# brother

# AUTOMATIC LOCK STITCH POCKET WELT SEWER (FOR FLAP ATTACHMENT)

# AUTOMATIC LOCK STITCH SLANT POCKET WELT SEWER (FOR FLAP ATTACHMENT)

## BAS-610
## BAS-611
## BAS-612

## INSTRUCTION MANUAL

# CONTENTS

# SPECIFICATIONS



| Model | 151-610 | 151-611 | 151-612 |
|---|---|---|---|
| Machine head | Automatic lock stitch pocket welt sewer (for flap attachment) | | Automatic lock stitch slant pocket welt sewer (for flap attachment) |
| Sewing speed | 2,500 sp (variable to 2,200 spm by DIP switch setting) | | |
| Flap sewing | Not available | Available | |
| Slant-welting | Not available | | Available |
| Needle | Mt x 190 #16 (#16 - #18) | | |
| Needle Gauge size | Standard 10 mm (8, 12, 14, 18, 20 mm) | | |
| Seam length (Pocket size) | Gauge size 14 mm or less : 28 to 190 mm  16 mm or more : 36 to 190 mm | | 36 to 190 mm |
| | Flap sewing : 80 to 180 mm | | |
| Stitch length | <u>Lock stitch</u>  Standard at 2 mm (variable from 1.8 mm to 3.2 mm)  <u>Backstitch</u> — Condensed : Standard at 1.0 mm (variable from 0.4 mm to 1.4 mm)  — Back-tack : Standard at 2.0 mm (variable from 0.8 mm to 2.0 mm)  (Variable by dip switch setting) | | |
| Power supply | 3-phase 200V, 50/60Hz, 500W (Utilizing two of the 3-phase lines) | | |
| Dimensions | 820 mm W x 1,300 mm D x 1,155 mm H | | |

# CONTROL PANEL [1] BAS-610, -611
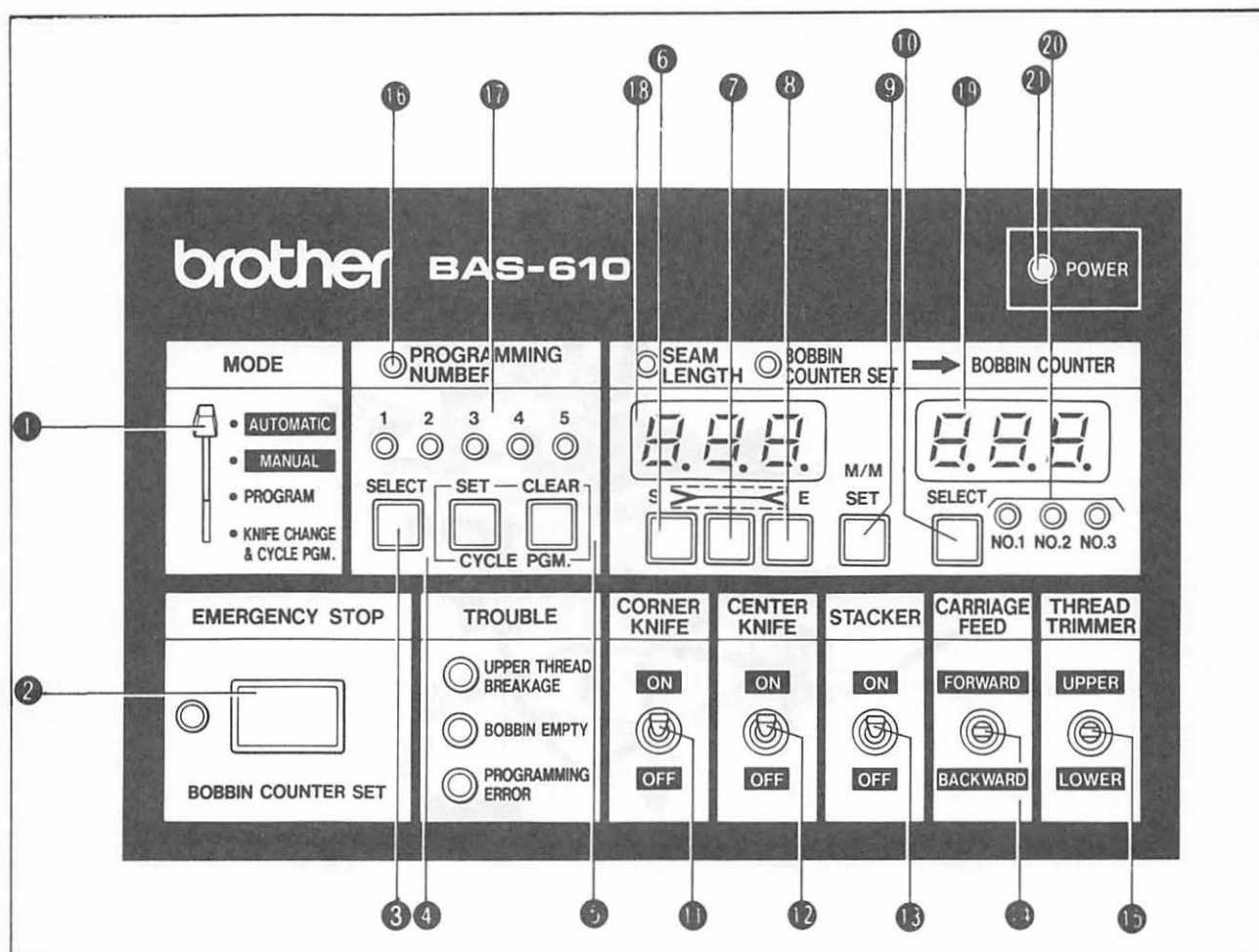


① **MODE selector**
Use to select the operating mode: AUTOMATIC, MANUAL, PROGRAM or KNIFE CHANGE 6 CYCLE PGM

② **EMERGENCY STOP / BOBBIN COUNTER SET push-button switch**
Press to effect an emergency stop or for setting the bobbin counter (see page 26).

③ **PROGRAMMING NUMBER - SELECT push-button selector**
Press to change the program number. The number advances one each time the selector is pressed (1 → 2 → 3 → 4 → 5) (see page 17).

④ **CYCLE PGM - SET push-button switch**
Press to effect a cycle program (see page 20).

⑤ **CYCLE PGM - CLEAR push-button switch**
Press to clear a cycle program (see page 20).

⑥⑦⑧ **SEAM LENGTH/BOBBIN COUNTER push-button setter (numeric display)**
⑥      x 100      (0, 1, F:flap)
⑦      x  10      (0 to 9, – )
⑧      x   1      (0 to 9, ⬜ : right flap, ⬜: left flap)
      See page 18 for F- ⬜ and F- ⬜ displays.

⑨ **BOBBIN COUNTER - SET push-button switch**
Press to set the bobbin counter (see page 26).
Also press this switch to correct the corner knife position (see page 29).

⑩ **[ BOBBIN COUNTER - SELECT ]** push-button selector
Press to select the bobbin counter: No.1. No.2 or No.3 (see page 26).
The bobbin counter selection advances in the order 1 → 2 → 3.

⑪ **[ CORNER KNIFE ]** switch
Set to ON to use the center knife. (The corner knife will not function when the CORNER KNIFE switch is set to ON with the CENTER KNIFE switch set to OFF.)
The knife will rise during corner knife replacement even if the switch is set to OFF.

⑫ **[ CENTER KNIFE ]** switch
Set to ON to use the center knife.

⑬ **[ STACKER ]** switch
Set to ON to use the stacker.

⑭ **[ CARRIAGE FEED ]** forward/backward switch
Set to ADVANCE to move the carriage feed away from the operator.
Use simultaneously with

⑮ **[ THREAD TRIMMER ]** switch
Use in either MANUAL or AUTOMATIC mode when the carriage feed is at the thread trimming position.
Set to UPPER to lower the needle thread knife unit and then start to raise it in the neutral position to cut and hold the needle threads.
Set to LOWER to release the bobbin threads from the bobbin thread knives and then cut and hold the bobbin threads at the neutral position.
To display the number of work pieces, set to UPPER in the AUTOMATIC mode when the carriage feed is at the home position.

⑯ **[ PROGRAMMING NUMBER ]** indicator
When the indicator is flashing, the program number can be changed by pressing the SELECT selector.

⑰ **[ Program number ]** indicators
The flashing indicator shows the program to be run.
In the AUTOMATIC MODE of cycle sewing, a flashing indicator shows the sewing program to be run and a steady indicator shows the program to be run after that.
[Example 1]  If the cycle sewing is programmed as 1 → 2 → 3, the indicator are:

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Flashing | Steady | Steady | Off | Off |

If the PROGRAMMING NUMBER - SELECT selector is pressed then or if program 2 has been run, the indicators are:

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Steady | Flashing | Steady | Off | Off |

⑱ **[ SEAM LENGTH ]** / **[ BOBBIN COUNTER SET ]** / **[ CORNER KNIFE POSITIONAL CORRECTION ]** display
When the SEAM LENGTH indicator illuminates, the display shows the seam length (unit: mm) or the flap selection.
When the BOBBIN COUNTER SET indicator illuminates, the display shows the bobbin thread amount (unit: piece).
The setting can be changed using setters ❻ , ❼ and ❽ when the display is flashing.

⑲ **[ BOBBIN COUNTER ]** display
The display shows the remainder on the bobbin counter with the illuminating number indicator No. 1, No. 2 or No. 3 (20).

⑳ **[ BOBBIN COUNTER NUMBER ]** indicators
The indicator for the bobbin counter number selected by BOBBIN COUNTER - SELECT ⑩ illuminates.

㉑ **[ POWER ]** indicator
The indicator illuminates when the power switch is set to ON.

# CONTROL PANEL [2]  BAS-612
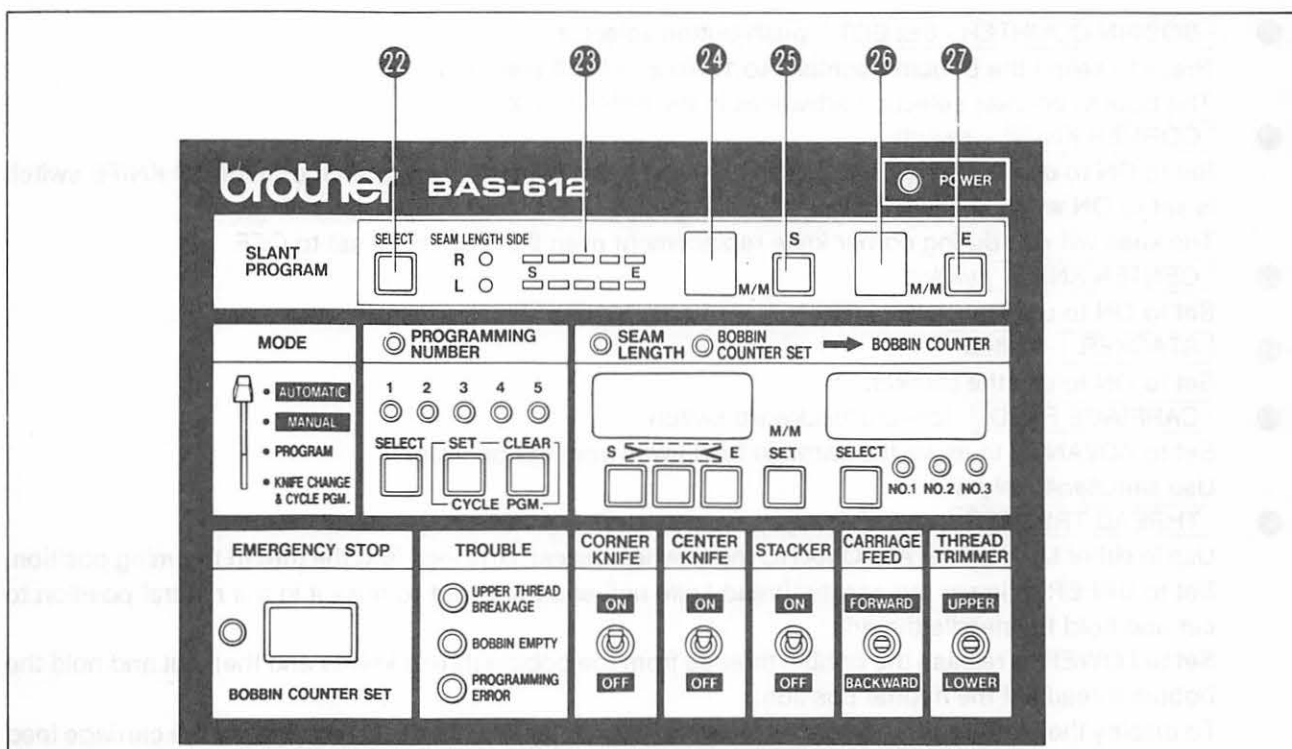


㉒ **Pattern SELECT selector**
Select one slant pocket sewing pattern from the nine.

㉓ **Sewing pattern display and SEAM LENGTH SIDE, R/L indicators**
The sewing pattern program set with the selector is displayed on the LEDs.

| Pattern | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| LED display | | | | | | | | | |
| Sewing S = start E = end I = length overall | | | | | | | | | |

㉔ **S-side deviation amount display**
The LED display shows the deviation amount on the sewing-start side.

㉕ **S-side deviation amount setter**
Set a deviation amount of 19 mm or less.

㉖ **E-side deviation amount display**
The LED display shows the deviation amount on the sewing-end side.

㉗ **E-side deviation amount setter**
Set a deviation amount of 19 mm or less.

Seam length display

Flap display
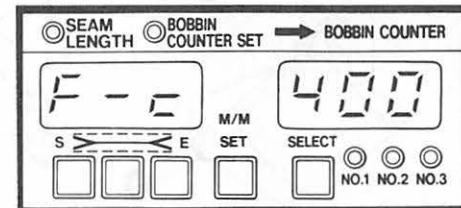
Bobbin counter→bobbin counter set display
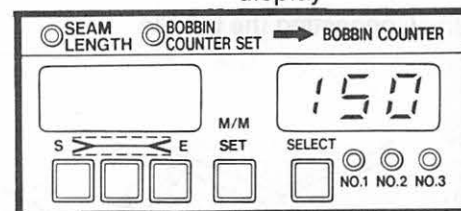
Work piece counter display

BAS-610

BAS-611
BAS-612

フラップセンサー
FLAP SENSOR

左 右
LEFT RIGHT

中メス補正
CENTER K.

中メス補正
CENTER K.

㉘, ㉙　 CENTER K.(knife)　positional
correction counters

The S counter shows the start-side correction
and the E counter shows the end-side
correction.

0 : The center knife
moves to the extreme
outer position.

9 : The center knife
moves to the extreme
inner position.

S        E
0   9        9   0

BAS-611 and BAS-612 only

㉚　 FLAP SENSOR - LEFT 　indicator
The indicator illuminates when the left flap
sensor detects the material.

㉛　 FLAP SENSOR - RIGHT 　indicator
The indicator illuminates when the right flap
sensor detects the material.

㉜　 FLAP SENSOR - LEFT 　sensitivity control
㉝　 FLAP SENSOR - RIGHT 　sensitivity control

# INSTALLATION [1]

### 1. Setting-up the table
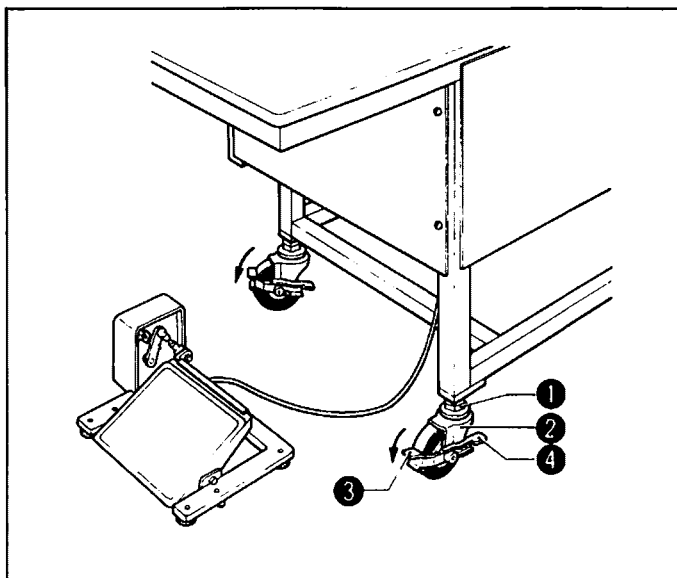


- Set the machine table level.
  Loosen nut ❶ and adjust the height by turning caster ❷ .
- Lock the casters so that the table will not move.
  Lower lever ❸ to lock caster ❷ .
  To move the table again, lower lever ❹ .

### 2. Connecting the treadle
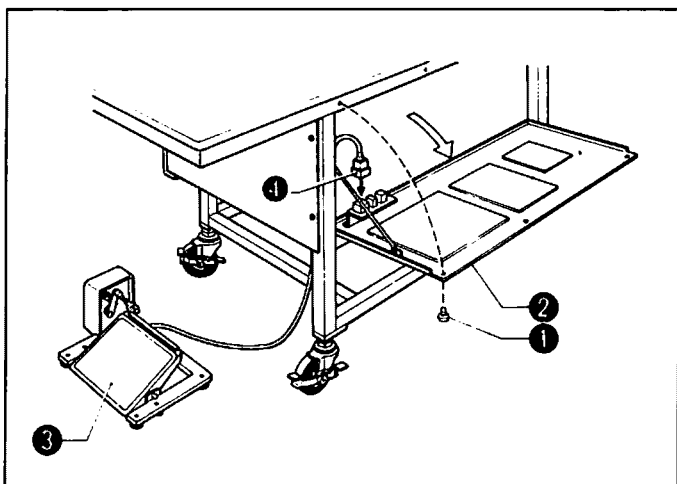


- Remover three screws ❶ and open side panel ❷ .
  Plug 12P connector ❹ for treadle ❸ into the connector port on the side panel.

### 3. Fitting the spool stand
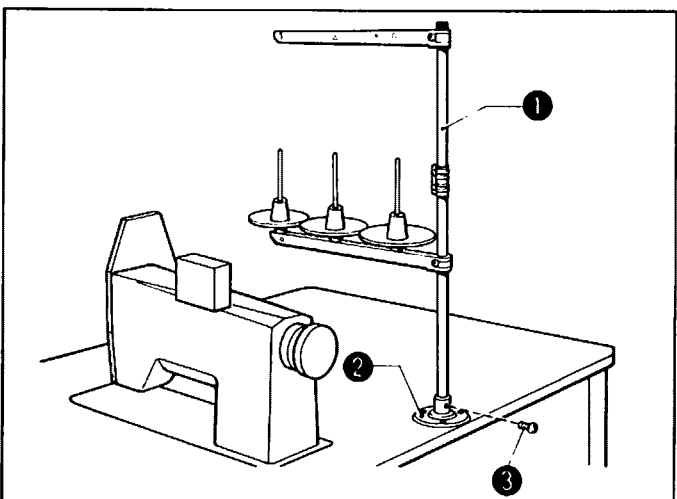


- Fit spool stand ❶ onto bracket ❷ and secure with screw ❸ .

### 4. Fitting the material holder
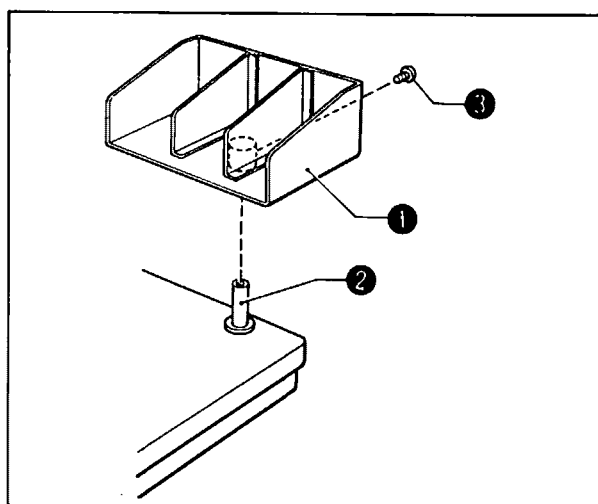


- Fit material holder ❶ onto stud ❷ and secure with screw ❸ .

### 5. Adjusting the air pressure
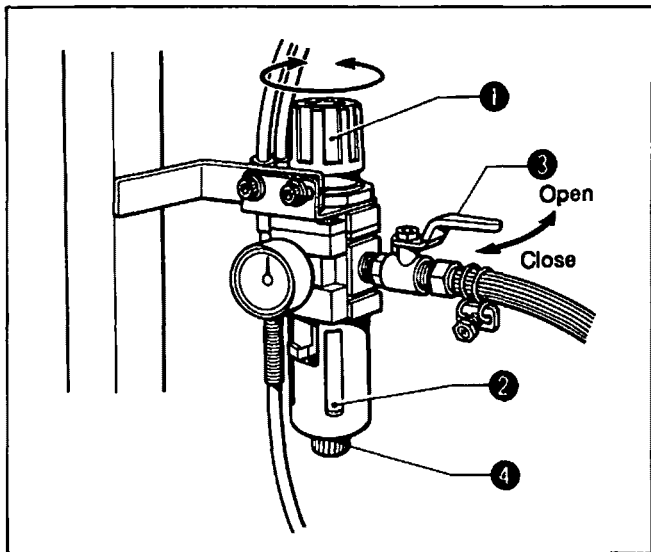


1. The standard operating air pressure is 5 kg/cm$^2$.

   Adjust the air pressure by turning handle ❶.

2. If water collects in bottle ❷ close air cock ❸ and then turn drain cock ❹ slowly in the arrowed direction to drain the water.

   * Be sure to close drain cock ❹ after letting the water out.

# LUBRICATION [1]

- Use Brother-specified machine oil (High White #70).

