

Old  
machine

Instructor  
Manual

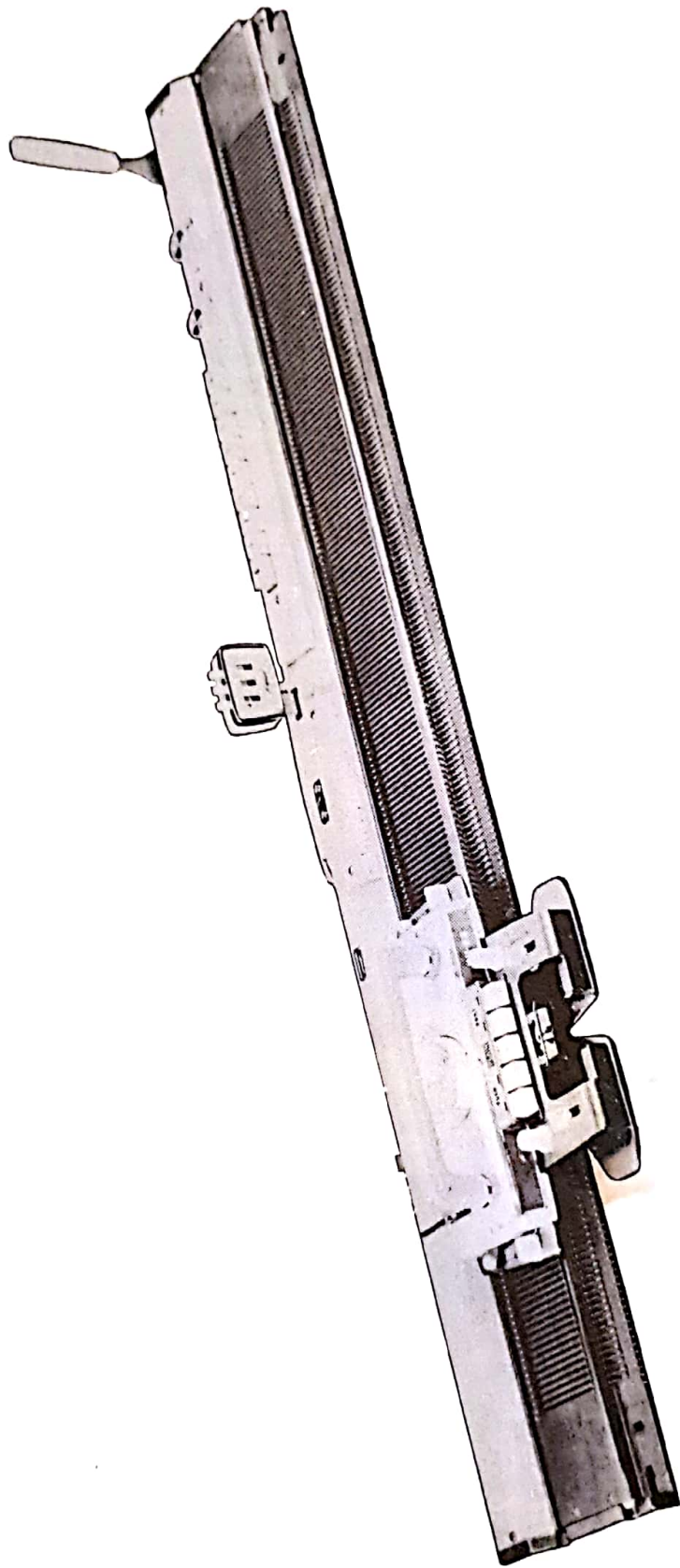
Empisal

**SUPERMATIC PB-8**

**KH 68**

**AN EMPISAL PUBLICATION**

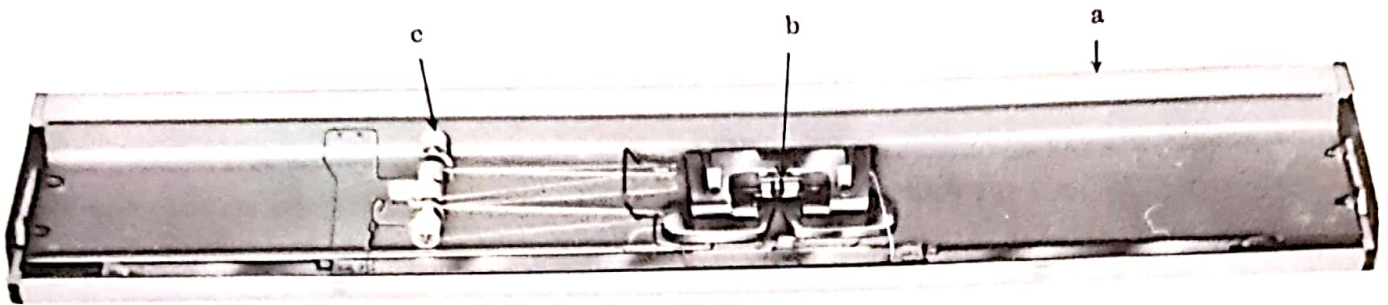
FRAMIC



TWEEDE UITGAWE

SECOND EDITION

## YOUR KH68 KNITTER



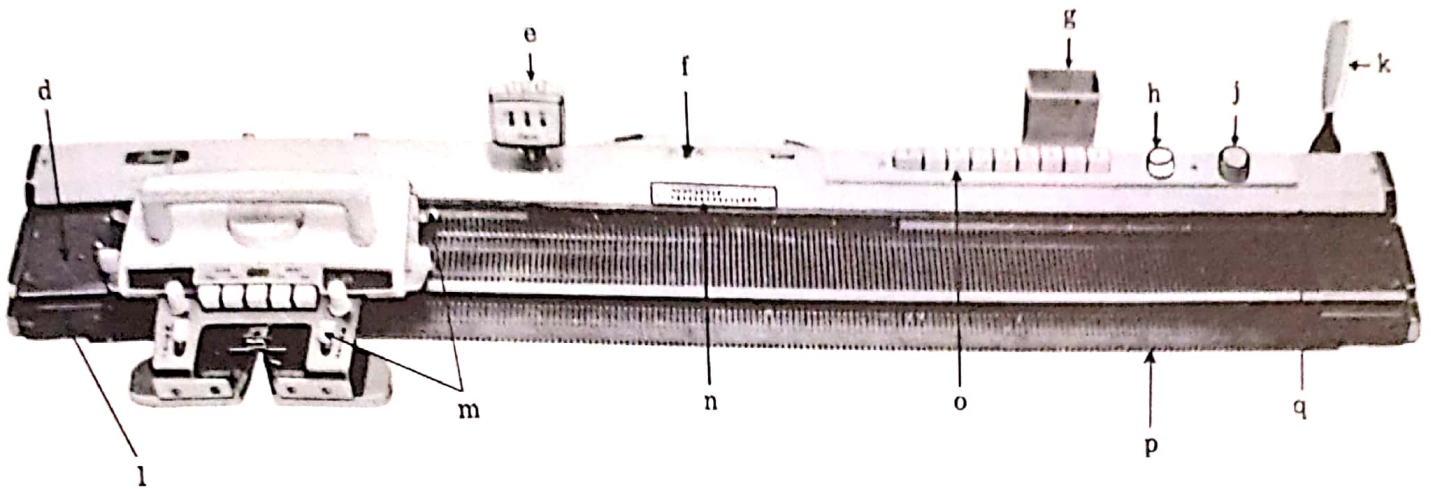
- a. Carrying Case
- b. Sinker Plate
- c. Automatic Yarn Tension Unit
- d. Needle Bed Upper Plate
- e. Row Counter
- f. Setting Hole for Automatic Yarn Tension Unit
- g. Accessory Stand
- h. Reverse Switch
- j. Slide Dial
- k. Set Lever
- l. Setting Hole for Ribbing Attachment
- m. Weaving-in Pattern Apparatus
- n. Slide Indicator
- o. Needle Selector Buttons
- p. Gate Pegs
- q. Slide Rail for Carriage

In all communications with EMPISAL or your Dealer  
*OR* when ordering additional accessories or spares for  
your EMPISAL Knitter, always quote:

e.g.  
Model                      **KH68**                      and factory  
Number                                           number.

(The factory number will be found on the right of the  
needle bed.)

## U KH68 BREIMASJEN.

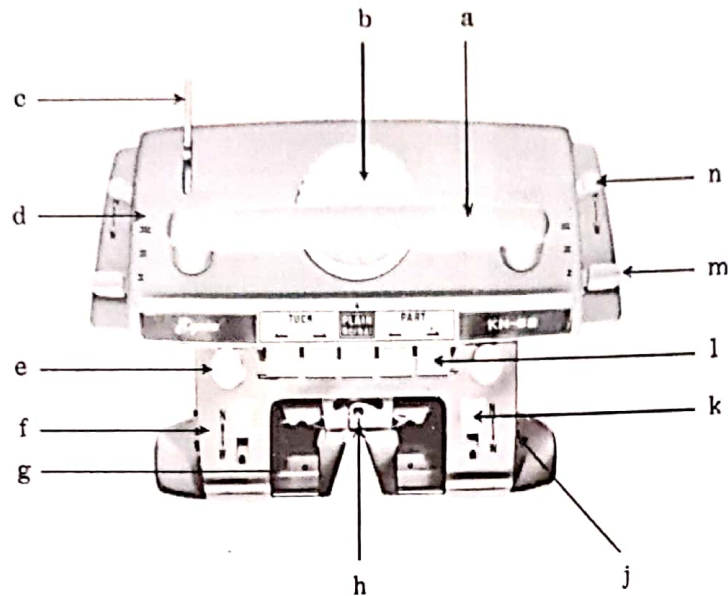


- a. Deksel.
- b. Rollerplaatjie.
- c. Outomatiese  
Spanning-eenheid.
- d. Naaldkas-bolaag.
- e. Ryteller.
- f. Gaatjie vir outomatiese  
spanning-eenheid.
- g. Toebehore-houertjie.
- h. Tru-knoppie.
- j. Skuifknop.
- k. Stelsleutel.
- l. Klampgaatjie vir Hulpnaaldkas
- m. Weef-beheerknoppies.
- n. Skuifaanwyser.
- o. Naald-stelknoppies.
- p. Hekkie-penne.
- q. Saalgleuf.

In al u onderhandelinge met EMPISAL of met u handelaar of wanneer u bykomende toebehore of onderdele vir u EMPISAL Breimasjen bestel, meld altyd:

Model                      **KH68**                      en Fabrieks-  
nommer                                           nommer.

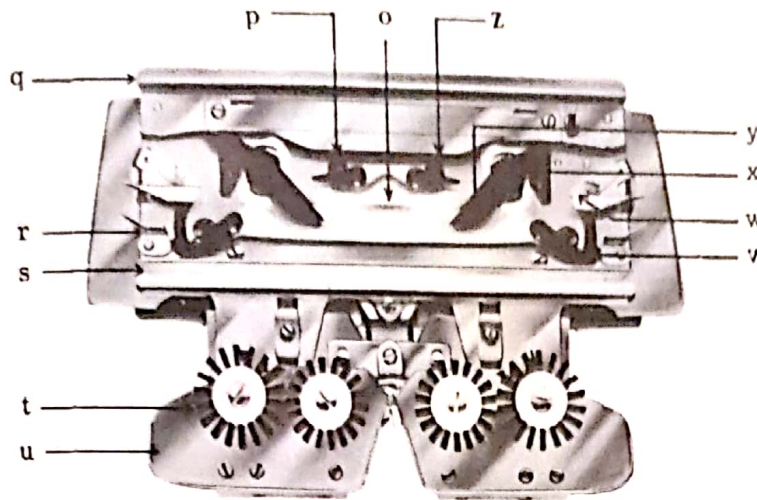
(Die fabrieksnommer sal u vind aan die regterkant van die naaldkas.)



### CARRIAGE PARTS

- |    |                                   |    |                     |
|----|-----------------------------------|----|---------------------|
| a. | Carriage handle                   | o. | Guide Cam           |
| b. | Tension Dial                      | p. | Lower Cam Strip     |
| c. | Row Counter Tripper               | q. | Carriage Rear Rail  |
| d. | Carriage Cover                    | r. | Sub Cam             |
| e. | Plastic Thumb Screw               | s. | Carriage Front Rail |
| f. | Sinker Plate Arm                  | t. | Brush Wheel         |
| g. | Latch Brush                       | u. | Sinker Plate        |
| h. | Yarn Feeder                       | v. | Holding Cam         |
| j. | Weaving-in Pattern Brush          | w. | Weave-in Cam.       |
| k. | Knob for Weaving-in Pattern Brush | x. | Raising Cam         |
| l. | Pattern Selector Buttons          | y. | Stitch Cam          |
| m. | Holding Cam Lever                 | z. | Tucking Cam         |
| n. | Weave-in Cam Lever.               |    |                     |

The policy of Empisal International is one of continuous progress and improvement. All specifications are therefore subject to change without notice.



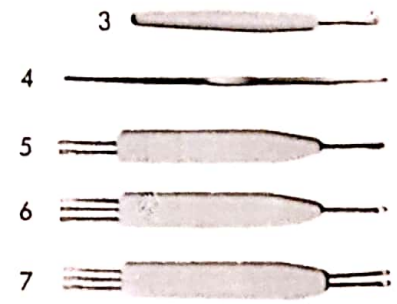
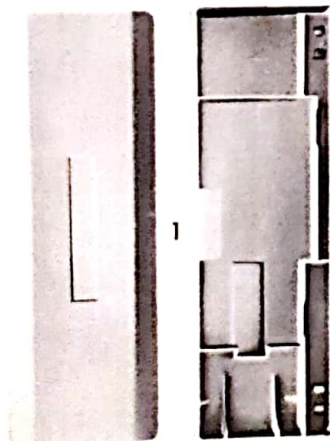
#### SAAL ONDERDELE

- |                              |                               |
|------------------------------|-------------------------------|
| a. Saal-handvatsel.          | o. Gids-nok.                  |
| b. Spanning-meter.           | p. Onderste gids-strook.      |
| c. Ryteller-aanstootpen.     | q. Agterste gly-staaf.        |
| d. Saal-dekplaat.            | r. By-nok.                    |
| e. Plastiek-duimskroefie.    | s. Voorste gly-staaf (nylon). |
| f. Rollerplaat-vertakking.   | t. Borsel-wieletjie.          |
| g. Kleppie-borsel.           | u. Rollerplaat.               |
| h. Breigare-voerder.         | v. Naaldposisie-nok.          |
| j. Weefborsel-wieletjie.     | w. Weef-nok.                  |
| k. Weefborsel-beheerknoppie. | x. Opstoot-nok.               |
| l. Patroon-knoppies.         | y. Brei-nok.                  |
| m. Naaldposisie-nok-hefboom. | z. Halfbrei-nok.              |
| n. Weef-nok-sleutel.         |                               |

Dit is die beleid van EMPISAL International om gedurig vooruit te gaan en te verbeter. Alle spesifikasies is daarom onderhewig aan verandering sonder kennisgewing.

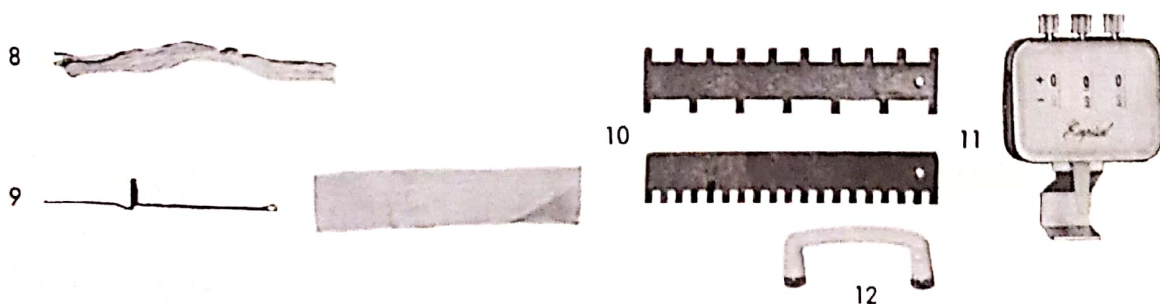
## THE ACCESSORIES FOR THE KH 68 SINGLE-BED KNITTER AND THEIR USES

1)	Accessory Box		A box fitted and spaced to hold the accessories when the knitter is packed away. Items marked B below fit into this box.
2)	Accessory Pouch	(B)	A fitted pouch to hold small accessories (marked P).
3)	Latchet Hook	(P)	Used for certain patterning, to pick up dropped stitches, and for ribbing (single-bed only).
4)	Work Hook	(P)	(sometimes also used for patterning) and to catch dropped stitches.
5)	Transfer Handle	(P)	$\left. \begin{array}{l} 3 \times 2 \\ 3 \times 1 \\ 2 \times 1 \end{array} \right\}$ By these combinations there are two each three needle, two needle and single needle handles; used for transferring stitches, for cross over stitches when cabling, and other patterning.
6)	Transfer Handle	(P)	
7)	Transfer Handle	(P)	
8)	Nylon Thread	(P)	Used to hold together 2 pieces of knitted fabric to enable a continuation of knitting without removing the first panel from the knitter.
9)	Spare Needle	(P)	Replacement part. (A small pouch for extra needles is also provided).
10)	Needle Cutters	(P)	Needle cutters are used to raise or lower manually groups of needles to different positions. Only one is supplied, others in various combinations are available as spares.
11)	Row Counter	(B)	Used to count the rows in a panel or piece of knitting.
12)	Carriage Handle	(B)	Detachable for convenience of packing.



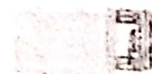
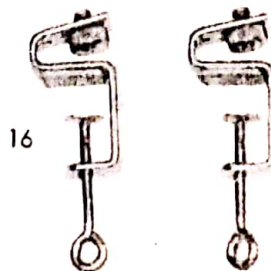
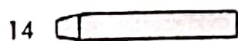
**DIE TOEBEHORE VAN DIE KH68 BREIMASJIE  
EN 'N BESKRYWING VAN DIE GEBRUIKE DAARVAN**

- |                        |     |   |
|------------------------|-----|---|
| 1) Toebehore-kassie    |     | 'n Bakkie om die toebehore in te hou wanneer die masjien weggepak word. Items wat (B) gemerk is, word in die kassie gepak.  |
| 2) Toebehore-Sakkie    | (B) | 'n Sakkie met afdelings vir die kleiner toebehore (P) gemerk.   |
| 3) Hekelhaak           | (P) | Word gebruik vir sekere patrone, om steke op te tel wat geval het en vir Rif-steek (alleenlik op enkelbed).   |
| 4) Hekelnaald          | (P) | Word gebruik vir patrone en om steke te vang.   |
| 5) Oorplaasnaald       | (P) | $\left. \begin{array}{l} 3 \times 2 \\ 3 \times 1 \\ 2 \times 1 \end{array} \right\}$ Hierdie kombinasies gee vir u 2 van 3 naalde elk, 2 met 2 naalde en 2 met enkel naalde. Word gebruik vir oorplaas van steke en vir oorkruis van steke vir kables. |
| 6) Oorplaasnaald       | (P) |   |
| 7) Oorplaasnaald       | (P) |   |
| 8) Nylon-toutjie       | (P) | Word gebruik om 2 gebreide-gedeeltes aanmekaar te hou en om sodoende voort te gaan met die breiwerk sonder om die eerste gedeelte van die masjien te verwyder.  |
| 9) Spaar-Naald         | (P) | Vervang-onderdeel ('n klein sakkie vir spaarnaalde word ook voorsien).  |
| 10) Naaldstootplaatjie | (P) | Naaldstootplaatjies word gebruik om naalde met die hand na enige gewenste posisie te stoot. Slegs een word voorsien. Verskillende ander kombinasies is beskikbaar as spaardele.   |
| 11) Ryteller           | (B) | Word gebruik om die rye te tel in 'n paneel of strook breiwerk.   |
| 12) Saal-handvatsel    | (B) | Kan afgeskroef word om verpakking te vergemaklik.   |

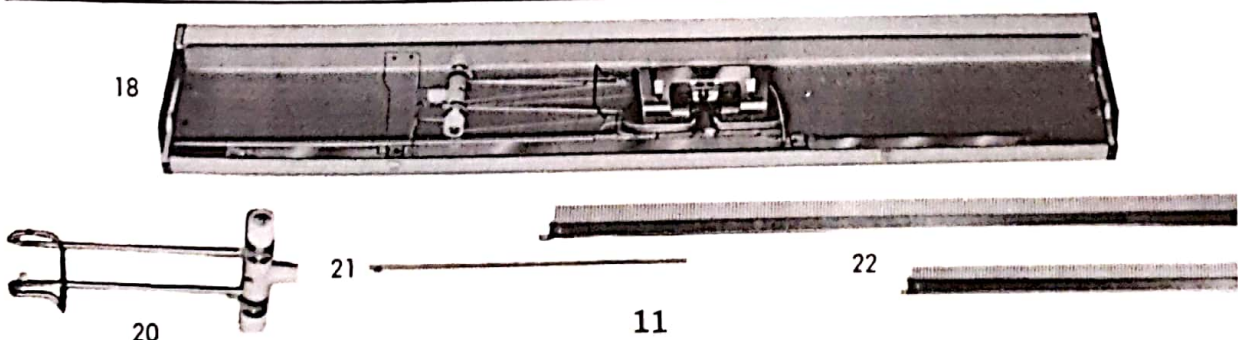




- |     |                             |     |   |
|-----|-----------------------------|-----|---|
| 13) | Needle Selector Lever       | (B) | This is attached to the needle selector lug on the outer case of the Knitter and is used to raise (or set) selected needles.  |
| 14) | Oil Bottle                  | (B) | A lubricant to be used sparingly on the knitter carriage cams.  |
| 15) | Brush                       | (B) | Can be used for cleaning fluff from the Knitter or kept only to open needle latches. (Do not use for both purposes as cleaning will soil the brush, after which it will soil the needle hooks, thereby marking the knitting). |
| 16) | Clamps                      | (B) | Two clamps for attaching the Knitter to a table or stand. (The clamps supplied with the Single-Bed Knitter differ from those supplied when a double-bed attachment is used in conjunction with the Knitter).                  |
| 17) | Accessory Stand             | (B) | Used to hold accessories during work, fits on to the carrying case.   |
| 18) | Case Cover                  |     | The cover to protect the Knitter when packed. Articles packed therein are marked (C).   |
| 19) | Sinker Plate Assembly       | (C) | Part of the carriage or saddle, used to hold the work against the Knitter when in operation. Also contains the yarn feeder and lay-in mechanism.  |
| 20) | Branch Tension Arm Assembly | (C) | } Used to maintain an even tension on the yarn being fed to the Knitter.  |
| 21) | Branch Tension Arm Upright  | (C) |   |
| 22) | Combs                       | (C) | Combs are used to hold the yarn when starting the knitting, also used to support weights and sometimes to hold short lengths of fabric in position.   |

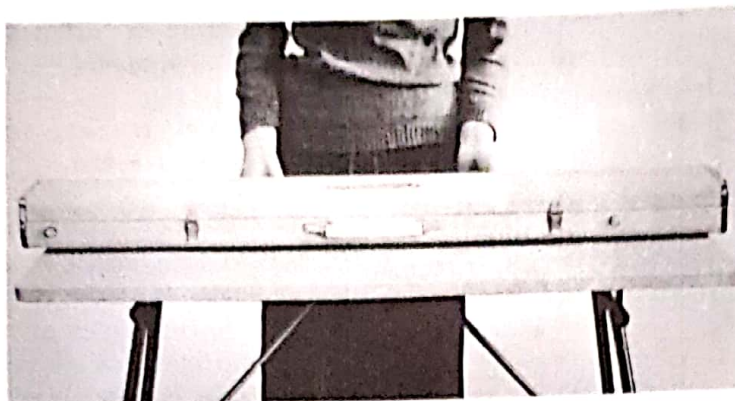


- |     |                              |     |   |
|-----|------------------------------|-----|---|
| 13) | Stelsleutel                  | (B) | Dit word geplaas oor die knop van die naaldstel-eenheid aan die agterkant van die naaldkas en word gebruik om verlangde naalde te stel.   |
| 14) | Olie-kannetjie               | (B) | 'n Smeermiddel om spaarsaam te gebruik op die saal-nokke.   |
| 15) | Borsel                       | (B) | Kan gebruik word om wolvesels van die masjien af te borsel of alleenlik om naaldkleppies oop te maak. (Mag nie vir beide doeleindes gebruik word nie daar die breiwerk sal vuil s meer wanneer die borsel vir skoonmaak-doeleindes ook gebruik word.) |
| 16) | Klampe                       | (B) | Twee klampe om die breimasjien aan 'n tafel of staander vas te heg. Die klampe wat voorsien word met die enkelbed-masjien verskil van die wat gebruik word wanneer die masjien as dubbelbed gebruik word.   |
| 17) | Toebehore-houertjie          | (B) | Word gebruik om toebehore in te bêre wanneer masjien gebruik word. Pas agter aan die naald-kas.   |
| 18) | Masjien-deksel               |     | 'n Deksel wat die masjien beskerm as dit verpak is ( Items daarin verpak gemerk (C) ).  |
| 19) | Rollerplaat-eenheid          | (C) | 'n Gedeelte van die saal; word gebruik om breiwerk teen die hekkie-penne van die masjien te hou wanneer gebrei word. Bevat ook die breigare-voerder en weef-apparaat.   |
| 20) | Meervoudige Spanning-eenheid | (C) | Word gebruik om 'n reelmatige spanning van die breigare na die masjien te verseker.   |
| 21) | Spanningeenheid-stafie       | (C) | Regop stafie ( Die spanning-eenheid word hierop gemonteer).   |
| 22) | Aanhegkamme                  | (C) | Word gebruik om steke te hou wanneer aangeheg word, ook om gewigte aan te hang en om klein strokies breiwerk in posisie te hou.   |



## SETTING UP YOUR KNITTER.

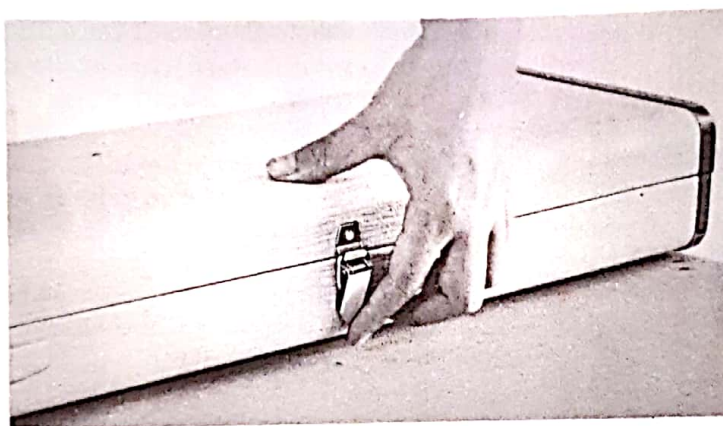
## OM U BREIMASJIEŒ OP TE STEL



Sk. 1.

- a. Place your knitter on the edge of any firm and flat table, with the handle of the carrying case away from you.

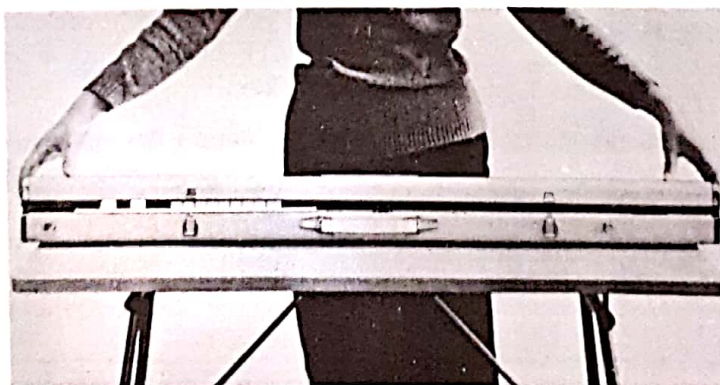
- a) Plaas u masjien op die kant van 'n stewige tafel met 'n regaf kant, sodat die handvat-sel van die dra-tas weg van u af wys.



Sk. 2.

- b. Remove the upper case  
Release the catches on both sides of the handle (see Sk. 2).

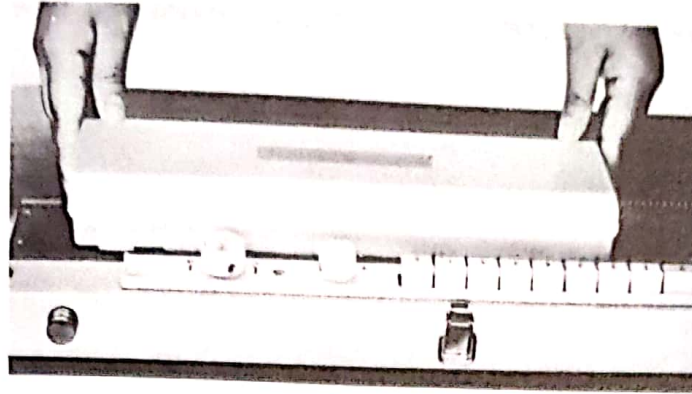
- b) Verwyder die deksel.  
Maak die knippies aan weerskante van die handvat-sel los. (Sk. 2).



Sk. 3.

- c. Lift the upper case about 1" and pull toward you (Sk. 3). This will release the upper case which should be placed on the table beyond the knitter, inside up.

- c) Lig die deksel ongeveer 1 duim op en trek dit na u toe (Sk. 3). So sal die deksel los-kom en word nou agter die masjien op die tafel geplaas met die binnekant na bo.



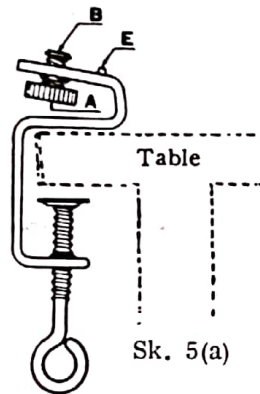
Sk. 4.

**Remove the accessory box.**

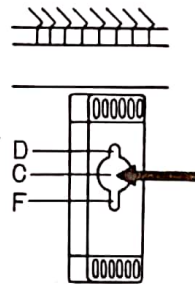
On the needle bed, which is contained in the lower case, the carriage is on the left and the accessory box on the right. Lift the front of the accessory box and slide off towards the right. (Sk. 4)

**Verwyder die toebchore-kassie**

Die toebchore kassie is verpak aan die regterkant en die saal aan die linkerkant van die naaldkas (Sk. 4).



Sk. 5(a)



Sk. 5(b)

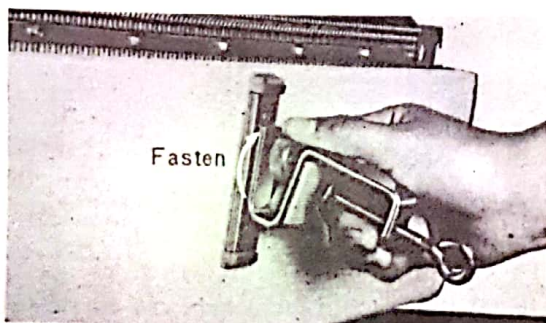
**Fasten the Knitter to the table.**

Remove the table clamps from the accessory box. Raise the front of the knitter, insert the head screw (B) into the aperture (C), press upwards so that the head of screw (B) is in position (D), and fasten the knob (A). Fasten the knitter to the table by tightening table clamp screws. It is essential that boss (E) fits snugly into aperture (F). (Sks. 5, 6, 7)

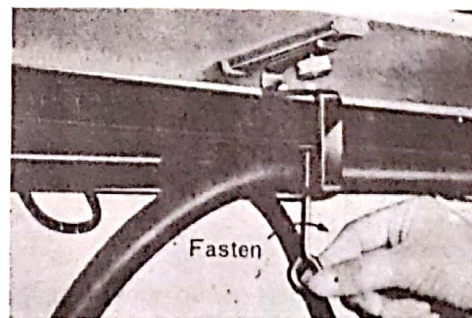
**Skroef die masjien aan die tafel vas**

Haal die klampe uit die kassie. Lig die voorste deel van die masjien. Steek die kop van skroef (B) in die gaatjie (C) druk boontoe sodat die kop van skroef (B) in posisie (D) is en draai die knop (A) vas.

