

# **Rimoldi®**

**CATALOGO PEZZI DI RICAMBIO  
SPARE PARTS CATALOGUE  
CATALOGUE RECHANGES  
ERSATZTEILELISTE**

**229-00-05**  
**and subclasses**



# **INSTRUCTIONS : FOR**

- INSTALLATION AND TIMING**
- USE**
- MAINTENANCE**



# **INTRODUCTION**



# INDEX

## INTRODUCTION

I. -- HEAD IDENTIFICATION	Pag.	5
II. -- TECHNICAL DATA OF CLASS	"	5
III. -- TECHNICAL DATA OF SUB-CLASSES	"	6

## INSTRUCTIONS

I -- INSTALLATION AND SETTING UP	Pag.	11
a - Positioning of head	"	11
b - Transmission assembly	"	11
c - Lubrication	"	11
d - Assembling and adjusting Sewing Parts	"	11
e - Adjusting and locking presserfoot arm	"	17
f - Setting front cover plate	"	17
g - Needle thread take-up adjustment	"	17
h - Thread take-up cam adjustment	"	17
i - Electrical lubrication control device	"	18
II. -- USE	"	19
a - Threading	"	19
b - Changing the needle	"	19
c - Setting the presserfoot	"	21
d - Setting of tensioning discs	"	21
e - Stitch length adjustment	"	21
f - Seam width adjustment	"	21
g - Problems due to improper handling of machine	"	22
III. -- MAINTENANCE	"	23
a - Every day	"	23
b - Every week	"	23
c - Every three months	"	23
d - Sharpening the knives	"	23
e - How to disassemble the main shaft (if required)	"	23

## SPARE PARTS CATALOGUE

I. -- HOW TO USE THIS CATALOGUE	"	27
a - Introduction	"	27
II. HOW TO ORDER	"	27
a - All parts	"	27
b - Needles	"	27
III. -- TABLES	"	29
IV. -- NUMERICAL INDEX OF PARTS	"	65





## I. HEAD IDENTIFICATION

### a) Identification numbers

1. Every head is identified by:
  - class and sub-class numbers
  - serial number
2. The class and sub-class numbers are engraved on the name-plate on the base of the machine.
3. The head serial number is engraved on a boss on the rear part of the base.

## II. TECHNICAL DATA OF CLASS

The heads illustrated in this catalogue are of the 2 needle overlock type, the left needle for chain stitch and the right one for overedging, the association of the two giving a "safety stitch". They have the following general specifications:

1. Straight needle system RIM 27 - size 80 - 90 - 100 - 110
2. Differential can be adjusted while machine is running.
3. Stitch length adjustment by eccentric-cam.
4. Stitch length variation from 7 to 18 stitches per inch
5. Differential ratio up to 3,5 : 1 and possibly 4 : 1
6. Width of bight from 5/32" to 7/16"
7. Speed : up to 6,500 rpm
8. Lubrication by double stage pump
9. Motor : 1/3 HP or 1/2 HP according to sub-classes
10. Overall head dimensions 12" x 9 1/2"
11. Weight : approx 46 lbs.

III. TECHNICAL DATA BY SUB-CLASS

HEAD No.	TECHNICAL CHARACTERISTICS								SPECIFIC USES
	No. threads	Needle gauge	Width of bight	Diff. pos.	S P E E D		Knives	Special attachments on req	
					No. of revs. 1" max.	St. per inch			
229-00-01	4/5	3/32"	7/32"	negat.	6.500	7-20	si	106 107 115	ASSEMBLING OF FABRICS WITH OR WITHOUT CURLED EDGES.  For light fabrics, needle distance 3/32", overlock bight 9/64". With spare looper to work also with 5 threads.
229-00-02	4/5	3/32"	7/32"	negat.	6.500	7-20	si	106 107 115	Same as 229-00-01, but particularly suitable for the making-up of very light fabrics avoiding the sliding of same on curved seams.
229-00-03	4/5	3/64"	5/32"	negat.	6.500	10-30	si	106 107 115	Same as 229-00-01, but with needle distance 3/64", overlock bight 1/8".
229-00-04	4/5	3/64"	5/32"	negat.	6.500		si	106 107 115	Same as 229-00-01, but with needle distance 3/64", overlock bight 1/8", particularly suitable for the making-up of very light fabrics avoiding the sliding of same on curved seams.
229-00-05	4/5	3/32"	1/4"	negat.	6.500	7-20	si	100 106 107 115	For medium and heavy fabrics, needle distance 3/32"; overlock bight 11/64". With spare looper to work also with 5 threads.
229-00-06	4/5	13/64"	13/32"	negat.	6.000	7-20	si	115	For very heavy fabrics (blue-jeans, woollen clothes, etc.) needle distance 13/64", overlock bight 15/64". With spare looper to work also with 5 threads.
229-00-07	4/5	13/64"	13/32"	negat.	6.000	7-20	si	115	Same as 229-00-06, but with special feed-dogs suitable for heavy fabrics. Particularly indicated for closing side seams on sports trousers, with pockets already inserted.
229-00-08	4/5	3/32"	1/4"	negat.	6.500	7-20	si	106 107 115	For light and medium fabrics which fray easily. Same as 229-00-05, but with attachment to turn the fabric downwards into the overlock seam. With spare looper to work also with 5 threads
229-00-09	4/5	3/64"	5/32"	negat.	6.500	10-30	si	106 107 115	For light fabrics which fray easily. Needle distance 3/64", overlock bight 1/8", with attachment to turn the fabric downwards into the overlock seam. With spare looper to work also with 5 threads.
229-00-10	<i>same as 0-06</i>								
229-13-01	4/5	3/32"	1/4"	negat.	6.000	7-20	si	106 107	STIFF BINDINGS WITH ATTACHMENTS AND/OR INSERTIONS.  With folder for inserting a 25/64" wide tape inside the overlock seam for binding trouser pocket linings. Needle distance 3/32". Overlock bight 11/64". With spare looper to work also with 5 threads.

