INSTRUCTIONS

BL Series

Models:
- EX5204/BL514
- EX5204/BL515
- EX5214/BL524
- EX5214/BL525
- EXT5214/BL524
- EXT5214/BL525
- EX5404/BL614
- EX5404/BL615
- EX5414/BL624
- EX5414/BL625
- EXT5214H/BL528
- EXT5214H/BL529

Automatic Backlatcher
(with high performance controller)
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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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>! DANGER</td>
<td>Indicates an immediate hazard to life or limb.</td>
</tr>
<tr>
<td>! WARNING</td>
<td>Indicates a potential hazard to life or limb.</td>
</tr>
<tr>
<td>! CAUTION</td>
<td>Indicates a possible mistake that could result in injury or damage.</td>
</tr>
</tbody>
</table>
### Symbols and messages

<table>
<thead>
<tr>
<th>Icon</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>Be sure to follow the instructions when you operate the machine and/or labor saving device.</td>
</tr>
<tr>
<td>⚠️</td>
<td>If you use the machine and/or labor saving device incorrectly, you may get an electrical shock.</td>
</tr>
<tr>
<td>⚠️</td>
<td>If you use the machine and/or labor saving device incorrectly, your hands and/or fingers may be injured.</td>
</tr>
<tr>
<td>⚠️</td>
<td>If you use the machine and/or labor saving device incorrectly, you may cause fire.</td>
</tr>
<tr>
<td>🚫</td>
<td>Never do this.</td>
</tr>
<tr>
<td>⚠️</td>
<td>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.</td>
</tr>
<tr>
<td>⚠️</td>
<td>Be sure to connect to ground.</td>
</tr>
<tr>
<td>⚠️</td>
<td>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.</td>
</tr>
<tr>
<td>⚠️</td>
<td>If you use the machine and/or labor saving device incorrectly, you may burn yourself.</td>
</tr>
</tbody>
</table>

### 3. Safety precautions

#### 1. Applications, purpose

The labor saving device is designed to increase quality and productivity according to your 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 ± 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.
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.

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 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

Automatic backlatcher is used to close sleeves and sides of T-shirts, sweat shirts and similar garments. This device backlatches the thread chain into seams on the rear side of a fabric. All you have to do is enter the sewing data. The sewing operation is just as easy as plain seaming.

26 items (type of sewn products) can be entered and stored. In addition, 20 sewing modes (backlatching, plain seaming, backlatching+reverse stitching, etc.) can be saved per one item.
System construction

- Dust drum
- Filter regulator
- Power relay box
- Solenoid valve
- Machine head with BL device
- Control box
- Power box
- Lint collector
- Presser foot lift treadle (option)
- Machine treadle
CAUTION

Only well-qualified technicians should cut the table.

Cut the table as shown below.

Note 1)
In case of the motor made in Japan .......................... 210mm
In case of the Efka motor ..................................... 238mm
⚠️ CAUTION
Only well-qualified technicians should install the parts below securely with no looseness and shake.

Set up table 1 and install machine rest board 2 and waste chute 3.
**CAUTION**

Only well-qualified technicians should mount the sewing machine with no looseness and shake.

Install motor 1, power switch 2, power relay box 3, solenoid valve 4 and switch (option) 5.

And then, mount machine 6 on the board.
**CAUTION**

Only well-qualified technicians should install the cylinder securely with no looseness and shake.

Install the cylinder for condensed stitching as below.

1) Install cylinder 1 with screws 2.
2) Attach bracket 3 with screws 4.
3) Fix wire 5 with latch 6 and screw 7.
Always turn off the power, unplug the machine from the outlet and then well-qualified technicians should install the control / power box.

Install control box 1, power box 2, and multi socket 3 as shown below.
⚠️ **CAUTION**

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

⚠️ **WARNING**

Be sure to connect the GND wire correctly. Otherwise you may get an electric shock and the data stored in the control box may be damaged.

1) Attach belt cover 1 with screws 2.
2) Insert pin 3.
3) Install position detector 5 on pulley 4. Then tighten screws 6.
4) Connect GND wire 7 with screw 8.
CAUTION

Always turn off the power, unplug the machine from the outlet and then only well-qualified technicians should install the lint collector and filter regulator.

Install lint collector 1 and filter regulator 2 as shown below.
Installing the dust drum / filter regulator

**CAUTION**

Always turn off the power, unplug the machine from the outlet and then only well-qualified technicians should install the dust drum and filter regulator.

Install dust drum 1 and filter regulator 2 as shown below.
**Connecting the power relay cords**

**CAUTION**

- When connecting the power relay cords, be sure to turn off the power and disconnect the power plug from the outlet.

**WARNING**

- Check the voltage designation to make sure the power relay cord matches the local supply voltage. The use of wrong cord may damage parts and/or cause fire.
- The wrong connection of cords may cause machine malfunction and accidents. Be sure to make proper connections to prevent any damage to the machine.
- Be sure to connect the earth wire to the right terminal. Otherwise you may get an electric shock when you touch the BL power box and/or the machine.

![Diagram of connecting the power relay cords]

**[3-phase] Related component number**

<table>
<thead>
<tr>
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<th>Power relay cord</th>
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<tr>
<td>200V</td>
<td>750006A91</td>
<td>742257-91</td>
</tr>
<tr>
<td>220V</td>
<td>&quot;</td>
<td>742257B91</td>
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**[1-phase] Related component number**

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</tr>
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<tbody>
<tr>
<td>100V</td>
<td>750006B91</td>
<td>742257A91</td>
</tr>
<tr>
<td>200V</td>
<td>&quot;</td>
<td>742257-91</td>
</tr>
<tr>
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<td>&quot;</td>
<td>742257B91</td>
</tr>
<tr>
<td>240V</td>
<td>&quot;</td>
<td>742257C91</td>
</tr>
</tbody>
</table>

---

**CAUTION**

- When connecting the power relay cords, be sure to turn off the power and disconnect the power plug from the outlet.