Skroef die masjien aan die tafel met die klampskroewe vas. Dit is noodsaaklik dat die pennetjie (E) deeglik in die gaatjie (F) pas. (Sketse 5-6-7).



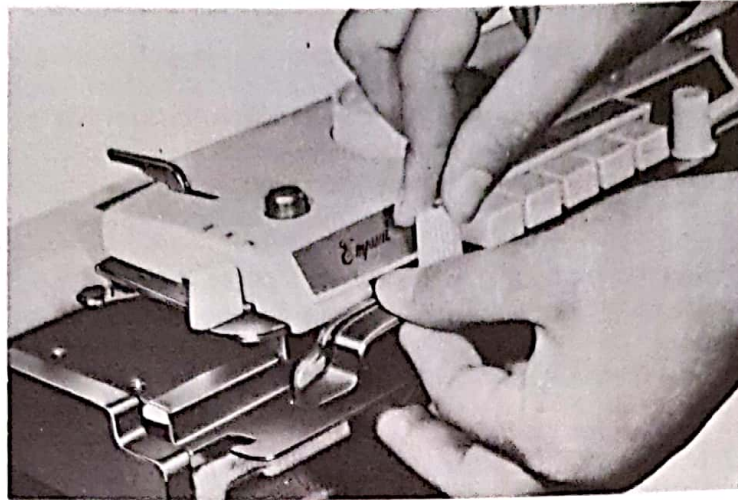
Sk. 6.



Sk. 7.

## ASSEMBLE THE CARRIAGE.

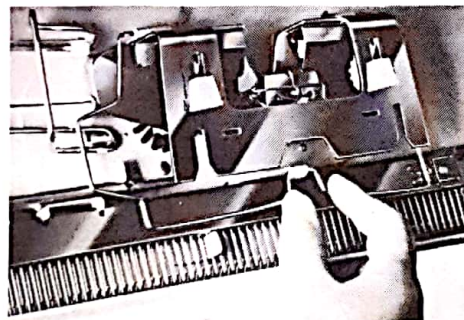
## OM DIE SAAL TE MONTEER



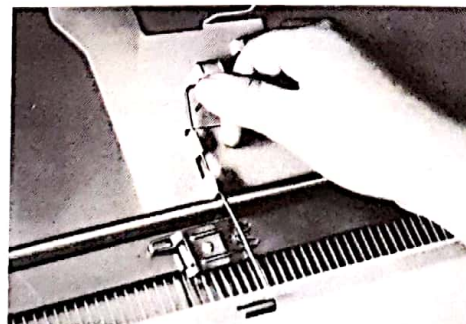
Sk. 8.

Loosen the plastic thumb screws of the carriage and remove the carriage lock. This will free the carriage, which can then be made to slide along or off the needle bed (see Sk. 8). As the carriage lock is required when repacking the knitter, keep it in the accessory box while the knitter is in operation.

Maak die plastiese duimskroefie los en verwyder die saalklamp. Dit sal die saal los maak sodat dit oor, of van die naaldkas af kan skuif. (Sk. 8). Aangesien die saalklamp nodig is wanneer u weer die masjien verpak, bêre dit in die toebehore-kassie wanneer die masjien gebruik word.



Sk. 9.



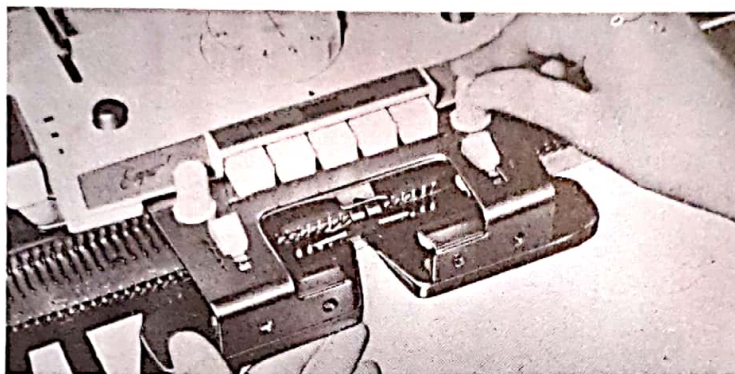
Sk. 10.

a) Release the springs in the upper carrying case and remove the sinker plate assembly. (Sk. 9 and 10).

a) Maak die veer in die deksel van die masjien los en haal die rollerplaat uit. (Sk.9 & 10).

b) Loosen the plastic thumb screws of carriage, insert the sinker plate assembly as far as it will go and fasten the thumb screws securely. (Sk. 11).

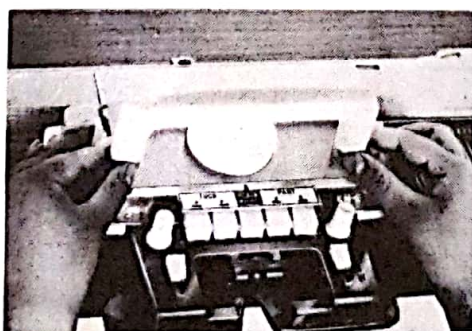
b) Draai die plastiese-duimskroewe aan die saal los en steek die rollerplaat sover moontlik voor in die saal waarna u weer die duimskroewe vasdraai. (Sk. 11).



Sk. 11.

c) Fasten the handle to the two threaded studs on the carriage (Sk. 12). Both sides should be screwed down at the same time to avoid stripping the thread.

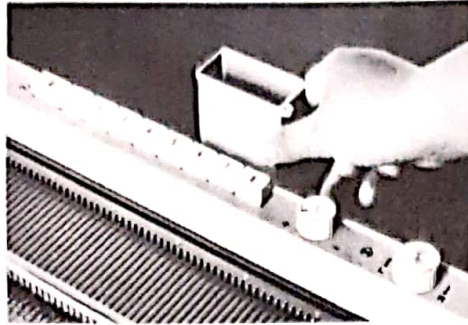
c) Neem die handvatsel uit die toebehorekassie en draai dit vas aan die twee knoppies op die saal (Sk. 12). Albei kante moet terselfdertyd vasgedraai word om te voorkom dat die skroefgedeeltes beskadig word.



Sk. 12.

**SET UP THE ACCESSORY STAND.**

**SIT DIE TOEBEHORE-HOUERTJIE AAN**



Sk. 14.

Set up the accessory stand on the carrying case lock catch behind the push-buttons. (Sk. 14).

Neem die toebehore-houertjie uit die toebehore-kassie en plaas dit agter oor die knippie van die naaldkas agter die naald-stelknoppies. (Sk. 14).

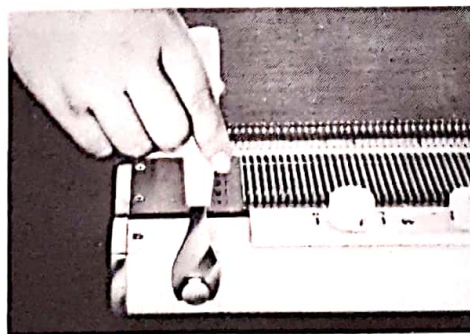
**The Set Lever.**

Fit the set lever on to either of the setting shafts at the rear of the needle bed; the one on the right is illustrated (Sk. 15), the other one is at the opposite end of the case.

**Die Stelsleutel.**

Neem die stelsleutel en pas dit aan die knop van die naald-steleenheid agter aan die naaldkas (Enigeen van die twee knoppe weerskante van die masjien kan gebruik word).

Die een regs (Sk 15) word geillustreer.



Sk. 15.

**Attach the Yarn Tension Unit.**

- a) Remove the automatic yarn tension unit from the upper carrying case.
- b) Fit the base of the upright rod into the hole at the centre back of the knitter (Sk. 16a).
- c) Set the yarn tension unit into position on the top of the rod (Sk. 16b).
- d) Lower the front yarn guide arm (Sk.17).

**Monteer die Breigare-Spanning-eenheid**

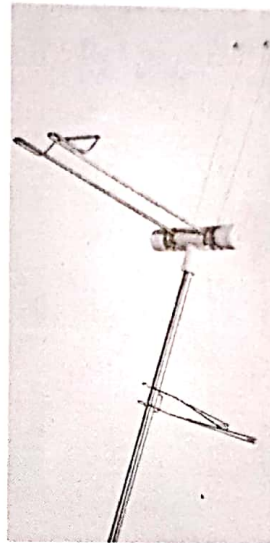
- a) Neem die meervoudige spanning-eenheid uit die masjien-deksel.
- b) Plaas die punt van die spanning-eenheid stafie in die gaatjie agter in die middel van die masjien (Sk 16a).
- c) Plaas die spanning-eenheid in posisie bo-op die stafie (Sk 16b).
- d) Laat sak die Gids-hekkie (Sk. 17).



Sk. 16(a).



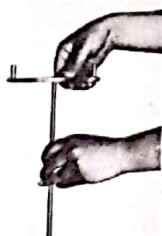
Sk. 16b.



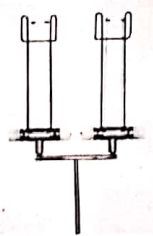
Sk. 17.

For those who wish to keep various colours set up on the knitter, or who use numerous colours in Fair-isle, it is possible to obtain as an extra, a branch tension adaptor consisting of a cross bar and additional tension unit.

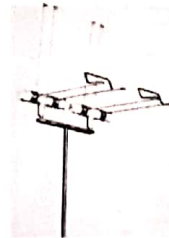
Indien u gelyktydig verskeie kleure breigare deur die spanning-eenheid geryg wil hou, soos vir „Fair-Isle" doeleindes, is dit nou moontlik om 'n bykomstige toevoeging tot die spanning-eenheid te verkry. Dit bestaan uit 'n dwars-stafie waarop 'n dubbele spanning-eenheid gemonteer kan word.



Sk. 18



Sk. 19.



Sk. 20.

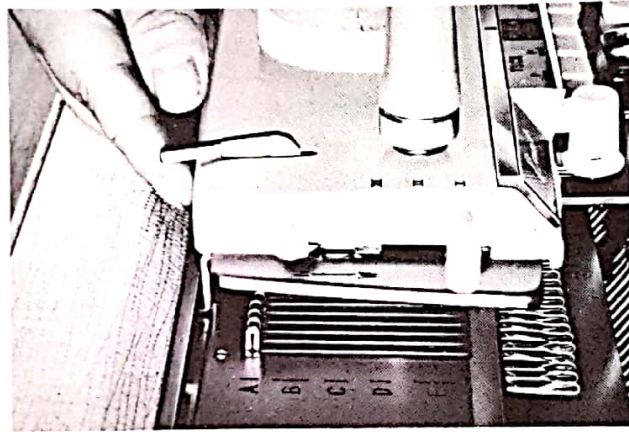
Sk. 18, 19 and 20 show how both the original yarn tension unit and the additional unit are mounted on the cross bar, to hold in all 4 different threads.

Sketse 18, 19 en 20 illustreer hoe beide die gewone sowel as die bykomstige spanning-eenheid op die dwars-stafie gemonteer is, om so vier verskillende brei-gares deur te ryg.



## THE ROW COUNTER.

The row counter can be made to register the number of times the carriage passes in front of it by pushing outwards the "tripper" which on opening the knitter will be seen at the left rear of the carriage (Sk. 21). The tripper in contacting the row counter lever causes that lever to register the next number on the row counter face; in most cases this is the automatic manner of counting rows. However, when knitting Fair-isle patterns, certain rows require a double movement of the carriage across the needles and in such cases the tripper should be raised (Sk. 23) and the row counter operated manually at the completion of each row.

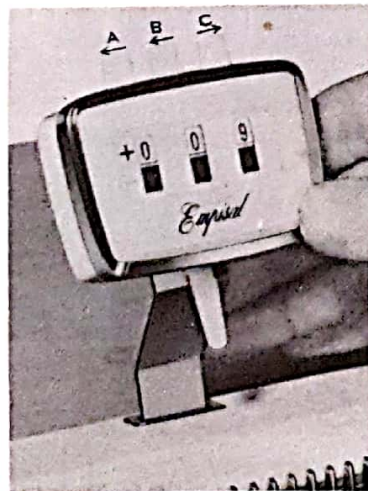


Sk. 21

## DIE RYTELLER

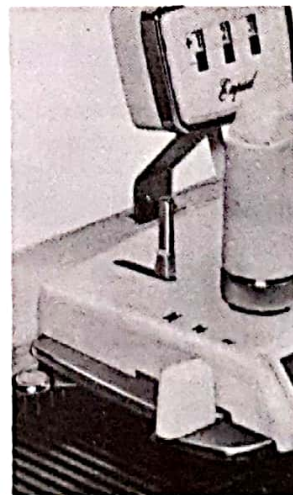
Die ryteller word gebruik om die aantal kere wat die saal verby gaan te registreer deur die aanstoot-pennetjie in aksie te stel. Die pennetjie sit agter links bo aan die saal. (Sk.21) en kan horisontaal (in aksie) en vertikaal (buite aksie) gestel word.

Vir „Fairisle" doeleindes moet die ryteller dopgehou word aangesien die saal soms twee keer by die ryteller verby gaan om een ry te voltooi. In sulke gevalle moet die aanstootpennetjie uit aksie gestel word (Sk. 23) en die ryteller moet met die hand aangestoot word nadat al die kleure in die ry ingebrei is.



Sk. 22

Set the counter into either aperture at the back of the needle bed (Sk. 22).

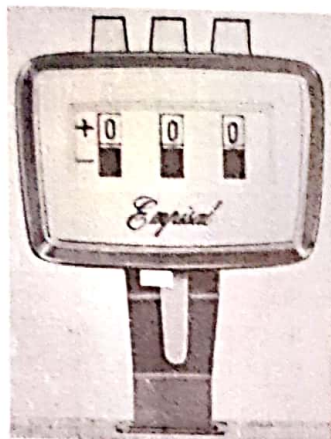


Sk. 23

Plaas die ryteller in enige van die twee openinge agter in die masjien. (Sk. 22)

There are three winders on the top of the row counter which turn in either direction, except when the numeral is at 9 or 0.

To set the figures on the row counter to zero, turn the knobs A, B and C in that order in the direction indicated by the arrows (Sk. 24).



Sk. 24.

Beneath the row counter and in front of the tripper there is a small switch. When pressed to the left it reveals black numbers and when on the right the red numbers.

The black numbers count upwards, the red ones downwards.

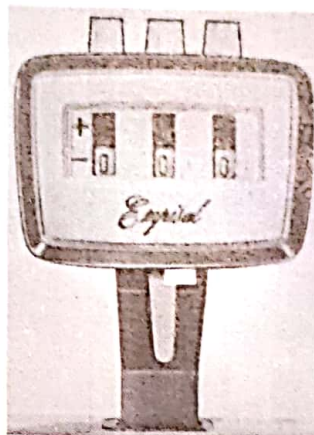
Thus the figures can be pre-set to count in either direction according to whether it is desired to count upwards towards a certain total, or downwards towards 0 from a certain figure.

With the switch lever concealing the red numerals set the black figures at "0-0-0". It is now ready to count upwards. If counting downwards to 1 or 0, set it with the red figures indicating the numbers.

The purpose of counting downwards is to be able to know at any stage how many rows remain to be knitted - useful information when the yarn is coming to an end!

Daar is drie knoppies bo-op die ryteller wat na beide kante gedraai kan word, behalwe wanneer die syfers links 9 of 0 is.

Om die syfers op die ryteller na 0 te stel:- Draai die knoppies A, B en C in die volgorde soos deur die pyltjies aangetoon (Sk. 23).



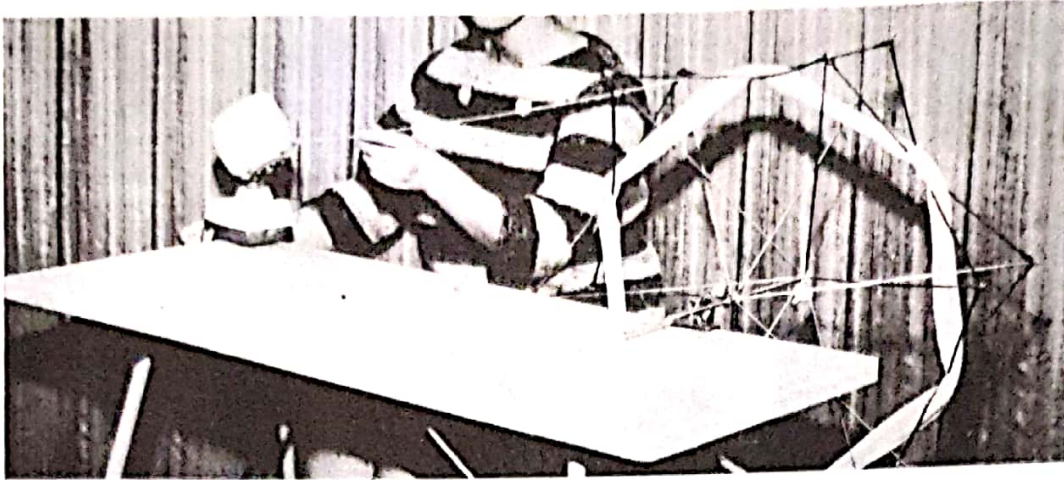
Sk. 25.

Onderaan die ryteller net voor die vinger-tjie is daar 'n klein skakelaartjie. Wanneer dit na links gedruk word, sal die swart nommers en na regs die rooi nommers op die ryteller sigbaar wees.

Die swart nommers tel op en die rooies trek af.

Sodoende kan die ryteller gestel word om op te tel tot by die verlangde getal, of van 'n sekere getal af te trek. As u dan wil optel stel die swart syfers op 0-0-0. Indien u wil aftrek stel die rooi syfers op die verlangde getal en werk totdat u ryteller 0-0-0 wys.

Dit is in sommige gevalle gerieflik om af te trek sodat u te enige tyd bewus is hoeveel rye nog gebrei moet word, veral wanneer u breigare skrap is.



Sk. 26.

Sk. 26. Winding the yarn from a skein, using a Wisk Woolwinder and Empisal Skeinholder.

Skets 26 illustreer breigare wat opdraai van 'n string met die Empisal "Wisk" Wolopdraaier en die Empisal String-houer.

In this section you will be led through the elementary steps of threading the knitter, setting the controls, casting-on and plain knitting. The fuller use of all controls on the carriage and the needle bed is explained in the section "Advanced Knitting".

In hierdie deel leer ons u die basiese beginsels om die breigare deur die masjien te ryg, die stel van beheerknoppies, aanheg en eenvoudige breiwerk, asook die gebruike van die verskillende toebehore.

For practice use an average soft 3-ply or light 4-ply wool. This may be unravelled and rewound for use again.

Breedvoeriger instruksies vir die beheer van die saal en naaldkas word beskryf in die deel vir Gevorderde Breiwerk.

#### Preparing the Yarn:

The yarn must at all times feed freely. Any interference with the smooth flow, pull or snagging will slow up the work, affect the even movement of the carriage, resulting in uneven stitches, bad selvages and sometimes cause dropped stitches.

Vir oefening word 'n sagte 3-draad of sagte 4-draad wol gebruik wat uitgetrek en opgerol kan word om weer te gebruik.

There are two methods:

- (a) Pile the yarn loosely in a box or tray, and work from the uppermost end of the yarn.
- (b) With an Empisal Wisk Woolwinder form the yarn into a ball and draw off the yarn from the centre.

#### MAAK DIE BREIGARE GEREED

Die Breigare moet altyd vryelik deurvoer. Indien die egalige voering van die breigare verstoort word b.v. knope in die breigare, of breigare wat moeilik afdraai, sal die gladde beweging van die saal beïnvloed word en onegalige steke, slordige selfkante en ook soms steke wat val, veroorsaak.

Daar is twee metodes:-

- a) Plaas die breigare lossies in 'n houër en werk van die boonste punt af.
- b) Draai die breigare met 'n Empisal "Wisk" wol-opdraaier in 'n netjiese sagte bol en gebruik die punt vanuit die middel.

### Threading the Yarn Tension Unit:

The yarn tension unit is devised to guide and ensure an even feed of the yarn to the carriage.

There are two sets of tension guides, each with its own discs, springs and eyelets for multi-colour and pattern knitting and each can be fed with a different colour or even quality of yarn.

To thread the unit, lead the yarn from the ball through the yarn tension unit as illustrated:

- (a) Be sure that the yarn is between the discs (2) and the guide pin; (1)
- (b) Follow through to the guide rod (3) and then the take-up spring (4) and back through the guide rod; (5)
- (c) Lead the yarn to the carriage.

(As the take-up spring will draw the yarn upwards, pull sufficient yarn through so that it hangs about 8 inches below the carriage when the take-up spring is in the upright position.

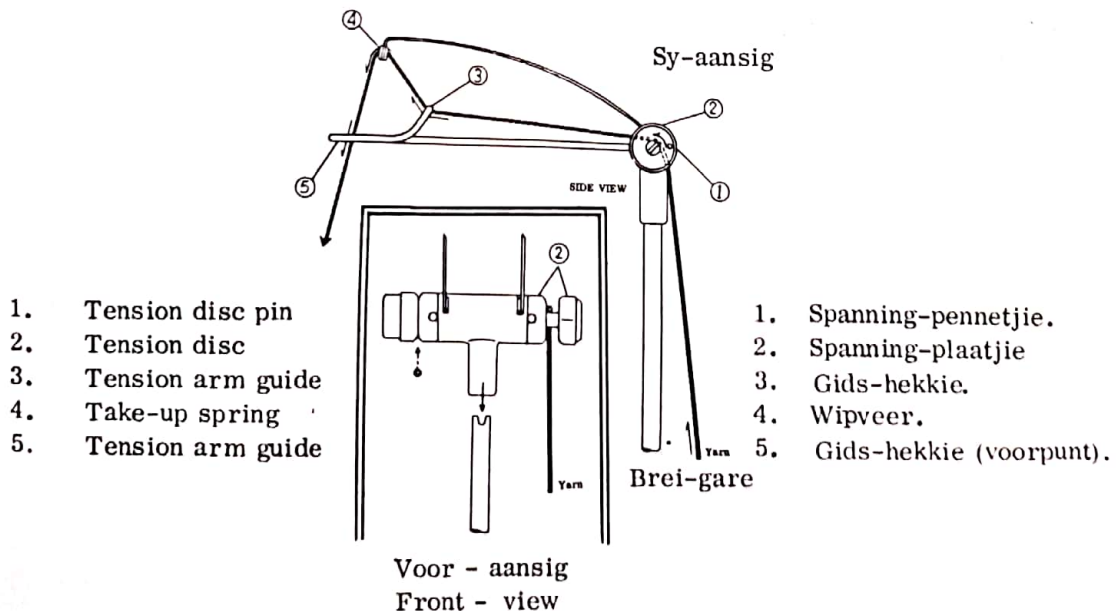
### Ryg die Breigare deur die Spanningeenheid:

Die Spanning-eenheid is ontwerp om die breigare te reguleer en 'n eweredige toevoer na die saal te verseker. Daar is 'n dubbele spanning-lei-baan, elk met eie plaatjies, veertjies en ogies vir meerkleurige patroon-breiwark en elkeen kan afsonderlik gevoer word met 'n verskillende kleur of tipe breigare.

Om die Spanning eenheid te ryg, trek die breigare deur die spanning-eenheid:

- a) Maak seker dat die breigare onder die pennetjie (1) tussen die plaatjies (2) is.
- b) Ryg dan onderdeur die gidshekkie (3) en dan deur die porselein-ogie van die wipveer (4) en terug deur die voorstepunt van die gidshekkie (5).
- c) Trek die breigare deur die saal.

(Aangesien die wipveer die breigare terug sal trek, moet u 'n voldoende lengte deur trek sodat dit omtrent 8 duim onderkant die saal hang wanneer die wipveer regop staan).



Sk. 27.

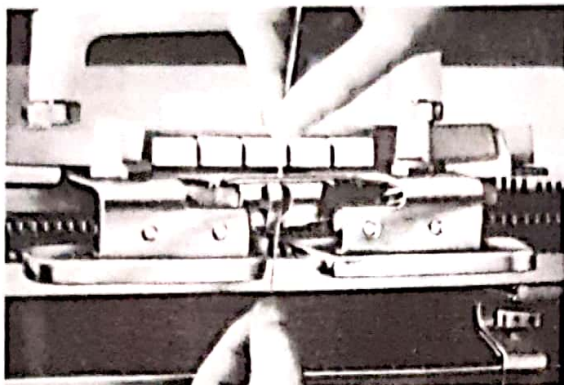
In the side view diagram (Sk. 27) only the take-up spring discs and guide on the side nearest the viewer is shown; in the front view (Sk. 27) the springs are not fully presented.

In die syaansig-diagram (Sk. 27) word alleenlik die wipveer, plaatjies en gidshekkie aan die kant naaste aan u gewys; in die vooraansig Sk. 27) word die wipveer nie ten volle vertoon nie.

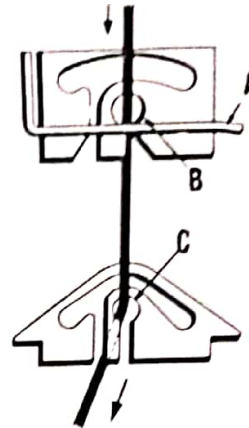
**THREADING THE CARRIAGE YARN FEEDER.**

The carriage may be at either side of the needle bed clear of the needles to be knitted.

**OM DIE BREIGARE-VOERDER TE RYG**  
Die saal mag aan enige kant van die naaldkas, vry van die naalde in aksie wees.



Sk. 28

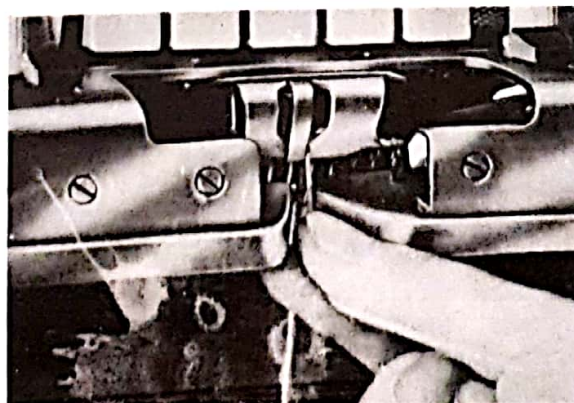


Sk. 28(a)

- a) Thread the yarn under the top spring A (Sk. 28) into slit B of the yarn feeder; hold it taut with both hands and press it back into the slit until you hear the click of the yarn retaining spring. The yarn should then be in apertures B and C.
- b) Pull enough yarn down from the automatic take-up spring to extend about 8 inches below the carriage.

- (a) Ryg die breigare onder deur die boonste veertjie A (Sk. 28) in die gleufie B van die breigare-voerder; hou dit styf met albei hande en druk dit terug in die gleuf totdat u die „klik" van die keerveer binne in die voerder hoor. Die breigare sal dan in openinge B en C wees.
- (b) Trek genoeg breigare deur vanaf die wipveer, sodat daar ongeveer 8 duim onderkant die saal hang as die wipveer regop staan.

Removing the yarn from the feeder.



Sk. 29.

Om die Breigare uit die voerder te haal.

## SETTING THE CARRIAGE CONTROLS FOR PLAIN KNITTING.

The reasons for the various control settings mentioned will be explained later in the section Advanced Knitting. It is first necessary to know how to knit plain stockinette.

The carriage may be at either side of the needle bed, clear of the needles to be knitted.

The Pattern Selector Buttons: Press only the central of the five buttons in the front of the carriage. (This ensures that the other buttons are released from any patterning position they may be in).

The Holding Cam Levers: At each side of the carriage there is a lever with a plastic knob. Both of these should be set against the mark I on the carriage. (Termed Holding Cam Lever in Position I).

The Weave-in Cam Levers: The flat metal knobs on the sides of the carriage control the Weave-in cams. These should be set on the mark N (neutral).

The Weave-in Brushes: These are in front of the sinker plate and controlled by the plastic knobs which should be set on "N".

The Tension Dial: The tension dial, in the centre of the carriage below the handle, controls the stitch size. Turn it until it is set on 5 for average 3-ply wool, or between 5 and 6 for a 4-ply wool.

The Row Counter Tripper: Set the tripper forward if you wish to use the row counter (see Sk. 21 page 18).

## HOE OM DIE SAAL TE STEL VIR EENVOUDIGE BREIWERK

Die verskillende verstellings aan die saal en die gebruik daarvan, sal verduidelik word in die Afdeling Gevorderde Breiwerk. Dit is eerstens nodig om te weet hoe om gewone koussteek te brei.

Die saal mag aan enige kant van die naaldkas, vry van die naalde in aksie wees.

Die Patroon-knoppies: Druk net die middelste knoppie van die vyf knoppies aan die saal (Dit sal al die ander patroon-knoppies vrystel indien hulle in aksie gestel was.)

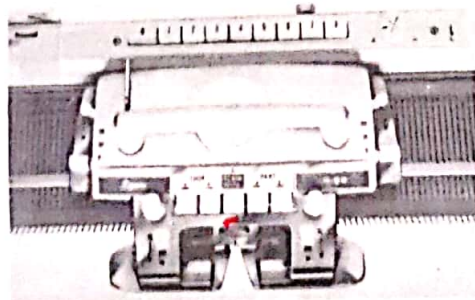
Die Naaldposisie-nok-hefboom: Aan beide kante van die saal is daar 'n hefboom met 'n plastiese knoppie. Beide hierdie moet teenoor die merk I op die saal gestel word (vervys as Naaldposisie-nok-hefboom in posisie I).

Die Weef-nok-sleutels: Die plat metaal knoppies beide kante van die saal, beheer die weef-nokke. Hierdie knoppies moet op „N” (Neutraal) gestel word.

Die Weef-borseltjies: Hierdie is die twee borsel-wieletjies bo-in die rollerplaat en word beheer met twee plastiese knoppies bo-op die rollerplaat. (Stel op „N” vir gewone breiwerk).

Spanning-meter: Die spanning-meter in die middel van die saal onder die handvatsel beheer die steek-grootte. Draai dit tot by 5 vir gewone 3-draad wol, of na 5 of 6 vir 4-draad wol.

Die Ryteller-aanstootpennetjie: Om die ryteller to gebruik, stel die aanstootpennetjie in aksie (horisontaal - sien Sk. 21, op Bly 18)



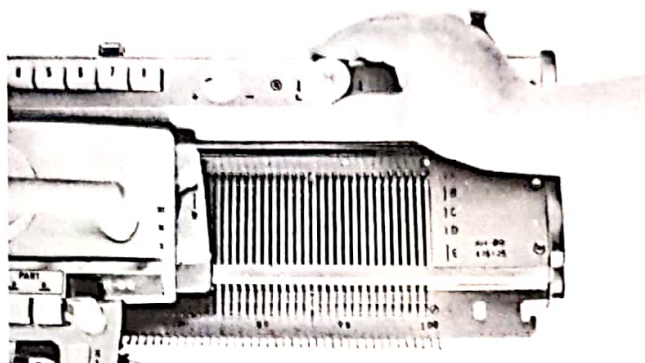
Sk. 30

Carriage controls set for Plain knitting.

Saal gestel vir eenvoudige breiwerk.