< Standard lubrication >

### 1. Filling the arm top oil tank
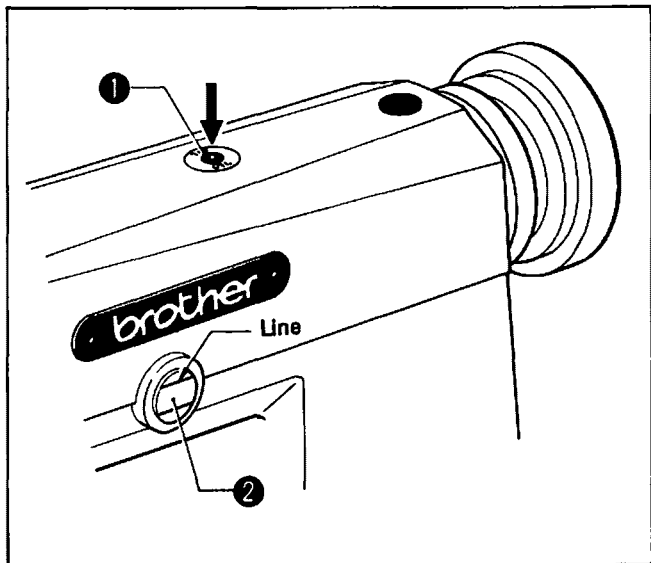


- Pour in the oil through oil cap ❶ until its level reaches the upper line on oil gauge window❷
- Replenish the oil when its level reaches the lower line.

### 2. Adjusting the rotary hook lubrication



More lubricant / Less lubricant
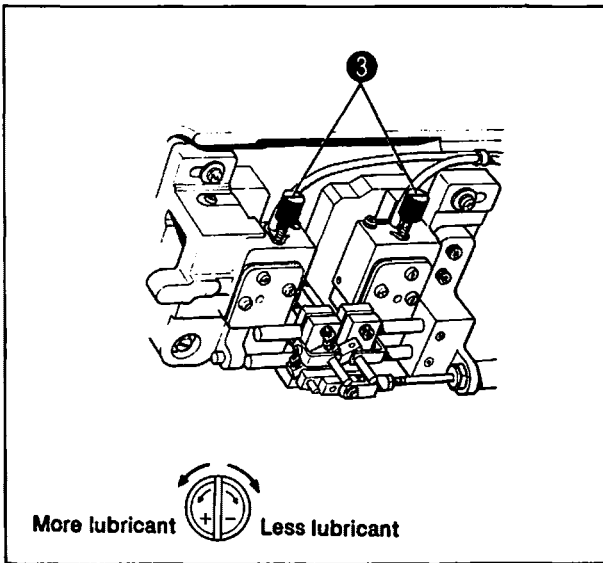
* To prevent extremely high oil consumption, be careful not to loosen lubrication adjustment screws ❸ for the rotary hook too much.

  Slide the carriage feed while referring to page 10, remove the slide plate, and tilt the machine head.

# Lubrication [2]

< Oiling >
Before initial use of the machine or after a long period of no use, be sure to add a drop or two of oil at the arrowed points.
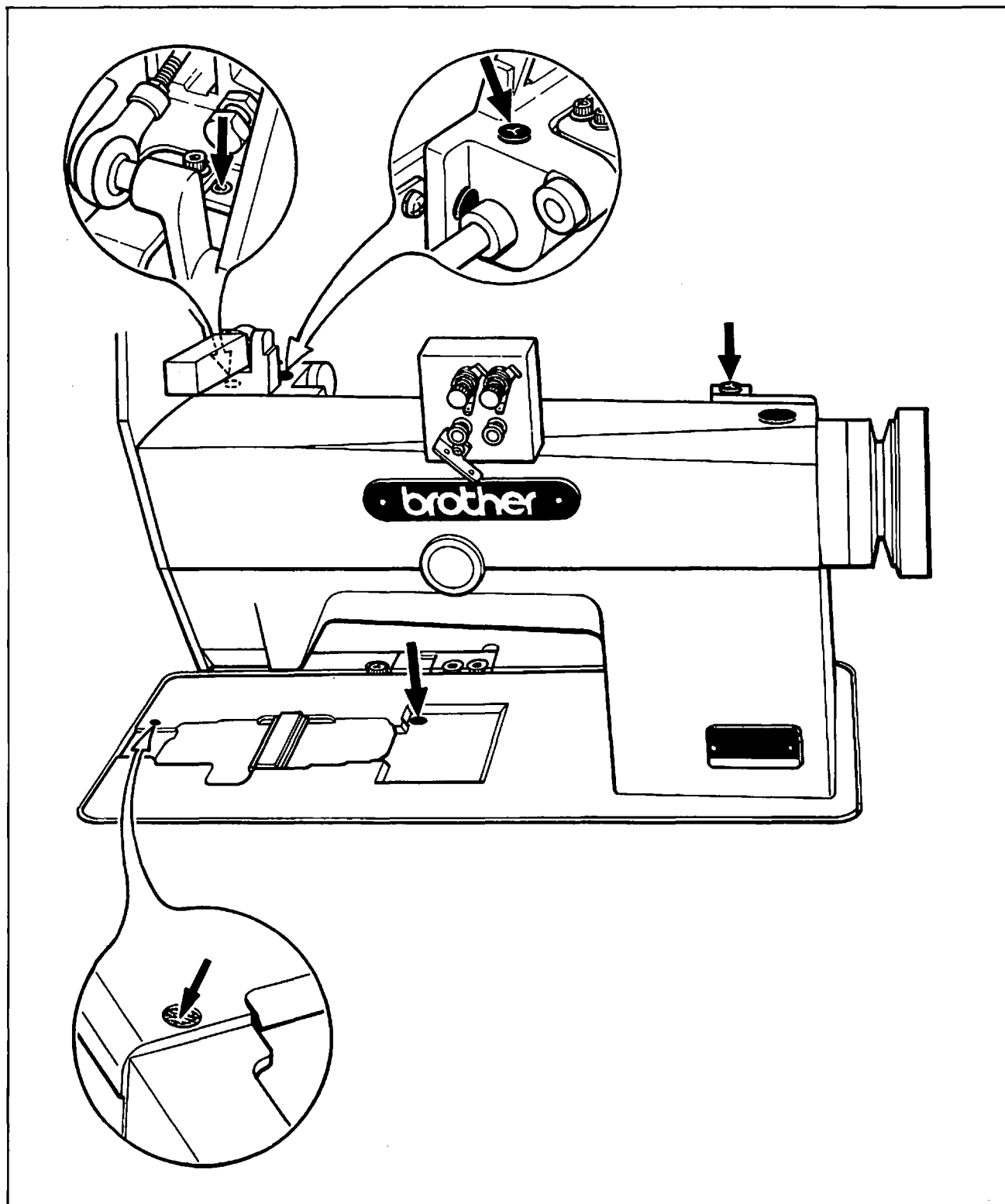
# CORRECT OPERATION [1]

< Winding the bobbin thread >
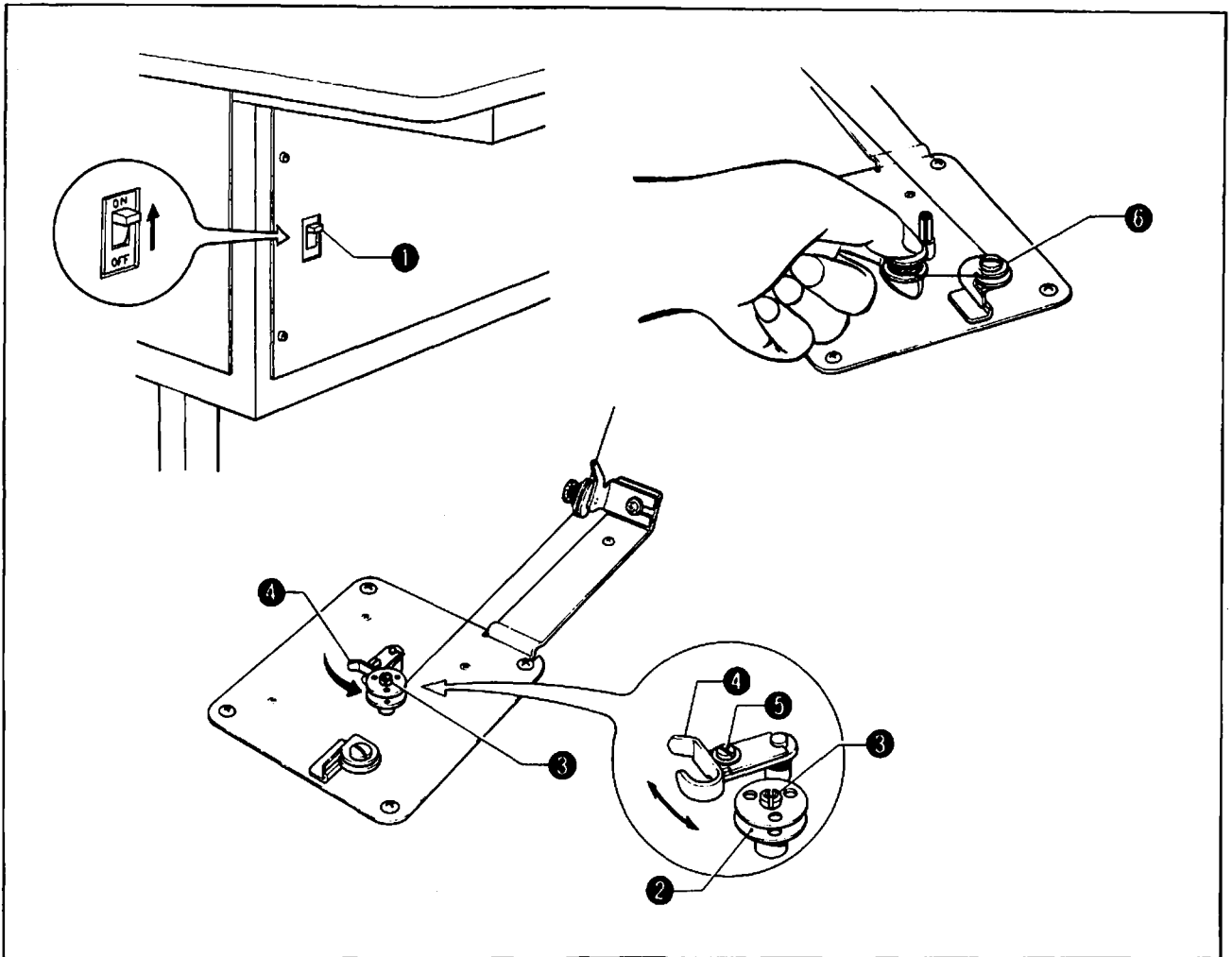
1.  Set power switch **①** to ON.
2.  Place empty bobbin **②** onto bobbin winder shaft **③**
3.  Thread the thread from the spool stand as illustrated and wind the thread end around bobbin **②** for five to six turns.
4.  Move lever **④** in the arrowed direction.
    The winder will start automatically and bobbin winder shaft **③** will revolve to wind the thread on the bobbin.
5.  On completion of winding the maximum amount of thread, the lever returns automatically and bobbin winder shaft **③** will stop revolving.
6.  To adjust the maximum thread amount for bobbin **②**, loosen screw **⑤** and move lever **④** to the right or left.
7.  Remove bobbin **②** from bobbin winder shaft **③** and cut the thread by winding it around thread holder **⑥** .
    To wind another bobbin, take the thread end from thread holder **⑥** and wind it around the new one.

# CORRECT OPERATION [2]

< Threading the needle thread >
- Threading is easier when the carriage feed is advanced as this allows more space around the needle.

**Before threading**
{To advance the carriage feed}

1. Set power switch ❶ to ON (an alarm will sound once).
   The EMERGENCY STOP indicator will flash.
2. Press EMERGENCY STOP switch ❷ (an alarm will sound twice).
   Carriage feed ❸ will move to the home position.
3. Set MODE selector ❹ to MANUAL.
4. Set CARRIAGE FEED switch ❺ to FORWARD to advance the carriage feed.
   * To fast-advance the carriage feed to the thread trimming position, set CARRIAGE FEED switch ❺ to ADVANCE with THREAD TRIMMER switch ❻ set to UPPER.

| MODE |
|---|
| • AUTOMATIC |
| • MANUAL |
| • PROGRAM |
| • KNIFE CHANGE & CYCLE PGM. |

❹

| EMERGENCY STOP |
|---|
| BOBBIN COUNTER SET |

❷

| CARRIAGE FEED | THREAD TRIMMER |
|---|---|
| FORWARD | UPPER |
| BACKWARD | LOWER |

❺          ❻
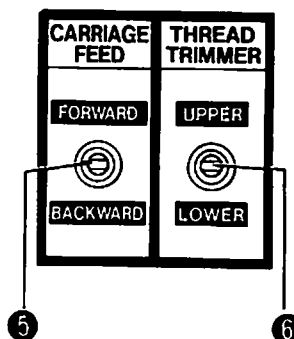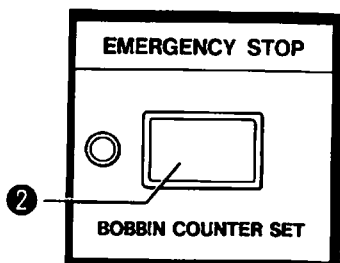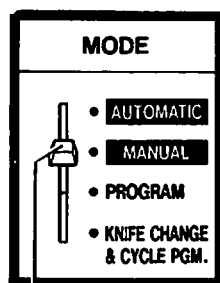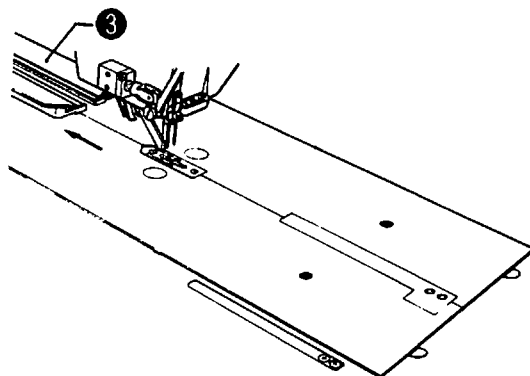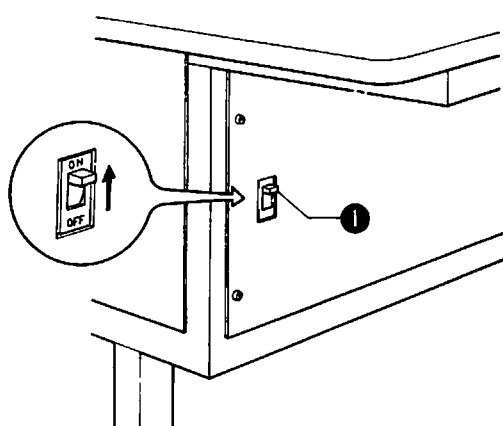
[Threading the needle threads]
- Thread the needle threads.
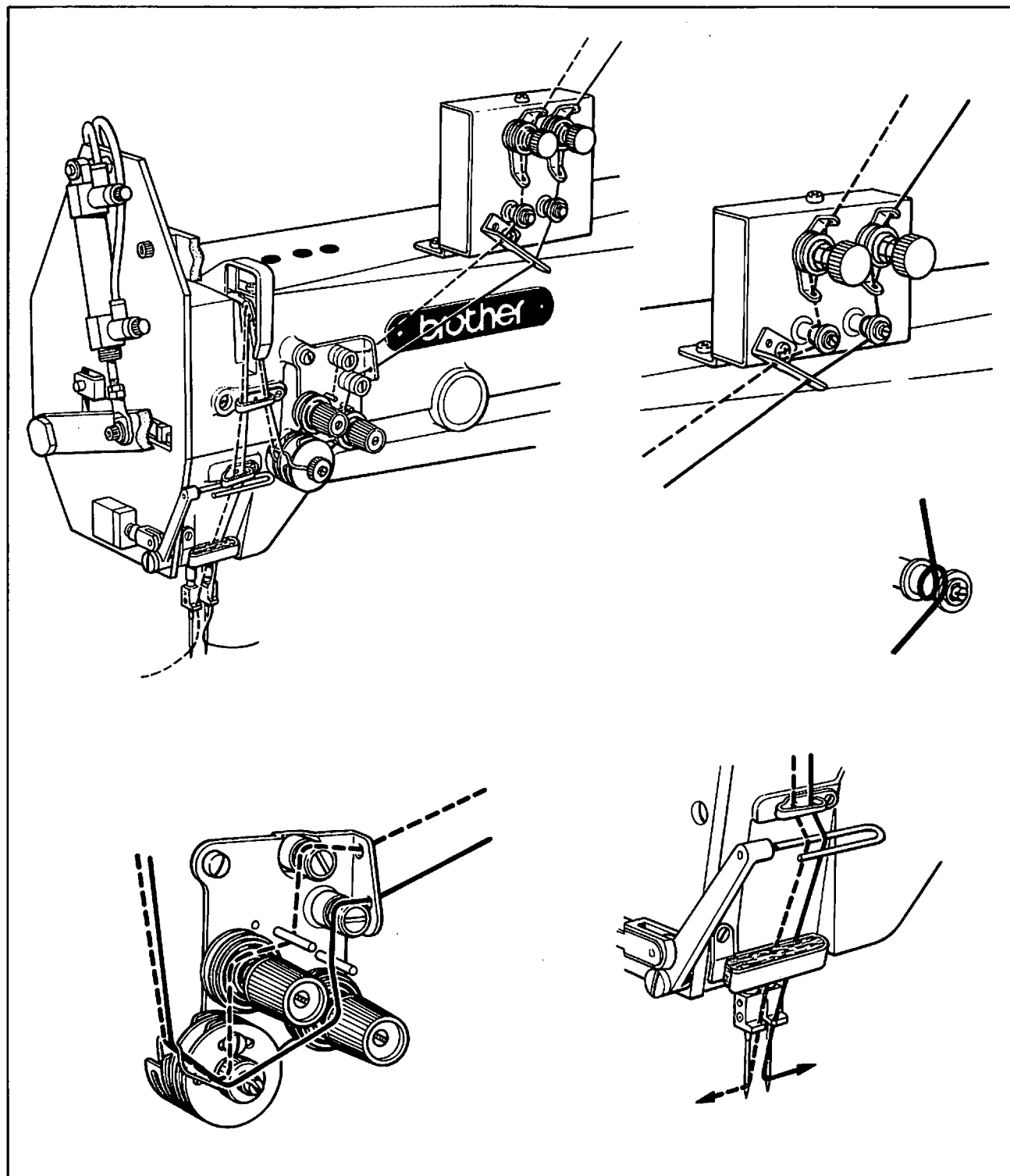
# CORRECT OPERATION [3]

< Threading the bobbin thread >
　[To remove the bobbin cases]
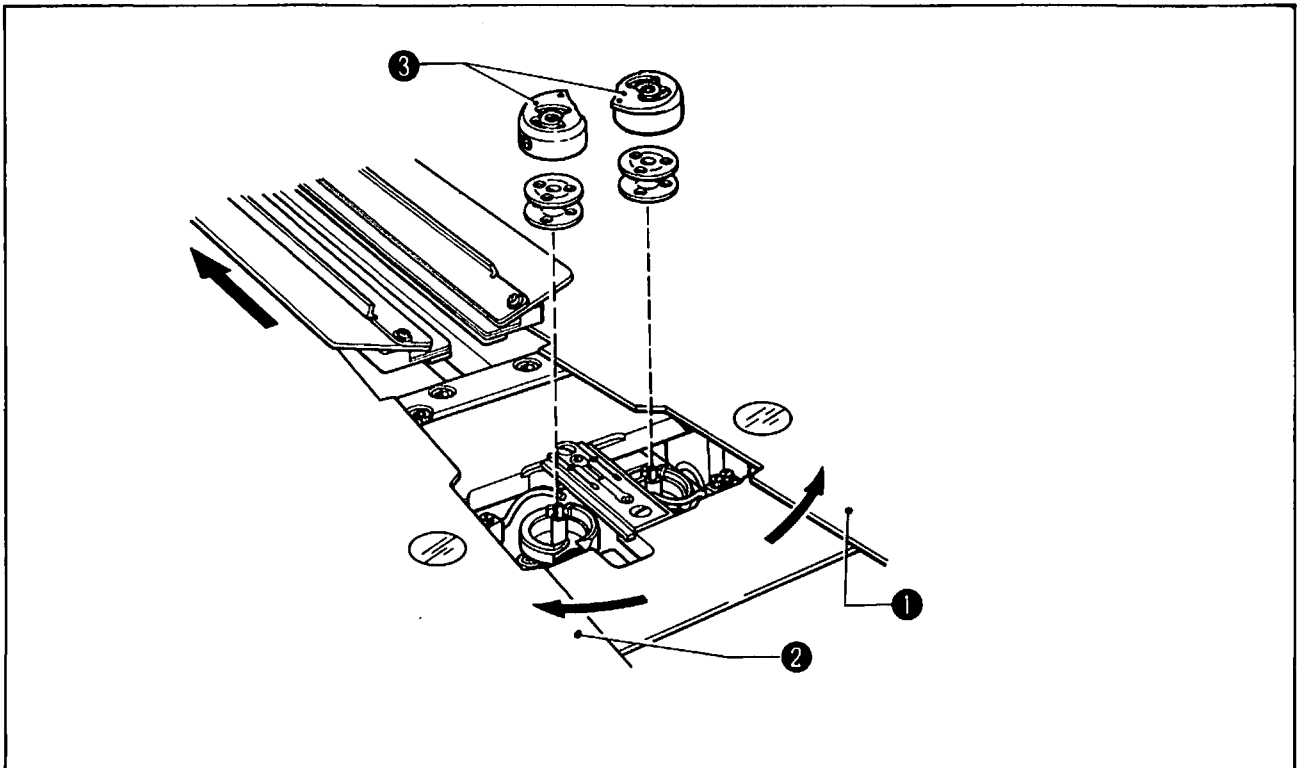


1.　Open slide plates R ❶ and L ❷ .
2.　Hold the corners of bobbin cases ❸ and remove them.

　[To thread a bobbin case]
　BAS-610 and BAS-611
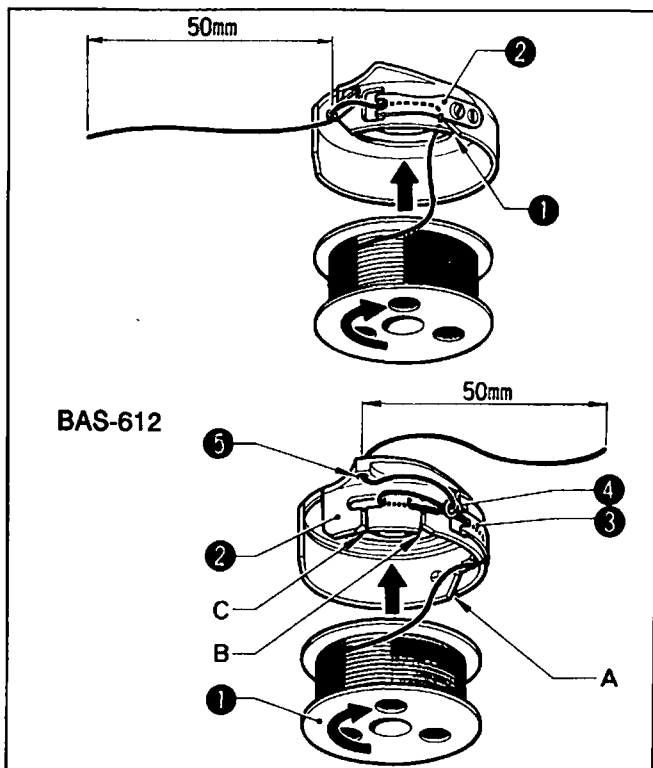


1.　Insert a bobbin into the bobbin case.
2.　Thread the thread through notch ❶ and then under tension spring ❷ .
3.　Pull approximately 50 mm of thread through the hole at the end of tension spring ❷ .
4.　Insert the bobbin case into the rotary hook.