**WARNING**

- Check the voltage designation to make sure the power relay cord matches the local supply voltage. The use of wrong cord may damage parts and/or cause fire.
- The wrong connection of cords may cause machine malfunction and accidents. Be sure to make proper connections to prevent any damage to the machine.
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![Diagram of connecting the power relay cords]

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</tr>
<tr>
<td>240V</td>
<td>&quot;</td>
<td>742257C91</td>
</tr>
</tbody>
</table>
**Description of the power box**

[Front side]

1. **Power LED**
   To show whether the power is ON or OFF.
   Lit when the power is ON.

2. **Power connector (input)**
   To connect the power cord.

3. **Power switch**
   To turn the power box ON or OFF.

4. **Fuse holder**
   Holding a 3A fuse.

5. **Control box connector**
   To connect the cord from the control box.

[Front side]

6. **Sensor connector (input)**
   To connect the relay cord for the rotation detector and fabric edge detection sensor.

7. **Input switch connector (input)**
   To connect the relay cord from the machine treadle.

8. **Solenoid valve connector (output)**
   To connect the relay cord from the solenoid valve unit.

9. **Sensor sensitivity adjustment dial**
   To adjust the fabric edge detection sensor sensitivity.

10. **Sensor sensitivity indicator lamp**
    The lamp for adjusting the fabric edge detection sensor sensitivity.

11. **Fabric edge detection lamp**
    To indicate the sensor is detecting a fabric.
Connecting the relay cords (Except BL528/529)

⚠️ CAUTION
- Be sure to turn off the power and disconnect the power plug from the outlet, and well-qualified technicians should connect the relay cords.
- Connect the relay cords of the same colors and shapes as shown below.

⚠️ WARNING
The wrong connection of cords may cause machine malfunction and accidents.
To prevent troubles and damage to the machine, be sure to connect the cords properly.

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

 cümłu

Not used.
Used only for machines with dust drum.
Used only for machines with condensed stitching capability.

CAUTION
- Presser foot lift treadle & switch are optional.

WARNING
- The wrong connection of cords may cause machine malfunction and accidents.
- To prevent troubles and damage to the machine, be sure to connect the cords properly.

Connecting the relay cords (Except BL528/529)

Set-up
**CAUTION**
Be sure to turn off the power and disconnect the power plug from the outlet, and well-qualified technicians should connect the relay cords.
• Connect the relay cords of the same colors and shapes as shown below.

**WARNING**
The wrong connection of cords may cause machine malfunction and accidents.
To prevent troubles and damage to the machine, be sure to connect the cords properly.

---

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

---

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

Be sure to turn off the power and disconnect the power plug from the outlet, and then well-qualified technicians should replace the fuse for the BL power box.

**CAUTION**

- The fuse for the BL power box is 3A. Do not use any other than 3A.
- If the replaced fuse is also blown out, stop using the BL power box and contact your local Pegasus' sales office or representative.
**CAUTION**

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

Connect other lines first before connecting to the air source (air compressor).

Connect each air line by referring to the numbers on the attached labels.

**CAUTION**

Incorrect connection may cause machine malfunction and trouble. To prevent accidents and damage to the machine, be sure to connect the air lines properly.

---

Connecting the air lines for 1-needle machines (Except BL528/529)
Connecting the air lines for 2-needle machines (Except BL528/529)

⚠️ CAUTION

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

⚠️ Connect other lines first before connecting to the air source (air compressor).

- Connect each air line by referring to the numbers on the attached labels.

⚠️ CAUTION

Incorrect connection may cause machine malfunction and trouble.
To prevent accidents and damage to the machine, be sure to connect the air lines properly.
"CAUTION"

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

Connect other lines first before connecting to the air source (air compressor).

Connect each air line by referring to the numbers on the attached labels.

"CAUTION"

Incorrect connection may cause machine malfunction and trouble. To prevent accidents and damage to the machine, be sure to connect the air lines properly.

Connecting the air lines (BL528/529)

Used only for machines with dust drum.

The machines with the lint collector do not have the solenoid valve attached.
When the BL power box is used for the first time or has been left unused for some time, follow the procedures below.

⚠️ **CAUTION**

Make sure all the cords and air lines are connected properly and then perform the procedures below.

### (1) To initialize the BL device

**Note**

There is no need to initialize the BL device at the start of each day.

- Turn on the BL power box while pressing INC. and DEC. key simultaneously.

![Initialization Procedure](image)

The display below indicates that all the sewing data is initialized.

<box>

Clear All Data

</box>

*(Refer to the sewing data preset at the factory before shipment on page 30.)*

**Note**

To initialize the sewing data per each item, turn on the power box while pressing INC. key.

### (2) Others

- If the power box is used for the first time or has been left unused more than 3 months, recharge the rechargeable battery with the power on for at least 2 hours before operating.

- The language mode is not set at the factory. Select either Japanese or English by referring to page 45.
**CAUTION**

Always turn off the power and air supply of the compressor first and then well-qualified technicians should adjust the filter regulator.

(1) Connecting air hose to filter regulator

Attach coupler 1 onto the air hose firmly with hose band 2.

Pull backward and hold the collar A (See the figure), and insert coupler 1 into the filter regulator and release the collar A to it.

(2) Adjusting air pressure

Pull up knob A of filter regulator 3 until it clicks and moves upward slightly. Then set the air pressure at 0.5 Mpa (5kfg/cm²).

- To increase the air pressure, turn knob A clockwise.
- To decrease the air pressure, turn knob A counterclockwise.

(3) Draining filter regulator

Drain filter regulator before collected drainage reaches the level B by pressing the button 4.