III. TECHNICAL DATA BY SUB-CLASS

HEAD No.	TECHNICAL CHARACTERISTICS								SPECIFIC USES
	No. threads	Needle gauge	Width of bight	Diff. pos.	S P E E D		Knives	Special attachments on req	
					No. of revs. 1" max.	St. per inch			
									RUFFLING
229-22-01	4/5	3/32"	1/4"	max.	6.000	8-20	si	107	For light fabrics, with attachment to ruffle the lower fabric with kneepress control. Needle distance 3/32" Overlock bight 9/64". With spare looper to work also with 5 threads
229-22-02	4/5	3/64"	5/32"	max.	6.000	8-20	si	107	Same as 229-22-01, but with needle distance 3/64", overlock bight 1/8".
229-22-03	4/5	3/32"	1/4"	max.	6.000	8-20	si	107	For medium and heavy fabrics. With attachment to ruffle the lower fabric. With kneepress control. Needle distance 3/32" overlock bight 11/64". With spare looper to work also with 5 threads.
229-22-04	4/5	13/64"	13/32"	max.	6.000	8-20	si		For very heavy fabrics, with attachment to ruffle the lower fabric. With kneepress control. Needle distance 13/64", overlock bight 15/64". With spare looper to work also with 5 threads.
									RUFFLING WITH ATTACHMENTS AND/OR INSERTIONS.
229-23-01	4/5	3/32"	1/4" 19/64"	max.	6.000	8-20	si		For light fabrics, with attachment to ruffle the lower fabric and attachment to insert a decorative piping, formed by a doubled strip of fabric with cord inside - needle distance 3/32" - overlock bight 9/64" - with blind looper to work also with 3 threads.
229-23-02	4/5	3/64"	11/64"	max.	6.000	8-20	si		Same as 229-23-01, but with needle distance 3/64", overlock bight 1/8".
229-23-03	4/5	3/32"	1/4"	max.	6.000	8-20	si		For medium and heavy fabrics. Same as 229-23-01, but with overlock bight 11/64".
229-23-04	4/5	13/64"	7/16"	max.	6.000	8-20	si		For very bulk fabrics, Same as 229-23-01, but with 13/64" needle distance - overlock bight 15/64".

## I. INSTALLATION AND SETTING-UP

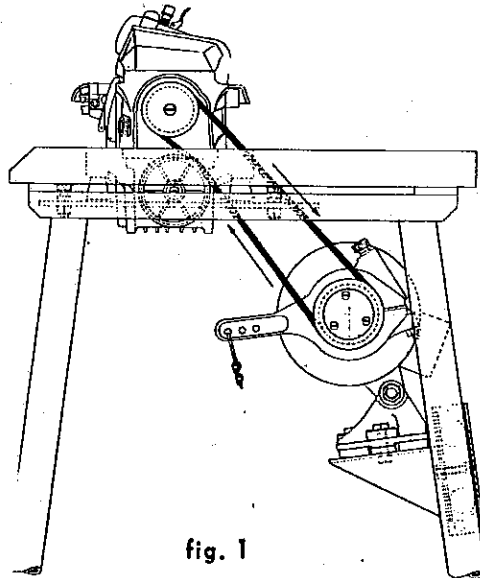
### a) Positioning of head

After motor is mounted on stand, proceed as follows:

1. Push the four shock absorbing rubbers onto the appropriate head mounting plate pins.
2. Place the machine head on the table and center the lower head holes onto the shock absorbing pins.

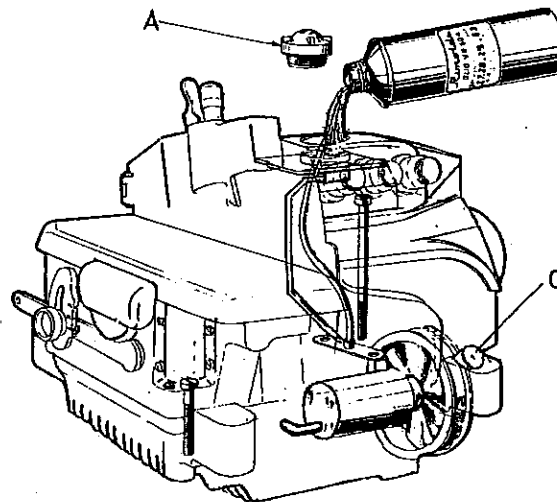
### b) Transmission assembly

1. Fit the transmission belt as in fig. 1.
2. Make sure that back of driving belt rides firmly and squarely on pump pulley.
3. Take-up belt play by adjusting motor clamp.
4. Level the machine head by adjusting the nuts of the bolts which fix the plate to the table.
5. Tighten up the lock nuts on these bolts.



### c) Filling sump with lubricating oil. (Fig. 2)

1. Unscrew cap A.
2. Pour in 1 3/4 pts. of VR. 604 oil (Esso Standard Teresso 43) (Bear in mind that the sump holds 2 pts.)
3. Check oil level. The oil visible through indicator glass G, should be between the two red lines.
4. Replace and tighten cap 'A'.
5. Put a few drops of oil on the needle clamp guide rod and upper looper bar before starting machine.
6. Run the machine free of work for about 5 minutes, progressively increasing the speed from 1500 r.p.m. to working speed.



### d) Assembly and adjustment of sewing parts

**Note:** The following operations serve to adjust the timing of the machine.

1. Timing gauges required:
  - S. 1665.00 for all operations except No. 4 (fig. 4)
  - S. 1555.00 for operation No. 4 (fig. 4)
  - S. 1708.00 for all operations of chain stitch (fig. 11/12)
2. Preliminary stripping of:
  - Front cover plate
  - The two thread take-ups of the lower looper holder
  - Plate holding thread tensioners
  - Upper plate with oil spy-glass
  - Side plate protecting needle movement
  - Front feed dog.

small front cover of chain stitch con rod

### 3. Positioning the overedging needle (fig. 3)

-- with the needle plate properly mounted, the needles should be centered for passage through the appropriate needle holder in the needle plate.

with the needles at top dead center, the distance between the tip of the needle and the work plate should be 3/8".

if height adjustment of the needle clamp is necessary, loosen bolt 'A' (fig. 3) and set distance with gauge S. 1665.00.

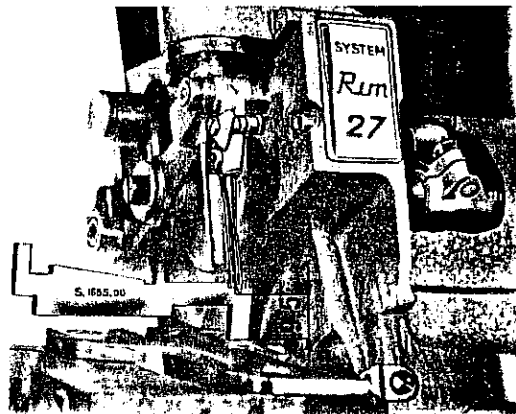


fig. 3

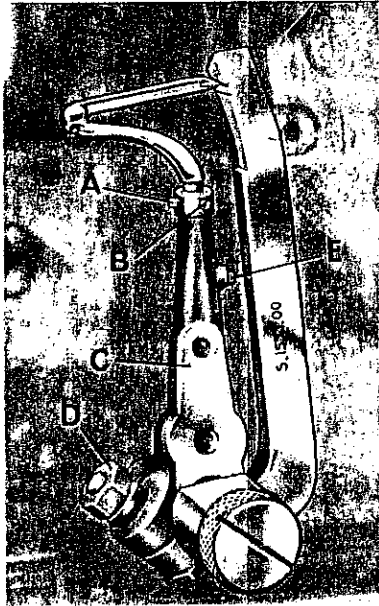


fig. 4

### 4. Setting lower looper (fig. 4).

#### SETTING HEIGHT

- Loosen screw 'E'.
  - Firmly screw gauge S. 1555.00 into the lower looper shaft.
  - Adjust looper height so that its point coincides with the upper notch on the gauge.
  - Lightly lock looper with screw 'E'.
  - While pressing bush 'A' against the looper holder, lock it by means of screw 'B'.
- Remove gauge S. 1555.00

#### Adjusting angle

Slightly loosen screw 'D'.