**BAS-612**



1.　Insert bobbin ❶ into bobbin case ❷ .
2.　Thread the thread through notch A and then under tension spring ❸ .
3.　Thread the thread through notches B and C and then hang it on bobbin-thread sag prevention spring ❹ .
4.　Pull approximately 50 mm of thread through hole ❺ .

< Holding the needle threads and the bobbin threads >

- Insert the bobbin case (bobbin) into the rotary hook and close the handle.
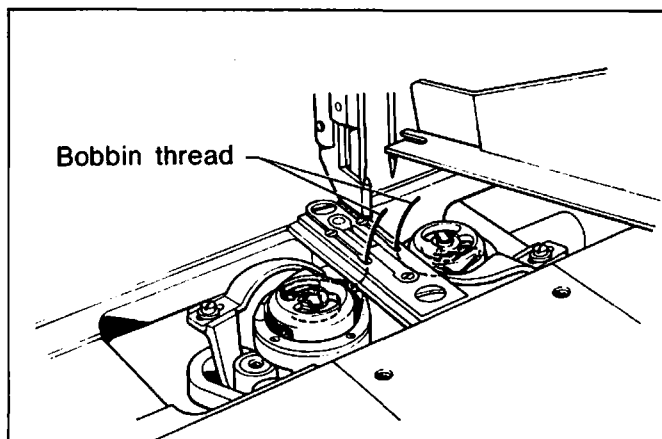
Bobbin thread

1. Hold the needle thread by hand, and turn the pulley by hand to bring the bobbin thread up.
2. Set THREAD TRIMMER switch ❶ to UPPER to lower the needle thread trimmer knife.

Note: Be careful to keep your hands and other articles away from the knife when it lowers.

3. Thread the two needle threads over the needle thread trimmer knife.
4. Return THREAD TRIMMER switch ❶ to raise the needle thread trimmer knife and hold the needle threads.
5. Set THREAD TRIMMER switch ❶ to LOWER to turn the bobbin thread knife as illustrated.
6. Insert the threads into the grooves in the needle plate and reset THREAD TRIMMER switch ❶ to cut and hold the bobbin threads with the bobbin thread knives.

THREAD TRIMMER

UPPER

LOWER

❶

Needle thread

THREAD TRIMMER

UPPER

LOWER

❶

90°
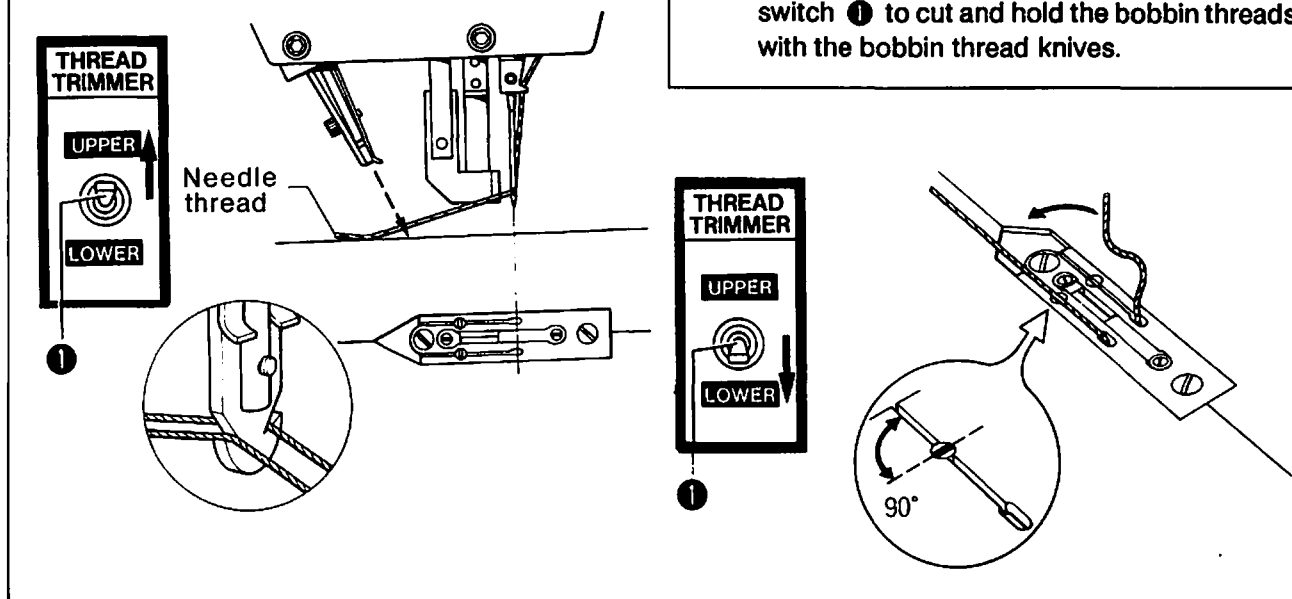
{To return the carriage feed}
1. Return the slide plates.
2. Set CARRIAGE FEED switch ❷ to BACKWARD to return the carriage feed.
   * To fast-return the carriage feed to the home position, set MODE selector ❸ to any position but MANUAL.

CARRIAGE FEED

FORWARD

BACKWARD

❷

MODE

AUTOMATIC
MANUAL
PROGRAM
KNIFE CHANGE & CYCLE PGM.

❸

—13—
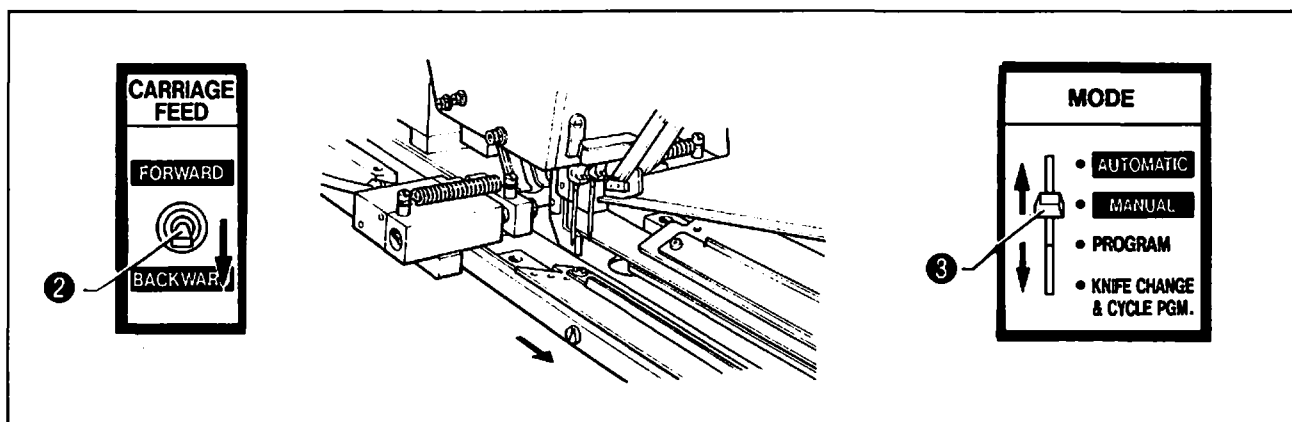
# TREADLE AND START SWITCH

- When running a flap program, the machine will not operate on pressing the start switch unless the flap presser lowers.
- For standard sewing, the machine will operate on pressing the start switch after the folding plate has operated.
- Set the MODE selector either to AUTOMATIC or to MANUAL.

< Treadle operation >

1.  Press treadle ❶ backwards to raise padding cloth presser foot springs R ❷ and L ❸ .
2.  Release treadle ❶ to lower padding cloth presser foot springs R ❷ and L ❸ .
3.  Press treadle ❶ forward to position ➊ to lower carriage feed arm L ❹ .
4.  Press treadle ❶ forward to position ➋ to lower carriage feed arm R ❺ .
5.  Press treadle ❶ forward to position ➌ to lower binder ❻ and operate the folding plate.
    * The folding plate will start to operate 0.25 to 0.35 seconds after binder ❻ lowers.
6.  Press treadle ❶ forward to position ➍ to lower flap presser L ❼ .
7.  Press treadle ❶ forward to position ➎ to lower flap presser R ❽ .
8.  Press START switch ❾ to operate the carriage feed.
    * If the MODE selector is set to MANUAL, the carriage feed will operate without actual sewing.
    * The sequence of carriage feed and flap presser operations (steps 3, 4, 6 and 7 above) can be changed by dip switch setting (see page 46).

-14-
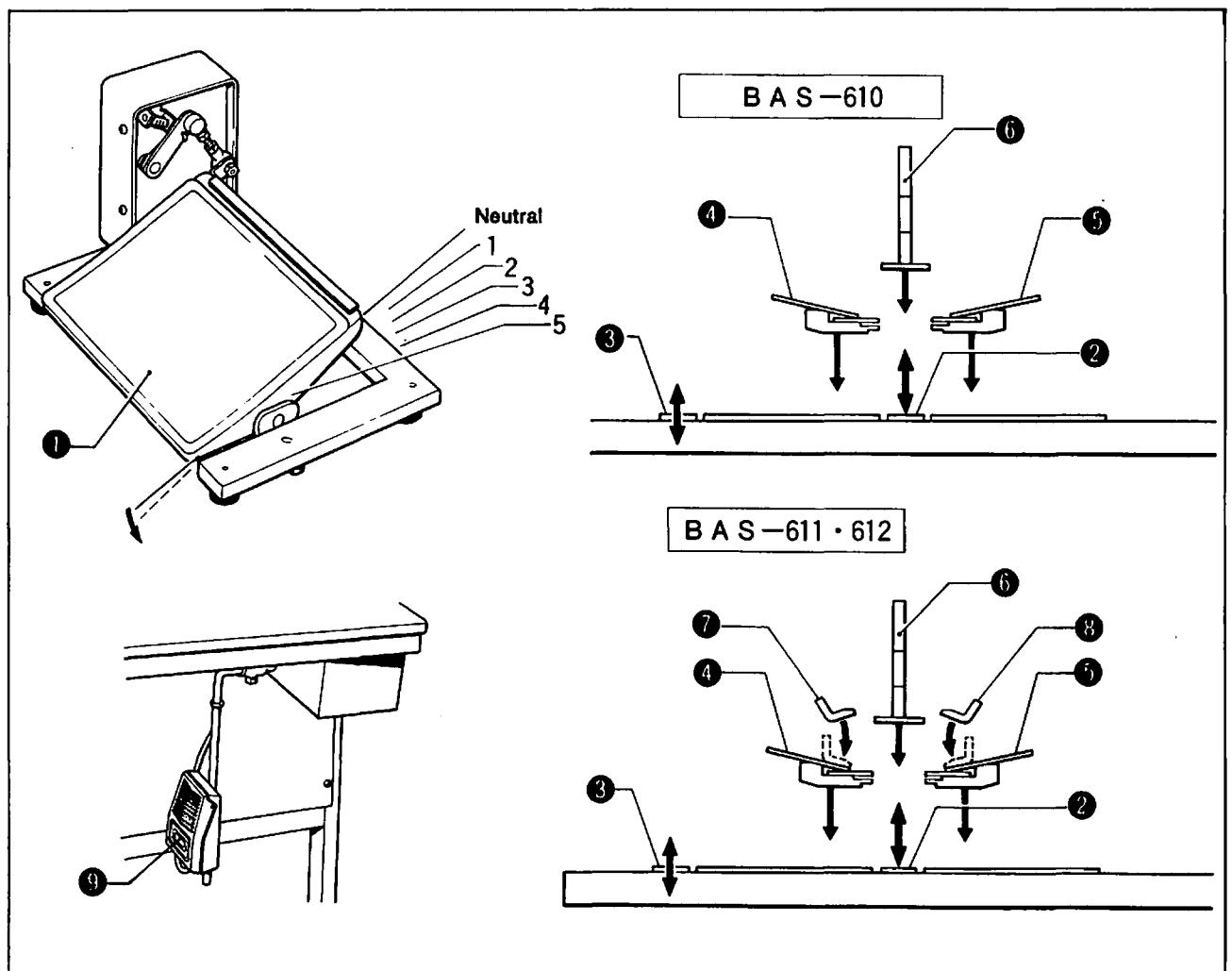
< Setting the material >

- When running a flap program, the machine will not operate on pressing the start switch unless the flap presser lowers.
- For standard sewing, the machine will operate on pressing the start switch after the folding plate has operated.

1. Press treadle ❶ backward to raise padding cloth presser foot springs R ❷ and L ❸ .
2. Position the padding.
3. Release treadle ❶ to lower padding cloth presser foot springs R ❷ and L ❸ and secure the padding.
   * If the material is lined with padding, steps ❶ to ❸ above may be skipped.
4. Position the bodice.
5. Press treadle ❶ forward to position ❶ to lower carriage feed arm L ❹ .
6. Press treadle ❶ forward to position ❷ to lower carriage feed arm R ❺ .
7. Position the welting material.
8. Press treadle ❶ forward to position ❸ to lower binder ❻ and operate the folding plate.
   (The welting material will be folded when lowered binder ❻ holds the material.)
   * The folding plate will start to operate 0.25 to 0.35 seconds after binder ❻ lowers.
9. Select either right flap sewing or left.
10. Press treadle ❶ forward to position ❹ to lower flap presser L ❼ .
11. Press treadle ❶ forward to position ❺ to lower flap presser R ❽ .
12. This completes the material setting.

| 1. Padding presser | 2. Bodice |
|---|---|
| 3. Welting material | 4. Flap |

Folding plate
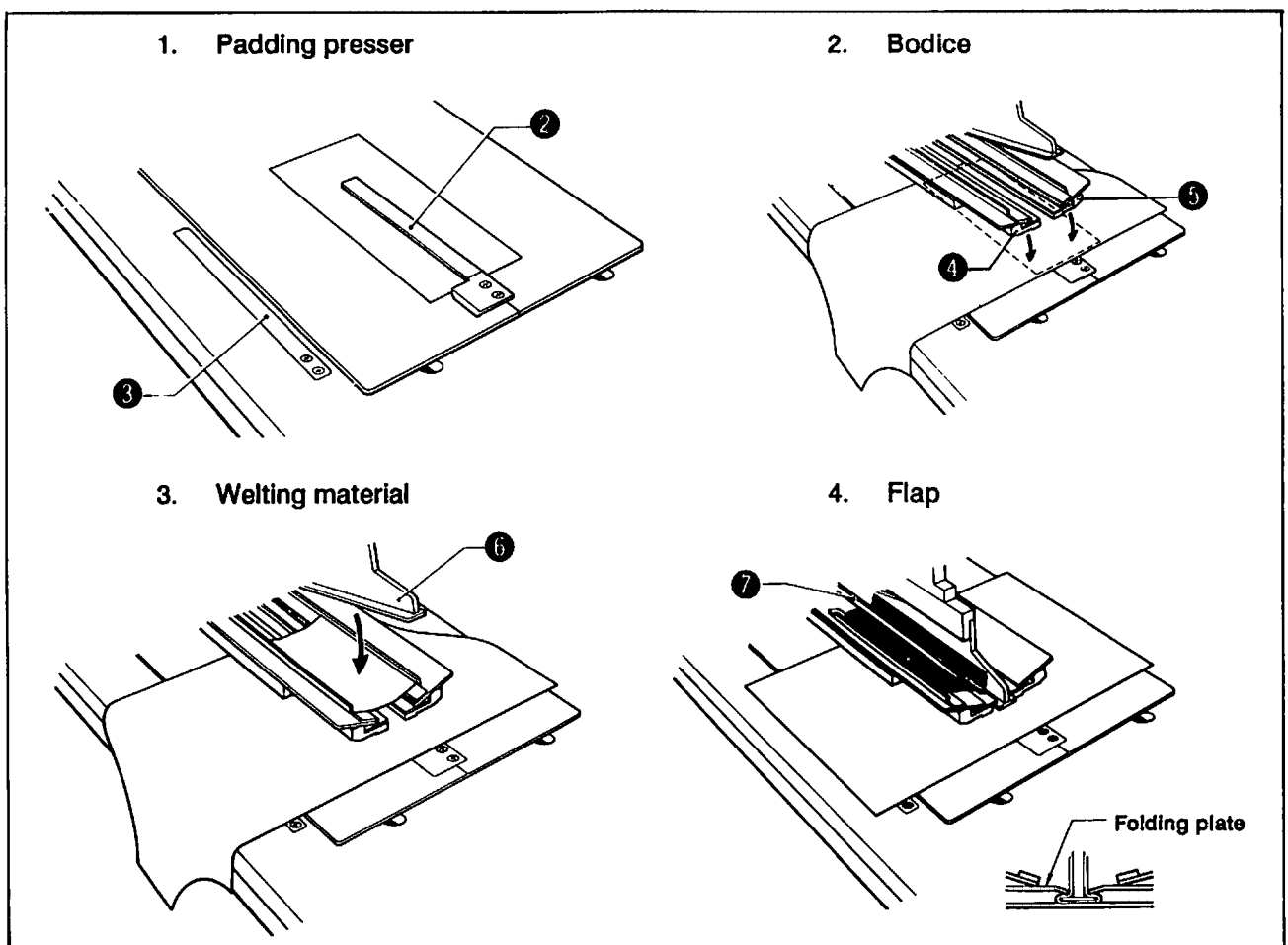
# MARKING LIGHT ADJUSTMENT

Adjust the focus before positioning the material.

< Adjusting the focus >
1.  Set power switch ❶ to ON to turn on the marking lights.
2.  Loosen screw ❷ and move lens hood ❸ up or down until the " + " mark is projected sharply on the material.
    *  Adjust the sewing start position back and forth with bolts ❺ .
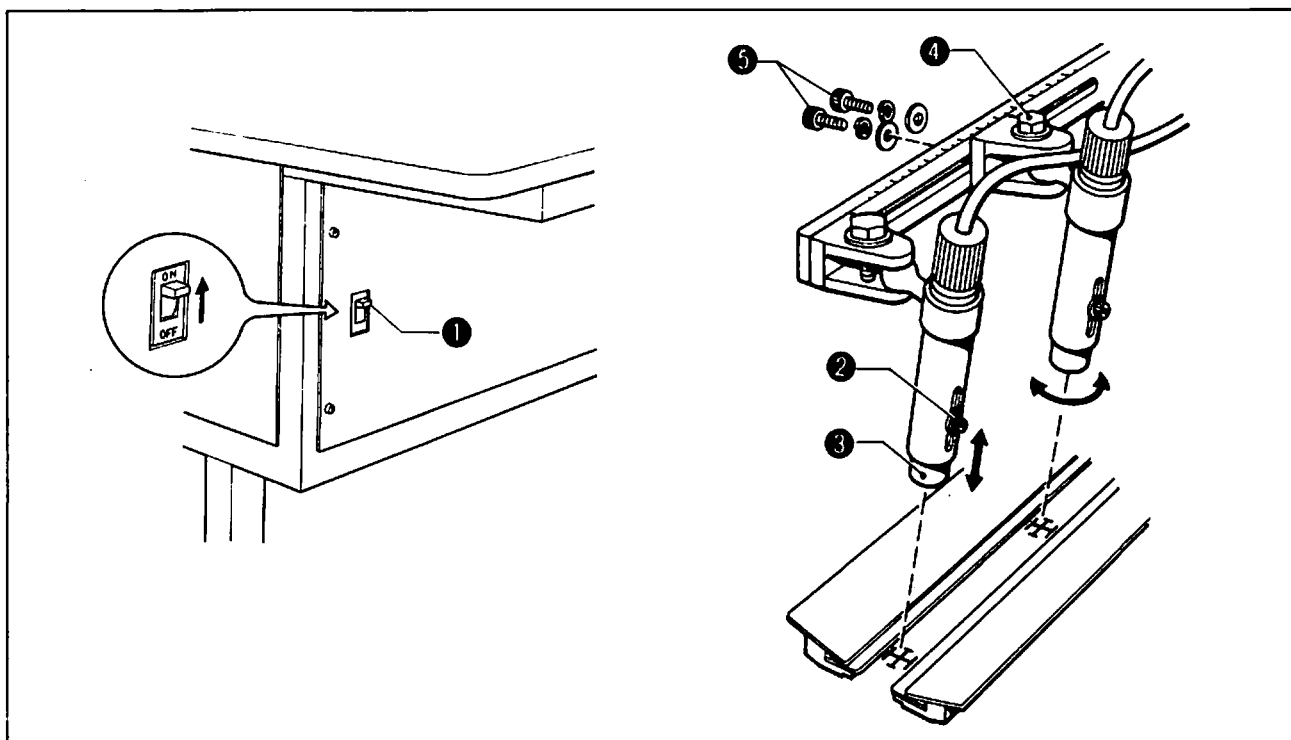


*  A third marking light is available as an option (S08367-000).

# PROGRAMMING (Inputting a Standard Sewing Program)

- Set the MODE selector to PROGRAM. The PROGRAMMING NUMBER and SEAM LENGTH indicators will flash.
- Flap sewing is selected if F- ⊐ or F- ⊏ is displayed.

