



PEGASUS®

UT Device

Thank you for purchasing Pegasus' labor saving device.

Study this manual very carefully before beginning any of the procedures and then use the device correctly and safely.

Keep this manual in a convenient place for quick reference when needed.

Pneumatic underbed thread trimmer
with stitch locking capability

INSTRUCTIONS

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Be sure to study very carefully **for safety.**

1. Introduction

- This manual describes the instructions for using this device safely.
- Study this manual very carefully and understand fully how to operate, check, adjust and maintain the labor saving device before beginning any of the procedures.
- You always perform operations close to moving parts such as needles when using industrial sewing machines. Therefore you have to keep in mind you could easily touch them. To prevent accidents, it is essential that you use the safe products supplied by Pegasus correctly.
All the people who will use sewing machines must study this manual and the instruction manual for sewing machines very carefully and then take necessary safety measures before beginning any of the procedures.

2. Indications of dangers, warnings and cautions




To prevent accidents, indications (symbols and/or signs) which show the degree of danger are used on our products and in this manual. Study the contents very carefully and follow the instructions.

Indication labels should be found easily.










Attach new labels when they are stained or removed.

Contact our sales office when new labels are needed.

Symbols, signs and/or signal words which attract users' attention

 DANGER	Indicates an immediate hazard to life or limb.
 WARNING	Indicates a potential hazard to life or limb.
 CAUTION	Indicates a possible mistake that could result in injury or damage.

Symbols and messages

	Be sure to follow the instructions when you operate the machine and/or labor saving device.
	If you use the machine and/or labor saving device incorrectly, you may get an electrical shock.
	If you use the machine and/or labor saving device incorrectly, your hands and/or fingers may be injured.
	If you use the machine and/or labor saving device incorrectly, you may cause fire.
	Never do this.
	Unplug the machine or shut off the power when checking, adjusting and/or repairing the machine and/or labor saving device, or when lightning may strike.
	Be sure to connect to ground.
	If you use the machine and/or labor saving device incorrectly, your fingers and/or hands may be caught in them or it, causing trouble.
	If you use the machine and/or labor saving device incorrectly, you may burn yourself.

3. Safety precautions

① Applications, purpose

The labor saving device is designed to increase quality and productivity according to you needs.
Therefore never use the device for the applications which may defeat the above purpose.

② Circumstances

Some circumstances when you are using the labor saving device may affect its life, function, performance, and safety.



For safety, do not use the labor saving device under the circumstances below.

1. Do not use the device near objects which make noise such as a high-frequency welder, etc.
2. Do not use or store the device in the air which has vapor from chemicals, or do not expose the device to chemicals.

3. Do not leave the device outside, in high temperatures or the direct sun.
4. Do not use the device in high humidity or ambient temperatures which may affect them.
5. Do not use the device on the condition that the voltage fluctuation range is more than $\pm 10\%$ of the rated voltage.
6. Do not use the device at the place where the supply voltage specified for the control motor cannot be properly obtained.
7. Do not use the device at the place where the air supply specified for the device cannot be properly obtained.
8. Do not expose the device to the water.

③ Safety measures



(1) Safety precautions when you perform maintenance on the labor saving device.

- When performing maintenance such as when checking, repairing, cleaning the labor saving device, turn off the power, disconnect the power plug from the outlet and press the machine treadle in order to make sure the machine does not run.

If you have to perform maintenance on the machine and/or labor saving device with the power on, always be careful because the machine and/or device could start operating unexpectedly.

To prevent accidents caused by incorrect operation, you should establish your own procedures for safe operation and follow them.

- Only well-trained people should perform routine daily maintenance and/or repair the machine and/or device.



● Do not modify the machine and device yourself.

※ Consult your local Pegasus' sales office or representative for modification.



(2) Before operating the device

- Before operating the device, check the machine head, machine unit and device to make sure they do not have any damage and/or defects.

Repair or replace any defective parts immediately.

- To prevent accidents, always make sure the safety covers and safety guards are properly secured.
Never remove the safety covers and safety guards.



(3) Training

- To prevent accidents, operators and service/maintenance personnel should have proper knowledge and skills for safe operation.
To ensure so, managers must design and conduct training for these people.

4. Notes for each procedure



CAUTION

① Unpacking



The machine and device are packed in boxes (and plastic bags) in the factory before shipment. Unpack the boxes and bags properly and sequentially by following the instructions shown on them.

② Installation, preparation



CAUTION




Connecting the air lines

1. Always turn off the power first and then connect the air lines to the joints. Be sure to connect all the air lines before connecting them to the air source.
2. When connecting the air lines to the joints, be sure to insert the joints to the proper depth of the air lines and fasten securely.
3. Do not allow excessive force to be exerted on the air lines while using the device.
4.  Do not bend the air lines too much.
5. If necessary, protect the air lines by positioning them safely and/or using the cover.
6.  Do not use staples to secure the air lines. Otherwise it may cause damage.




WARNING


Connecting the cords

1.  When connecting the power cord, be sure to turn off the power and disconnect the power plug from the outlet.
2.  Check the voltage designation to make sure the power relay cord matches the local supply voltage. The use of wrong cord may cause damage to parts and/or fire.
3. Do not allow excessive force to be exerted on the cords while using the device.
4.  Do not bend the cords too much.

-
5. Confirm that the cord is at least 25mm away from moving part of the machine and/or the device when you connect the cord.
 6. If necessary, protect the cords by positioning them safely and/or using the cover.


7.  Do not use staples to secure the cords. Otherwise it may cause damage.

Ground

1. Connect each of the ground wires in the sewing machine system to the ground terminal. Do not connect one device's ground wire to another device's.
2.  Connect the ground wires securely to the indicated ground points on the machine head.



