

Yamato[®]

Instruction Manual

HIGH SPEED 4 NEEDLE FLAT BED INTERLOCK STITCH MACHINE



CF2360

This instruction manual includes adjustments differed from CF2300.


Before using your CF2360, please read both of the instruction manuals and understand the contents well.

After reading the instruction manual, please keep them in a location where it is easily accessible to the operator.

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Attention

- ◇ This instruction manual is designed mainly for technicians, but it is advisable that also operators read the instructions with  mark to use the machine properly.
- ◇ The numbers in lower left corners of figures are figure numbers. We use them in texts as needed for your reference.

Attention

The description in this instruction manual is subject to change for improvements of the commodity without notice.

1. Sewing speed and rotating direction of pulley

Refer to Table 1 for maximum sewing speed and standard speed.

Run a new machine at speed about 15 - 20% lower than maximum speed during the first 200 hours (for about one month) so that a machine can offer a long service life in good condition.

The rotating directions of the machine pulley ① and the handwheel ② are clockwise as shown in the figure.

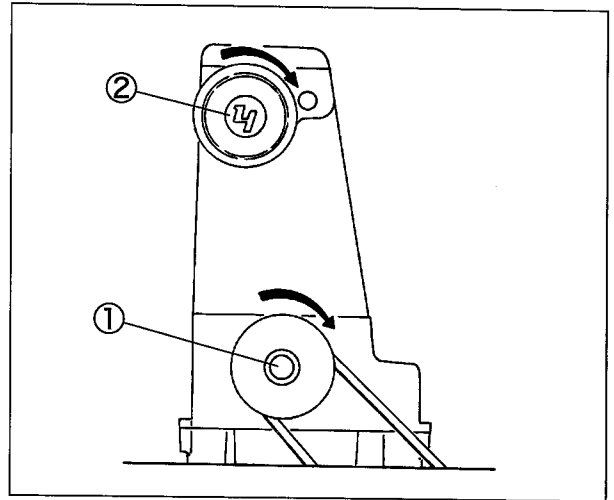


Fig. 1

⚠ CAUTION

If rotated in reverse direction, oil cannot be supplied properly. It can cause the damage to the machine.

Model	Max. speed (rpm)	Standard speed (rpm)
CF2360	5500	5000

Table 1

2. Proper operation

2.1 Needle system



Sewing needle:

Groz-Beckert UY118GKS

Organ FL × 118GCS

Select the proper sewing needle in size depending on thickness and type of material.

Retainer needle:

One retainer needle is used with four sewing needles.

Groz-Beckert 36211, 36211A (with scarf)

Organ FLG-1, FLG-8 (with scarf)

Select the proper retainer needle in size depending on thickness and type of material.

Japanese standard	8	9	10	11	12
Metric standard	60	65	70	75	80

Table 2

Note: Some needles have not been sold in size. Check the size in a manufacturer's catalog.

Japanese standard	8	9	10	11	12
Metric standard	60	65	70	75	80

Table 3

Note: Some needles have not been sold in size. Check the size in a manufacturer's catalog.

2.2 Threading



When threaded, rethread after knotting preset threads.

When not threaded, thread correctly as shown in Fig. 2.

Incorrect threading can cause skip stitch, thread breakage, or uneven seam.

A: Top cover thread B,C,D,E: Needle thread F: Looper thread

Needle thread

Pull out the thread until it is in front of the needles. Then, cut off the knots before needle eye to rethread.

Thread correctly for the left needle in the inmost position as shown in the figure.

Looper thread and Top cover thread

Pull the thread until the knot is out. Then, cut off the knot.

