

INTRODUCTION

In recent years, there is a prominent phenomenan throughout the world that the housewives are eagerly seeking to obtain the most conveniently and precisely made woolen knitting machines to get out of the hitherto traditional way of hand knitting.

The De Luxe Model NT-10 Hand Knitting Machine is to satisfy with this ever-increasing demand, and has been blought to your family from the factory to appear in the next page.

The De Luxe Model NT-10 Hand Knitting Machine is made of strong and durable material and has the special features such as:

- * Carriage Assembly with Yarn Feeder to enable simple and speedy knitting.
- * Knitting Row Indicator to show automatically where the users stand.
- * Special device of Yarn Feeder to prevent dropping of yarn.
- * Minor Cam devices to enable easy midway tack-knitting.
- * Yarn Setector to automatically adjust the machine for knitting by thin, medium and thick yarn.

If you read this instruction book carefully, you will easily understand how to handle this machine, and you will be convinced during your practice that the machine you obtained is really the world's best.

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ACCESSORIES

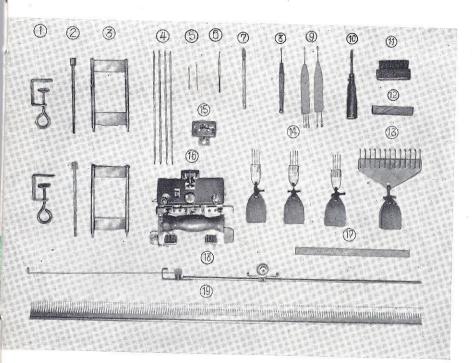


Fig. 1

- (1) Fixers
- 2 Extention Rail Setting Bolts
- 3 Extention Rails
- 4 Knitting Rods
- (5) Binding Needle
- 6 Hook Needle
- (7) Oil Brush
- ® Tappet
- 9 Removers
- 10) Driver
- (11) Cleaning Brush
- Spare Needles
- ¹³ Raked Plumb
- 14 Raked Plumb
- (5) Knitting Row Counter
- 16 Carriage Assembly
- 17 Needle Lifter
- (18) Yarn Guide
- (19) Garment Holder

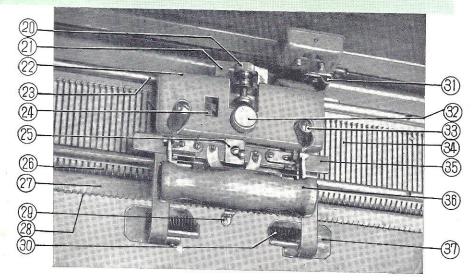
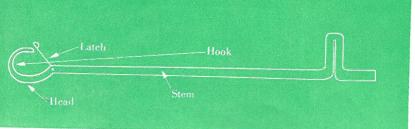


Fig. 2

Latch Needle



NAME OF

- 20 Major Cam Regulator
- 21 Row Indicator Pusher
- 22 Carriage Cover
- 23) Rail
- 24 Yarn Selector
- 25 Stopper
- 26 Latch Needle
- Yarn Comb
- ® Yarn Comb Teeth
- 29 Yarn Feeder
- 30 Latch Adjustor

MAIN PARTS

- (31) Yarn Guide Holder
- 32 Major Cam Clamp
- 33 Minor Cam Switch Lever
- 34) Groove Needle Plate
- 33 Handle Rail
- 36 Handle
- 37) Garment Presser
- 38 Carriage Sliding Foot
- 39 Major Cam
- 40 Minor Cam
- (4) Carriage Plate

