either be decreased in a block of equal number or in pairs, one on the back bed, one on the front — at each end of the work. Cast on a number of stitches divisible by 4.

To begin with do not work out a pattern for a whole garment. The back is enough to start and, if it is not satisfactory, a lot of unnecessary work will have been saved.

When the first piece has been knitted pull lengthways and measure, check size against diagram, then press.

Continue knitting but if possible press and tidy ends on each piece as it is finished. A pile of neat pieces will stimulate the desire to sew up the garment, a jumble covered in ends will make it a job to be put off. As many diagrams as possible, with helpful information, are included here but they will only serve their purpose if the knitter is prepared to forget previous methods of working.

When buying yarns it is useful to remember that 100 grams = approximately 3½ ozs.

Weight in ozs.	Approx. weight in grams
1½	50
3½	100
7	200
14	400
16	450

Available Zipper lengths

4"	10 cms	10"	25 cms	22"	55 cms
5"	12 cms	12"	30 cms	24"	60 cms
6"	15 cms	14"	35 cms	26"	65 cms
7"	18 cms	16"	40 cms	28"	70 cms
8"	20 cms	18"	45 cms	30"	75 cms
9"	22 cms	20"	50 cms		

USING THE PASSAP READY RECKONER CHART

The following pages deal with the use of the Passap chart which is in the basic instruction book. The chart is reproduced in this book in its old form -- inches instead of centimetres. This is only to help new knitters and once its use is understood the up-to-date centimetre chart should be used. On the metric charts 100sts = 32 cms, 100rs = 23 cms. The number of stitches and rows will differ slightly, due to conversion.

Few Duomatic owners seem to be able to understand how the chart works, yet it is extremely simple. The top line across both pages is numbered in half inches from 4—20. These figures are based on the measurements a test square is likely to produce. The figures are based on a test square of 100sts and 100rs. The stitches will produce one measurement and the rows another.

The vertical column of figures at the extreme left, which is numbered from $\frac{1}{2}$ to 10 and then 20, 30, 40, represents the inches you are likely to require when designing a garment.

For the purpose of the examples given here a theoretical test square has been knitted with 100sts which = $12\frac{1}{2}$ " and 100rs which = 9". Before reading any further turn to the pages with the Ready Reckoner and find $12\frac{1}{2}$ in the top horizontal line of the chart. Now look at the figure 1 in the left hand, vertical column, on the same line as the figure 1 but to the right directly under the $12\frac{1}{2}$ is a figure 8. This is telling you that if the test square of 100sts measured $12\frac{1}{2}$ " then to produce a 1" wide piece of knitting you would need 8sts. Look further down the left hand column and find the figure 9 then look to the right on the same line but under the $12\frac{1}{2}$ and the figure is 72. This tells you that if your test square of 100sts is $12\frac{1}{2}$ ", then to knit a piece which is 9" wide you will need 72sts.

When working out your own garment designs all you need is a tidy drawing of the shape, which does not need to be to scale (in fact this is quite pointless), a well knitted test square which has been accurately measured and the Passap chart.

Now to work out the rows. This is where the confusion usually arises. Most beginners trying to use the chart are soon able to understand how the chart operates for working out the stitches but seem to be convinced that a different method must be used to calculate the rows. It needs to be clearly understood at this point that the method is exactly the same but a different column of figures is used. Since 100sts on the test square measured $12\frac{1}{2}$ " the column with $12\frac{1}{2}$ at the top was used. When rows are being worked out it is the column with the measurement of the 100rs which is used. On the example test piece 100rs measured 9" so for the row calculations the column with 9 on the top line is used.

At this point find 9 on the top line, now place your finger on figure 1 in the left hand vertical column and, keeping it on the same line, move across to the right until it is under the figure 9. This tells you that if 100rs measures 9" then you need to knit 11rs to produce 1". Now find figure 8 in the left hand column and move your finger across to the right as before until it is in the column with 9 at the top but still in line with the figure 8 at the left. This now tells you that, if your test square for 100rs was 9" long, then to knit a piece which is 8" long you will need to knit 89rs. This figure would not be put on a pattern since it is not usual to work in odd numbers and figures are always rounded up or down, so put either 88 or 90 on the pattern when this occurs.

The general practice when drawing the diagrams for a pattern is to draw half the shape only, putting in a dotted line to indicate a fold at the centre. The result is just like a dressmaking pattern, the shapings being filled in at one side only and being repeated at the other side as the knitting progresses. Although the diagram is only half of the total shape, always fill in the total number of stitches and rows for the whole piece.

Table of measurements of a 100 stitches or 100 rows test square from 4" to 12"

Required length of knitting (inches)	Inches equivalent to 100 stitches or 100 rows																Required length of knitting (inches)	
	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½		12
¼ 12-13	11	10	9	8-9	7-8	7	6-7	6-7	5-6	5-6	5-6	5-6	5	4-5	4-5	4-5	4	½
1 25	22	20	18	17	15	14	13	12	11	11	10	10	10	9	9	9	8	1
2 50	44	40	36	33	31	28	27	25	24	22	21	20	19	18	17	16	16	2
3 75	67	60	55	50	46	43	40	38	35	33	31	30	29	27	26	25	25	3
4 100	89	80	73	67	62	57	53	50	47	44	42	40	38	36	35	33	33	4
5 125	111	100	91	83	77	71	66	63	59	55	53	50	48	45	43	41	41	5
6 150	133	120	109	100	92	86	80	75	71	66	63	60	57	55	52	50	50	6
7 175	156	140	127	117	108	100	93	86	82	78	74	70	67	64	61	58	58	7
8 200	178	160	145	132	123	114	107	100	94	89	84	80	76	73	70	67	67	8
9 225	200	180	164	150	138	128	120	113	106	100	95	90	86	82	78	75	75	9
10 250	222	200	181	167	153	142	133	125	118	111	105	100	95	91	87	83	83	10
20	333 307 285 266 250 235 222 210 200 190 182 173 166 20																	
30	353 333 315 300 285 273 261 250 30																	
40	348 333 40																	

Table of measurements of a 100 stitches or 100 rows test square from 12½" to 20"

Required length of knitting (inches)	Inches equivalent to 100 stitches or 100 rows																Required length of knitting (inches)
	12½	13	13½	14	14½	15	15½	16	16½	17	17½	18	18½	19	19½	20	
¼	4	3-4	3-4	3-4	3-4	3	3	3	3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	¼
1	8	8	7	7	7	6-7	6-7	6	6	6	6	6	5	5	5	5	1
2	16	15	15	14	13	13	12	12	12	12	11	11	10	10	10	10	2
3	24	23	22	21	20	20	19	18	18	18	17	17	16	16	15	15	3
4	32	31	30	28	27	26	26	25	24	24	23	22	22	21	20	20	4
5	40	38	37	35	34	33	32	31	30	29	28	28	27	26	25	25	5
6	48	46	44	43	41	40	39	37	36	35	34	33	32	31	30	30	6
7	56	54	52	50	48	47	45	44	42	41	40	39	37	37	35	35	7
8	64	62	59	57	55	53	52	50	48	47	46	44	43	42	41	40	8
9	72	70	66	64	62	60	58	56	54	53	51	50	49	47	46	45	9
10	80	77	74	71	69	67	64	62	60	59	57	56	54	53	51	50	10
20	160	154	148	142	138	133	129	125	121	118	114	111	108	105	102	100	20
30	240	231	222	214	206	200	193	186	181	176	171	167	162	158	154	150	30
40	320	308	296	286	276	266	258	250	242	235	229	222	216	210	205	200	40