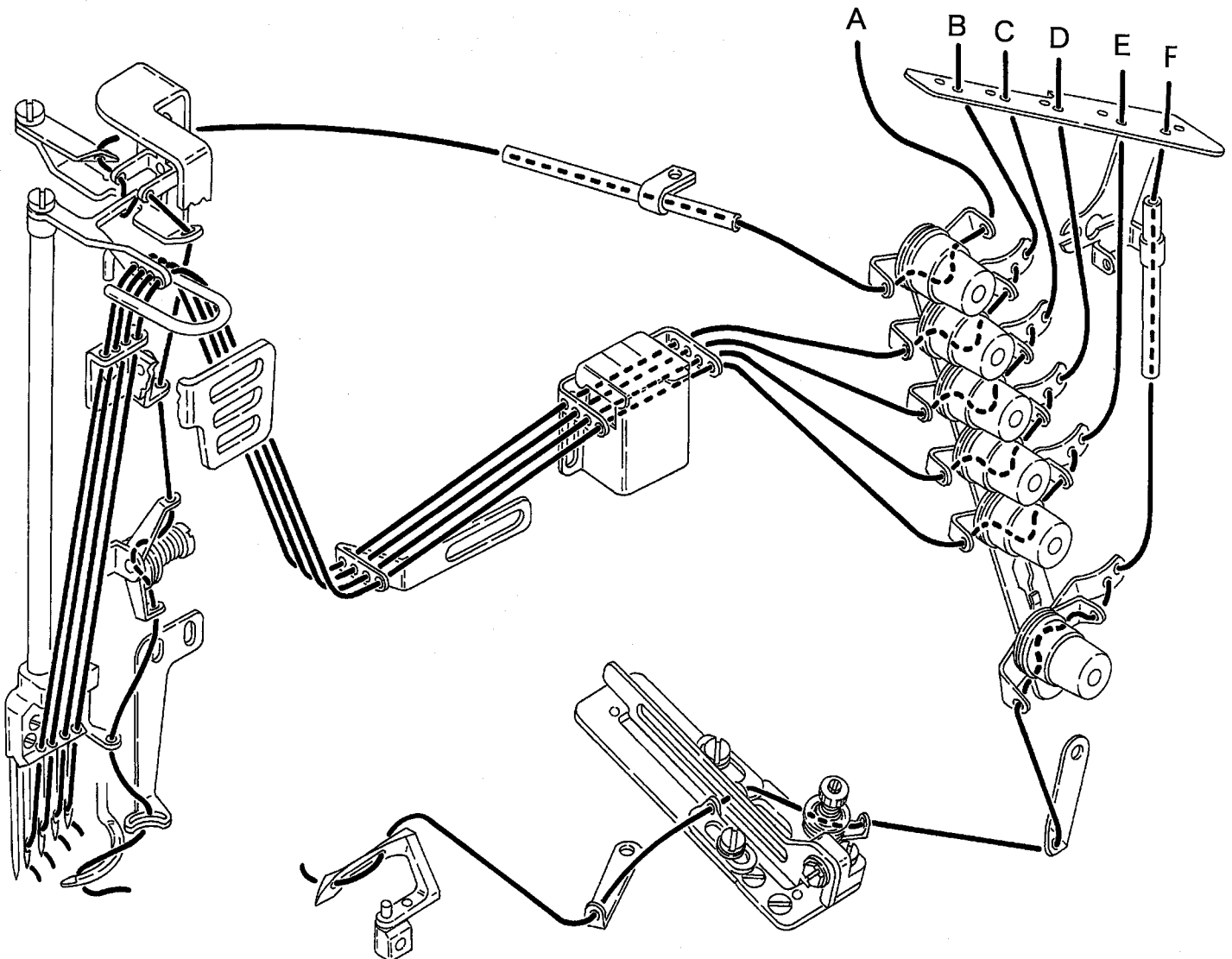


Fig.2

3. Adjustments

WARNING

Before adjusting, ALWAYS turn the power switch OFF and check that the machine has already stopped.

3.1 Needle thread tension

As standard, make the distance between the needle thread take-up ① and the center of the left screw ② to 63 mm, and set the part “a” horizontally when the needle bar is at the highest point.

Adjusting:

- (1) Loosen the screws ②.
- (2) Move the needle thread take-up ① to adjust it.
 - To tighten the needle thread tension, move the needle thread take-up ① in the direction “T”.
 - To loosen the needle thread tension, move the needle thread take-up ① in the direction “L”.
- (3) Tighten the screws ② securely.

If not enough for adjusting above, move the needle thread eyelet ③ to adjust it.

Make the distance between the top of the needle thread eyelet and the center of the screw ④ to 8 mm as standard.

Adjusting:

- (1) Loosen the screw ④.
- (2) Move the needle thread eyelet ③ to adjust it.
 - To tighten the needle thread tension, move the needle thread eyelet ③ in the direction “T”.
 - To loosen the needle thread tension, move the needle thread eyelet ③ in the direction “L”.
- (3) Tighten the screw ④ securely.

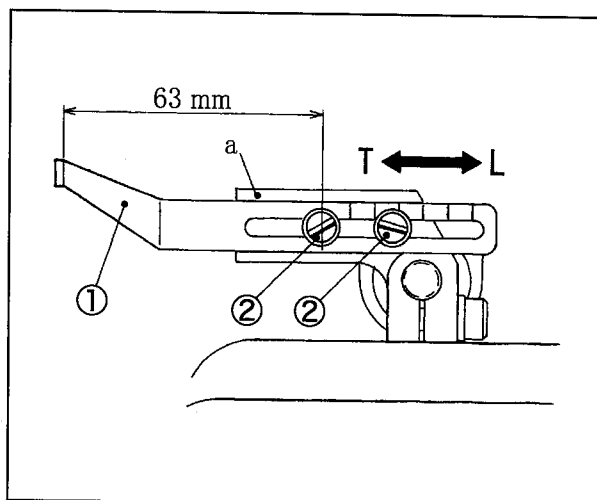


Fig. 3

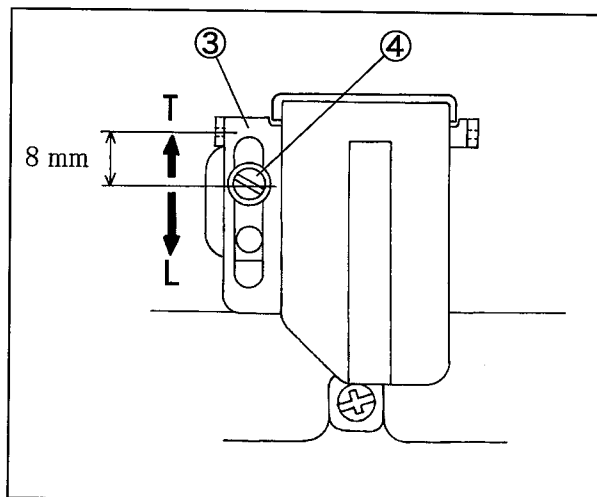


Fig. 4

☆ Needle thread guide is used to stabilise forming the loop of needle thread.