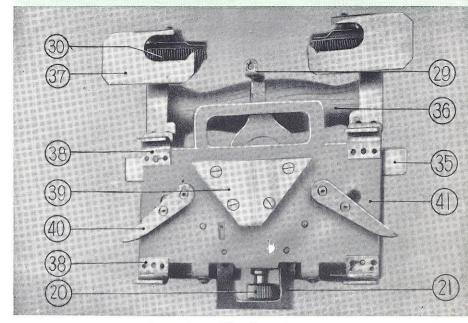


Fig. 3



PREPARATION OF THE MACHINE

- Take up the key from the case holder, and use it to open the case.
 Two key-holes are in front of the lid, and turn the key as arrow-indicated. (Fig. 5)
- Set the machine on the tables or desks using the Fixers (1). The Fixers are adjustable as you like.
- 3. Insert the Yarn Guide ® into the Yarn Guide Holder ®1, and set the Knitting Row Indicator ® by its screw to the holder from the back-side. (Fig. 4)
- 4. Set the both ends of the Carriage Sliding Feet ③ in good order, and Slide the Carriage Assembly ⑤ onto the Rails ②. Insert the Extension Rails ③ into the holes at the both ends of the Grooved Needle Plate, and tighten it by its Setting Bolts ②. (Fig. 6 & 7).

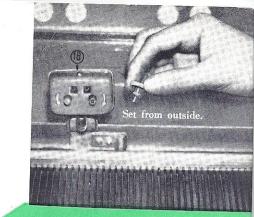






Fig. 5

Fig. 6



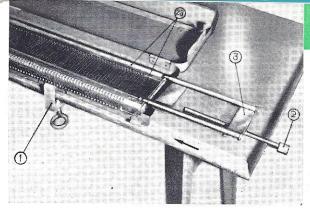


Fig. 7-A

PREPARATION OF THE YARN

Reel off the yarn into a small card-board box taking care lest it should be entangled. During this course, if you press down sometimes the handle of yarn, the yarn will become not to be entangled so easily.

Make a lump at the loose end of the yarn, and you will find from where to take up the yarn most conveniently.

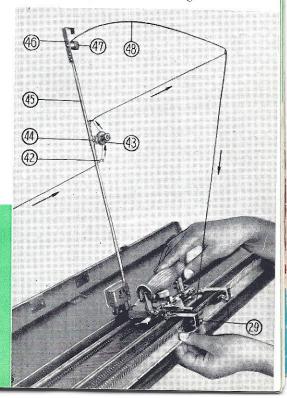
Fig. 7

TO PLACE THE YARN

Holding an end of the yarn, place it on the Yarn Guide ® according to the arrow-indicator of Fig. 7, and pass the yarn through the Yarn Feeder 29.

- 12 Yarn Guide
- ⁽³⁾ Yarn Guide Tension Disc
- (4) Yarn Guide Disc Holder
- (5) Yarn Guide Rod

- 46 Yarn Guide Spring Board
- (47) Spring Adjustment Screw
- 48 Yarn Guide Spring
- 29 Yarn Feeder



TO START KNITTING

- 1. Pass the yarn through the Yarn Feeder, and slide the Carriage Assembly on either side of the Extension Rails. Draw out the required numbers of the Latch Needles to the position of Yarn Feeder by the Needle Lifter so that the needle-heads may be in line with the Yarn Comb Teeth ...
- 2. Place the piano wire of the Garment Holder (19) on the Garment Holder Base (40) locating at the both ends of the Yarn Comb (27). Hold by left hand the Needle Lifter and the Yarn Comb Teeth (28) to match well each other, and use the right hand to slide the Carriage Assembly on the rails by gripping its handle like Fig. 7. (See Fig. 9 & 10 also).
- 3. When you slide the Carriage Assembly, move the handle right and left, and check well whether or not the Garriage Assembly starts moving only after the handle hits its stopper ②. (See Fig. 2).

As the Yarn Feeder makes the movement in line by the handle, the position of the Yarn Feeder is always kept correctly. Therefore, even the beginners can easily knit without experiencing the skipping of seam.