Measurement required	Table for test squares of 100 sts and 100 rows measuring 10 to 19,5 cm																		Measurement required		
cm	10	10,5	11	11,5	12	12,5	13	13,5	14	14,5	15	15,5	16	16,5	17	17,5	18	18,5	19	19,5	cm
0,5	5	4-5	4-5	4-5	4-5	4	3-4	3-4	3-4	3-4	3-4	3-4	3	3	3	2-3	2-3	2-3	2-3	2-3	0,5
1	10	10	9	8-9	8	8	7-8	7-8	7	7	6-7	6-7	6-7	6	6	5-6	5-6	5-6	5-6	5	1
2	20	19	18	17	16	16	15	15	14	14	13	13	13	12	12	11	11	11	11	10	2
3	30	29	27	26	25	24	23	22	21	21	20	19	19	18	18	17	17	16	16	15	3
4	40	38	36	35	33	32	31	30	28	28	27	26	25	24	24	23	22	22	21	21	4
5	50	48	45	43	42	40	38	37	36	34	33	32	31	30	29	29	28	27	26	26	5
6	60	57	55	52	50	48	46	44	43	41	40	39	38	36	35	34	33	32	32	31	6
7	70	67	64	61	58	56	54	52	50	48	47	45	44	42	41	40	39	38	37	36	7
8	80	76	73	70	67	64	62	59	57	55	53	52	50	48	47	46	44	43	42	41	8
9	90	86	82	78	75	72	69	67	64	62	60	58	56	55	53	51	50	49	47	46	9
10	100	95	91	87	83	80	77	74	71	69	67	65	63	61	59	57	56	54	53	51	10
20	200	190	182	174	167	160	154	148	143	138	133	129	125	121	118	114	111	108	105	103	20
30	300	286	273	261	250	240	231	222	214	207	200	194	188	182	176	171	167	162	158	154	30
40			348	333	320	308	296	285	276	267	258	250	242	235	229	222	216	211	205	40	
50								357	345	333	323	313	303	294	286	278	270	263	256	50	
60														353	343	333	324	316	308	60	
70																			358	70	
80																				80	
90																				90	

Measurement required		Table for test squares of 100 sts and 100 rows measuring 20 to 29,5 cm																		Measurement required	
		Measurement obtained																			
cm	20	20,5	21	21,5	22	22,5	23	23,5	24	24,5	25	25,5	26	26,5	27	27,5	28	28,5	29	29,5	cm
0,5	2-3	2-3	2-3	2-3	2-3	2	2	2	2	2	2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	0,5
1	5	4-5	4-5	4-5	4-5	4-5	4-5	4	4	4	4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	3-4	1
2	10	10	10	9	9	9	9	9	8	8	8	8	8	8	7	7	7	7	7	7	2
3	15	15	14	14	14	13	13	13	13	12	12	12	12	11	11	11	11	11	10	10	3
4	20	20	19	19	18	18	17	17	17	16	16	16	15	15	15	15	14	14	14	14	4
5	25	24	24	23	23	22	22	21	21	20	20	20	19	19	19	18	18	18	17	17	5
6	30	29	29	28	27	27	26	26	25	24	24	24	23	23	22	22	21	21	21	20	6
7	35	34	33	33	32	31	30	30	29	29	28	27	27	26	26	25	25	25	24	24	7
8	40	39	38	37	36	36	35	34	33	33	32	31	31	30	30	29	29	28	28	27	8
9	45	44	43	42	41	40	39	38	38	37	36	35	35	34	33	33	32	32	31	31	9
10	50	49	48	47	45	44	43	43	42	41	40	39	38	38	37	36	36	35	34	34	10
20	100	98	95	93	91	89	87	85	83	82	80	78	77	75	74	73	71	70	69	68	20
30	150	146	143	140	136	133	130	128	125	122	120	118	115	113	111	109	107	105	103	102	30
40	200	195	190	186	182	178	174	170	167	163	160	157	154	151	148	145	143	140	138	136	40
50	250	244	238	233	227	222	217	213	208	204	200	196	192	189	185	182	179	175	172	169	50
60	300	293	286	279	273	267	261	255	250	245	240	235	231	226	222	218	214	211	207	203	60
70	350	341	333	326	318	311	304	298	292	286	280	274	269	264	259	255	250	246	241	237	70
80					356	348	340	333	327	320	313	308	302	296	291	286	281	276	271	267	80
90												353	346	340	333	327	321	316	310	305	90

PASSAP chart

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Measurement required	Table for test squares of 100 sts and 100 rows measuring 30 to 39,5 cm																				Measurement required
cm	30	30,5	31	31,5	32	32,5	33	33,5	34	34,5	35	35,5	36	36,5	37	37,5	38	38,5	39	39,5	cm
0,5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	0,5
1	3-4	3-4	3-4	3-4	3	3	3	3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	1
2	7	7	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	2
3	10	10	10	10	9	9	9	9	9	9	9	8	8	8	8	8	8	8	8	8	3
4	13	13	13	13	13	12	12	12	12	12	11	11	11	11	11	11	11	10	10	10	4
5	17	16	16	16	16	15	15	15	15	14	14	14	14	14	13	13	13	13	13	13	5
6	20	20	19	19	19	18	18	18	18	17	17	17	17	16	16	16	16	16	15	15	6
7	23	23	23	22	22	22	21	21	21	20	20	20	19	19	19	19	18	18	18	18	7
8	27	26	26	25	25	25	24	24	24	23	23	23	22	22	22	21	21	21	21	20	8
9	30	30	29	29	28	28	27	27	26	26	26	25	25	25	24	24	24	23	23	23	9
10	33	33	32	32	31	31	30	30	29	29	29	28	28	27	27	27	26	26	26	25	10
20	67	66	65	64	63	62	61	60	59	58	57	56	56	55	54	53	53	52	51	51	20
30	100	98	97	95	94	92	91	90	88	87	86	85	83	82	81	80	79	78	77	76	30
40	133	131	129	127	125	123	121	119	118	116	114	113	111	110	108	107	105	104	103	101	40
50	167	164	161	159	156	154	151	149	147	145	143	141	139	137	135	133	132	130	128	127	50
60	200	197	194	191	188	185	181	179	176	174	171	169	167	164	162	160	158	156	154	152	60
70	233	230	226	222	219	215	212	209	206	203	200	197	194	192	189	187	184	182	179	177	70
80	267	262	258	254	250	246	242	239	235	232	229	225	222	219	216	213	211	208	205	203	80
90	300	295	290	286	281	277	273	269	265	261	257	254	250	247	243	240	237	234	231	228	90

Measurement required	Table for test squares of 100 sts and 100 rows measuring 40 to 50 cm																				Measurement required	
	Measurement obtained																					
cm	40	40,5	41	41,5	42	42,5	43	43,5	44	44,5	45	45,5	46	46,5	47	47,5	48	48,5	49	49,5	50	cm
0,5	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1	1	1	1	1	1	1	1	1	1	1	0,5
1	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2	2	2	2	2	2	2	2	2	2	2	1
2	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	2
3	8	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6	6	3
4	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	8	8	8	8	8	8	4
5	13	12	12	12	12	12	11	11	11	11	11	11	11	11	11	11	10	10	10	10	10	5
6	15	15	15	14	14	14	14	14	14	13	13	13	13	13	13	13	12	12	12	12	12	6
7	18	17	17	17	17	16	16	16	16	16	15	15	15	15	15	15	15	14	14	14	14	7
8	20	20	20	19	19	19	18	18	18	18	18	17	17	17	17	17	17	16	16	16	16	8
9	23	22	22	22	21	21	21	21	20	20	20	20	20	19	19	19	19	19	18	18	18	9
10	25	25	25	24	24	24	23	23	23	22	22	22	22	22	21	21	21	21	20	20	20	10
20	50	49	49	48	48	47	47	46	45	45	44	44	43	43	43	42	42	41	41	40	40	20
30	75	74	73	72	71	71	70	69	68	67	67	66	65	65	64	63	62	62	61	61	60	30
40	100	99	98	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	82	81	80	40
50	125	123	122	121	119	118	116	115	114	112	111	110	109	108	106	105	104	103	102	101	100	50
60	150	148	146	145	143	141	140	138	136	135	133	132	130	129	128	126	125	124	122	121	120	60
70	175	173	171	169	167	165	163	161	159	157	156	154	152	151	149	147	146	144	143	141	140	70
80	200	198	195	193	190	188	186	184	181	180	178	176	174	172	170	168	167	165	163	162	160	80
90	225	222	220	217	214	212	209	207	205	202	200	198	196	194	192	189	187	186	184	182	180	90

METRIC CONVERSIONS

YARN QUANTITIES – OUNCES TO GRAMMES

Metric figures have been rounded up to the nearest whole number

Imperial	Metric	Imperial	Metric
½ oz	15 g	8 oz	227 g
1 oz	29 g	9 oz	256 g
1½ oz	43 g	10 oz	284 g
2 oz	57 g	11 oz	312 g
3 oz	86 g	12 oz	341 g
4 oz	114 g	13 oz	369 g
5 oz	142 g	14 oz	397 g
6 oz	171 g	15 oz	426 g
7 oz	199 g	16 oz	454 g