Rest the gauge S. 1665.00 on the milled base as in fig. 5; obtain correct inclination by moving lever 'C' and by rotating the looper (previously having only been held in its seating and not locked).

The exact position corresponds to that given in the setting tables.

Firmly tighten screw 'E' (fig. 4).

### Positioning the looper with respect to the needle (fig. 6).

With the looper hard to the left, check the figure given in the timing table.

Move lever 'C' up and down the shaft it rotates on. When moving from left to right, the looper point should pass 0,002 from the bottom of the needle notch. Firmly tighten screw 'D'.

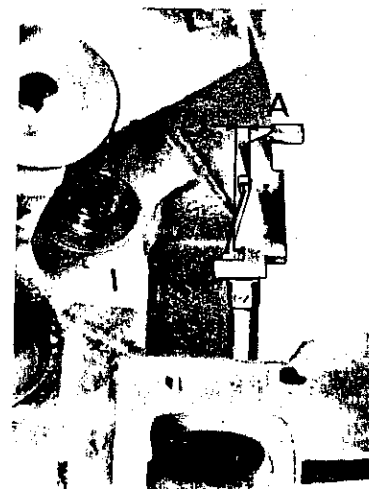


fig. 5

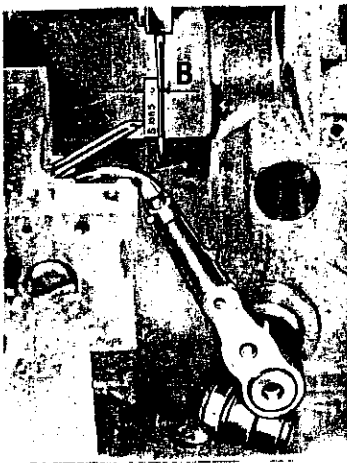


fig. 6

### 5. Setting upper overedging looper

NOTE - To obtain the figure of  $11/32'' - 23/64''$  in fig. 9, it is necessary to move lever 'E' up or down, at the same time remembering that by doing this the distances in figs 7 and 8 will increase or decrease.

- Slightly loosen screw 'B'
- Slightly loosen screw 'A'
- Adjust the crossing of the upper and lower loopers by rotating the upper one until its point grazes the back of the lower one.



fig. 7

- Check the settings shown in figs. 7-8-9
- The upper looper should graze the needle when passing from left to right.
- Should this condition not exist, slightly loosen screw D and push the whole assembly towards the interior or exterior of the machine, without altering the setting previously obtained. Ensure perfect kinematic motion.
- Tighten screw D.
- Recheck the crossing of the two loopers and all the other settings.
- Tighten screws 'A' and 'B'.
- To finish off, make sure that all assemblies move freely.

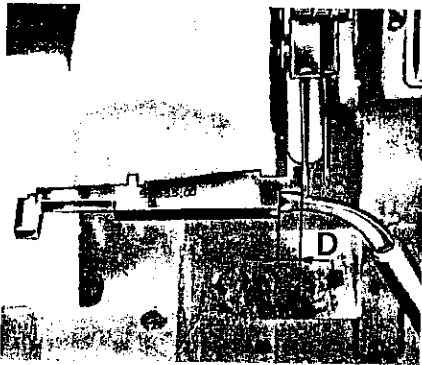


fig. 8

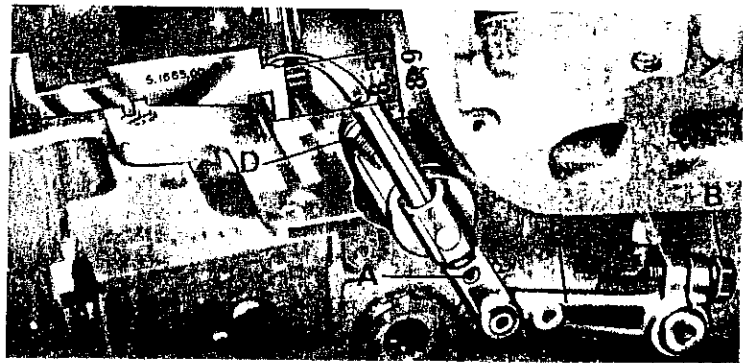


fig. 9

### 6. Attaching needle guards (fig. 10).

- Attach rear needle guard A to front needle guard D and lightly fix it with screw B.
- Attach front needle guard D to the machine base with screws C.
- With the needle down, adjust the front needle guard so that the tip of the lower looper grazes the needle when travelling to the right.
- Lock screws C.
- Move the rear needle guard A near to the needle keeping this in its lowest position.
- Lock the rear needle guard with screw B.
- Thread the needle bringing it back to its lowest position and push it lightly against the rear needle guard A.
- The thread should run freely. If it does not run it means that the needle is too low and the thread is being held between the needle and the rear needle guard.

NOTE - The looper tip when moving to the right should pass through the upper part of the notch and through the lower part when moving to the left.

- For very hard synthetic materials, the needle must flex considerably against the front needle guard.

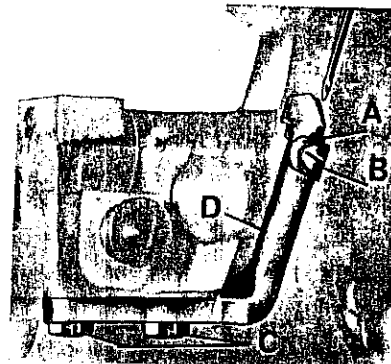


fig. 10

### 7. Chain stitch looper timing (fig. 11).

- Slide the stop bush onto the chain stitch looper shaft.
- Fit this into the looper holder and lightly lock it with allen screw A.
- With the appropriate gauge n. S 1608, check the looper angle (fig. 12).
- Lock screw A.
- With the looper fully to the left adjust the distance between the needle and the tip of the looper with eccentric B.
- When carrying out this operation, be sure to keep the eccentric B with the maximum eccentricity turned towards the bottom.
- Lock the eccentric with allen screw C.
- Lightly slacken off bolt D and slide the looper holder F on its shaft until the tip of the looper G enters the needle notch with a distance from this as for setting X (see timing table).
- Lock screw D.