**SETTING NEEDLE BED CONTROLS  
FOR PLAIN KNITTING.**

**HOE OM DIE NAALDKAS TE STEL VIR  
EENVOUDIGE BREIWERK**



Sk. 31

Make a habit before starting your knitting of these few actions:-

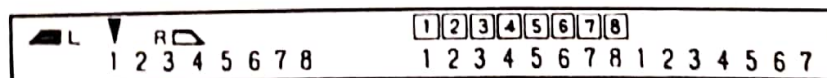
Needle Selector Buttons: These should be neutralized. Press the 0 button to release any buttons (1-8) depressed. All needles will now be easier to move by hand in the needle bed.

Needle Selector Slide Dial: Set this on position 1 (when the arrow between the letters L & R on the indicator plate at the centre back of the knitter is above the number 1 the slide dial is said to be in Position 1.

Maak 'n gewoonte daarvan om die volgende na te gaan voordat u begin brei:-

Naald-stelknoppies: Moet in 'n neutrale posisie wees. Druk die „O” knoppie om alle knoppies wat in gedruk is ( 1 - 8 ) vry te laat. Al die naalde sal nou makliker met die hand in die naaldkas beweeg kan word.

Die Skuifknop: Stel dit in posisie 1 ( wanneer die pyltjie tussen die letters L & R op die skuifaanwyser agter in die middel van die masjien bokant die Nommer 1 is, dan is die skuifknop in posisie 1 gestel. )



Sk. 32

Needle Selector Reverse Switch: Set this on + (In the negative position the needle selector key reacts on the needles although all needle selector buttons are released).

Having set the three controls mentioned above in the positions indicated all needles are released from the needle bed controls. This makes it easier to move the needles by hand if necessary; it is also the basic position from which to start before patterning.

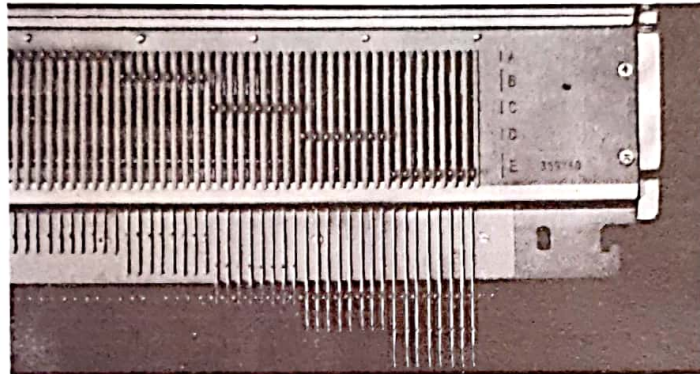
Die Tru-knoppie:- Stel dié knoppie op + (in die negatiewe[-] posisie sal die stel-sleutel op al die naalde reageer, al is die naald-stelknoppies almal vry gestel.)

Indien al drie bovermelde beheer-knoppe in die aangeduide posisies gestel is, sal al die naalde vry gestel wees vir gewone breiwerk. Dit sal nou makliker wees om die naalde met die hand te verskuif indien nodig; dit is ook die basiese posisie om te begin voor patroon-breiwerk.

### Selection of Needles

The needles are numbered in red and front of the needle bed, the centre is "0". There are 200 needles from 0 to 100 to the left, similarly numbered to the right. For further convenience the rivets at the back of the needle grooves are spaced 10 needles apart.

The needle positions are shown by the letters A, B, C, D, and E on each side of the needle bed.



Sk. 33

For plain knitting, we are concerned with Positions A and B; the butt of the needle which projects through the grooves in the needle bed indicating the needle position. Thus, when all butts are as far back against the rear of the needle bed as they can go, the needles are said to be in Position A. Move the butts forward until they are in line with the mark "B" for Position B.

Position A: This is the resting or non-knitting position and no matter what is done to the controls of the carriage or the needle bed, these needles will not move.

Position B: The needles in this position are set for plain knitting and can now be moved by the carriage. Fig. 34 shows how to bring A position needles into B position using a straight edge.

Details of other needle positions are explained on page 58



Sk. 34

### Om naalde te stel

Om Naalde te Stel:- Die naalde is met rooi syfers gemerk voor aan die naaldkas; die middelste naald is gemerk "0". Daar is 200 naalde; vanaf „0" tot 100 aan beide kante. Gerieflikheidshalwe is die klinknaaldjies net agter die naaldgleufies, tien naalde uitmekaar geplaas. Die verskillende naaldposisies word weerskante van die masjien aangedui met die letters A, B, C, D, en E.

Vir eenvoudige breiwerk gebruik ons net posisie A en B. Die koppies van die naalde wat agter deur die gleufies van die naaldkas steek, toon die naald-posisie aan. Wanneer al die naaldkoppies dus sover moontlik na agter is, is die naalde in A posisie. Stoot die naaldkoppies vorentoe totdat hulle regoor die merk B is vir B posisie.

A - Posisie: Dit is die rus-posisie ( uit aksie) en geen verstelling aan die naaldkas of saal sal die naalde in hierdie posisie beïnvloed nie.

B - Posisie: In hierdie posisie is die naalde gestel vir eenvoudige breiwerk en kan nou deur die saal beweeg word. Sk. 34 wys hoe om naalde van A - posisie na B-posisie te stoot met 'n reguit voorwerp soos bv. die reguitkant van die naald-stootplaatjie.

Besonderhede aangaande ander naaldposisies word op bladsy 58 verduidelik.



## CASTING ON AND KNITTING

You are now ready to knit. As the carriage moves over the needles it will form the basic stockinette stitch, which in hand knitting is achieved by knitting 1 row of knit (or plain) and 1 row of purl. Each time the carriage is pushed across one row is knitted.

There are two methods for casting-on stitches and the cast-on comb should be used for both.

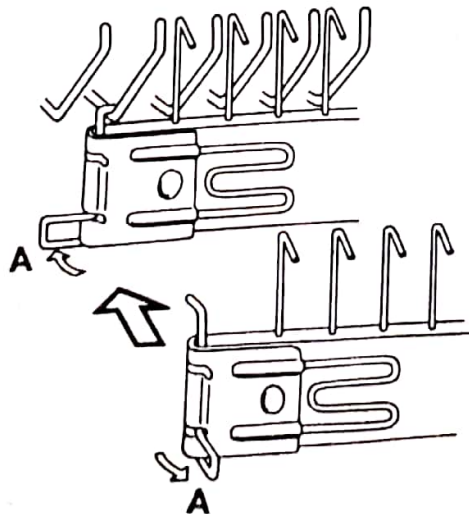
- (1) The open edge cast-on.
- (2) The finished edge cast-on.

The comb should be as wide or wider than the number of needles brought into knitting position.

### Open Edge Cast-on.

The open edge cast-on method is often preferred if one wishes to join a border on the sleeves, neck opening, or waist. It is also practical as a time saver when making tension test swatches.

1. Hold comb centred to the edge of the needle bed with the wire hooks of the comb facing you.
2. Turn securing levers A at both ends to face you (Sk 35).
3. Place hooks between pegs of needle bed as far up as possible (see Sks. 35 & 36).



Sk. 35

## AANHEG EN BREI

U is nou gereed om te brel. Met die beweging van die saal oor die naalde word die basiese koussteek gevorm wat in handbreiwerk bekend is as een ry regs en een ry a we regs. Elke keer as die saal oorgestoot word, is een ry gebrei.

Daar is twee maniere om steke aan te heg en die aanhegkam word vir beide maniere gebruik

- (1) Die rousteek-aanheg.
- (2) Die selfkant-aanheg.

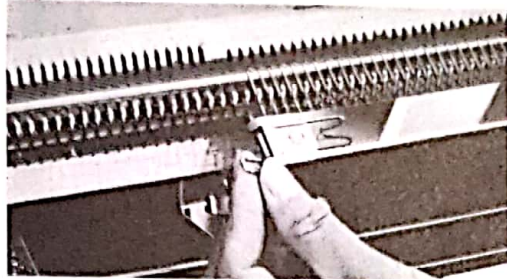
Die kam moet net so wyd of wyer wees as die aantal naalde wat in breiposisie is.

### Rousteek-aanheg

Die rousteek-aanheg word dikwels verkies wanneer 'n afrondingstrook aan moue, halse of middel geheg moet word. Dit is ook maklik en spaar baie tyd wanneer u spanningtoets-strokies maak.

1. Hou die aanhegkam teen die naaldkas in die middel, sodat die draadhakies na u toe wys.
2. Draai die hanghakies A aan albei kante na u toe (Sk. 35)
3. Stoot die hakies so ver moontlik tussen die hekkiepenne op ( sien sk. 35, 36 ).

4. Turn the two securing levers A outwards to the right and left respectively and the cast-on comb will hang correctly on the Knitter. The comb should be hung in front of the needles to be knitted so that the central needle is central to the comb.



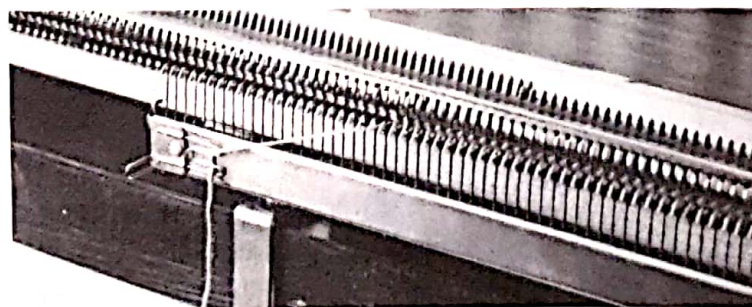
Sk. 36

4. Draai die twee hanghakies A na die buitekant (links en regs) en die aanhegkam sal reg hang aan die masjien. Die kam moet so hang dat die middelste naald in aksie ook in die middel van die kam is.

5. Using the straight edge of the needle pusher, bring forward to position B, or about  $\frac{1}{2}$ " from the resting position A, the required number of needles (Sk. 34, page 25).

For practice use 40 needles on either side of the central "0".

6. Check to see that the needles pass freely between the cast-on comb teeth (with a finger on the needle butts move them forward, then back to position B).
7. Move the threaded carriage slowly across the needles to be knitted. It will cause loops to be picked up in the needle hooks and to form around the gate pegs and the hooks of the cast-on comb. Continue the carriage movement until the carriage clears the cast-on comb.



Sk. 37

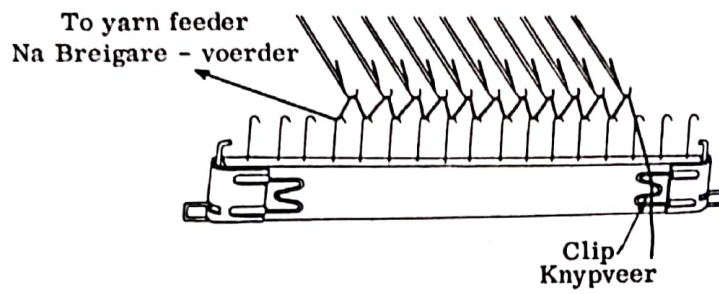
5. Gebruik die reguit-kant van die naaldstootplaatjie en stoot die verlangde aantal naalde uit A posisie (rusposisie) na B posisie (sien Sk. 34).

Gebruik 40 naalde weerskante van die „O" in die middel vir oefening.

6. Maak seker dat die naalde vryelik beweeg tussen die hakies van die aanhegkam (stoot die naaldkoppies met die vinger na vore en terug tot by B posisie).
7. Stoot die saal met die breigare stadig oor die naalde wat gebrei moet word. Dit sal veroorsaak dat ogies gevorm word in die naaldhakies en om die hekkie-penne en die hakies van die aanhegkam. Stoot die saal totdat dit verby die aanhegkam is.

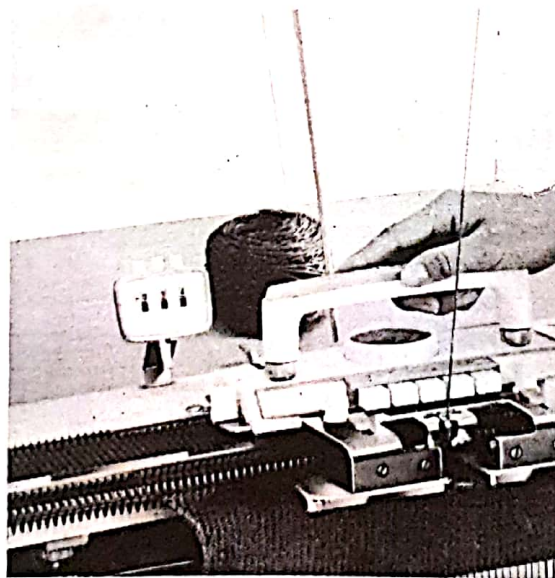
If the end needles on the side near the carriage come up out of line push them back, commencing with the inner needle - to make this easier draw the yarn from the yarn feeder (carriage) towards the needles with the other hand.

Indien die laaste paar naalde naaste aan die saal vorentoe kom, stoot hulle met die een hand terug terwyl u met die ander hand meer breigare deur die wipveer trek.



Sk. 38

- |  |  |
|--|--|
| <p>8. Carefully unhook the comb from the pegs by turning the securing levers A of the cast-on comb and let the comb hang in the loops of wool (Sk 38).</p> <p>9. Catch the loose end of the wool round the cast-on comb spring to keep it out of the way and to secure the first stitch.</p> <p>10. Continue knitting.</p> | <p>8. Laat sak die kam versigtig uit die hekkiepenne deur die hanghakies na vore te draai. Die kam sal nou aan die breigare - ogies hang. (Sk 38).</p> <p>9. Haak die lospunt van die breigare om die knypveer aan die punt van die aanhegkam.</p> <p>10. Brei nou verder.</p> |
|--|--|



Sk. 39

### Plain Knitting.

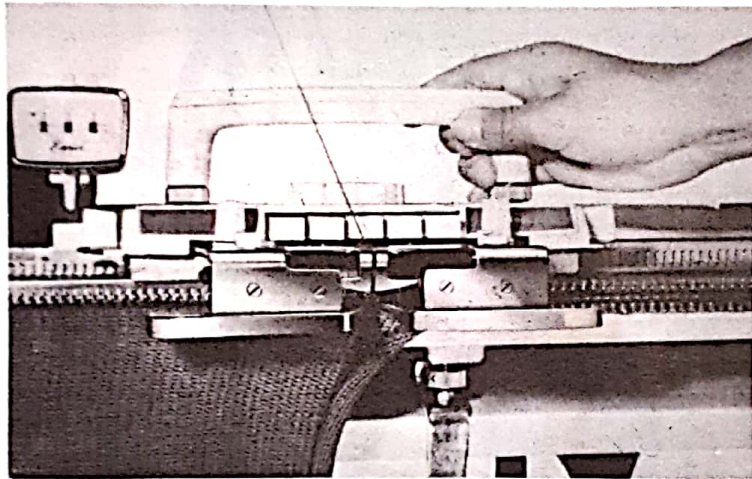
At the beginning knit slowly. . . . Speed comes with practice.

- a) Move the threaded carriage from side to side at an even speed across the B position needles.
- b) Do not reverse the movement of the carriage in the middle of a row as this may cause it to jam, or stitches may be dropped.
- c) Move the carriage at an even speed and listen for a click before changing direction at the end of each row.

### Eenvoudige breiwerk

Brei stadig aan die begin, spoed kom met ervaring.

- (a) Stoot die saal met die breigare reëlmatig heen en weer oor die naalde wat in aksie is. ( B posisie).
- (b) Moenie in die middel van 'n ry omdraai nie, die saal mag vashaak of steke mag afval.
- (c) Stoot die saal reëlmatig deur totdat u die „klik" aan die einde van die ry hoor voordat u die volgende ry begin.



Sk. 40

### For Neat Side Selvedges.

When knitting, care must be taken not to move the carriage too far beyond the last B position needle. If you do there will be insufficient tension in the take-up spring and a loose loop will form in the yarn between the feeder and the first needle when the carriage is on the return movement.

It is, therefore, necessary to keep an eye on the yarn at the end of each stroke, and, if necessary, to clear any loops that may form.

Another possible fault of too long a movement is the tendency of the yarn to catch in the gate pegs of the needle bed, or the brush wheels.

### Vir netjiese sykante

Wanneer u brei moet u nie die saal te ver verby die laaste naald in aksie stoot nie aangesien die wipveer net 'n sekere lengte los breigare sal terug trek en 'n lissie mag aan die sykant vorm wanneer u die volgende ry brei.

Daarom is dit noodsaaklik om die breigare dop te hou na elke ry en indien nodig enige oortollige breigare styf te trek.

Nog 'n moontlike fout wanneer u die saal te ver stoot, is die neiging van die breigare om aan die hekkie-penne of die borselwioletjies te haak.

### To Unlock the Carriage.

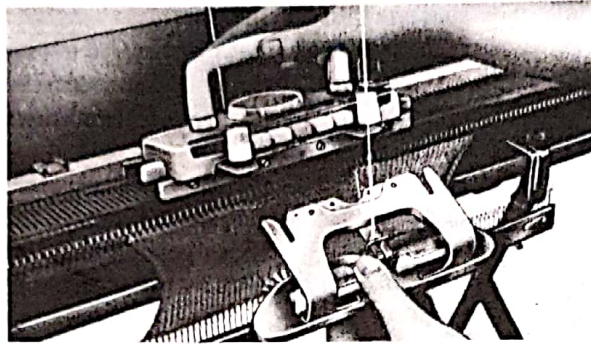
In the event of the carriage jamming in the course of normal knitting, the following steps will quickly free it:

- (a) Loosen the thumb screws of the sinker plate, remove the sinker plate from the carriage (Sk. 41).

### Om die saal los te maak

Wanneer die saal vashaak gedurende normale breiwerk, doen die volgende:

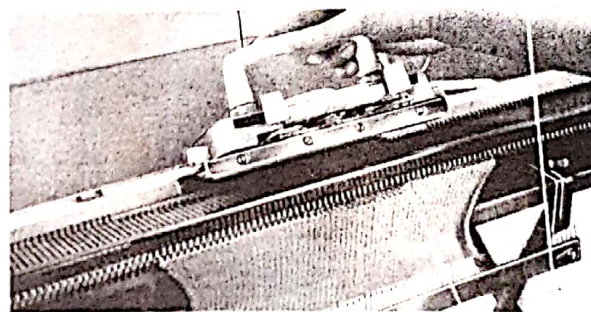
- (a) Maak die plastiese duimskroefies los en haal die rollerplaat van die saal af. (Sk. 41)



Sk. 41.

- (b) Grip the handle of the carriage and lift up by first raising the front of the carriage (Sk. 42).

- (b) Lig die voorkant van die saal op (Sk. 42).



Sk. 42.

- (c) Slide the carriage to the side where the row commenced and when free of the needles lower the front on to the needle bed.

- (c) Skuif die saal na die kant waar die ry begin, en laat sak die saal op die naaldkas vry van die naalde, in aksie.

- (d) Attach the sinker plate to the carriage and fasten the thumb screws of the sinker plate securely.

- (d) Plaas die rollerplaat terug en draai die duimskroefies vas.

- (e) Unravel last row of knitting and, if necessary, re-thread the carriage feeder.

- (e) Trek die laaste ry los en ryg die saal, indien nodig.

- (f) Adjust the numbers on the row counter.

- (f) Herstel die aantal rye op die ryteller (indien nodig).

### To Pass the Carriage across the Needles Without Knitting.

It is sometimes necessary to pass the carriage across the "in action" or B position needles without knitting. For instance, should you change the direction of the carriage before the "click" there will be a long unknitted thread in front of the fabric which will have to be caught up. On other occasions it may be deliberately required in certain patterning, especially when knitting several colours.

#### Method 1.

Slide the carriage off the needle bed in the direction of travel and reset it onto the needle bed from the other end.

#### Method 2.

- (a) Press both "PART" pattern selector buttons (Sk. 43).
- (b) Pass the carriage across the knitting. (As both Part buttons are pushed in the cams are neutralised and no knitting action will take place.)
- (c) Depress the central "PLAIN" button. (This resets the cams into action).
- (d) Unravel the unwanted stitches.
- (e) Pull the yarn down from behind the yarn tension unit to remove all slack in the yarn.
- (f) Continue knitting.

Om die saal oor die naalde te stoot sonder om te brei:

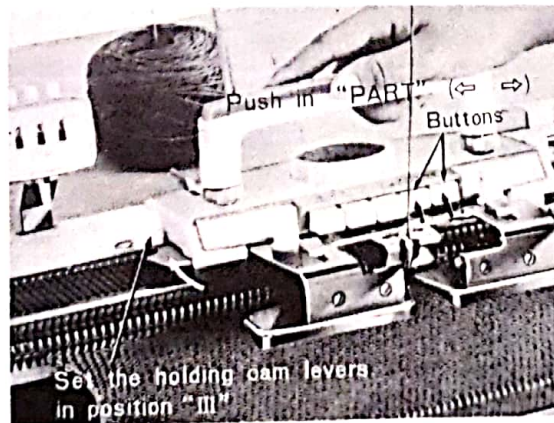
Dit is somtyds nodig om die saal oor die naalde in aksie (B posisie) te stoot sonder om te brei. As u die saal bv. sou terug stoot voordat u die „klike" aan die einde van die ry gehoor het, sal daar 'n lang los draad voor die naalde span wat u sal moet herstel. Dit is ook soms noodsaaklik wanneer u sekere patrone brei, veral wanneer u verskeie kleure gebruik.

#### Metode 1.

Skuif die saal van die masjien af en skuif dit weer in aan die teenoorgestelde kant.

#### Metode 2.

- (a) Druk die twee patroon-knoppies aan die regterkant ( wat „Part" gemerk is ) in. (Sk. 43.)
- (b) Stoot die saal oor die breiwerk. (Wanneer hierdie twee patroon-knoppies in gedruk is, sal die nokke uit aksie gestel wees sodat geen brei-aksie sal plaasvind nie.
- (c) Druk die knoppie in die middel wat „Plain" gemerk is, in. (Hierdie knoppie stel die nokke in aksie.)
- (d) Trek die steke uit wat nie nodig is nie.
- (e) Trek die brei-gare styf van agter die spanning-eenheid.
- (f) Gaan voort met die breiwerk.



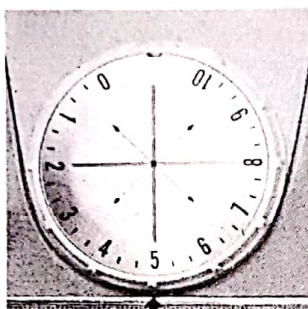
Sk. 43.

## STITCH SIZE.

Now that you have knitted a piece of fabric, you may ask yourself how are the stitch sizes changed since all the needles on the Knitter are the same size.

The Tension Dial ( Sk. 44): Sometimes called the TENSION GAUGE which is graduated from 0 to 10 and sub-divided into thirds controls the stitch size.

In Sk. 44 the tension gauge is set on 5 (the 5 being opposite the indicator mark).



Sk. 44.

The figure 0 denotes the tightest tension, i.e. the smallest stitch, and the 10 the loosest or largest stitch.

As the tension at which a garment is knitted depends not only on personal taste but also on the type of garment required and the thickness of the yarn used, no list of recommended tensions is given. Yarns vary in their make-up, so that 3-ply wools from different manufacturers will vary in thickness. For these reasons it is recommended that before any type of wool is used a tension "swatch" be knitted from which to make your choice of size.

## STEEKGROOTTE

Noudat u 'n strokle breiwek gedoen het sal u uself miskien afvra hoe u die steek-groottes verstel, daar al die naalde op die masjien ewe groot is.

Die Spanning-meter (Sk. 44)

Is genommer van 0 - 10 en onderverdeel in derdes; dit kontroleer die steekgrootte.

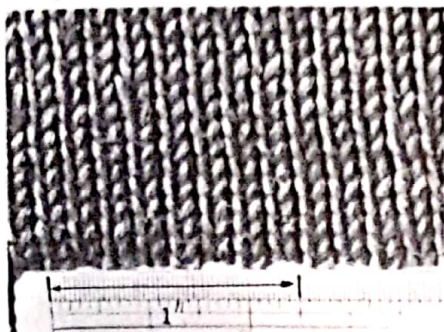
In Sk. 44 is die meter op 5 gestel.  
(Die 5 is geoor die aanwys-merk).

Die nommer „0" verteenwoordig die stewigste spanning d.w.s. die kleinste steek en No. 10 die grootste steek.

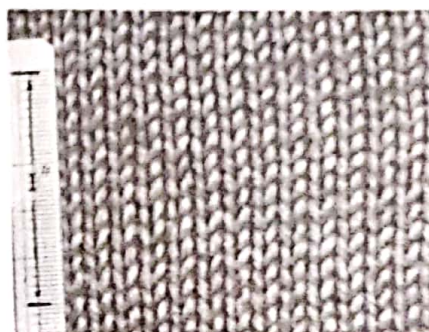
Aangesien die spanning wat gebruik behoort te word vir 'n kledingstuk nie alleenlik afhang van persoonlike smaak nie, maar ook van die tipe kledingstuk en die dikte van breigare wat gebruik word, kan ons nie 'n lys opstel met spannings wat aanbeveel word nie. Breigare verskil in samestelling, so sal 3 draad breigare van verskillende fabrikaat ook verskil in dikte. Om hierdie redes word aanbeveel dat u 'n toetsstrook moet brei voordat u enige tipe breigare gebruik vir 'n kledingstuk sodat u die mate daarvolgens kan uitwerk.

stitch  
counting

Steke tel



Sk. 45a



row  
counting

Rye tel

Sk. 45b

Tel rye en steke  
Counting rows and stitches.

#### To Determine the Tension (Gauge or Stitch Size).

When knitting either the two-needle or modern knitting machine way, the tension or gauge determines the tightness or looseness of the stitches and thus the actual size of the knitted garment. The finger-tip controlled tension dial on the Knitter permits an amazingly wide range of tension variation. The larger the number set on the dial, the looser will be the resulting tension.

- (a) Determine the proper gauge by making a swatch. Knit a small test piece on about 30 needles, working sets of 30 rows, each set in a different tension. Knit a single row of a different colour between tension changes for easy identification. Block (press) the swatch before measuring for correctness.
- (b) In the test piece which best suits your requirements, count the number of stitches per inch across and the number of rows down per inch (Sk. 45). With this as a basis for a mathematical approach, it soon becomes a simple matter to create your own garments on your Knitter, with the assurance that the size will be correct. It is recommended that a small test swatch be made before starting each garment to prove correctness of gauge.

#### Om die spanning te bepaal (steekgrootte)

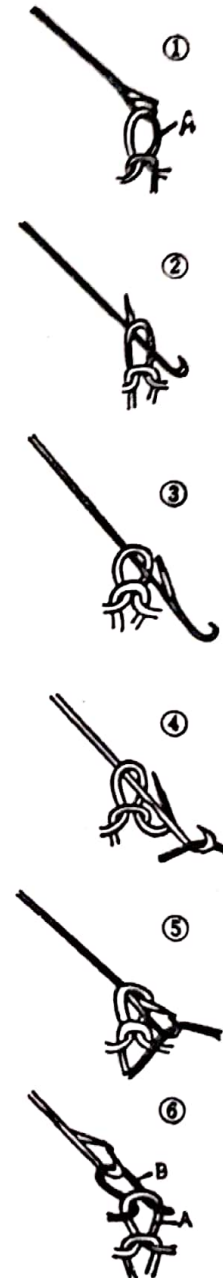
Wanneer u met die hand of met die moderne Breimasjien-metode brei, bepaal die spanning hoe stewig of los die steke is en sodoende die grootte van die gebreide kledingstuk. Die spanning-meter van die breimasjien bied u 'n wye verskeidenheid van verskillende spannings. Hoe groter u die meter stel, hoe losser sal die spanning wees.

- (a) Bepaal die regte spanning deur eers 'n toetsstrook te brei. Gebruik 30 steke en brei 'n paar toetsstrokies van ongeveer 30 rye, elk op verskillende spannings. Brei een ry in 'n wol van verskillende kleur tussen die spanningveranderinge om dit maklik uit te ken. Pars die strook voordat u dit meet.
- (b) Kies die toetsstrokie wat u geval, tel die getal steke per duim oor drie duim, en getal rye per duim oor drie duim. (Sk. 45). Met hierdie metode van berekening word dit gou 'n eenvoudige sakte om u eie kledingstukke op die breimasjien te ontwerp met die versekering dat dit sal pas. Daarom is dit noodsaaklik om die toetsstrook te brei en u spanning korrek te bepaal voordat u met 'n nuwe kledingstuk begin.



## HOW A STITCH IS FORMED

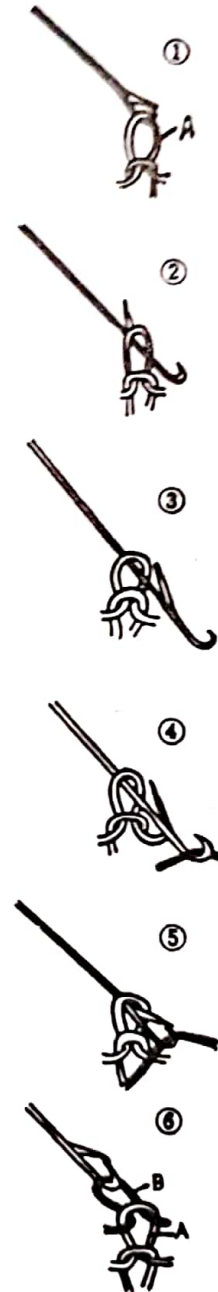
- (1) The needle is in the knitting position and stitch A is hanging from the needle hook.
- (2) The cams of the carriage raise the needle. Stitch A opens the latch of the needle.
- (3) The cams of the carriage have commenced to raise the needle and now needle is forward. Stitch A is below the needle latch and is hanging from the needle stem.
- (4) The needle has reached its maximum forward position in the needle groove. Stitch A is hanging from the needle stem, while the yarn feeder has placed onto the hook a new thread which will form the next stitch B.
- (5) The needle is returning to the normal knitting position, pulling the new loop B with it, the old stitch A is at the same time closing the latch causing the new stitch B to be locked inside the needle hook.
- (6) The needle has completed its return movement. It has pulled the loop B through the stitch A, thus making a completely new stitch which is now hanging from the needle hook.



Sk. 46.

## HOE 'N STEEK GEVORM WORD

- 1) Die naald is in breiposisie en die steek A hang aan die naaldhakie.
- 2) Die nokke van die saal stoot die naald aan en die steek A maak die kleppie van die naald oop.
- 3) Die nokke van die saal het die naald vorentoe gestoot en die steek A hang nou aan die steel van die naald agter die kleppie.
- 4) Die naald is nou in die heel-voorste posisie in die naaldgleufie. Steek A hang aan die steel van die naald terwyl die breigare voerder 'n nuwe draadjie in die haak gelê het wat die volgende steek B sal vorm.
- 5) Die naald word nou terug gestoot na normale brei-posisie (B posisie) en trek die nuwe ogie B saam terug. Die ou steek A druk nou die kleppie toe en sluit nou die steek B in die naaldhakie vas.
- 6) Die naald is nou heeltemal terug gestoot en het die ogie B deur steek A getrek en so 'n nuwe steek gevorm.

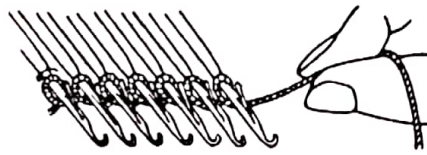


Sk. 46

## USE OF LATCHET AND TRANSFER TOOLS

### CLOSED EDGE CAST ON

1. Use a tension suitable for weight of yarn; knitter carriage to the right.
2. Hang cast-on comb on pegs of needle bed.
3. Push needles to be used all the way towards you. (Position E).
4. Fasten end of yarn with slip knot on left of knitter.



Sk. 47.

5. Loop yarn loosely around each needle from left to right, counter-clockwise. Loops must be past the latches on stem of needle.
6. Thread yarn into feeder on carriage and knit one row. The carriage should be eased across gently.
7. Lower comb after this row.
8. Knit garment.