**CAUTION**

- Be sure to drain periodically. Otherwise drainage will flow into the solenoid valve or air cylinder, causing trouble.
- Drainage and air spout downward.
Basic adjustment

Machine stopping position

⚠️ CAUTION

The machine could start unexpectedly as the power is on while the position detector is being adjusted. Therefore, take utmost care in this adjustment.

1. Press machine treadle 1 to run the machine and release it to stop the machine.

2. Turn off the power.

3. Remove position detector cover 2.

4. With the machine stopped, loosen screw 3 slightly. Hold detection disk 4 (black measure disk) by hand and turn the pulley so that the upper looper moves 1-2mm to the right from its extreme left position. Then tighten screw 3.
5. Turn on the machine.

6. Press machine treadle 1 to start the machine and stop it by releasing the treadle and check if the upper looper is 1-2 mm to the right from its extreme left position.
**CAUTION**

Well-qualified technicians should adjust the sensitivity of the fabric edge detection sensor.

1. Turn on the power.

2. Turn sensitivity adjusting dial 2 clockwise or counterclockwise until the forth lamp of indicator lamps 4 is lit.

3. Turn dial 2 clockwise slowly until the fifth indicator lamp is lit.

Check that lamp 3 is turned off and all the lamp 4 are lit with no fabric under the sensor and lamp 3 is lit and all the lamp 4 are turned off with fabric under the sensor.

**Note**

Adjust the sensitivity as below when sewing extra light weight fabrics through which the light from the sensor tends to penetrate.

1) Turn sensitivity adjusting dial 2 clockwise or counterclockwise until the third lamp (of indicator lamps 4) from the left is turned on.
2) Turn sensitivity adjusting dial 2 clockwise slowly until the forth lamp is lit.
3) Position the fabric under the fabric sensor and then check to make sure all indicator lamp 4 are tuned off and lamp 3 is turned on.

Always clean the reflector (top surface of the needle plate) so that the fabric sensor can operate properly.
Description of control box

1. LED screen
   To display various information
   ※ The language mode is not set at the factory. Select Japanese or English when turning on the power for the first time (See page 45).

2. PROGRAMMING key
   To enter items or sewing modes, and call up the sewing mode display

3. FUNCTION key
   To call up various function modes such as the machine start mode, presser foot mode, presser foot timer, etc.

4. INC. key
   To increase the number on the screen or select options.

5. DEC. key
   To decrease the number on the screen or select options.

6. CURSOR key (left)
   To move the cursor on the screen to left.

7. CURSOR key (right)
   To move the cursor on the screen to right.

8. CHNLMP/LGHT key
   To set the timing at which the thread chain clamp releases the thread chain and adjust the length of the thread chain to be sewn into the seam.

9. SEWINGADJ key
   To adjust the sewing performance after replacing the needle or threading the machine.

10. RESET key
    To re-start sewing from the very first step.

11. PAT. CORRECT key
    To return to the previous step (sewing mode).

12. SET UP key
    To perform a SET UP operation.
**Sewing mode display**

**Example**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SEWING MODE</th>
<th>START MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>M</td>
</tr>
</tbody>
</table>

Indicates the active mode

**Item:** Indicates a kind of sewn products. Up to 26 items (from A to Z) can be entered and stored.

**Sewing mode:** Displays a type of sewing operations. Up to 20 modes can be entered and stored per item.

- **B:** Backlatching
- **P:** Plain seaming
- **R:** Backlatching+Reverse stitching
  
  Reverse stitching mode is selectable (See page 50).
- **S:** Special backlatching
  
  (See page 56.)
- **B:** Backlatching with condensed stitching at the start of sewing
  
  Condensed stitching mode is selectable (See page 47).
- **P:** Plain seaming with condensed stitching at the start of sewing
  
  Condensed stitching mode is selectable (See page 47).
- **R:** Backlatching with condensed stitching at the start of sewing
  
  +Reverse stitching
  
  Condensed stitching mode and reverse stitching mode are selectable (See pages 47 & 50).
- **S:** Special backlatching with condensed stitching at the start of sewing
  
  Condensed stitching mode is selectable (See page 47).
- **☐:** Voids the following data

**Step:** Indicates the active mode (i.e. the operation which is being performed) with the arrow ↑.

**Machine start mode:** Indicates the way of starting the machine

- **M:** Manual start
- **A:** Automatic start
### Function selecting mode

**CAUTION**
The machine could start unexpectedly as the power is turned on while the data is being entered. Therefore, great care should be taken.

- In this mode, switch the function or set each counter.
- There are 2 types of screen display in this mode (i.e. Operator level and Mechanic level).
- To display the operator level, turn on the machine normally.
- To reach the mechanic level, turn on the machine while pressing **PROGRAMMING** key.
  
  Note) The alarm sounds to notify the entry to the Mechanic level.

**CAUTION**
Only well-qualified technicians should set each function of the Mechanic level.

- The following data is pre-set in the factory. Change the data according to your sewing application.

