



PEGASUS®

TK Device

**(C)W500,WT500,W700,W1500 Series
Models: TK300,TK310,TK400,TK410
TK1C,TK3C**

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.

TK Tape cutter

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 ground the machine and labor saving device securely.
	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.
	Indicates a danger of burn injury due to high temperature.

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.


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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 devices' ground wire to another devices'.
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


TK Tape cutter :

The TK device is a tape cutter that cuts a tape and thread chain. Pressing the switch lowers the knife and the TK cuts a tape and thread chain as required.

TK1C,TK400,TK410 Electric device

Installing TK controller


⚠ CAUTION

 Always turn off the power, disconnect the power cord and then well qualified technicians should install the TK controller.


Install **1 - 3** in order on the underside of the table on the left as shown in Fig. 1.



Replacing fuse of TK controller

⚠ WARNING

 Always turn off the power, disconnect the power cord and then well qualified technicians should replace the fuse.

⚠ CAUTION


 The fuse of the TK power box is 3A for 100•200V and 1A for 380V. Do not use the fuse of different amperes.

 If the replaced fuse is also blown out, the power box may be out of order. Stop using the TK power box and contact your local Pegasus' sales office or representative. 

Remove fuse holder cap **4** with the screwdriver by turning in the direction of the arrow, and replace the fuse **5** with a new one.

Installing the knee switch

⚠ CAUTION

 Always turn off the power, unplug the machine from the outlet and then only well-qualified technicians should install the knee switch.

Install the knee switch most conveniently on the underside of the table (see Nos. **6 to 13** in Fig.3).

Note

If you use bolts **12**, there is no need to use screws **7**.
If you use screws **7**, there is no need to use washers **8**, bolts **12** and nuts **13**.
Select either bolts **12** or screws **7** according to materials of the table or use conditions.

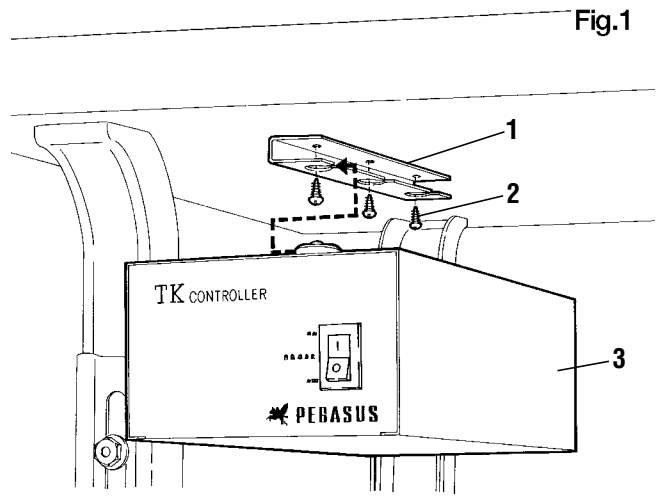


Fig.1

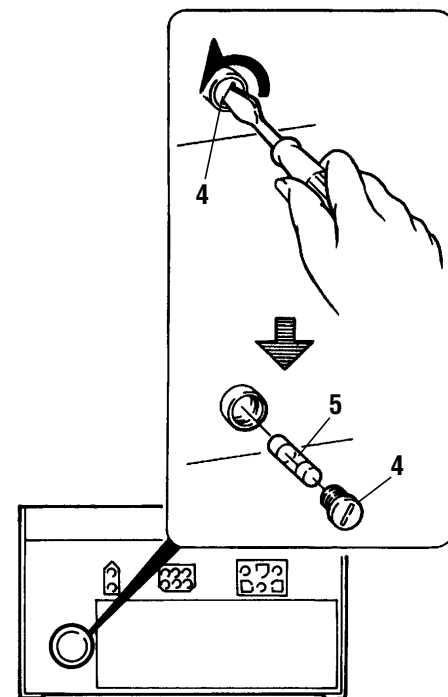


Fig.2

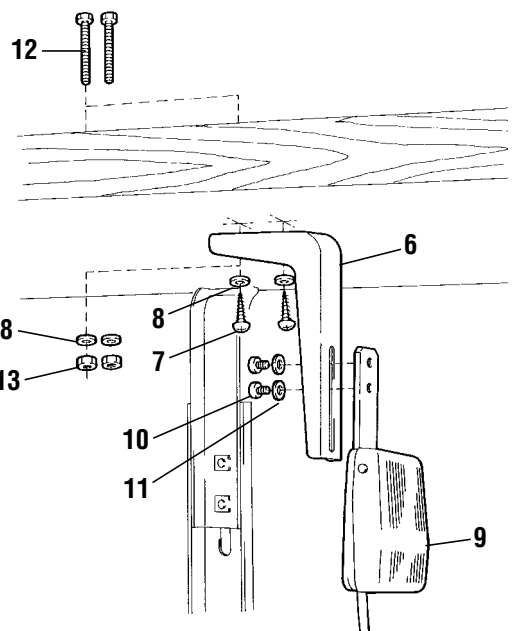


Fig.3

Connecting power relay cord

⚠️ WARNING

⚡ Always turn off the power, disconnect the power cord and then well-qualified technicians should connect cords.

