

"VOGUE"
Hand Knitting Machine
with Magic 5 step device
Type NS 5

200 needles

Pitch between needles 4.5 mm

Enclosed in nicely designed steel case. machine including standard accessories.

Magic 5 step device, of dial-guide, remarkably convenient for knitting patterns automatically.

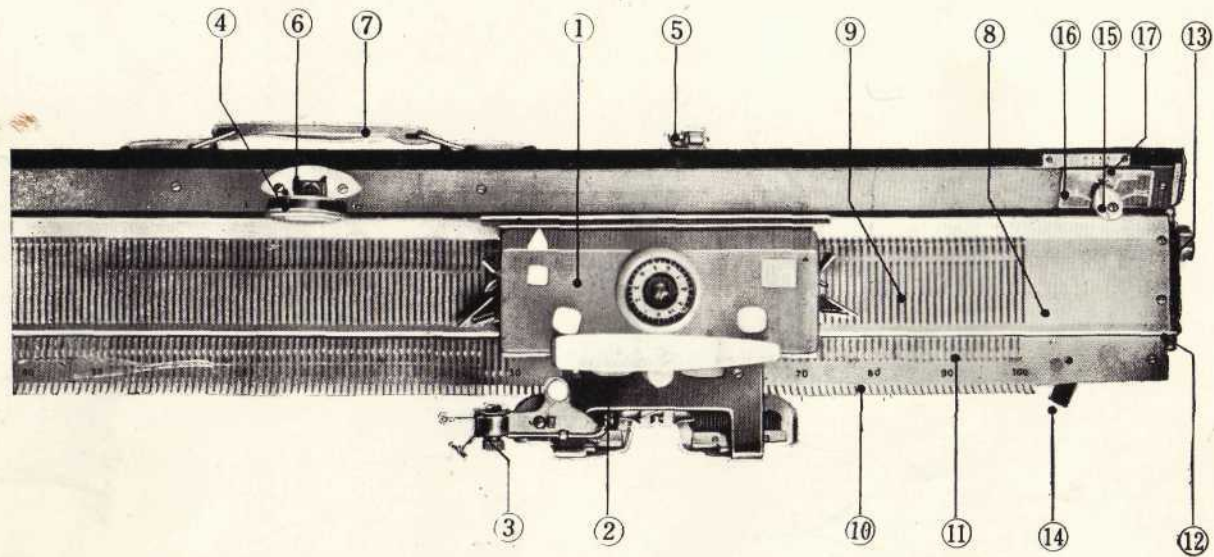
No combs or heavy weights used.

Automatic tension on carriage, enables knitting operation by one hand only.

Can knit all types and sizes of thread.

Rhythmical silent knitting.

Parts Names

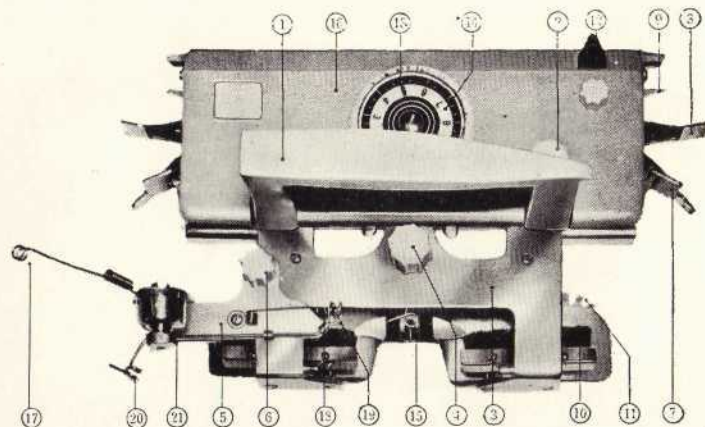


- | | |
|-------------------------|---|
| ① Carriage | ⑩ Sinker |
| ② Fabric presser | ⑪ Needle |
| ③ Automatic tension | ⑫ Needle presser |
| ④ Row counter | ⑬ Needle removing dial (concerning magic 5 step device) |
| ⑤ Case clip | ⑭ Needle removing lever (// // // //) |
| ⑥ Row counter screw set | ⑮ Needle select dial (// // // //) |
| ⑦ Case handle | ⑯ Needle select graduation (// // // //) |
| ⑧ Needle bed | ⑰ Needle removing graduation (// // // //) |
| ⑨ // // groove | |

Type	Number of Needles	Machine Size			Weight	Pitch Between Needles
		Length	Width	Height		
NS 5	2 0 0	1,060 $\frac{m}{m}$	175 $\frac{m}{m}$	72 $\frac{m}{m}$	9.5kg	4.5 $\frac{m}{m}$

- ① Handle
- ② // fixing screw
- ③ Fabric presser
- ④ // // fixing screw
- ⑤ Automatic tension
- ⑥ // // fixing screw
- ⑦ Sub cam lever
- ⑧ Cam lever
- ⑨ Needle apron
- ⑩ Clearing brush
- ⑪ Round brush
- ⑫ Row counter driving bar
- ⑬ Dial gauge
- ⑭ // // graduation plate
- ⑮ Yarn feeder
- ⑯ Carriage cover
- ⑰ Tension spring
- ⑱ Tension resisting spring
- ⑲ Tension spring guide
- ⑳ // // //
- ㉑ Tension adjusting screw