**CAUTION**
Select Japanese or English before entering the data (See page 45).

#### Details of sewing data

<table>
<thead>
<tr>
<th>Operator</th>
<th>Mechanic</th>
<th>Data pre-set in the factory</th>
<th>Adjustable range</th>
</tr>
</thead>
<tbody>
<tr>
<td>●</td>
<td>●</td>
<td>Item: A</td>
<td>26 items from A to Z</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Sewing mode: B (all steps)</td>
<td>B/P/R/P/R/P</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Steps: 20</td>
<td>Steps from 1 to 20</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Presser foot mode: Manual</td>
<td>Auto/Manual</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Presser foot timer: 0.5 sec.</td>
<td>0.05-2.00 sec.</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>SC start counter: 002 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>SC start counter (with condensed stitch): 002 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>SC end counter: 002 stitches</td>
<td>0-98 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Thread chain returning counter: 004 stitches</td>
<td>1-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Sewing end counter: 035 stitches</td>
<td>1-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Thread chain clamp: 015 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Thread chain length: 020 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Motor start timer: 0.10 sec.</td>
<td>0.05-2.0 sec.</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Item change: Mechanic Level only</td>
<td>Operator &amp; Mechanic Level/Mechanic level only</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Language to be used: Japanese/English</td>
<td>Japanese/English</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Condensed stitching mode: OFF</td>
<td>ON/OFF</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Condensed stitching at the start of sewing: 002 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Condensed stitching counter: 010 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Reverse stitching: OFF</td>
<td>ON/OFF</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Reverse stitching stop counter: 002 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Reverse stitching counter: 010 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Mesh counter: OFF</td>
<td>ON/OFF</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Mesh counter (stitch counting): 010 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Thread chain blowing timer: 0.40 sec.</td>
<td>0.05-1.50 sec.</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>Special BL/SC counter: 010 stitches</td>
<td>0-99 stitches</td>
</tr>
<tr>
<td>●</td>
<td>●</td>
<td>PL operating method: Machine treadle</td>
<td>Machine treadle/ PL treadle</td>
</tr>
</tbody>
</table>

*When condensed stitching is selected, set the thread chain clamp and length counter for condensed stitching also.*
By pressing \[\text{PROGRAMMING}\] key, all display of any function selecting mode can return to this display.

Press \[\text{Function key}\] with the sewing mode display shown.

**Start Mode**
- Manual
- Auto

**PL**
- Manual
- Auto

**PL Timer**
- 0.50s

- This display appears when the Auto is selected for PL.

**SC Start Count**
- 0002

- This display appears when the condensed stitching mode is ON.

**SC Start (Condensed)**
- 0002

**SC End Count**
- 0002

Continued from next page. Proceed to next page.
Continued from previous page.

The display to be reached from operator level is up to here. The following displays are accessible only from mechanic display.

- Chain Return Cut 0004

- End Count 0035

- Machine Start Tr 0.10s

- Item Change With M Level

- Item Change With M/O Level

- Japanese ニホンゴ ヒョウジ

- English エイゴ ヒョウジ

- Machine Speed 00000 spm

Continued from previous page. Proceed to next page.

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Continued from previous page.

- **Condensed Stitch OFF (MS)**
- **Condensed Stitch ON (MS)**

- **MS Start Counter 0005**

- **MS Counter 0010**

- **Reverse Seam OFF (RS)**

- **Reverse Seam ON (RS)**

- **RS Stop Counter 0002**

- **RS Counter 0010**

This display is shown when the condensed stitching mode is ON.

This display is shown when the Reverse Seam mode is ON.
Function selecting sequence

Mesh Counter
OFF

Mesh Counter
0010

Chain Blow Rear Tr
0.40s

Special BL SC Cnt
0010

PL Selection
HEELING

Mesh Counter
ON

PL Selection
PEDAL

Return to previous page.
Continued from previous page.

※This display is shown when the mesh counter is ON.
Function

Select how to start the machine (Manual or Auto).

- **Manual**: To start and stop the machine and adjust the machine speeds, alter the way you press the treadle.

- **Auto**: To start the machine, press the treadle and a sewing operation is automatically performed by stitch counting. Note) To stop the machine anytime during sewing, press the treadle again.

Buttons

- **△** or **▼** To select Manual or Auto.
- If Manual is selected, the display goes to the presser foot lift mode (PL).
- If Auto is selected, the display goes to the presser foot timer mode (PL Timer).
- **►** If Manual is selected, the display goes to the presser foot lift mode (PL).
- If Auto is selected, the display goes to the presser foot timer mode (PL Timer).
- **◄** (Operator Level) To go to sewing end counter mode.
- (Mechanic Level) To go to PL (presser foot lift) operation method selecting mode .
- **◇** To return to the sewing mode display.
Display
Note) This mode can be set when selecting “Manual” in the machine start mode.

![PL Manual](image1)

Function
- Select Auto or Manual with ▲ INC. or ▼ DEC. key.
  - Manual:
    The presser foot is raised by pressing the machine treadle with heel.
  - Auto:
    The presser foot is lowered when setting a fabric under the presser foot and raised when sewing is completed.

Buttons
- ▲ or ▼: To select Auto or Manual.
- ▶: To go to the presser foot timer mode.
- ◀: To go to the presser foot timer mode.
- ◀ or ◀: To return to the machine start mode.
- ◀ or ◀: To return to the sewing mode display.
Presser foot timer

Display
Note) This mode can be set when the presser foot lift mode is set to Auto.

Function
- To change the time interval from when the fabric is positioned under the presser foot to when the presser foot is lowered.
  - Initial value: 0.50 sec.
  - Adjustable from 0.05 to 2.00 sec.

Buttons
- ▲ To increase the time interval.
- ▼ To decrease the time interval.
- To go to SC (thread releasing at the start of sewing) counter.
- To go to SC (thread releasing at the start of sewing) counter.
- If the machine start mode is set to Manual, the display returns to the presser foot lift mode.
  - If the machine start mode is set to Auto, the display returns to the machine start mode.
-  To return to the sewing mode display.
Display

![Display](image)

**Function**
- In each mode of B (backlatching), P (plain seaming), R (backlatching+reverse seam) and S (special backlatching), set the timing at which the thread chain mode is changed to the plain seaming mode at the start of sewing.
- Initial value: 2 stitches.
- Adjustable from 0 to 99 stitches.