⚡ Be sure to connect the earth wire to right terminal. Otherwise you may get an electric shock when touching the machine and the TK controller.

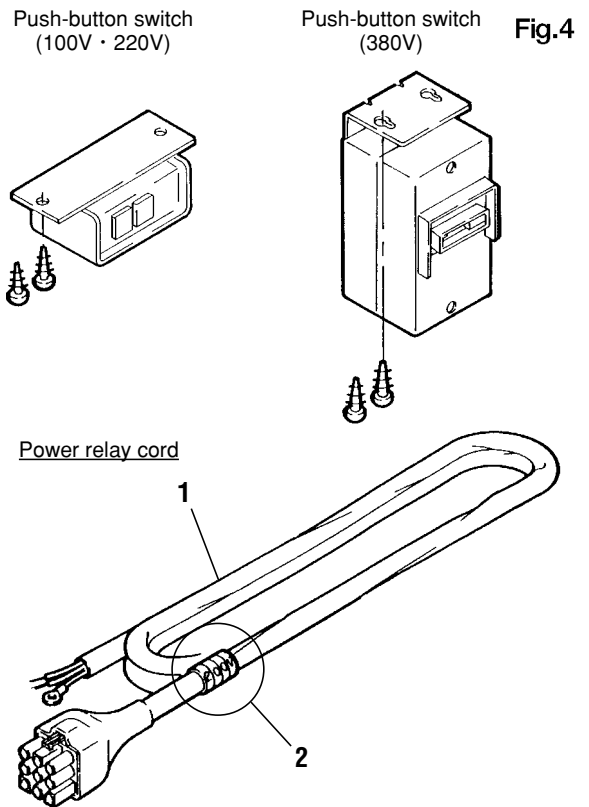
🔥 Always check the voltage mark **2** on the power relay cord **1** to make sure the power relay cord voltage matches the supply voltage. The use of wrong relay cord may damage parts or cause fire.

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

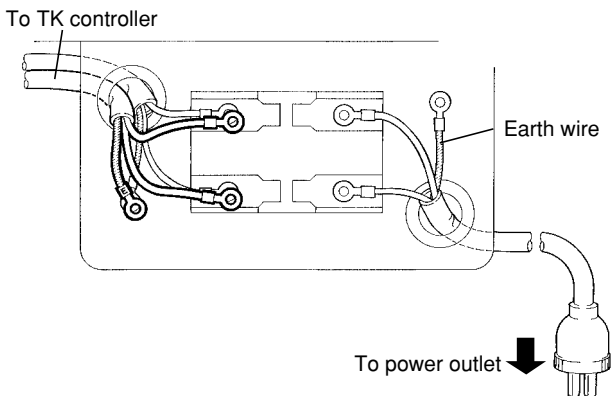
● The switch box and the power relay cord vary depending on phase and voltage requirements. Use the box and the cord suited to the supply voltage.

Connect cords as shown below.

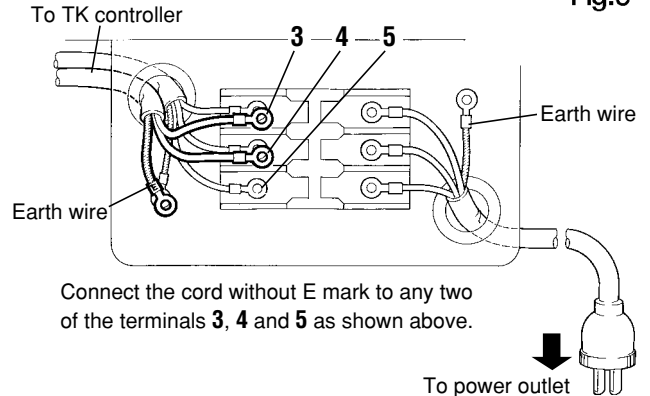
● The earth wire is an E-marked cord with yellow and green stripes. Connect this wire to the earth terminal.