WARNING

③ Before operation


1. Check the cords, connector and air lines to make sure they do not have any damage, disconnections or tangles and then turn on the power.
2.  Do not bring your hands and/or any part of your body close to the needle and pulley when turning on the power.
3. Well-trained people who studied this manual and the instruction manual very carefully should use the machine with the labor saving device.
4. Study the contents on "2. Indications of dangers, warnings and cautions" very carefully and then provide users with safety training as required.

WARNING

④ Precautions for work and operation


1.  The area near the presser foot is very dangerous during sewing. Do not bring your hands and/or any part of your body close to the presser foot.
2. To prevent accidents, be careful that any foreign matter such as water, other liquids or metals do not get into the device.
3. Wear clothes that cannot be caught in the machine.
4.  Do not leave tools or other unnecessary objects near the device.
5. To prevent accidents, always make sure the safety cover are properly secured.

6. Drain and clean the filter regulator periodically, if the device is pneumatic. Otherwise drainage will flow into the solenoid valve and/or air cylinder, causing trouble.
7. Always turn off the power before leaving the machine table.
8. If any trouble occurs, stop using the machine and turn off the power. Check, repair and/or perform other necessary procedures immediately.

9.  Pay close attention to the knife edges not to injure your hands and/or fingers.

CAUTION

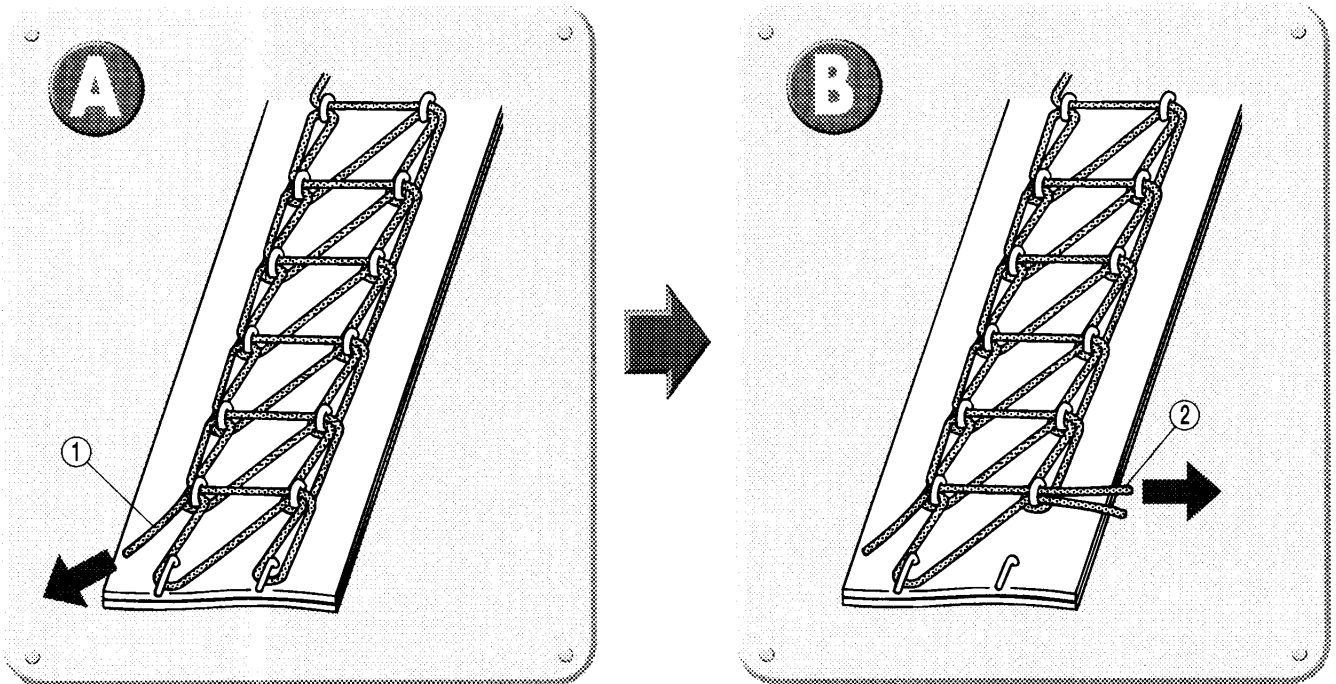
⑤ Maintenance, check & repair

1. Well-trained people who studied this instructions very carefully should maintain, check and repair the machine and device.
2. Perform routine daily maintenance and periodical maintenance by following this instructions.
3. Use Pegasus' genuine parts when repairing and/or replacing parts.
Pegasus disclaims all responsibility for accidents caused by improper repair/adjustment and/or use of parts which are not genuine.
4.  Do not modify the device yourself.
Pegasus disclaims all responsibility for accidents caused by modification.
5. After maintaining, checking, and/or repairing the machine and device, always make sure that any trouble does not occur when the power is turned on.
6. Before and after operation clean lint and any other foreign from the device not to cause trouble.
7. Make sure to replace the safety covers when you need to remove them for checking and/or maintenance.

Applications and performance

In the case of the conventional thread trimmer (UT), unraveling occurs when looper thread ① is drawn and looper thread ① comes off from the needle thread loop (see illustration A).

The pneumatic underbed thread trimmer with stitch locking capability that prevents unraveling at the end of sewing solves this problem. Thanks to this trimmer, looper thread ② remains in the left needle loop after it has been trimmed (see illustration B). Therefore, if looper thread ② is drawn, unraveling will not easily occur.



Connecting air lines

⚠ CAUTION

⚠ Always turn off the power and air compressor first and then well-qualified technicians should connect the air line.