### CONTINENTAL RIB (1 x 1)

This rib may be used at the waist and cuffs of any knitted garment where a tight fit is required. This is suggested to the beginner as a simple method when learning to use the knitter.

1. Thread yarn into automatic yarn tension unit and carriage feeder. Place carriage at the left of knitter.
2. Hold cast-on comb, centred to the edge of the needle bed, with the hooks of the comb facing you. Secure the comb between pegs of the needle bed using the securing pins at the ends of the comb.

## GEBRUIKE VAN HEKEL- EN OORPLAASNAALDE

### SELFKANT-AANHEG

- 1) Gebruik die regte spanning vir die tipe breigare wat u wil gebruik.
- 2) Hang die aanhegkam aan die hekkie-penne.
- 3) Stoot die naalde wat vereis word heeltemal na vore. (Posisie E).
- 4) Haak die punt van die wol aan die aanhegkam vas.

- 5) Wen die breigare lossies links-om elke naald vanaf die linkerkant van die naalde in aksie. Maak seker dat die ogies agter die kleppies van die naalde is.
- 6) Ryg die breigare deur die voerder aan die saal en brei een ry. Die saal moet lig-gies oorgestoot word.
- 7) Laat die aanhegkam sak na hierdie ry.
- 8) Brei verder.

### KONTINENTALE-RIFSTEEK (1 x 1)

Hierdie Rif kan gebruik word aan die middel en mous-rand waar 'n nousluitende effek verlang word. Hierdie eenvoudige metode word aanbeveel vir beginners.

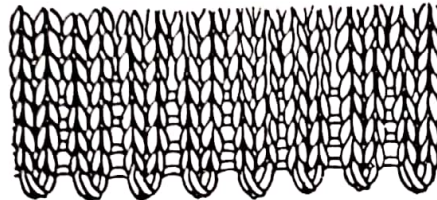
- 1) Ryg die breigare deur die Spanning-eenheid en die breigare-voerder. Die saal moet aan die linkerkant wees.
- 2) Hou die aanhegkam in die middel teen die naaldkas met die hakies van die kam na u toe. Heg die kam weerskante aan die hekkie-penne met die hanghokies vas.

3. Using the even edge of a 1 x 1 needle pusher, bring up the desired number of needles to Position "B", the needles distributed evenly on each side of "0".
4. Turn pusher to cut out edge and push back alternate needles. This sets needles for the 1 K, 1 P border.
5. Place carriage at the left, set tension dial to No. 10 for the first cast-on row. Knit by pushing carriage gently across past the cast-on comb.
6. Release comb by turning pins at the ends of the comb and pull down carefully. Stitches must remain in the hooks. Carefully fasten beginning of yarn of left side of cast-on comb spring.
7. Knit four rows, using contrast colour yarn.
8. Set the tension dial on 3 for smooth yarn.
9. Remove the contrast colour yarn and thread basic colour yarn in feeder. Knit twice as long as desired length of hem ( $\pm$  40 rows for 2" width). Always remember to listen for the "click" at the end of each row.
10. Remove the cast-on-comb and fold the fabric double.
11. Push to B-position all needles which were pushed to A-position in step 4. Open all the latches.
12. Using the transfer tool, transfer all the stitches from the first row of basic colour yarn to the empty needles.
13. Set the tension dial on 6 (or suitable tension) and continue knitting.
- 3) Stoot 'n gelyke aantal naalde weerskante van die „O" in die middel na B posisie, met die reguit-kant van die naald-stootplaatjie.
- 4) Draai die naald-stootplaatjie om en stoot elke 2de naald terug na posisie A. Die naalde is nou gestel om die effek van IR, 1A rand te verkry. Ryg 'n kontras-kleur breigare deur die voerder.
- 5) Stel die spanning-meter op 10 vir die aanhegry. Stoot die saal versigtig oor die aanhegkam.
- 6) Laat sak die aanhegkam versigtig deur die hanghakies los te draai sodat die hakies deur die steke hang. Haak die lospunt van die breigare aan die knypveer van die aanhegkam vas.
- 7) Brei vier rye met kontraskleur breigare.
- 8) Stel die spanningmeter nou op 3 vir gladde breigare.
- 9) Vervang die kontras-kleur breigare met die basiese kleur. Brei twee maal so-lank as wat u vir die rand verkies (ongeveer 40 rye vir 2 duim). Onthou altyd om die „klik" aan die einde van elke ry te hoor.
- 10) Haal die aanhegkam af en vou die breiwerk dubbel.
- 11) Stoot nou al die naalde na voor (B posisie) wat u in stap 4 na A-posisie teruggestoot het. Maak al die kleppies oop.
- 12) Gebruik die oorplaasnaald en tel die eerste ry steke wat in die basiese kleur gebrei is, op die leë naalde.
- 13) Stel die spanning-meter nou op 6 (of geskikte spanning) en brei verder.

## HOW TO MAKE HEMS

The hem is a very popular border trim for both the start and finish of smart knitted garments. All hems should be cast on with an open edge on No.10 tension for the first row regardless of the weight of the yarn.

Completed Picot edge hem.



Sk. 48.

## OM SOME TE MAAK

Die soom is 'n baie gewilde afwerking vir sowel die begin as die afronding van deftige breiwerk. Alle some behoort met 'n rousteek-aanheg vir die eerste ry op No.10 spanning te begin, ongeag die dikte van breigare.

Voltooide Puntjie -soom.

### Picot edge hem

1. Cast on the necessary number of stitches - open edge method - using contrast colour yarn.  
(\*See note P. 39).
2. Knit 4 rows, using contrast colour yarn. Rethread with basic colour yarn and knit 1 row.  
(Tension 10).
3. Reset tension one number smaller than tension selected for garment.
4. Knit the depth of the hem, about 15 rows.
5. Using the single transfer tool and starting at the second stitch from the edge, transfer every alternate stitch to the adjacent needle.  
(See Sk. 50 - 53) When row is completed every second needle is empty, the others hold two stitches.
6. Raise all "In action" needles to E position (including "empty" needles).
7. Ensure that H.C. levers are set in position I ; knit across.

### PUNTJIE-SOOM (Picot-soom).

1. Gebruik die rousteek-aanheg metode. Heg die vereiste hoeveelheid steke aan met 'n kontraskleur breigare.  
(\*Sien Nota blsy. 39)
2. Brei 4 rye. Ryg die basiese kleur breigare deur en brei een ry. (Spanning 10).
3. Stel die spanning een nommer kleiner as die spanning wat u vir die kledingstuk wil gebruik.
4. Brei die breedte van die soom, ongeveer 15 rye.
5. Plaas nou elke tweede steek op die aangrensende naald met die enkel oorplaas-naald - begin by die tweede steek van die kant af. (Sk. 50 - 53). Wanneer u die ry voltooi het sal elke tweede steek leeg wees en die ander sal 2 steke hou.
6. Stoot die leë naalde sowel as die naalde met steke, na E posisie.
7. Maak seker dat die Naaldposisie-nokke op I gestel is, en brei een ry.

8. Knit the same number of rows as in Step 4.
9. Remove the cast on comb and fold the fabric double.
10. Using the transfer tool, pick up the first row of basic colour stitches and transfer these to the corresponding needles.
11. Raise all "In action" needles to E position. (Holding Cam levers on I). Knit across to close the hem.
12. Reset tension to that selected for garment (see step 3 above), and continue knitting .

**\* Note :** When the panel is completed the contrast colour yarn can be unravelled, leaving a clean hem.

#### **Tailored hem**

The same as above except that no picot transfers are necessary (omit steps 5, 6 and 7 of above).

8. Brei dieselfde getal rye soos in stap 4.
9. Verwyder die aanhegkam en vou die breiwerk dubbel.
10. Gebruik die oorplaasnaald en tel die eerste ry steke wat in die basiese kleur gebrei is, op die ooreenstemmende naalde.
11. Stoot nou al die naalde wat in aksie is na E posisie. (N.P.N. op I). Brei oor om soom te sluit.
12. Stel die spanning soos verkies vir kledingstuk, (Sien stap 3 bo) en brei verder

#### **\* Nota**

Wanneer die strook klaar gebrei is, kan die kontraskleur uitgetrek word, wat dan 'n afgeronde soom laat.

#### **Ronde-soom**

Word gemaak soos die puntjie-soom behalwe dat die oorplasing van steke vir puntjie-effek uitgeskakel word. (Stappe 5, 6 en 7 word weggelaat).

#### **To Remove the Fabric from the Knitter (without casting off):-**

- (a) Remove the yarn from the carriage yarn feeder.
- (b) Hold the fabric against the needle bed.
- (c) Pass the carriage across the needles in action, once or twice.

The fabric should be released from the needles, showing loose loops which will unravel unless bound.

#### **Om die breiwerk van die masjien te verwyder (sonder om af te heg)**

- (a) Verwyder die Breigare-voerder die wolverder.
- (b) Druk die breiwerk teenaan die naaldkas.
- (c) Stoot die saal een of twee keer oor die naalde, in aksie.

Die beweging sal die breiwerk van die naalde afstoot en daar sal los ogies wees wat sal lostrek indien u hulle nie vasvang nie .

## UNDOING ROWS (UNRAVELLING)

If you have knitted more rows than necessary, do not remove work from the knitter. Simply unravel one or several rows, by doing the following: (See Sk. 49).

Pull the yarn slightly, drawing it out of the stitches. The stitches of the previous row will slip into the needles automatically as the yarn is raised in an upward movement towards the needle bed.

It is advisable to hang cast-on comb into knitting if several rows are to be unravelled to prevent stitches from being pulled off the needles.

To move the carriage in either direction without knitting, push the 2 Pattern Selector Buttons to "PART". The carriage will then slide over the needles which are in operation without knitting. (This is also useful for multicolour knitting).

Pull the ripped yarn down through the back of the yarn guide until the yarn tension spring is brought back into operation. Turn the knob at the back of the row counter, to deduct the number of rows unravelled, and push the centre Push Button to knit.

## OM STEKE UIT TE TREK (LOSTREK)

Indien u te veel rye gebrei het moenie die werk van die masjien verwyder nie, maar trek die rye wat u te veel gebrei het los soos volg:- (Sk. 49)

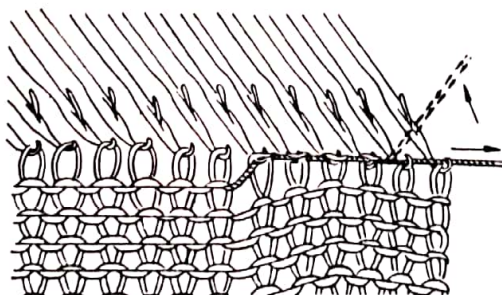
Trek die breigare effens styf en die vorige ry steke sal self oor die naaldhakies gly wanneer die breigare styf getrek en opgelig word in die rigting van die masjien.

Dit is raadsaam om in die stadium die aanhegkam aan die breiwerk te hang of die breiwerk met die een hand effens af te trek, om te verhoed dat steke van die naalde afspring.

Om die saal heen en weer oor die breiwerk te stoot sonder om te brei, moet u die twee patroonknoppies gemerk „Part" indruk. Die saal sal sodoende oor die naalde in aksie beweeg kan word sonder om te brei. (Dit is ook gerieflik vir meerkleurige breiwerk).

Trek die losgetrekte breigare terug agter deur die spanningenheid totdat die wipveer weer in werking is.

Stel die ryteller terug soveel rye as wat uitgetrek is en druk die middelste patroonknoppie in om weer te brei.



Sk. 49.

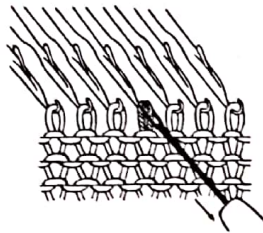
## SHAPING

### How to use Transfer Tool

This method is used for lacy patterns, increasing, decreasing and repairing dropped stitches.

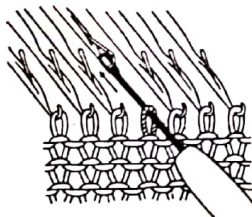
- a. Hold the transfer tool parallel with the needles in the needle bed. Place the eye of the transfer tool into the hook of the needle. (See Sk. 50).

Sk. 50.



- b. With the transfer tool, bring the needle forward. The stitch in the hook of the needle will slide behind the latch and onto the stem of the needle. (See Sk. 51).
- c. Without releasing the transfer tool, push the needle all the way back until the stitch is transferred onto the transfer tool. (See Sk. 52).

Sk. 52.



- d. Raise the transfer tool with the stitch on it and transfer it to the adjacent needle, right or left as desired. (See Sk. 53).

#### Note

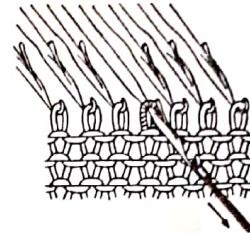
If the latches of the needles are opened before transferring, this will speed the transfer of stitches. (Use hand brush for opening the latches).

## FATSOENERING

### Hoe om die oorplaasnaald te gebruik

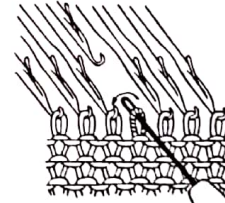
Hierdie metode word gebruik vir kantpatrone, vermeerdering, vermindering en vir herstel van steke wat geval het.

- a) Hou die oorplaasnaald parallel met die naalde in die naaldkas. Plaas die ogie van die oorplaasnaald in die hakie van die naald. (Sk. 50).



Sk. 51.

- b) Trek die naald vorentoe met die oorplaasnaald. Die steek in die hakie van die naald sal tot agter die kleppie en op die steel van die naald gly. (Sk. 51).
- c) Terwyl die oorplaasnaald nog in die naaldhakies is, druk die naald heeltemal terug totdat die steek oorgeplaas is op die oorplaasnaald. (Sk. 52).



Sk. 53

- d) Lig die oorplaasnaald met die steek op en plaas dit oor op die aangrensende naald links of regs soos verkies. (Sk. 53).

#### Nota

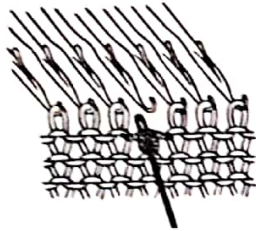
Indien al die kleppies van die naalde vooraf oopgemaak word, sal dit die oorplasing verhaas en vergemaklik. (Gebruik die borseltjie om kleppies oop te maak).



### How to pick up one dropped stitch

- a. With the single transfer tool, pick up the stitch and the unknitted thread and put them both on the empty needle. (See Sks. 54 and 55).

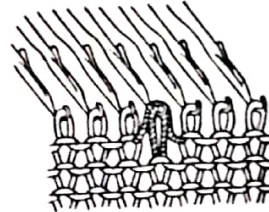
Sk. 54



### Hoe om 'n steek op te tel wat geval het

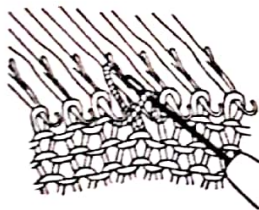
- a) Met die enkel-oorplaasnaald word die steek asook die losdraadjie opgetel en op die leë naald geplaas. (Sk. 54 en 55).

Sk. 55

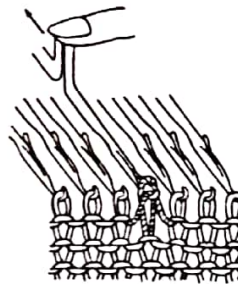


- b. Push forward the empty needle until the stitch is behind the latch of the needle, catch the thread of the unknitted stitch into the hook of the needle. (See Sk. 56).

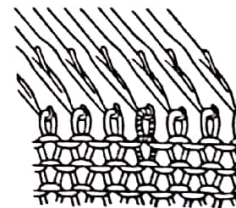
- b) Stoot die naald na voor totdat die steek agter die kleppie is, plaas die losdraadjie in die hake van die naald. (Sk. 56).



Sk. 56



Sk. 57.



Sk. 58

- c. With your finger on the butt of the needle, push the needle back. The stitch will slide over the closed hook of the needle and be re-knitted. (See Sks. 57 & 58).

- c) Stoot die naald terug. Die steek sal oor die toe naaldhake gly en deur gebrei word. (Sk. 57 en 58).

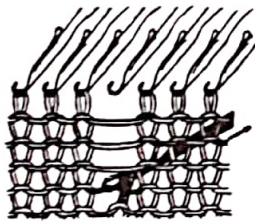
### How to pick up a run of stitches (Plain knitting)

- a. Catch the lowest loop of dropped stitch with the latch hook from behind the fabric.
- b. Working from behind the knitting with latch tool crochet upwards to reform the lines of stitches as follows:  
With a downward movement place stitch behind latch and next horizontal thread into the hook of the needle. (See Sks. 59 - 63).

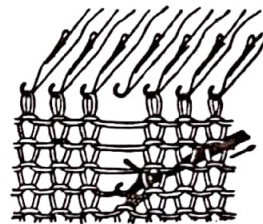
Catch horizontal threads one by one to form new stitches until you have knitted back to the top of your work. The final stitch is placed back on the empty needle. (See Sks. 61, 62, 63).

### Hoe om 'n leer te herstel (Eenvoudige Breiwerk)

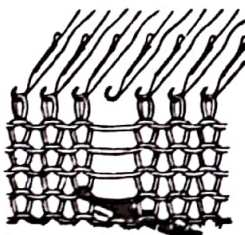
- a) Gebruik die hekelhaak en hanteer dit van agter die breiwerk.
- b) Steek die hekelhaak in die ogie aan die onderpunt van die leer: stoot die hekelhaak na bo sodat die steek agter die kleppie gaan en vang die los draadjie van die leer net bokant, met die oop hakie van die hekelhaak. Trek die hekelhaak na onder. Die steek agter die kleppie sal die hekelhaak sluit en 'n nuwe steek sal gevorm word wanneer u die woldraadjie deur die steek trek. (Sk. 59-63). Herhaal opwaarts totdat al die steke herstel is. Plaas die laaste ogie in die oop naaldhakie. (Sk. 61-62-63).



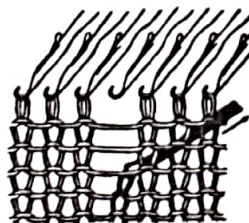
Sk. 59



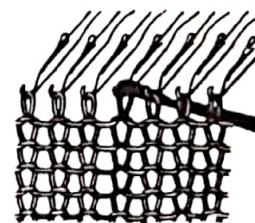
Sk. 60



Sk. 61



Sk. 62



Sk. 63

### How to knit purl stitches or ribbing

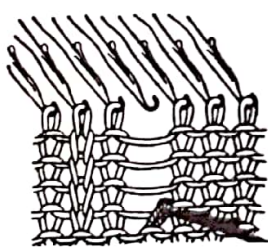
The knit and purl stitch together on one side of the material leaves an uneven texture of a ribbed effect. The ribbing is produced by having knit stitch over knit stitch and purl stitch over purl stitch, in vertical lines. The ribbing narrows and lengthens the knitted fabric and increases its elasticity

It is widely used for waist-bands in sweaters, cuffs, collars, pockets and often for decorative purposes. You can make many variations of ribbing. For example, 1 knit 1 purl, 2 knit 2 purl, 3 knit and 1 purl, etc. Select any number of combinations of knit and purl to suit your particular requirement.

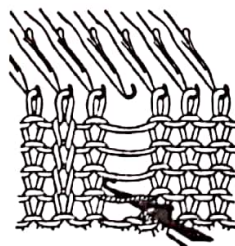
To reverse knit to purl stitches on your knitter:

For one knit one purl do the following:

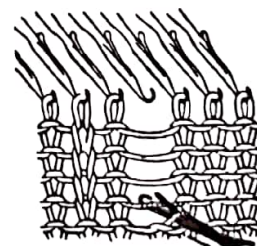
1. Knit as many rows as required for the length of the ribbing on a slightly tighter tension.
2. Drop the third stitch from the end by pushing the needle forward then back until the stitch drops off the needle, then allow the stitch to drop as far down the fabric as you wish.



Sk. 64



Sk. 65



Sk. 66

3. Insert the hook of the latch handle into the loop of the last dropped stitch from the front of the fabric. Hold the tool parallel, and see that the stitch is behind the latch.

### Hoe om 'n rifsteek te brel (aweregs)

Die regs en aweregse steke tesame op dieselfde kant van die breiwerk gee 'n rifsteek effek.

Die rifsteek vernou en verleng die breiwerk en verbeter die rekbaarheid.

Dit word meesal gebruik vir mousrande, middel-rifstroke aan oortrek-truie, Krae, sakkies en dikwels vir versiering.

U kan 'n groot verskeidenheid rifsteke maak, bv. 1 x 1 rif, 2 x 2 rif, 3 x 1 rif ens.

Kies enige kombinasie van regs en aweregs wat in u smaak mag val.

Om Regse steke om te skep in Aweregse steke op u masjien:-

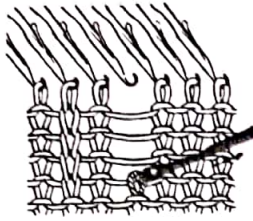
Om een regs, een aweregs te maak :

- 1) Brei soveel rye soos benodig vir die lengte van die Rifband met 'n effense stywer spanning.
- 2) Laat val die tweede steek van die kant af deur die naald vorentoe en dan agtertoe te stoot. Laat die steek nou 'n leer vorm so ver af in die breiwerk as u verkies.

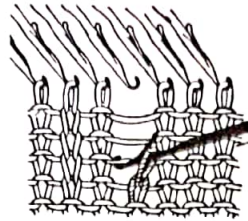
- 3) Steek nou die hakie van die hekelhaak in die ogie van die laagste steek van voor af in. Hou die hekelhakie parallel en sorg dat die steek agter die kleppie is.

4. Catch the next parallel thread into the hook and pull forward until new stitch is formed. (See Figs. 64-70).

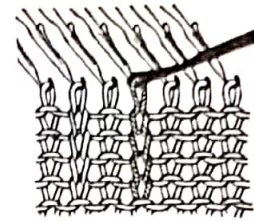
4) Vang die volgende parallel draadjie, net bokant, in die haak en trek terug totdat 'n nuwe steek gevorm is. (Sien Sk. 64-70).



Sk. 67



Sk. 68



Sk. 69

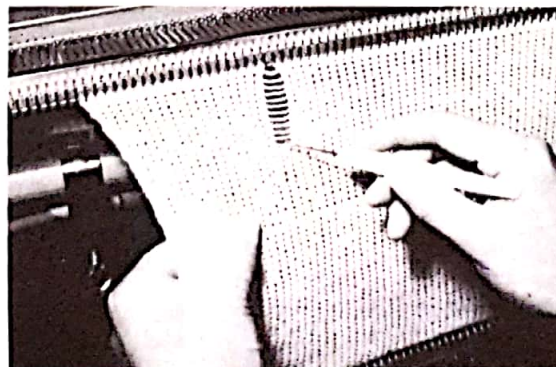
Watch the latch of tool, always pick up parallel threads one by one. Note that the last stitch falls behind the latch so that the next parallel thread is in front of the latch. The push-pull movement soon becomes mechanical. When all parallel threads are picked up, the last stitch is placed back onto the empty needle. In this manner you are reversing your stitch, converting each stitch from knit to purl.

Repeat steps 2, 3 and 4 for each row required to be "ribbed".

Hou die kleppie van die hekelhaak dop, tel altyd die dwars draadjies een vir een op. Maak seker dat die vorige steek agter die kleppie is sodat die volgende dwars draadjie in die hake voor die kleppie kom. Die „Trek en Stoot” beweging word gou-gou meganies.

Wanneer die leer herstel is, word die laaste oop naald geplaas. So word elke regse steek omskep in 'n aweregse steek.

5. Herhaal stappe 2, 3, en 4 met elke ry wat rifsteek gebrei moet word.



Sk. 70

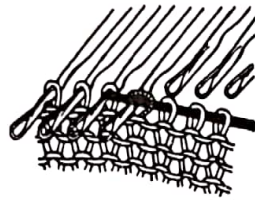
## HOW TO REMOVE THE KNITTING FROM THE KNITTER

- 1) Unbound (Unfinished) method
  - a. Take the yarn out of the yarn feeder on the carriage.
  - b. Press the work against the needle bed and slide the carriage twice across the needles in action.

The work will be released.

## OM DIE BREIWERK VAN DIE MASJEN TE VERWYDER

- 1) Rousteek Metode (onafgewerk).
  - (a) Haal die breigare uit die voerder.
  - (b) Druk die breiwerk teen aan die naaldkas en stoot die saal heen en weer oor die naalde wat in aksie is. Die breiwerk sal nou los wees.



Sk. 71.

- 2) You may prefer to transfer your finished work to hand knitting needles. Do this as follows:-

- a. Slide a hand knitting needle into the first stitch. With your left hand, hold the knitting close to the knitter. With your finger, bring the needle forward so that the stitch in the hook of the needle slides into the stem of the needle behind the latch.

- b. Bring the needle all the way back. The stitch will fall over the closed hook of the needle onto the knitting needle.

- c. Slide the knitting needle into the next stitch and repeat until all the stitches are off the needles on the needle bed. (See Sk. 71).

- 2) Indien u verkies om die breiwerk op handbreinaalde oor te plaas, doen dit so:-

- (a) Steek die breinaald in die eerste steek terwyl u die breiwerk met die linkerhand teen die masjien hou. Bring die naald met die vinger na vore sodat die steek oor die kleppie gly en aan die steel hang.

- (b) Stoot die masjien-naald nou tot heelagter sodat die steek oor die naald en op die hand-breinaald sal gly.

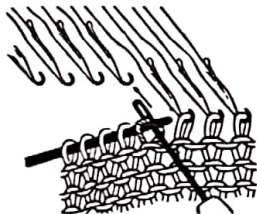
- (c) Steek die hand-breinaald in die volgende steek en herhaal totdat al die steke oorgeplaas is. (Sk. 71).

## Transferring off hand knitting needles to knitter

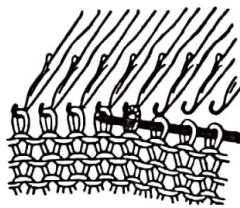
### (1) Using Transfer tool

- a. Begin from right side. With left hand, hold the fabric facing in the desired direction with the hand knitting needle in line with machine needles. Pass the transfer needle through the stitch on the knitting needle from the front.
- b. Transfer the stitch from the transfer needle onto the hook of needle in the knitter. (See Sk. 72).

When a large number of stitches is transferred in this manner the stitches on the knitter are likely to come up and out of the hooks. To prevent this push the needles with transferred stitches back as far as they will go.



Sk. 72.



Sk. 73.

## 2 Alternate method

- a. Place into Position D the needles from which the stitches are to be transferred.
- b. Open the latches of these needles (use hand brush).
- c. Begin from left side.
- d. Transfer the stitches from the hand knitting needle onto the opened hooks of the machine needles. (Sk. 73).

## Oorplaas van hand-breiwark na masjien

### (1) Gebruik oorplaas-naald

- (a) Begin aan die regterkant en hou die hand-breiwark met die linkerhand in lyn met die naalde op die masjien. Druk die oorplaasnaald van voor af deur die steek op die hand-breinaald.
- (b) Plaas nou die steek in die hakie van die naald in die naaldkas. (Sk. 72)

Wanneer 'n hele aantal steke op die manier op die masjien oorgeplaas word, sal hulle geneig wees om uit die naaldhakies te gly; om dit te verhoed moet u die naalde met steke, wat reeds oorgeplaas is, sover moontlik terug stoot.

## 2. Alternatiewe Metode.

- (a) Stoot al die naalde wat oorgeplaas moet word, in D-posisie.
- (b) Maak al die kleppies oop. (Gebruik die handborseltjie.)
- (c) Begin aan die linkerkant.
- (d) Plaas die steke vanaf die hand-breinaald oor op die oop naaldhakies van die naaldkas. (Sk. 73)

## INCREASING

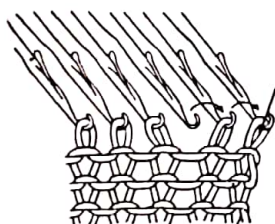
Increasing one stitch at either edge

### (i) Simple method.

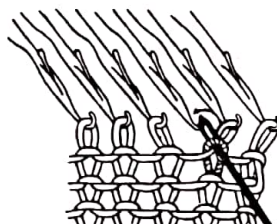
- a. Push into action one needle from the resting position "A" on the side nearest the carriage.
- b. The empty needle will pick up the yarn and form a stitch in the next row.
- c. Repeat wherever pattern requires it.

### (ii) Full fashioned method of increasing one stitch on either side.

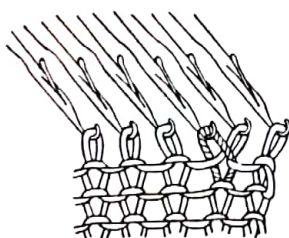
- a. Use 2 needle transfer tool, move the stitches out to the adjacent empty needles. (See Sk. 74).
- b. To fill in empty needle pick up stitch from either side of empty needle on lower row. (See Sk. 74 - 77).



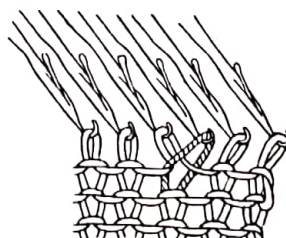
Sks. 74.



Sks. 75.



Sks. 76.



Sks. 77.

Increasing Several Stitches at either edge

1. Bring into action (Position E), on the same side as the carriage, as many needles as there are stitches to be increased.
2. Loosely wind yarn around stems of each needle. (Winding towards centre. See Sk. 78).

## VERMEERDERING

Om een steek beide kante te vermeerder.

### 1. Eenvoudige Metode.

- (a) Stoot een naald vanaf die rusposisie (A) na breiposisie (B) aan die kant naaste aan die saal.
- (b) Die leë naald sal 'n steek vorm wanneer die volgende ry gebrei word.
- (c) Herhaal soos deur patroon vereis.

### 2. Fyn-afgewerkte Metode.

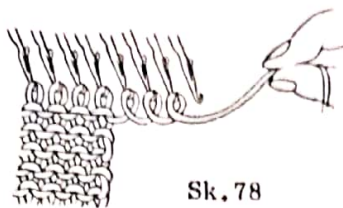
Om aan beide kante 'n steek te vermeerder.

- (a) Gebruik die 2-oog oorplaasnaald en plaas die laaste twee steke aan die kant oor na die aangrensende leë naald. (Sk. 74)
- (b) Tel 'n nuwe steek op vanaf die vorige ry net langs die leë naald. (Sk. 74-77)

Vermeerder 'n paar steke aan enige kant

1. Stoot soveel lee naalde as wat u wil vermeerder aan dieselfde kant as die saal, vanaf A-posisie na E-posisie.
2. Wen die breigare lossies om die steel van elke naald. (Met 'n inwaartse beweging Sk. 78).

3. Loops must be on stem of needle past the latches, therefore after increasing raise the needles to E Position. (See note below).
4. Raise the Holding Cam Levers to Position I.
5. Knit across.



Sk. 78

3. Die ogies moet agter die kleppie aan die steel van die naald wees.
4. Plaas die Naaldposisie-Nokke op Posisie I.
5. Brei oor.

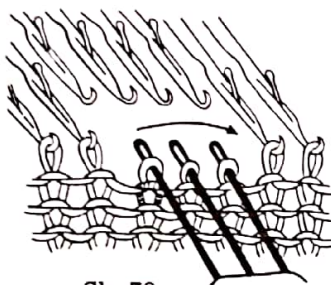
**Note:**

To insure perfect knitting on the increased stitches raise these needles to position E, manually each time before knitting across for the first 4 or 5 rows.