● Connecting cords of Single phase 100V and 220V

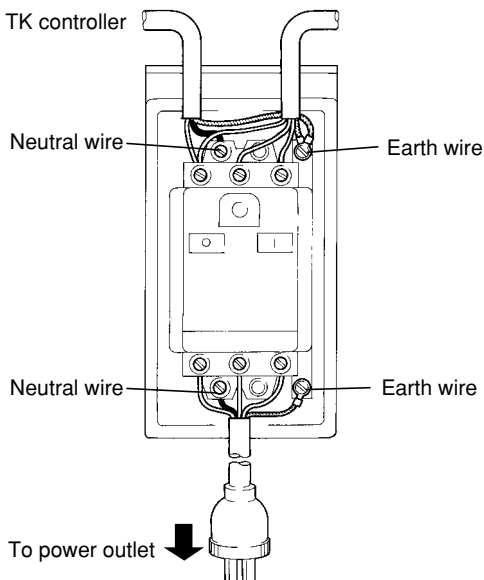


● Connecting cords of 3-phase 200V and 220V

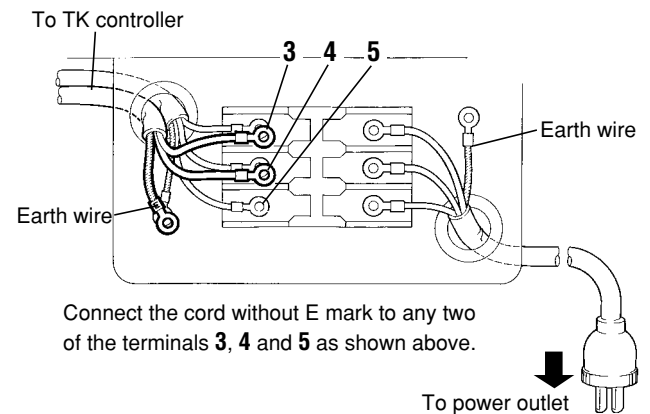


● Connecting cords of 3-phase 380V when using neutral wires

(Use the power relay cord of 220V)





● Connecting cords of 3-phase 380V when using no neutral wires



Connecting relay cord

⚠ CAUTION

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

 Connect the relay cords **1** · **2** · **3** to the connectors of the same color and shape.

Keep the cords out of operation by collecting using the clamp supplied with the TK.

Note

- To disconnect the locking connector, hold down the locking mechanism **4** with finger as you pull the connector out.

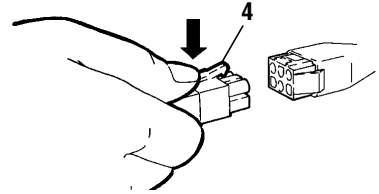
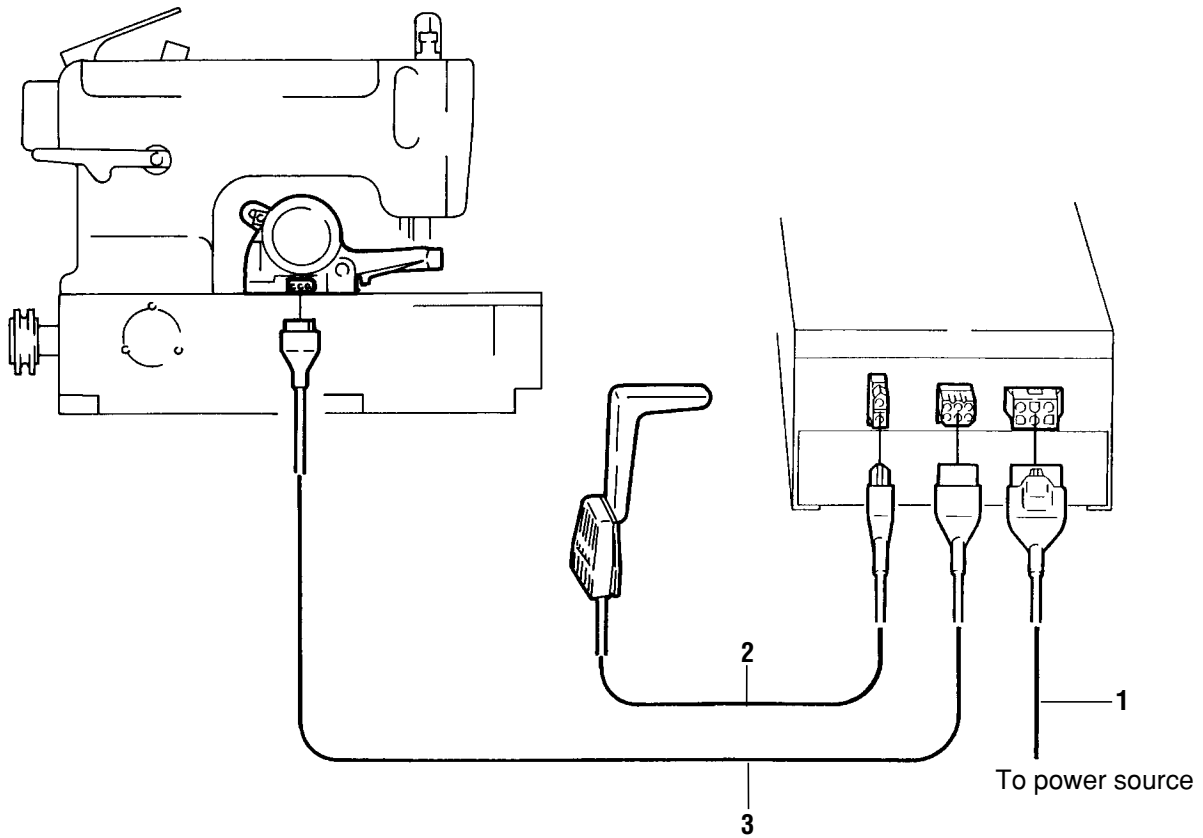