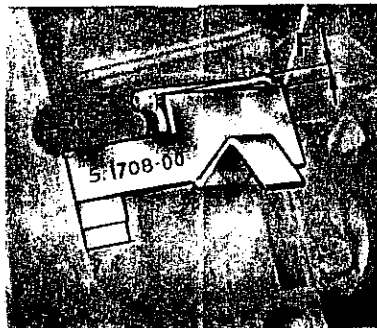


fig.12

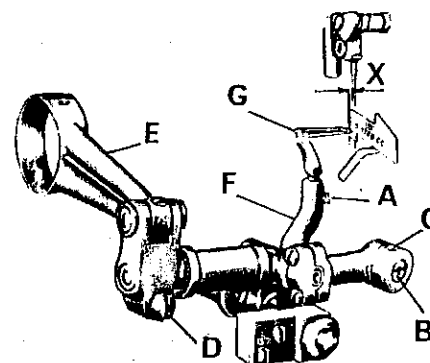


fig.11

- Attach the needle plate and bring the needle down so that the point passes through the needle plate table.
- Lightly bend the needle towards the operator and continue the descent.
- This is to check that the needle point does not pass in front of the looper but bends on the back of this.

### 8. Mounting the lower knife (fig. 13).

- Insert knife D into its seat .
- The cutting edge of the knife should not protrude from the needle plate table.
- Lock screw A.
- Lock bush L and washer G with screw F.
- Ensure that knife holder C runs freely then adjust it in relation to the width of stitch desired.
- Lightly tighten screw N.
- Having positioned the upper knife in contact with the lower, slacken screw N. Spring M with shaft H creates the correct contact pressure between the two knives.
- Resting a finger on screw A, lightly turn this to lock screw N.
- This pressure should be light so as not to cause strong friction between the two knives which would blunt them.
- Attach front needle guard P for the chain stitch needle on the knife holder and lightly lock it with screw Q.
- Move it towards the needle so that the tip of the looper grazes the needle when travelling from left to right.
- Firmly lock the front needle guard with screw Q.

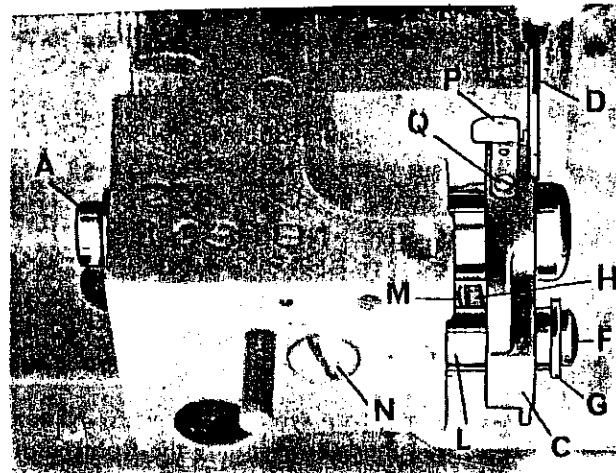


fig.13

## 9. Fitting and adjusting feed dogs (figs. 14 and 15)

- Remove plexiglass plate under the work plate .
- Fit the rear feed dogs C and D (fig. 14) and match the feed dog slides.
- Inserting a small screw driver through the threaded holes in the slides, tighten, but not completely, screw F by means of the groove in its point.
- Fit the front differential feed dog E with screw G but do not lock (fig. 15).
- Loosen screw A.
- Adjust the feed dog inclination by rotating the eccentric B.
- The feed dog teeth, protruding from the needle plate, should be perfectly parallel with this plate.
- With the feed dogs at the highest point, the distance between their teeth and the plate surface, measured on the front of the feed dog differential, should be  $3/64''$ .
- Feed dog C should be on the same plane as the other two.
- Lock screws F, G and A.

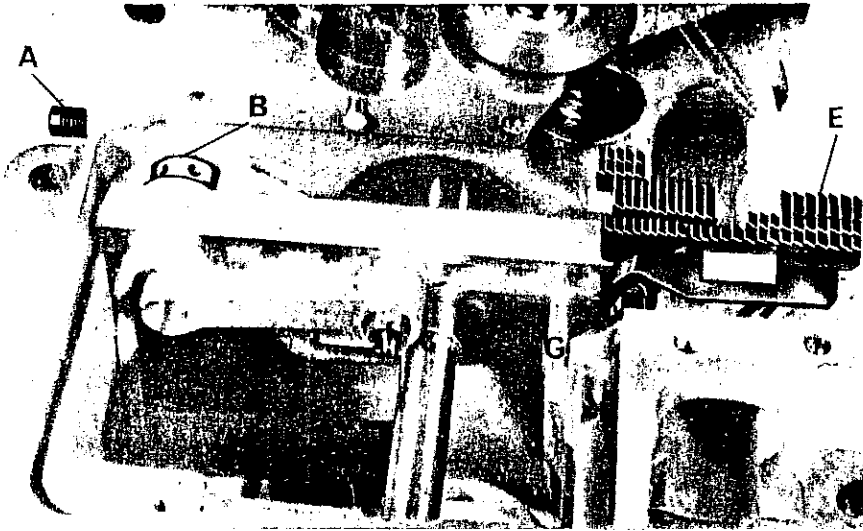


fig. 15

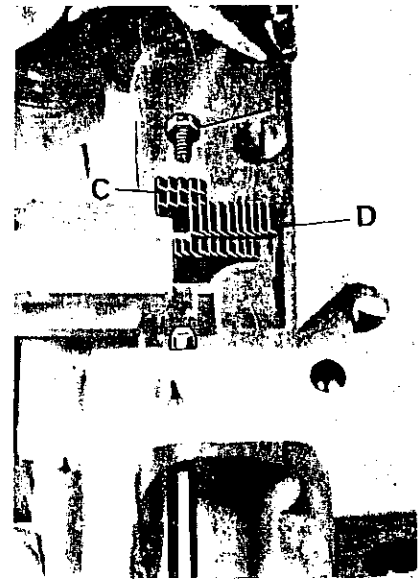


fig. 14

## 10. Feed (fig. 16).

**NOTE** – The machine heads illustrated in this manual are supplied with the feed adjusted to suit the work for which the machines are destined. Should it ever be desired to alter the feed, then proceed as follows:

- 1) Annulling the differential feed:
  - Slacken off nut B with spanner A and move spindle Q which controls the rear feed-dog to its upper position.
  - Lock nut B; lower lever H against the stop F and tighten knob R by hand.
- 2) Operating differential feed up to a ratio of 2 : 1
  - Slacken off nut B.
  - Move spindle Q upwards as far as it will go
  - Lock nut B
  - Move lever H against the stop G.
- 3) Operating the differential feed up to a ratio of 3,5 : 1
  - Slacken off nut B
  - Move spindle Q down as far as it will go
  - Lock nut B
  - Move lever H against stop G.
- 4) Operating differential feed up to a ratio of 4 : 1
  - Lift the cursor C of sector S as high as possible
  - Carry out operation n. 3
  - By using lever E it is possible to obtain variations of the differential ratio with the machine in motion.
- 5) Negative operation of differential feed
  - Slacken off nut B.
  - Move spindle Q as high as possible.
  - Lower cursor C as much as possible.