**Buttons**
- ▲ To increase the number of stitches.
- ▼ To decrease the number of stitches.
- ▪ If ON is selected in the condensed stitching mode, the display goes to the SC start counter (with condensed stitching).
  - If OFF is selected in the condensed stitching mode, the display goes to the SC end counter.
- ▶ If ON is selected in the condensed stitching mode, the display goes to the SC start counter (with condensed stitching).
  - If OFF is selected in the condensed stitching mode, the display goes to the SC end counter.
- ◄ If Auto is selected in the machine start mode or presser foot lift mode, the display returns to the presser foot timer.
  - If Manual is selected in the machine start mode or presser foot lift mode, the display returns to the presser foot lift mode.
- ◎ To return to the sewing mode display.
Display
Note) This mode can be set when ON is selected in the condensed stitching mode (see page 47).

Function
In each mode of $\mathcal{B}$ (backlatching with condensed stitching at the start of sewing), $\mathcal{P}$ (plain seaming with condensed stitching at the start of sewing), $\mathcal{R}$ (backlatching with condensed stitching at the start of sewing + reverse stitching) and $\mathcal{S}$ (special backlatching with condensed stitching at the start of sewing), set the timing at which the thread chain mode is changed to the plain seaming mode at the start of sewing.

$\bullet$ Initial value: 2 stitches.
Adjustable from 0 to 99.

Buttons

- $\mathcal{A}$: To increase the number of stitches.
- $\mathcal{B}$: To decrease the number of stitches.
- $\mathcal{C}$: To go to the SC end counter.
- $\mathcal{D}$: To go to the SC end counter.
- $\mathcal{E}$: To return to the SC start counter.
- $\mathcal{F}$: To return to the sewing mode display.
Display

**SC End Count**

0002

Function

- To set the timing at which the plain seaming mode is changed to the thread chain mode at the end of sewing.
  - Initial value: 2 stitches.
  - Adjustable from 0 to 98.

Note: The SC end counter cannot be set to any value greater than that to which the sewing end counter is set.

Example:
If the sewing end counter is set to 0035,

**End Count**

0035

The SC End counter should be less than 0035.

**SC End Count**

0034

Buttons

- **To increase the number of stitches.**
- **To decrease the number of stitches.**
- **To go to the thread chain returning counter.**
- **To go to the thread chain returning counter.**
- **If ON is selected in the condensed stitching mode, the display returns to the SC start counter (with condensed stitching).**
  - If OFF is selected in the condensed stitching mode, the display returns to the SC start counter.
- **To return to the sewing mode display.**
Display

Chain Return Cut
0004 ▲▼

Function
To set the timing when the thread chain clamp returns home.
- Initial value: 4 stitches.
  Adjustable from 1 to 99.

Buttons
- ▲ To increase the number of stitches.
- ▼ To decrease the number of stitches.
- To go to the sewing end counter.
- To go to the sewing end counter.
- To return to the SC end counter.
- To return to the sewing mode display.
**Operator level**

**Sewing end counter**

**Display**

![End Count 0035 image]

**Function**

- To set the timing when the machine stops automatically and the needle plate chaining-off finger (on 2-needle machine) retracts after the fabric has gone through the sensor light.
  - Initial value: 35 stitches.
  - Adjustable from 1 to 99.

Note: The sewing end counter should not be set to any value greater than that to which the SC End counter is set.

**Example)**

If the SC end counter is set to 0034,

![SC End Count 0034 image]

the sewing end counter should be more than 0035.

**Buttons**

- To increase the number of stitches.
- To decrease the number of stitches.
- In case of the Operator Level, the display returns to the sewing mode.
  - In case of the Mechanic Level, the display returns to the motor start mode (Machine Start Tr).
- In case of the Operator Level, the display returns to the machine start mode.
  - In case of the Mechanic Level, the display returns to the motor start mode (Machine Start Tr).
- To return to the thread chain returning counter.
- To return to the sewing mode display.
Display
Note) This timer can be set when Auto is selected in the machine start mode (see page 35).

**Machine Start Tr**

0.10s

Function
To set the time interval from when the pressed treadle is released to when the machine starts running.
- Initial value: 0.10 sec.
- Adjustable from 0.05 to 2.00 sec.

Buttons
- ▲ To increase the time interval.
- ◄ To decrease the time interval.
- To go to the display selection for item change.
- To go to the display selection for item change.
- To return to the sewing end counter.
- To return to the sewing mode display.
Display

Select "Mech. Level" when changing items only on the "Mechanic Level" display only.
Select "M/O Level" when changing items on the "Operator Level" and "Mechanic Level" display.

Function

Buttons

To select "Mech. Level" or "Mech. & Oper Level."
To go to the language selecting mode.
To go to the language selecting mode.
To return to the motor start timer.
To return to the sewing mode display.
Selecting a language

Display

Select Japanese or English.

The language mode is not set in the factory.

Function

Buttons

To select Japanese or English.

To go to the machine speed display.

To go to the machine speed display.

To return to the display selection for item change.

To return to the sewing mode display.
Display

Machine Speed

Function

- The display shows machine speeds while pressing the machine treadle.
- ※During the plain seaming only.

Buttons

- To go to the condensed stitching counter.
- To go to the condensed stitching counter.
- To return to the language selection.
- To return to the sewing mode display.
**Display**
Note) Select OFF if the machine does not equip the condensed stitching capability.

```
 Condensed Stitch
    OFF       or      ON (MS)
```

**Function**
- To select whether condensed stitching is used or not.
- Initial setting: OFF

**Buttons**
- ▲ or ▼ — To select ON or OFF.
- [INC] — To go to the condensed stitching (at the start of sewing) counter, if this mode is set to ON.
- [DEC] — To go to the reverse stitching mode, if this mode is set to OFF.
- [▼] — To go to the condensed stitching (start) counter, if this mode is set to ON.
- [▲] — To go to the reverse stitching mode, if this mode is set to OFF.
- [◄] — To return to the machine speed display.
- [►] — To return to the sewing mode display.
Display
Note) Set this mode when ON is selected in the condensed stitching mode (see page 47).