Fig.6



TK3C,TK300,TK310 Pneumatic device

Installing air control unit

⚠ CAUTION

⚠ Always turn off the power and air compressor first and then well qualified technicians should conduct the following procedures.

[To install the valve actuator]

Install the valve actuator at a convenient position on the underside of the table by referring to sequence 1 - 3 in Fig. 7.

Note

- The screw 4 is for adjusting the clearance between the valve actuator 1 and the air valve 5. Set this clearance at approx. 3.0 mm.

[To install the valve unit]

Install the valve unit 6 by referring to sequence 6 - 8 in Fig. 7.

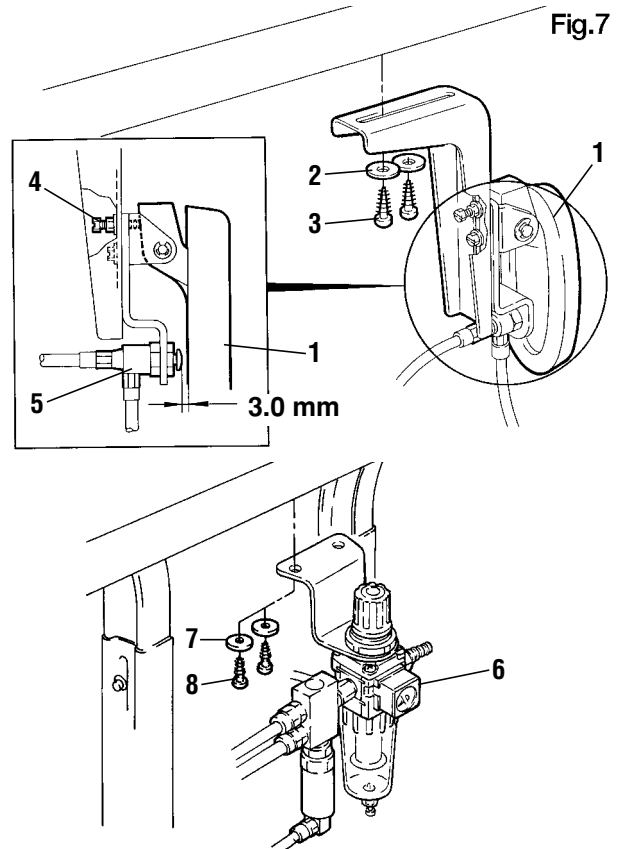


Fig.7

Connecting air lines

⚠ WARNING

⚠ The cutter may get activated when the air lines are connected to the air source (compressor), so never bring your fingers and/or hands close to the cutter.

⚠ Always connect all the air lines completely and then connect them to the air compressor (air source).

⚠ Improper piping of the air lines may cause a malfunction. To prevent accidents and damage to the machine, check all the air lines for correct piping.