< Inputting a standard sewing program >
   To change the seam length of programming number  1  from 100 to 125:
1.   Set MODE selector ❶ to PROGRAM.
2.   Press SELECT selector ❷ and illuminate program number indicator "1".
3.   Input the seam length of the standard sewing program.
     Press setters ❸ and change the seam length display from 100 to 125.
4.   Set MODE selector ❶ to any position but PROGRAM.
   *  The modified program will be stored when the MODE selector is moved. The programs will remain unmodified if the power switch is set to OFF without moving the selector.
5.   Set MODE selector ❶ to AUTOMATIC to sew.

Program

|————100————|     →     |————125————|

−17−
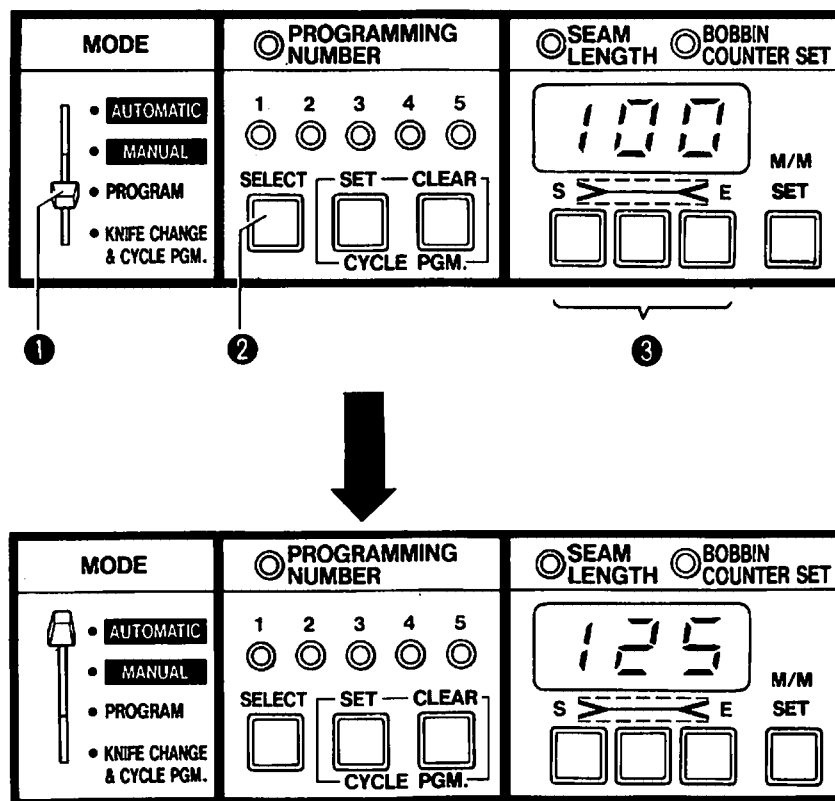
# PROGRAMMING (Inputting a Flap Sewing Program)

- Flap sewing programming is not available for BAS-610 machines.
- Set the MODE selector to PROGRAM. The PROGRAMMING NUMBER and SEAM LENGTH indicators will flash.
- Flap sewing is selected if F- ⊐ or F-⊏ is displayed.
  F- ⊐ indicates right flap sewing and F- ⊏ indicates left flap sewing.
- Correct the sewing start position (correction data).

< Inputting a flap sewing program >

    To change programming number  2  to right flap sewing and modify the sewing start position correction data.

1.    Set MODE selector ❶ to PROGRAM.
2.    Press SELECT selector ❷ and illuminate program number indicator "2".
3.    Select either right flap sewing or left.
       Press setter (100's place) ❸ to show F on the SEAM LENGTH display.
       Press setter (1's place) ❹ to show ⊐ on the display.
4.    Set the flap (see page 15 for setting a flap).
5.    Press start switch ❺ .
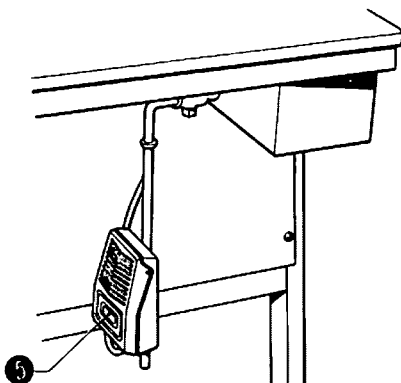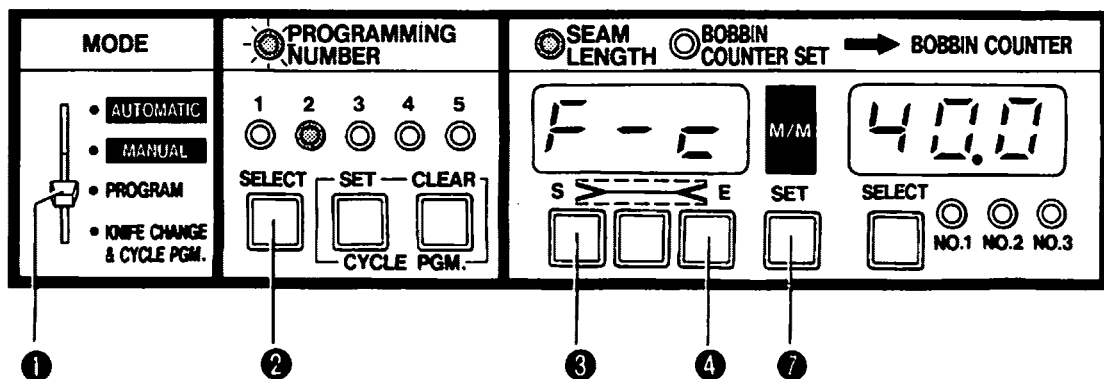
6. The carriage feed advances 40 mm after the flap sensor detects the flap edge.
   The BOBBIN COUNTER DISPLAY shows "40.0" as the distance of travel after detecting the material edge.

7. Operate CARRIAGE FEED FORWARD/BACKWARD switch ❻ to move the carriage feed so that the flap edge is at the sewing start needle position.
   The carriage feed can be moved in 0.2 mm steps.

8. Press BOBBIN COUNTER - SET switch ❼ after adjusting the sewing start position.
   The carriage feed will return to the home position and the correction data shown on the BOBBIN COUNTER display will be stored.
   If EMERGENCY STOP switch ❽ is pressed without pressing BOBBIN COUNTER - SET switch ❼, the carriage feed will return to the home position but the correction data will remain unmodified.

9. Set MODE switch ❶ to any position but PROGRAM to store the program.
   * The modified program will be stored if MODE selector ❶ is moved to any position but PROGRAM. The seam length will remain unchanged if the power switch is set to OFF without this operation.
   * If the only change to be made is right or left flap selection, steps 4 to 8 can be skipped.

EMERGENCY STOP

BOBBIN COUNTER SET

❽

CARRIAGE FEED

FORWARD

BACKWARD

❻

40mm
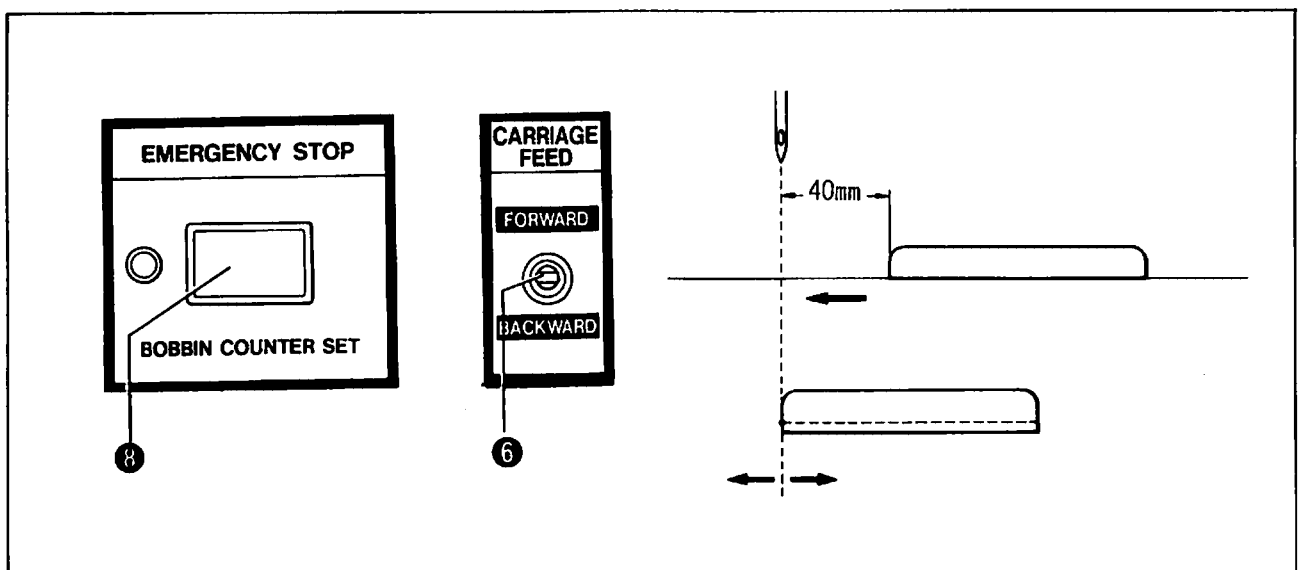
# PROGRAMMING (Inputting a Cycle Sewing Program)

- CYCLE PGM. allows a maximum of any six combinations from program numbers  1  to  5 .
- See the preceding pages to set standard or flap sewing programs for program numbers  1  to  5 .

< Inputting a cycle sewing program >
       To set a 1 → 2 → 1 → 3 sewing cycle

1.    Set MODE selector ❶ to KNIFE CHANGE & CYCLE PGM.
2.    Press CYCLE PGM. CLEAR switch ❷ .
3.    Press SELECT selector ❸ to illuminate program number indicator "1".
4.    Press CYCLE PGM. - SET switch ❹ to store program number  1 .
5.    Press SELECT selector ❸ to illuminate program number indicator "2".
6.    Press CYCLE PGM. - SET switch ❹ to store program number  2 .
7.    Press SELECT selector ❸ to illuminate program number indicator "1".
8.    Press CYCLE PGM. - SET switch ❹ to store program number  1 .
9.    Press SELECT selector ❸ to illuminate program number indicator "3".
10.   Press CYCLE PGM. - SET switch ❹ to store program number  3 .
11.   Move MODE selector to any position but KNIFE CHANGE & CYCLE PGM.

    o  If a stacker operation is not programmed, it will be automatically programmed after the last program number ("3" above).
    o  See page 34 to operate the stacker independently.
    *  The modified cycle sewing sequence will be stored when MODE selector ❶ is moved. The cycle sewing sequence will remain unmodified if the power switch is set to OFF without moving the selector.
    *  If a mistake is made during inputting, press CYCLE PGM. CLEAR SWITCH ❷ and input the program again from the beginning.

**MODE** — PROGRAMMING NUMBER — SEAM LENGTH — BOBBIN COUNTER SET — BOBBIN COUNTER

- AUTOMATIC
- MANUAL
- PROGRAM
- KNIFE CHANGE & CYCLE PGM.

SELECT — SET — CLEAR — CYCLE PGM.

S  E  SET  SELECT  NO.1 NO.2 NO.3

❶ ❸ ❹ ❷
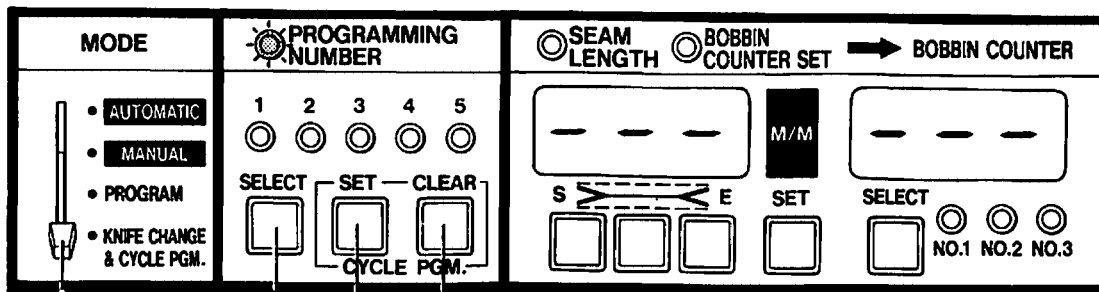
Repetitive cycle sewing

1 ➡ 2 ➡ 1 ➡ 3

Sewing program sequence

◎ Program number

1 2 3 4 5
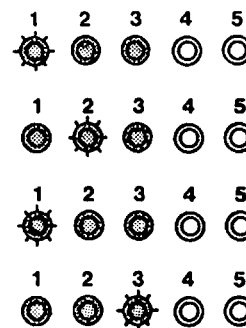
< Checking the sewing cycle >

1.  Set MODE selector ❶ to KNIFE CHANGE & CYCLE PGM.
    The sewing program sequence is shown on the SEAM LENGTH and BOBBIN COUNTER displays.



**MODE** — PROGRAMMING NUMBER — SEAM LENGTH — BOBBIN COUNTER SET — BOBBIN COUNTER

- AUTOMATIC
- MANUAL
- PROGRAM
- KNIFE CHANGE & CYCLE PGM.

1 2 3 4 5

SELECT — SET — CLEAR — CYCLE PGM.

S  E  SET  SELECT  NO.1 NO.2 NO.3

M/M

1 2 1        3 - -

❶ ❷
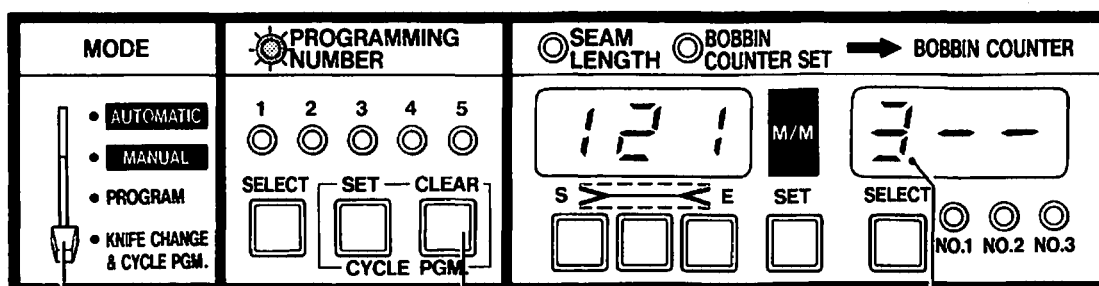
* The "." after "3" indicates stacker operation.

# PROGRAMMING (Inputting a Slant Welting Program)

- Slant-welting programming is not available for BAS-610 and BAS-611 machines.
- Set the MODE selector to PROGRAM. The PROGRAMMING NUMBER and SEAM LENGTH indicators will flash.

<Inputting a slant welting program>

1. Set MODE selector ❶ to PROGRAM.
2. Press SELECT selector ❷ and illuminate program number indicator "2".
3. Select pattern (2) from the sewing patterns by SLANT PROGRAM SELECT selector.
4. Set the S value as "3" by S-side deviation amount setter ❹ .
5. Set the E value as "4" by E-side deviation amount setter ❺ .
   The SEAM LENGTH SIDE indicator R will illuminate with this setting. The side on which the SEAM LENGTH SIDE indicator illuminates is programmed for the seam length "l" length).
   * Both SEAM LENGTH SIDE indicators R and L will illuminate if an identical value is set as the right and left seam lengths.

| Pattern | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------|---|---|---|---|---|---|---|---|---|
| LED display | | | | | | | | | |
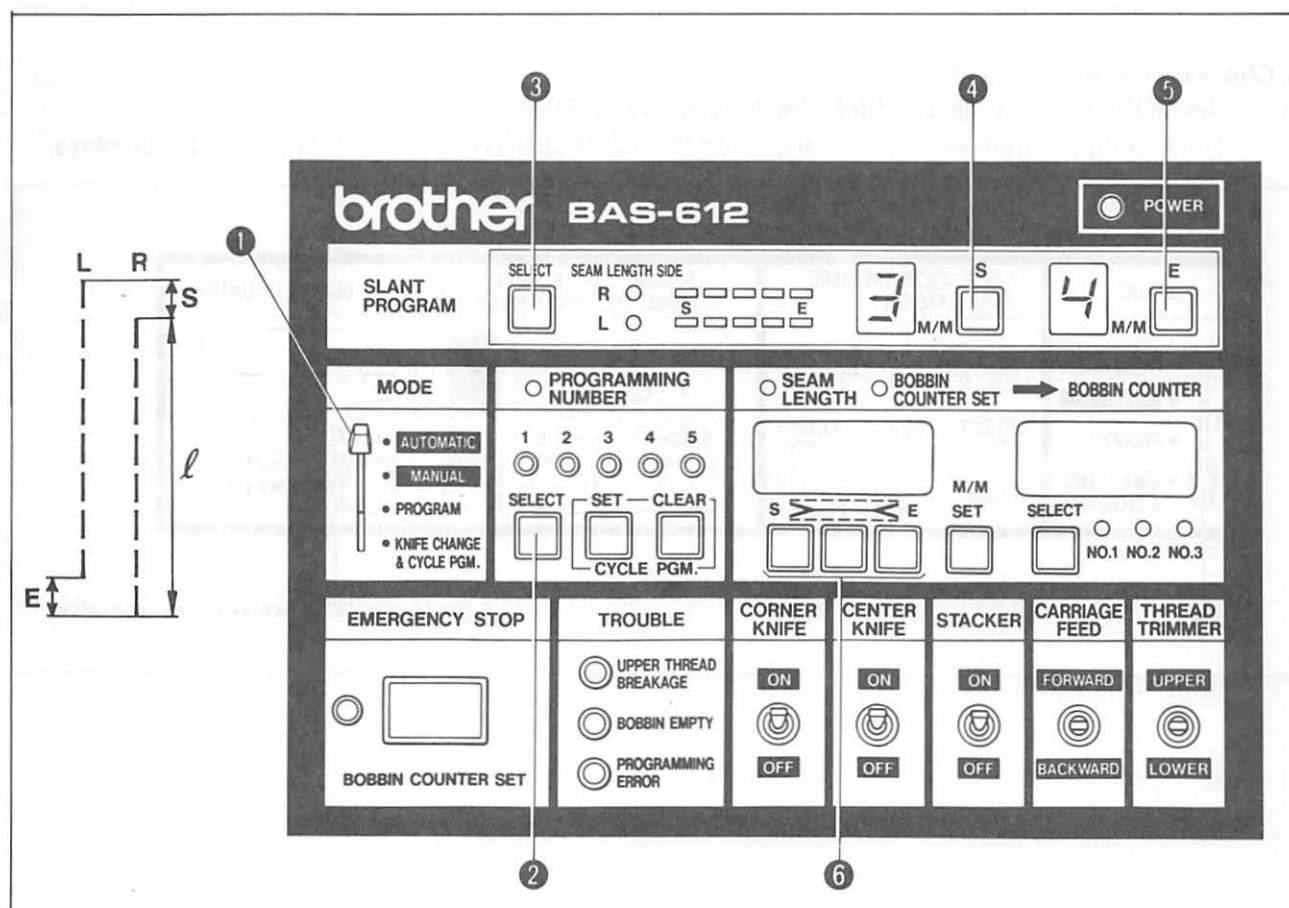
6. Input the "I" length (seam length 100) by setters ❻ .
7. Set MODE selector ❶ to any position but PROGRAM.
   * The modified program will be stored if MODE selector ❶ is moved to any position but PROGRAM.
   The program remains unmodified if the power switch is set to OFF without this operation.
8. Move MODE selector ❶ to AUTOMATIC to sew.
   * A steady light of the decimal point on the deviation amount display will indicate a value larger than 10 mm.

$0.$ ⟶ 10mm
$1.$ ⟶ 11mm
$9.$ ⟶ 19mm

S ⟵— 100mm —⟶

R

L

E

**brother BAS-612**

◯ POWER

SLANT PROGRAM

SELECT  SEAM LENGTH SIDE

☐  R -☀-  ▭ ▬ ▬ ▬ ▬
     S
   L ◯  ▬ ▬ ▬ ▬ ▭
     S          E

$3$ M/M   S ☐   $4$ E ☐ M/M

| MODE | PROGRAMMING NUMBER | SEAM LENGTH | BOBBIN COUNTER SET | ⟶ BOBBIN COUNTER |
|---|---|---|---|---|

• AUTOMATIC
• MANUAL
• PROGRAM
• KNIFE CHANGE & CYCLE PGM.