As standard, the top of needle thread guide② is align the center of needle bar eyelet ① when the needle bar is at the lowest point.

Loosen the screw③ to adjust the high and right-and-left position of the needle thread guide②.

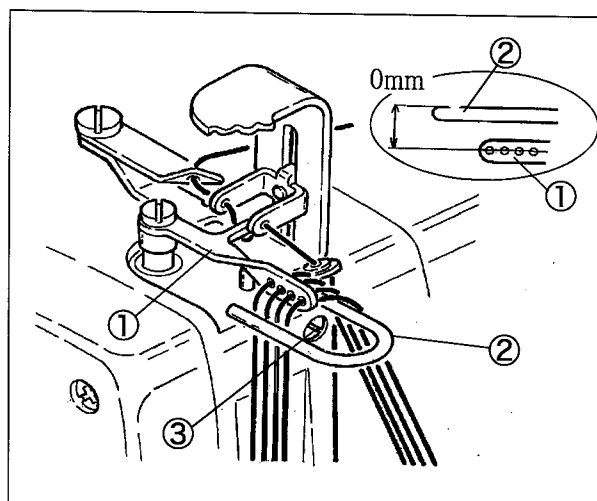


Fig. 5

3.2 Top cover thread tension

Loosen the screw⑤ and move the top cover thread eyelet(upper)④ to adjust it.

- To decrease take-up amount, move the top cover thread eyelet(upper)④ in the direction "T" .
- To increase take-up amount, move the top cover thread eyelet(upper)④ in the direction "L" .

When using stretchable thread like woolly, move the top cover thread eyelet(upper)④ in the direction "L" .

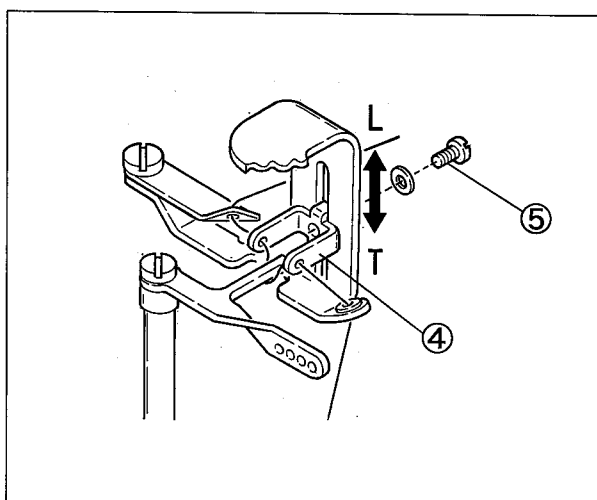


Fig. 6

3.3 Loper thread tension

Position of looper thread take-up

Fig. 7 shows the looper thread take-up seen from the needle bar side.

When the left needle lowers from the highest point and meets a half of the looper, the thread comes off from the top of the looper thread take-up. Loosen the screws ① to adjust it.

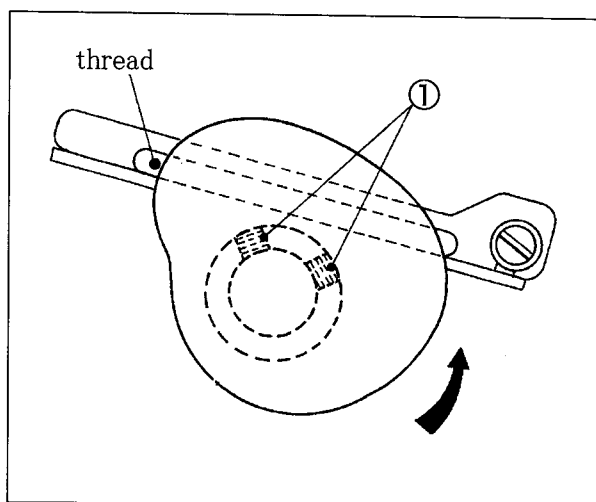


Fig. 7

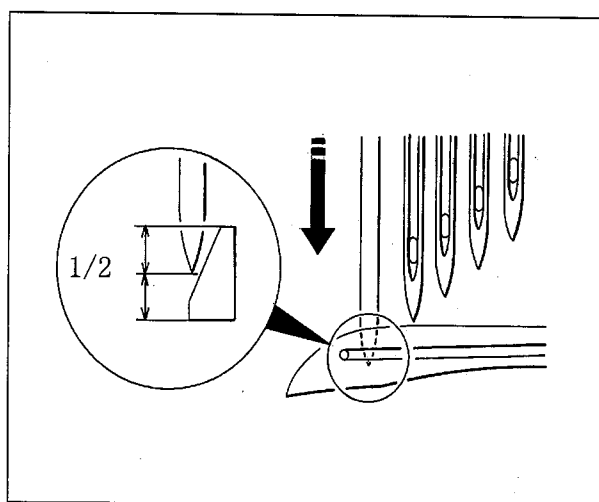


Fig. 8

3.4 Removing presser foot and presser foot lift

Removing presser foot

- (1) Loosen the screws ② of the lifter lever stop ①, the screws ④ of the collar ③, and the screw ⑧ of the presser foot ⑦.
- (2) Push down the lifter lever ⑤ to remove the presser foot ⑦.