Fig. 2



- ① Back guide
- ② Raising cam
- ③ Knitting cam
- ④ Swing cam
- ⑤ Needle apron
- ⑥ Sub cam lever
- ⑦ Needle wall
- ⑧ Cam lever
- ⑨ Needle wall
- ⑩ Front guide
- ⑪ Round brush
- ⑫ Plate brush
- ⑬ Yarn feeder
- ⑭ Automatic tension fixing screw
- ⑮ Automatic tension
- ⑯ Fabric presser
- ⑰ Tension spring guide
- ⑱ Pull spring adjusting screw

Fig. 3

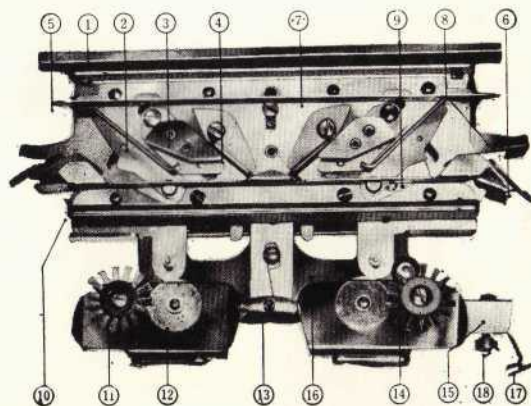
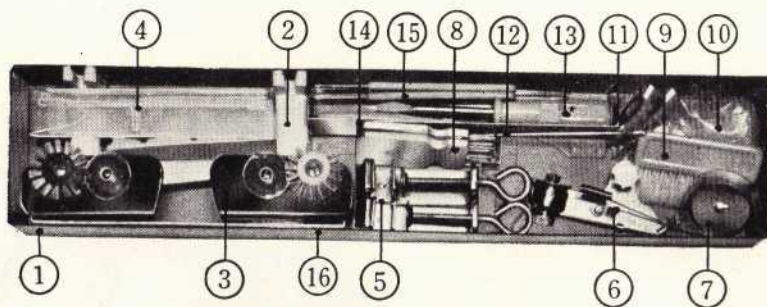


Fig. 4



① Accessory box

② Handle

③ Fabric presser

④ Spare needles

⑤ Clamps

⑥ Auto-natic tension

⑦ String

⑧ Edge hanger

⑨ Cleaning brush

⑩ Oiler

⑪ Spare round brush

⑫ Hook needle

⑬ Driver

⑭ Latch hook (tapper)

⑮ Transfer needle

⑯ Needle comb

Replacing a damaged needle,

At the right side of the needle bed, needle presser end protrudes.

With the pulling tool draw out the needle presser.

First bring the damaged needle towards you. Raise the tail, and draw the needle out from the back.

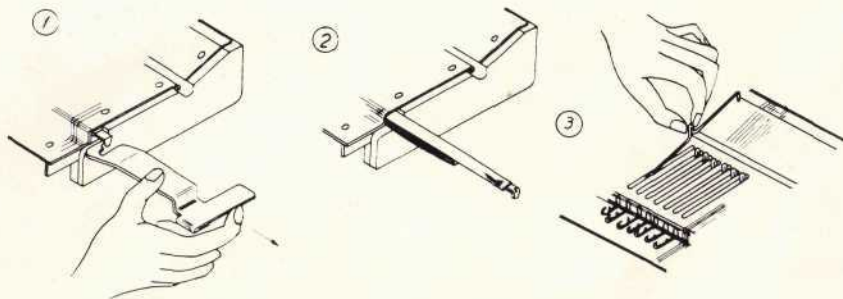
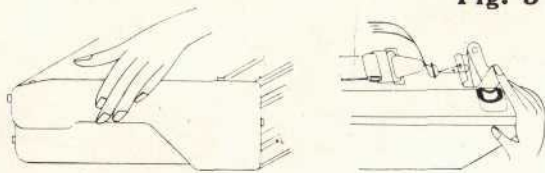
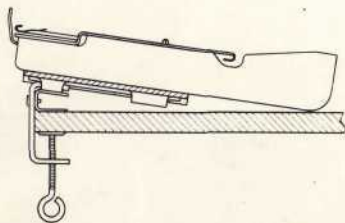