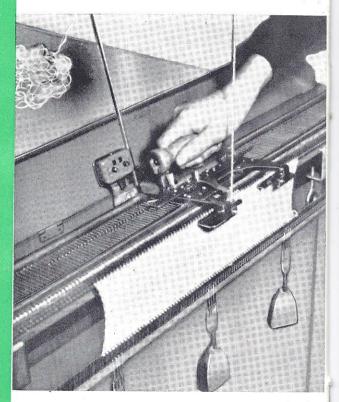
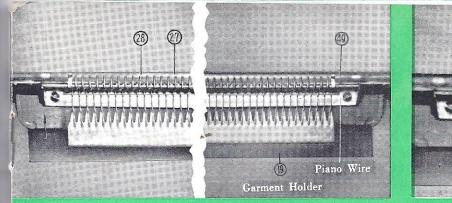
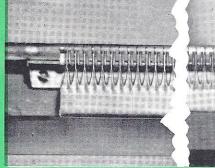


Fig. 8





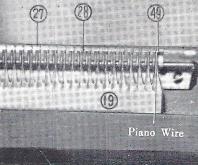


Fig. 9

Fig. 10

4. The yarn will be caught alternately by the Latch Needles and Garment Holder through the abovenoted operations. Slide the Carriage Assembly until all the pulled-out needles can catch the yarn, and take off slowly the piano wire from the Garment Holder Base. Taking care not to drop the yarn from the Latch Needle, pull downward the Garment Holders, firstly the opposite side and secondly the same side of the Carriage Assembly. Finally hang two or three Raked Plumbs as seen in Fig. 8.

BASIC KNITTING

Slide the Carriage Assembly by handle right and left, and the Latch Needles will move back and forth. This enables to get the yarn loop to be knitted into a garment, and is the operation of basic knitting.

In this case, keep sliding the Carriage Assembly until the Minor Cams free the yarned needles.

If the case happens that the yarn is loose at the both ends of the knitting, pull the yarn slighly and then start knitting to avoid loose loop.

TO INCREASE THE LOOP

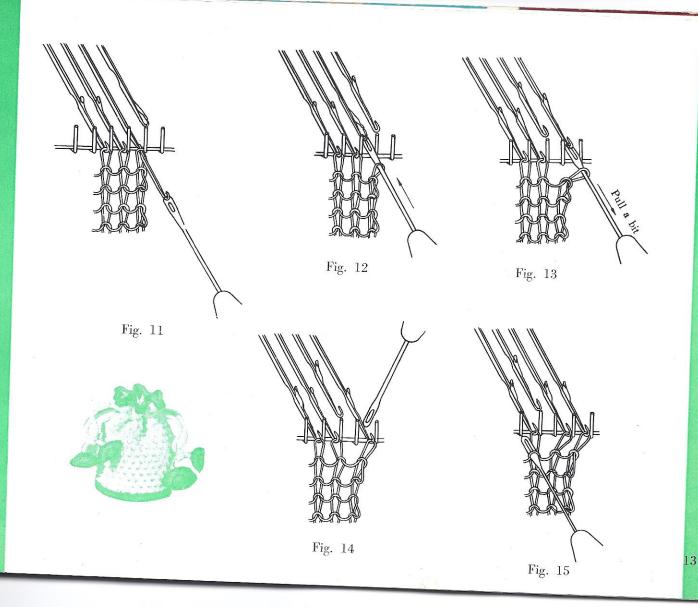


- 1. Hang the eye of the Remover (9) on the head of the Latch Needle as seen in Fig. 11 and Fig. 15, and pull out the needles.
- 2. When the loop drops behind the Tappet, push the Remover downward, and the loop will be freed from the needle eye, and will be transferred to the Remover. (Fig. 12).
- 3. Then turn the loop toward the next Latch Needle like Fig. 13, hang the head of the Latch Needle by the Removers eye, and pull out a little the Latch Needle. Turn the Remover toward the Latch Needle like Fig. 14 and remove the loop.
- 4. In case of increasing the edge-loops of the sweater in usual, the third Latch Needle will become empty of the loop if the two edge loops are transferred. So pick up the third reverse loop by the Remover, and transfer it to the third Latch Needle. (Fig. 15).