**Nota:** Om seker te maak dat die nuwe steke mooi deurbrei, stoot na elke ry al die nuwe naalde na E posisie vir die eerste 4 of 5 rye.

**Increasing one stitch in centre of row**

1. Determine the position where you want to increase one stitch.

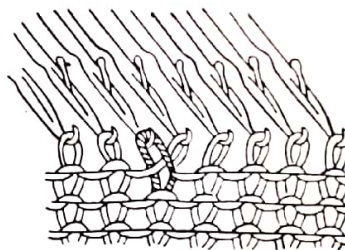


Sk. 79

2. Use the 3 needle transfer tool, starting from either end, transfer all the stitches outward in either direction until the required needle is free. (See Sk. 79).
3. Pick up the neighbouring lower half stitch onto the empty needle. (See Sk. 80).

**Vermeerder een steek in 'n ry**

1. Bepaal die plek waar u een steek wil vermeerder.



Sk. 80

2. Gebruik die drie-oog-oorplaasnaald; begin aan die linker of regterkant en plaas al die steke een naald uitwaarts totdat die naald waar u wil vermeerder leeg is. (Sk. 79).
3. Tel 'n halwe steek van die vorige ry oor die leë naaldhakie. (Sk. 80)

**Increasing several stitches in the row**

The above method can be used or you can transfer the knitting from the knitter to a knitting needle.

Before the knitting is transferred back from the knitting needle to the knitter, determine the number of stitches to be increased and space the replaced stitches so that there will be an equal number of stitches transferred between each extra needle then transfer the knitting from the knitting needle to the knitter (leaving empty needles where additional stitches are required).

Raise the neighbouring lower half stitches to the empty needles. (As in Sk. 80).

**Vermeerder 'n paar steke in 'n ry**

Die bostaande metode kan gebruik word, of u kan die breiwerk op 'n hand-breipen oorplaas.

Voordat u die steke op die masjien terugplaas, bepaal die hoeveelheid steke wat u wil vermeerder en spasieer die bestaande steke sodat u dieselfde hoeveelheid steke tussen elke nuwe steek het; (laat leë naalde waar bykomstige steke benodig word).

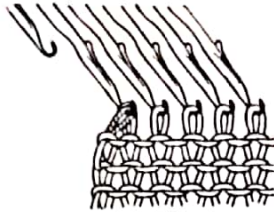
Plaas die naaste halwe steke vanaf die vorige ry op die leë naalde. (soos in Sk. 80).



## DECREASING

### Decreasing one stitch at either edge

- i) 1st method (one stitch at either edge).
  - a. Use single needle transfer tool, transfer the end stitch to the 2nd needle, (See Sk. 81) and place empty needle out of action to Position A.

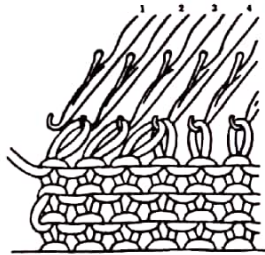


Sk. 81.

### ii) Full fashioned decreasing

- Use two needle transfer tool, transfer the end stitch to the 2nd needle and the 2nd stitch to the 3rd needle. Place empty needle out of action.

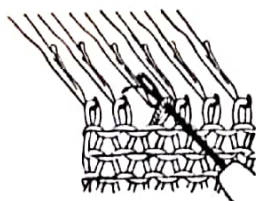
Illustration shows decrease on 3rd stitch (3-needle work hook was used).



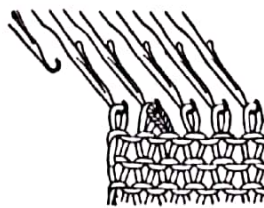
Sk. 82.

### iii) Decreasing in mid-row

- a. Use the single needle transfer tool and transfer a centre stitch to adjacent needle. (See Sk. 83).
- b. Using the two or three needle transfer tool, shift all stitches in until all needles "in action" have stitches on them, then place the outer empty needles out of action. (See Sk. 84).



Sk. 83.



Sk. 84

## VERMINDERING

### Verminder een steek aan weerskante

#### (i) Metode (1)

Gebruik die enkel oorplaasnaald en plaas die laaste steek op die aangrensende naald. (Sk. 81) Stoot die leë naald uit aksie. (A posisie)

#### (ii) Fyn-afgewerkte vermindering.

Gebruik die twee-oog oorplaasnaald plaas die laaste steek op die tweede laaste naald en die tweede laaste steek op die derde laaste naald. Stoot die leë naald uit aksie (A posisie)

Illustrasie wys vermindering op derde steek (drie-oog oorplaasnaald is gebruik)

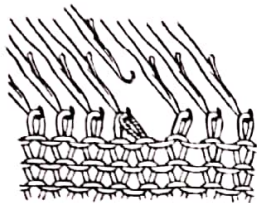
#### (iii) Verminder in die middel van 'n ry.

- (a) Gebruik die enkel-oorplaasnaald en plaas die middelste steek op die aangrensende naald. (Sk. 83)
- (b) Gebruik die twee of drie-oog-oorplaasnaald en skuif al die steke inwaarts totdat al die naalde in aksie, steke op het en stoot die leë naalde aan die kant uit aksie (A posisie) (Sk. 84).

## Decreasing in the centre of a row

### 1. Decreasing one stitch

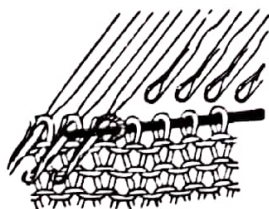
- a. Using the single transfer needle, transfer the centre stitch onto a neighbouring needle on either side. (See Sk. 85)
- b. Using the 3 needle transfer tool, transfer all stitches inward towards, and onto the empty needle. ( see Sk. 86)



Sk. 85

### 2. Decreasing many stitches in row

- a. Transfer the knitting to a hand knitting needle. (See Sk. 87).
- b. Before returning the knitting from the knitting needle back to the knitter, calculate the proportional reduction in the number of stitches.  
For example, to decrease one stitch in every third, hang the 2nd and 3rd stitches onto one needle. (See Sk. 88)
- c. The number of needles with double stitches represents the number of stitches decreased.

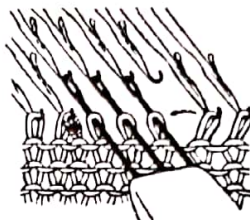


Sk. 87

## Verminder in die middel van 'n ry

### 1. Verminder een steek.

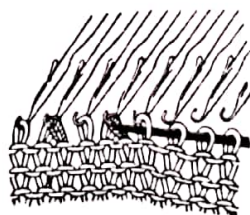
- a). Gebruik die enkel-oorplaasnaald en plaas die middelste steek op die aangrensende naald aan enige kant. ( Sk. 85 )
- b) Gebruik die drie-ogte oorplaasnaald en plaas al die steke oor na binnekant en op die leë naald. ( Sk. 86 )



Sk. 86

### 2. Verminder 'n aantal steke in 'n ry.

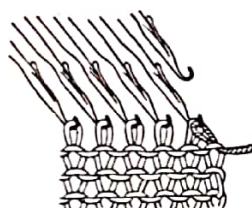
- (a) Plaas die breiwerk oor op 'n handbreinaald.
- (b) Voordat u die breiwerk van die breinaald, af op die masjien oorplaas, bereken eers die proporsionele vermindering van die getal steke, bv. om een uit elke drie steke te verminder moet u die tweede en derde steek op een naald plaas. ( Sk. 88)
- (c) Die getal naalde met twee steke op, dui die getal steke aan wat verminder is.



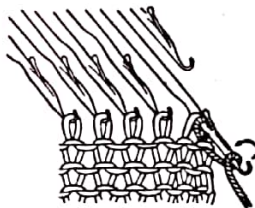
Sk. 88

### TO BIND OR CAST OFF

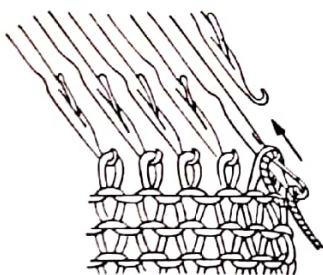
- On the same side as the carriage, transfer the end stitch to the 2nd needle. (See Sk. 89).
- Raise the needle with the two stitches so that the stitches fall behind the latch of the needle. (See Sk. 90).
- Place yarn in front of latch and manually pull needle back to form a single stitch. (See Sk. 90 - 92).



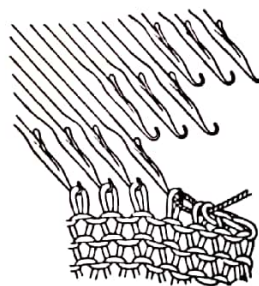
Sk 89



Sk. 90



Sk. 91



Sk. 92

- Repeat this process. (See Sk. 89 - 92).  
Do not make stitches too tight.

This method can be used for binding off any number or all stitches at neck, armhole, shoulder or pocket edges.

#### Binding off (casting off with a latch hook)

- Knit the last row on a much looser tension than the rest of the garment.
- Start on the side away from where your yarn ends. (see Sk. 93 & 94)
- Hold your latch tool upright, so latch remains down.

### OM AF TE HEG

- Plaas die laaste steek op die aangrensende naald aan die kant waar die saal staan. (Sk. 89)
- Stoot die naald wat nou twee steke op het vorentoe sodat die steke agter die kleppie van die naald is. (Sk. 90)
- Plaas die breigare in die naaldhakie, voor die kleppie en trek die naald met die hand terug om 'n enkel steek te vorm. (Sk. 90-92)

- Herhaal die proses. (Sk. 89 - 92)  
Moenie die steke te styf afheg nie.

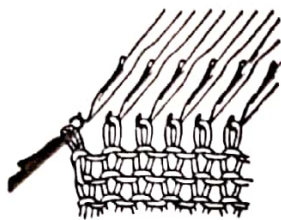
Hierdie metode kan gebruik word om enige aantal steke of al die steke af te heg aan die nek, mousgat, skouer of sakkies.

#### AFHEG ( Met hekelhaak )

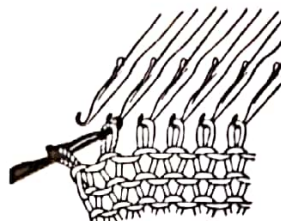
- Brei die laaste ry op 'n baie losser (groter) spanning as vir die res van die breiwerk.
- Begin aan die teenoorgestelde kant van waar die ry ge-eindig het.
- Hou die hekelhaak opwaarts sodat die kleppie oop bly.

4. Remove first 2 stitches from the needles onto latch tool and let the first stitch slide past the latch. (See Sk. 95.)
5. Pull the second stitch through the first stitch, this leaves one loop in the hook of your latch tool. (Sk. 95 - 96).
6. Continue to bind off one stitch at a time.

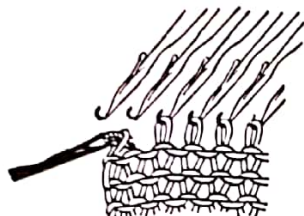
4. Plaas die eerste twee steke op die hekelhaak met die eerste steek agter die kleppie. (Sk. 95)
5. Trek die tweede steek deur die eerste steek dit laat 'n ogie in die hakie van die hekelhaak. (Sk. 95-96)
6. Gaan voort deur een steek op 'n keer af te heg.



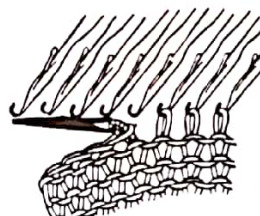
Sk. 93



Sk. 94



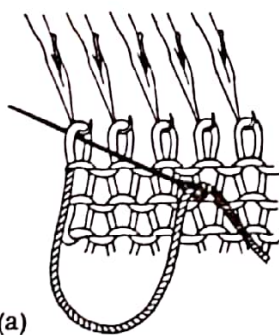
Sk. 95



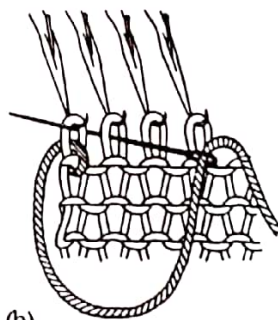
Sk. 96

Binding off with a needle.

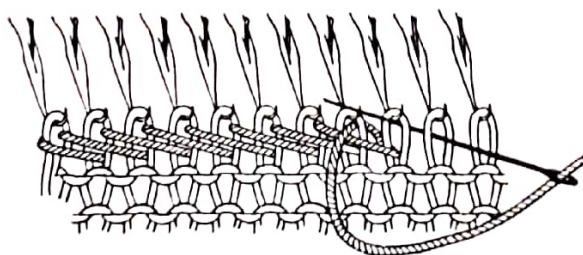
Heg af met 'n naald.



(a)



(b)



(c)

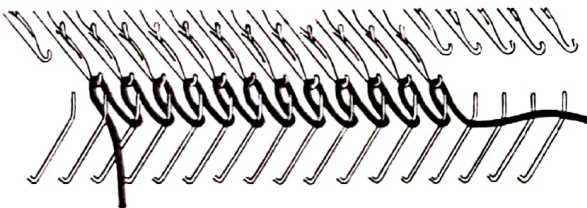
Sk. 97

## THE NYLON THREAD

The two main functions of the nylon thread are to assist in certain casting-on, and to hold the fabric on the Knitter.

The thread has been specially made of nylon because it is supple and will easily slip through most yarns.

- 1) Casting on - when it is termed a cast-on thread.
  - a) Should it be necessary for any reason to cast on without using the combs, e.g. very fine fabrics:
    - i) Run the carriage threaded with the knitting yarn across the "in action" needles, causing loops to be formed around the needles and the gate-pegs. (Sk. 98)



Sk. 98.

- ii) Stretch the thread over the loops, between the needles and gate-pegs, and hold both ends together below the needle bed. (Sk. 99).
- iii) Knit 3 or 4 rows.
- vi) Draw out the thread.

At the commencement of the work there will be a row of unfinished stitches which will require to be closed after the fabric is removed from the Knitter.

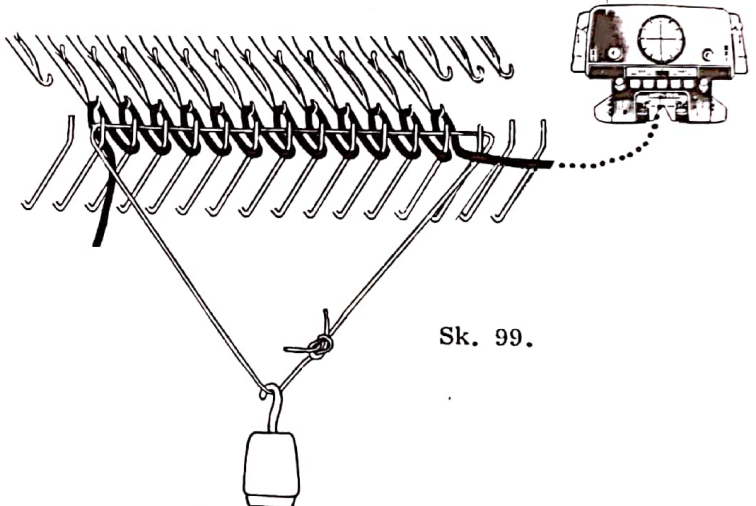
- b) To hold together two pieces of fabric without removing the first from the knitter, e.g. when two or more pieces of fabric of a similar width are to be knitted and a closed selvedge is not required, use the nylon thread as a "divider". (Sk. 100).

## DIE NYLON-TOUTJIE

Die twee hoof funksies van die nylon draad is:-  
(1) aanheg doeleindes (2) vir die tydelike hou van steke.

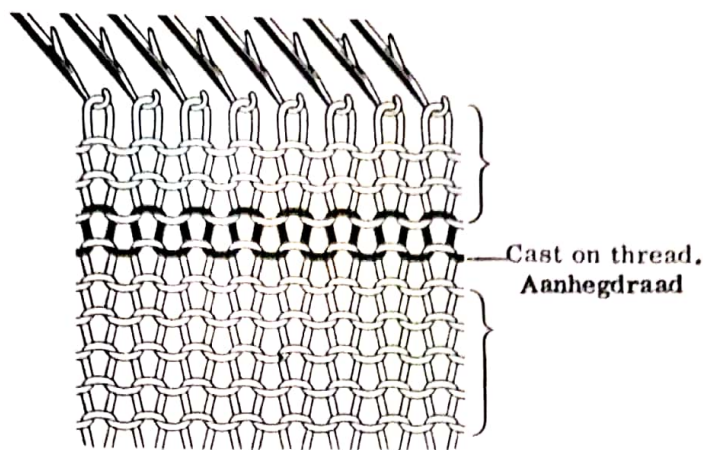
'n Nylon toutjie word gebruik omdat dit sterk en glad is en maklik deur die meeste tipes breigare kan gly.

- 1). Aanheg - Wanneer dit as 'n aanheg draad gebruik word.
  - (a) As dit nodig is om aan te heg sonder die aanhegkam bv. baie fyn breiwerk :
    - (i) Stoot die saal met breigare oor die naalde wat in aksie is, sodat ogies aan die naalde en om die hekkie-penne gevorm word. (Sk. 98)



Sk. 99.

- ii) Span die breigare oor die ogies tussen die naalde en die hekkie-penne en hou die punte tesame onder die naaldkas. (Sk. 99)
  - iii) Brei 3 of 4 rye.
  - iv) Trek die nylondraad uit. Daar sal 'n ry los steke aan die begin van die werk wees wat agterna afgewerk moet word.
- (b) Om twee stukke breiwerk aanmekaar te hou sonder om die eerste stuk van die masjien te verwyder, soos bv. wanneer twee of meer stukke breiwerk van dieselfde wydte gebrei moet word en 'n selfkant nie noodsaaklik is nie, gebruik dan die nylon draad om die stukke aanmekaar te hou en terselfdertyd te verdeel. (Sk. 100).



Sk. 100

After the last row of the first piece has been knitted, replace the yarn in the feeder with the nylon thread, knit one row, then rethread the carriage with the original yarn and continue knitting. By pulling on the nylon thread the two pieces of fabric will separate.

## 2) Holding the Fabric to the Needle Bed.

Should it be necessary to discontinue the knitting before a panel is completed, to prevent the fabric or odd stitches falling from the needles:

- i) Disengage the row counter.
- ii) Knit one row using waste yarn.
- iii) Lay the nylon thread over the stitches as in 1a(ii) above,
- iv) Knit one row still with waste wool,
- v) Join the two ends of the nylon thread and suspend a weight on the thread.

When ready to continue knitting:

- i) Draw out the nylon thread.
- ii) Unravel the waste yarn.
- iii) Re-engage the row counter,
- iv) Continue knitting.

This may seem a lot of bother, but it will pay in the long run as stitches left on the knitter always tend to mark, and the mark is invariably seen on the garment until it is cleaned. No harm is done if the waste yarn becomes marked.

Nadat die laaste ry van die eerste strook gebrei is, vervang die breigare met die Nylon toutjie en brei een ry. Plaas nou die breigare weer terug in die saal en brei die volgende strook.

As die nylon toutjie nou uitgetrek word sal die twee stukke verdeel wees.

2). Om die breiwerk vir 'n geruime tyd aan die naalde te hou.

Indien dit nodig is om u breiwerk vir 'n ruk te staak en te verhoed dat die breiwerk vuil word of die ry steke aan die naalde groter rek:-

- (i) Stel die ryteller uit aksie.
- (ii) Brei 1 ry met afval wol.
- (iii) Lê die nylon toutjie oor die naalde.
- (iv) Brei nog een ry met afval wol.
- (v) Bind die twee punte van die nylon toutjie aanmekaar en hang 'n gewig in die middel daarvan

Wanneer u wil aangaan met die breiwerk.

- (i) Trek die nylontoutjie uit.
- (ii) Trek die afval wol los.
- (iii) Stel die ryteller in werking.
- (iv) Gaan voort met die breiwerk.

Dit mag onnodig klink maar op die lange duur sal u vind dat dit die moeite werd was aangesien steke wat vir 'n lang tyd op die naalde gelaat word, geneig is om merke aan te kry, of te rek.

## ADVANCED KNITTING.

The previous pages concentrated upon the basic and elementary steps required to cast on and knit. To make a simple garment the following basic knowledge is necessary:

- \* Casting on (whether with a selvedge or plain or fancy hem).
- \* Increasing and decreasing (for shaping such as armholes).
- \* Repairing dropped stitches and making various openings (as for shaped necklines and plackets).
- \* Buttonholes and simple stitch patterns (e.g. ribbing).
- \* Casting-off.

After a little thought it will be realized that in fact one need know no more in order to knit plain garments. For those who are satisfied only to make plain garments this book stops here!

The next part of this book is designed to show how to put excitement into your work - how to use all the potential of your Knitter, not only to knit multitudes of patterns but also weave the most glorious fabrics seldom if ever seen before, because up to now no machine, even at prices way above the cost of yours, could ever knit or weave them automatically.

In the following pages the workings of the various controls which fall into two categories are described.

1. The Needle Bed Controls, whose main purpose is to set the needles in the correct patterning position. These are mainly concentrated on the right of the needle bed and consist of:-

- a) The needle selector buttons.
- b) The needle-selector release button.
- c) The needle selector slide.
- d) The needle selector reverse switch.
- e) The needle slide indicator (in front of the branch tension arm).
- f) The selector or raising-key.
- g) The row counter.
- h) The needle position indicator (not actually a "control" but very necessary for patterning).

## GEVORDERDE BREIWERK

Op die vorige bladsye het ons, ons bepaal by die basiese elementêre voorligting wat benodig word om aan te heg en te brei.

Om 'n eenvoudige kledingstuk te maak is die volgende basiese kennis noodsaaklik:

- \* Aanheg (Met 'n selfkant of eenvoudige of siersoom.)
- \* Vermeerder en Verminder.(soos vir mousgat)
- \* Om steke wat geval het te herstel en verskeie openinge te maak. (Soos gefatsoeneerde Halslyne en sakkies)
- \* Knoopsgate en eenvoudige patroonsteke. (bv. Rifsteek)
- \* Afheg.

Na 'n bietjie nabetrugting sal u besef dat u niks meer hoef te weet om eenvoudige breiwerk te doen nie.

Vir diesulkes wat alleenlik eenvoudige kledingstukke wil brei, eindig die boek hier.

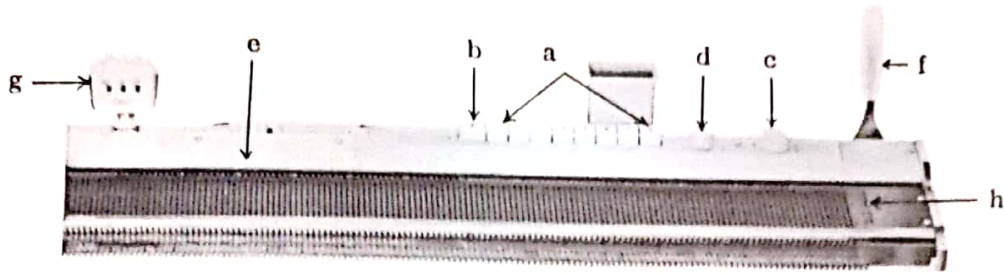
Die volgende deel van hierdie boek is saamgestel om u breiwerk meer opwindend te maak, hoe om u masjien se moontlikhede ten volle te benut, nie net 'n groot verskeidenheid van patrone brei nie, maar ook om die mees fantastiese materiale te weef; omdat geen masjien tot dusver, selfs teen baie hoër koste, dit so outomaties kon brei of weef nie.

In die hieropvolgende bladsye, word die hantering en beheer van die masjien, wat in twee kategorieë val, beskryf.

### 1. DIE NAALDKAS-KONTROLE

Hoof funksie is om naalde te stel in die vereiste posisie vir brei, weef en patroonwerk. Hierdie kontrole is grotendeels geplaas aan die regterkant van die masjien en bestaan uit:-

- a) Naald-stelknoppies.
- b) Vrystelknoppie.
- c) Skuifknop.
- d) Tru-knoppie.
- e) Skuifaanwyser.
- f) Stelsleutel.
- g) Ryteller.
- h) Naaldposisie-nommerplaat. (Nie waarlik 'n kontrole nie, maar noodsaaklik vir patroonwerk.)



Sk. 101

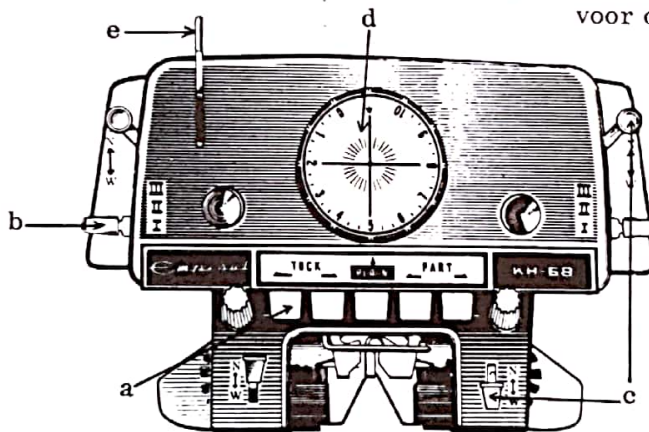
2. Carriage Controls: The main function of these controls is to feed the wool and knit the pre-set pattern of the needles. Some are in pairs, one part on each side of the carriage.

- a) The pattern selector buttons.
- b) The holding cam levers.
- c) The weaving or lay-in pattern controls both marked W and N and found:
  - i) on each side of the carriage below the holding cam levers, and
  - ii) above the special large brushes on the front of the sinker plates.

## 2. DIE SAAL-KONTROLE

Die hoof funksie van hierdie kontrole is om die breigare te voer en die gestelde naalde vir die gekose patroon te brei. Sommige van hierdie kontrole is in pare - een aan elke kant van die saal.

- (a) Die Patroon-knoppies.
- (b) Die Naaldposisie-Nok-Hefbome.
- (c) Die Weef-kontrole - Daar is twee pare en albei is gemerk W en N en is geplaas:
  - (i) Weerskante van die saal onderkant (langsaaan) die naaldposisie-nok-hefbome en
  - (ii) Bokant die spesiale groot borsels voor op die rollerplaat.



Sk. 102

The following are single controls:

- d) The tension gauge (at the centre of the carriage).
- e) The row counter tripper (at the left back of the carriage).

To gain the fullest benefit from the ensuing descriptions, set up a few rows of plain knitting over 40 or 50 stitches and whilst reading the various explanations experiment on the fabric, using the controls as described.

Until you are confidently sure you know and understand the controls always be ready to refer back to the book which should be kept close at hand.

Die volgende is enkel kontrole:

- (d) Die Spanningmeter (in die middel van die saal).
- (e) Die ryteller-aanstootpennetjie. (links-agter bo-op die saal.)

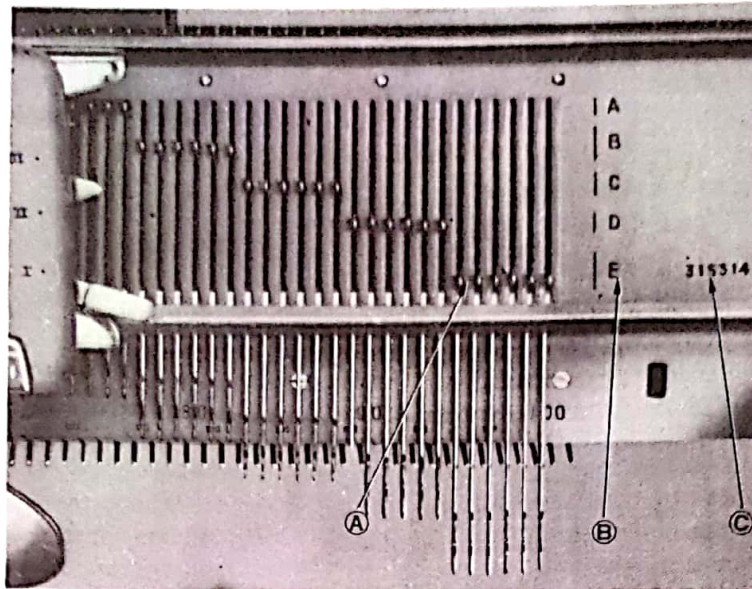
Om hieropvolgende aanwysings ten volle te benut, moet u 'n paar rye aanheg oor 40 of 50 naalde en terwyl u die verskillende verduidelikings bestudeer, eksperimenteer met die kontrole volgens voorskrif.

Totdat u die kontrole heeltemal verstaan en beheer het, moet u weer na die instruksieboek verwys wat u altyd byderhand moet hou.



## NEEDLE POSITIONS.

## NAALD-POSISIES



Sk. 103

- A - Needle in E Position.
- B - Needle-position indicator.
- C - Machine Serial number.

The needles may be set in five different positions in the needle bed grooves. The five positions are marked on each side of the needle bed by the letters A, B, C, D and E. (Sk. 103)

### A POSITION (Out of Action).

The needles are fully back (in technical language "DOWN") and the carriage, no matter what is done to the controls, will not move them in any way.

### B POSITION (In Action)

This is the first of the four positions in which the needles will be actuated by the carriage, and is generally referred to as the "NORMAL KNITTING POSITION".

In this position the needle has been pushed out (or "UP") about half-an-inch. The needle hooks are nearly level with the gate pegs.

### C POSITION (Multi-pattern)

This position used for shaping polo, round, square and V-necks, for berets, skirts, doylies and in certain patterning and multi-colour combinations.

In needle positions C and D the stitch rides on top of the closed latchet.

- A - Naald in E-posisie.
- B - Naaldposisie -aanwyser.
- C - Masjien Fabrieksnommer.

Die naalde kan in 5 verskillende posisies in die naaldgleufies gestel word.

Hierdie 5 posisies is weerskante van die naaldkas gemerk met die letters A, B, C, D en E. (Sk. 103)

### A - POSISIE . (uit aksie)

Die naalde is heeltemal agter (in tegniese terme ONDER), en die saal sal dit nie kan beweeg nie, watter verstelling ook al daaraan gedoen word.

### B - POSISIE (in aksie)

Hierdie is die eerste van die vier posisies waarin die naalde deur die saal beweeg kan word en is algemeen bekend as die NORMALE breiposisie. In dié posisie is die naald ongeveer 'n half-duim vorentoe (OP) gestoot. Die naal' thakies is feitlik gelyk met die Hekkie-penne.

### C - POSISIE (meervoudige patrone)

Die posisie word gebruik vir die fatsoenering van polo, vierkantig en V-nekke, vir musse, rompe, tafellappies en in verskeie patrone en veelkleurige kombinasies.

## D POSITION (Pattern-knit)

It is to this position that the needles are set by the needle selector or raising key. The needles functioning from this position will form the knit stitches required while those in B position are forming the pattern stitch according to the way the pattern selector buttons are set.

This position is also used in conjunction with advanced patterning, certain Fair-Isle patterns and weaving or lay-in patterns.

## E POSITION (Holding)

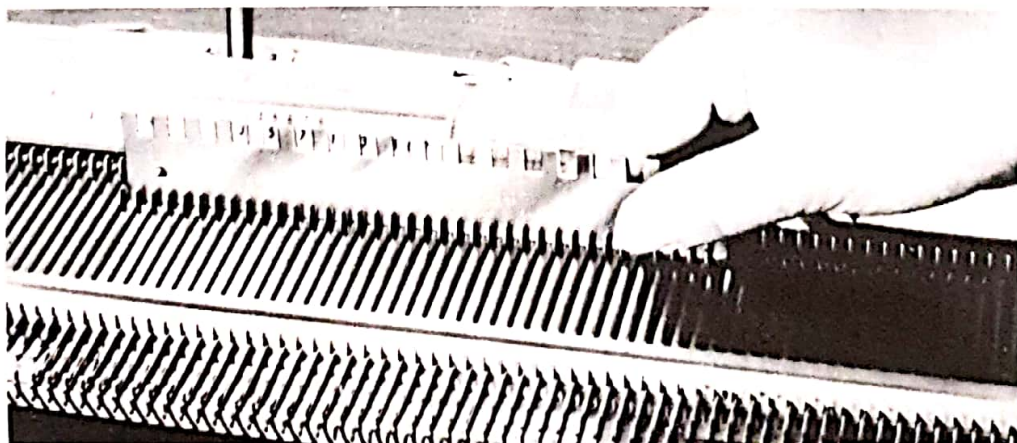
Used for partial knitting in Fair-Isle patterning and other advanced patterning. The needles can be 'held' in this position to pick up yarn from several rows for such patterns.