Adjusting height of presser foot

- (1) Push down the lifter lever ⑤ to make the height from the top of the stitch plate to the bottom of the presser foot to the value of M in the Table 4.
- (2) Tighten the screws ② securely.
- (3) With keeping that, make the clearance between the end of the presser bar bushing ⑥ and the top of the collar ③ to 0.2 mm.
- (4) Tighten the screws ④ securely.

After adjusting, push down the lifter lever ⑤ fully to check the height of the presser foot.

Presser foot lift depends on the needle distance.

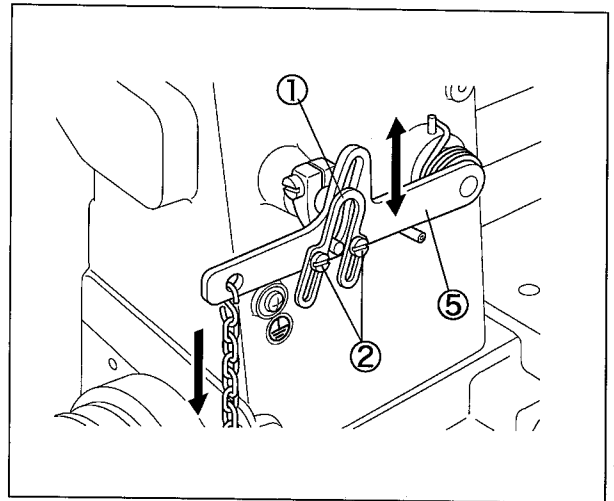


Fig. 9

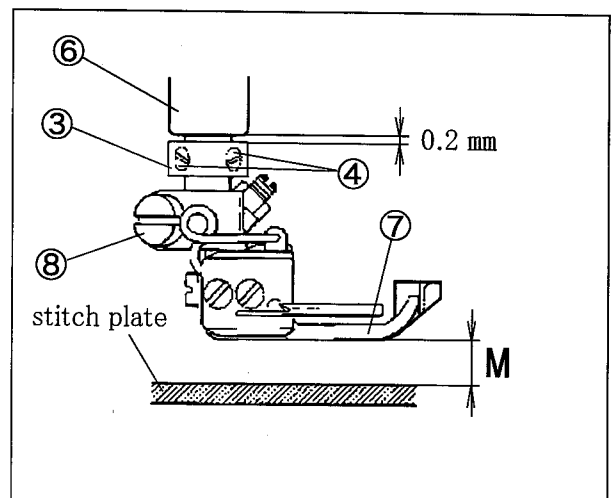


Fig.10

Needle distance	Presser Foot height (M) (mm)
5.6	4.5
6.4	4

Table 4

3. Adjustments

3.5 Loooper

3.5.1 Installing angle and height of looper

Insert the looper ① into the looper holder ② fully and tighten the screw ③ securely.

It makes the height and installing angle (0°).

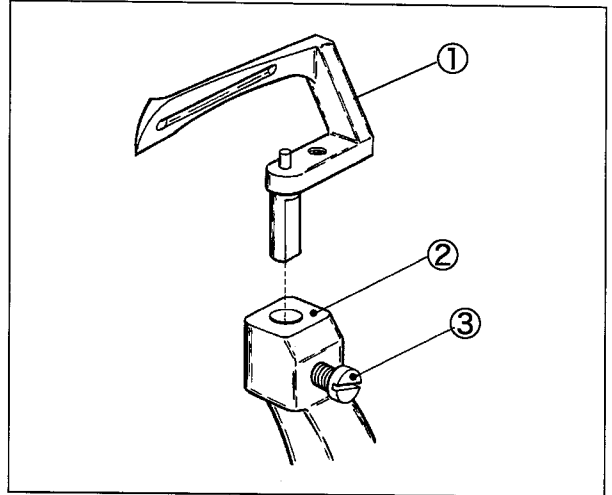


Fig. 11

3.5.2 Distance between looper and needle

The distance between the looper tip and the center of the right needle is 2.7–2.9mm, when the needles are in the lowest points, and the looper ① is in the extreme right.

Loosen the screw ④ to adjust it.

NOTE

The distance between the center of the needle bar and the looper ① tip is 6.0 mm even if the needle distance changes.