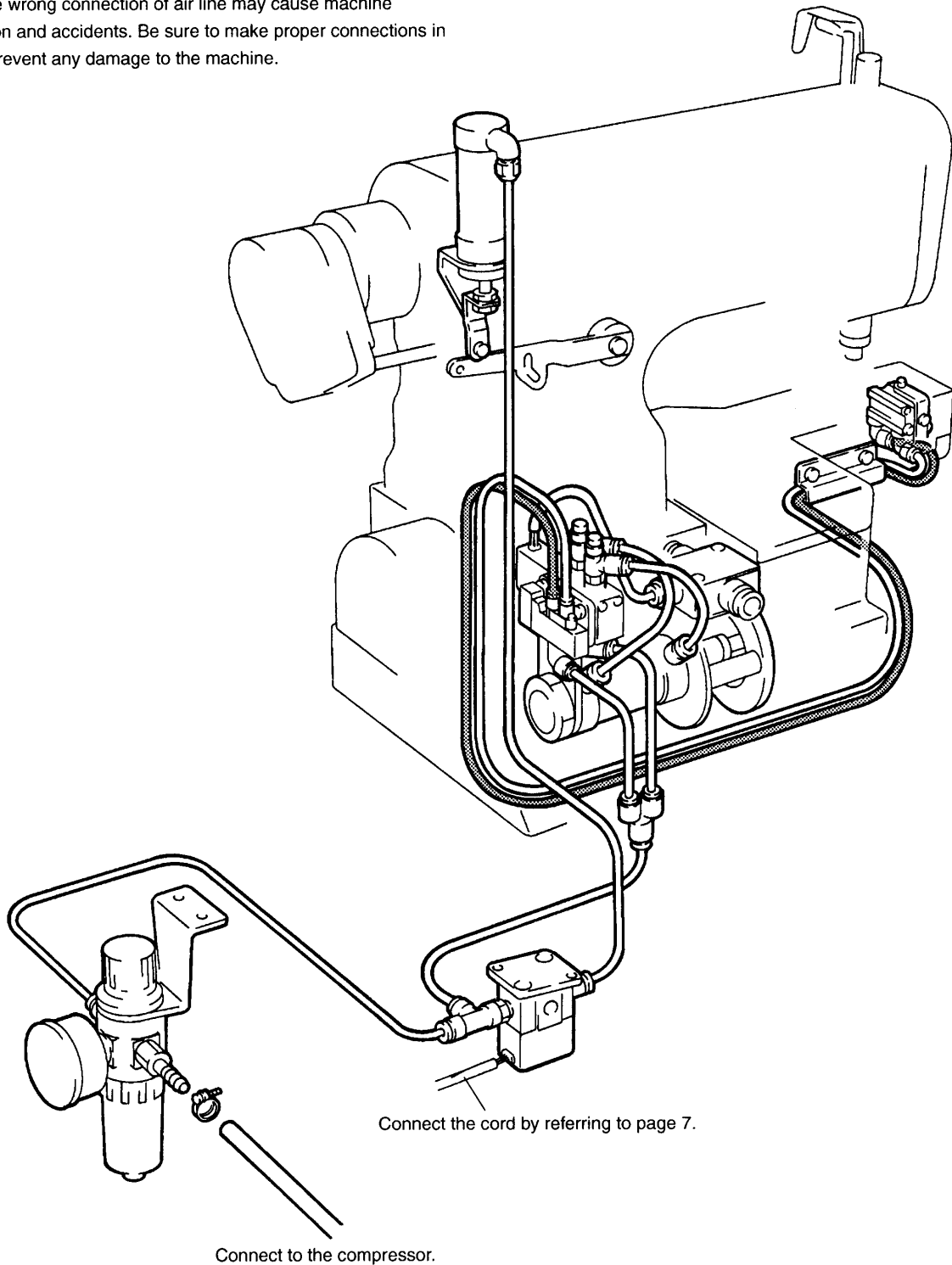
● Connect air line by referring to the illustration.

⚠ WARNING

⚠ The wrong connection of air line may cause machine malfunction and accidents. Be sure to make proper connections in order to prevent any damage to the machine.

⚠ CAUTION

⚠ After connecting all air lines completely, join them to the air compressor (air source).



Connecting relay cords

CAUTION

Always turn off the power, disconnect the power plug from the outlet and then well-qualified technicians should connect relay cords.

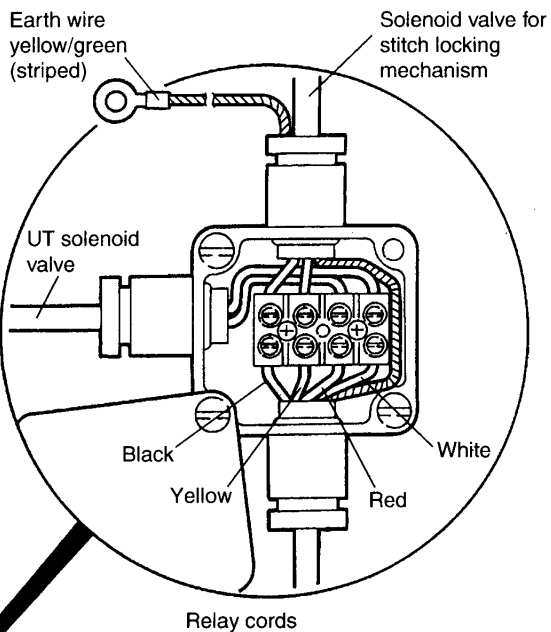
- Connect the relay cords to the connectors of the same color and shape by referring to the illustration.