The various functions performed by the needles in the different needle positions in relation to the carriage controls are clearly set out in the tabulation contained on page 77.

## NEEDLE PLACING

To Raise Needles from Position A.

Use a needle cutter or straight edge against the butts of the needles and push them forward to the position required. (sk. 104).



Sk. 104.

## D - POSISIE. (Patroon-brei)

Die naalde word in hierdie posisie gestel deur die stel-sleutel. Die naalde wat van hierdie posisie af werk, vorm die brei-steke, terwyl die steke in B-posisie die patroonsteek vorm, na gelang die patroonknoppies gestel is.

Hierdie posisie word ook gebruik vir gevorderde patrone, sekere „Fair Isle” patrone en weefpatrone.

## E - POSISIE (voorhou)

Word gebruik vir deelbrei in „Fair Isle” patrone en ook ander gevorderde patrone. Die naalde kan in hierdie posisie gehou word om breigare in te brei in verskeie rye, vir sulke patrone.

Die verskeie funksies van die naalde in die verskillende naaldposisies in verhouding met die kontrole van die saal, is deeglik uiteengesit in die tabel op Bl. 78

## NAALD-STEL

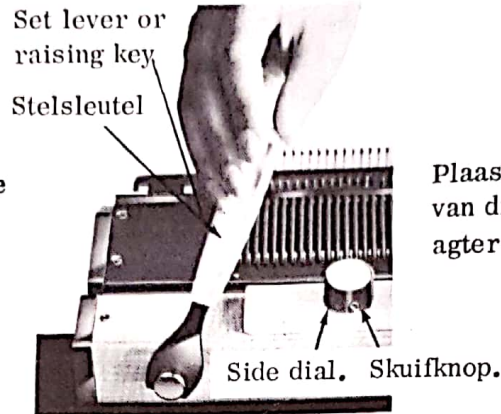
Om naalde uit A - posisie te stoot.

Gebruik 'n naald-stootplaatjie of ander reguit voorwerp teen die koppies van die naalde en stoot hulle na die verlangde posisie. (Sk. 104)

## THE NEEDLE SELECTOR BUTTONS

The push button patterning system is the most revolutionary feature of this knitter. Multi-colour and textured designs now become really automatic, and the push buttons in conjunction with the various carriage controls can produce the most intricate designs effortlessly.

Fit the set lever on either of the setting shafts at the rear of the needlebed.



Sk.105

## THE PUSH BUTTON MECHANISM.

The push button mechanism is designed to raise needles in action from the B or C position to the D position.

The Push Buttons, numbered from 1 to 8 are connected with the needles. The button marked '0' is the release button which when depressed releases any of the 1 to 8 push buttons previously depressed.

Pushing down the "1" button.



Sk.106

The Push Button Set Lever or Raising Key, when swivelled downwards, will raise to position D the needles corresponding with those set by the push buttons according to the position of the slide dial and the reverse switch.

The Slide Dial will retain the needle pattern set by the push buttons but cause that pattern to operate on different needles.

## NAALD-STELKNOPPIES

Die naald-stelknoppie patroon sisteem is die mees rewolusionêre eienskap van hierdie breimasjien. Meerkleurige en tekstuur ontwerpe is nou waarlik outomaties en die stelknoppies tesame met die verskeie saal-kontrole kan die mees ingewikkelde ontwerpe met gemak voortbring.

Plaas die stelsleutel, aan enige van die twee knoppe weerskante agter aan die naaldkas.

## DIE NAALD-STELKNOPPIE-MEGANISME

Die naald-stel eenheid is ontwerp om naalde in aksie te plaas; om uit te stoot van B of C-posisie na D-posisie.

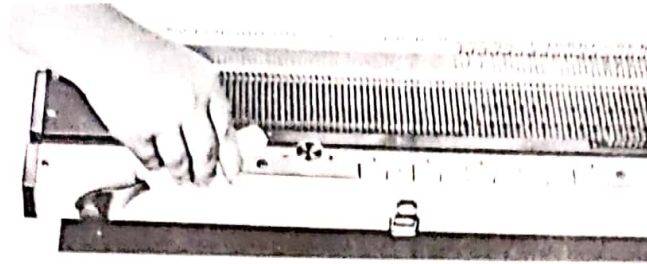
Die naald-stelknoppies, wat genommer is van 1 tot 8, is gekoppel aan die naalde, die knoppie gemerk „0" is die vrystel-knoppie wat enige knoppie van 1 - 8 vrystel wat ingedruk is. (Sk. 106 - Die No. 1 knoppie word ingedruk.)

Om die "1" knoppie in te druk

Die stelsleutel sal die naalde wat ooreenstem met die nommers van die naald-stelknoppies wat ingedruk is, na posisie D stoot, nagelang van die verstelling van die Skuifknop en die Tru-knoppie.

Die naaldkeuse vir 'n patroon op die naald-stelknoppies kan behoue bly, maar op verskillende naalde toegepas word deur die verstelling van die skuifknop.

To raise intermediate needles.



Om elke tweede naald vorentoe te stoot.

Sk. 107

The Reverse Switch can be used to reverse the needle setting indicated by the buttons.

The Needle Marks  $\bowtie$  and  $\diamond$  are found in front of certain needles: When the slide dial is in the 1st position, i.e. the figures on the upper and lower indicators corresponding in each group of 8 needles the 1st needle will correspond with the mark  $\bowtie$  and the 5th needle with the mark  $\diamond$ .

After pressing the buttons, each time the set lever is swivelled over, the same needle combinations will be raised; however, the same combination but different needles will be raised if the slide dial position has been changed.

If it is desired to raise the intermediate needles the reverse switch should be turned to face the opposite indicator.

Note:

- i) Never push the needles back to position A while the buttons are down.
- ii) Always release the push-buttons when not in use for patterning.

Remembering these two simple rules will avoid damage to the control spring under the needle bed.

Die tru-knoppie kan gebruik word om die naaldkeuse van die naald-stelknoppies om te skakel na die neutraleknoppies.

Die naaldmerke  $\bowtie$  en  $\diamond$  is voor sekere naalde op die naaldkas aangebring; wanneer die skuifaanwyser in die eerste posisie is d.w.s. wanneer die syfers van die skuifaanwyser ooreenkom met die ry syfers net onder aan die skuifaanwyser, dan sal die eerste naald regoor dié merk  $\bowtie$  en die 5de naald regoor dié merk  $\diamond$  wees.

Nadat die naald-stelknoppies gedruk is, sal die stelsleutel dieselfde naald-kombinasies uitstoot; wanneer die skuifknopposisie egter verstel word, kan dieselfde kombinasie, maar verskillende naalde uitgestoot word met die stelsleutel.

Indien u verlang om die naalde uit te stoot wat in neutrale posisie is (wat nie ingedruk is nie), moet die tru-knoppie op minus-gedraai word.

Nota:

- (i) Moet nooit die naalde terugstoot na A-posisie voordat die naald-stelknoppies vrygestel is nie.
- (ii) Die naald-stelknoppies moet altyd vry gestel wees wanneer dit nie vir patrone gebruik word nie.

Indien u dié twee eenvoudige reëls getrou uitvoer, sal u vermy dat die kontrole-veer onder die masjien beskadig word.

Releasing all buttons.



Stel al die knoppies vry.

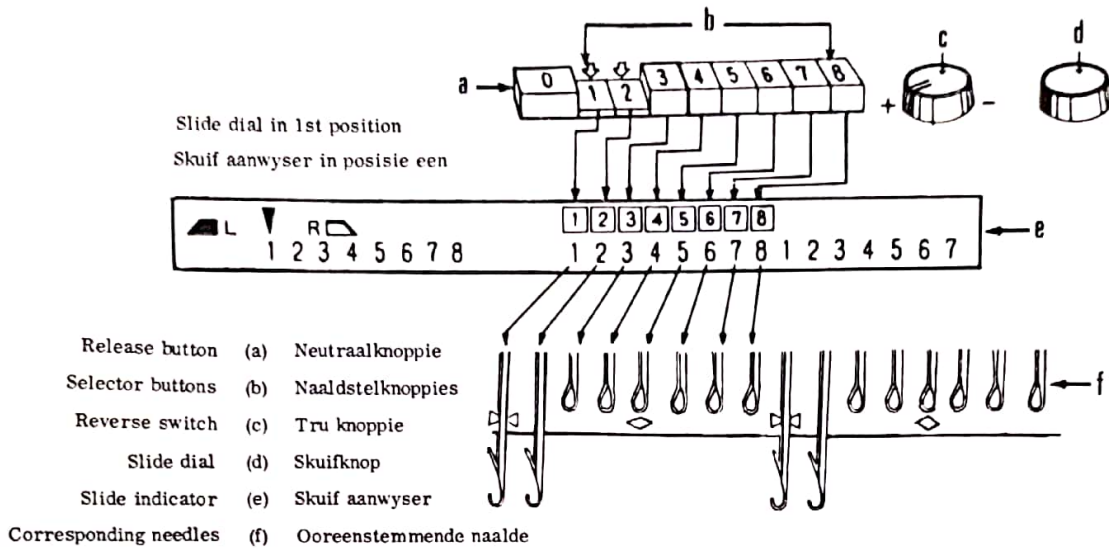
Sk. 108

**POSITIVE NEEDLE SELECTION**

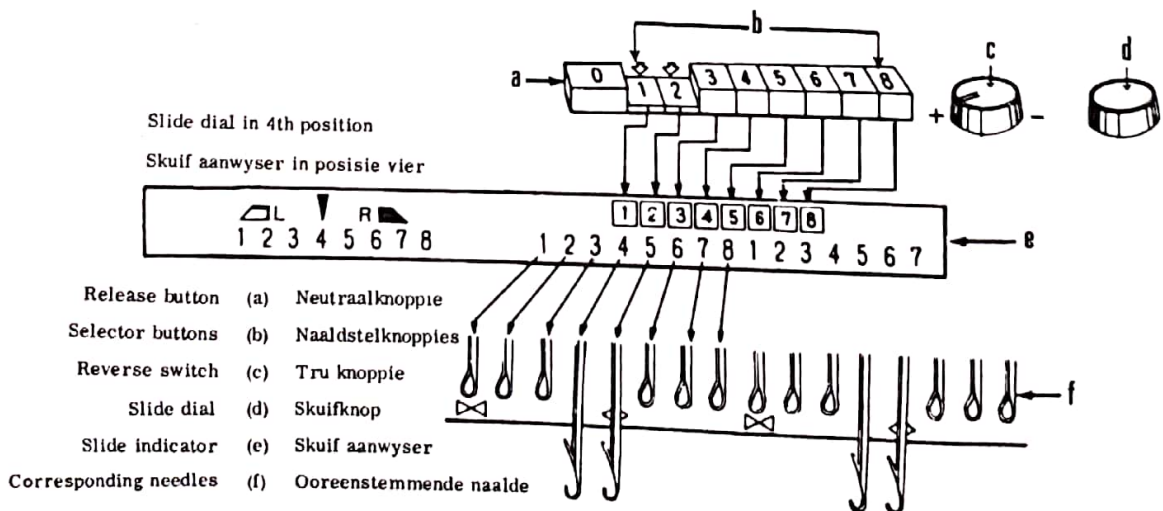
Sks. 109, 110 and 111 show by diagram the connection between the needles, the indicator gauge and the slide dial when the reverse switch is on the Positive (+) position.

**POSITIEWE NAALDKEUSE**

In Sk. 100, 110 en 111 word in diagram gewys die verband tussen die naalde, die skuifaanwyser en die skuifknop wanneer die tru-knoppie in die positiewe posisie gestel is.



Sk. 109.



Sk. 110

Notice that in the first two diagrams the same push buttons have been set, but different needles come forward. In the last two diagrams, different push buttons have been set but the same needles come forward. In each case the difference is caused by the differing positions of the slide dial.

If it is necessary to change the needle combinations:-

- a) Depress the button marked "0".
- b) Reset the new combination.
- c) Swivel the set-lever and the new needle combination will be raised.

If the wrong needles are raised:-

- a) Release the buttons (press button "0")
- b) Manually return the needles to knitting position.
- c) Reset the buttons for correct pattern.
- d) Swivel the set-lever.

In actual knitting and patterning the selector buttons and holding cam levers will be used in various combinations. Refer to the selector buttons pattern key on page 67 for the relative needle positions of all selector button combinations.

Let wel dat in die eerste twee diagramme dieselfde naald-stelknoppies ingedruk is, maar dat verskillende naalde uitgestoot is. In die laaste twee diagramme is verskillende naald-stelknoppies ingedruk maar dieselfde naalde is uitgestoot. In albei gevalle is die verskil veroorsaak deur die verstellings van die skuifknop.

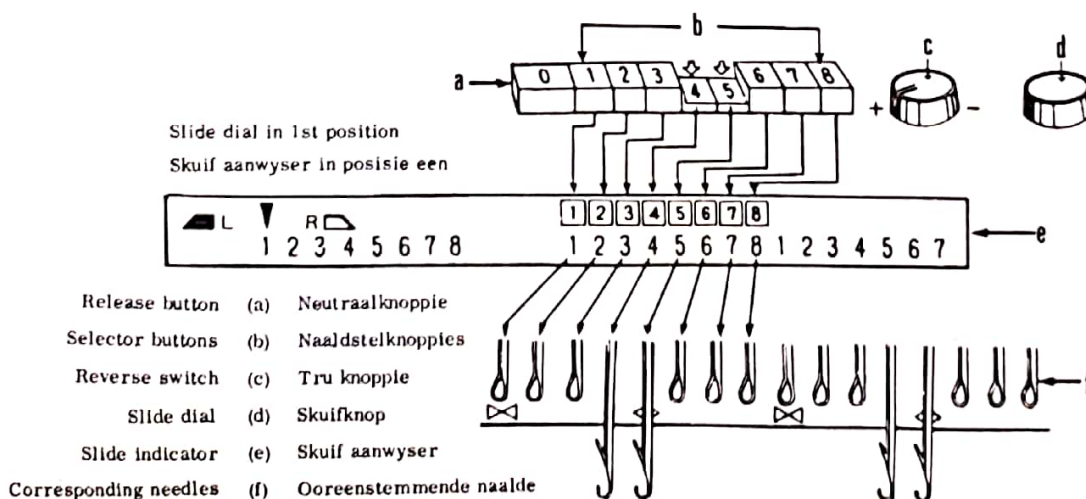
Indien dit nodig is om die naaldkombinasies te verander:-

- (a) Druk die „0” knoppie in.
- (b) Druk die nuwe kombinasie.
- (c) Druk die stelsleutel af en die nuwe kombinasie naalde sal uitstoot.

Indien die verkeerde naalde uitgestoot word:-

- (a) Stel die naald-stelknoppies vry. (Druk die „0” knop).
- (b) Stoot die naalde met die hand terug na B posisie. (Breiposisie).
- (c) Stel die naald-stelknoppies vir korrekte patroon.
- (d) Druk die stelsleutel af.

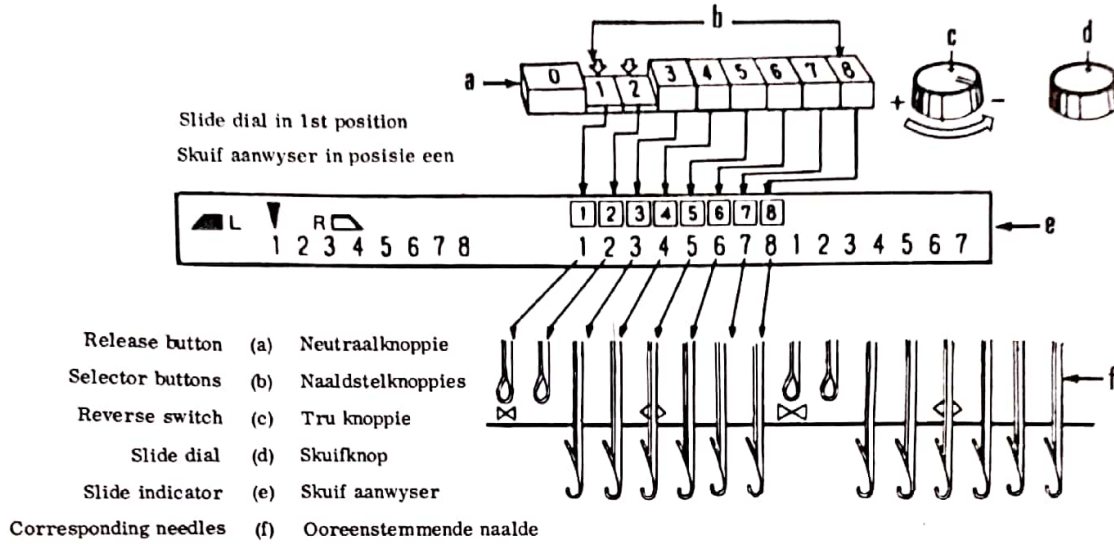
In praktiese patroon-breierwerk word die naald-stelknoppies en naaldposisie-nok-hefbome in verskillende kombinasies gebruik. Verwys na die patroon-tabel vir die naald-stelknoppies op bladsy 67 vir die relatiewe naald-posisies van al die naald-stelknoppie-kombinasies.



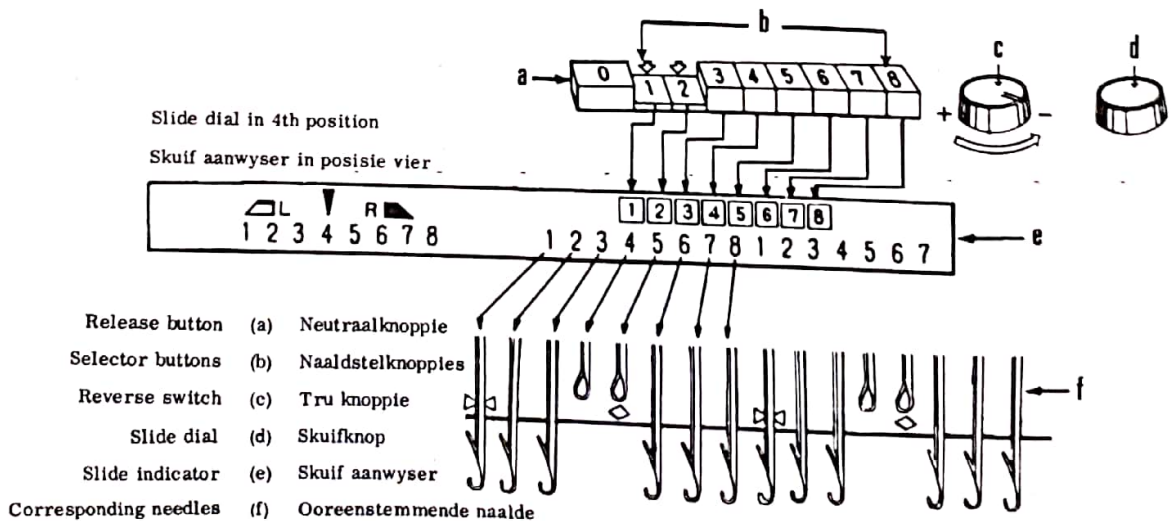
Sk. 111.

Sks. 112-113-114 show by diagram the connection between the needles, the indicator gauge and the slide dial when the Reverse Switch is on the Negative (-) position .

Sk. 112 - 113 - 114, toon met diagramme die verband tussen die naalde, die skuifknop-aanwyser en die skuifknop wanneer die Tru-knoppie in die Negatiewe (-) posisie gestel is.



Sk. 112.



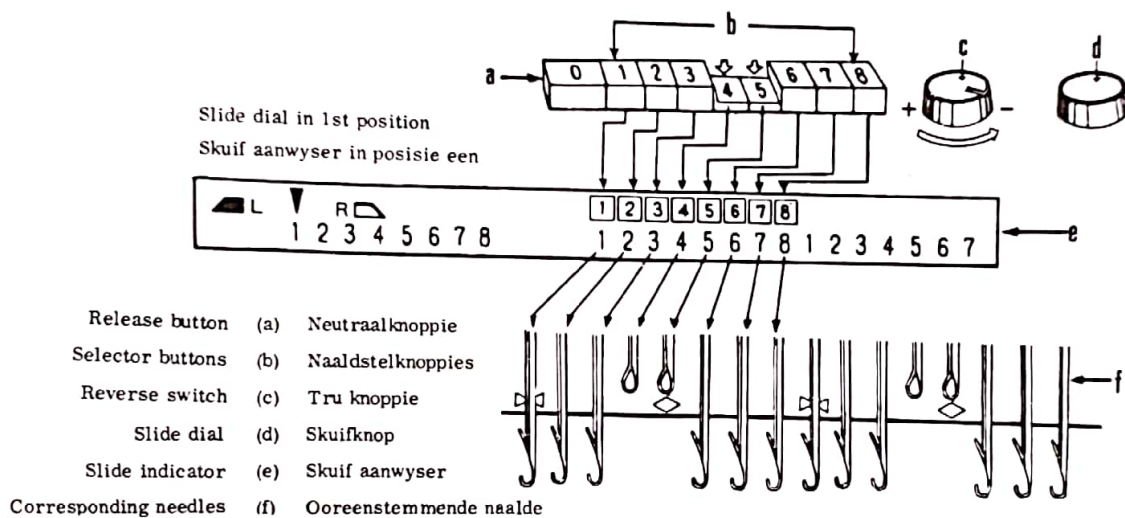
Sk. 113.

Changing the needle combinations, and correcting wrongly raised needles is done in the same manner as described on page 63.

Om die naald-kombinasies te verander en om naalde wat verkeerdlik uitgestoot is reg te stel, word op dieselfde manier gedoen soos beskryf op bladsy 63.

When not required for specific patterning purposes the Reverse Switch should be neutralized (i.e. positioned at +), otherwise the needles could be inadvertently raised although no buttons are depressed.

Tensy benodig vir spesifieke patroondoeleindes moet die tru-knoppie in positiewe posisie (+) wees, anders kan naalde onbewus uitgestoot word alhoewel geen naald-stelknoppies ingedruk is nie.



Sk. 114.



● Basic Needle Selection

Basiese Naaldkeuse

A	B	C	D								E								F	
			1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
1	$\frac{1}{7}$	1	■								■								8	
2	$\frac{2}{6}$	2	■	■							■	■							8	
		3	■	■	■						■	■	■						8	
		4	■	■		■						■	■		■					8
	$\frac{1}{3}$	5	■	■			■				■	■			■				4	
3	$\frac{3}{5}$	6	■	■	■						■	■	■						8	
		7	■	■		■					■	■		■					8	
	8	■	■			■					■	■		■					8	
	9	■	■				■				■	■			■				8	
	10	■	■					■			■	■				■			8	
	11	■	■	■		■					■	■	■		■				8	
4	$\frac{4}{4}$	12	■	■				■			■	■			■				8	
		13	■	■	■						■	■	■						8	
		14	■	■		■						■	■		■					8
		15	■	■	■				■			■	■			■				8
	$\frac{2}{2}$	16	■	■					■			■	■			■				8
		17	■	■			■					■	■		■	■				4
		18	■	■		■						■	■			■				8
		19	■	■	■				■			■	■		■		■			8
$\frac{1}{1}$	20	■	■			■					■	■		■		■			8	
	21	■	■					■			■	■			■		■		8	
	22	■	■	■							■	■			■		■		2	
	5	23	■	■					■			■	■			■		■		8
24		■	■	■							■	■			■		■		8	
25		■	■		■						■	■			■		■		8	
26		■	■			■					■	■			■		■		8	
27		■	■	■							■	■			■		■		8	
28		■	■					■			■	■			■		■		8	
$\frac{5}{3}$		29	■	■	■						■	■			■		■		8	
6	$\frac{3}{1}$	30	■	■							■	■			■		■		4	
		31	■	■	■						■	■			■		■		8	
		32	■	■		■						■	■			■		■		8
	$\frac{6}{2}$	33	■	■			■				■	■			■		■		8	
7	$\frac{7}{1}$	34	■	■	■						■	■			■		■		8	

Two groups of 8-needle settings are shown for a better visual representation of the needle combinations obtainable.

Die naaldkeuse oor twee groepe van 8 naalde elk, word gewys as voorbeeld van die naaldkombinasies wat moontlik is.

### Basic Needle Selection

The tabulation shows 34 basic needle combinations (valid for 254 needle settings).

The numbers in the horizontal column at the top represent the needle selector buttons.

Column A tells the number of buttons depressed.

Column B shows the needle combination where a regular pattern is formed (i.e. 1/3 means 1 needle forward and 3 back, 3/1 means the reverse)

Column C is the numerical sequence of the pattern combination.

Columns D and E show the buttons depressed represented by the shaded blocks. Refer to the top of the column to see the corresponding button number.

Column F shows the number of different positions in which it is possible to set the slide dial to obtain different needle settings of the same combination.

### Basiese Naaldkeuse

Die tabel wys 34 basiese naald-kombinasies (toepaslik vir 254 naaldkeuse).

Kolom A wys die nommers van die knoppies wat ingedruk moet word.

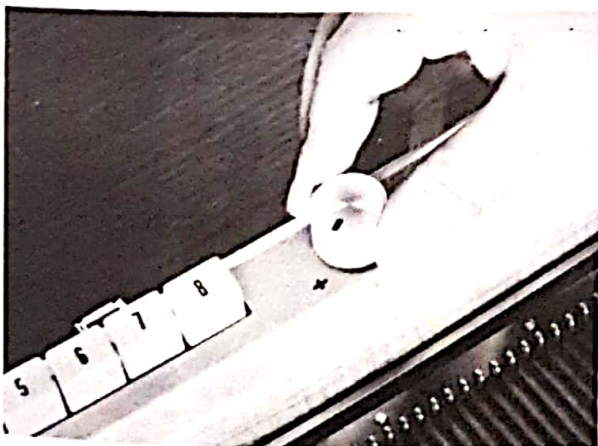
Kolom B dui die naaldkombinasies aan waarin 'n eenvormige patroon gevorm word. (bv. 1/3 beteken een naald voor en drie naalde agter, 3/1 beteken die teenoorgestelde.)

Kolom C is die numeriese volgorde van die patroonkombinasies.

Kolomme D en E dui die knoppies wat ingedruk is deur middel van die skadublokkies aan. Verwys na die boonste kolom vir die ooreenstemmende knoppie-nommer.

Kolom F wys die aantal verskillende posisies waarin die skuifknop gestel kan word om verskillende naaldkeuses met dieselfde kombinasies te kry.

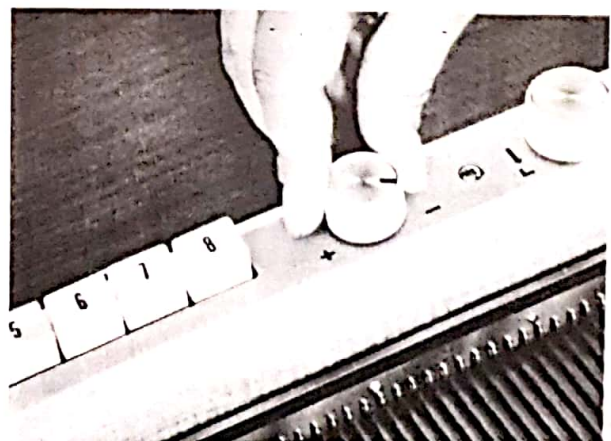
Setting the Reverse Switch for Positive Selection Sk. 116.



Sk. 116

Om die Tru-knoppie te stel vir Positiewe Naaldkeuse. ( Sk. 116 )

Sk. 117 - Stel Tru-knoppie op Negatiewe Posisie.



Sk. 117.

Sk. 117 - Moving reverse switch to Negative Position.

### EXAMPLE of a Simple Push Button Pattern.

To compare the different effects achieved by using the Positive and Negative positions of the Reverse Switch try this pattern:-

#### Positive Needle Selection (Reverse Switch on +)

NOTE: To prevent dropped stitches at the Selvedges, when the selvedge needle is in E position the yarn should be placed by hand under that needle).

1. Knit several rows of plain stockinette on your knitter.
2. With the slide dial in position I, press buttons 1, 2, 6 and 7
3. Swivel set-lever to raise the needles.
4. Set both holding cam levers on the carriage to position III.
5. Knit 2 rows.
6. Raise both holding cam levers to position I
7. Knit 1 row.
8. Lower both holding cam levers to position III.
9. Move slide dial to position 4.
10. Swivel set-lever to raise the needles.
11. Knit 2 rows.
12. Raise both holding cam levers to position I
13. Knit 1 row.

To repeat the pattern start at Step 1 again

### Voorbeeld van 'n eenvoudige drukknoop patroon;

Om die verskillende effekte te vergelyk, wat verkry word deur die positiewe en negatiewe posisies van die tru-knoppe te gebruik, probeer hierdie patroon:-

#### Positiewe Naaldkeuse ( Tru-knoppe op + )

#### Nota:

Om te verhoed dat steke aan die kante val, wanneer die naald aan die kant in E-posisie is, moet die breigare met die hand onder om die laaste naald geplaas word.

- 1) Brei 'n paar rye koussteek.
- 2) Met die skuifknop in posisie I, druk naald-stelknoppies 1, 2, 6 en 7.
- 3) Druk die stelsleutel om die naalde uit te stoot.
- 4) Stel albei N.P.N. op III (agter) .
- 5) Brei 2 rye.
- 6) Stel albei N.P.N. op I (voor) .
- 7) Brei 1 ry.
- 8) Stel albei N.P.N. op III (agter) .
- 9) Draai skuifknop op posisie 4 .
- 10) Druk stelsleutel af sodat die naalde uitstoot.
- 11) Brei 2 rye.
- 12) Stel albei N.P.N. op posisie I (voor) .
- 13) Brei 1 ry.

Om die patroon te herhaal, begin weer by Stap 1.

When the needle pattern is to be repeated the push buttons need not be touched or reset - only the set-lever is swivelled to re-position the needles. It is only when the needle combination changes that the buttons and corresponding needles are unlocked and reset.

You will notice in steps 5 to 11 that whilst the 2 rows are knitted the raised needles are "HELD" out where they gather yarn without actually knitting it. It is only where the holding cams are raised (to position I) that they are knitted in. It is not advisable to "HOLD" needles for more than 4 rows, as too much yarn collecting on the needles will result in dropped stitches or jamming of the carriage.

#### Negative Needle Selection (Reverse Switch on -)

Without touching any controls except to move the reverse switch to the Negative position before starting, repeat the steps of the example pattern to see to what extent this switch can alter a pattern.

#### NOTES:

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Wanneer die patroon herhaal moet word op dieselfde naalde, is dit nie nodig om die naald-stelknoppies weer te stel nie; druk alleenlik die stelsleutel af nadat elke patroon voltooi is.

Slegs wanneer u die naald-kombinasies verander moet u die naald-stelknoppies vrystel (druk „O" knoppie) alvorens 'n ander keuse gemaak word. In stappe 5 tot 11 sal u merk dat terwyl die 2 rye gebrei word, sal die naalde wat voor gehou word net breigare versamel sonder om regtig deur te brei. Alleenlik wanneer die N.P.N. voor gestoot word (Posisie I) sal dié naalde weer brei. Dit is nie raadsaam om naalde vir meer as 4 rye voor te hou nie, aangesien te veel breigare oor dié naalde sal veroorsaak dat steke val of dat die saal vashaak.