Fig. 5



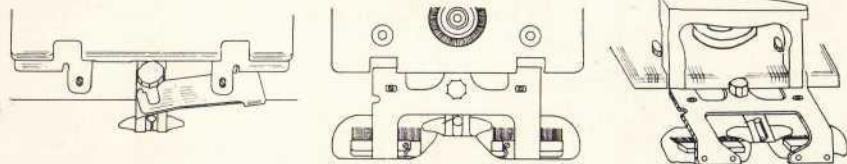
Opening the Case

Fig. 6



Fixing the machine on the table

Fixing the fabric presser and carriage handle,



Threading & Guiding the Yarn

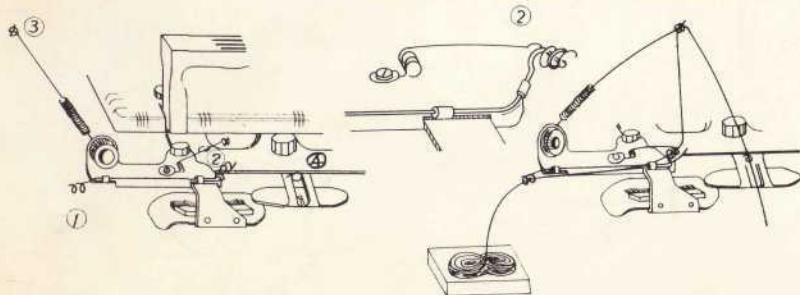
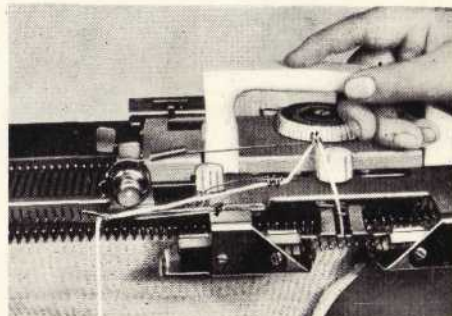


Fig. 8



Five Step Magic Device for
Automatic Pattern Knitting

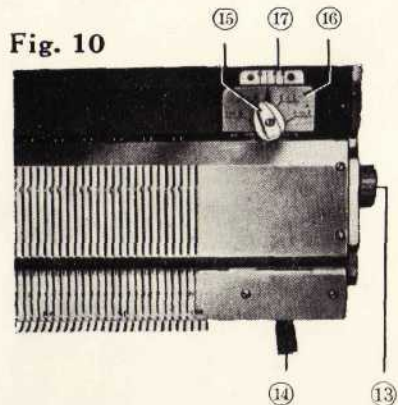


Fig. 10

Needle select dial (15),
and
Needle select graduation (16),

Needle Positions

- (1) Non Working Position
- (2) Knitting Position
- (3) Fair Isle Position
- (4) Holding Position

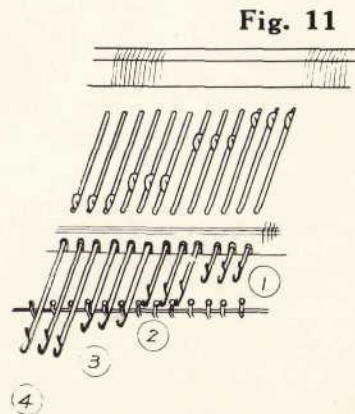
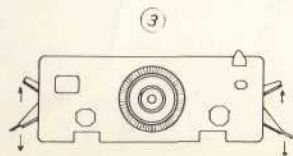
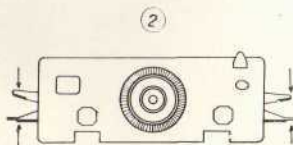
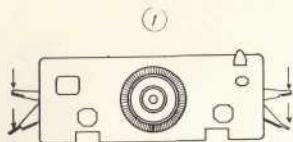


Fig. 11

Fig. 12



Sub Cam levers should be back in this instance, if using needles in Holding Position.

Cam Lever Positions

Sketch (1)

Both sets of levers are towards you.

This is the setting for all normal knitting.

Sketch (2)

Sub Cam Levers are in backward position.

This is used to hold the stitches on needles when they are in Holding Position.

Sketch (3)

Cam Levers are in Backward Position.

This is used for free wheeling, i e. if you wish to take the slide from one side of the work to the other, without moving the needles.

INTRODUCING THE "VOGUE"

The "Vogue" hand knitting machine is the result of many years careful study of the problems besetting the production of knitted garments.

These garments will retain the handle and texture of top quality hand knitting with a perfectly even fabric, whilst having the advantages of being quickly produced.

SPEED

With your new "Vogue" machine it will be possible for you, after a little practice, to produce garments in about two hours or so.

FOLLOW THE INSTRUCTIONS.

In the following pages are carefully laid out and devised instructions. Please follow the instructions step by step as they are written. This is especially important in the early stages until you become conversant with the "Vogue" machine.

Remember that a few hours careful practice will soon enable you to become proficient in the machine knitting technique, saving you time and money. The basic principles discussed in the following pages will give you the necessary knowledge enabling you to make innumerable dresses, sweaters, socks, gloves, etc.

ANY TYPE OF WOOL MAY BE USED.

Most of the wools and yarns already obtainable in your local shop may be used on the "Vogue" however there are some exceptions, and we advise you to use a smooth evenly spun yarn with a soft texture. The wool should be wound evenly in balls preferably shortly before being used, as this prevents the wool becoming matted.

MECHANISM.

By using the tension dial control to obtain the correct tension (size of stitch) it is possible to use ordinary hand patterns, the adaption of which is quite simple. The production of patterned fabrics is allowed for by the incorporation of a needle holding position which is fully described on later pages.

The provision of a wool feed unit allows for the production of perfect stocking stitch at super speeds whilst virtually operating the machine with only one hand. The wool feed is of unique design, and incorporates a system of automatic tensioning exclusive to the "Vogue" knitting machine, which ensures that a constant flow of wool is maintained at even tension to the needles at all times.