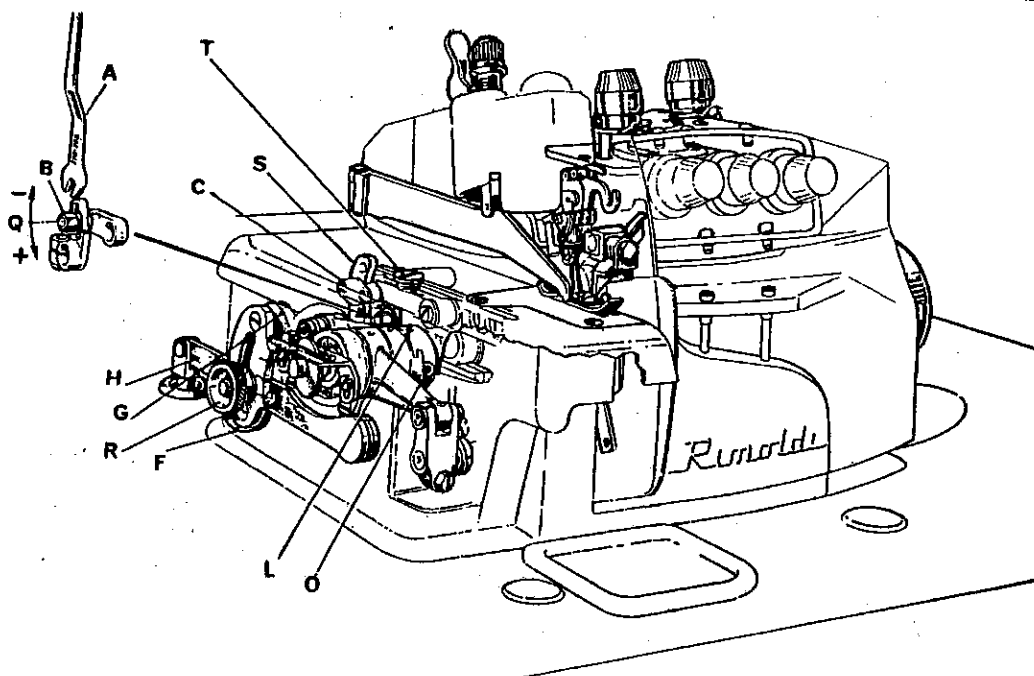


fig.16

11. Fitting upper knife (fig. 17).

- Fit upper knife C into its seat in block A.
- Attach block D and brackets E and G with bolt F.
- When knife C is at the bottom of its stroke, its cutting edge should be 1/32" below the cutting edge of the lower knife.
- To obtain this, adjust knife C in its inclined seat and block A on the body of the upper knife holder B.
- Lock bolt F and then make sure that when the upper knife reaches the bottom of its stroke it does not touch the front needle guard.

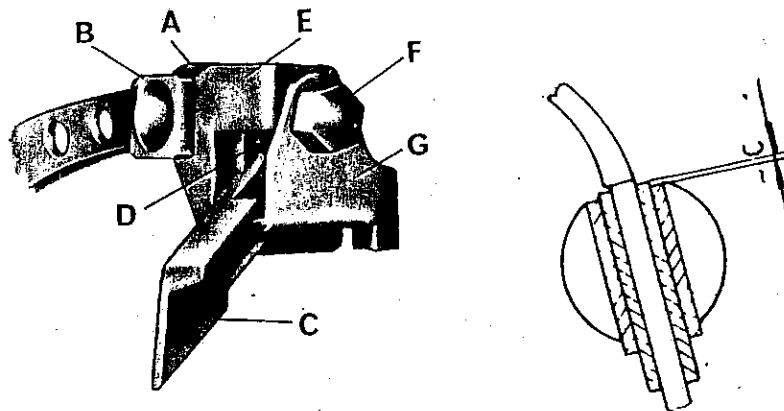


fig.17

TIMING TABLE

SYMBOLS OF HEADS	A	B	C	D	E	F	X
229 00-01 = 229-00-02 = 229-00-04 = 229-00-05 = 229-00-06							
229-00-07 = 229-00-08 = 229-00-09 = 229-13-01 = 229-22-01							
229-22-02 = 229-22-03 = 229-22-04 = 229-23-01 = 229-23-02							
229 23-03 = 229-23-04	2,5	1,5	0,5	3,7	3,5	0,9 - 1	0,1 - 0,2
229-00-03	2,5	1,5	0,5	3,7	3,5	0,9 - 1	0,1 - 0,2

e) Locking and adjusting presserfoot holder lever (fig. 18)

- Slide the shaft on lever L into bush C to which lever D is hinged.
- Insert shaft L and bush C into the appropriate hole in the base.
- Slide lever A and spring E onto shaft L.
- Attach spring clip F to end of shaft L.
- Adjust lever A to eliminate axial play of shaft L.
- Lightly tighten screw B.
- Insert lever D into the guiding fork with the needle at top dead center.
- Connect lever A to the rod joined to the presserfoot raising pedal.
- When the pedal is depressed there should be some free play before lever D is acted upon.

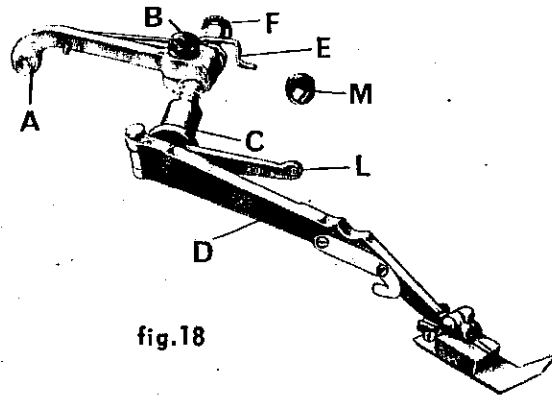


fig.18

- Adjust the screw in the base under lever A until this raises the presserfoot to the required position.
- Ensure that when the upper looper is in movement it does not touch the presserfoot chaining finger when presserfoot is in its highest position. A better guard against the upper looper and the presserfoot chaining finger hitting, is supplied by adjusting the eccentric washer M which is under lever D and attached to the side cover.
- Lock screw B.

f) Adjusting the front cover plate (fig. 19).