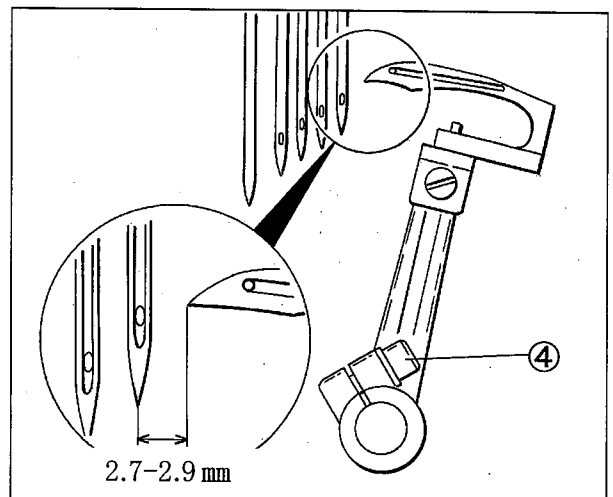


Fig. 12

① Supplement

The timing gauge (No. 3200262) makes it possible to adjust the distance easily.

The gauge is an extra part. Place an order from our agents or directly from us.

3.5.3 Using timing gauge

Move the looper at the extreme right. Keep fitting the right needle into the groove "V" corresponding needle distance, and fit the looper tip to the gauge.

Then, tighten the screw ④ securely. (Fig. 12)

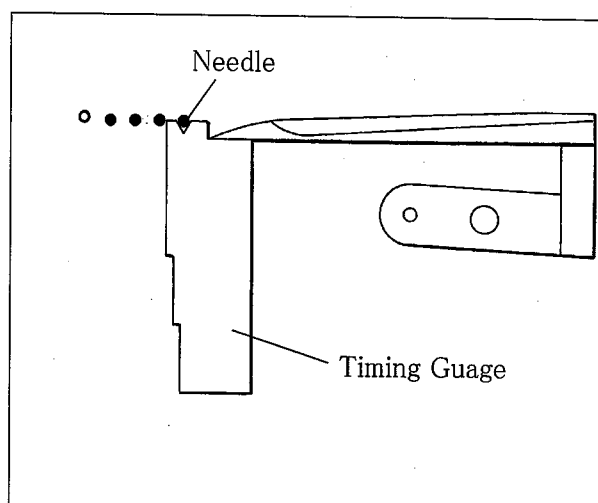


Fig. 13

3.6 Height of needle bar

Check points:

- ◇ Needles should be inserted fully into the needle holes of the needle clamp and fixed securely.
- ◇ Looper should be inserted fully into the looper holder and fixed securely.

Adjusting the height on the basis of looper:

- (1) Install the needle to the left hole in the needle clamp.
- (2) Check the looper is inserted into the looper holder fully.
- (3) Turn the handwheel until the looper tip meets the center of the left needle.
- (4) Loosen the screw ① of the needle bar bracket. Move the needle bar up or down so that the looper tip passes 0.5 – 0.9 mm above the top of the needle eye.
- (5) Tighten the screw ① securely. Check that the needles drop in the centers of the needle holes of the stitch plate respectively.

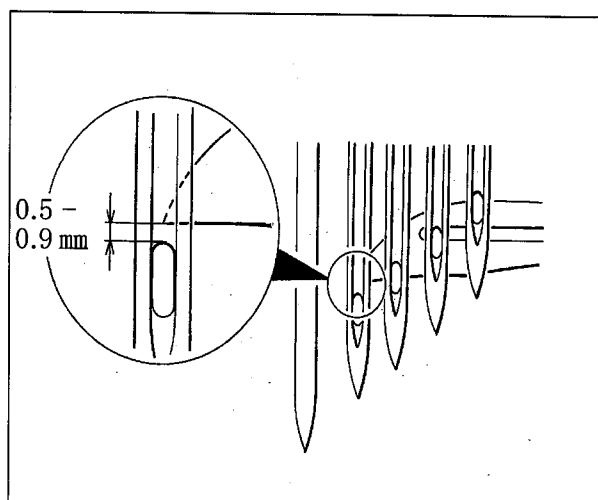


Fig. 14

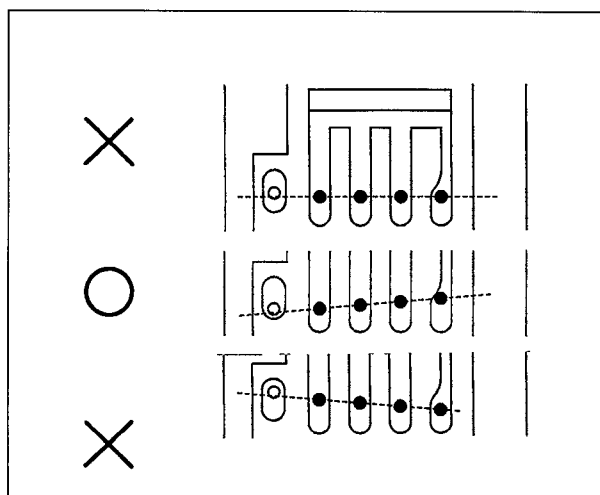


Fig. 15

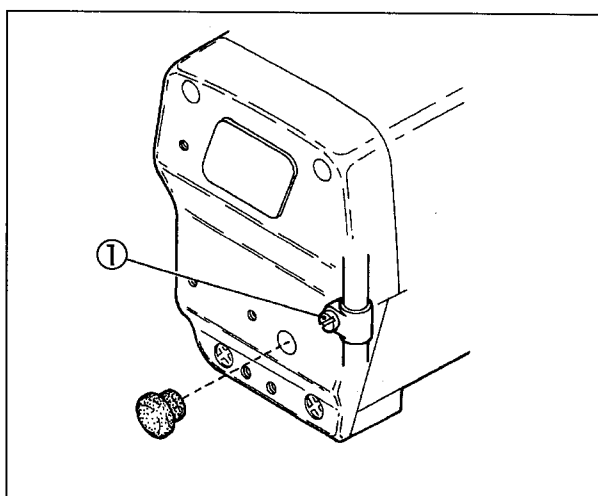


Fig. 16

3. Adjustments

Adjusting the height from stitch plate

Adjusting the height from the surface of stitch plate with needle at the uppermost position, adjust the distance (M) from the fourth needle from the right to the height shown in the table below.