Note

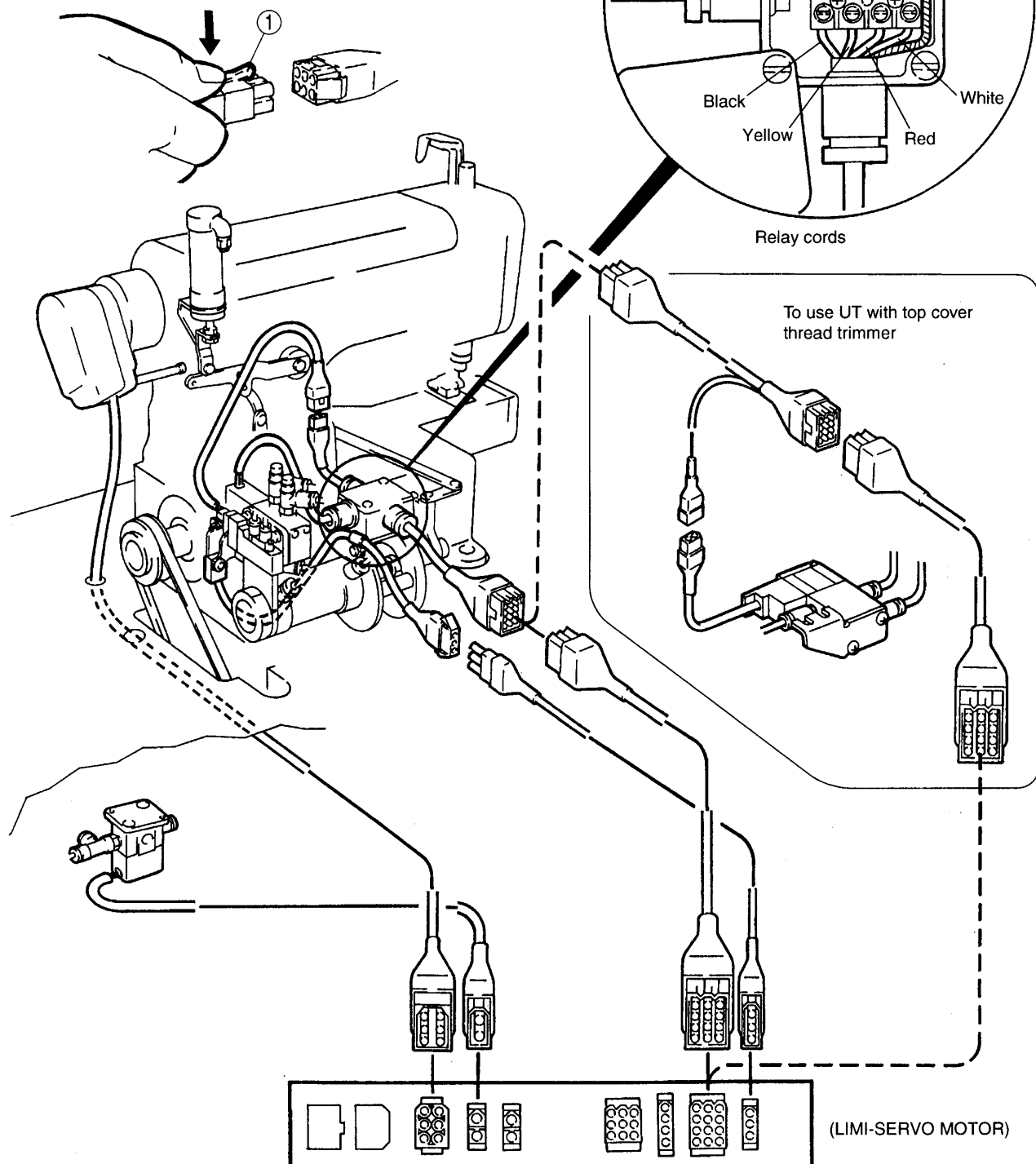
- To disconnect the locking connector, press the locking mechanism ① with your thumb as you pull it out.

WARNING

- Incorrect connection may cause malfunction and accident. To prevent any damage to the machine, be sure to make proper connection.



To use UT with top cover thread trimmer



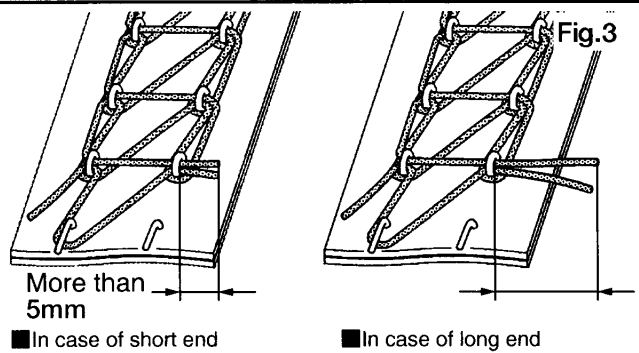
Adjusting length of looper thread end

CAUTION

Always turn off the power first, unplug the machine and then only well-qualified technicians should adjust the length of the looper thread end.

Note

The length can be adjusted to two levels (short or long). However, the length should not be less than 5mm (see Fig. 3).



CAUTION

The length should not be less than 5mm.

To make the end short (to make the stopper valid)

Screw ④ of bracket ③ should contact stopper ② (see Fig.6) when the air cylinder protrudes. To make this adjustment, loosen screw ① (see Fig.4) and then turn stopper ② in the direction of the arrow (see Fig.5).