UNPACKING

Your "Vogue" knitting machine has a base which is designed to act as cover and carrying case for your machine. To open the machine place on table with the handle away from you. Undo the two latches, one on each side of carrying handle, and slide cover towards you.

Tool kits and spare parts are packed in a plastic container under the cover, and care should be taken that this does not fall when removing cover.

SETTING UP MACHINE

Machine should be placed level with the edge of working table. Fix clamps in slots provided in the base of the machine and clamp firmly to edge of table. (See Fig. 6.)

Release the carriage by removing set plate which is secured by the white knob (4 Fig. 2.) Fit the handle by means of fixing screws (2 Fig. 2.)

FITTING FABRIC PRESSER (2 Fig. 1.)

By means of fixing screw (4 Fig. 2.) and two chrome knobs on either side.

Unless this very important part is fitted correctly, the machine will not knit beyond first one or two rows. To knit properly, it is not sufficient to just place the fabric presser on and tighten the knobs, but the instructions listed below must be carefully followed.

Care should be taken that fixing knobs are sufficiently loosened. The slider or carriage should be removed and held upside down in right hand, the fabric presser should now be engaged in the correct position, fitting under the rubber washer on white centre knob. The slider is then turned right way up and the fabric presser pushed home as far as it will go. Pressure should be maintained whilst tightening all three knobs, ensuring that the washers on the two chrome knobs fit correctly into slots provided.

FIXING AUTOMATIC TENSION (wool feed) (3 Fig. 2.)

This is fitted to left of fabric presser, engaging in the cut out section, and screws tightened back and front. (6 Fig. 2.)

ROW COUNTER. (4 Fig. 1.)

The Row Counter is secured by screw in centre of machine at back (6 Fig. 1.)

DESCRIPTION OF MACHINE

The machine throughout is manufactured from finest quality materials assembled by craftsmen and tested by experts to ensure it reaches the very high standard required. The needle bed is made from stainless steel incorporating slots which guide the needles, as are the grooves in which the slider rail guides

are located. The needle bed contains 200 needles manufactured from carefully selected steels most suitable for the work involved.

It is extremely unlikely that these needles will break but in this event spares are provided in the tool kit. To fit a new needle proceed as follows:- (Page 7). Draw out needle retaining rod from right hand side of needle bed using set plate as illustrated. Draw needle forward as far as possible, lift until tail of needle rises through slot in needle bed, then draw backward and upward. Fit new needle and replace retaining rod.

CARRIAGE OR CAM BOX

Runs on the needle bed and is held in position by front and back rail guides. Carriage controls tension (size of stitch) by means of tension control dial (13 Fig. 2.) and is equipped with brushes to ensure that the needle latches are always open when wool is fed in.

NEEDLE POSITIONS (Fig. 11.)

NON WORKING POSITION

In this position needle butts rest against the rear of the needle bed in which position they are not operated by carriage or magic device.

WORKING POSITION

. This is the position maintained by the needles when the machine is working. Here the needles are approximately $\frac{3}{8}$ " from the rear of the needle bed.

FAIR ISLE POSITION.

With latches just clearing front of stitch forming teeth. This position is used in certain forms of colour work.

HOLDING POSITION

With needle butts against front of needle bed. This position is used for casting on, knitting various patterns and for turning sock heels etc.

USE OF CAM LEVERS (Fig. 12.)

For normal stocking stitch both sets of levers, Cam Lever at rear of carriage, and sub cam levers in front of carriage, are in forward (towards you) position.

For leaving needles in holding position Cam Levers forward, Sub Cam Levers back (away from you).

For free wheeling, i. e. if you wish to take the slide from one side to the other without moving the needles, Cam Levers should be in backward position.

THREADING WOOL INTO MACHINE (Fig. 8.)

Wool is taken through metal spiral (1) on left of carriage running from left to right, and then on to spiral (2), at the same time bending down resisting spring, and threading through both. Then pass wool through eyelet on pull spring (3) and down to yarn feeder (4) passing under wire guard.

CLOSED EDGE CASTING ON

With carriage on right hand side of machine, bring forward required number of needles to forward (holding position) and ensure that all latches are open. Form running loop in end of wool and place over extreme left hand working needle, and allow loop to pass down to rest in front of stitch forming rake (teeth).

With right hand take one turn round each needle anti clock wise, holding loops, thus formed against the stitch forming rake with index finger of left hand. Bring carriage to two inches from extreme right hand working needle, taking up slack of wool by gently pulling at supply end of guides. Set tension control on required number ensure that both sets of Cam Levers are in forward (toward you) position and pass carriage over to Left of needle bed. When carriage reaches correct position just past the working needles a slight click will be heard. This indicates that carriage can now be passed back in the opposite direction. Each stroke from left to right and vice versa completes a full row of stitches. Clicks at the end of each row indicates when the end of stroke is reached and return stroke can then be started.

If carriage is not taken far enough over, needles will not knit on the return stroke, but a loose loop will be formed across fabric. If however it is taken too far past work, loops of wool will be left at edge of fabric and end stitches may be dropped. A little practice will soon ensure correct positioning of carriage.