Needle distance	UT	Mmm
5.6	×	7.8
	○	7.3
6.4	×	6.8
	○	6.3

Table 5

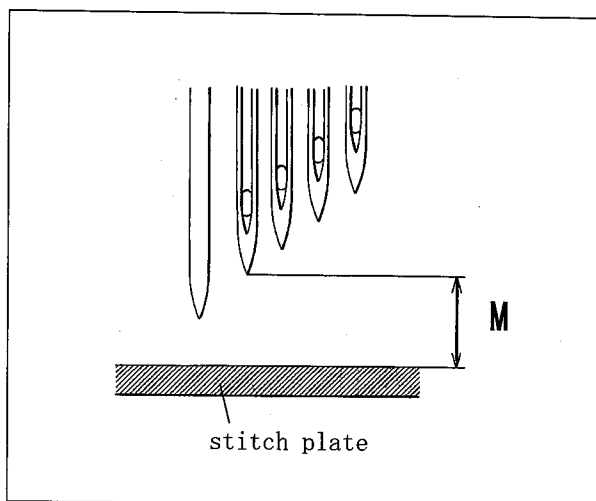


Fig.17

3.7 Front-and-rear position of needle and looper

Longitudinal position of Needle and Looper

When the looper tip ① meets the left needle ②, the clearance between them must be 0.02-0.05mm. Loosen the screw ③ to adjust it.

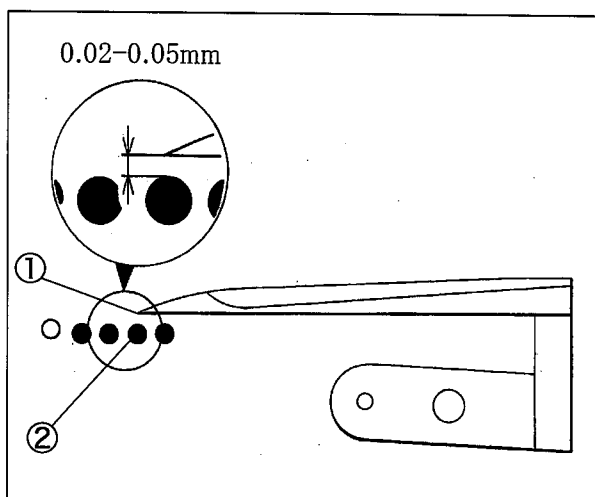


Fig.18

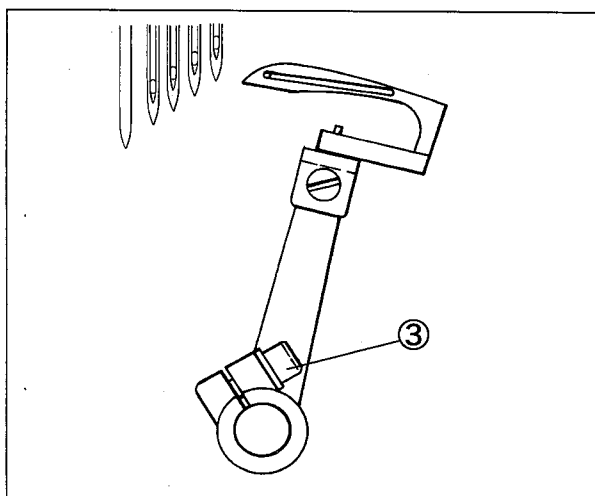


Fig. 19

3.8 Needle and needle guard

3.8.1 Needle guard(rear)

Height:

When the needle is at the lowest point, Align the line "a" on the needle guard(rear)① at the lower part of needle eye of the extreme right needle.(Fig. 21)

Front-and-rear position:

(1)When the looper tip meets the center of the extreme right needle, make the clearance between them to 0 - 0.05 mm to push the needle guard(rear)① to the right needle.(Fig. 22)

Make the clearance between the left needle and the needle guard(rear)① to 0.05 - 0.1 mm.

Loosen the screws ②③ to adjust them.