1  2  3  4  5
◯ -◉- ◯ ◯ ◯

SELECT ┌ SET ─ CLEAR ┐
☐      ☐      ☐
└─── CYCLE PGM. ───┘

$100$

S ⥲⥲⥲ E   M/M
SET
☐ ☐ ☐   ☐

SELECT
☐   ◯ ◯ ◯
   NO.1 NO.2 NO.3

❶        ❷                    ❻
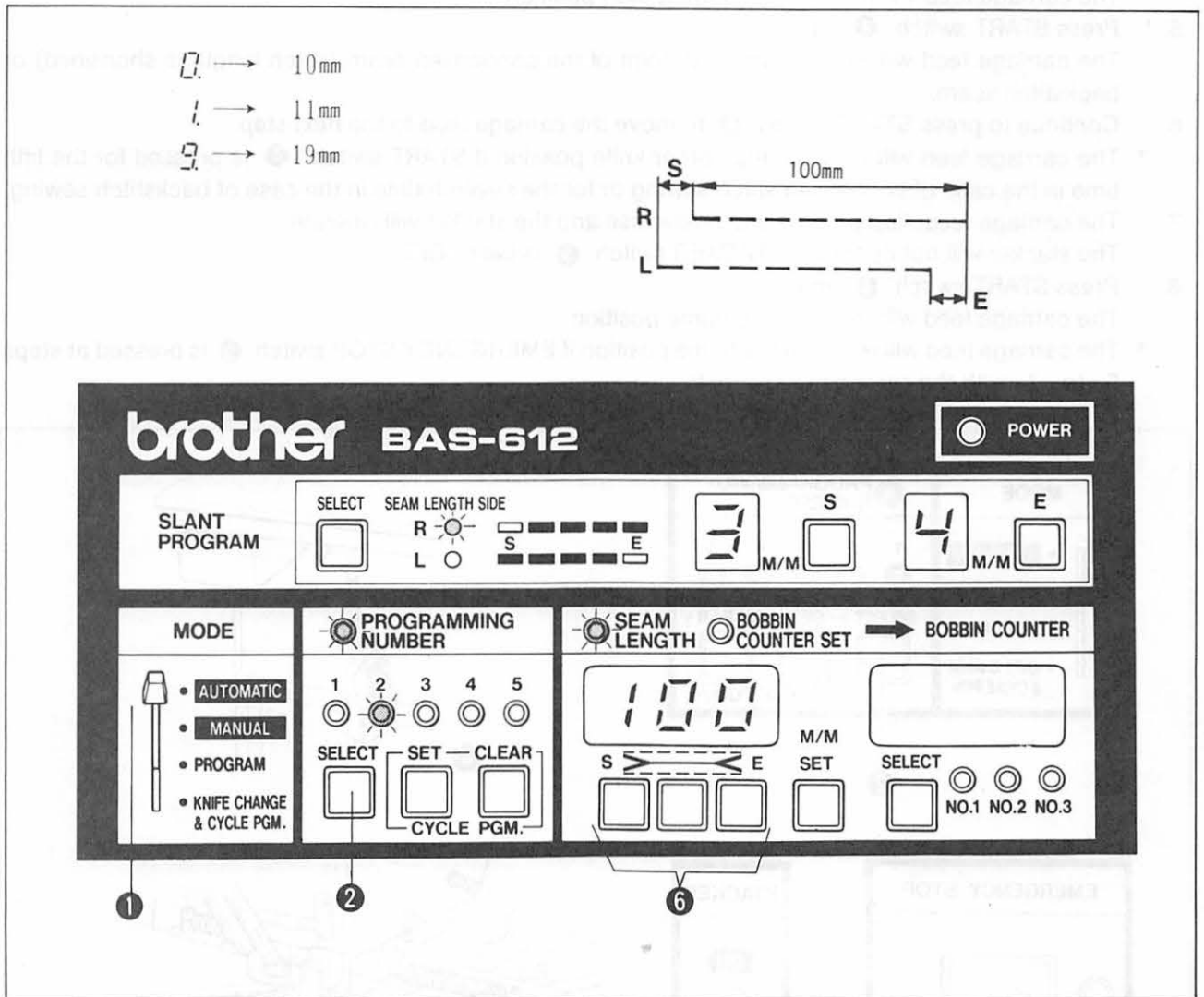
# PROGRAM CHECKING

- The carriage feed can be moved to check the sewing program without actual sewing.
1. Set MODE selector ❶ to MANUAL.
2. Select a program from 1 to 5 by illuminating the number by SELECT selector ❷.
   To operate the stacker, set STACKER switch ❸ to ON.
   If stacker operation is not required, set STACKER switch ❸ to OFF.
3. Position the material.
4. Press START switch ❹.
   The carriage feed will move to the sewing start position.
5. Press START switch ❹ again.
   The carriage feed will move to the end point of the condensed seam (stitch length is shortened) or backstitch seam.
6. Continue to press START switch ❹ to move the carriage feed to the next step.
   * The carriage feed will move to the corner knife position if START switch ❹ is pressed for the fifth time in the case of condensed stitch sewing or for the seventh time in the case of backstitch sewing.
7. The carriage feed, flap presser and binder rise and the stacker will operate.
   The stacker will not operate if STACKER switch ❸ is set to OFF.
8. Press START switch ❹ again.
   The carriage feed will return to the home position.
   * The carriage feed will return to the home position if EMERGENCY STOP switch ❺ is pressed at steps 5 to 7 with the carriage feed at halt.
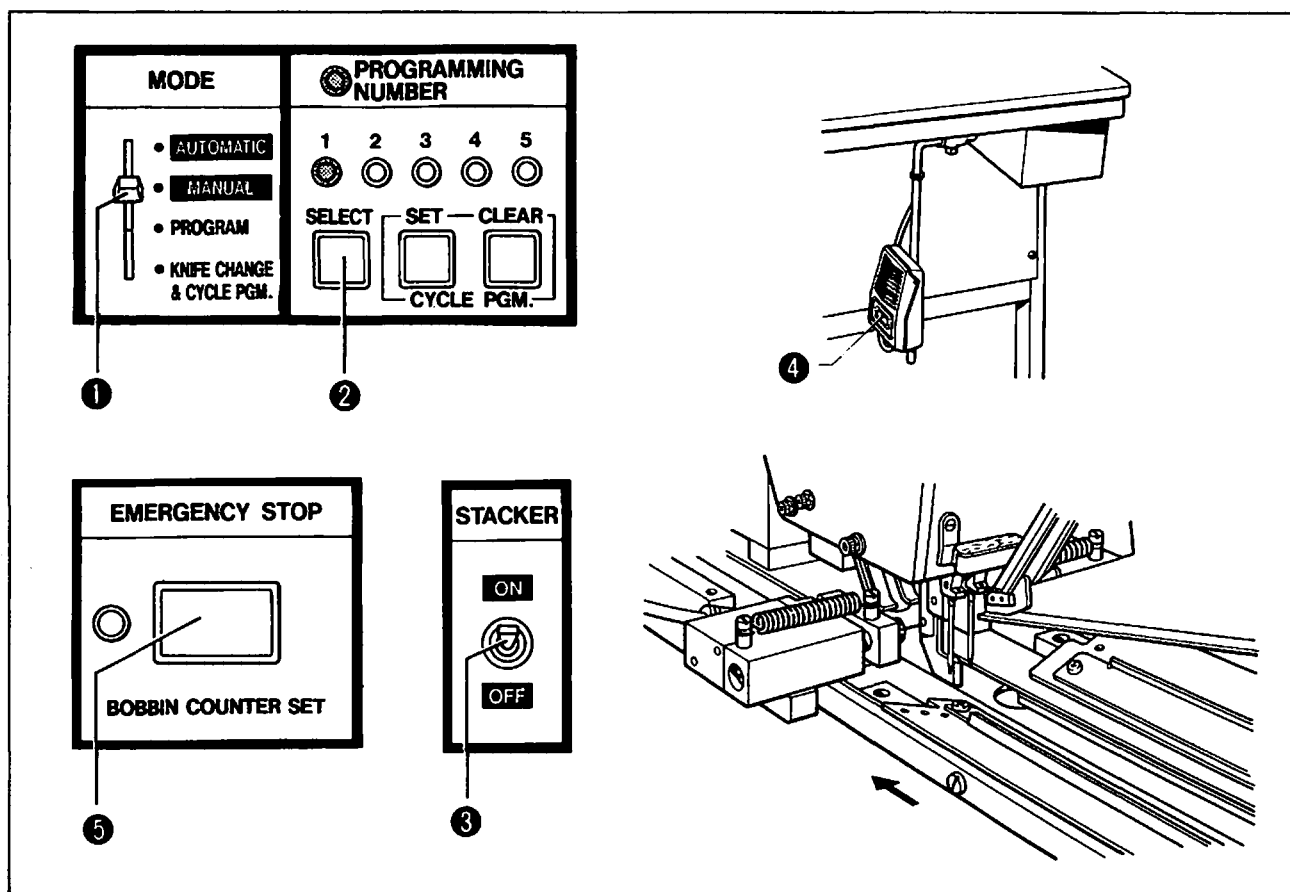
# SEWING [1]

- If the temperature is 5°C or lower, sewing machine operation may be sluggish at first. Test sew two to three pieces before starting regular sewing.
1. Set the power switch to ON.
2. Press EMERGENCY STOP switch ❷ .
3. Set MODE selector ❸ to AUTOMATIC.
   To use the corner knife, set CORNER KNIFE switch ❹ to ON.
   To use the center knife, set CENTER KNIFE switch ❺ to ON.
   * The corner knife will not operate if CORNER KNIFE switch ❹ is set to ON with CENTER KNIFE switch ❺ set to OFF.
4. To use the stacker, set STACKER switch ❻ to ON.
   If stacker operation is not required, set STACKER switch ❻ to OFF.
   * When in the cycle sewing mode, the stacker will not operate even with STACKER switch ❻ set to ON if stacker operation is not specified for the program currently running (see pages 20 and 34).
5. Position the material.
6. Press start switch ❼ .
   The machine will carry out the selected automatic sewing programs.
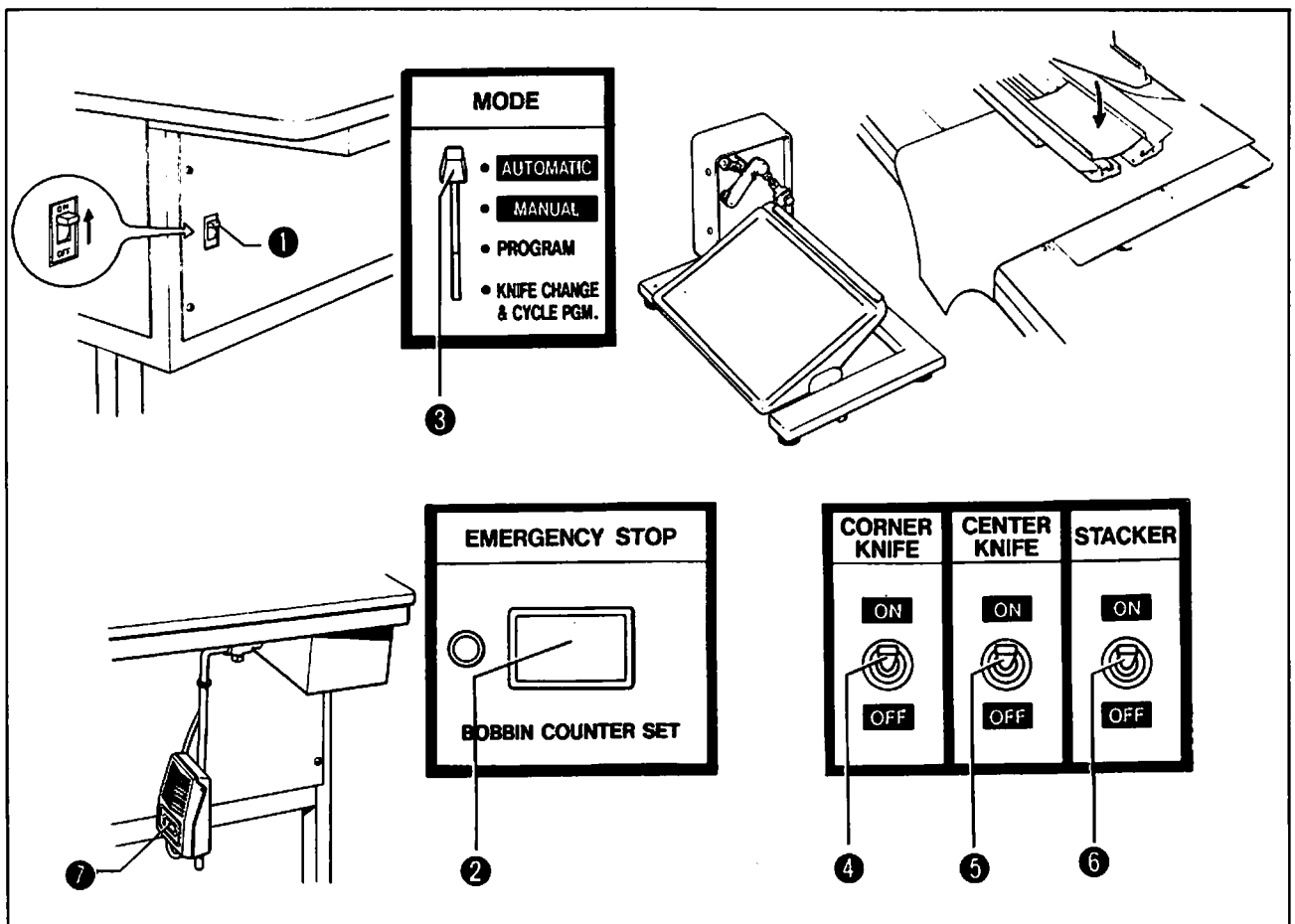


- The carriage feed can be moved to provide more working space on the table for positioning the material.
  * If DIP switch 3-6 on the main circuit board is set to ON, press start switch ❼ since the home position return timing after completing sewing is regulated by the start switch.

# SEWING [2]

< Setting the bobbin counter >

1. Set MODE selector ❶ to AUTOMATIC.
2. Press SELECT selector ❷ to obtain a bobbin counter number by illuminating one of the numbers from 1 to 3 .
3. Press BOBBIN COUNTER - SET switch ❸ to illuminate the BOBBIN COUNTER SET indicator.
   The BOBBIN COUNTER SET display will show the previous set-up value.
4. To change the value, use setters ❹ .
5. After setting or in the case of no changes, press BOBBIN COUNTER - SET switch ❺ (the value shown on the BOBBIN COUNTER SET display will now be shown on the BOBBIN COUNTER display).
   The flashing BOBBIN COUNTER SET indicator will go off.
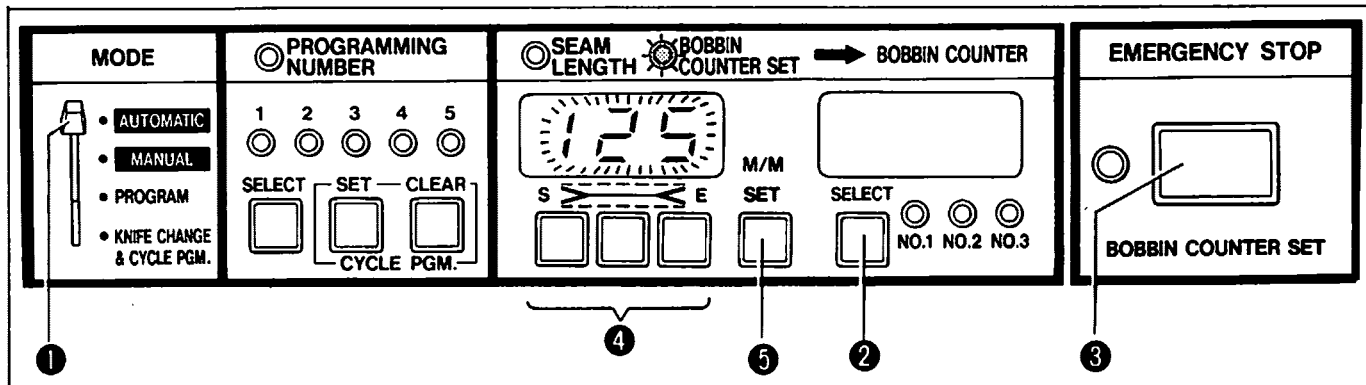


< Setting the piece counter >

1. Set MODE selector ❶ to AUTOMATIC.
2. Set THREAD TRIMMER switch ❷ to UPPER.
   The counter will increase by one each time a piece is completed and the display will show the number of work pieces, counting from 0 to 999,999.
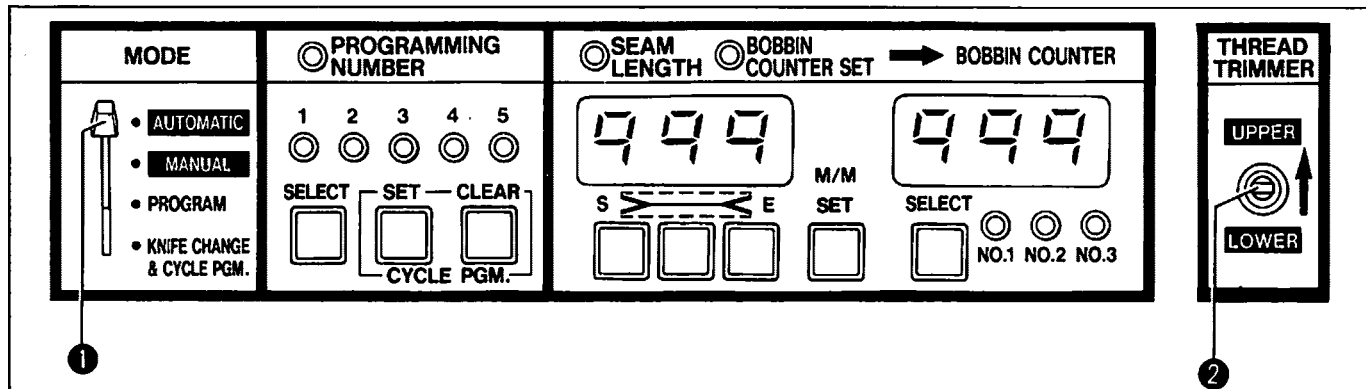


< Setting the piece counter >

1. Set MODE selector ❶ to AUTOMATIC.
2. With THREAD TRIMMER switch ❷ set to UPPER, press BOBBIN COUNTER - SET switch ❸ and the display will show 0.

< Adjusting the stitch tension >

1. Bobbin thread tension
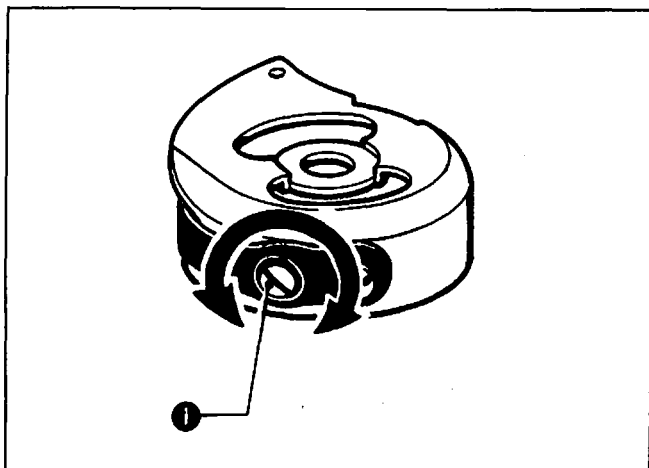


- The bobbin thread tension varies with the material and thread. Turn tension regulating screw ❶ to adjust the tension.
  The standard tension is 40 to 50 g for medium-thick to thick materials when sewing with #50 spun yarn.

2. Needle thread tension
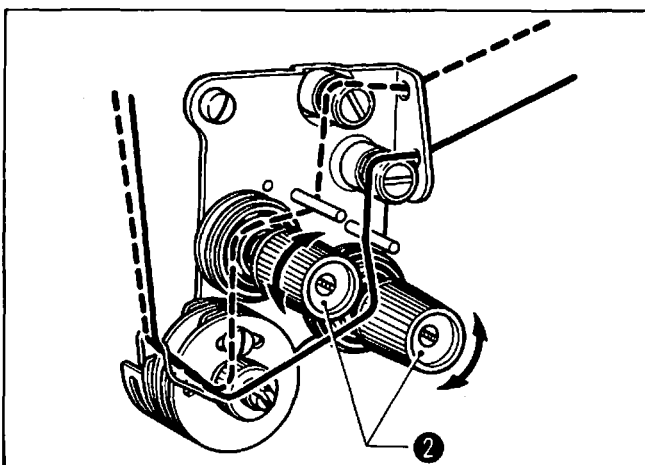


- Turn tension control nuts ❷ to adjust the needle thread tension.
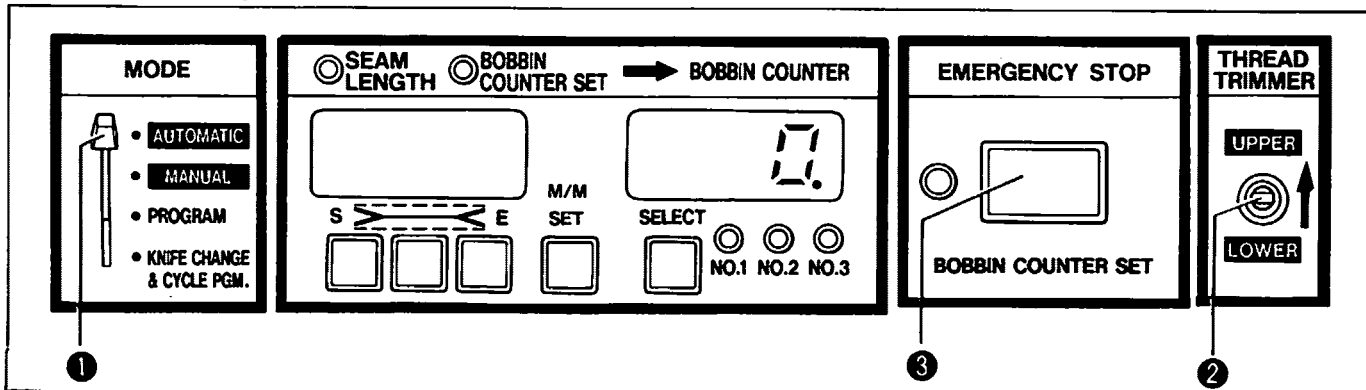  Once the bobbin thread tension has been adjusted, the needle thread tension adjustment alone can provide a well-balanced, neat seam.



O  Well-balanced, neat seam

X  Excessive needle thread tension or insufficient bobbin thread tension

X  Insufficient needle thread tension or excessive bobbin thread tension
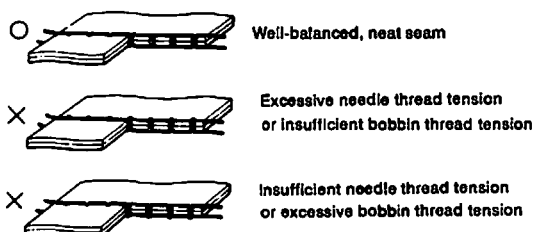
3. Thread take-up spring
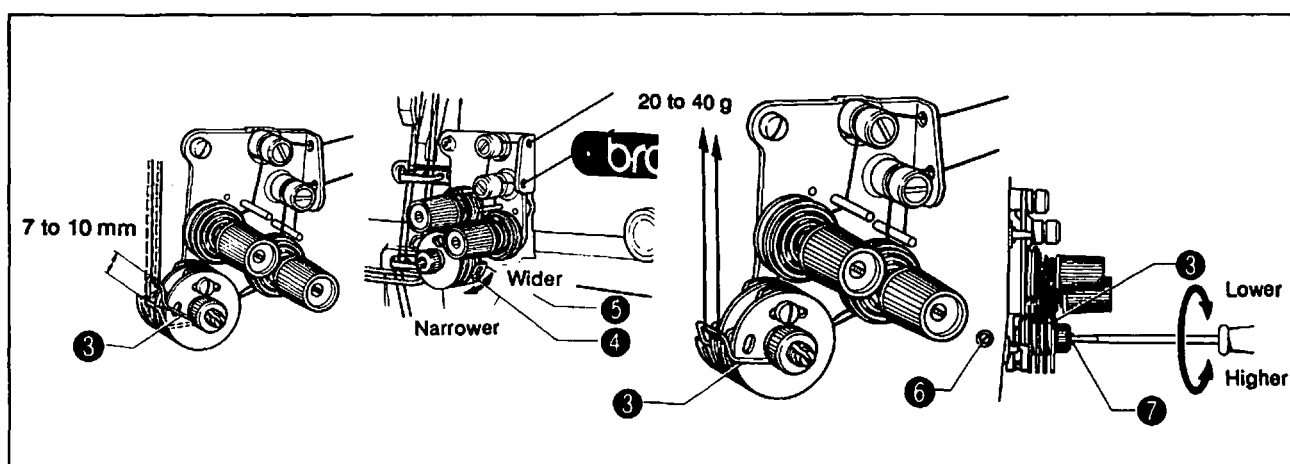


- Thread take-up spring operation range
  The standard operation range of thread take-up spring ❸ is 7 to 10 mm.
  To adjust the range of spring ❸ , loosen screw ❹ and turn stopper ❺ .
- Thread take-up spring tension
  The standard thread take-up spring tension is 20 to 40 g.
  To adjust the tension, loosen screw ❸ and setscrew ❻ and turn tension stud ❼ .