Sonder om enige kontrole te stel behalwe om die tru-knoppie op die negatiewe posisie (minus) te stel voordat u begin; herhaal die stappe van die voorbeeld patroon sodat u kan sien tot watter mate hierdie knoppie 'n patroon kan verander.

#### NOTAS

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## THE CARRIAGE.

Most of the controls in the carriage are in pairs, one set on each side. The one link is the tension gauge which acts upon both sets to ensure correct and even stitch sizes throughout.

The movement of the carriage across the needles is known as its course.

Left Course means carriage movement from right to left.

Right Course means carriage movement from left to right.

Knitting Side: In either course the side which leads is termed the "knitting side", the opposite side being the "trailing side" - therefore the knitting side changes on each course. The reason for this is that only the cams on the knitting side operate according to their setting.

The carriage controls can thus be set to knit only plain in one direction with pattern stitches in the opposite. They can also be set to knit one type of pattern stitch in one direction and a different type of patterning in the opposite direction, at the same time knitting plain between the patterning stitches.

## DIE SAAL.

Die meeste van die kontrole in die saal is pare, een aan elke kant. Die Spanningmeter is 'n enkel kontrole wat albei kante beheer om altyd 'n gelyke spanning en eweredige steke te verseker.

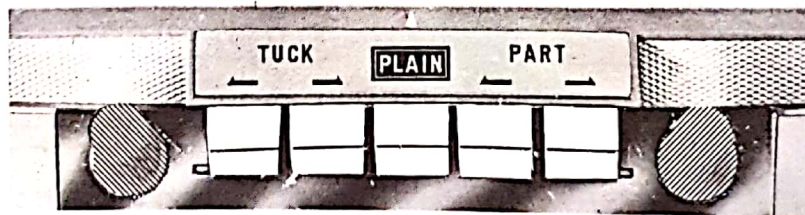
Die skuff van die saal oor die naalde is bekend as sy koers.

Reghter koers beteken beweging van die saal van links na regs.

Linker koers beteken beweging van die saal van regs na links.

Breikant: In enige koers is die kant waar die saal met die breigare is, die „breikant”. Die teenoorgestelde kant is die „onkant”. Daarom verander die breikant op elke koers. Die rede hiervoor is dat alleenlik die nokke aan die breikant werk ooreenkomstig met hulle verstellings.

Die saalkontrole kan sodoende gestel word om net koussteek in een rigting te brei en patroonsteke in die teenoorgestelde rigting. Die kontrole kan ook gestel word om 'n sekere patroon in een rigting en 'n ander patroon in die teenoorgestelde rigting te brei en terselfdertyd met koussteek af te wissel.



Sk.118

## THE PATTERN SELECTOR BUTTONS.

The five buttons on the front of the carriage control stitch formation on the B and C position needles and are called the pattern selector buttons.

If any one button is pressed in it automatically releases previously set buttons, so that if two buttons are to be depressed they should be pressed in together.

**Plain:** The centre button marked "Plain" when pushed in sets the cams for plain knitting, releases other buttons and returns to normal position. Thus when all buttons are in line the carriage is set for plain knitting.

**Tuck:** Tuck stitches are not fully formed stitches. The needles will come forward and gather yarn but not knit it through the previous stitch which remains in the hook of the needle. It is possible to tuck over two or three rows before knitting the stitches through, more than that may cause dropped stitches.

**Part:** The full word is "Partial", and this position is mainly used for Fair-Isle patterns. When both part buttons are depressed the carriage will pass over B position needles in either course without moving them; C position needles will be drawn back to B position, so that unless there is yarn in the hooks of C position needles they will drop stitches. (Check needle positions, page 58).

Tuck and partial buttons remain depressed until released.

If in one row there are to be pattern stitches alternating with plain stitches, the needles used for the pattern stitch will be in the B or C positions, and the intermediate needles on which plain stitches are to be formed will be set in the D or E positions where these latter needles will be controlled by the holding cams (see page 77)

## DIE PATROON-KNOPPIES

Die vyf knoppies voor aan die saal beheer steekformasies op B-en C-posisie naalde en word patroonknoppies genoem. As enige een van die knoppies gedruk word, stel dit enige knoppie wat reeds gedruk was vry, sodat wanneer twee knoppies op 'n keer ingedruk moet word, moet hulle terselfdertyd ingedruk word.

**Gewone Breiwerk:** As die middelste knoppie wat „Plain" gemerk is ingedruk word, stel dit die nokke vir eenvoudige breiwerk, stel die ander knoppies vry en spring dan weer na normale posisie terug. Wanneer al die knoppies dus in 'n reguit lyn is, is die saal vir eenvoudige breiwerk gestel.

**Halfbrei:** Halfbrei steke is half-gevormde steke. Die naalde sal vorentoe kom, en die breigare vang, maar dit nie deur die vorige steek, wat in die naaldhakie hang, brei nie. Dit is moontlik om halfbrei steke in die naaldhakies te vang oor twee of drie rye voordat dit deurgebrei word; meer rye mag veroorsaak dat steke val.

**Deelbrei:** („Part"). Hierdie posisie word hoofsaaklik gebruik vir „Fair-Isle" patrone. Wanneer albei die deelbrei-knoppies ingedruk word, sal die saal oor die B-posisie naalde in enige koers gaan sonder om hulle te beweeg, C-posisie naalde sal terug gestoot word na B-posisie en tensy daar breigare in die hakies van C-posisie naalde is, sal die steke afval. (Verwys na naaldposisies Bladsy 58).

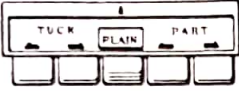
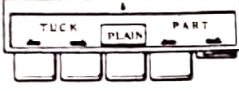
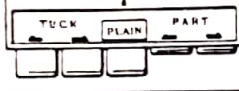
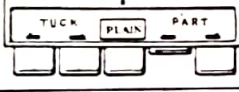
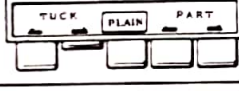
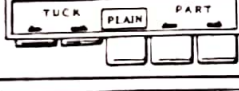
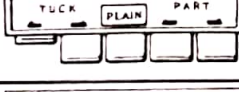
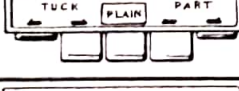

Wanneer u die halfbrei (Tuck) en Deelbrei (Part) knoppies indruk, bly hulle in dieselfde posisie totdat hulle vrygestel word. (Druk die „Plain" knoppie.)

Wanneer daar in een ry patroon-steke is, afgewissel met koussteek, sal die naalde wat vir patroonsteek gebruik word, in B- of C-posisie wees en die tussenkomende naalde wat koussteek moet brei sal in D- of E-posisie wees, waar laasgenoemde naalde deur die naaldposisie-nokke beheer word. (sien bladsy 78)

## THE PATTERN SELECTOR BUTTONS.

The 5 buttons on the front of the carriage control the stitch formation of the needles in B or C position. The centre button marked "Plain", if pushed in, acts as a release for all others and when all 5 are in a straight line the carriage is set for plain knitting or the stockinette stitch. Part or Partial knit is used principally for Fair-Isle designs. The Tuck stitch is not a fully formed stitch.

There are nine possible settings of the pattern selector buttons (called "Codes" for the sake of convenience). These are shown in diagram form below. It should be noted, particularly in regard to Codes 8 and 9, that in each course only one stitch pattern can be set in each direction. Thus it is not possible to set part and tuck in one course. It is, however, possible to set them at the same time for different courses.

CODE	Setting of Pattern Selector Buttons.	Effect when Carriage is moved over B Position Needles
1	 <b>PLAIN</b> ⇔ ⇨	Plain knitting .... Left course Plain knitting .... Right course
2	 <b>PART</b> ⇨	Plain knitting .... Left course Stationary ..... Right course
3	 <b>PART</b> ⇔ ⇨	Stationary ..... Left course Stationary ..... Right course
4	 <b>PART</b> ⇐	Stationary ..... Left course Plain knitting .... Right course
5	 <b>TUCK</b> ⇨	Plain knitting .... Left course Tucking ..... Right course
6	 <b>TUCK</b> ⇔ ⇨	Tucking ..... Left course Tucking ..... Right course
7	 <b>TUCK</b> ⇐	Tucking ..... Left course Plain knitting .... Right course
8	 <b>TUCK</b> ⇐ <b>PART</b> ⇨	Tucking ..... Left course Stationary ..... Right course
9	 <b>PART</b> ⇐ <b>TUCK</b> ⇨	Stationary ..... Left course Tucking ..... Right course

The COURSE refers to the direction of the carriage across the knitting.

LEFT COURSE means carriage movement from right to LEFT.

RIGHT COURSE means carriage movement from left to RIGHT.

The points of the arrows on the plate indicate the direction of the operation.

## PATROON-KNOPPIES

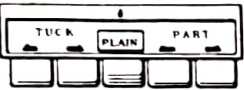
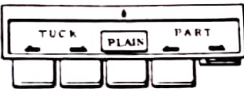
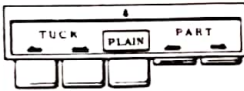
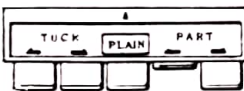


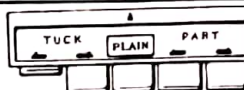


Die vyf knoppies voor aan die saal beheer steekformasies op B- en C-posisie naalde en word patroonknoppies genoem. As die middelste knoppie wat „Plain” gemerk is ingedruk word, stel dit al die ander knoppies vry; wanneer al die knoppies in 'n reguit lyn is, is die saal vir eenvoudige breiwerk of koussteek gestel.

Deelbrei ( Partial ) word hoofsaaklik gebruik vir „Fair Isle” patrone.

Die halfbrei ( Tuck ) steek is 'n halfgevormde steek. Daar is nege moontlike verstellings van die patroonknoppies ( genoem Kode vir gerief ) . Hierdie word in diagram-vorm hieronder aangetoon.

Let wel dat slegs een patroonsteek in elke koers gestel kan word veral op Kode 8 en 9 . Daarom is dit onmoontlik om half- en deel-brei ( Tuck & Part ) in dieselfde koers te kry.

Dit is egter moontlik om albei gelyktydig te stel op verskillende koerse.

KODE	Stel van Patroon-knoppies.	Uitwerking van Saal gestoot oor B-posisie Naalde.
1	 <b>PLAIN</b> ⇔ ⇔	Koussteek ..... Linker koers Koussteek ..... Regter koers
2	 <b>PART</b> ⇒	Koussteek ..... Linker koers Staan stil ..... Regter koers
3	 <b>PART</b> ⇔ ⇔	Staan stil ..... Linker koers Staan stil ..... Regter koers
4	 <b>PART</b> ⇐	Staan stil ..... Linker koers Koussteek ..... Regter koers
5	 <b>TUCK</b> ⇒	Koussteek ..... Linker koers Halfbrei ..... Regter koers
6	 <b>TUCK</b> ⇔ ⇔	Halfbrei ..... Linker koers Halfbrei ..... Regter koers
7	 <b>TUCK</b> ⇐	Halfbrei ..... Linker koers Koussteek ..... Regter koers
8	 <b>TUCK</b> ⇐ <b>PART</b> ⇒	Halfbrei ..... Linker koers Staan stil ..... Regter koers
9	 <b>PART</b> ⇐ <b>TUCK</b> ⇒	Staan stil ..... Linker koers Halfbrei ..... Regter koers

Die **KOERS** verwys na die rigting van die saal oor die breiwerk.

**LINKERKOERS** beteken - beweging van saal van regs na links.

**REGTERKOERS** beteken - beweging van saal van links na regs.

Die pyltjies op die saalplaat dui die werk-rigting aan.



## HOLDING CAM KNITTING

The holding cams, operated by the raised plastic levers on each side of the carriage, work independently on the "knitting side" of the carriage (see page 24). This is a most significant development because it more than doubles the patterning possibilities of the knitter as the holding cams react to the various needle positions in different ways.

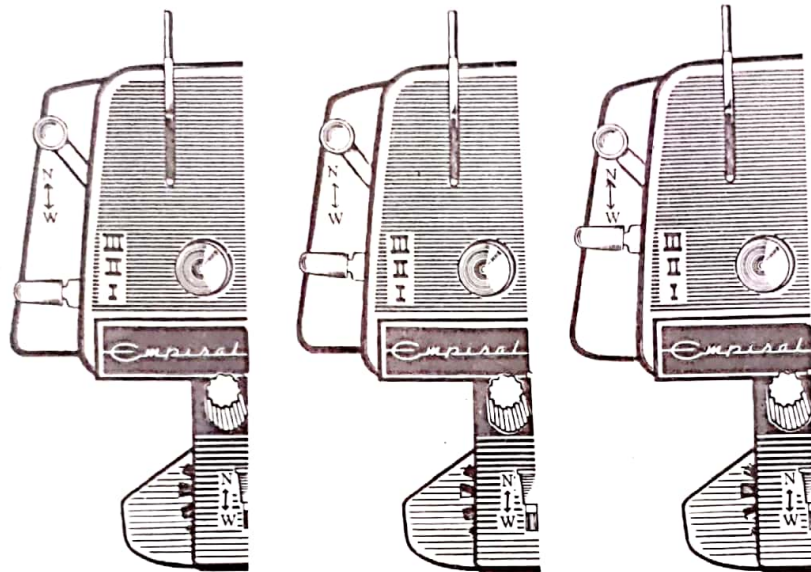
## NAALDPOSISIE-NOK-BREIWERK

Die naaldposisie-nokke wat beheer word met die plastiese knoppies beidekante van die saal, werk onafhanklik aan die breikant van die saal (sien Bladsy 24). Hierdie is 'n belangrike ontwikkeling aangesien dit die patroon moontlikhede van die masjien verdubbel deurdat die naaldposisie-nokke op verskillende maniere reageer op die verskeie naaldposisies.

VOOR (I)

MIDDEL (II)

AGTER (III)



The three positions of the holding cams are illustrated in Sk. 119.

Die drie posisies van die naaldposisie-nokke word geïllustreer in Sk: 119.

RAISED (I)

CENTRED (II)

LOWERED (III)

Sk. 119.

### Setting of Holding Cam Levers.

For all normal knitting holding cams should be in the raised position.

They should only be centred or lowered when specifically required for patterning purposes.

**NOTE** that the levers can only be set on III (lowered) when the weave-in pattern cam is set on N.

### Function of Holding Cams.

According to the position on which it is set, the holding cam on the knitting side operates on the D and E position needles; on the D position needles to raise them to E position and on D and E position needles to bring them back into the knitting when they have served their purpose in those positions.

### Stel van Naaldposisie-Nokke,(verkort N. P. N.)

Vir normale breiwerk moet die N. P. N. in posisie I (voor) wees. Alleenlik vir spesifieke patroon-doeleindes moet die N. P. N. na posisie II (middel) of III (agter) gestel word.

Let wel dat die N. P. N. alleenlik in posisie III (agter) gestel kan word as die weefsleutels op N gestel is.

### Funksie van Naaldposisie-Nokke.

Na gelang die posisie waarin dit gestel is, werk die N. P. N. aan die breikant op die naalde in D- en E-posisie; om die D-posisie naalde na E-posisie en D- en E-posisie naalde terug na brei-posisie te stoot wanneer dit nodig is.

Because the pattern selector buttons on the carriage act on the B and C position needles, it follows that in one row various stitch formations can be achieved by placing needles in different positions; furthermore on the trailing side the holding cams have no effect on the needles. Thus it is possible to set the holding cams in different positions to achieve differing stitch formations in consecutive rows.

#### **Holding Cam Knitting.**

To gain an insight into the operation of the holding cams, work on a piece of fabric on the Knitter and move the threaded carriage across the "in action" needles with the holding cam levers on the knitting side in the positions indicated on the graph on page 77.

The graph on page 80 shows the basic action of the holding cams on the needles when all needles are in one position. In particular when the pattern selector buttons are set on PART or TUCK for a pattern stitch to be formed certain needles must be placed in the D or E positions, and others in the B position.

#### **SUMMARY.**

The holding cam levers are RAISED (I) for normal knitting and to bring any needles from raised position back into normal knitting position.

The levers are CENTRED (II) to operate on C and D position needles for special patterning, often in conjunction with the tucking cams and especially when patterning whilst knitting on only part of the fabric (e.g. one side of a placket or a V-neck) when the other part of the fabric remains on the Knitter.

The levers are LOWERED (III) to knit only B (normal knitting position) and C position needles thus leaving needles in other positions to perform different functions.

Aangesien die patroonknoppies aan die saal op B- en C- posisie naalde werk, kan u verskeie steek formasies verkry in dieselfde ry deur naalde in verskillende posisies te plaas.

Die N.P.N. het geen effek op die „onkant” naalde nie. Sodoende is dit moontlik om die N.P.N. in verskillende posisies te stel om verskillende steekformasies in opeenvolgende rye te verkry.

#### **Naaldposisie-nok-breiwerk**

Om 'n insig te verkry in die werking van die naaldposisie-nokke, brei 'n strokie op die masjien, skuif die saal met breigare oor die naalde „in aksie” met die naaldposisie-nokke, aan die breikant, gestel soos aangewys in die tabel op bladsy 78 . Die tabel op bladsy 81 wys die basiese aksie van die naaldposisie-nokke op die naalde wanneer al die naalde in dieselfde posisie gestel is. Veral wanneer die patroonknoppies op deelbrei „Part” of halfbrei „Tuck” gestel is om 'n patroon te vorm, moet sekere naalde in D- of E- posisie gestel word en andere in B- posisie.

#### **OPSOMMING**

Die naaldposisie-nokke word op I gestel (voor) vir normale breiwerk en om enige naalde van die „voor” posisie terug na normale brei- posisie te stoot. Die N.P.-nokke word op II (middel) gestel om op C- en D- posisie naalde te werk vir spesiale patrone, dikwels in same- werking met die halfbrei-nokke en veral vir patroonwerk terwyl slegs op gedeelte van die breiwerk gebrei word (bv. een kant van 'n sak- kie of V-nek) terwyl die ander deel van die brei- werk aan die res van die naalde bly.

Die N.P.-nokke word op III (agter) gestel om slegs op B- (normale brei- posisie) en C- posi- sie naalde te brei en sodoende naalde in ander posisies te laat vir ander doeleindes.

**RELATIVE POSITION OF PATTERN SELECTOR BUTTONS  
AND HOLDING CAM LEVERS.**

1. Needle position A (out of action) is not referred to in the tabulation as no movement of the carriage will affect the needles.
2. To obtain needle position C raise the needle to E and then return it to C so that the stitch rides on top of the closed latch. (This position is only used in special patterning, shaping, increasing, decreasing, circular knitting, all "short row" knitting.

N.B. If the wool rides on top of the open latch the needle is in an extended "B" Position and the needle action will then be as for a B Position needle.

3. STATIONARY needles remain in normal knitting position and do not pick up any additional stitches. HOLDING needles remain fully extended and can pick up additional stitches. Neither of these will move until the knitting (or the holding) cams are appropriately adjusted.

For the reason given in Note 2 above, Needle Position C should not be used where stated \* as it will cause a stitch to be dropped.

**EXAMPLE of a Simple but Effective Pattern:**

1. With the needle slide in position 1; the Reverse Switch on +; set every 4th needle to position D.
2. Set both holding cam levers in position III.
3. Knit 4 rows.
4. Raise holding cam lever nearest the knitting to position I.
5. Knit 1 row (notice all needles are back in position B.

Repeat steps 1 to 5, except that in Step 1 set the needle slide on position 3 (a diamond pattern is formed).

RELATIVE POSITIONS OF PATTERN SELECTOR BUTTONS  
AND HOLDING CAM LEVERS.

Pattern Selector Button	Needle Position	Holding Cam Lever Position					
		1		2		3	
		← Left Course	→ Right Course	← Left Course	→ Right Course	← Left Course	→ Right Course
1	B	Knit	Knit	Knit	Knit	Knit	Knit
	C	"	"	"	"	"	"
	D	"	"	"	"	Holding	Holding
	E	"	"	Holding	Holding	"	"
2	B	Knit	Stationary	Knit	Stationary	Knit	Stationary
	C	"	"	"	*	"	*
	D	"	Knit	"	Knit	Holding	Holding
	E	"	"	Holding	Holding	"	"
3	B	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary
	C	*	*	*	*	*	*
	D	Knit	Knit	Knit	Knit	Holding	Holding
	E	"	"	Holding	Holding	"	"
4	B	Stationary	Knit	Stationary	Knit	Stationary	Knit
	C	*	"	*	"	*	"
	D	Knit	"	Knit	"	Holding	Holding
	E	"	"	Holding	Holding	"	"
5	B	Knit	Tuck	Knit	Tuck	Knit	Tuck
	C	"	*	"	*	"	*
	D	"	Knit	"	Knit	Holding	Holding
	E	"	"	Holding	Holding	"	"
6	B	Tuck	Tuck	Tuck	Tuck	Tuck	Tuck
	C	*	*	*	*	*	*
	D	Knit	Knit	Knit	Knit	Holding	Holding
	E	"	"	Holding	Holding	"	"
7	B	Tuck	Knit	Tuck	Knit	Tuck	Knit
	C	*	"	"	"	*	"
	D	Knit	"	Knit	"	Holding	Holding
	E	"	"	Holding	Holding	"	"

RELATIEWE POSISIE VAN PATROON-KNOPPIES EN  
 NAALD-POSISIE-NOK-HEFBOME

Patroon knoppie	Naald posisie	N. P. N - HEFBOOM POSISIE					
		1		2		3	
		← Linker Koers	→ Regter Koers	← Linker Koers	→ Regter Koers	← Linker Koers	→ Regter Koers
1	B	Brei	Brei	Brei	Brei	Brei	Brei
	C	"	"	"	"	"	"
	D	"	"	"	"	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"
2	B	Brei	Staan stil	Brei	Staan stil	Brei	Staan stil
	C	"	*	"	*	"	*
	D	"	Brei	"	Brei	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"
3	B	Staan stil	Staan stil	Staan stil	Staan stil	Staan stil	Staan stil
	C	*	*	*	*	*	*
	D	Brei	Brei	Brei	KNIT	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"
4	B	Staan stil	Brei	Staan stil	Brei	Staan stil	Brei
	C	*	"	*	"	*	"
	D	Brei	"	Brei	"	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"
5	B	Brei	Halfbrei	Brei	Halfbrei	Brei	Halfbrei
	C	"	*	"	*	"	*
	D	"	Brei	"	Brei	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"
6	B	Halfbrei	Halfbrei	Halfbrei	Halfbrei	Halfbrei	Halfbrei
	C	*	*	*	*	*	*
	D	Brei	Brei	Brei	Brei	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"
7	B	Halfbrei	Brei	Halfbrei	Brei	Halfbrei	Brei
	C	*	"	*	"	*	"
	D	Brei	"	Brei	"	Voorhou	Voorhou
	E	"	"	Voorhou	Voorhou	"	"

**RELATIEWE POSISIE VAN PATROON-KNOPPIES EN  
NAALD-POSISIE-NOK-HEFBOME**

1. Daar word nie verwys na naalde in A posisie (uit aksie) in die tabel nie, aangesien die naalde nie deur die saal geaffekteer word nie.
2. Om naalde in C - posisie te stel, moet die naalde eers na E-posisie gestel word en met die hand na C - posisie terug gestoot word sodat die steek op die toe kleppie rus. (Hierdie naalde-posisie word slegs vir spesiale patrone, vermeerdering, vermindering, sirkulêre breiwerk en „kort ry“ breiwerk gebruik).
- N.S. Indien die steek bo-op die oop kleppie rus, is die naald slegs in 'n verlenging van B - posisie en die brei-aksie van die naald sal dieselfde wees as in B - posisie.
3. Stilstaande naalde bly in normale brei-posisie en tel geen bykomende steke op nie. Naalde in „Voorhou“ posisie bly in die heelvoor posisie en kan bykomende steke optel. Naalde in hierdie posisies sal glad nie beweeg tensy die brei-nokke of naald-posisie-nokke doelmatig gestel is nie.

Naalde mag nie in C-posisie gebruik word waar merkie \* aangebring is nie aangesien dit sal veroorsaak dat 'n steek val.

Voorbeeld van 'n eenvoudige maar effektiewe patroon.

1. Stel die skuifknop in posisie een; (verwys blsy. 24/25) tru-knoppe op + Druk naaldstelknoppies No. 1 en 5 en druk die stelsleutel af sodat elke vierde naalde in D-posisie gestel is.
2. Stel beide N. P. N. op III (agter).
3. Brei 4 rye.
4. Stel die N. P. N. naaste aan breiwerk op I (voor).
5. Brei 1 ry. (Let wel:- Al die naalde is nou terug in B-posisie).

Herhaal stappe 1 tot 5, behalwe dat in stap 1 word die skuifknop op posisie 3 gestel. ( 'n Diamant patroon word gevorm. )

BASIC ACTION OF HOLDING CAM LEVERS ON NEEDLES.

NEEDLE POSITION	H. C. L. POSITION	PATTERN SELECTOR BUTTON POSITION	EFFECT WHEN THE THREADED CARRIAGE IS MOVED ACROSS THE NEEDLES
A	III II I	PART PLAIN TUCK	This is the out of action position of the needles and no matter what is done to the carriage controls the needles will not move.
B	III II I	PART	The needles do not move - an unknitted thread is left in front of these needles.
	III II I	PLAIN	The Holding Cams do not come into contact with B position needles which therefore knit normally.
	III II I	TUCK	An unformed loop is made around the needles and gate pegs.
In this position the row of stitches is above the closed latches, see p. 76.  C	III II I	PLAIN	Normal Plain Knitting.
	III II I	PART TUCK	The needles will drop the stitches.
D	III	PART PLAIN TUCK	Needles raised to E (holding position).
	II I	PART TUCK	Needles moved back to B position to knit normally.
E	III II I	PART PLAIN TUCK	Needles remain stationary (holding) and a thread appears across the needles.
	I	PART PLAIN TUCK	Needles moved back to B position to knit normally.

BASIESE UITWERKING VAN NAALDPOSISIE - NOKKE OP NAALDE.

NAALD POSISIE	N.P.N. POSISIE	PATROON KNOPPIE POSISIE	UITWERKING VAN SAAL MET BREIGARE OOR NAALDE.	
A	III II I	PART PLAIN TUCK	Dit is die Uit-aksie posisie van die naalde en geen verstelling aan die saal sal die naalde laat beweeg nie.	
B	III II I	PART	Die naalde beweeg nie - 'n los draad word voor die naalde gespan.	
	III II I	PLAIN	Die Naaldposisie-nokke maak nie kontak met B posisie naalde nie, en sal dus normaalweg brei.	
	III II I	TUCK	'n Halwe ogie word gevorm om die naalde en hekkiepenne.	
In hierdie posisie is die ry steke agter die toe kleppies. Sien bladsy 79.	C	III II I	PLAIN	Gewone Koussteek
		III II I	PART TUCK	Die steke sal afval.
D	III	PART PLAIN TUCK	Naalde in E-posisie (voor-hou)	
	II I	PART TUCK	Naalde in B-posisie (brei posisie)	
E	III II I	PART PLAIN TUCK	Naalde staan stil (voorhou) en 'n draadjie word voor die naalde geleë.	
	I	PART PLAIN TUCK	Naalde terug gestoot na B Posisie vir normale breiwerk.	



*up to 3 Ply*

## PLATING FEEDER.

In addition to all its other features the KH68 has a feature in the yarn feeder which makes plating easy.

A combination of new yarn outside and re-claimed yarn inside is possible; as a further example different yarns could be used to produce fluffy fabrics backed with smooth contrast colour yarn.

### CARRIAGE SETTING:

For normal plain knitting the carriage should be set on "Plain" (Code 1) with both Holding-cam Levers on I.

### TENSION DIAL SETTINGS:

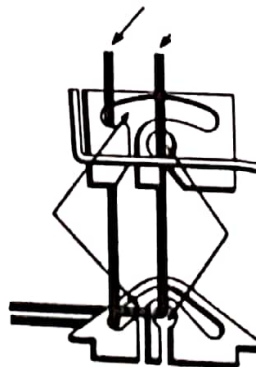
The following experimental guide will be useful when plating :

2 medium yarns :-	Tension about 9
1 medium & 1 thin yarn :-	Tension about 8
2 thin yarns :-	Tension about 6

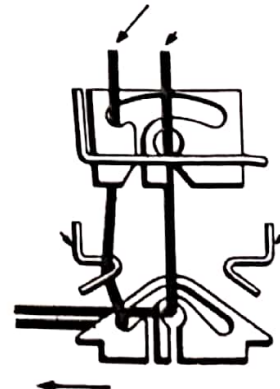
**NOTE:** When Plating with two medium thickness yarns a little help must be given by pulling down the fabric to ease the movement of the needles and consequently the carriage. To do this use weights to pull down evenly on the cast-on comb after each row.



Sk.120



Sk.121



Sk.122

## PLATEER - VOERDER

Bo en behalwe al die ander eienskappe het die KH 68 ook die vermoë om plateer-werk maklik te maak, deur 'n klein verandering wat aan die breigare-voerder aangebring is.

'n Kombinasie van nuwe wol aan die buitekant en losgetrekte wol aan die binnkant van 'n kledingstuk is moontlik; as verdere voorbeeld kan verskeie soorte breigare gebruik word om 'n donsagtige materiaal met 'n gladde kontras kleur breigare as agtergrond te verkry.

### STEL VAN SAAL.

Vir normale breiwerk moet die saal op gewone breiwerk gestel word (Kode 1) met beide N.P. Nokke op I.

### STEL VAN SPANNINGMETER

Die volgende toetsgids sal nuttig wees;

Platering met 2 gemiddelde diktes van breigare:- Spanning ongeveer 9.

Platering met 1 gemiddelde en 1 dun breigare:- Spanning ongeveer 8.

Platering met 2 dun draadjies breigare:- Spanning ongeveer 6.

**NOTA:** Wanneer u met 2 gemiddelde diktes van breigare plateer, moet u die breiwerk af-trek om sodoende die beweging van die naalde asook die saal te help. Daarvoor word gewigte gebruik of die werk word na elke ry aan die aanhegkam afgetrek.

## KNITTING:

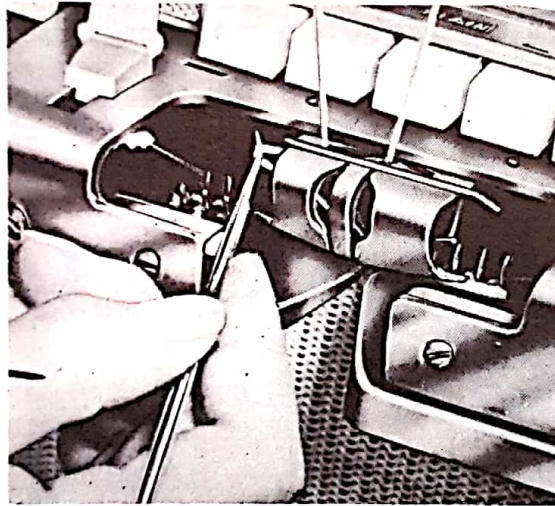
Thread the two yarns through the yarn tension unit. The main colour on the right as for ordinary knitting, and the second colour on the left. In the carriage feeder the main yarn should be threaded as usual and the other through the slots on the left.

Knitting with the yarn feeder threaded in this manner will produce a fabric in which the main colour yarn appears throughout on the front of the fabric.

## PATTERNING:

1. To knit each row in the opposite colour catch the second colour thread in the yarn hanger on the left. (The yarn hangers are situated between the upper and lower sections of the yarn feeder, one on each side).  
Sk. 123,124.

Sk. 123  
Catching the second thread on the yarn hanger.