Function
To set the timing at which the condensed stitching function gets activated from the beginning of sewing operation.

- Initial value: 5 stitches.
- Adjustable from 0 to 99

Buttons
- To increase the number of stitches.
- To decrease the number of stitches.
- To go to the condensed stitching counter.
- To return to the condensed stitching counter.
- To return to the condensed stitching mode.
- To return to the sewing mode display.
Display
Note) Set this mode when ON is selected in the condensed stitching mode (see page 47).

Function
- To set the number of condensed stitches.
  - Initial value: 10 stitches.
  - Adjustable from 0 to 99.

Buttons
- ▲ To increase the number of condensed stitches at the start of sewing.
- ▼ To decrease the number of condensed stitches at the start of sewing.
- □ To go to the reverse stitching mode.
- ▶ To go to the reverse stitching mode.
- ◀ To return to the condensed stitches starting counter.
- ◄ To return to the sewing mode display.
Reverse stitching

Display

To select whether reverse stitching is ON or OFF
- If ON is selected, R (backlatching + reverse stitching) or R (backlatching with condensed stitches at the start of sewing + reverse stitching) is selectable on the sewing mode display.

CAUTION
Even if the presser foot mode is set to Auto, the presser foot rises manually in the operation of reverse seaming.
- Initial setting: OFF

Function

Buttons

To select ON or OFF.
- If ON is selected, the display goes to the reverse stitching stop mode (RS Stop Counter).
- If OFF is selected, the display goes to the mesh counter mode (MS Counter).
- If ON is selected, the display goes to the reverse stitching stop mode (RS Stop Counter).
- If OFF is selected, the display goes to the mesh counter mode (MS Counter).
- If ON is selected in the condensed stitching mode, the display returns to the condensed stitching counter.
- If OFF is selected in the condensed stitching mode, the display returns to the condensed stitching mode.
- To return to the sewing mode display.
Display
Note) Adjust this count when the reverse stitching mode is set to ON (see page 50).

![Reverse stitching stop counter]

Function
- To set the timing at which the machine stops after the fabric comes off from the fabric detection sensor.
  (When the machine stops at the end of sewing, the fabric trailing edge is to be aligned with the needle drop point.)
  - Initial value: 2 stitches.
  - Adjustable from 0 to 99.

Buttons
- To increase the number of stitches.
- To decrease the number of stitches.
- To go to the reverse stitching counter.
- To return to the reverse stitching counter.
- To return to the reverse stitching mode.
- To return to the sewing mode display.
Display
Note) This counter is adjustable, if the reverse stitching mode is set to ON (see page 50).

RS Counter
0010

Function
- Enter the number of reverse stitches after turning over the fabric.
  (The plain seaming mode changes to the thread chain mode according to this stitch counting.)
- Initial value: 10 stitches (adjustable from 0 to 99).

Buttons
- To increase the number of stitches.
- To decrease the number of stitches.
- To go to the mesh counter.
- To go to the mesh counter.
- To return to the reverse stitching stop counter.
- To return to the sewing mode display.
**Display**

Mesh counter

<table>
<thead>
<tr>
<th>MS Counter</th>
<th>OFF</th>
<th></th>
<th>ON</th>
</tr>
</thead>
</table>

**Function**

- Select ON when sewing a mesh fabric.
- Initial setting: OFF

**Buttons**

- ▲ or ▼ To select ON or OFF.
- If ON is selected, the display goes to the mesh counter (stitch counting) mode.
  - If OFF is selected, the display goes to the thread chain blowing timer (Chain Blow Rear Tr).
- If ON is selected, the display goes to the mesh counter (stitch counting) mode.
  - If OFF is selected, the display goes to the thread chain blowing timer (Chain Blow Rear Tr).
- If ON is selected in the reverse stitching mode, the display returns to the reverse stitching counter (RS Counter).
  - If OFF is selected in the reverse stitching mode, the display returns to the reverse stitching mode (Chain Fasten).
- To return to the sewing mode display.
Mesh counter (stitch counting)

Display
Note) Adjust this count when the mesh counter mode is set to ON (see page 53).

Function
Set this count when sewing mesh fabrics.

The sensor detects a mesh as the end of sewing by mistake and causes a faulty operation. To prevent this problem, enter the number of stitches for sewing mesh length to ignore each mesh and enable a continuous operation.

Note
Even after the fabric comes off from the sensor, the machine continues running till some stitches preset on this counter are completed. Therefore, decrease the count on the SC End counter, the sewing end counter and the reverse stitching stop counter accordingly.

Initial value: 10 stitches.
Adjustable from 0 to 99.

Buttons
- To increase the number of stitches.
- To decrease the number of stitches.
- To go to the thread chain blowing (at the end of sewing) timer.
- To return to the mesh counter.
- To return to the sewing mode display.
Display

Chain Blow Rear Tr
0.40s

Function

Adjust the time interval for blowing the thread chain at the end of sewing depending on how the thread chain returns smoothly.

Initial value: 0.40 sec.
Adjustable from 0.05 to 1.50 sec.

Buttons

To increase the time interval.
To decrease the time interval.
To go to the special BL/SC counter.
To go to the special BL/SC counter.
To return to the mesh counter (stitch counting), if the mesh counter is set to ON.
To return to the mesh counter mode if the mesh counter is set to OFF.
To return to the sewing mode display.
**Display**

![Special BLSC Cut](image)

**Function**
- Set the timing at which the thread releasing stops from the start of sewing on S (special backlatching) or $\text{§}$ (special backlatching with condensed stitches at the start of sewing) mode.
  - Initial value: 10 stitches.
    - Adjustable from 0 to 99.