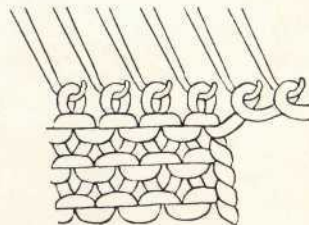
INCREASING BY ONE STITCH

Carriage must always be on side where increase is required for any number of stitches. For single stitch increase bring empty needle next to last working needle into knitting position, ensure that latch is open, pass carriage over and new stitch will form. Repeat on opposite side.

INCREASING BY A NUMBER OF STITCHES

With carriage on right hand side, bring forward number of extra needles required, take one turn of wool anti clock wise round each empty needle, (as for casting on), ensure latches are open, and sub cam levers forward. Pass carriage to left, and stitches are formed.

On left of work the same procedure is carried out, but wool is taken round needles in CLOCKWISE direction. DECREASE by one stitch. Using



the single transfer tool, transfer end stitch to next needle leaving two stitches on one needle, push empty needle to non working position and continue knitting.

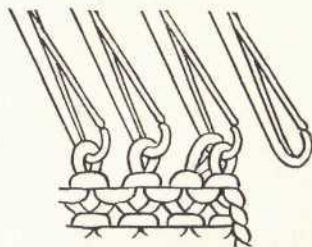
Decrease by a number of stitches.

This is done by usual casting off method.

CASTING OFF

Starting at the end where the last row finishes, transfer the end stitch into the next needle. Then bring the needle forward into Holding Position allowing both stitches to pass behind the latch. Take the wool through the hook of needle and pull needle back, knitting the two stitches together and leaving the new stitch in the hook of needle.

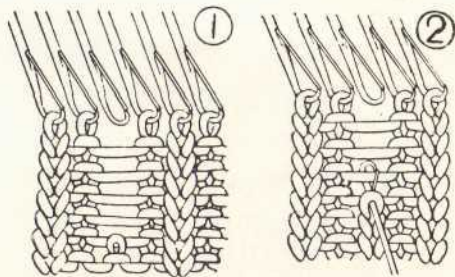
Repeat this procedure to the last stitch, then take the end of the wool through the last loop and finish off. (Always slacken the wool tension before casting off a number of stitches).



RIBBING USING HAND TOOL

To form a one plain one purl welt, every second stitch must be dropped down to the cast on stitch and picked up on the side of fabric facing the operator, forming plain stitches on the purl side.

Stitches must be dropped one at a time (always complete one verticle line before dropping the next.) Hook the latch needle tool into the last strand and twist in a clockwise direction forming a loop. Holding the tool as you would a pencil, push it forward,



placing the loop behind the latch: hook the next bar and pull tool towards you, closing the latch and pulling wool forward to form a new stitch. Hook the next bar and continue up the 'ladder' caused by the dropped stitch, placing the final stitch into the needle behind the open latch. When carrying out this operation the fabric should be held taut in the left hand away from the machine.

When using ribbing within the body of the garment, e. g. gathered waistline, the commencing row should be marked by knitting in a piece of contrasting wool which is laid across the needles and knitted in with the wool for one row.

DROPPED STITCHES.

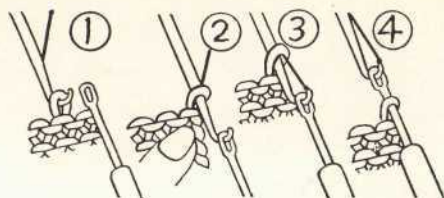
To pick up a stitch which has dropped is quite simple and can be done invisibly. The method used is exactly the same as that used for the ribbing with the latch needle tool except that the tool is used on the other side of the fabric (plain side). Push the empty needle into non-working position and the needles holding the fabric into Holding Position. Insert the latch needle tool behind the fabric from the top of the work. Push the latch hook through the loop of the dropped stitch, placing it behind the open latch.

Catch the bar immediately above the hook and pull, thus forming a stitch. Continuing in this manner, catch the next bar pulling it through the loop already behind the latch until the last bar of the 'ladder' is dealt with. Place the stitch remaining on the latch needle into its appropriate needle.

TRANSFERRING STITCHES

For this, transfer tools are provided capable of transferring one to four stitches in one operation. To use these, hook the eye of the transfer tool over the hook of the needle. Pull the tool sharply towards you,

placing the stitch behind the open latch. Push the tool away, closing the latch, and leaving the stitch on the shaft of the transfer tool. Place this on an adjacent needle, making sure that the stitch is left on the hook and not behind the open latch.



BASIC PRINCIPLES

Unlike hand knitting, it is not possible to measure your knitting as it is produced, and therefore another method must be used. To do this, your "Vogue" knitting machine is equipped with an automatic row counter and tension control, both of which are visible at all times.

With machine knitting, the size of the stitches produced is governed by the amount of wool allowed to form them. This amount of wool is governed by the movement of the needle which in turn is controlled by the setting of the tension.

Therefore if the pointer is set at one, the stitch produced will be tighter than when it is set at ten. Most patterns give a tension sample either as an illustration or a number of stitches to one inch. When attempting to knit, this tension must be obtained on the machine by setting the tension control to the appropriate figure.