Sk.123

2. Examples: Using the Needle and Pattern Selector Buttons:-

**CARRIAGE:** (Threaded two colours for plating - second colour caught in yarn hanger).

- a. Press in both "Part" buttons (Code 3).
- b. Both Holding Cam Levers on I.

## NEEDLE CONTROLS:

- a. Press Needle Selector Buttons 1, 2, 3, 4.
- b. Reverse Switch in Positive (+) position.
- c. Slide Dial in Position 1.

## OM TE BREI.

Ryg die 2 drade breigare deur die spanningeenheid. - Die hoofkleur aan die regterkant en die bykomende kleur links. In die breigare-voerder aan die saal moet die hoofkleur soos vir gewone breiwerk geryg word (in die middel) en die ander gare deur die gleufie aan die linkerkant van die voerder. (Sk.121). Wanneer u die breigare op so 'n wyse deur die breigare-voerder gebruik, sal u breiwerk kry waarvan die hoofkleur regdeur aan die regte kant van die breiwerk voorkom.

## PATROONWERK

1. Om elke ry in 'n ander kleur te brei, haak die 2de kleur breigare in die vanghakie links. (Die vanghakies is weerskante tussen die boonste en onderste deel van die breigare-voerder geplaas). Sk. 123,124.

Sk. 123  
Haak die 2de draadjie aan die vanghakie.

2. Voorbeelde: Deur die naald-stelknoppies en die patroonknoppies te gebruik:-

**SAAL:** ( Ryg twee kleure deur die plating - voerder - die tweede kleur word in die vanghakie geplaas).

- a. Druk albei die deelbrei-knoppies („Part") in. ( Kode 3. )
- b. Albei die N. P. - Nokke op I.

## NAALDKONTROLE:

- a. Druk naald-stelknoppies 1, 2, 3, 4.
- b. Tru-knoppie in die positiewe (+) posisie.
- c. Skuifknop op posisie I.

1. Depress Set Key (Raise needles).
2. Operate carriage across knitting.
3. Set Reverse Switch in Negative (-) position.
4. Depress Set Key (Raise needles).
5. Operate carriage across knitting.
6. Set Reverse Switch in Positive position.
7. Repeat steps 1 to 6 a further four times.
8. Slide Dial on position 4.
9. Repeat steps 1 to 6 five times.
10. Slide Dial on Position 1.

To repeat the pattern start again at step 1.

Note that to knit each row the carriage passes over the knitting twice; the first time needles 1, 2, 3, 4 (in each group of 8), knit one colour in front, the second time needles 5, 6, 7, 8, knit the other colour in front.

The above pattern will give a checker-board design.

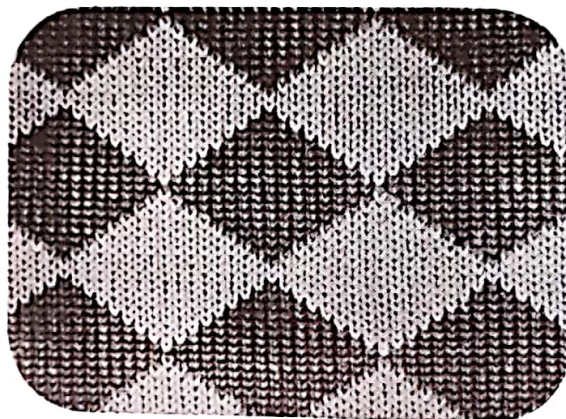
Using the same principles, needle bed and carriage controls set as above knit the illustrated diamond pattern :-

1. Druk die stelsleutel af om naalde uit te stoot.
2. Brei 1 ry.
3. Plaas die tru-knoppie in negatiewe (-) posisie.
4. Druk die stelsleutel af.
5. Brei 1 ry.
6. Stel tru-knoppie op positief (+) .
7. Herhaal stappe 4 - 9 nog vier keer.
8. Skuifknop op posisie 4.
9. Herhaal stap 4 - 9 vyf keer.
10. Skuifknop op posisie 1.

Om die patroon te herhaal, begin weer by No. 1

Let wel dat die saal twee maal oor die breiwerk gaan om een ry te voltooi; die eerste keer word naalde Nos. 1, 2, 3, 4 ( in elke groep van 8 ) met een kleur voor gebrei, die tweede keer word naalde 5, 6, 7, 8 met die ander kleur voor gebrei. Bostaande patroon het 'n blokkies effek.

Op dieselfde aanwysings, naaldkas en Saal-kontrole gestel soos hierbo - brei nou die ge-illustreerde diamantpatroon:-



Sk. 124

Remember that for each row (except Row 5) the carriage must pass over the needles once with the Reverse switch on Positive (+) and once on Negative (-) to alternate the colours facing forward. In row 5 the whole row will be one colour; thereafter the carriage changes direction in relation to the Reverse switch to maintain the pattern; it is also necessary to depress the Needle Selector release button "O" before re-setting the needles for the next row.

Onthou dat vir elke ry behalwe ry No. 5, moet die saal een keer oor die naalde gaan met die tru-knoppie positief (+) en een keer negatief (-) om die kleure wat voor is om te ruil. Die hele ry No. 5 sal een kleur wees, daarna moet die saal gestoot word in die rigting soos deur die patroon vereis, die vrystelknoppie „O" moet ingedruk word voordat die knoppies vir die volgende ry ingedruk word.

To knit the diamond pattern.

Row No.	Press N.S.B. Nos.	Position of Reverse Switch & Direction of Carriage.	
1	4	+ * R-L	- * L-R
2	3 to 5	+ * R-L	- * L-R
3	2 to 6	+ * R-L	- * L-R
4	1 to 7	+ * R-L	- * L-R
5	1 to 8	+ * R-L	- * L-R
6	1 to 7	- * L-R	+ * R-L
7	2 to 6	- * L-R	+ * R-L
8	3 to 5	- * L-R	+ * R-L
9	4	- * L-R	+ * R-L

Ry	Naald-stel knoppies	Posisie van tru-knoppie en rigting van Saal.	
1	4	+ * R-L	- * L-R
2	3 tot 5	+ * R-L	- * L-R
3	2 tot 6	+ * R-L	- * L-R
4	1 tot 7	+ * R-L	- * L-R
5	1 tot 8	+ * R-L	- * L-R
6	1 tot 7	- * L-R	+ * R-L
7	2 tot 6	- * L-R	+ * R-L
8	3 tot 5	- * L-R	+ * R-L
9	4	- * L-R	+ * R-L

\* Where asterisk appears swivel the set lever to raise the needles.

\* Waar die asterisk voorkom, druk die stelsleutel af om die naalde uit te stoot.

NOTES:

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## WEAVING OR LAY-IN PATTERNING.

With the KH.67 model, Empisal introduced a new form of knitting to produce firm, inelastic fabrics often indistinguishable from woven fabrics.

The weaving or lay-in patterning controls are in two sets, one on the sides of the carriage, the other in the front of the sinker plates; each set has two positions marked W and N, (on previous models T\* and N).

W stands for Weaving and N stands for NEUTRAL. The controls should always be kept on N when not required for weaving patterns.

The warp, i.e. the length of the fabric is knitted. For this the Knitter is threaded with a suitable yarn in the normal manner through the branch tension arm and the carriage feeder. The weft, i.e. the cross threads, are inserted separately by hand. There is practically no limit to the number of types or thicknesses of yarn that can be used for this purpose: raffias, fine silks, rug wools, embroidery threads, ribbon, leather thongs, even elastic has been used, to create countless numbers of articles from table mats to curtains, from baby blankets to high fashion fabrics for costumes and top-coats.

The artistry comes in the choice and blending not only of colours but also of materials. Warp threads may be of one material - weft threads of an absolutely opposite kind such as wool with raffia; fine string and rug wool. The general rule will be thin yarns for background (warp) and thicker yarns for weft (trammings - weave-in).

Remember that the knitted background is frequently scarcely seen: nevertheless the material for this must be chosen with special care because threads do have to come forward over the woven (lay-in) threads to bind them to the background fabric, but only certain needles will catch the lay-in yarn to form the fabric pattern.

(\* T stands for TRAMMING, an English term derived from the Latin to weave. In the silk industry a "tram" is a loose silk yarn woven into the weft of a fabric for decorative purposes, the weft being those threads across the width of a piece of cloth. Trammings threads are frequently thicker and looser than those of the background fabric; this patterning effect can now be achieved on your Knitter to weave multitudes of interesting and fashionable fabrics. From this you will know that for "weaving" all the special controls must be set on "T" on previous models and "W" on current models).

## WEEF-PATRONE

Met die KH 67 model het Empisal 'n nuwe vorm van brelwerk ingelei wat ferme, nie-rekkerige materiaal lewer, wat moeilik van geweefde materiaal onderskei kan word.

Die Weef-kontrolle bestaan uit twee stelle; een paar aan die kante van die saal en die ander paar bo-aan die rollerplaatjie. Elke stel het twee posisies, gemerk W en N (vorige modelle is gemerk T en N).

W is vir Weef en N is Neutraal. Dié kontrolle moet altyd op N gestel word, tensy weefwerk gedoen word.

Die ketting-draad, d.w.s. die lengte van die materiaal, word gebrei. Hiervoor word 'n geskikte breigare gebruik, wat normaalweg deur die spanningeenheid en breigare-voerder geryg word. Die kruisdraad of weefgare word met die hand gespan. Daar is feitlik geen perke aan tipes en diktes van gare wat hiervoor gebruik kan word nie. Raffia, dun sydraad, matwol, borduurgare, lint, leerstrokies en selfs rek is gebruik om tallose artikels, soos tafelmatte, gordyne, babakombersies en puik modieuse materiaal vir tweestuk-pakkies en oorjasse te maak.

Die kuns daarvan lê nie net in die keuse en samestelling van kleure nie, maar ook van brei- en weefmateriaal.

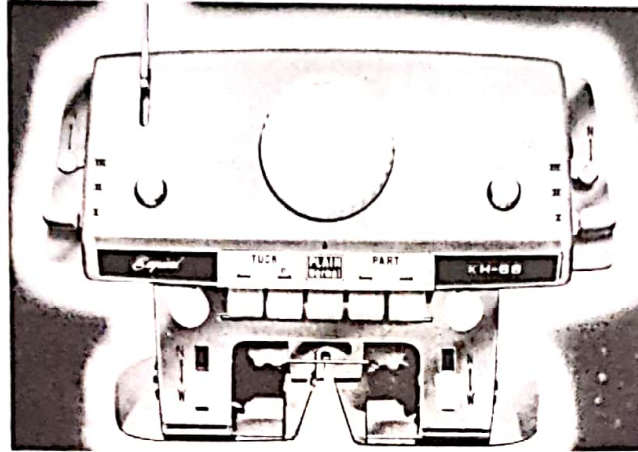
Die lengtedraad of breigare kan van 'n sekere soort materiaal wees, terwyl die weefdraad van 'n heeltemal ander soort is, soos bv. wol met raffia, dun lyn met matwol. Die algemene reël is dun gare vir die brei-agtergrond (lengte) en dikker gare ens. vir weefdraad.

Onthou altyd dat die brei-agtergrond in baie gevalle feitlik onsigbaar is. Die breigare hiervoor moet nogtans met oorleg gekies word, aangesien die breigare van sekere naalde, volgens die patroon, die weefdraad vang om dit in die agtergrond materiaal vas te heg.

The CAMS control the needle movement. For weaving-in set both weave-in cam levers on W (Holding cam levers on I except when knitting part fabric-plackets, etc. - when the holding cam levers will be on II).

Die Nokke beheer die naald-aksie. Om te weef stel albei weefsleutels op W (naaldposisie-nokke op I behalwe wanneer sakkies of slippies ens. gewef word op deelbrei ( „Part“ wanneer die N, P, N. op II gestel word. )

The CAMS set for weaving-in.



Die Nokke gestel om te weef .

Sk.125

The PATTERN SELECTOR BUTTONS: Use only the "knit" or 'partial' buttons when weaving-in. Do not use the tuck buttons, as a tuck stitch not being properly formed will not gather the weave-in thread into the fabric.

#### OM DIE WEEFNOKKE TE STEL

Die patroonknoppies: Gebruik slegs die „Plain“ of „Part“ knoppies wanneer u weef. Moenie die „Tuck“ (halfbrei) knoppies gebruik nie aangesien 'n halfbrei steek nie volmaak is nie en sal dit nie die weefdraad vas vang nie.

The BRUSHES when set on W ensure that the weave-in yarn is kept well down on the supporting needles and against the gate pegs so that it may be caught into the background fabric.

Wanneer die borsels op W gestel is, sal dit die weefdraad deeglik op die ankernaalde en teen die hekkie-penne vasdruk sodat dit vasgewef kan word in die agtergrond-breiwark.

The FABRIC. The background fabric is knitted mainly on the B position needles, although needles in other positions also perform this function.

Die agtergrondbreiwark word hoofsaaklik op B-posisie naalde gebrei, alhoewel naalde in ander posisies ook gebruik kan word.

The WEAVE-IN (PATTERNING) THREADS are caught into the fabric by D position needles.

Die Weef(patroon)gare word deur D-posisie naalde aan die agtergrond-breiwark vas gewef.

Patterning needles will be set in D position with the assistance of the needle selector buttons.

Patroonnaalde word in D-posisie gestel met behulp van die naald-stelknoppies.

Patterning threads should always be thicker than the background threads, and when the pattern permits it is preferable to lay the threads in the direction the carriage will operate, i.e. if the carriage is on the right lay-in the threads from right to left.

Weefpatroongare behoort altyd dikker te wees as die breigare vir die agtergrond. Wanneer die patroon dit toelaat is dit wenslik om die weefgare in dieselfde rigting te lê as die koers wat die saal volg, bv. as die saal aan die regterkant is word die weefgare van regs na links gelê .

EXAMPLE of a Simple Weave-In Pattern:

VOORBEELD VAN 'n EENVOUDIGE WEEFPATROON



Sk.126

On a piece of fabric in your Knitter:

Op 'n stukkie gewone breiwerk in die masjien:-

1. (a) Weave-in controls on W.  
 (b) Holding cam levers on I.  
 (c) Pattern selector buttons on knit (Code 1).  
 (d) Needle selector slide on 1.  
 (e) Needle selector buttons: Press down Nos. 1, 3, 5 and 7.
2. Set the needles (press set lever).
3. Lay in a contrasting thread of yarn across the raised (D position) needles. (yarn B).

1. (a) Al die weefkontrole op W.  
 (b) N.P.N. op I (voor) .  
 (c) Patroonknoppie op brei. (plain). (Kode 1)  
 (d) Skuifknop op posisie I .  
 (e) Naald-stelknoppies - Druk 1-3-5 en 7.
2. Druk die stelsleutel af.
3. Lê die weefgare oor die D-posisie naalde. (Gare B)

*(end towards carriage).*

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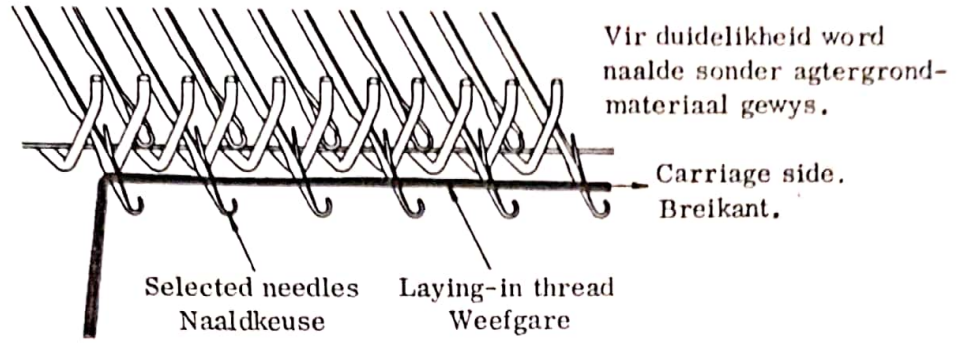
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For clarity needles shown without background fabric.



"Lay yarn B across the open hooks of needles."  
 "Lê die weefgare B oor die oop naaldhakies."

Sk. 127

4. Pass the carriage across the needles (knit). (The weave-in thread is caught into the fabric).
5. Needle selector slide on 2.
6. Set the needles.
7. Lay-in the contrasting yarn.
8. Knit.

4. Stoot die saal oor die naalde (brei). (Die weefgare is vasgevang in die agtergrond-breiwark.)
5. Skuifknop op posisie 2.
6. Stel die naalde.
7. Lê die weefgare oor.
8. Brei.

To continue the pattern repeat steps 5 to 8 except that each time step 5 is repeated move the needle selector slide to the next number or when desired return downwards towards 1.

Om met die patroon voort te gaan, herhaal stappe 5 tot 8 behalwe dat in stap 5 word die skuifknop elke keer 1 nommer aangestel (bv. 1-2-3-4-5-6-7-8) of teruggestel (bv. 8-7-6-5-4-3-2-1).

NOTES:

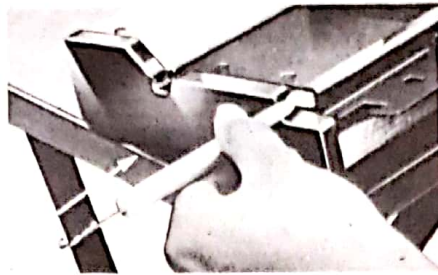
NOTAS



## CARE OF YOUR KNITTER

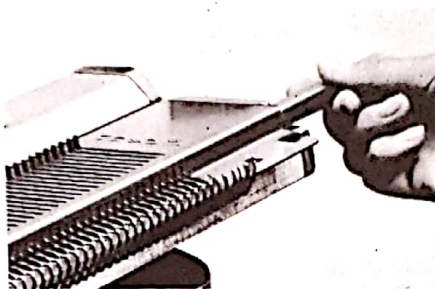
### How to replace the needles

- 1) Push either side of the felt bar end piece with the end of latch tool. The felt bar end then appears on the other side. Sk.128



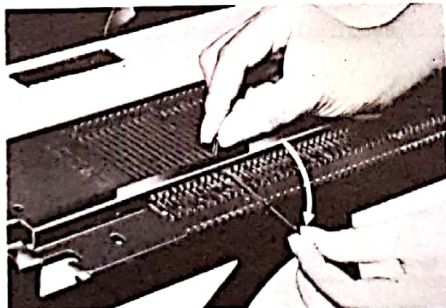
Sk.128

- 2) Withdraw it from the knitter until the needle you wish to change is freed. Sk.129



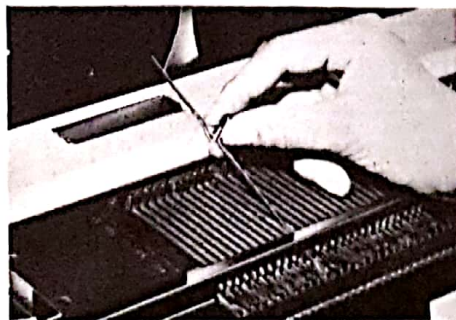
Sk.129

- 3) Bring forward the needle as far as it will go. Sk.130
- 4) Push down the hook until shank end rises free of needle bed.



Sk.130

- 5) Grasp shank end and draw it out backwards. Sk.131
- 6) Replace with new needle by holding it with the latch opened.
- 7) Push in the foam bar, making sure that the foam is face downwards.



Sk.131

## VERSORGING VAN U BREIMASJIE

### Hoe om die naalde te vervang

- 1). Druk enige kant van die spons-strookelpunt in met die agterkant van die hekelhaak; die ander punt van die sponsstrook sal dan aan die anderkant van die naaldkas uitsteek. (Sk.128)
- 2). Trek die spons-strook uit totdat die naald wat vervang moet word, vry is. (Sk 129)
- 3). Stoot die naald sover na voor as moontlik.
- 4). Druk die hake van die naald af totdat die steelpunt bokant die naaldkas uitsteek. (Sk130)
- 5). Vat die steel-punt van die naald vas en trek die naald uit na agter. (Sk 131)
- 6). Vervang met nuwe naald - hou die klepple oop.
- 7). Druk die spons-strook terug - maak seker dat die spons-deel na onder wys.

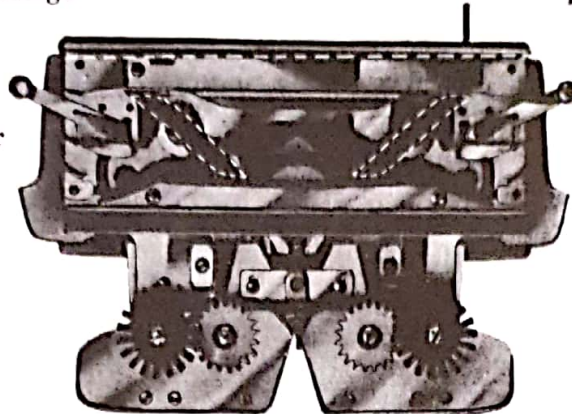
## Cleaning and Oiling

## Skoonmaak en olie

### The Carriage

### Die saal

For best results your knitter must be kept clean and visible working parts regularly oiled.



Vir beste resultate moet die masjien skoon gehou word en die sigbare werkende dele gereeld ge-olie word.

Sk. 132

- 1) Remove the carriage from the needle bed.
- 2) With a lightly oiled lint free cloth, wipe away all fluff that has gathered on the working parts underneath the carriage.
- 3) Leave a very fine film of oil over all moving parts of the carriage and the upper and lower cam strips and back and front rails.
- 4) Avoid getting oil onto the brushes and brush wheels as this will transmit itself to the knitting.

- 1) Verwyder die saal van die naaldkas.
- 2) Vee alle stof, donsies en wollerigheid wat aan die onderkant van die saal kleef af met 'n rafel-vry lappie, waarop 'n paar druppels olie gegooi is.
- 3) Laat 'n dun lagie olie op al die dele onderaan die saal, asook aan die voorste- en agterste gystaaf.
- 4) Moenie olie aan die borsels en borselwieleetjies van die rollerplaatjie laat kom nie want dit sal aan die breiwerk kom.

### The Needle Bed

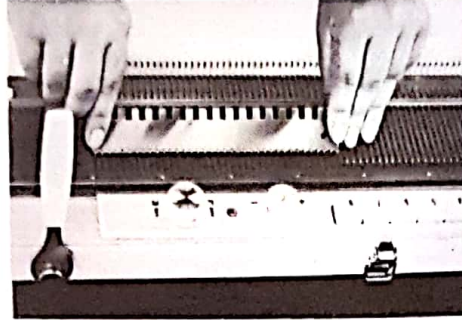
- 1) With a very soft brush clean out the needle bed grooves.
- 2) With a lightly oiled lint free cloth wipe away all fluff that has gathered on needle bed and along carriage slide rails.
- 3) Leave a very fine film of oil over the carriage slide rails, the top of the needle bed and the needle butts.
- 4) Place two or three drops of oil in the groove of the slide rail at the back of the needle bed. This should be repeated after completion of each garment.
- 5) Avoid getting oil onto the needle hooks and latches as this will transmit itself to the knitting.
- 6) Keep your knitter covered in a dry place when not in use.

### Die naaldkas

- 1) Maak die naaldkas-gleufies skoon met 'n sagte borseltjie.
- 2) Vryf alle stof en donsies van die naaldkas af met 'n olie-lappie.
- 3) Vryf 'n dun lagie olie oor die naaldgleufies en die naaldkoppies.
- 4) Moenie olie aan die naaldhokies en kleppies laat kom nie want dit sal oorgedra word op die breiwerk.
- 5) Plaas twee of drie druppels olie in die saalgleuf bo in die naaldkas. Dit moet herhaal word na elke kledingstuk wat gebrei word.
- 6) Maak die masjien toe en bêre dit in 'n droë, veilige plek wanneer dit nie gebruik word nie.

## HOW TO FOLD UP THE KNITTER

1. Release all needle selector buttons by pushing down the "0" button, and push back all needles to position "A". (resting position)(See Sk. 1.)
2. Remove the sinker plate and handle from the carriage.



Sk. 1

3. Lock the carriage on the left end of the needle bed. (See Sk. 2.)

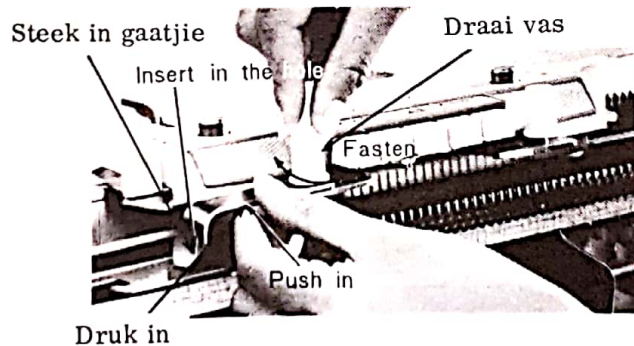
(Note:) The row counter tripper must be positioned in operation.

- ## HOE OM DIE MASJIEN WEG TE PAK
1. Druk die „O” knoppe om alle naald-stelknoppes vry te stel en stoot al die naalde na A posisie. ( Rusposisie, Sk. 1 )
  2. Haal die rollerplaatjie en die handvatsel van die saal af.

3. Klamp die saal aan die linkerkant van die naaldkas vas. ( Sk. 2 )

Nota:

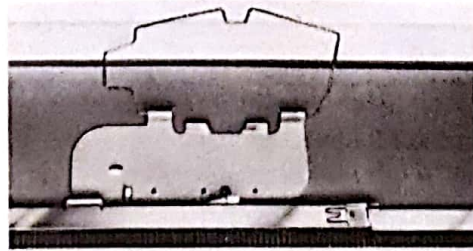
Stel die ry-teller-aanstootpennetjie soos in aksie - (horisontaal).



Sk. 2

4. Replace the automatic yarn tension unit.

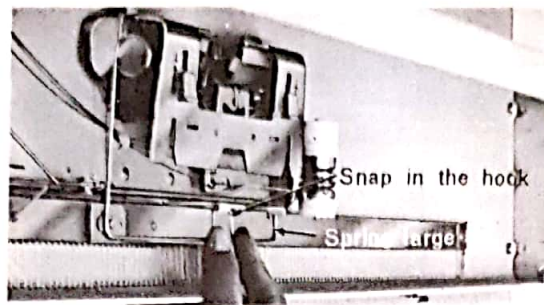
4. Verwyder die breigare-spanningeenheid van die masjien.



Sk. 3

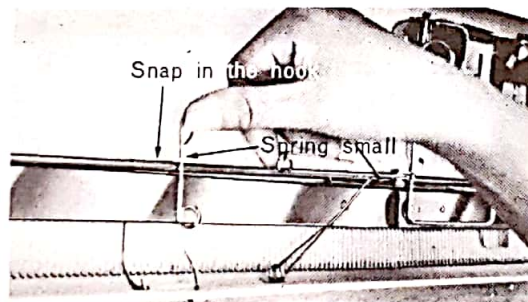
5. Replace the cast on comb, automatic yarn tension unit and sinker plate assembly inside the upper carrying case.

5. Pak die aanhegkam, breigare-spanningeenheid en rollerplaatjie in die deksel van die masjien, soos volg:-



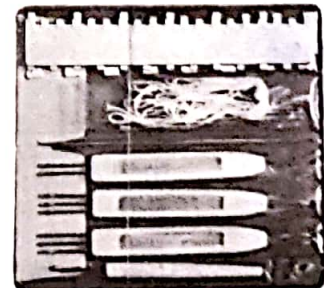
Sk. 4.

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|---|---|
| <p>a. Open the springs and replace the cast on comb in the upper case. (See Sk. 3)</p> <p>b. Replace the automatic yarn tension unit.</p> <p>c. Replace the sinker plate assembly in the upper case.<br/>Close the large spring.<br/>(See Sk. 4).</p> <p>d. Close the small spring.</p> | <p>(a) Maak die draadveer los en plaas die aanhegkam in die deksel. (Sk. 3 )</p> <p>(b) Plaas die breigare-spanningeenheid in die deksel.</p> <p>(c) Sit die rollerplaatjie terug in die deksel. Druk die draadveer vas. (Sk. 4)</p> <p>(d) Sluit die klein veertjie.</p> |
|---|---|



Sk. 5.

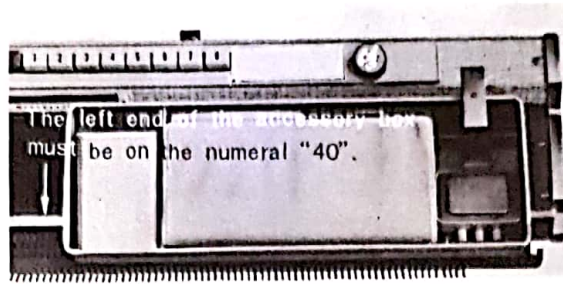
- |   |  |
|---|--|
| <p>6. Replace the accessories in the accessory box.</p> | <p>6. Plaas die toebehore in die toebehore-kassie.</p> |
|---|--|



Sk. 6

- |  |   |
|--|---|
| <p>7. Replace the small tools in the accessory kit. (See Sk. 6.)</p> | <p>7. Plaas die kleiner toebehore in die toebehore sakkie. (Sk. 6.)</p> |
|--|---|

The left end of the accessory box must be on the numeral "40".



Die linker eindpunt van die toebehore kassie moet op die "40" naaldmerk wees

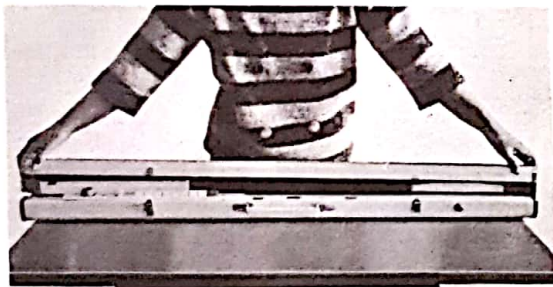
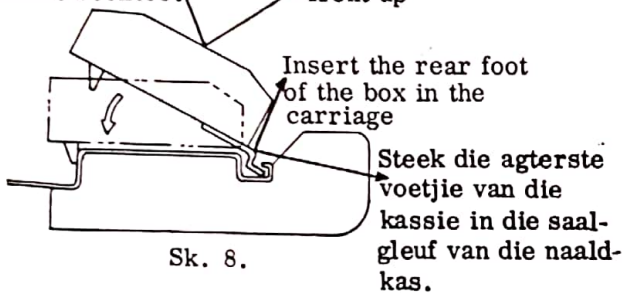
Sk. 7

8. Replace the accessory kit in the accessory box, and place box on the right side of the needle bed.

8. Plaas die toebehore-sakkie in die toebehore kassie en plaas die kassie aan die regterkant op die naaldkas.

Hou die Toebehore Kassie met voorkant boontoe.

Hold the Box with front up



Sk. 9.

9. Close the upper carrying case on the knitter.

9. Sluit die deksel op die naaldkas vas.

Carriage Saal

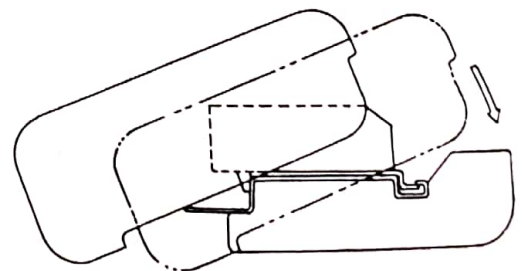


Sk. 10.

Accessory box. Toebehore Kassie.



Sk. 11.



Sk. 12.

**NOTE**

Clean and oil your knitter each time you have finished knitting and clean off all excess oil before use, especially from those parts which will come into contact with the knitting. Always leave a light film of oil under the carriage on all parts between the rails.

**NOTA:-**

U moet die masjien olie en skoon maak elke keer as u klaar gebrei het. Vee alle oortollige olie af, veral van die dele wat in aanraking met die breiwerk mag kom. - Laat altyd 'n dun laagie olie op al die parte onder aan die saal.

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