YARN QUANTITIES – OUNCES TO 20 g, 25 g and 50 g

Oz.	20 g	25 g	50 g	Oz.	20 g	25 g	50 g
1	2	2	1	18	23	19	10
2	3	3	2	17	25	20	10
3	5	4	2	18	26	21	11
4	6	5	3	19	27	22	11
5	8	6	3	20	29	23	12
6	9	7	4	21	30	24	12
7	10	8	4	22	32	25	13
8	12	10	5	23	33	27	14
9	13	11	6	24	34	28	14
10	15	12	6	25	36	29	15
11	16	13	7	26	37	30	15
12	17	14	7	27	39	31	16
13	19	15	8	28	40	32	16
14	20	16	8	29	42	33	17
15	22	17	9				

CONVERSION FROM CENTIMETRES TO INCHES

Metric figures have been rounded up or down to nearest whole number

cm.	in.	cm.	in.	cm.	in.	cm.	in.
1	¼	27	10¾	53	20¾	79	31
2	½	28	11	54	21¼	80	31½
3	1¼	29	11½	55	21¾	81	32
4	1½	30	11¾	56	22	82	32¼
5	2	31	12¼	57	22½	83	32½
6	2¼	32	12½	58	22¾	84	33
7	2¾	33	13	59	23¼	85	33½
8	3¼	34	13½	60	23¾	86	33¾
9	3½	35	13¾	61	24	87	34
10	4	36	14¼	62	24½	88	34½
11	4¼	37	14½	63	24¾	89	35
12	4¾	38	15	64	25¼	90	35½
13	5	39	15¼	65	25½	91	35¾
14	5¼	40	15¾	66	26	92	36¼
15	6	41	16¼	67	26½	93	36½
16	6¼	42	16½	68	26¾	94	37
17	6¾	43	17	69	27¼	95	37½
18	7	44	17¼	70	27½	96	37¾
19	7½	45	17¾	71	28	97	38
20	7¾	46	18	72	28¼	98	38½
21	8¼	47	18½	73	28¾	99	39
22	8½	48	19	74	29¼	100	39½
23	9	49	19¼	75	29½	101	39¾
24	9¼	50	19¾	76	30	102	40
25	9¾	51	20	77	30¼	103	40½
26	10¼	52	20½	78	30¾	104	41

BASIC DESIGN SHAPE – Sleeveless Top

First fill in the 'known' measurements on the diagram:

- Shoulder slope 1" (2.5 cms)
- Depth of armhole 7½" (19 cms)
- Welt 2" (5 cms)
- Add the above figures together and deduct from the total length (which on this example pattern is 22" (56 cms)). The figures in a, b and c, when added together equal 10½" (26.5 cms). When this is taken from the total length the difference is 11½" (29 cms) and this gives the length for the main body part from welt to armhole.

Working from the chart, fill in the rows which need to be knitted on each section. Start with the main section which measures 11½" (29 cms). Find figure 9 along the top column of the chart. In the extreme left hand vertical column you will not find 11½" (29 cms) so you first find figure 10 and move across to the right on the same line until under the figure 9. The figure there is 111, jot this down on a piece of paper. Now find 1 in the left hand column and move across in the same way – this figure is 11 so add it to the 111 (122). Finally, look under the 9 and see how many rows are needed for the ½" (1 cm) – the answer is 5–6 so add 6 to 122 (128). This is the number of rows needed to give a piece of knitting which is 11½" (29 cms) long.

On the armhole section 7½" (19 cms) are required. Work this out in the same way and then the shoulder. This should be 11 rows but has been rounded down to 10 rows.

The next step is to fill in the number of stitches, remembering that the 100 stitches on the test square measured 12½" (32 cms) so now you find 12½" (32 cms) along the top line instead of 9. To begin with you want to know the number of stitches needed to give a piece of knitting which is 19" (48 cms) wide. Working just as you did for the rows, find 10 in the left hand column and move across on the same line to the right until under the 12½" (32 cms) – the figure there is 80. Now find 9 in the left hand column and move across in the same way – the figure here is 72 which is added to 80, giving a total of 152 stitches.

Before dealing with the armhole shaping it is necessary to fill in the width from shoulder to shoulder. On a garment of this size with sleeves it would be about 14" (35.5 cms) but this garment is to be sleeveless so room must be allowed for bands to be put on round the armholes, which will also add width at the shoulders. Allow about 2" (5 cms) for the bands and so reduce the shoulder to shoulder width to 12" (30.5 cms). Working as before, fill in the number of stitches required to give a 12" (30.5 cms) width at the shoulder (96).

At the same time the stitches required for the back neck can also be filled in. Now the armhole stitches can be calculated – the work has got to be reduced from 19" (48 cms) to 12" (30.5 cms) which is a difference of 7" (18 cms). Find how many stitches equal 7" (18 cms) (56). This is the total number to be decreased – divided between the two armholes it means that 28 stitches are to be decreased at each side.

These 28 stitches could be cast off in one block, giving a squared-off armhole. This is often done on loose fitting garments with big sleeves. For the example garment a snug fit is required so the stitches will be decreased in such a way that a curve will be produced.

Divide the total number of stitches to be decreased very roughly by three (9, 9 and 10), use about two-thirds for casting off several steps and the remaining third for single decreases.

First cast off one fairly large 'step' equal to about 1" (2.5 cms) (8sts) and write on the diagram –8. Now work out a series of smaller steps, such as groups of 2 or 3 stitches. If 3 stitches are taken off twice, and 2 stitches twice, the total number decreased will be 18, which is about right. Aim to decrease about two-thirds of the total number in steps and the remainder as single stitch decreases. The 10 remaining stitches can be decreased every alternate row.

Shoulders. There are now 96 stitches on the machine and 48 of these must be reserved for the back

neck. This leaves 48 to be divided between the two shoulders. There are 10 rows of knitting on the shoulder section but you will only be at the shoulder edge with the wool for casting off 5 times. This means that the 24 stitches must be cast off in 5 blocks. So 5 stitches are cast off 4 times and 4 stitches once.

Round Neck. This needs to be about 3" (7.5 cms) deep. Look on the chart to see how many rows are required (column 9 for the rows and find 3 at the left hand side). The figure is 33 so round it down to 32. Working from the very top of the diagram, decide which row on the armhole section should start the neck shaping (always include shoulder rows as these constitute part of the neck). There are 10 rows on shoulder, so another 22 are needed. Subtract 22 from 84 — the figure is 62 — so the neck is started on row 62 of the armhole.

Neck shaping. The number of stitches to be used for front neck is always the same as the number cast off for the back neck — in this case 48 stitches. There are many refinements which can be used in neck shaping to produce scoops, U-shapes, etc., but the beginner should start with the simplest one possible. The basis of this being to divide the number of stitches into roughly 3 equal parts. With 48 stitches it would be 3 x 16, so on row 62 of the armhole the 16 centre stitches are cast off with an odd length of matching yarn. The stitches at the left are put into H.P. and the right side is knitted first. There are 16 stitches to be decreased and 32 rows to be knitted, so 1 stitch will be decreased at neck edge on every alternate row.

Do not forget to start the shoulder shaping when the appropriate row is reached. The left side should then be knitted to match. On this particular garment the stitches and rows worked out evenly but this does not happen very often — it could have been 11 stitches to be decreased and 32 rows to be knitted. The method could have been the same and the remaining 10 rows knitted straight, or an extra row could have been knitted between each of 6 decreases. The pattern would then have read:—

$$-5 \times 1.2r = 10 \text{ rows}$$

$$-6 \times 1.3r = 18 \text{ rows}$$

and the remaining 4 rows would then have been knitted straight.

For a more gentle curve, neck stitches should be decreased in much the same way as a round armhole. One large step in the centre, with steps at each side gradually getting smaller until the last part of the decrease is by single stitches.

With the 48 stitches on this pattern the method could be as follows:—

Cast off centre 8 stitches — this will leave 40 (20 stitches for either side).

Take half of these and cast off in blocks: —4

$$-3 \times 2.2r$$

then decrease the remaining 10 stitches singly every alternate row. This would be 28 rows and the remaining 4 rows would be knitted straight.

Vee neck. When working out a pattern for this it is easier to work with an odd rather than an even number of stitches on the front part of the garment when doing single bed work. When the front is knitted and the work is divided for the V, this odd stitch can then be transferred to its adjacent needle to start the division.

As a general rule the V is started on the same row as the armhole so in this case the number of rows on the V would be 84 plus the 10 shoulder rows. The 48 stitches would be divided in half, giving 24 for each side of neck.