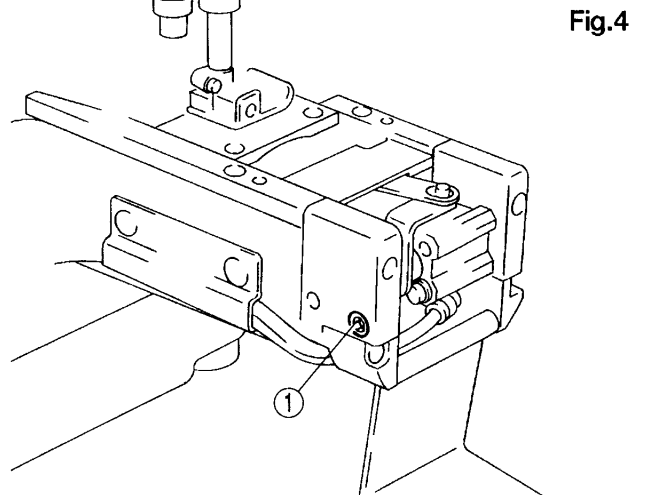


Fig.6

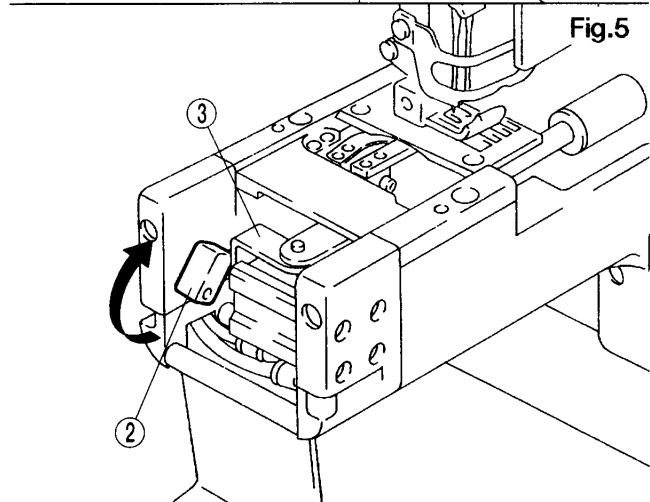
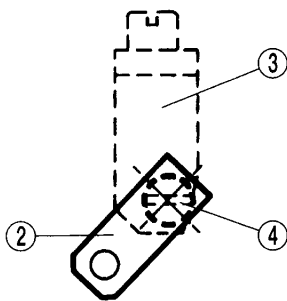


Fig.5

To make the end long (to make the stopper invalid)

Bracket ③ should not contact stopper ② when the air cylinder protrudes. To make this adjustment, loosen screw ① (see Fig.4) and then turn stopper ② in the direction of the arrow (see Fig.7). After this adjustment, tighten screw ①.

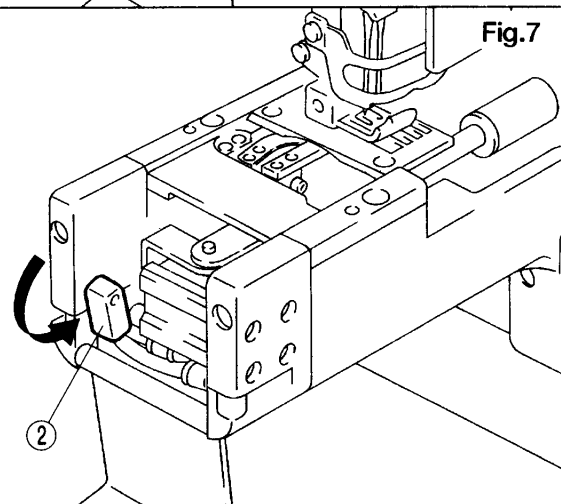




Fig.7

Replacing and adjusting knives

CAUTION

 Always turn off the power first, unplug the machine and then only well qualified technicians should replace and adjust the knives.

 Be careful not to injure your hands and fingers when replacing and adjusting the knives.

Note

The knives for the stitch locking mechanism are consumables. If the thread is not trimmed neatly, the knife may become dull. Replace the knife with the new one.

To remove the parts

1. Open sliding plate ①.
2. Open front cover ② and side cover ③.
3. Turn pulley ④ by hand until needle ⑤ is at the top of its stroke.
4. Remove screws ⑥.
5. Raise presser foot ⑧ by pressing lever ⑦ downward. Then remove bracket ⑪.
6. Remove screws ⑩. Then remove needle plate ⑨.