- Adjustment is carried out with the plate closed.
- The movable part C should not interfere with the front needle guard or the lower knife holder.
- Slacken off nut A.
- Adjust screw B to move the plate to left or right.
- Lock nut A.

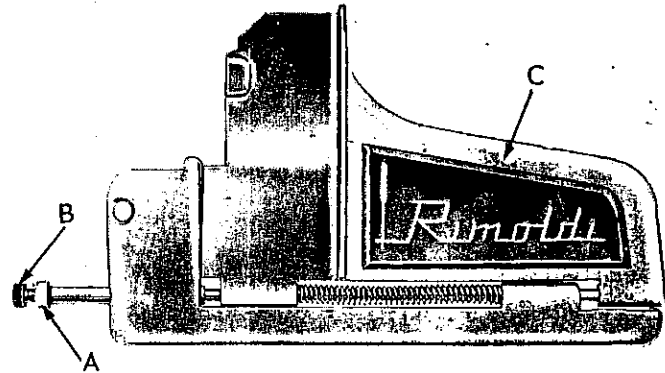


fig.19

g) Adjusting needle thread take-up

- When working with very hard materials, adjust the needle thread take-up 270-274/2 by moving it forward, that is towards the operator.

h) Adjusting thread take-up cam (fig. 20)

- Slightly slacken two screws on the cam.
- Turn the machine handwheel fully in the working direction.
- Before the needle reaches top dead centre the highest cam guide should start to take up the looper thread.
- Lock the two screws of the thread take-up cam.

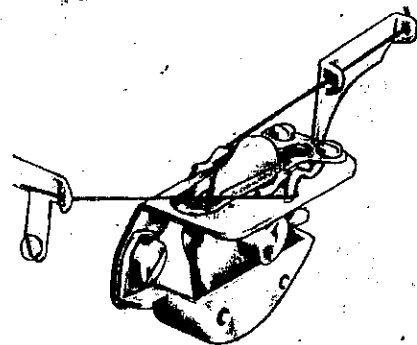


fig.20

## ELECTRICAL EQUIPMENT FOR LUBRICATION CONTROL (PRESSURE SWITCH)

### i) Dismantling and replacing the pressure switch

- Remove the sump from the base and empty the oil.
- Remove the screw fixing the pressure switch bracket to the sump.
- Remove the two screws holding the cable end.
- Remove the plastic tube from the pressure switch which connects this to the rubber union.
- Remove the support bracket and fix it to the new pressure switch.
- Attach the cable end with the screws, slide the plastic tube into the pressure switch and fix this in sump with appropriate screw.
- Replace the sump and fill with oil as described on page 11 para. c.

### Changing the pressure switch bulb

- Carry out operations 1 and 2 as explained for the substitution of the pressure switch.
- Remove tube, extract the bulb, which has a bayonet fitting, and replace with a new one.
- Re-attach the tube, position the pressure switch in the sump and attach with the screws.
- Replace sump and fill with oil as explained on page 11 para. c.

### Electrical connection of pressure switch on Zefir motors

- Plug the connection cable into the pick-up socket and plug the other end into the 12 V. socket on the motor.
- Note:** if connection has to be made to a motor not equipped with a light socket, but equipped with a 12 V. take-off in the connection box, proceed as follows:
- Connect the two wires of the joining cable 270-433 to the 12 V. clamps in the motor junction box, then insert the cable end into the main cable take-off 270-431 in order to complete the electrical connection of the pressure switch.

### Regulating flow of lubricating oil through the main shaft (fig. 21).

- Remove cap.
- Adjust index B with a screw driver. (Movement towards the C engraved on the plate decreases the oil flow, towards the letter A increases flow).

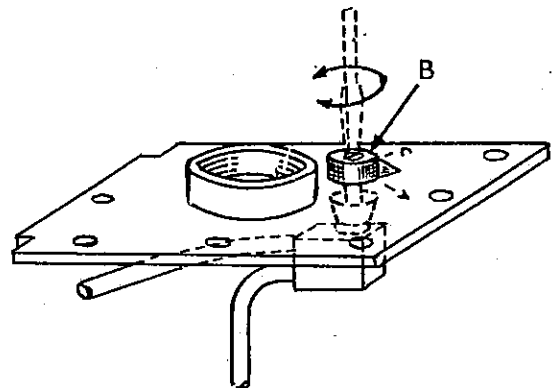


fig.21

1. Switch off the motor.
2. Depress the pedal which starts the motor to ensure the machine is completely off.
3. Move the needle to top dead centre.
4. Press lever B right down. (fig.22)
5. Remove the presserfoot from its working position.
6. Slacken the needle locking screw half a turn with screw driver 1161/2.
7. Remove the needle.
8. Fit new needle.
9. The notch through which the looper passes should face towards the rear needle guard, that is, towards the interior of the machine.
10. Using the tweezers supplied ensure that the needle touches the end of the needle holder.
11. Tighten the locking screw being careful not to alter the position of the needle.
12. Do not overtighten.

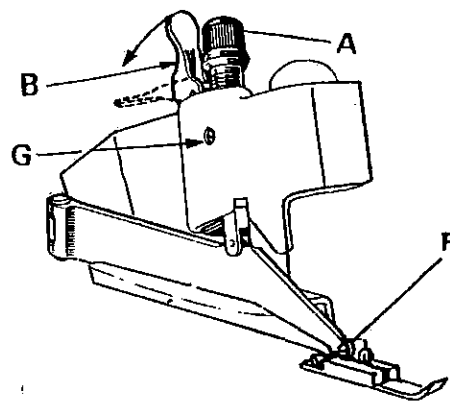


fig. 22

#### c) Positioning and adjusting presserfoot pressure (fig. 22)

1. Check correct positioning of presserfoot.
2. The needle should pass between the presserfoot shoe and chaining finger.
3. To adjust presserfoot slacken off screw F.
4. Center the presserfoot in the correct position and lock screw F.
5. To increase or decrease the presserfoot pressure, slacken off screw G with spanner 633-742 and adjust knob A.
6. Lock knob A with screw G through spanner 633-742.

#### d) Tension adjustment

1. Tighten the tensioners sufficiently to permit a regular stitch formation.
2. Never overtighten.

#### e) Stitch length adjustment (fig. 16)

1. Remove screw cap T on the plexiglass plate.
2. Slacken off screw L which tightens the eccentric.
3. Adjust screw Q of stitch length adjustment. (movement towards the right shortens the stitch length, while movement towards the left lengthens it).
4. Lock screw L.
5. Replace screw cap T.