—27—

# CENTER KNIFE POSITION ADJUSTMENT

● Adjust the center knife positional correction value to suit the material thickness.
The higher the center knife position number, the farther inside the knife is positioned.

Ex.: To change the sewing-start value S from 0 to 3 and the sewing-end value E from 0 to 4

1. Change S (sewing start) value display ❶ from "0" to "3".
2. Change E (sewing end) value display ❷ from "0" to "4".

* If the above changes are made before the sewing operation, they are valid whichever mode is selected.

中メス補正
CENTER K.

S  E

中メス補正
CENTER K.

S  E

Sawing start            Sewing end

S                          E

0 ←|→ 9      9 ←|→ 0
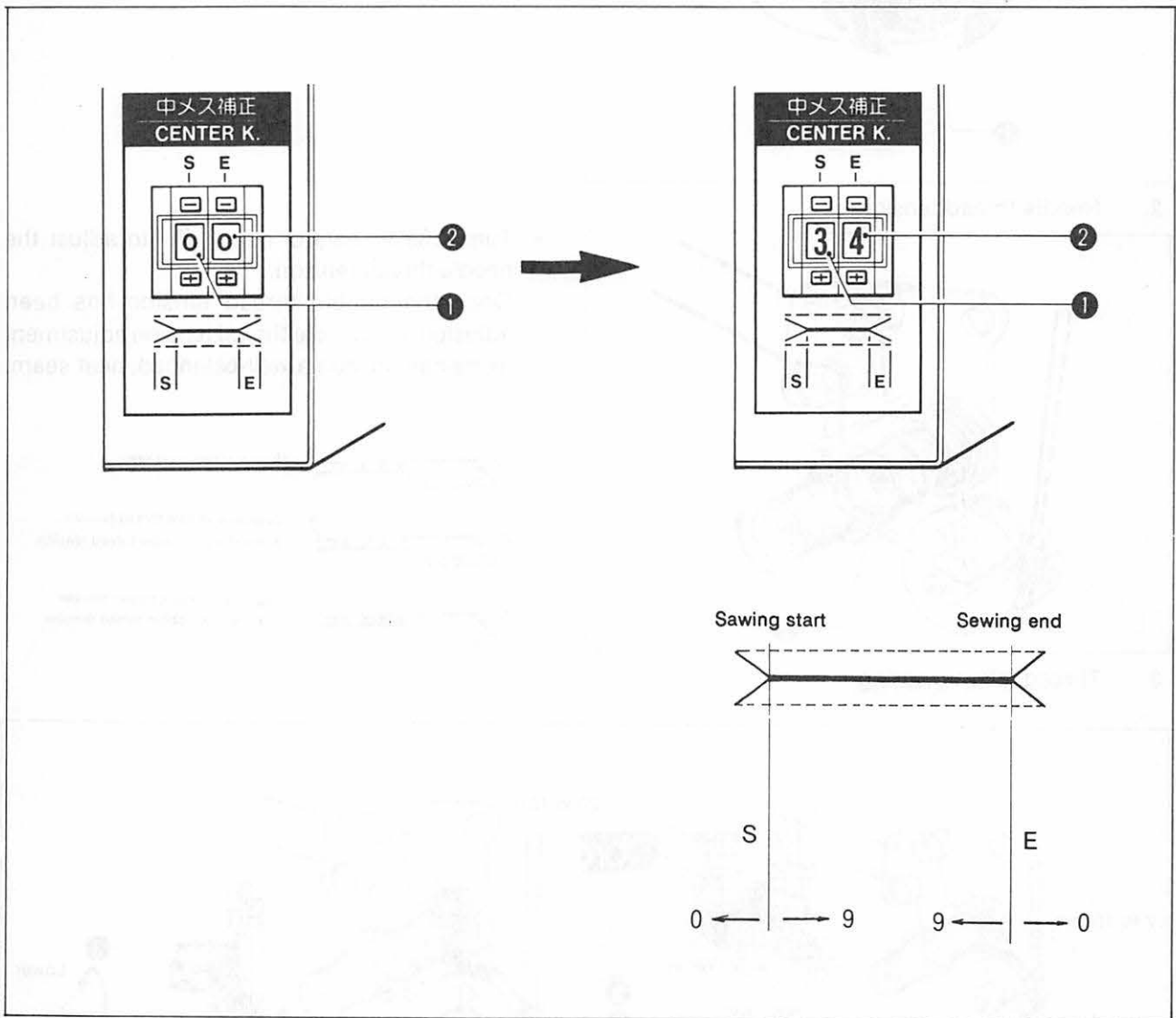
# CORNER KNIFE POSITION ADJUSTMENT

- Adjust the corner knife positional correction value to suit the material thickness.
  The higher the corner knife position is, the father inside the knife is positioned.

  Ex.: To change the sewing-start value S from  5  to  3  and the sewing-end value E from  5  to  4
1.  Set MODE selector ❶ to PROGRAM.
2.  Press BOBBIN COUNTER - SET switch ❷ .
    The BOBBIN COUNTER SET display will show the corner knife position.
3.  Press setter ❸ to display 3.
4.  Press setter ❹ to display 4.
5.  Either press BOBBIN COUNTER - SET switch ❷ or move MODE selector ❶ to any position but
    PROGRAM, to store the corner knife positional correction data.
    The correction data remains unmodified if the power switch is set to OFF without these operations.
    * The corner knife will not operate if the CORNER KNIFE switch is set to ON with the CENTER KNIFE
    switch set to OFF.
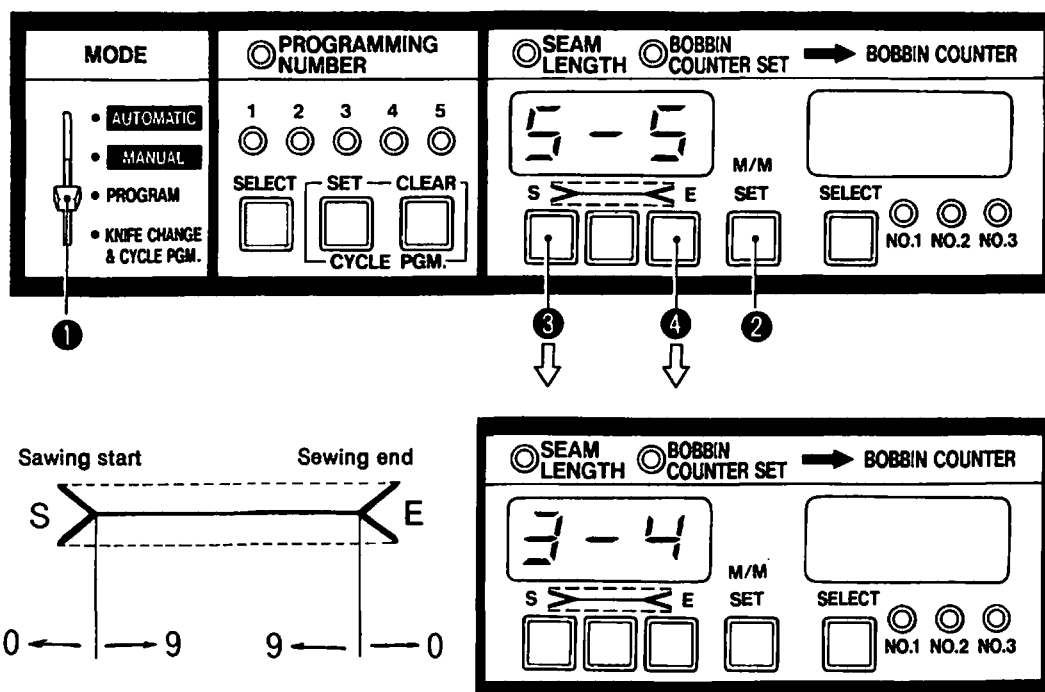
# FLAP SENSOR SENSITIVITY ADJUSTMENT (BAS-611, BAS-612)

< Adjusting the flap sensor sensitivity >

1. Set MODE selector ❶ to PROGRAM and set the seam length to 190 mm.
2. Set MODE selector ❶ to MANUAL.
3. Position the material so as not to cause wear to the rubber cushion on the back of the carriage feed.
4. Press start switch ❷ .
   Flap sensors ❸ (both right and left) will start monitoring after the carriage feed is moved to the sewing start position.
5. Move the carriage feed forward by hand from where it stopped to where sensor window ❹ is positioned under sensor ❸ .
   Adjust the sensitivity as described under "Sensitivity adjustments" on the next page.
6. Move the carriage feed from position A to B (the full length of the sensor window) by hand and make sure that FLAP SENSOR indicators ❺ and ❻ do not illuminate.
7. When adjustment is completed, press EMERGENCY STOP switch ❼ .
   The carriage feed will return to the home position.
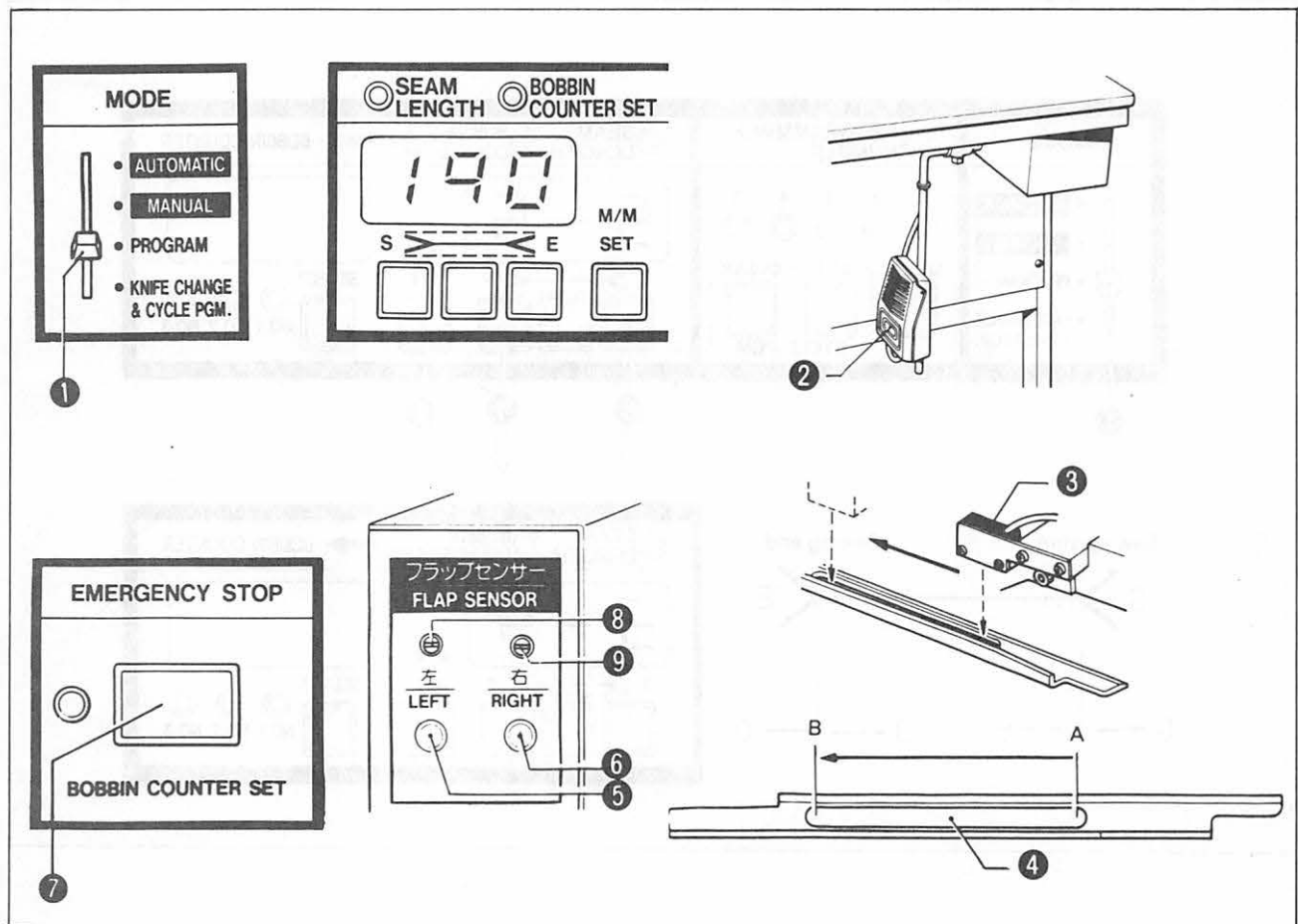
< Sensitivity adjustments >
1.  With the reflector positioned below the sensor, turn sensitivity controls ❽ and ❾ to obtain the boundary position where FLAP SENSOR indicators ❺ and ❻ are between on and off.
2.  Turn the controls another 45° clockwise from the boundary position.
3.  Position a piece of material over the reflector now and make sure that the FLAP SENSOR indicators illuminate.
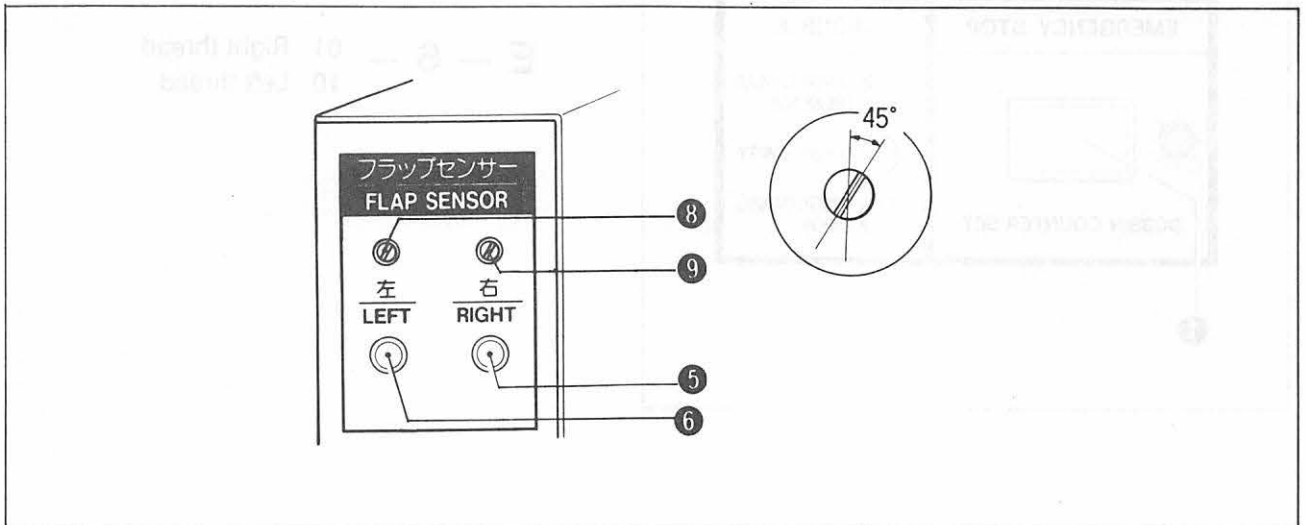


Clean the surface of the lamps behind the flap sensors and the reflector (folding plate) top before sewing.



Flap sensor lamp

Reflector
(folding plate)

From the library of: Superior Sewing Machine & Supply LLC
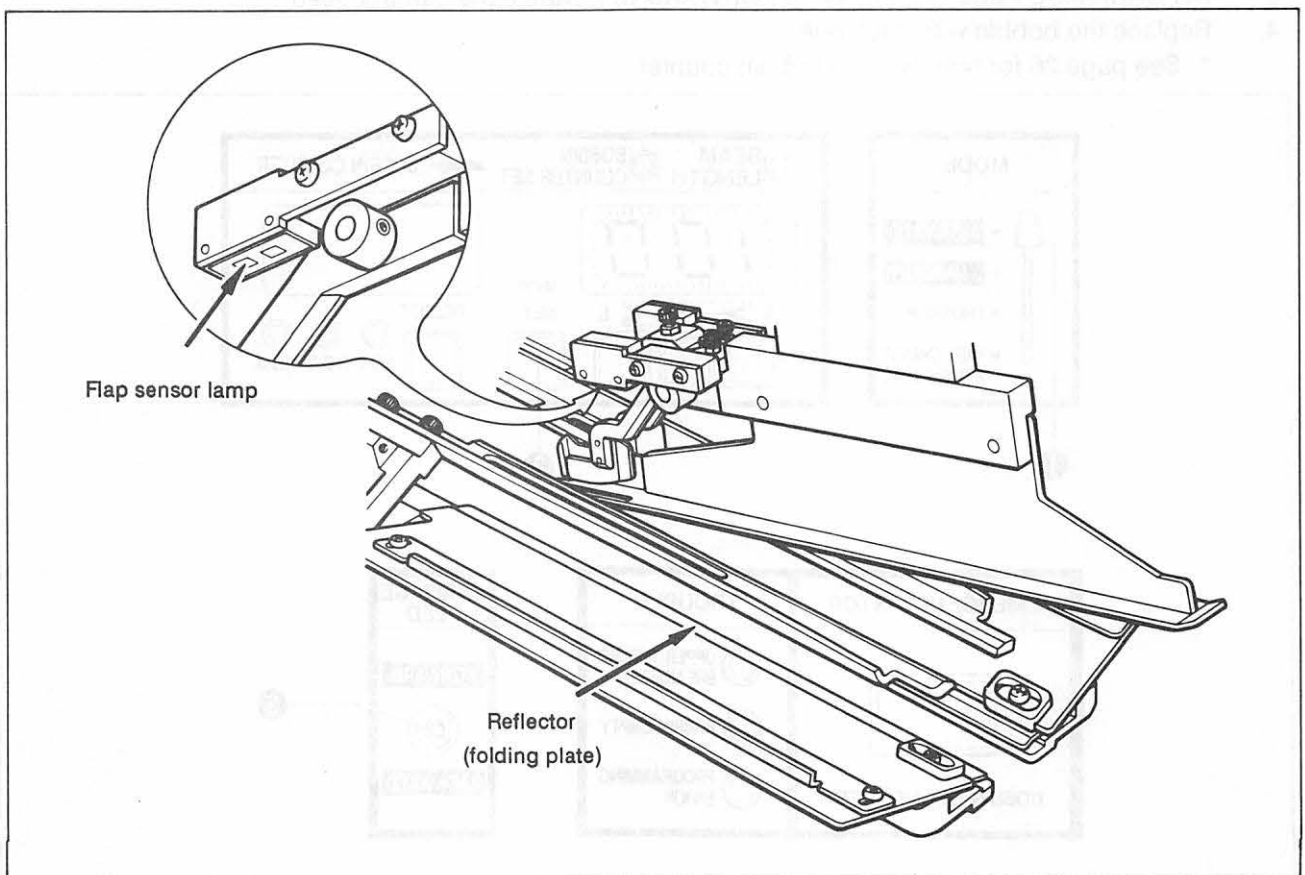
# TROUBLE

- The machine will stop if trouble occurs while sewing.