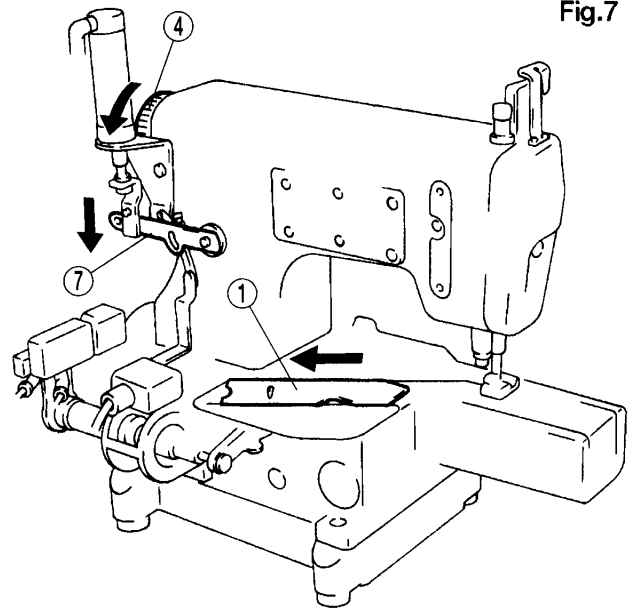


Fig.7

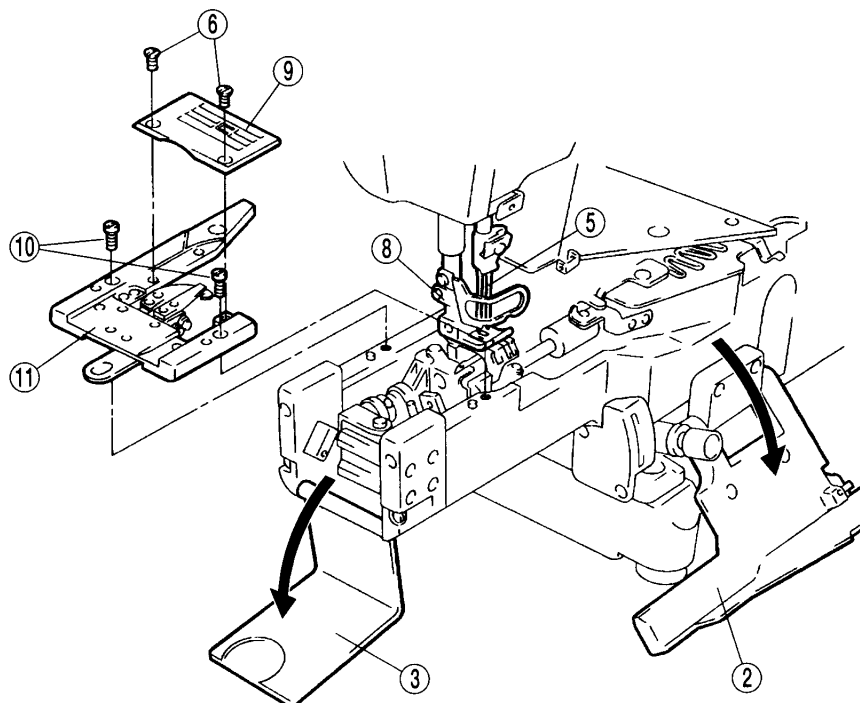


Fig.8

To install the parts

1. Remove screws ①. Then remove upper knife ② and flat spring ③. Replace upper knife ②. After replacing the upper knife, tighten screws ① temporarily (see Fig.9).

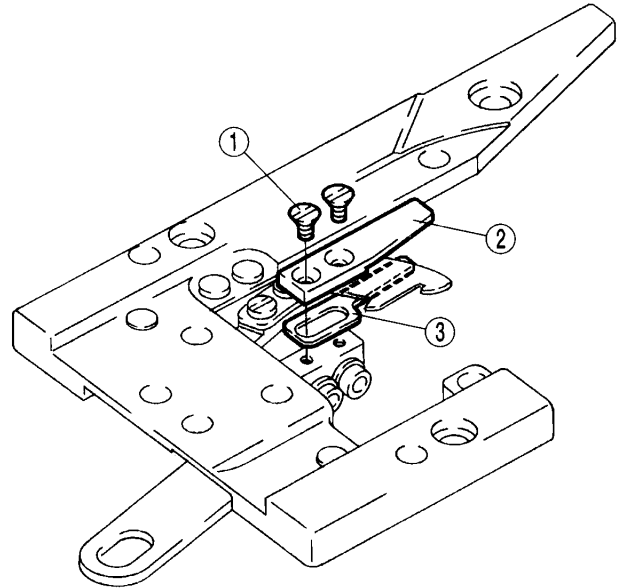


Fig.9

2. Remove screws ④ and then replace lower knife ⑤. After replacing the lower knife, tighten screws ④ temporarily (see Fig.10).

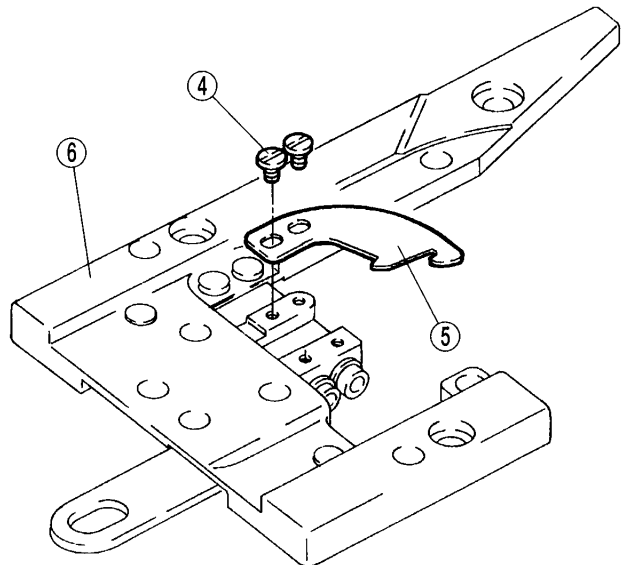


Fig.10

3. Fit bracket ⑥ onto the machine by referring to Fig. 8 on the previous page.

To adjust the parts

⚠ Be sure to make the stopper valid while adjusting the parts.

4. The clearance between lower knife ⑤ and main feed dog (B) should be 0.1mm~0.2mm when lower knife ⑤ is closest to main feed dog (B). Adjustment is made by loosening screws ④ and moving lower knife holder (A) by hand in the direction of the arrow. Then tighten screws ④ temporarily (see Fig.11).