※ Difference between B / $\mathbb{B}$ and S / $\text{§}$ modes.

- **B / $\mathbb{B}$** mode: The thread releasing function stops according to the sewing end counter
  (The stitch counting starts from when the fabric comes off from the sensor).
- **S / $\text{§}$** mode: The thread releasing function stops according to this mode (The stitch counting starts from the beginning of sewing).

**Buttons**
- ↑ To increase the number of stitches.
- ↓ To decrease the number of stitches.
- To go to the PL operation method selection mode.
- To go to the PL operation method selection mode.
- To return to the thread chain blowing (at the end of sewing) timer.
- To return to the sewing mode display.
**Selecting PL operation method**

**Display**

- **P.L Selection**
  - **HEELING**
  - **PEDAL**

**Function**

- **HEELING**: Using the PL device, which lifts the presser foot by pressing the machine treadle with heel.
- **PEDAL**: Using the treadle specified for lifting the presser foot.

*Initial value: HEELING*

**Buttons**

- To select HEELING or PEDAL.
- To go to the machine start mode.
- To return to the special BL/SC counter.
- To return to the sewing mode display.
Call up the sewing mode display on the screen and change the item by pressing ▲ INC. or ▼ DEC. key.

To change items on the "Operator Level" and "Mechanic Level" display, select "Mec. & Oper Level." (See page 44).

To change items only on the "Mechanic Level" display, select "Mech.Level" (See page 44).
CAUTION

Be sure to turn off the power for safety when swinging aside the presser foot, replacing the needle and threading in case of needle or thread breakage etc.

Note) On “Sewing check” mode, the machine gets started manually.

1) Press SEWING ADJ. key to call up sewing check mode and turn on the LED.

2) The display changes with INC. or DEC. key. Select the display shown at the left.

3) Call up the thread chain suction mode (KS) by pressing FUNCTION key.

4) Select ON (the thread chain is sucked up) or OFF (the thread chain is not sucked up) with INC. key or DEC. key.

5) To go to the sewing check mode, press FUNCTION key again.
6) Position a fabric under the presser foot. Start the machine by pressing the machine treadle and check the stitch formation. If it is not well, make the following adjustments.

**Note**
To exit the sewing check mode and turn off its LED, press the SEWING ADJ. key or the PROGRAMMING key. However, this mode can not be ended for safety while the fabric sensor LED is turned on (such as when the sensor is detecting a fabric, the cloth plate is opened, etc).

- **1- needle machines**
  - When the needle thread is not tight enough, adjust needle thread tension knob 1.
  - When the looper thread is not stretchy enough, adjust looper thread tension knobs 2 and 3.

- **2- needle machines**
  - When the needle thread is not tight enough, adjust needle thread tension knobs 4 and 5.
  - When the looper thread is not stretchy enough, adjust looper thread tension knobs 6 and 7.
CAUTION

Be sure to turn off the power for safety when swinging aside the presser foot, replacing the needle and threading in case of needle or thread breakage etc.

Note) On “Sewing check” mode, the machine gets started manually.

1) Press SEWING ADJ.key to call up sewing check mode and turn on the LED.

2) The display changes with INC. or DEC. key. Select the thread chain mode (CS) shown at the left.

3) Call up the thread chain suction mode (KS) by pressing FUNCTION key.

4) Select ON (the thread chain is sucked up) or OFF (the thread chain is not sucked up) with INC.key or DEC. key.

5) To go to the sewing check mode, press FUNCTION key again.

6) Start the machine and produce a thread chain by pressing the machine treadle.
7) Pick up the thread chain and make it thin by drawing it through your fingers (See illustration).

Check to see if the ends of needle and looper thread are aligned. If not, make the following adjustments.

**Note**
To exit the sewing check mode and turn off its LED, press **SEWING ADJ.** key or **PROGRAMMING** key.
However, this mode can not be ended for safety while the fabric sensor LED is turned on (such as when the sensor is detecting a fabric, the cloth plate is opened, etc).
Set the sewing mode (sewing conditions) according to your applications.

Press \(\square\) PROGRAMMING key in order to enter the setting mode (The LED on \(\square\) PROGRAMMING key is lit).

To end this mode, press \(\square\) PROGRAMMING key again.

At first, the cursor \(\square\) blinks on the extreme left of SEWING MODE.

Move the cursor to the desired position with CURSOR key \(\rightarrow\) and \(\leftarrow\). Then select a sewing mode as required with \(\square\) INC. or \(\square\) DEC. key (see kinds of sewing modes listed below).

Up to 20 types (steps) of sewing mode can be entered.

**Example**

**B** : Backlatching

**P** : Plain seaming

**R** : Backlatching + Reverse stitching (Reverse stitching mode is selectable (See page 50).)

**S** : Special backlatching (See page 56.)

**B** : Backlatching with condensed stitching at the start of sewing (Condensed stitching mode is selectable (See page 47).)

**P** : Plain seaming with condensed stitching at the start of sewing (Condensed stitching mode is selectable (See page 47).)

**R** : Backlatching with condensed stitching at the start of sewing + Reverse stitching (Condensed stitching mode and reverse stitching mode are selectable (See pages 47, 50).)

**S** : Special backlatching with condensed stitching at the start of sewing (Condensed stitching mode is selectable (See page 47).

\(\square\) : Voids the following data
Setting the thread chain clamp/length counter

Set this counter when a fabric tends to shrink at the start of sewing or when the thread chain knots tend to be produced in backlatching operation.

1) Press CHAINCLAMP/LENGTH key.
   The thread chain clamp/length counter is shown for the sewing mode P/B/R/S.

2) Select clamp or length with ← or → key.
   Change the value with ▲ INC. or ▼ DEC. key.