< UPPER THREAD BREAKAGE indicator illuminating >

| EMERGENCY STOP | TROUBLE |
|---|---|
| ☀ | ◉ UPPER THREAD BREAKAGE |
| | ○ BOBBIN EMPTY |
| BOBBIN COUNTER SET | ○ PROGRAMMING ERROR |

❶
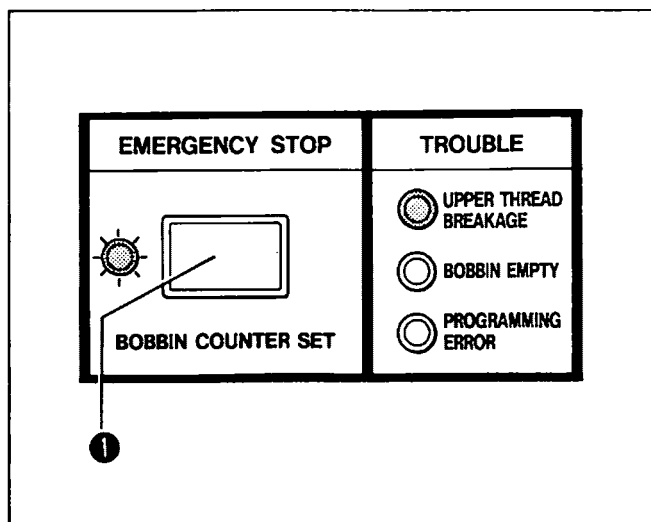
1. Press EMERGENCY STOP switch ❶ to advance the carriage feed.
2. Thread the needle threads.

$$E - 6 - \begin{array}{ll} 01 & \text{Right thread} \\ 10 & \text{Left thread} \end{array}$$

< BOBBIN EMPTY indicator illuminating >
1. Press BOBBIN COUNTER - SET switch ❷ with MODE selector ❶ set to AUTOMATIC and input the number of work pieces for the bobbin (see page 26).
2. Set MODE selector ❶ to MANUAL.
3. Set CARRIAGE FEED switch ❸ to FORWARD to advance the carriage feed.
4. Replace the bobbin with a full one.
   * See page 26 for resetting the bobbin counter.

| MODE | |
|---|---|
| • AUTOMATIC | |
| • MANUAL | |
| • PROGRAM | |
| • KNIFE CHANGE & CYCLE PGM. | |

❶

◎ SEAM LENGTH  ☀ BOBBIN COUNTER SET  ➡ BOBBIN COUNTER

*| | |*

S ⟶ ⟵ E    M/M SET    SELECT    ◎ ◎ ◎ NO.1 NO.2 NO.3

❷

| EMERGENCY STOP | TROUBLE |
|---|---|
| ○ | ○ UPPER THREAD BREAKAGE |
| | ◉ BOBBIN EMPTY |
| BOBBIN COUNTER SET | ○ PROGRAMMING ERROR |

CARRIAGE FEED
FORWARD
◎ —— ❸
BACKWARD
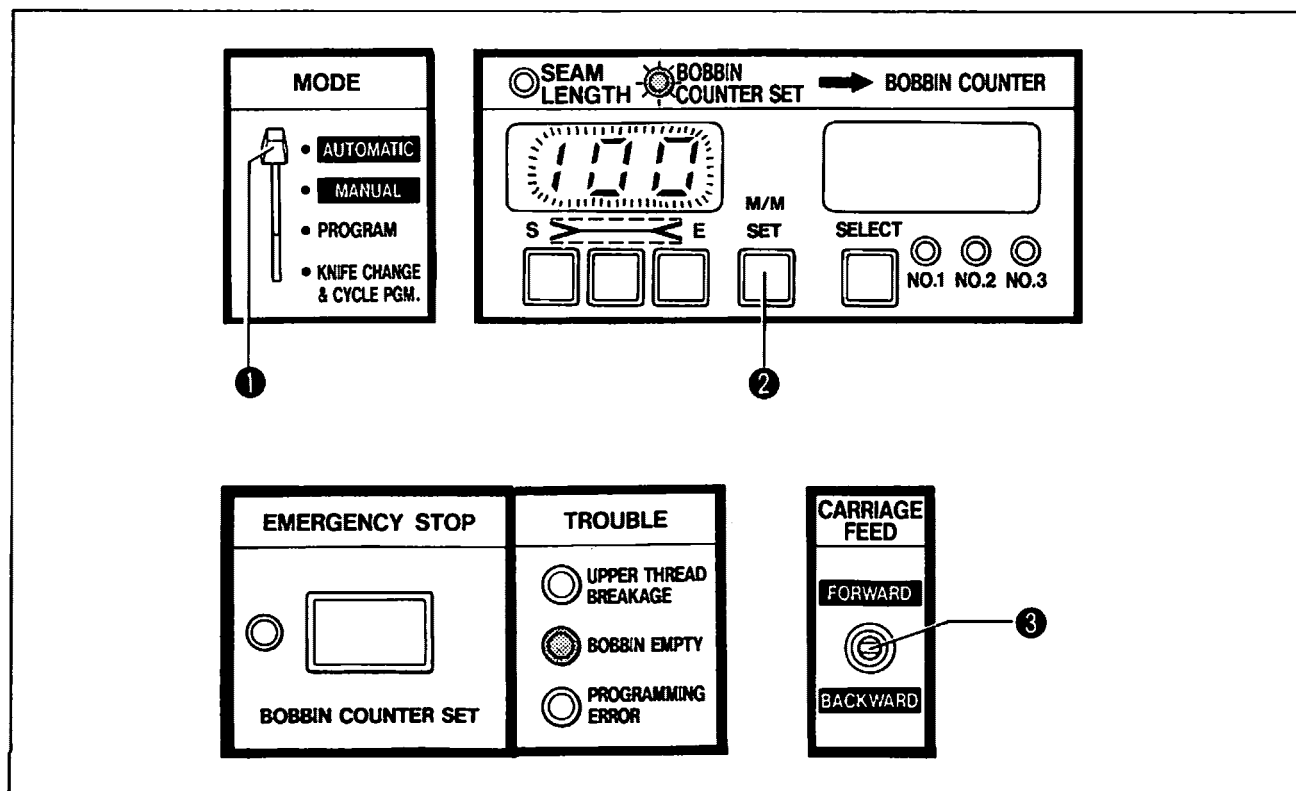
< PROGRAMMING ERROR indicator illuminating >
- BAS-611 machines: While programming, if the sewing data exceeds the 28 to 190 mm range while programming or if the flap correction data is 50 mm or more, re-input the correct value (the range is 36 to 190 mm for a gauge width of 16 to 20 mm).
- BAS-612 machines:
  The indicator will illuminate if the following are programmed:
  · Seam length of less than 36 mm
  · Seam length of more than 190 mm
  The indicator will illuminate if the following are programmed with the PSW-31 switch set to ON:
  · A slant sewing program
  · Seam length of less than 28 mm
  · Seam length of more than 190 mm
- An indicator illuminating in the AUTOMATIC or MANUAL mode
  Trouble has occurred in the input data. Input the data in the PROGRAM mode.
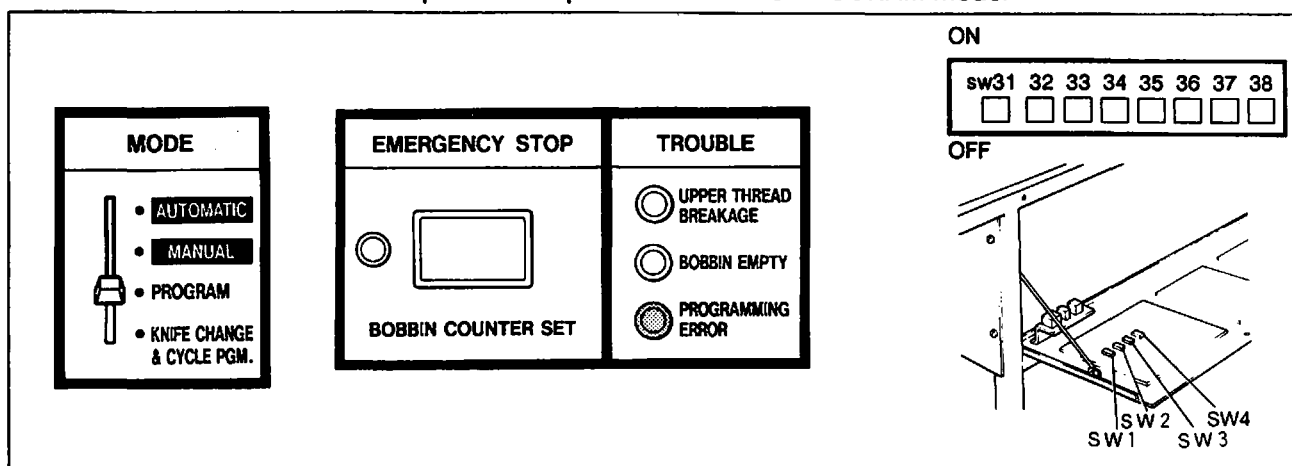


< EMERGENCY STOP indicator illuminating >
  * Press EMERGENCY STOP switch ❶ to stop the carriage feed movement.
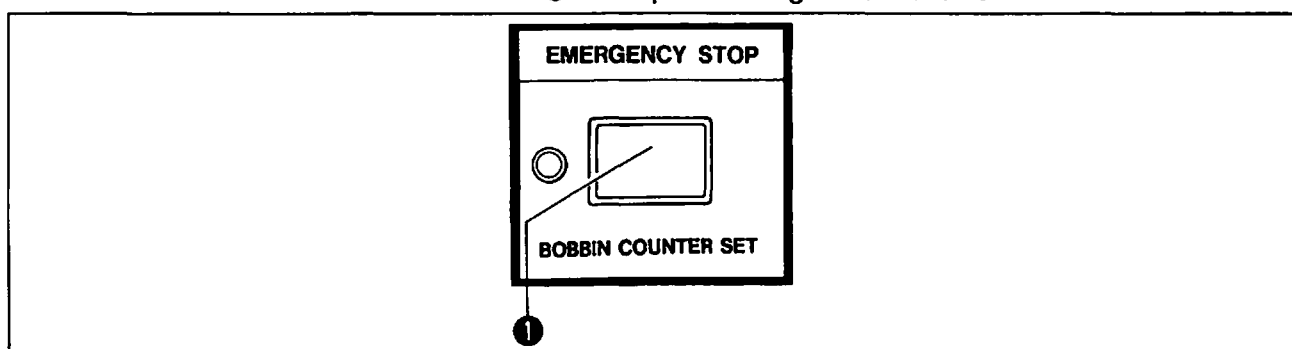


## Resetting after an emergency stop

- Press the EMERGENCY STOP switch again to cut the needle thread and move the carriage feed to the thread trimming position. The carriage feed will rise then and, at this time, the needle thread and bobbin thread trimmer knives can be operated.
  Press the EMERGENCY STOP switch again and press the start switch to return the carriage feed to the home position and to start sewing.
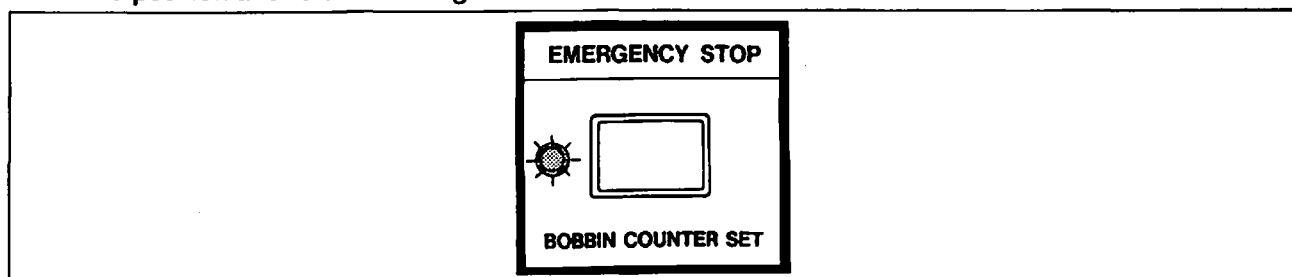
# STACKER OPERATION DURING CYCLE SEWING

Ex.: To program the following cycle: 1 → 2 (stacker operation) → 1 → 3 (stacker operation)

1. Set MODE selector ❶ to KNIFE CHANGE & CYCLE PGM.
2. Press CYCLE PGM. - CLEAR switch ❷ .
3. Press PROGRAMMING NUMBER - SELECT selector ❸ to obtain program number 1.
4. Press CYCLE PGM. - SET switch ❹ to store program number 1.
5. Press PROGRAMMING NUMBER - SELECT selector ❸ to obtain program number 2.
6. Press CYCLE PGM. - SET switch ❹ to store program number 2.
7. Press BOBBIN COUNTER - SET switch ❺ and the stacker operation program can be stored when "." is illuminating steadily.
   * * The stacker operation cannot be stored while "." is flashing.
8. Press PROGRAMMING NUMBER - SELECT selector ❸ to obtain program number 1.
9. Press CYCLE PGM. - SET switch ❹ to store program number 1.
10. Press PROGRAMMING NUMBER - SELECT selector ❸ to obtain program number 3.
11. Press CYCLE PGM. - SET switch ❹ to store program number 3.
12. Press BOBBIN COUNTER - SET switch ❺ and the stacker operation program can be stored when "." is illuminating steadily.
13. Set MODE selector ❶ to any position but KNIFE CHANGE & CYCLE PGM.
   * The cycle sewing sequence is stored by moving MODE selector ❶ to another position.
     The cycle sewing program will remain unmodified if the power switch is set to OFF without this operation.
   * In the case of a mis-input while programming, press CYCLE PGM. - CLEAR switch ❷ and start inputting the cycle program from the beginning.

−84−
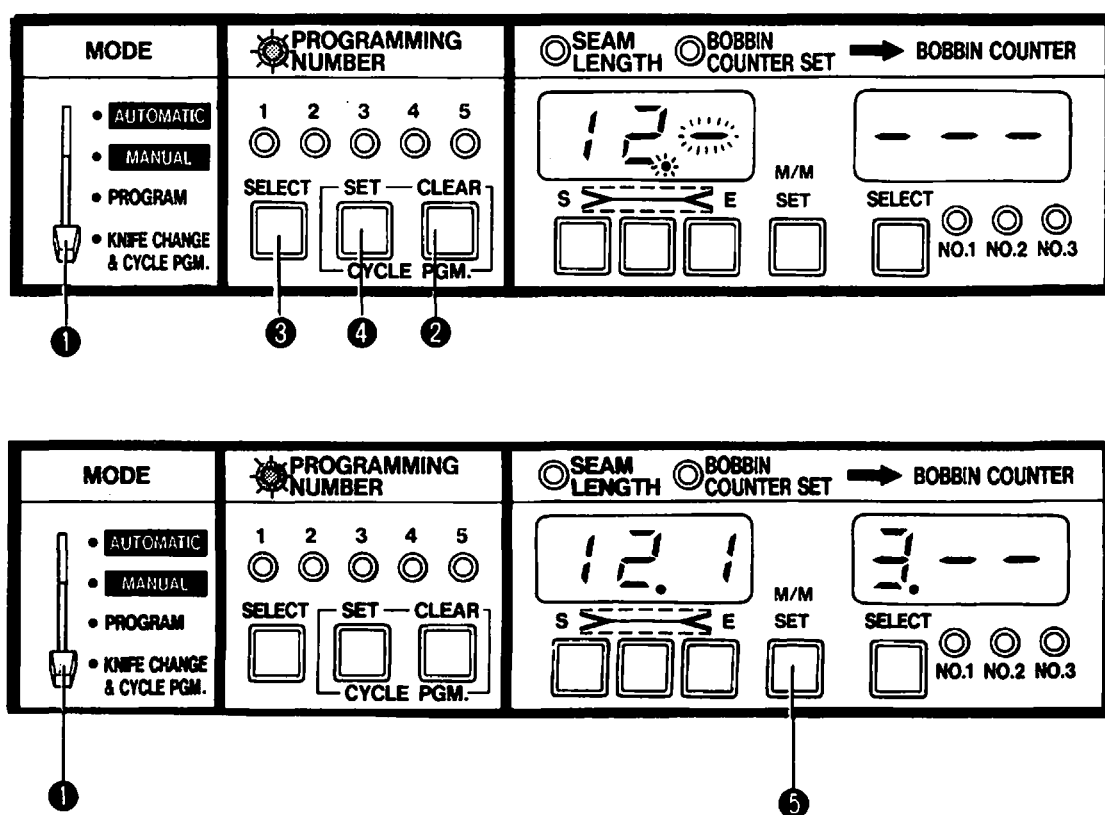
# STANDARD ADJUSTMENTS [1] (Machine Head)

< Fitting a needle >

BAS-610
BAS-611    BAS-612
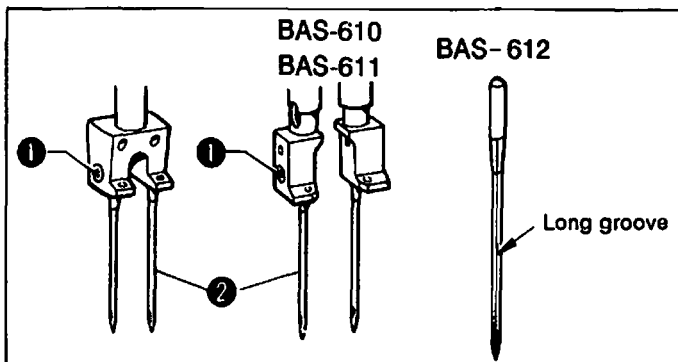
Long groove

- Loosen screw **①** and insert needle **②** all the way in, with the long groove to the inside.

< Adjusting the upper and lower shaft timing >

Red dot
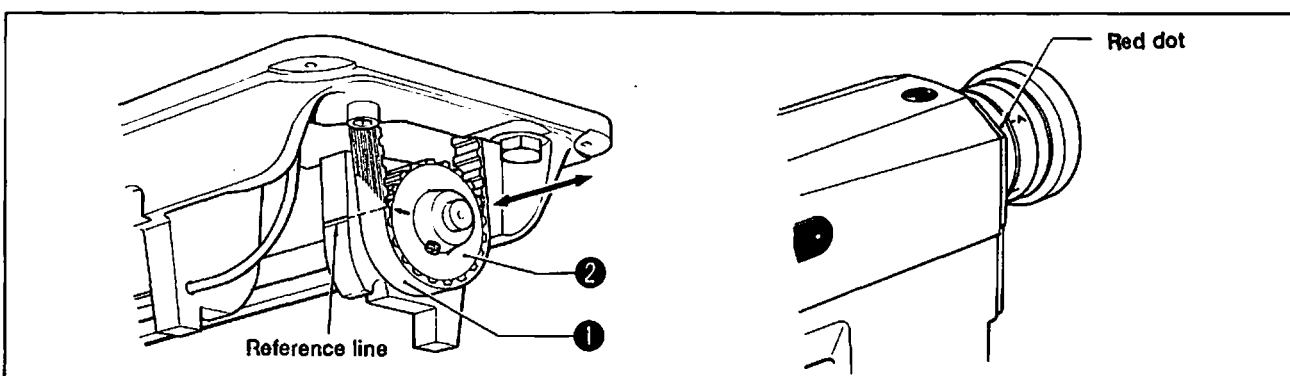
Reference line

1. Remove the needle.
2. Tilt the machine head and remove timing belt **①** .
3. Align mark A on the pulley with the red dot.
4. Without moving the upper shaft, align the arrow mark on timing belt wheel assembly **②** with the arm bed reference line and re- mount timing belt **①** .
5. Right the machine head and fit the needle.

< Adjusting the needle and rotary hook timing >
   [Clearance between the needle and rotary hook point]

Needle
Rotary hook point
Max. 0.05 mm
Guide plate **④**
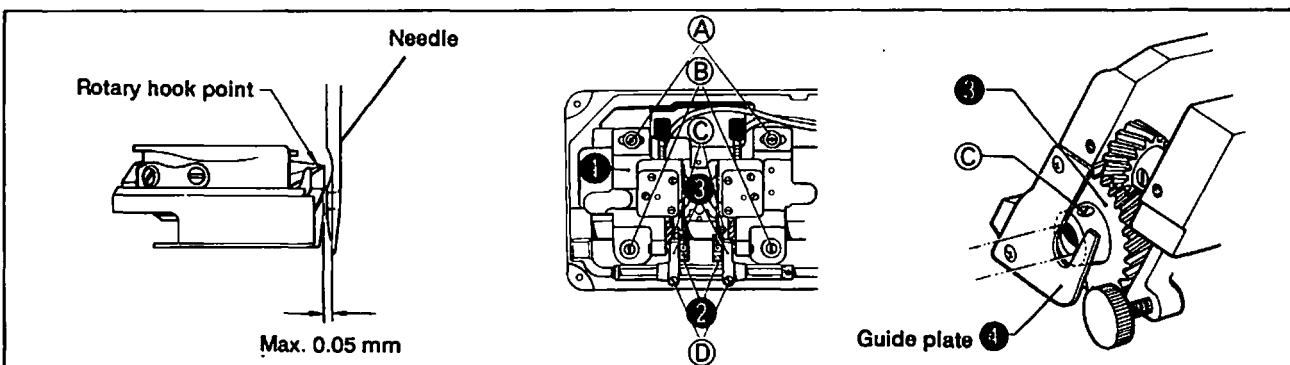
1. Loosen screws A , B , C and D and move the rotary hook base **①** sideways to its approximate position (within 1 to 3 mm).
2. Tighten screw D and then adjust the clearance between the needle and the rotary hook point to 0.05 mm by turning adjustment screws **②** .
3. Fully tighten screws A , B and C after the adjustment.

Note:
- Secure lower shaft gear **③** by tightening setscrew C so that the gear lightly touch guide plate **④** . Tighten setscrews C on lower shaft gears **③** so as not to change the screw stop.

# STANDARD ADJUSTMENTS [2]

[Clearance between the rotary hook and needle plate]
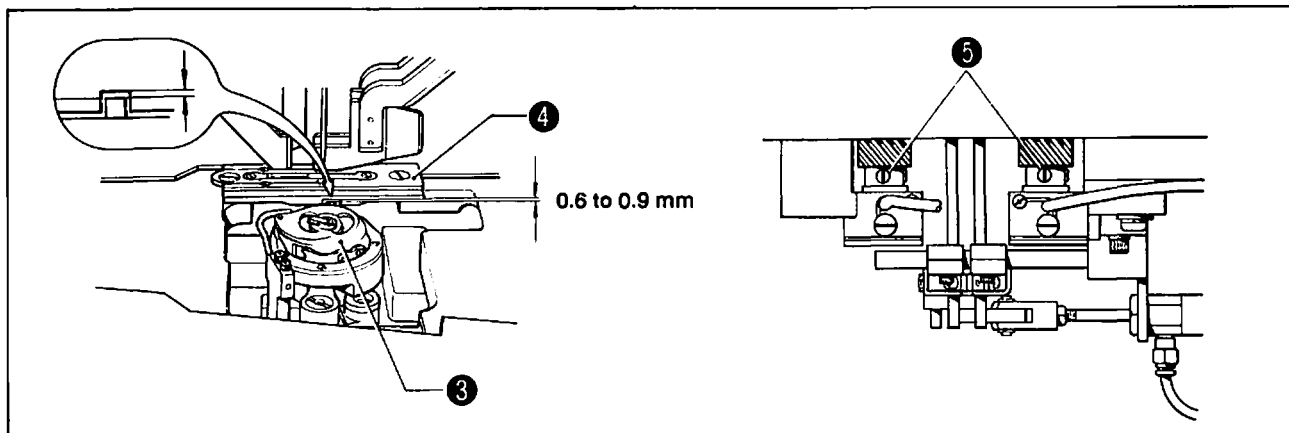


0.6 to 0.9 mm

- Loosen setscrews ❺ and adjust the clearance between rotary hook ❸ and needle plate ❹ to 0.6 to 0.9 mm by moving rotary hook ❸ vertically.