To calculate this, the number of stitches to be decreased are divided into the number of rows to be knitted and as this division rarely works out evenly there is a basic principle to be used in order to make a balanced adjustment. 24 divided into 94 goes about 4 times, but there are 2 rows short ($24 \times 4 = 96$), so for 2 out of the 24 decreases 1 row less will have to be knitted. The pattern will then read:—

$$-22 \times 1.4r = 88 \text{ rows}$$

$$-2 \times 1.3r = 6$$

$$94 \text{ rows}$$

Again this has worked out fairly easily but it could have been something like 29 stitches to be

decreased, 29 would go into 94 3 times (87 rows) and leave 7 rows over. There is no need to try to 'fiddle' these rows in. If 7 rows are the problem, then 7 of the total number of decreases (29) are going to be adjusted by knitting an extra row between each one so that there is a mathematical balance. The pattern would then read:—

$$\begin{array}{rcl} -22 \times 1.3r & = & 66 \\ -7 \times 1.4r & = & 28 \\ \hline & & 94 \text{ rows} \end{array}$$

If the calculations had worked out to be 7 rows short, then the pattern would read:—

$$\begin{array}{rcl} -22 \times 1.3r \\ -7 \times 1.2r \end{array}$$

The basic principle is always the same — divide the number of decreases into the rows to be knitted. If there are X number of rows over, then for X number of the total decreases work 1 row more between each decrease.

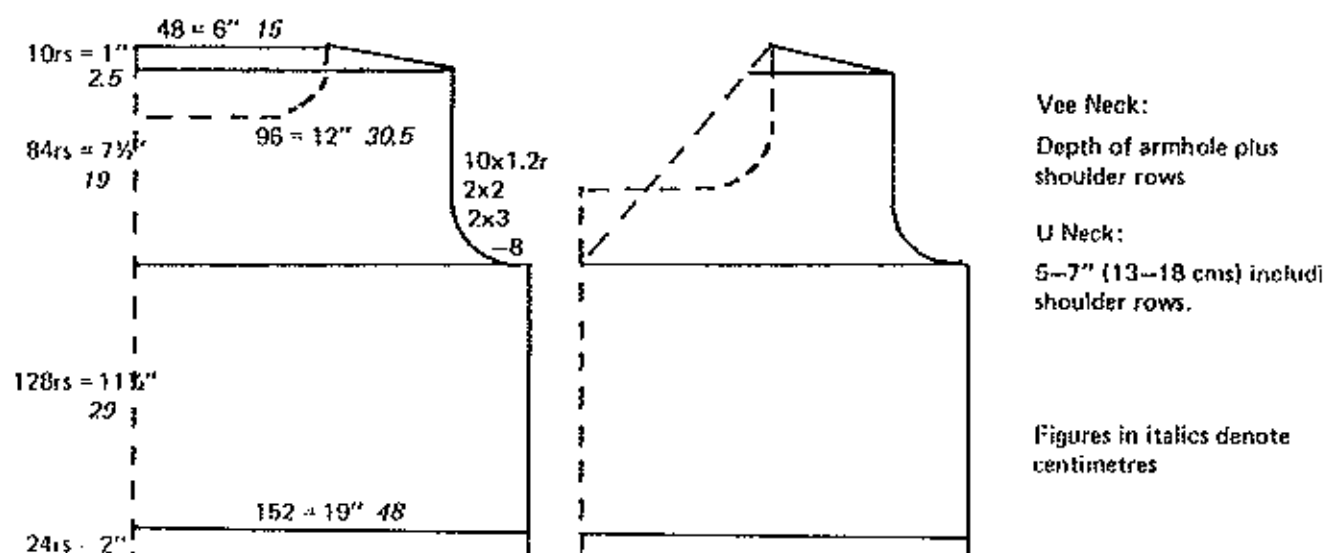
If there are X number of rows short, knit X number of decreases with 1 row less between each decrease.

This applies particularly to raglan shaping which nearly always needs this kind of adjustment. On a raglan garment, when the decreases are split in this way, knit the decreases which have the most rows between first, then follow up with the ones which have less. In this way the risk of too sharp shaping across the wider part of the back will be avoided.

Note on Back Necks. Far too many patterns cast off the back neck without any shaping. This produces a rather ugly bulge just below the neckband of the garment when it is being worn. To avoid this, a little should be scooped out at the back in the form of simple shaping. This shaping should be started on the same row as the shoulder. On the example given here there are 10 rows of shoulder shaping and 48 stitches on back neck. Every alternate row one stitch should be decreased at neck edge while shoulders are being shaped — so this would be 5 stitches at each side. The method would be to cast off all the neck stitches on first row of shoulder except 10 — so the pattern would read:— —38 centre stitches. Put stitches at left into H.P. and shape right side of neck and shoulder together. The shoulders would be shaped as pattern with one stitch being decreased at the neck edge 5 times.

U-shaped neck. This does not present the problems which knitters seem to feel exist. The armhole row on which this shaping starts is calculated in the same way as for a round neck, the depth being anything from 5–7" (13–18 cms). No effort is made to spread the single decreases out right up the side of the neck to the shoulder, instead the 'steps' are worked out and then the single decreases are worked fairly quickly and all the remaining rows to the shoulder are knitted straight.

There also seems to be some confusion about polo necks. Knitters seem to feel that this is a different kind of neck. This is not so — it is an ordinary round neck with a much deeper neckband.