TO DECREASE THE LOOP

To decrease the loops is the opposite procedures of increasing the loops. Hang the Remover to the third Latch Needle from the edge, and transfer the loop to the second needle. As two loops are hooked together by the second needle, remove them in one time to the third needle. Further transfer the first loop to the second needle, and the decrease of loop will be made. (Fig. 11 – Fig. 15).





MIDWAY TACK-KNITTING

When you make midway tack knitting, push both of the Minor Cams (4) upward using the Switch Lever (3) until it stops.

Then like Fig. 16, push up the needles to tack higher than the Minor Cams by the Needle Lifter.

In this case, always open the latches of the needles downward.

Slide the handle and knit one row. After this is done, hook the loop on the border needle No. 6 to remain unused under the way as noted in Fig. 17, and start tack-knitting.

In this case, take care that the loop of the previous row on the border needle No. 6 will not drop out of the opened latch.

Further, enough causion is neccessary that the Yarn will not fall out of the needle when you start tacking even after the loop is the hooked on the latch. If you are carefree in this respect, garment will have the hole in the tacking point. Repeat the above course, and you will make the continuous tack knitting.

Even the begginers can easily do the tack knitting by the free handling of the Minor Cams of this machine.

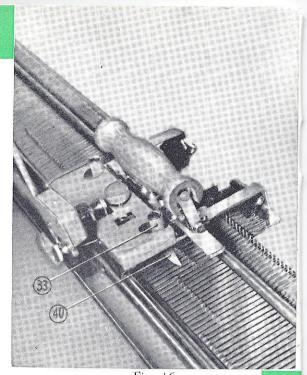
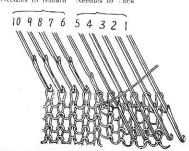


Fig. 16
Needles to remain Needles to Tack



TO FURL THE GARMENT

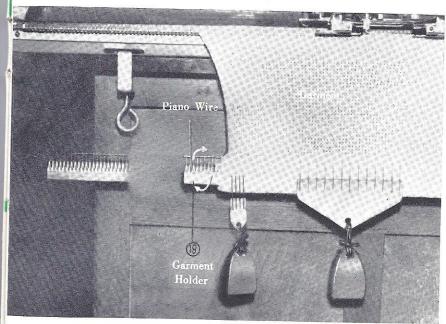


Fig. 18

When knitting develops to a stage that the Raked-Plumbs touch the floor, furl the Garment Holder like Fig. 18, and change the positions of the Raked-Plumbs.

Otherwise, put the knitting rod into the garment crossways, and hang the Raked Plumbs thereon.

If the garment is too bulky, take off the wire from the Garment Holder, put the teeth of the Garment Holder into the knitted goods and return the wire to the previous position.

Then change the hanging positions of the Raked-Plumbs.



TO ADJUST THE LOOP SIZE

To adjust the size of the loops, loosen the Major cam Clamp ② of the Carriage Assembly ⑤, and turn the Major Cam Regulator ②.

Then the indicator of the Yarn Selector ② will move up and down. The graduation of this selector is of three grades for Fine, Medium and Thick yarns.

Set the indicator to its precise position in the window according to the yarn's kind, and tighten the Major Cam Clamp.

KNITTING ROW INDICATOR

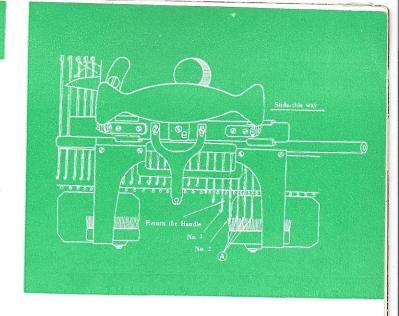
The Knitting Row Indicator of this machine is of the most progressed number-indicating system. The knitting row indications from "1" to "99" appears in the window by the Indicator Pusher 2.