#### f) Adjustment of seam width

The seam width can only be varied to a very limited extent, after which the needle plate has to be changed. To vary the width within these limits proceed as follows:

1. Slacken off screw N in the lower knife holder (fig. 13).
2. Slacken off screw F (fig. 17).
3. Move upper knife support A (fig. 17) to right or left till desired seam width is obtained.
4. Lock screw F (fig. 17).
5. Lower knife holder re-setting should be carried out in accordance with the instructions in para. a) 7.

### III. MAINTENANCE

#### a) Every day

Briefly clean all machine parts relating to feed and stitch formation.

#### b) Every week

1. Remove needle plate and clean the feed dogs, needle guards and loopers.
2. Open front cover plate and carefully clean inside
3. Carefully clean inside the plate covering the needle movement assembly.

#### c) Every three months

1. Using the spanner supplied, remove the sump drain plug and drain off oil completely.
2. Remove screw 007-M-15 which attaches filter to plug.
3. Extract filter and clean by immersing in petrol.
4. Air blast filter and sump plug.
5. Soak felt with clean oil.
6. Replace sump plug.
7. Refill machine with 1 3/4 pts. of new VR. 604 oil.

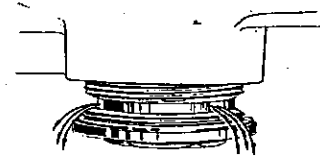


fig.23

#### IMPORTANT

In operation 1 para. c) do not completely remove the plug to begin with, so that most of the oil runs out through the side holes in the plug (fig. 23).

#### d) Knife sharpening

1. When sharpening the knives use the RIMOLDI sharpener and special block which guarantees exact sharpening angle. This block is supplied on request.

#### e) Instructions for removal of cam shaft

- Necessary tools supplied on request only.
- Pliers model S. 0560/00.
- Pliers model S. 0459/00.
- Extractor S. 0416/00

#### IMPORTANT

It is absolutely essential that the principal components of the crank-shaft/con-rod assembly are replaced in their original position. To this aim proceed as follows:

- Replace the G and T flanges with the lubrication hole towards the bottom.
- Leave the screws holding the con-rod caps in their holes.
- Con-rods J and L are distinguishable one from the other by means of a 2 stamped on the top surface of L and three lines on J.
- The con-rod caps are engraved with similar markings and should be matched to the respective con-rod. Both marks should be on the same side.
- The position of con-rod N is given by the drawing number which should be on the pulley side.
- Carefully follow the cup spring assembly order.

SEQUENCE OF OPERATIONS (fig. 24)

1. Remove the sump from the base.
2. Remove screw Z.
3. Dismantle the thread take-up cam plate (H).
4. Remove screw M and the thread take-up cam H.
5. Remove flange G.
6. Slacken off the two screws of the eccentric.
7. Remove ball race A and washer B.
8. Move the eccentric C and con-rod R to the right.
9. Move con-rod F to the right.
10. Loosen the two screws and remove eccentric E of con-rod F.
11. Remove eccentric flange C.
12. Remove con-rod caps N, O, J, L.
13. Remove pulley wheel cover Y.
14. Slacken off the exagonal screw X.
15. Remove washer W.
16. Extract pulley V.
17. Remove flange T.
18. Remove spacer U.
19. Remove cup springs S.
20. Extract spring ring P using pliers S.0459/00 slightly moving the shaft to the right.
21. Dismantle sectors K and Q.
22. Extract the shaft.