(2)While lightly pressing retaining needle④ against needle guard(rear)①, the looper tip must come in contact slightly with retaining needle when the looper tip passes.(Fig. 23)

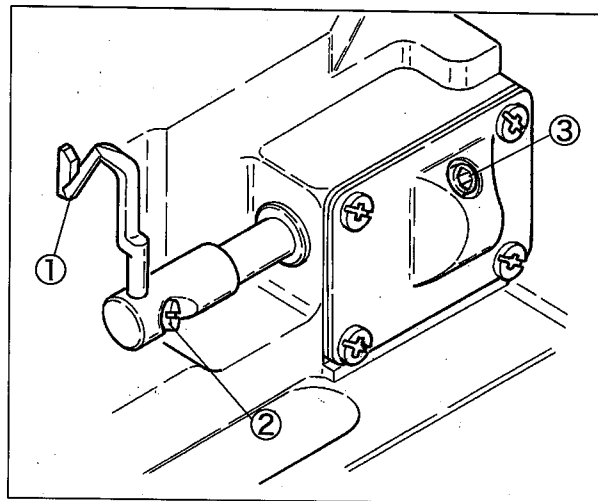


Fig. 20

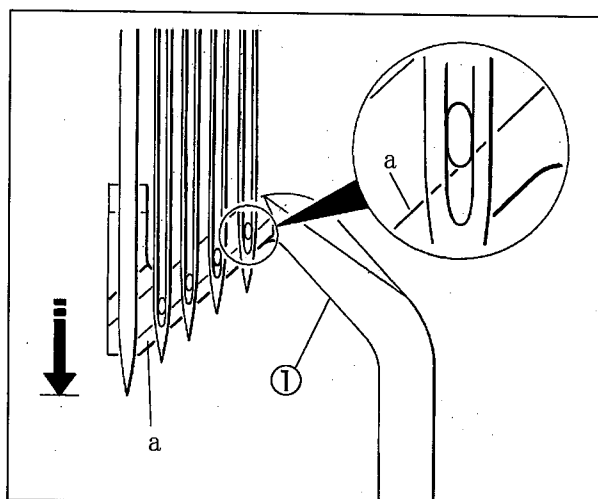


Fig. 21

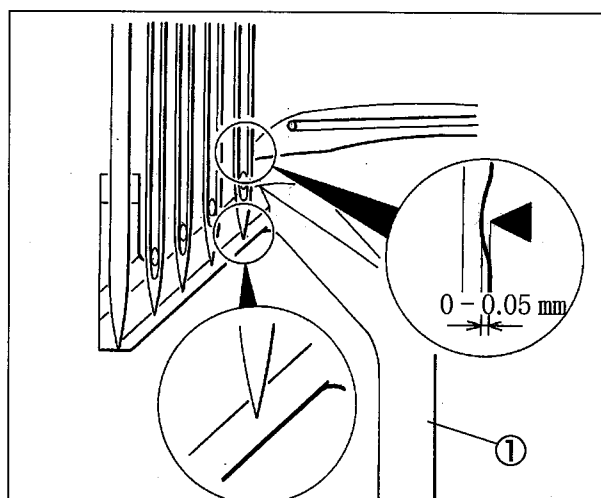


Fig. 22

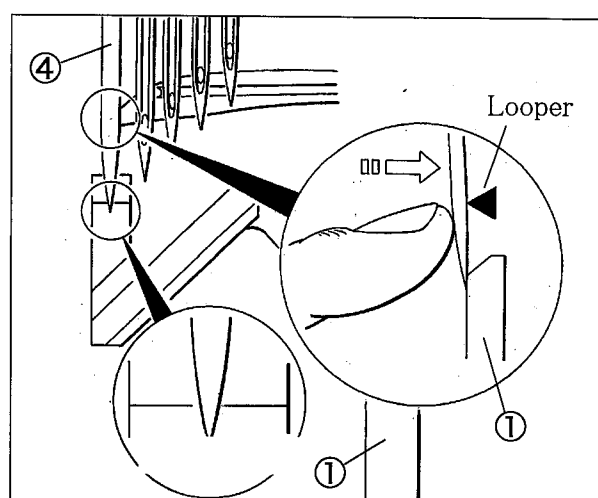


Fig. 23

3. Adjustments

3.8.2 Needle guard(front)

The clearance between needle and the needle guard(front)① makes it approach without coming in contact as much as possible.

Loosen the screw ② to adjust it.

NOTE

Adjust a clearance properly so as not to shift, if needle comes in contact too much with needle guard (front), looper tip hits needle, and needle shift widely left, when looper moves from the right to the left.

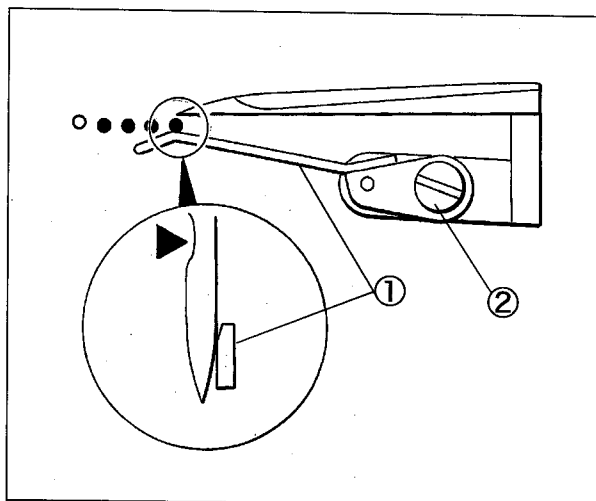


Fig. 24

3.9 Needle and spreader

Spreader

Make the clearance between the left needle and the hook "a" to 0.3 mm when the spreader ① moves from the right to the left.