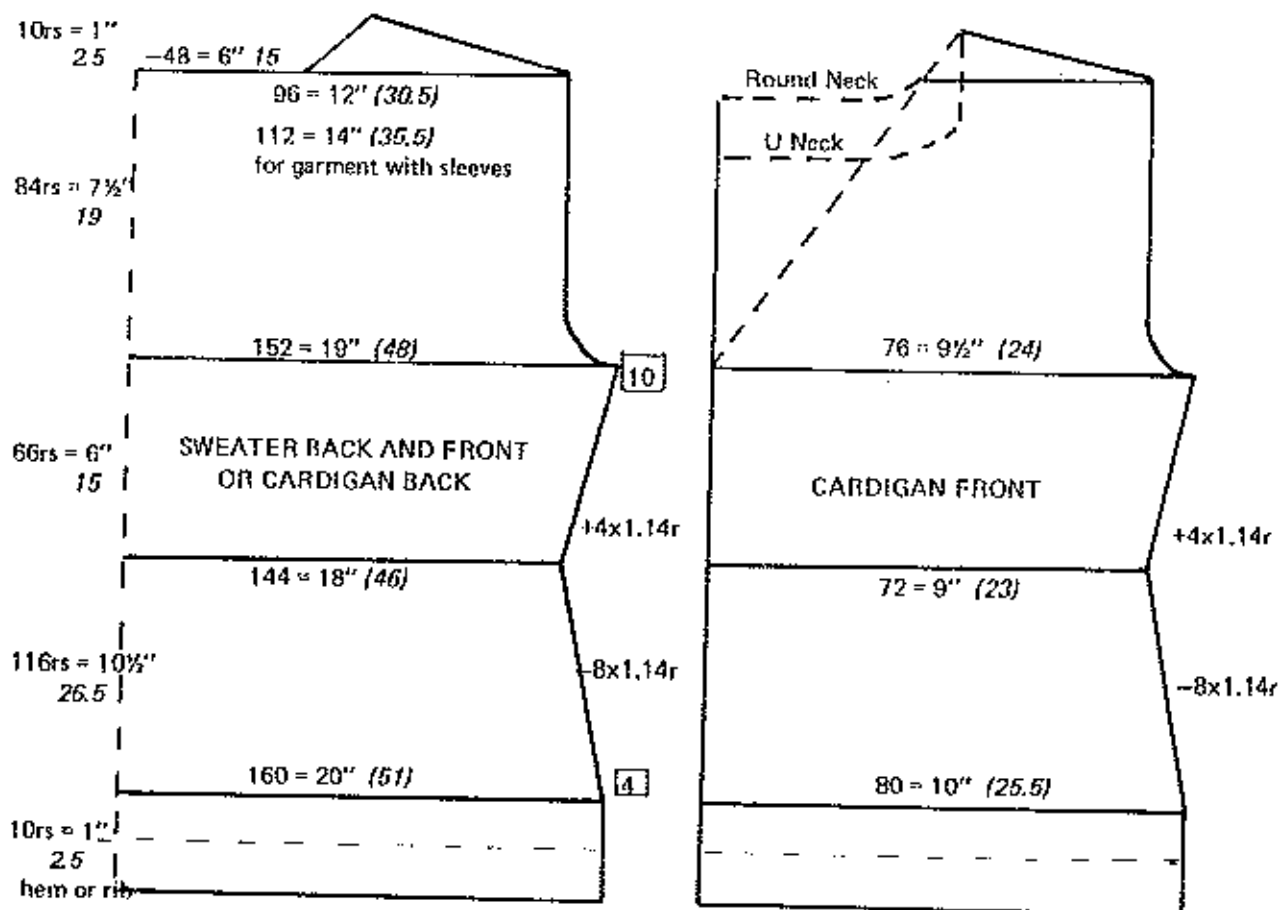


BASIC PRINCIPLE

A longline sweater or cardigan would need a total length of about 26–28" (66–71 cms). Only the very slim could wear this if it were knitted straight. For most people some allowance for the hips is necessary. On standard garments the hip size is 2" (5 cms) larger than the bust so a 36" (91 cms) bust would need a 38" (97 cms) hip. A new diagram can be drawn with armhole, neck and shoulders the same as the basic pattern. From the armhole downwards the pattern is given extra length and a waistline is drawn in. For simple standard shaping decrease 2" (5 cms) in to the waist and increase 1" (2.5 cms) out again for the bust. There are 16sts to be decreased from hem to waist (8 at each side of the work) so divide the number of rows by the number of stitches to be decreased. 8 divided into 116 goes 14 times with 4rs over. When the hem is complete the first 4rs will be knitted straight and then 1 stitch will be decreased at each edge of the work on every 14th row, 8 times. On this part of the garment any rows left over should be knitted straight before the shaping is started. On the waist to the armhole section 8sts have to be increased (4 at each side) so 4 is divided into 66rs. It goes 16 times with 2rs over. This is not quite suitable as it is better to have the last 1" (2.5 cms) or so of knitting to the armhole worked straight. When shaping works out like this, take the next even number down (14) and work to that instead (increase 1 stitch at each edge of every 14th row, 4 times, knit 10rs straight).

The cardigan fronts have half the number of stitches given for the back. Front bands will add an extra 1" (2.5 cms) to give a slightly looser fit.

FIRST VARIATION FROM BASIC PATTERN – Longline garments



3-ply yarn 8sts and 11rs = 1" (2.5)

Figures in italics denote centimetres

SECOND VARIATION – DRESS AND SHORT SWEATER OR CARDIGAN

Based on Longline pattern

Once the pattern for a longline garment has been worked out, these two shapes become very simple. The top part of the garment down to the waist needs no alteration at all for the Short garments, all that is required is that a rib be added on, knitted to a depth which depends on personal choice (3–6"/7.5–15 cms) and the remainder of the garment can then be worked from the longline pattern from the waist upwards.

For the dress a new diagram is drawn and the upper part of the longline pattern is kept exactly the same, except for a slightly smaller waist. The next step is to decide on the total length required: Allow 7–8" (18–20.5 cms) for the waist to hip section, then put the remaining balance of the length required onto the lower part of the skirt.

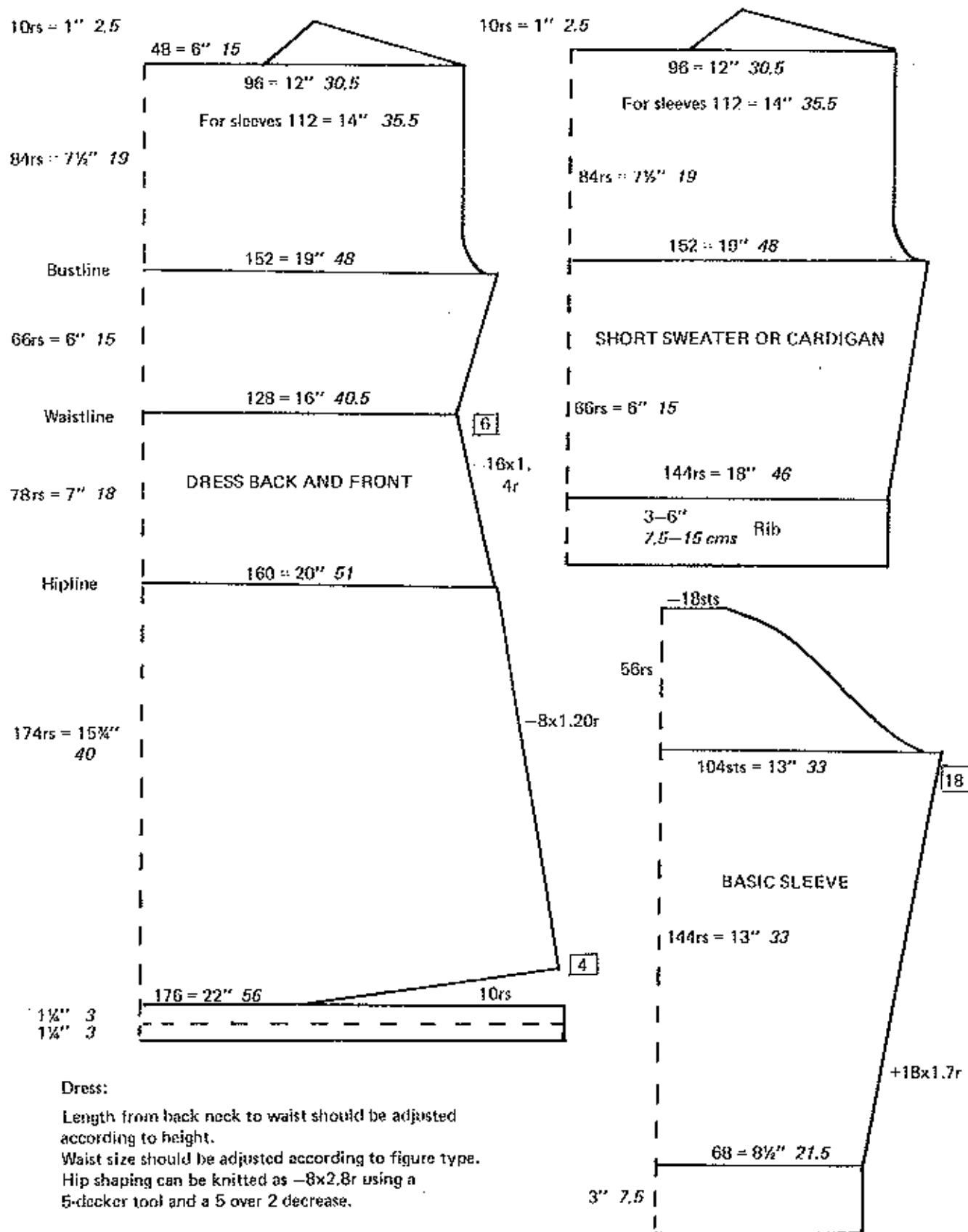
Ideally, the width at the hem of a dress should be more than the 22" (56 cms) given on the example (24–25"/61–63.5 cms) but this is the maximum width obtainable when working on one bed at a tension of 8 stitches to 1" (2.5 cms). To obtain the extra width at this tension the skirt would need to be knitted in four pieces instead of two. (See "Skirt knitted in Four Panels") When the four piece method is used the panels should all be finished with waste knitting and removed from the machine. The pieces must be pressed and each pair sewn together. The front bed can then be lowered, the waste yarn unravelled and the stitches picked up into the machine.

All the shapings are worked out as before. The hem is completed and hem curve knitted, bearing in mind that the rows knitted on the hem curve are part of the total length. If 10rs are knitted on the curve then these rows must be deducted from the total number of rows on the hem to hip section. On the example $174 - 10 = 164$ rs to be knitted. For the shaping 16sts must be decreased on first section of skirt (8 at each side). $164 \div 8 = 20$ and 4 over. The 4rs will be knitted first and then 1 stitch is decreased at each end of every 20th row, 8 times.

Shown on diagram as 4
–8x1,20r

Dresses knitted in stocking stitch may seem rather unimaginative but if a good hem width is needed, knitting in the hem curve to prevent drooping side seams becomes a difficult problem on double bed work using a fancy stitch. It is often better to use patterning on another part of the garment, such as the sleeves, rather than spoil the line of the skirt. If there is very little shaping on the lower part of the skirt then any stitch pattern can be used. Should pattern and shaping be a must then the garment should be knitted, pressed and laid out flat. With pins mark out a new hemline starting 1" (2.5 cms) up from the hem edge at the side. Place pins round to equal the curve produced by the 'shortened row' knitting method. Stitch hem facing tape along this new line on the right side of the work. Cut away surplus fabric and turn facing to inside. Finish as for dressmaking hem.