When the 99th row is finished, the 100th row is indicated in the winder as "00", and then the indicator shows 101st row as "01", 102nd row as "02".

When start knitting, turn alway two dials toward arrow-indicated direction, and set the indicator to "00". (Fig. 4).

TO SLIDE BACK THE CARRIAGE ASSEMBLY

To switch the sliding direction of the Carriage Assembly on the way, push the handle backward first, and lift upward the right Minor Cam until it stops if the Carriage Assembly to be slided to right direction. (lift upward the left Cam if Carriage Assembly goes to left direction). Secondly, pull out the Needles No. 1 and No. 2 remained under the Yarn Feeder until the position of next needle (A) (or push them into the position of Yarn Comb). Slide back then the Carriage Assembly by pushing backward the handle.



KNITTING GAUGE SELECTION

Make the knitting pattern of 15 cm. Square first. Count the numbers of horizontal loops and vertical rows per 5 cm. Square therein, and double the numbers per 10 cm. Square. This figure will become as the gauge of knitting.



TO ADJUST YARN TENSION

If the Yarn Guide Spring is too tight, the loop becomes stiff; if too loose, the loop becomes slack. Therefore, adjust the yarn strain by the Spring Adjustment Screw ①, and control the yarn tension well by the Yarn Guide Tension Disc ②.

Usually you get the most suitable yarn tension when strained Spring like Fig. 7 returns to the previous position in 5 SECONDS.

TO OIL THE MACHINE

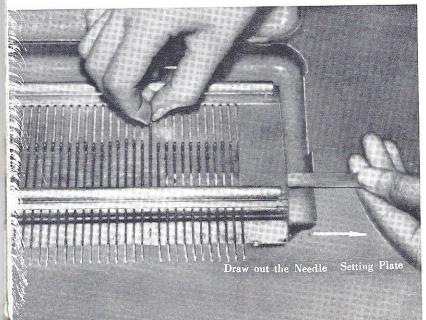
Oiling is neccessary for every day if the machine is to be used continuously. However, if oiling is too excessive it will soil the knitting yarn. Therefore, using the Oil Brush ⑦, oil evenly and slightly the Rails, Needle's Rods, and the adjoining sections of needles and the Cams, major and minor.

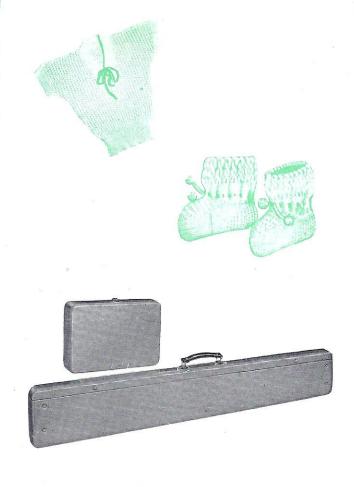
Important: Use Sewing Machine Oil only.

TO REPLACE THE LATCH NEEDLE

When the Latch Needle breaks, take out the Extension Rail as seen in Fig. 20; draw out the Needle Setting Plate locating under the Grooved Plate; and the Latch Needles can easily be replaced with the new one even during operation. When the latch of the needle is bent, straighten in by the pincer.

Fig. 20







KNITTING HINTS

DROPPING OF THE LOOP may be caused by:

- 1. Latch Adjustor not set correctly.
- 2. Position of Yarn Feeder too hight.
- 3. Needles wrong.

DROPPING OF THE EDGE LOOP may be caused by:

- 1. Latch Adjustor not set correctly.
- 2. Yarn Guide Spring not working by the hanged yarn due to the improper setting of the Yarn Adjustor.
- 3. Raked-Plumbs too light.
- 4. Yarn Feeder set improperly.