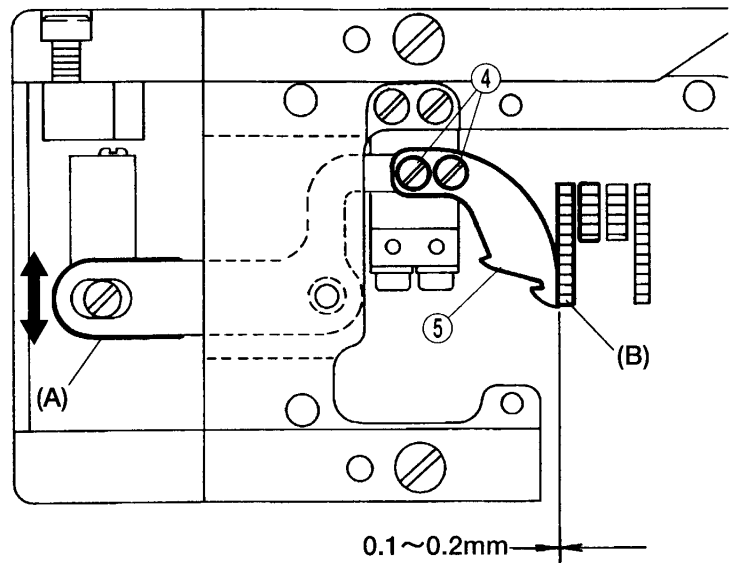


Fig.11

Fig.12

5. Move lower knife holder (A) by hand in the direction of the arrow so that lower knife ① is positioned as shown in the illustration. Side (B) of the loop should be flush with cutting edge (C) of the lower knife with screw ② of the bracket contacting stopper ③. To make this adjustment, loosen screws ④ and move lower knife ① back and forth. Be careful not to change the clearance between the lower knife and the feed dog (adjusted in the previous procedure).

6. After this adjustment has been made, tighten screws ④ (see Fig.12).

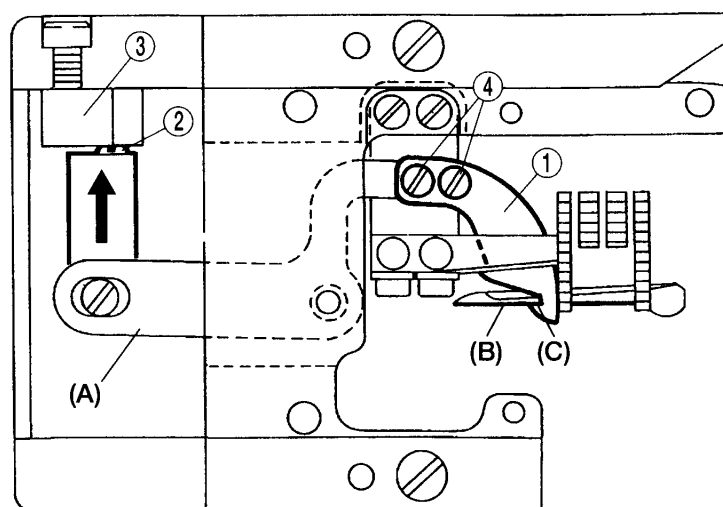


Fig.13

7. Move lower knife holder (A) in the direction of the arrow. Lower knife ① engages with upper knife ⑤ (see the illustration). The relationship between upper knife ⑤, flat spring ⑦ and main feed dog (F) should be adjusted as follows.

Loosen screws ⑥. Align the edges of flat spring ⑦ with line (D) and (E) on upper knife ⑤. Tighten screws ⑥. Loosen screws ⑧ and ⑨. Position upper knife ⑤ so that edge (D) of upper knife ⑤ is parallel with line (G) on the bracket with a clearance of 0.1mm~0.2mm between upper knife ⑤ and main feed dog (F) (see Fig.13).

8. After this adjustment, tighten screws ⑧ temporarily and tighten screws ⑨ (see Fig.13).

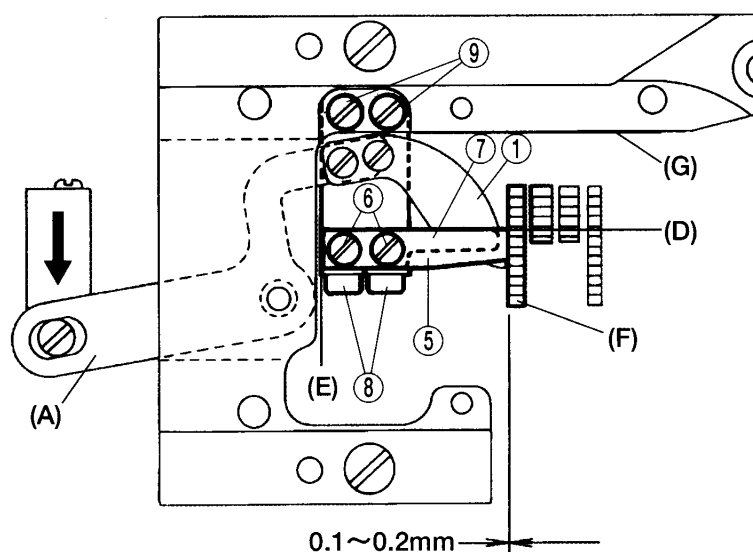
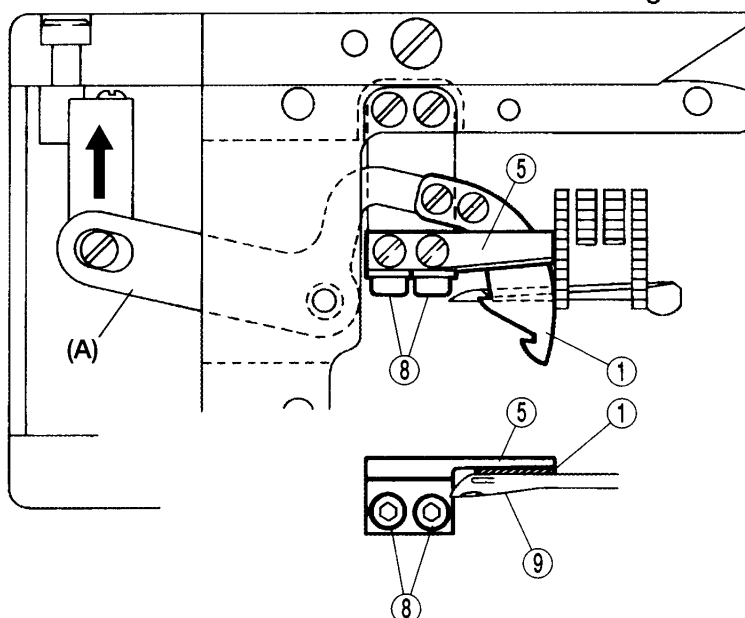


Fig.14

9. Move lower knife holder (A) in the direction of the arrow so that lower knife ① is positioned as shown in the illustration. There should be no clearance between the bottom surface of lower knife ① and loop ⑨. Adjustment is made by loosening screws ⑧ and moving upper knife ⑤ up or down. Be careful not to change the clearance between the upper knife and the feed dog (adjusted in the previous procedure).