SECOND VARIATION – DRESS AND SHORT SWEATER OR CARDIGAN

**Dress:**

Length from back neck to waist should be adjusted according to height.
 Waist size should be adjusted according to figure type.
 Hip shaping can be knitted as -8x2.8r using a 5-decker tool and a 5 over 2 decrease.

Figures in italics denote centimetres

Actual sleeve seam measures 17" 43

Sleeve Cap:

-5, 3, 2, 17x1.2r, 16x1.7 (43sts 56rs)

Cast off 18sts at top.

SET-IN SLEEVE

The first example in this section was for a garment without sleeves. This meant that extra stitches were decreased at the armhole so that shoulder width would be reduced and allow room for the bands.

For a garment with sleeves the width across the back should be from shoulder-bone to shoulder-bone so less stitches would be decreased at the armhole.

There are two helpful points to remember with sleeves:

1) The under-arm measurement gives a certain length (say 16"/40.5 cms). To give that measurement the number of rows knitted on the sleeve up to the sleeve cap should only equal 15" (38 cms) as the shaping at sleeve edges will produce a diagonal line, making the sleeve seam approximately 1" (2.5 cms) longer. Always make sleeve 1" (2.5 cms) shorter than under-arm measurement.

2) The number of rows to be knitted on the sleeve cap puzzles most knitters. There is a basic rule — make sleeve cap approximately two-thirds the depth of armhole.

Example: Armhole is 90rs.

$90 \div 3 = 30\text{rs}$ (one-third or $\frac{1}{3}$)

60rs would equal two-thirds or $\frac{2}{3}$

It is rare for the workings out to be as even as that but if the armhole rows are divided into 3 and two parts are taken for the sleeve cap, very little can go wrong.

Example which is not an even division: 86rs on armhole.

$86 \div 3 = 28, 29, 29$

Take the two figures of 29 as the rows for cap (58rs).

On the diagram a sleeve is shown for a size 36" (91 cms) bust Sweater working in 3-ply at a tension of 8sts and 11rs per 1" (2.5 cms). Width at wrist is often a matter of choice and so is the upper arm. Sizes given are about average. The required amount of rib is knitted (the length of this has been deducted from under-arm length unless a turnback cuff is needed).

For a 17" (43 cms) sleeve there are now 14" (35.5 cms) left to be knitted. As already explained 1" (2.5 cms) of this will be deducted, leaving 13" (33 cms) actual knitting. This will be 144rs ($13 \times 11 = 143$).

As shown on diagram the sleeve has to be widened to 13" (33 cms) at upper arm so when this point is reached 104sts will be needed.

$104 - 68 = 36$ which means that 18sts must be increased at each edge over 144rs of knitting.

$144 \div 18 = 8$ which would mean increasing at each end of every 8th row. This needs an adjustment as it is always better to have 1—2" (2.5—5 cms) of straight knitting before sleeve cap is started. If increasings were worked on every 7th row ($18 \times 7 = 126\text{rs}$) there would be 18 surplus rows which could be knitted straight.

Pattern would read:

RC 000 Inc. 1 st at each end of every 7th row, 18 times (shown 18x1.7r)

No. of rows 126

Knit straight to row 144 (shown 18)

This brings us to the sleeve cap. Wherever possible the 'steps' which were cast off at armhole of garment will be cast off in the same way on sleeve

Decide how many rows are needed for the cap. To do this look at the main drawing to see how many rows were knitted on the armhole. In this case there are 84rs. Divide these rows roughly into three ($84 \div 3 = 28, 28, 28$). Two of these three parts added together will give the number of

rows to be knitted ($28 + 28 = 56\text{rs}$) — the aim being to make the sleeve cap approximately two-thirds the depth of the armhole.

Fill in '56rs' on your diagram.

The problem now is to allocate the number of stitches to be decreased over the number of rows to be knitted. This does not require mathematical genius but merely the patience to break down the stitches and rows into smaller sections.

There are 56rs to be knitted but already 6 of these are going to be used to duplicate the shaping 'steps' at the garment armhole. This will leave 50rs. There are 104sts but 20 of these will be used for the steps, leaving 84sts. We now know that we have

50rs to knit
84sts to dispose of

There is one more step before this shaping can be worked out — the number of stitches to be decreased on the final row of the sleeve. This should measure from 2–3" (5–7.5 cms). On the example 18sts are used so now there are only 66sts for the cap shaping ($84 - 18 = 66$). This means 33sts to decrease at each edge over 50rs. Always look at the number of stitches and consider what the result would be if the stitches were decreased on every alternate row. With 33sts this would require 66rs and we have only 50, so are 16rs short. This is as it should be because it means that the final part of the shaping can be carried out on every — instead of every alternate — row.

This is exactly what is needed, the first few rows in steps, the next part decreased fairly slowly, then faster decreasing and finally a whole block cast off at once.

Work out the shaping:

With 16rs short we know that 16 of the total decreases (33) will be worked on every row, not every alternate row. This leaves 17 decreases to be worked on every alt. row.

Pattern will now read:

Cast off 5sts at beg. of next 2rs)		
Cast off 3sts at beg. of next 2rs)	20sts	6rs
Cast off 2sts at beg. of next 2rs)		
Dec. 1 st at each end of every alt. row, 17 times	34sts	34rs
Dec. 1 st at each end of every row, 16 times	32sts	16rs
Cast off rem. 18sts	18sts	—
	104sts	56rs

By the diagram method the pattern would be written for the shaping at one side of sleeve only and would be automatically repeated at the other side.

—5, 3, 2, 17x1.2r, 16x1.r (43sts 56rs)

When worked on both sides 86sts would be decreased leaving 18 to be cast off at the top.

Once the sleeve cap has been worked out satisfactorily the main part of the sleeve can be varied as much as you wish, providing that you come back to the original number of stitches before starting the cap shaping.

TWO-PIECE SKIRT

This is the simplest of all garments to design. The only part which needs a little thought is the width required at the hem. If the garment is for the size we have been using (38"/97 cms) and is to be knitted in two pieces only, there are ample needles on one bed to give the required 20" (51 cms) at the hip on each piece but not sufficient for a proportionate 24" (61 cms) at the hem, unless a thicker yarn (and larger stitch size) is used. The tension used throughout previous example patterns is 8sts per 1" (2.5 cms). To knit a two-piece skirt it would be necessary to knit at a tension of 7sts per 1" (2.5 cms). To assist the understanding of basic skirt shaping the first example given here is based on this larger tension. It will then be easier to follow the workings of the other styles.

The test square for this pattern is:

100sts = 14"	(35.5 cms)
100rs = 10"	(25.5 cms)

So we are now working at a standard tension of 7sts and 10rs per 1" (2.5 cms), 4-ply instead of 3-ply being used. An average skirt length would be 20"-24" (51-61 cms) but the principle would be the same whatever the size required.

First draw a diagram allowing about 1-1½" (2.5-3 cms) at the lower edge for hem. (This will of course be double and an additional 1-1½" (2.5-3 cms) will have to be knitted for the inside of the hem). Draw above this an elongated wedge shape which will represent just what it appears to do - i.e. a piece which is missing. Part of the rows here will be missing in order to curve the hem as in dressmaking so that the side seams will not droop. This wedge will be equal to approximately 1" (2.5 cms) of knitting at its widest part. The next part is the hem-to-hip section which should finish about 8" (20.5 cms) below the waist (including waistband). This section from hip to waist should always be 7-8" (18-20.5 cms). The waistband needs to be about 1½" (3 cms) deep (knitted twice to fold over) so that it will take 1" (2.5 cms) elastic.

If the finished length is to be 24" (61 cms):-

1½"	(3 cms) must be allowed for waistband
1½"	(3 cms) must be allowed for hem
7"	(18 cms) must be allowed for hip to waist
<u>9½"</u>	<u>(24 cms)</u>

Deduct this from 24" (61 cms) - this leaves 14½" (37 cms) for the main part, so figures can now be filled in. For the stitches - find figure 14 across top of chart and 20 in the extreme left hand column - move across to the right until under figure 14. The number here is 142 - this is the number of stitches required at the hip to equal 20" (51 cms).