Make the clearance between the center of the left needle and the hook "a" to 1.5 mm when the spreader moves at extreme left.

Make the height from the top of the stitch palte to the bottom of the spreader ① to value M of Table 5.

Loosen the screw ② of the spreader and the screw ③ of the spreader holder ④ to adjust it.

NOTE

Adjust the height of the spreader so that the top cover thread passes behind the right needle and be caught by the left needle within adjustable range based on the needle distance.

Needle distance	UT	Mmm
5.6	×	6.7
	○	6.2
6.4	×	6.2
	○	5.7

Table 6

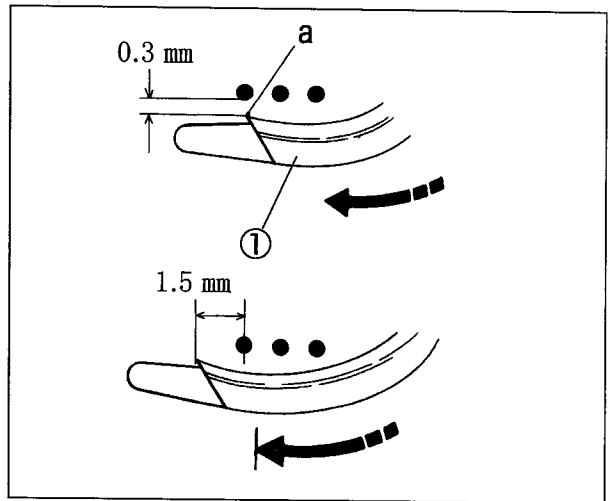


Fig. 25

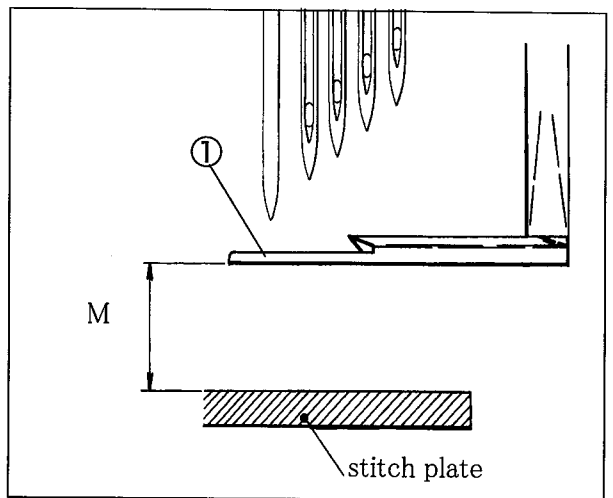


Fig.26

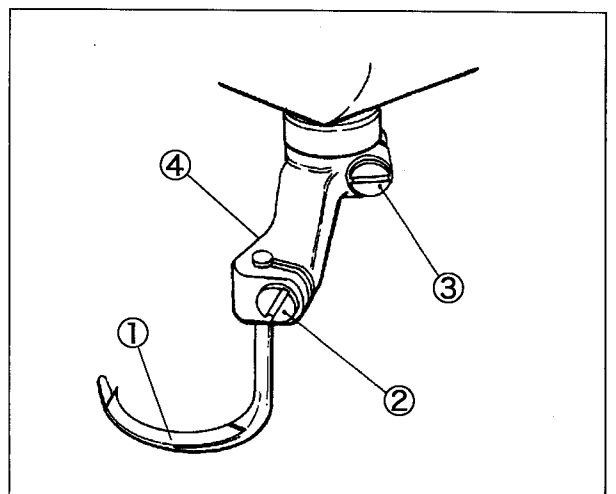


Fig.27

4. Specifications

Model	CF2360
Description	High speed flat bed 4-needle interlock stitch machine
Dimensions	500 (L) × 250 (W) × 430 (H) mm
Weight	41 kg
Stitch Type	ISO 607
Application	Covering for knitted fabric
Sewing Speed	During intermittent operation
	Up to 5500 rpm
Stitch Length	1.4 – 3.6 mm
	The number of stitches 7 – 18 stitches per inch (25.4 mm) 8 – 21 stitches per 30 mm
Needle system	Sewing needle:FLX118GCS(organ) or UY118GKS(Shumetz) #65 – #80 Retaining needle:FLG-1, FLG-8(organ) or 36211, 36211A(Shumetz)
Needle Distance	5.6, 6.4 mm
Needle Stroke	26 mm
Presser Foot Lift	4.0 mm (needle distance: 6.4 mm) – 4.5 mm (5.6 mm)
Feed Regulation	Push button system
Differential Ratio	1:0.7 – 1:2
Differential Feed Regulation	External lever even during operation
Lubrication	Lubrication automatically by pump
Lubricating Oil	YAMATO SF OIL #28
Capacity of Oil Reservoir	1100 cc
Installation	Semi-submerged type

Table 7

Yamato
YAMATO SEWING MACHINE

YAMATO SEWING MACHINE (NINGBO) CO., LTD.

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