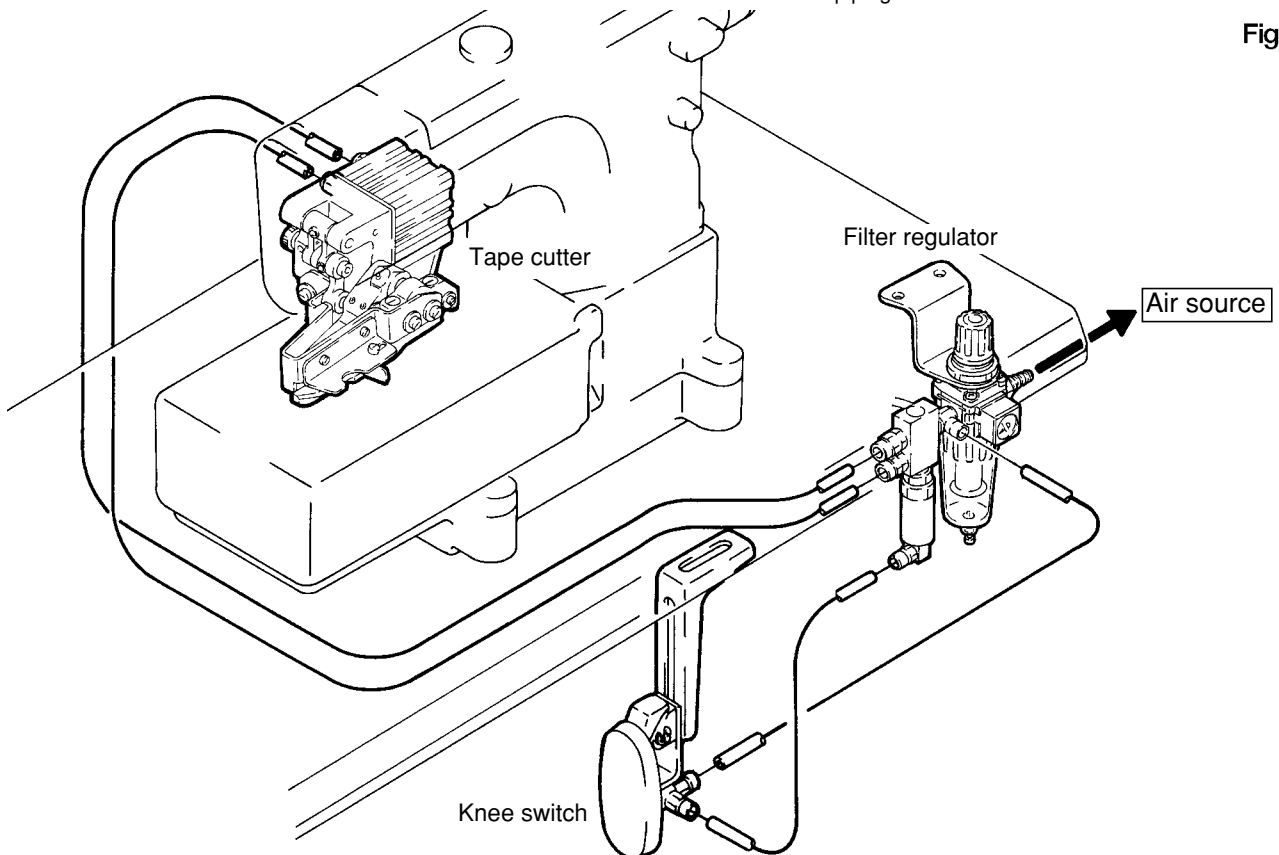



Fig.8

Adjusting the filter regulator

Adjusting air pressure

CAUTION

 When adjusting the filter regulator, turn off the power and connect all the air lines, then start supplying compressed air from the air compressor.

Pull up the knob **1** on the filter regulator until in clicks.
Then set the air pressure at 0.5 Mpa (5 kgf/cm²).


- To increase the pressure, turn knob **1** in the direction of **(+)**.
- To decrease the pressure, turn knob **1** in the direction of **(-)**.


Note

- Do not press the valve actuator (**1** in page 9) more than once in a second.
- Note that even after the air supply is shut off from the compressor, the tape cutter can be operated by pressing the valve actuator if air is left enough in the air line.

Draining filter regulator

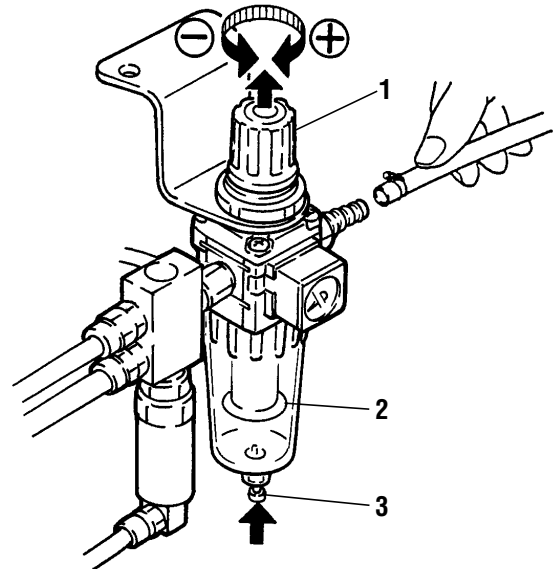
CAUTION

 Be sure to drain periodically before drainage level reaches the baffle. Otherwise the drainage may flow into the solenoid valve or the air cylinder, causing trouble.

 Drainage and air spout out downward.


Drain the filter regulator by pressing button **3** until drainage reaches baffle **2**.


Fig.9



Replacing and adjusting knives

CAUTION

 Always turn off the power and the air compressor, disconnect the power cord and check if the cutter dose not operate by pressing the knee switch. Then 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 chain cutter knives are replaceable parts.
The knives should be replaced when cutting is not smooth.

Replacing the knives

WARNING

 To prevent physical injury, do not touch the upper blade by hand when making this adjustment.