Find how many stitches equal 4" (10 cms) (28sts) and add to 142. You now have the number of stitches required for a 24" (61 cms) hem width. Decide on waist size and fill in the appropriate number of stitches. On the example 108 stitches are used to give 15½" (39 cms). Fill in the rows for hems and lower edge and waist. A depth of 15 rows (knitted twice) would be suitable as the smaller stitch size will probably be producing 12 instead of 10 rows per 1" (2.5 cms). Rows and decreases are calculated in the same way as on previous examples.

To knit the skirt

Cast on the required number of stitches and knit hem as given for hem for Single Bed knitting on page 24.

When hem is complete shape curve.

Divide the stitches roughly into four parts ($170 \div 4 = 42, 42, 43, 43$). Two parts will be left to knit straight in the centre ($43 + 43 = 86$ sts). The two remaining parts will be used for short row shaping at both sides of the work (42 at each side).

Set lock to BX and bring pushers into W.P. under all needles.

Lock at right, take 42 pushers at left down to N.W.P. and knit the row.

The 42 needles at left have not knitted and are in Holding Position.

Take the yarn across the hook of the first inside needle in H.P.

Take 42 pushers at right down to N.W.P. and knit the row

At the opposite end to the lock bring 10 pushers back into W.P. on the next 6rs, then 12 pushers

on the next 2rs.

All needles are now knitting and 10rs have been used for the curve.

On the example pattern there are now 134rs to knit to the hipline. The number of stitches is to be reduced to 142 when hipline is reached which means 14sts at each edge.

$134rs \div 14 = 9$ and 8rs over. The 8rs will be knitted first, then 1 stitch will be decreased at each end of every 9th row, 14 times

Shown on diagram as 8
-14x1.9r

144rs have now been knitted and 142sts remain.

Stitches must now be reduced for the hip to waist section. $142 - 108 = 34$ which will mean 17 decreases at each side over 70rs.

$70 \div 17 = 4$ and 2 over. The 2rs over will be knitted straight at the end of the work.

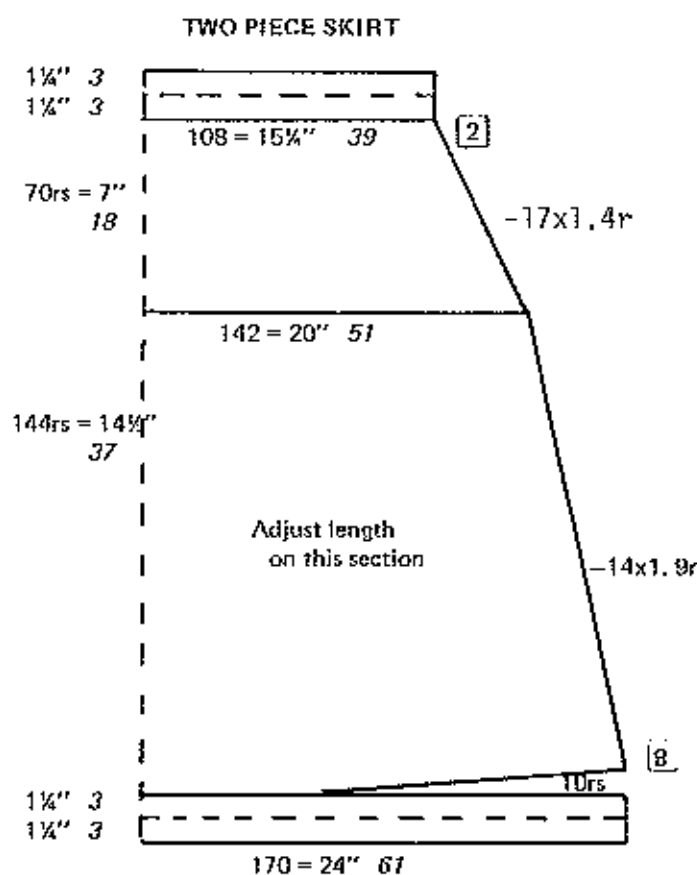
shown on diagram as -17x1.4r

2

When shapings are complete, set s.s. 1 number lower and knit rows for waist hem.
Cast off loosely.

Note:

If the yarn being used is bulky, i.e. tweed, boucle, knop, knit the piece of waistband which is to be turned inside in a smoother yarn to decrease the bulk at waist. On straightforward yarns there is no need to feel concerned over the apparent size of the waist as the surplus inches have a pleasant habit of disappearing once the garment is on. For a really close-fitting waist decrease accordingly and insert a zip.



4-ply yarn

Work decreases with 5-decker tool

Figures in italics denote centimetres

SKIRT IN FOUR PANELS

Example for 38" (97 cms) Hip Length 24" (61 cms)

Once the basic principle of skirt shaping is understood, this type of design is almost as easy as a two-piece skirt. Each panel will need to be curved at the hem as on previous pattern and the proportions will be the same. Its main advantage is that however fine the knitting there will be sufficient needles on the machine for a good width at the hem.

Using 3-ply yarn the test square is: $100\text{sts} = 12\frac{1}{2}"$ (32 cms) (8sts and 11rs = 1" (2.5 cms)
 $100\text{rs} = 9"$ (23 cms)

To work out the pattern the finished measurement of waist, hip and hem must be divided by 4 to give the number of stitches for each panel. Hem width of each panel should be about 16–18" (40.5–46 cms). The example diagram shows $140\text{sts} = 17\frac{1}{2}"$ (46 cms) but 2 extra stitches are added to this for the seam stitches when making up. 2 extra stitches are needed on each panel otherwise a total of 1" (2.5 cms) will be lost on the total width but there is no need to include these in the pattern calculations. The hem should be slightly curved at both edges.

When hem is complete knit curve as follows:

Set lock to BX, pushers under all needles except the last 36 at the left. Knit 1 row.
 Take down 36 pushers at the right and knit 1 row
 Now bring back into W.P. 9 pushers at opposite side to lock on the next 8rs.
 All needles are in W.P. and 10rs have been knitted.

The 140sts have to be reduced to 80 over a certain number of rows. On a 24" (61 cms) skirt it will be 164rs as shown on diagram. 10rs have been used on hem curve, leaving 154rs. $140 - 80 = 60\text{sts}$ so 30sts have to be decreased at each edge. $154\text{rs} \div 30 = 5$ and 4rs over

RC 000

Knit 4rs (shown as [4])

Dec. 1 st at each end of every 5th row, 30 times (shown as $-30 \times 1.5r$)

80sts now remain and these must be reduced to 60sts over 76rs of knitting.
 $80\text{sts} - 60 = 20\text{sts}$ to be decreased (10 at each edge). $76 \div 10 = 7$ and 6 over

RC 000

Dec. 1 st at each end of every 7th row, 10 times (shown as $-10 \times 1.7r$)

Knit 6rs. (shown as [6])

To alter skirt length increase or reduce the number of rows on the main section up to the hip.

Example: 22" (56 cms) skirt would only need 142rs (13"/33 cms) on lower part, less 10rs for hem curve. $132\text{rs} \div 30 = 4$ and 12rs over.

The 12rs would be knitted straight then 1 st would be decreased at each edge every 4th row, 30 times. Hip section would remain the same.

Example: 26" (66 cms) skirt would need 186rs on the lower section, less 10rs for hem curve.
 $176 \div 30 = 5$ and 26rs over.

When the calculations give as many as 26rs over (which would be knitted straight) it would probably be better to look at the pattern to see if the working out could be improved. With this it becomes obvious that another 4rs added to the 26 would give an extra 30rs and mean that the decreases could be worked on every 6th row. As there are 6rs to spare at the top of the hip section these 4rs can be taken from this point giving 180rs on lower section but only 72 on the hip to waist section.