Some indication of the correct setting can be obtained from the table below. It is important that the exact number of stitches is obtained and to ensure this, a sample piece of knitting should be made, covering 40 stitches and 40 rows.

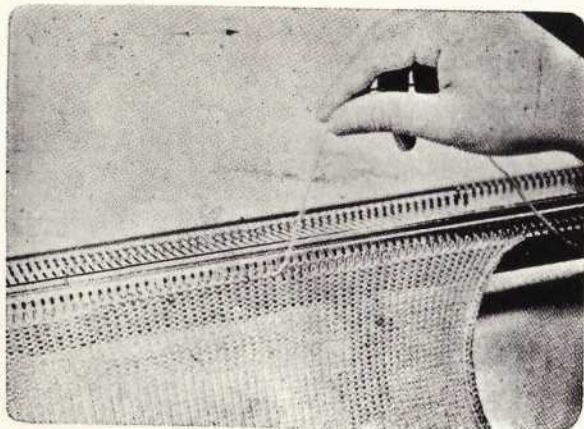
If the tension is too tight, or too loose, the setting must be adjusted and another sample knitted. To measure the sample, it must be removed from the machine, laid flat, and the number of rows and stitches per inch checked against a ruler or tape measure. Once your tension is set correctly you can commence

knitting and will always be able to check the amount done by merely glancing at the row counter.

This will show the number of rows knitted which can, by a single calculation be turned into the number of inches knitted e. g.

tension 8 stitches and 12 rows to 1 inch
measurements (back)
Waist 12 inches. Cast on 8×12 sts. — 96 stitches
Length to armhole 10 inches Knit 12×10 — 120 rows.

Type of wool	Tension setting	stitches per inch	rows per inch
2 ply	2 4 6 4	10 9 6 9	15 13½ 12 13½
3 ply	3 6 9 6	9 8 6½ 8	12½ 11 8½ 11
4 ply	7 8 9 8	8 7½ 7 7½	11 10½ 10 10½
Double knitting	7 alt. 9 needles	6 5½	8 8



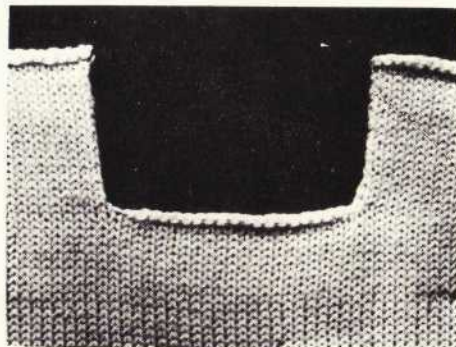
Unravelling the stitches

When you wish to unravel any stitches whilst you are knitting, place the cam box at one end, then pull the yarn firmly, upwards and the row will begin to unravel.

1. Neck Openings

A. The Square neck opening

First of all the number of needles required for the shoulder should be put into holding position at the edge on the side opposite the slide (Sub Cam levers should be in backward position), then one row is knitted, now cast off the number of stitches required for the neck opening (see instructions for casting off.) Then place the empty needles in non-working position now continue up to the shoulders, cast off and complete the other side, bring the needles back into working position.



B. The V-shaped neck opening

Using the single transfer tool, transfer the centre stitch into the next needle, and put the empty needle into non-working position. At the side opposite the slide put half the needles into Holding Position (Sub-Cam levers should be in backward position), continue knitting on one side making the necessary decreasing for the V-shape on the inner sides of the opening, complete the second side in the same manner, but first bring the needles back into working position.

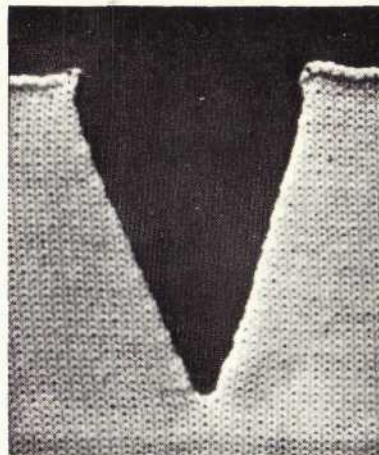
2. Buttonholes

A. Horizontal Buttonholes

Put the required number of needles for the buttonhole into Fair Isle position or position 3, i. e. with the stitches behind the latches, place some contrasting wool into the latches of these needles and knit the wool in by hand, then continue the normal knitting. When the knitting is completed, the inlaid thread is removed, leaving open stitches which should be fastened with a buttonhole stitch.

B. Vertical Buttonholes

The slide is placed to the right. At the left hand side of work, push the needles into Holding Position, up to the spot where the buttonhole should begin, with the needles on the right still remaining



in working position (Sub Cam levers in backward position) Knit the required number of rows, break the wool off and put the cam levers in backward position (now both sets are in backward position (Fig. 12 sketch (3)), you may now take the slide to the left without moving the needles. Now bring the needles from holding position into knitting position by means of the transfer tool.



Push the needles on the right into Holding Position, re-thread the machine Bring Cam Levers back and knit the same number of rows on the left side. Now bring the Sub Cam Levers towards you, this will bring all needles back into knitting position without using the transfer tool. Then continue knitting. It is recommended to finish off vertical buttonhole with a buttonhole stitch by hand, for reinforcement. This gives them a better appearance.