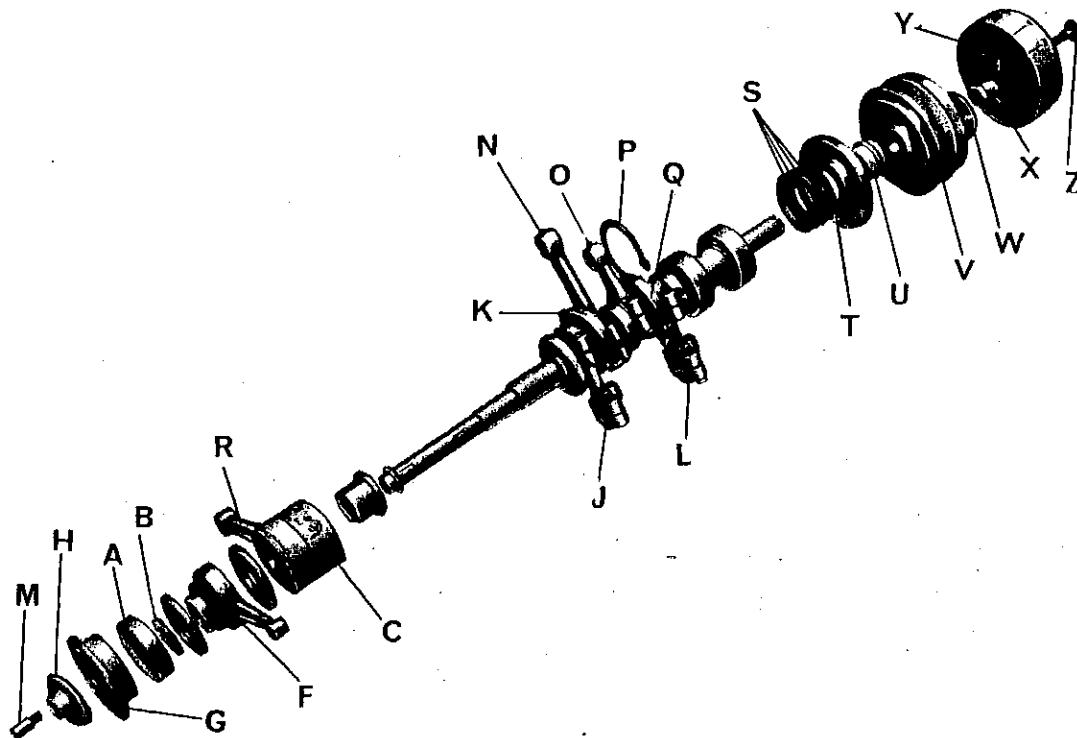
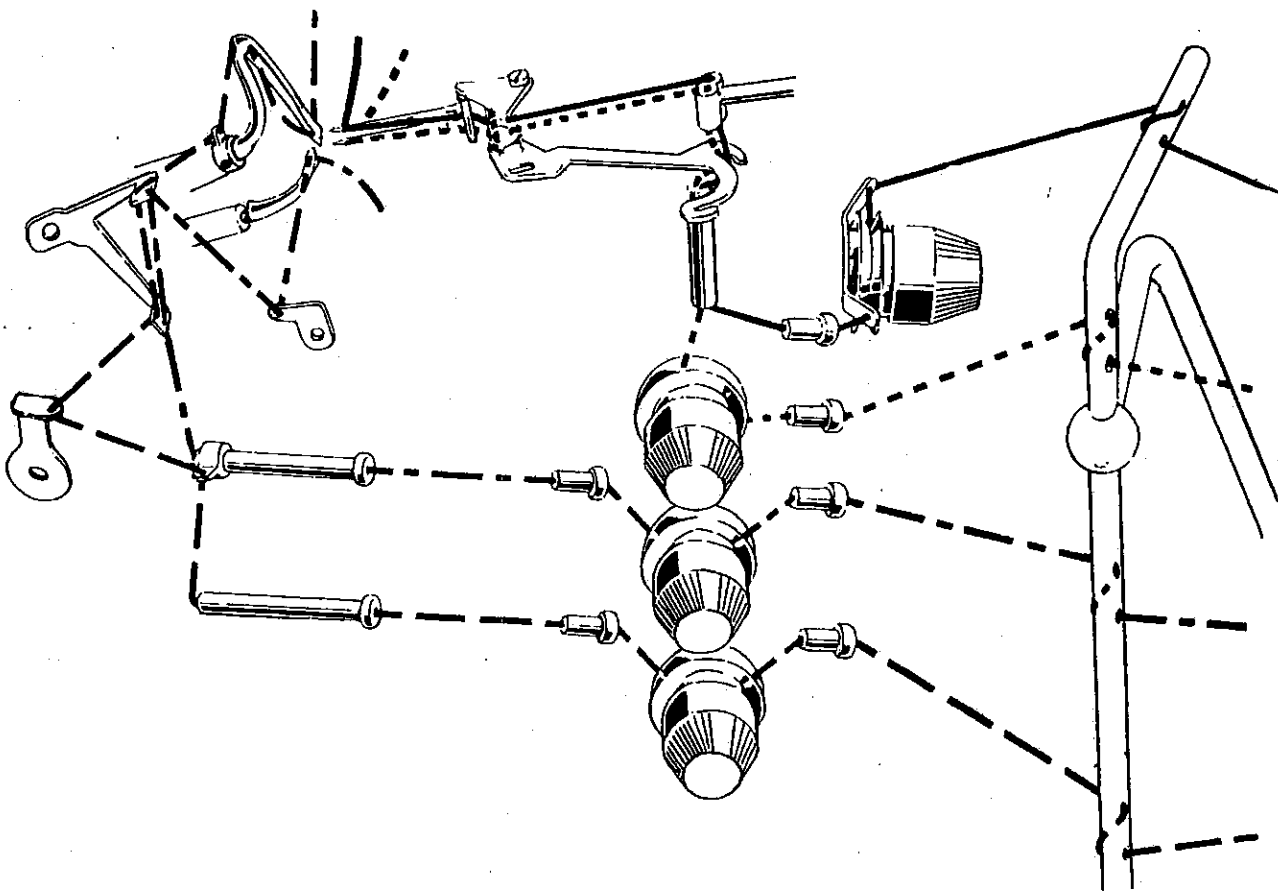
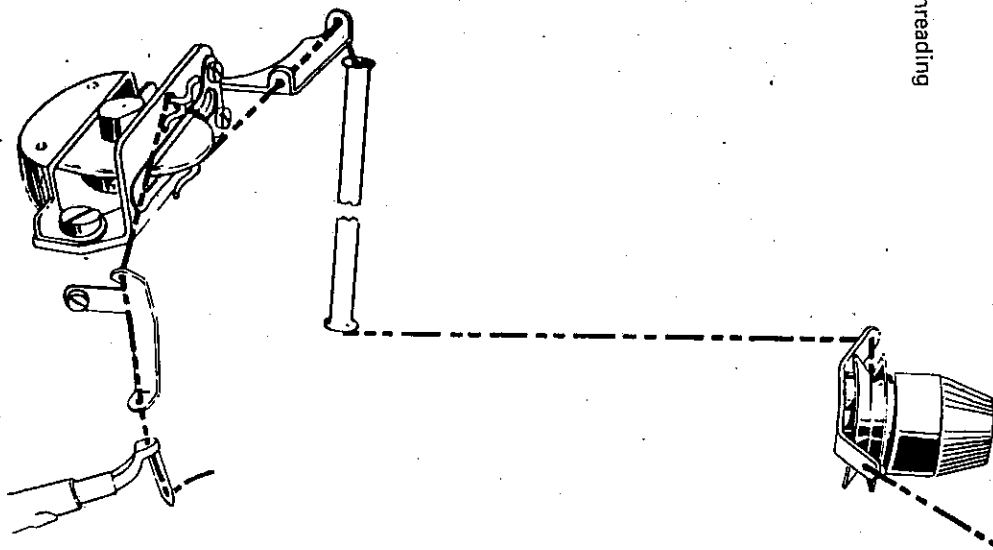


fig.24

II. USE

a). threading



g) Faults due to improper handling of the machine

n°	FAULT	PROBABLE CAUSE
1	Irregular stitch	<ul style="list-style-type: none"> <li>- Tensioners badly adjusted</li> <li>- Thread take-ups badly adjusted</li> <li>- Incorrect threading</li> <li>- Yarns not gauged</li> </ul>
2	Feed and material slipping	<ul style="list-style-type: none"> <li>- Insufficient presserfoot pressure</li> <li>- Bad adjustment of feed dog height and inclination</li> <li>- Knives need sharpening</li> <li>- Differential badly adjusted</li> </ul>
3	Skip stitching	<ul style="list-style-type: none"> <li>- Upper or lower looper badly adjusted with respect to needle consequently blunting looper</li> <li>- Loopers too far apart when crossing</li> <li>- Loopers too close when crossing with consequent blunting.</li> <li>- Front needle guard too far from needle</li> <li>- Needle badly positioned</li> </ul>
4	Thread breaking	<ul style="list-style-type: none"> <li>- Tensions too tight</li> <li>- Thread wound irregularly on the reel</li> </ul>
5	Needle breaking	<ul style="list-style-type: none"> <li>- Bent needle</li> <li>- Needle badly fitted</li> </ul>
6	Puncturing of material	<ul style="list-style-type: none"> <li>- Blunt needle</li> <li>- Needle size not suitable to throat plate</li> <li>- Needle with unsuitable point</li> </ul>
7	Loss of oil	<ul style="list-style-type: none"> <li>- Screw holding sump to base not tightened enough</li> <li>- Sump plug not screwed up properly</li> <li>- Sump gasket badly fitted.</li> </ul>
8	Lack of lubrication	<ul style="list-style-type: none"> <li>- Oil level too low</li> <li>- Drive belt badly fitted</li> <li>- Upper tube clogged</li> <li>- Lubrication pump filter blocked.</li> </ul>