● Front cutting (TK310,TK410) (Fig. 10)

1. Remove screws **1** and then movable knife **2**.
2. Remove screws **3** and then stationary knife **4**.
3. Replace the movable and stationary knives with new ones.
Install the new knives by reversing the removal procedure.

● Rear cutting (TK1C,TK3C,TK300,TK400)

(Fig. 11)

1. Remove safety cover **5**.
2. Remove screws **6** and then movable knife **7**.
3. Remove screws **8** and then stationary knife **9**.
4. Replace the stationary and movable knives with new ones.
Install the new knives by reversing the removal procedure.
5. Reinstall safety cover **5**.

WARNING

 Check to see if the safety cover is installed before using the TK.

Fig.10

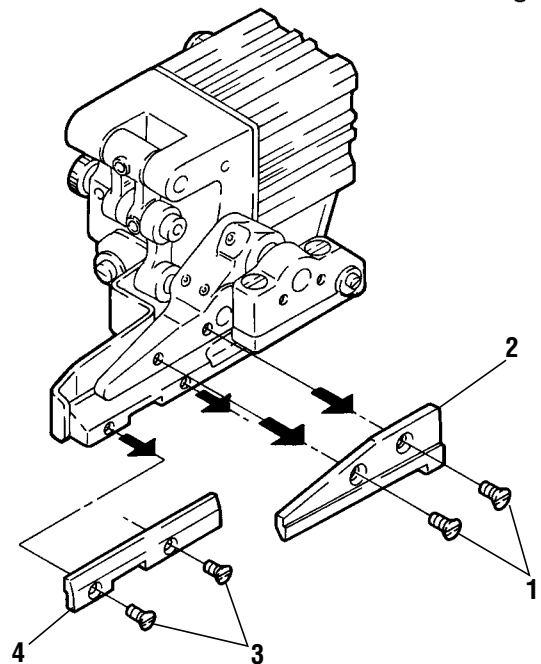
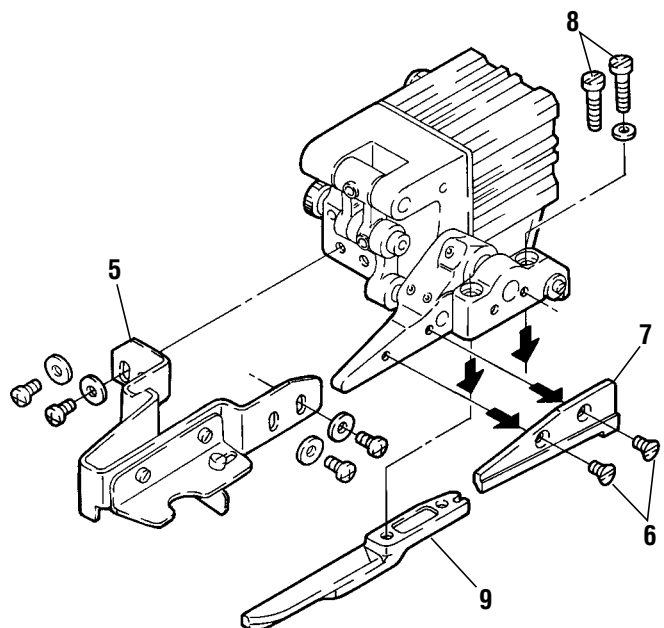


Fig.11



Blade overlap adjustment

● Electric type (TK1C, TK400, TK410)

1. Loosen screw 1.
2. Obtain a overlap of 1.0 to 2.0mm of the stationary and movable knives by moving lever 2.
Place surface (A) of lever 2 in a horizontal position (see Fig.12) with the movable knife in its up position. Then align surface (B) with the end of the solenoid shaft (see Fig.14).
(If you use TK410, surface (A) may be slightly tilted in the direction of (C).)
3. Tighten screw 1 after the adjustment stated above.

Note

After this adjustment , turn lever 2 to direction (D) (Fig. 14) with it pulled toward you (direction (C)) (Fig. 13).
Make sure that the overlap of the stationary and movable knives is 1.0 mm to 2.0 mm when lever 2 stops.