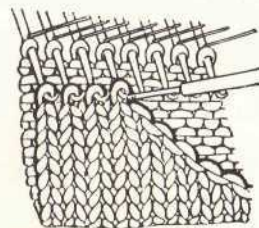
B. Vertical slits for Zip Fasteners are knitted in the same manner except that you must complete one side and cast off before commencing the other side.

3. Knitting Effects

A Double Hem

A. Plain Edge

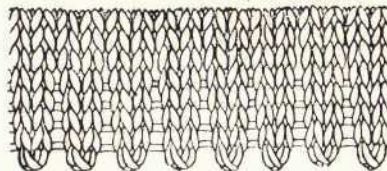
Use the closed edge method of casting on, and knit 20 rows, bring the cast-on edge up to the needles, and with the transfer tool place each of the original cast-on stitches into its own needle, thus having two loops on each needle, all along the row, Continue Knitting.



3. B. Scalloped Edge

Cast on and Knit 10 rows with the single transfer tool, place every other stitch on to the needles next to it, leaving the empty needles in the working position.

Knit another 11 rows. Replace the original cast-on stitches into its own needle, then having two loops on each needle all along the row. Continue Knitting.



Continental Rib (without Hand Tools 2 × 1)

An effective and attractive welt, similar in appearance to ordinary ribbing can be quickly and easily produced in the following manner. Bring the required number of needles into working position and put every third back into non-working position and cast on in the usual way, the tension setting should be at least one tighter than intended for the main part of the garment.

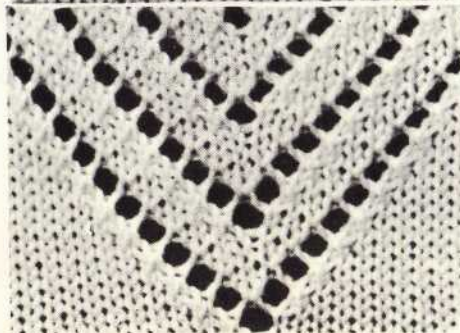
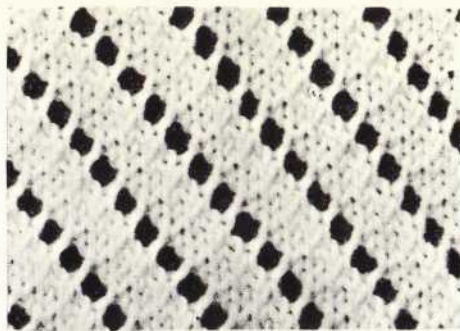
Knit twice the depth of welt required bring the empty needles from non-working position into working position and turn up the hem, taking care that a running thread from the cast-on edge is placed into every empty needle, reset tensions and carry on knitting.

A one plain one purl effect may also be obtained by placing every second needle in non-working position.



A Selection of Lace Patterns.

1. * With the aid of the single transfer tool, transfer every fourth stitch into the adjacent needle on the right, then bring the empty needles immediately back into Working Position, knit 2 rows (**). Repeat from (*) till (**) continuously, but do not forget to move each row of the lace patterns one stitch to the right.
2. * By means of the single transfer tool, transfer every second, fourth and sixth stitch and so on into the next needle to the left, over the entire width of the work piece. Bring the empty needles back into Working Position immediately. Knit 2 rows. Then transfer every third, fifth and seventh stitch and so on into the adjacent needle equally over the entire width of the work piece. Bring the empty needles back into Working Position. Knit 2 rows (**). Repeat from (*) till (**) once more Knit 6 rows. Repeat the pattern again as many times as desired.
3. * With the single transfer tool transfer a stitch in the centre on to the adjacent needles to the left, leaving the needle in Working Position.
Knit 2 rows.
Continue in this way until 4 holes have been made on each side, then start at the centre again and repeat whilst continuing the outside pattern.



Patterns using the Holding Position

4. * Cast on with every needle. Counting from the left place the fourth needle into Holding Position. Leave three needles in Working Position, place the fourth again into Holding Position. Repeat along the row.

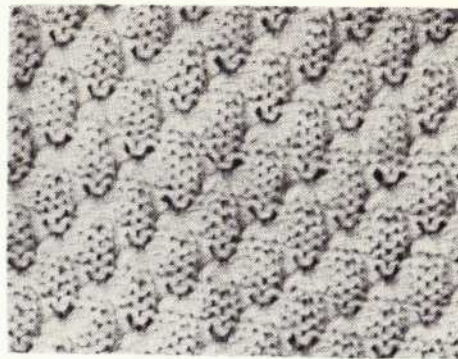
(Put the Sub Cam Levers in backward position) Knit 4 rows. Push the needles in Holding Position back into Fair Isle position (i. e. with the stitches just behind the latches).
BRING THE SUB CAM LEVER TOWARDS YOU
AND KNIT 1 ROW

Now all the needles are back in working position without the aid of the transfer tool. Now place the second needle into Holding Position, leave three and place every following fourth into Holding Position (With Sub Cam Levers in backward position) Knit 4 rows. Push needles back again into Fair Isle position (Sub Cam Lever towards you)

Knit 1 row (**)

Repeat the pattern from (*) till (**) as many times as desired.