10. After this adjustment, tighten screws ⑧ (see Fig.14).



CAUTION

Be sure to check that the lower knife on this device does not contact that on the standard UT device.

This check should be performed by moving the standard UT device manually. If these lower knives touch with each other by operating the standard UT device electrically or pneumatically, it may cause trouble and/or damage to the device and/or the machine.

11. Move lower knife holder (A) by hand in the direction of the arrow so that lower knife ① is positioned as shown in the illustration (at the extreme rear end of its travel). Position lower knife ② on the standard UT device at the extreme left end of its travel (see the illustration) by moving lower knife ② manually. Under this condition, check to make sure that lower knife ① and lower knife ② on the standard UT device do not touch with each other (see Fig. 15). If they do, adjust lower knife ① front to back again (refer to step 5, 6 and Fig. 12 on page 11).

Note

To make the above adjustment, be sure to check first to see if the standard UT device is adjusted correctly.

12. Check to see if a thread is trimmed smoothly by moving lower knife holder (A).
13. Replace the needle plate on the bracket.
14. Replace the front cover, side cover and sliding plate by referring to page 9.

Additional adjustments

Adjust each thread releaser by referring to the measurements in Fig. 16.

Looper thread take-ups ③ and ④ should be at its lowest position. To make this adjustment, loosen screws ⑤ and ⑥, and then move looper thread take-ups ③ and ④ in the direction of the arrows. Then tighten screws ⑤ and ⑥ (refer to Fig. 17). If thread take-ups ③ and ④ cannot be placed at its lowest position because of thread tension and/or stitch conditions, etc., place them as close as possible to the lowest position.

Fig.15

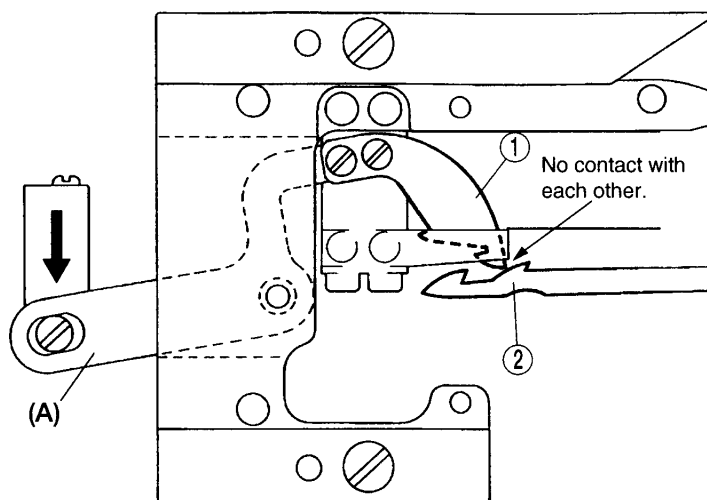


Fig.16

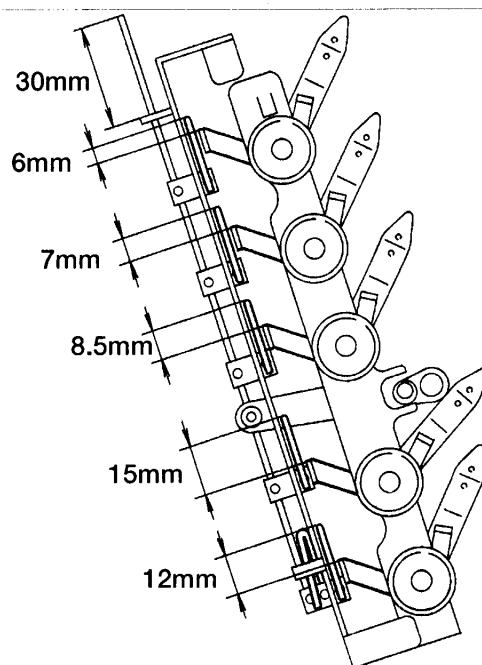
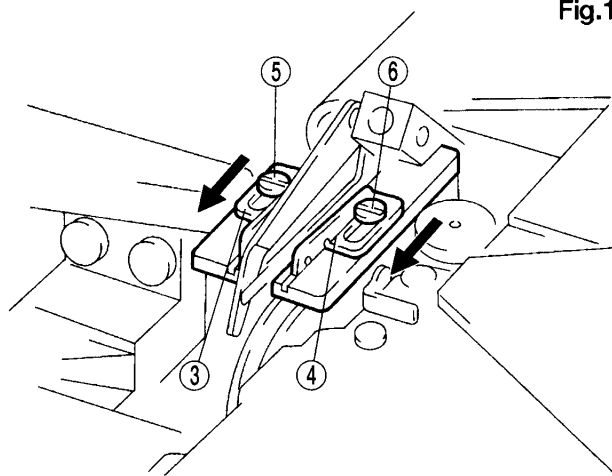


Fig.17



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