Fig.12

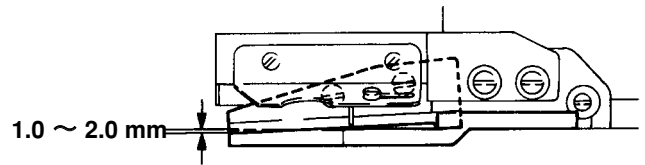


Fig.13

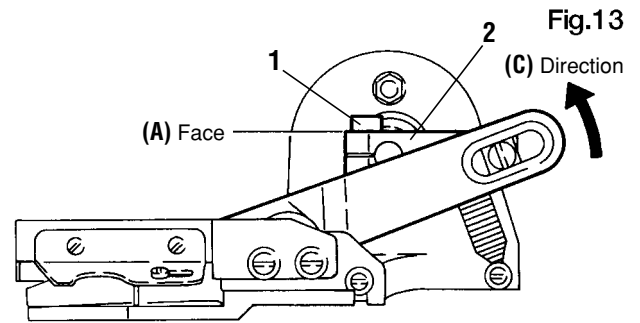
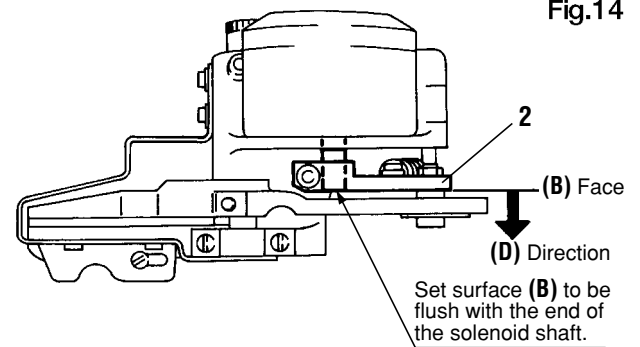


Fig.14



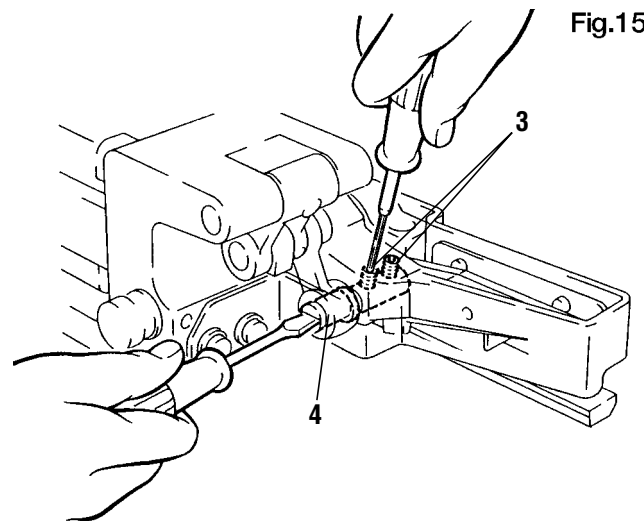
● Pneumatic type (TK3C, TK300, TK310)

1. Loosen screws 3.
2. Obtain a overlap of 1.0 to 2.0mm of the stationary and movable knives by turning pin 4 with a screwdriver.
3. Tighten screws 3 after the adjustment stated above.

Note

After these adjustments are made, check to see if the correct overlap (1.0 ~ 2.0mm) of the stationary and movable knives is achieved with the movable knife at its lowest position.

Fig.15



Adjustment of rubbing

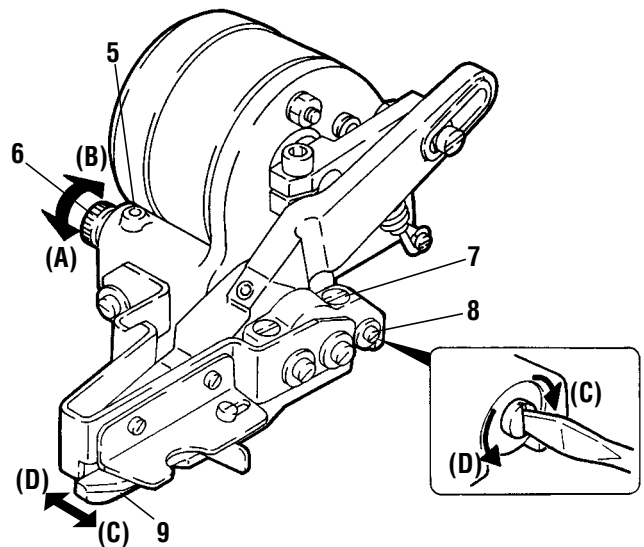
1. Loosen screw **5** first. Turn screw **6** in the direction of **(B)** until the pressure from the movable knife is removed (see Figs. 16 and 17).
2. The stationary and movable knives should be in proper contact with each other. Adjustment is made by loosening screws **7** and **8**. Turning screw **8** in the direction of **(C)** moves the end of stationary knife **9** in the direction of **(C)**. Turning screw **8** in the direction of **(D)** moves the end of stationary knife **9** in the direction of **(D)**.
3. Tighten screw **7** after the adjustment stated above.

Note

Move the movable knife by hand to check if the movable knife and the stationary knife work properly. Excessive contact will create wear on the knives and less one will cause the poor cutting action.