3) If the condensed stitching mode is set to ON, set this counter for condensed stitching as below (for the sewing mode P/B/R/S).
   After the above procedures 1) and 2), press CHAINCLAMP/LENGTH key again.
   The condensed stitch setting display is shown.
   Select clamp or length with ← or → key.
   Adjust the value with ▲ INC. or ▼ DEC. key.

In case ON is selected on the condensed stitching mode (C=B/P/R/S)

To set the thread chain clamp counter

On this counter, adjust the timing when the clamp releases the thread chain. Incorrect adjustment may result in making the thread chain knots.

When a fabric shrinks at the start of sewing, reduce the value with ▼ DEC. key.

Ex.)
If the thread chain knots are produced at the start of sewing, increase the value with INC. key.

Ex.)

To set the thread chain length counter
On this counter, adjust the thread chain length to be sewn into the seam.

⚠️ CAUTION
If the thread chain clamp counter is set to any value greater than that to which thread chain length counter is set, it may cause fabric shrinkage at the start of sewing.
To prevent this problem, the thread chain length count increases automatically when the thread chain clamp count is set to greater value than that on the thread chain length counter.

Example)
If the value on thread chain clamp counter is changed from 15 to 25 (stitches), the value on thread chain length counter is increased to 25 (stitches) accordingly.

Note) If you want to decrease the thread chain length count which is increased automatically, decrease the value on thread chain clamp counter first.

4) After completing the above adjustments, press CHN CLMP/LGTH key or PROGRAMMING key to return to the sewing mode display.
1) The machine stops automatically after a fabric 1 has gone through the light from sensor 2 at the end of sewing.

2) Press the machine treadle with heel and raise the presser foot.
   ※Even if the presser foot lift mode is set to Auto, the presser foot is raised manually for reverse stitching.

3) Turn over the fabric and then sew several stitches.
   ※This prevents the seam from unraveling.

Note)
Before performing reverse stitching, preset the reverse stitching mode, reverse stitching stop counter and reverse stitching counter (see pages 50-52 for details).
To go to the previous step and repeat its sewing operation, press PAT.CORRECT key.

In the case below, the arrow is moved from R to P by pressing PAT.CORRECT and then a plain seaming P can be performed again.

⚠️ CAUTION ⚠️

If the sewing mode returns to P (plain seaming) from B (backlatching) or to R (backlatching+reverse stitching) from P (plain seaming) with PAT.CORRECT key, be sure to press the machine treadle once with no fabric under the presser foot or press SET UP key (See page 68) in order to proceed with the sewing operation.

When the sewing mode returns to R from B or to B from R, there is no need to press the treadle or the SET UP key.
Press the RESET key to return to the very first step (sewing mode).

Even if the power is turned off, the BL controller still stores the completed steps and is ready to start where you left off. Therefore, press the RESET key to call up the very first step.

⚠️ CAUTION

If the operation type (sewing mode) changes by pressing the RESET key, be sure to press the machine treadle with no fabric or SET UP key (see next page) before starting a sewing operation. However, when the sewing mode B returns to R, or R returns to B by pressing the RESET key, there is no need to press the machine treadle with toe or press the SET-UP key.
The operation step indicated by \( s \) can not be performed in some cases. To proceed with its step, press \( / \) SET UP key or the machine treadle.

Ex.1) As the thread chain is not held with the clamp, a backlatching operation cannot be performed.

\[ \text{Press } / \text{SET UP key or the machine treadle once with toe.} \]

The machine gets activated and the thread chain is held in the clamp for the next operation.

Ex.2) When the kind of item is changed from A (its first step is backlatching) to B (its first step is plain seaming), the thread chain is still remaining in the clamp for the backlatching operation of the item A.

\[ \text{With the thread chain held in the clamp, the machine performs the backlatching operation even if the plain seaming is to be performed as the first step. To carry out the plain seaming, press } / \text{SET UP key or the machine treadle so that the thread chain is released from the clamp to get the machine ready for plain seaming.} \]

*The machine does not perform the next step by pressing \( / \) SET UP key.*
Never turn off the power until the operation test display appears on the screen.
If the trouble occurs with the BL device during sewing, find the cause performing the test mode as below.

1) Turn on the power while pressing \[\text{PROGRAMMING}\] and \[\text{FUNCTION}\] keys simultaneously.

\[\text{CAUTION}\]

Never turn off the power until the operation test display appears on the screen. Otherwise the stored setting may change.

2) Follow the on-screen instructions as follows.

- Console panel test→Output test (started with \[\text{FUNCTION}\] key)→Fabric sensor test→Rotation detector test

\[\text{CAUTION}\]

When any error message comes out on the screen (such as when “OK” is not shown by pressing the switch in the console panel test, each component does not output properly by pressing Function key, etc.), check the connection of relay cords/air lines and the air pressure of the filter regulator.

If the error message is still shown, the power box may be out of order because of some trouble.
Contact your local Pegasus's sales office or representative.

3) To restart sewing, turn off the power and then turn on the power again.
Enter this mode to activate the solenoid valve independently and check its operation.

1) Press and hold \[\text{PAT. CORRECT} \] key and turn on the machine.
   Note) The alarm sounds to notify the entry to the solenoid valve test mode.

2) The numbers and alphabets represents the following operations.

1. Presser foot lift
2. Chain cutter suction
3. Waste suction
4. Suction for holding thread chain under needle plate
5. Trailing thread chain blower
6. Thread chain clamp (right)
7. Leading thread chain blower
8. Thread chain clamp (left)
9. Thread releaser actuator
A. Finger actuator
B. Cylinder for condensed stitching
   (For future use on BL528/529)
C. For future use
If the solenoid valve is not operating properly, the device may be out of order because of some trouble. Contact your local Pegasus' sales office or representative.