5. * Put every 4th needle into Non-Working position before commencing the pattern.
* Bring the central one of each of the three needles that are in Working Position into Holding position (Sub Cam Levers should be in backward position) Knit 3 rows. Bring the needles from Holding Position back to working position (Sub Cam Levers towards you) This will eliminate the use of hand tools. Knit 2 rows. (**)
Repeat from (*) till (**) continuously.



Fair Isle

6. * It is necessary to become familiar with the Magic Device (Fig. 10) before commencing colour work.
Both wools are fed through the feeder only (see 15 Fig. 2)
Select the needle combination IXI by means of the needle Select Dial (15).
- * Stitch removing lever (14) should be set at O.
Now turn the needle operating dial (13) towards you and the selected needles will drop down.
- Place the contrasting wool behind the yarn feeder and knit 2 rows.
Turn the needle operating dial back to its original position.
Set switch removing lever at 1 and drop needle down again.
Insert second colour into the Yarn Feeder K. 2. rows (**)
Repeat from (*) till (**) as often as required.



7. * Select needle Combination 2x2
Stitch removing lever (14) should be set at O.
Now turn the needle operating dial (13) towards you and the selected needles will drop down.
Place the contrasting wool behind the Yarn Feeder.
Knit 2 rows.
Place the main colour behind the Yarn Feeder.
Knit 2 rows.
Turn needle operating dial (13) back to its original position.
Stitch removing lever (14) should now be set at 2 and drop needles down again.
Place the contrasting wool behind the Yarn Feeder.
Knit 2 rows.



Place Main Wool behind the Yarn Feeder.

Knit 2 rows (**)

Repeat from (*) till (**) as often as required.

Cable Pattern

With 2 double transfer tools.

8. * Put every fifth needle into non-working position Knit 6 rows.

* Using two double transfer tools, cross the first four stitches, leave the next four, cross the next four, and so on across the entire width of the work.

Knit 6 rows.

Now over the entire width, cross over the four stitches which have not been crossed previously.

Knit 6 rows (**)

Repeat from (*) till (**) as many times as required.

Using the latch needle tool, pick up the last bar (caused by the needle left in Non - Working position) and form a rib as described under ribbing using Hand Tool. This should be done across the entire width of work where needles have been left in Non - Working position.

Method for Using Magic Device Fig. 10.

Select needle combination required by means of needle select dial (15) turn needle operating dial (13) towards you. Selected needles will then be taken out of working position whilst still retaining the



stitches already on.

When changing the combination or using stitch removing lever (14 (for Zig Zag) the needle operating dial must always be turned back to its original position (away from you).

It is important to remember that the Magic Device will not operate if there is no work on the needles unless empty needles are brought forward to casting on position.

Zig Zag Patterns.

Zig Zag patterns may be obtained by use of the needle select graduation (Fig. 10).

First row of pattern knitted on Mark O of graduation scale, second row on Mark 1, third row on Mark 2, fourth row on Mark 3, then down the scale again 2 - 1 - 0 etc.

Needle operating dial (13) should always be turned back at each change of graduation or when returning to stocking stitch.

Oiling

This should be used very sparingly as excess oil will stain the knitting.

SOME EXTRA NOTES TO ASSIST OWNERS OF THE
'VOGUE' KNITTING MACHINE

1) To prevent dropped stitches and looping :-

Cast on in the usual method and knit the first row. Then with the aid of the needle comb, bring all the needles forward into position 4, taking care to push all the stitches back to the sinkers before knitting the row. This procedure should be followed for the next four rows and then *continue knitting normally.*

2) Knitting thicker wools :-

Knit on alternate needles using Tension 7. It is advisable when threading up machine to leave out the tension resisting spring, and just take wool through fixed spiral guide.

3) Automatic Tension :-

To obtain the best results with knitting most 3 or 4 ply wools, the Automatic Tension should be set approximately 30 degrees to the left.

4) Lubrication and Cleaning

Put one spot of oil on front and rear runners and spread by running carriage back and forth two or three times over the whole length of the needle bed. The butts of the needles should be wiped with a soft rag dipped in oil. One spot of oil also should be put on the moving parts on the under-side of the carriage. The cams should be smeared with vaseline but care should be taken not to over oil as this would result in the oil spreading on the needles and spoiling the work. To clean machine, a soft brush dipped lightly in paraffin should be used. Clear the excess oil and then you should knit with some old wool to remove any surplus paraffin.

NOTES ON PREVENTION OF JAMMING

- 1) Great care should be taken that no extra drag or resistance is applied to wool as it feeds on to the Automatic Tension.
- 2) A cone should ALWAYS be used and replaced in a position to left of operator.
- 3) Wool should not be held, but allowed to feed on to the Automatic Tension, with no added tension, such as passing through fingers. Any such extra tension pulls loops on needles too tight, and they are unable to slide easily off the needles.
- 4) In the event of jamming, the carriage should not be forced as this will result in damage to the needle bed. The Fabric Presser should be removed and the carriage lifted from machine.

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