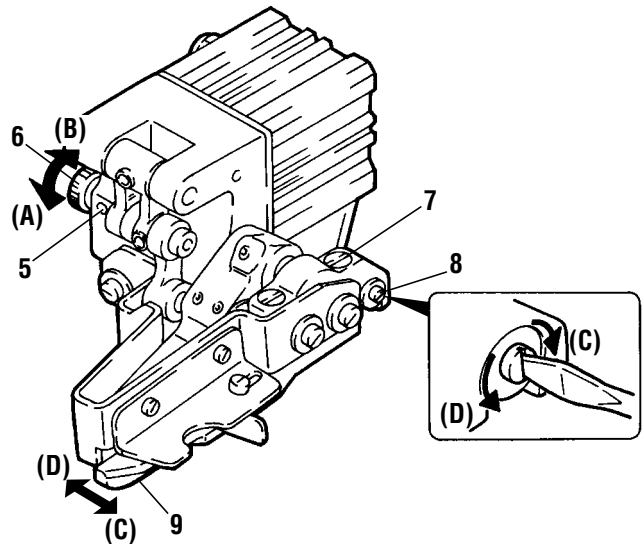
TK1C, TK400, TK410

Fig.16



TK3C, TK300, TK310

Fig.17



Adjustment of pressure

Adjust the knife pressure by loosening screw **5** and turning screw **6** (see Figs. 16 and 17).

- To increase the pressure, turn screw **6** in the direction of **(A)**.
 - To decrease the pressure, turn screw **6** in the direction of **(B)**.
- Tighten screw **5** after the adjustment.

After all the adjustments are made, turn on the power and compressor, and check for proper cutting by pressing the knee switch.

Sewing

Sew the fabric by following the procedure below.

1. Turn on the machine.
2. Place the fabric under the presser foot.
3. Press the machine treadle and start the machine.
4. Press the knee switch at the position where the tape is to be cut. The tape cutter gets activated and cuts the tape.

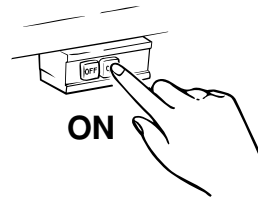


Fig.18

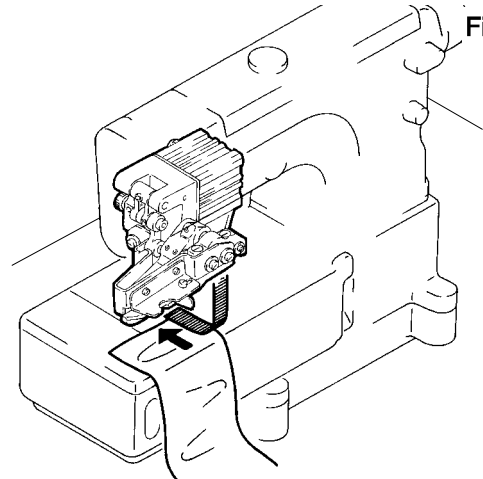


Fig.19

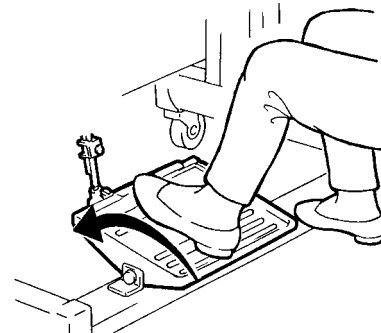


Fig.20

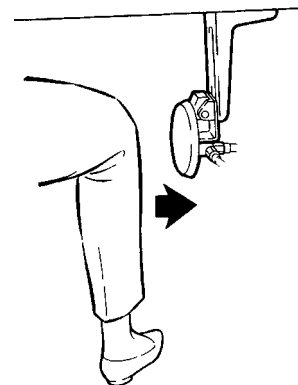


Fig.21

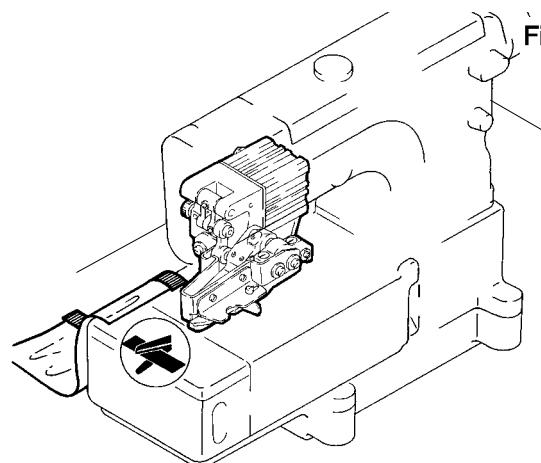


Fig.22

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Cat. No. 9B3034E0000  May 2003

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The description in this INSTRUCTIONS is subject to change without notice.