Pattern would read:

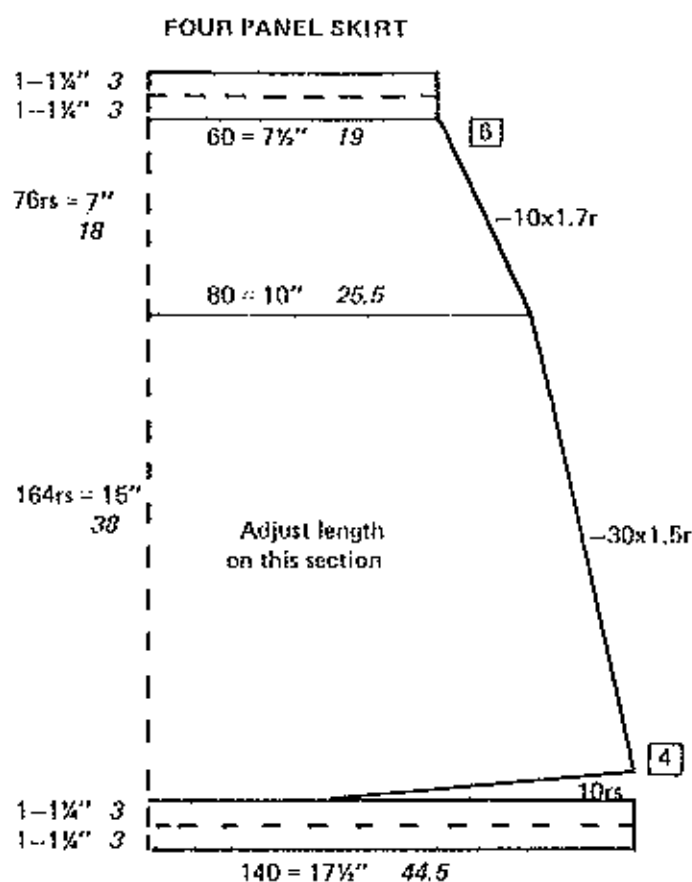
RC 000 Dec. 1 st at each end of every 6th row, 30 times. 180rs.

RC 000 Dec. 1 st at each end of every 7th row, 10 times. Knit 2rs. 72rs.

A knitting pattern is always flexible and small adjustments can give a much easier and better balanced pattern.

The waistband is a matter of choice. Each section of the band can be knitted with each separate section or, when the waist is reached, the sections can be cast off. The band would then be knitted in 2 pieces (1 for each 2 sections of skirt) in tubular, finished with waste knitting and attached by the same method as a neckband, with backstitch through the open stitches after pressing.

When the skirt sections are pressed the hem should be pulled into a straight line. Do not press the curve into it — remember that the curve is to compensate for the diagonal shape of the side seams and should not be noticeable when the garment is complete.



3-ply yarn
Work decreases with 5-decker tool

SKIRT KNITTED SIDEWAYS – Using shortened rows for shaping

This is one of the best methods to use for skirt knitting but the possibilities depend a great deal on what the current skirt length happens to be. To avoid bulk and complicated knitting methods only plain knitting is suitable which means it is knitted on one bed only. Only 180 needles are available, which will restrict the length of the skirt according to the yarn which is used.

If using 2-ply the maximum width of the knitting (which means the length of the skirt) will be about 20" (51 cms).

3-ply will give 22½" (57 cms)

4-ply will give 25½" (65 cms)

1" (2.5 cms) of this must be used to form the hem.

Ideally a 2-ply yarn should be used so that the fullness in the lower part of the skirt will form soft folds and the garment will not be heavy and bulky.

On children's skirts the length is easy to achieve but for adult garments knitted in fine yarn the main part of the skirt would need to be attached to a yoke which is about 6" (15 cms) deep and knitted in tubular.

Patterns for skirts knitted sideways are frequently in the Passap Model Books and if you study the basic method for the shaping you will see that they can easily be adapted to another size.

The method is to knit the skirt in continuous shaped sections; the starting and finishing edges are then grafted together to form a single seam at the centre back.

A section consists of a straight piece of knitting followed by a wedge-shaped piece (using shortened rows) which gives no length at all at the waist edge of the knitting but gradually gets wider towards the hem. By repeating this method of knitting any hip size (and the proportionate waist size) can be obtained with the normal 2" (5 cms) interval.

To work out a pattern one section of the skirt should be drawn and dotted lines added which show the shaping from waist to hipline, then the shaping from hipline to about 3" (7.5 cms) above the lower edge. This divides up the total number of stitches so that the shaping of each section becomes clear.

The diagram gives an example which is knitted in 3-ply yarn at a tension of 8sts and 11rs per 1" (2.5 cms). With a total of 180 needles in W.P. the stitches are divided into 3 sections as shown.

The hipline is marked in slightly higher than usual and 51sts are reserved for this. The remaining stitches are divided so that a 1" (2.5 cms) width (8sts) are left for hem and then a further smallish number (in this case 13) are marked off so that they will not be used in the shortened row shaping but will be constantly knitted. This leaves 108sts between the hipline and the straight portion at lower edge. How these are used in the shaping rows depends on the width required at the hem. For a moderate flair this needs to be half as much again as the hip measurement 60" (152.5 cms) and for a full flair almost twice the hip measurement. In the example shown the hem will measure approximately 73" (186 cms). At the widest point of the shaping (hemline) 24rs will have been knitted on the wedge shape and 16rs straight; repeated 20 times this will equal 800rs.

The waist to hip section should be calculated so that each section measures 2" (5 cms) at the hipline. Only the straight rows of each section give width at the waist. On the example 16rs are knitted straight so on a 20-section skirt 320rs would be knitted. At 11rs per 1" (2.5 cms) this would give a waist measurement of approximately 30" (76 cms).

By adding or deducting one whole section it is simple to obtain the next size up or down.

The turning for the hemline can be marked throughout the knitting by leaving a needle in N.W.P. where the hem is to be turned. This is shown as the 9th needle from edge on diagram. Do not bring

the pusher out for this needle.

To start the knitting a number of rows are knitted in waste yarn. The main yarn is then joined in and half of a straight-row section is knitted. On the example this would be 8rs. RC 000

Lock at right, set to BX

Bring pushers out of blocking rail and into W.P. for all needles.

At left edge take 17 pushers down to N.W.P. Knit the row

The last 17 needles have not knitted and are in Holding Position.

Push the first of these needles — which is next to the last one knitted -- slightly forward.

Put the yarn across the hook and pull needle back to its correct position.

This is known as "wrapping" the needle and its purpose is to avoid a hole between needles which are knitting and those which are not.

After wrapping the needle knit back to the right.

Take 17 more pushers down to N.W.P. and knit as before.

Repeat once more.

There are now 51 needles in H.P. and 6rs have been knitted.

Work the shaping for hip to hemline as shown on diagram.

This means taking away 12 pushers on every alternate row, 9 times (18rs).

There are now 12 needles left in W.P. 1 needle out of work and 8 needles in W.P. for the hem.

Put remaining pushers to bottom of bed and set lock to N. Knit 16rs.

There are now 40rs on RC and this is one complete section knitted.

Repeat 18 more times -- 19 sections now knitted.

On the 20th section only 8 straight rows are knitted.

To complete skirt press thoroughly, knit waistband in rib or tubular. Graft the 2 sets of stitches together and turn up hem.

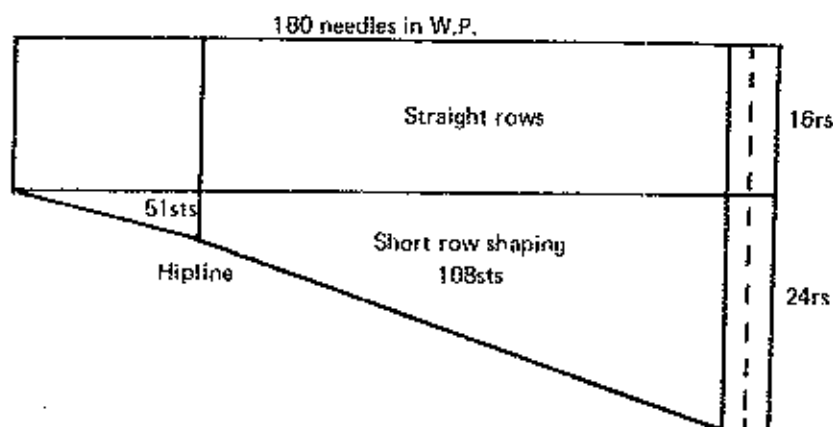
This type of shaping can be knitted in reverse. Instead of starting with pushers under all needles and taking them away a block at a time, start with pushers under the needles which are knitted throughout at hemline and then bring further pushers back into work according to pattern. On the example given this would be:

12 pushers brought into W.P. 9 times, followed by

17 pushers brought into W.P. 3 times

This means that when the wedge shape is complete there will be pushers under all working needles. Lock can be left on BX to knit the plain row section. The result is the same but beginners often find it more confusing to work by this method. On Model Book patterns the example method is shown as ▲-- and the alternative is shown as ▲+.

SKIRT KNITTED SIDEWAYS



At lower edge 8 needles for hem
1 needle in N.W.P.
12 needles knitting every row throughout

20 sections=800rs