[Needle bar lift stroke and needle bar height]



Needle

1 to 1.5 mm
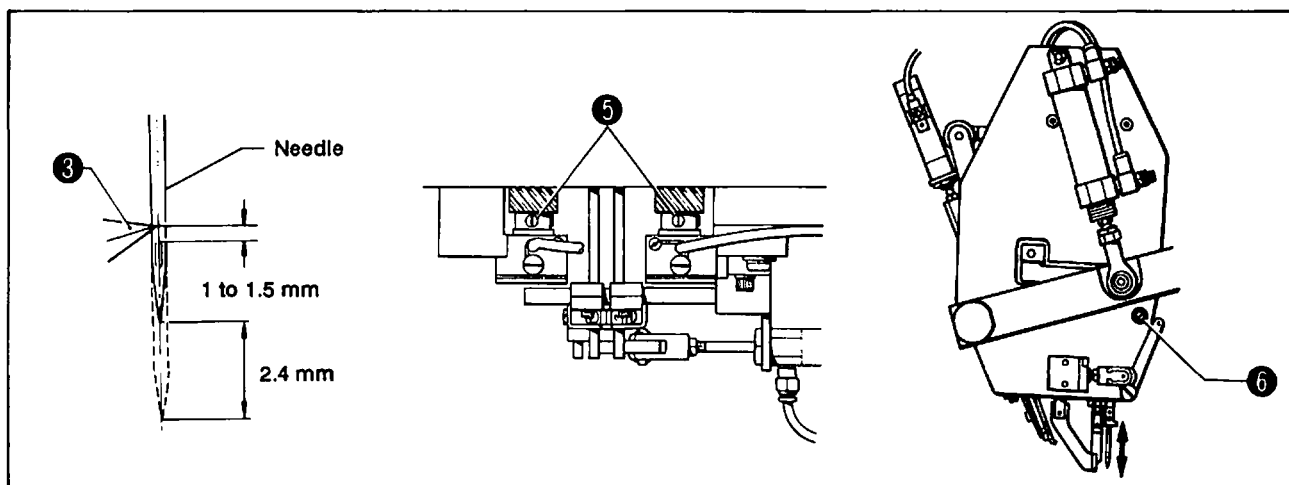
2.4 mm

Needle bar lift stroke
1. Loosen setscrews ❺ and turn rotary hook ❸ so as to adjust the rotary hook point to align with the needle center when the needle rises 2.4 mm from its lowermost point.

Needle bar height
1. Loosen setscrew ❻ and move the needle bar vertically so as to adjust the clearance between the needle hole top and the rotary hook point to 1 to 1.5 mm when the rotary hook point is aligned with the needle hole center.

[Clearance between the rotary hook and bobbin case opener]
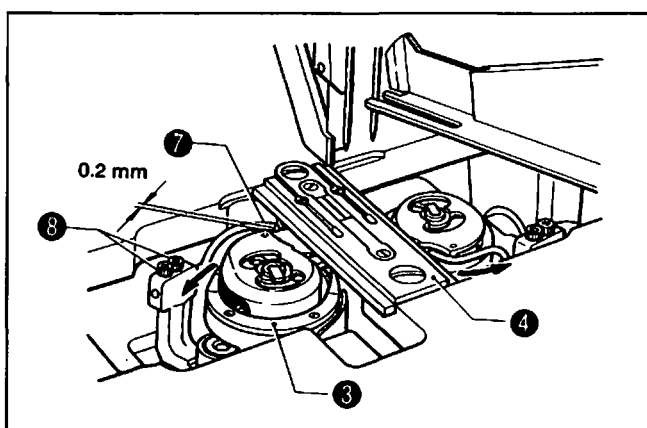


0.2 mm

- Loosen bolts ❽ and move bobbin case opener ❼ sideways to adjust the clearance between rotary hook ❸ and bobbin case opener ❼ to 0.2 mm when bobbin case opener ❼ pulled fully over in the arrowed direction.

# CARRIAGE FEED ADJUSTMENTS [1]

< Parallelism adjustment of the needle and carriage feed >
1.   Set the carriage feed to the stop position.
     Move the carriage feed and make sure that the needle and the carriage feed are parallel as illustrated below:



Parallel
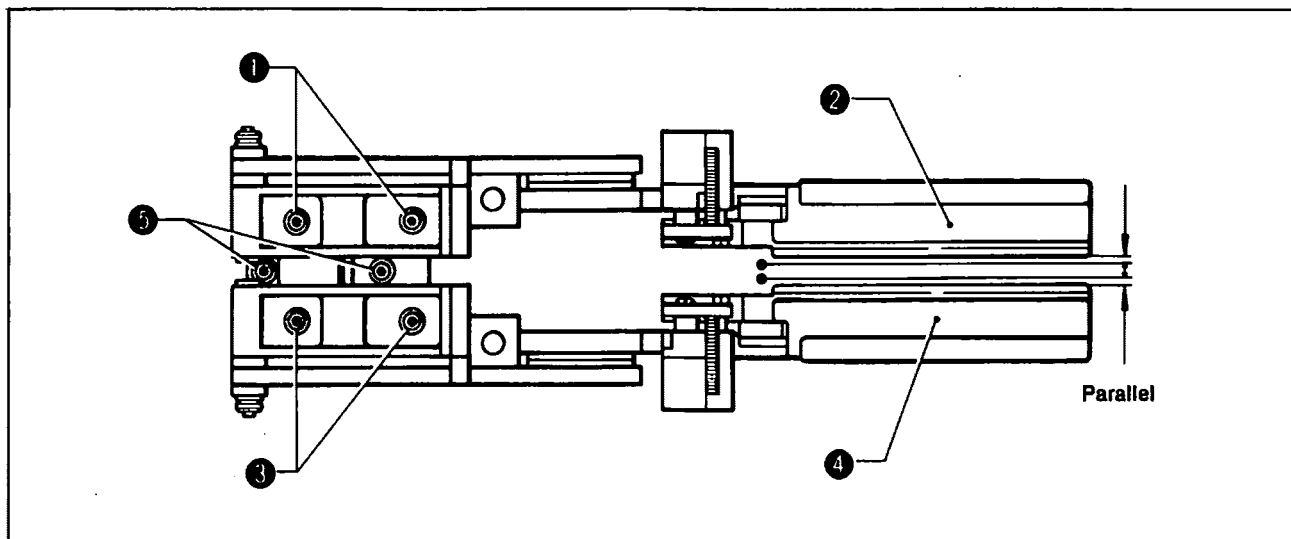
(Adjustment)
*   Loosen bolts ❷ and move carriage feed arm R ❷ sideways for adjustment.
*   Loosen bolts ❸ and move carriage feed arm L ❹ for adjustment.
< Carriage feed angle adjustment >
●   Make sure that the carriage feed is properly adjusted for the material.
    (Adjustment)
    Loosen screws ❻ and ❼ and adjust the angle of carriage feed arms ❷ and ❹ .
    Position the material under carriage feed arms ❷ and ❹ and check the adjustment by pulling the material with the carriage feed holding it.
    Make sure that the carriage feed holds the material evenly in the front and rear.

# CARRIER FEED ADJUSTMENTS [2]

<Carriage feed height adjustment>

● Make sure that the carriage feed height is about 20 mm at the front edge at the home position.
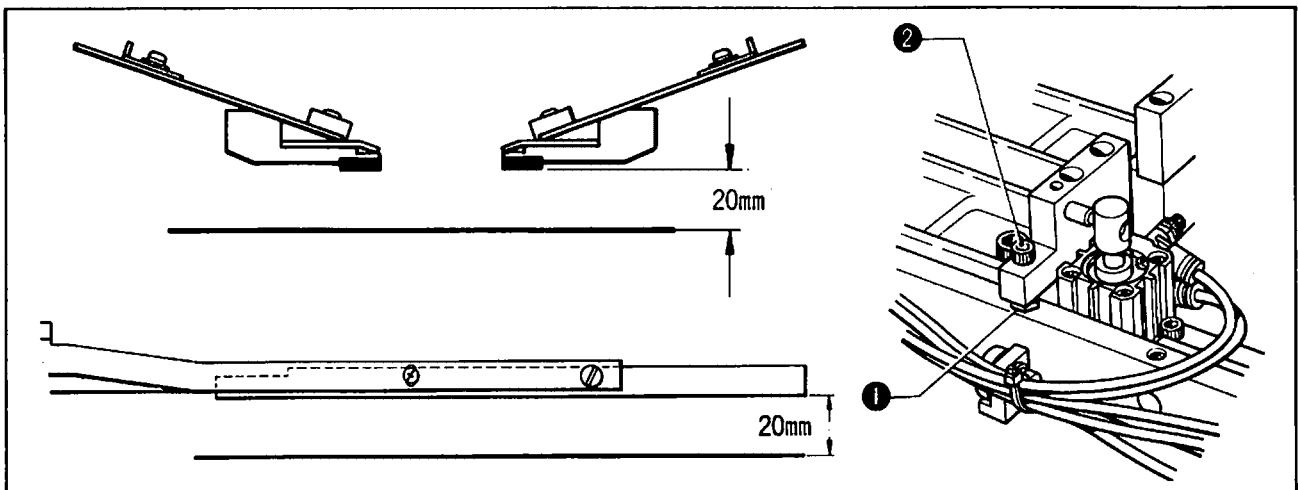


(Adjustment)

Loosen nut ❶ and adjust the height with bolt ❷ .

Loosen the bolt to raise the carriage feed and tighten the bolt to lower the carriage feed.

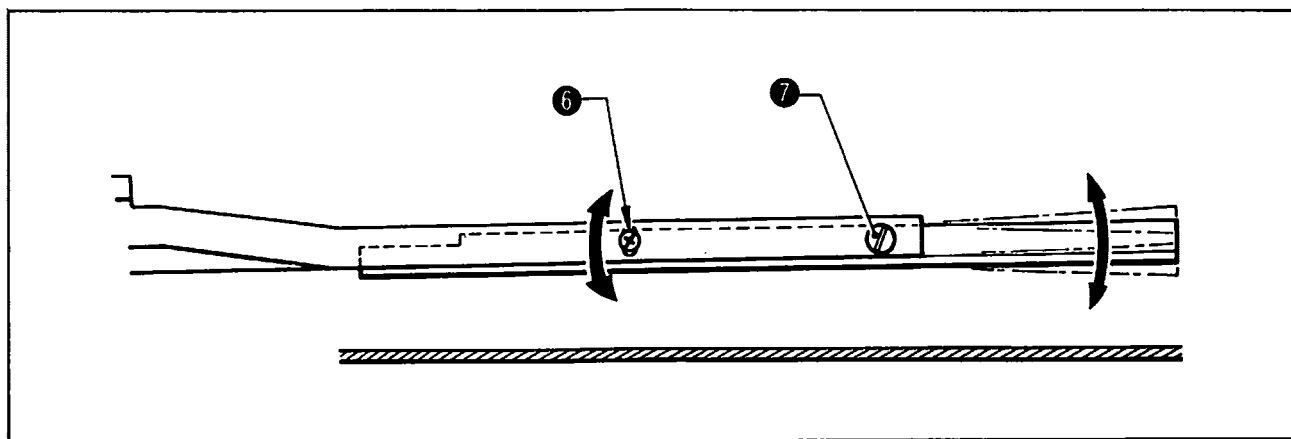* When adjusting, move the carriage feed back and forth by hand with the power switch set to OFF to make sure that the flap presser will not come into contact with the machine.

<Folding plate position adjustment>

Move the carriage feed and make sure that its edge and the folding plate edge are flush. The clearance between the needle and the folding plate should be approximately 1 mm when the folding plate is fully extended.

* Move the carriage feed and make sure that the clearance between the needle and the folding plate is approximately 1 mm.
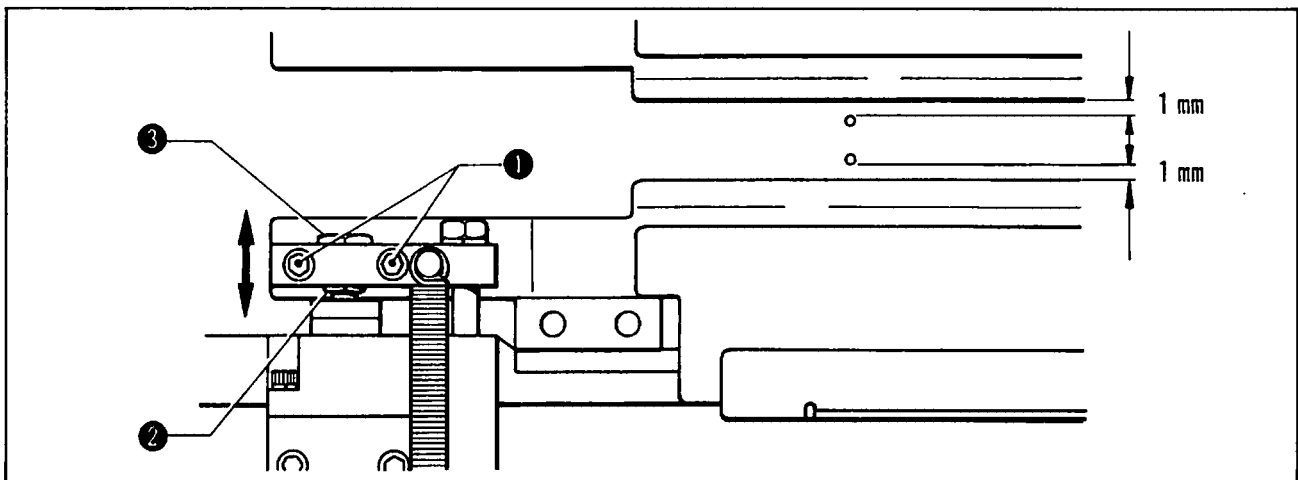


(Adjustment)

· Loosen bolts ❶ and bring the carriage feed edge flush with the folding plate edge.
· Loosen nut ❷ and turn nut ❸ to adjust the folding plate stroke.
  Loosen nut ❸ to increase the fold amount.
  Tighten nut ❸ to decrease the fold amount.
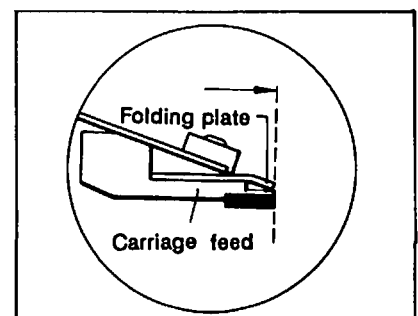
< Binder position adjustment >



Approx. 1 mm

1 mm

Approx. 1 mm
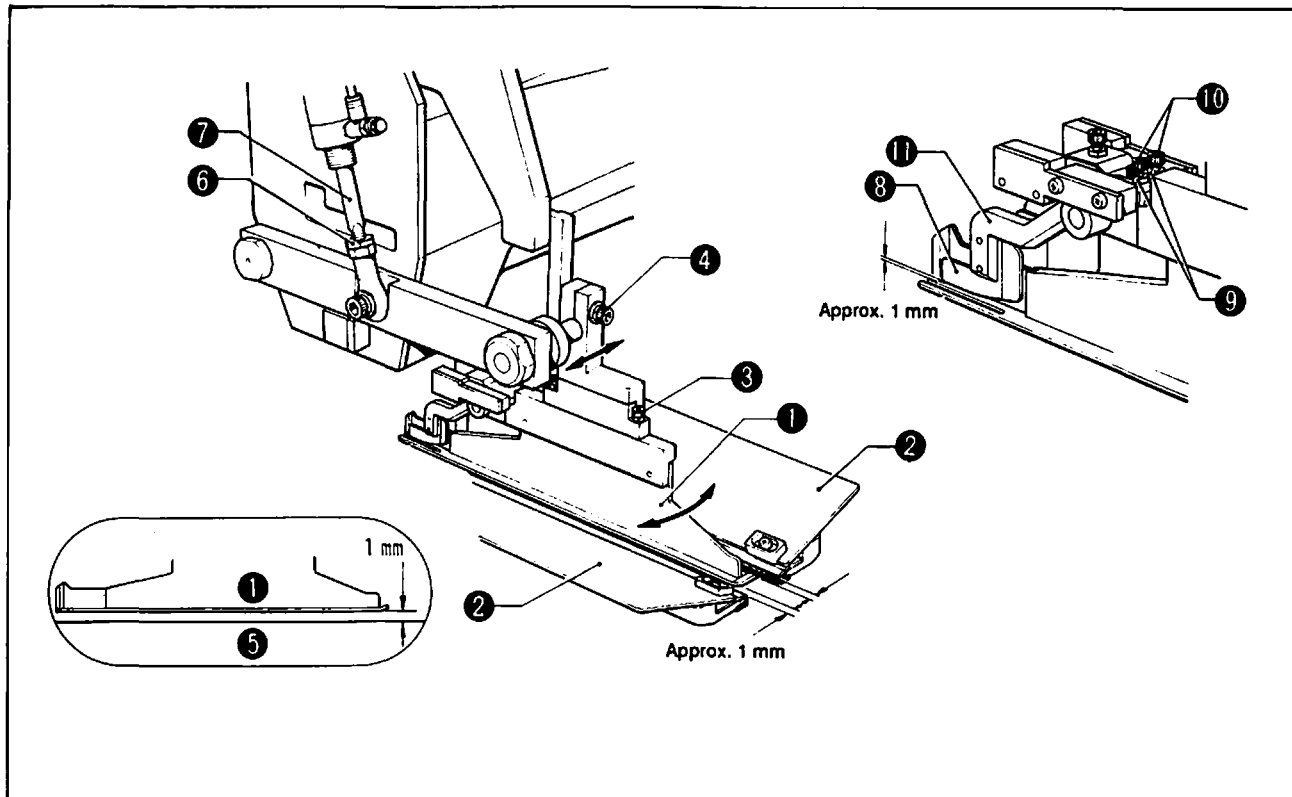
1.    Make sure the edge of binder ❶ and the edge of carriage feed ❷ are parallel and that the clearance between the two is approximately 1 mm (on both sides) when binder ❶ lowers.
(Adjustment)
(1)  Loosen bolt ❸ and adjust the edge of binder ❶ and the edge of carriage feed ❷ so they are parallel.
(2)  Loosen bolt ❹ and adjust the clearance between the edge of binder ❶ and the edge of carriage feed ❷ to approximately 1 mm (on both sides).
2.    Make sure that the clearance between the bottom of binder ❶ and the top of slide plate ❺ is approximately 1 mm when binder ❶ lowers.
(Adjustment)
Loosen nut ❻ and turn shaft ❼ to adjust the clearance between binder ❶ bottom and slide plate ❺ top to be approximately 1 mm (on both sides).
Be careful to leave the same clearance to the front and rear under the bottom of binder ❶ .
3.    Make sure that the clearance between the bottom of cloth guide ❽ and the top of binder ❶ is approximately 1 mm.
(Adjustment)
Loosen nut ❾ and adjust bolt ❿ . Tighten bolt ❿ to raise the binder and loosen the bolt to lower the binder.
At the same time as this adjustment, raise cloth guide arm ⓫ by hand and make sure that it will return by the power of its spring.

# KNIFE REPLACEMENT [1]

< Corner knife replacement >

1.   Set MODE selector ❶ to KNIFE CHANGE.
2.   Press EMERGENCY STOP switch ❷.
     An alarm will sound once and the carriage feed will move to the knife change position.
     The alarm will sound once again after the carriage feed stops.
3.   Press EMERGENCY STOP switch ❷ again.
     The alarm will sound twice and the carriage feed and the flap presser will lower; corner knife ❸ will
     rise above the table.
     *   Keep your hands away from where the corner knife comes up.
         "AIR OFF" will be displayed.
4.   Close air cock ❹ to stop the air supply (bleed the air line).
     *   The corner knife will be locked in the raised position.
5.   Loosen setscrew ❺ and replace corner knife ❸ .
     *   To fit corner knife 3, align the knife edge with the edge of knife bracket
6.   After replacing the knife, open air cock ❹ to restore the air supply.
7.   Press EMERGENCY STOP switch ❷ .
     The alarm will sound twice; the carriage feed and the flap presser will rise and corner knife ❸ will be
     lowered.
     The carriage feed will move to the stop position and then the alarm will sound once.
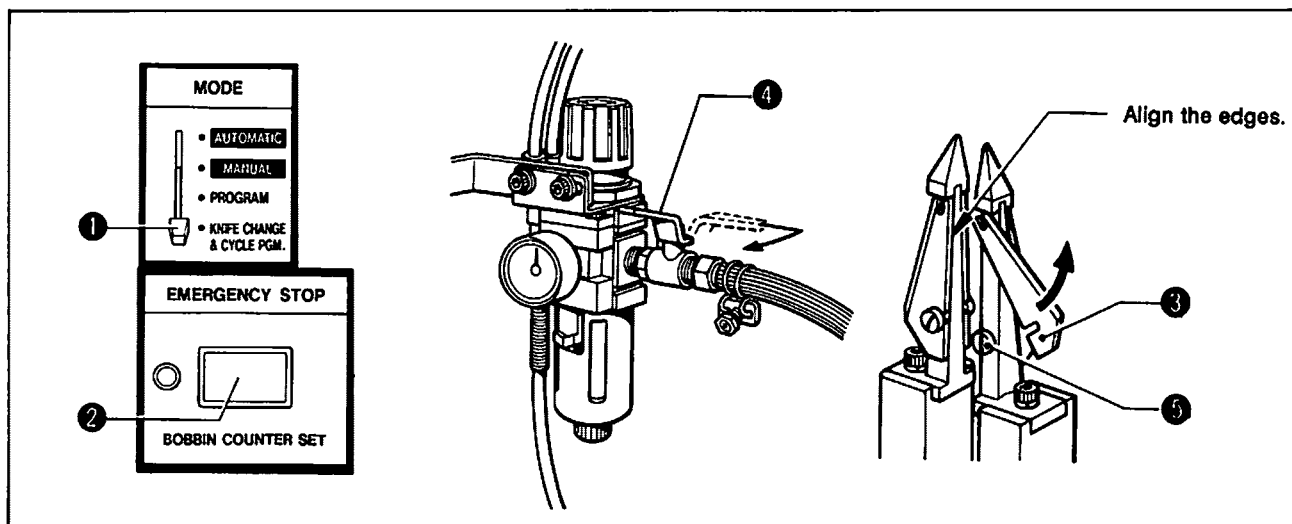


(Cautions on installation)
·   If the air supply is not turned on again in step 6 above, the corner knife will not be lowered even if the
    air supply is restored later.  If this happens, repeat steps 1 through 7 above.
·   If the corner knife is not in the center as illustrated, loosen screws ❼ and adjust the angle of the
    corner knife.
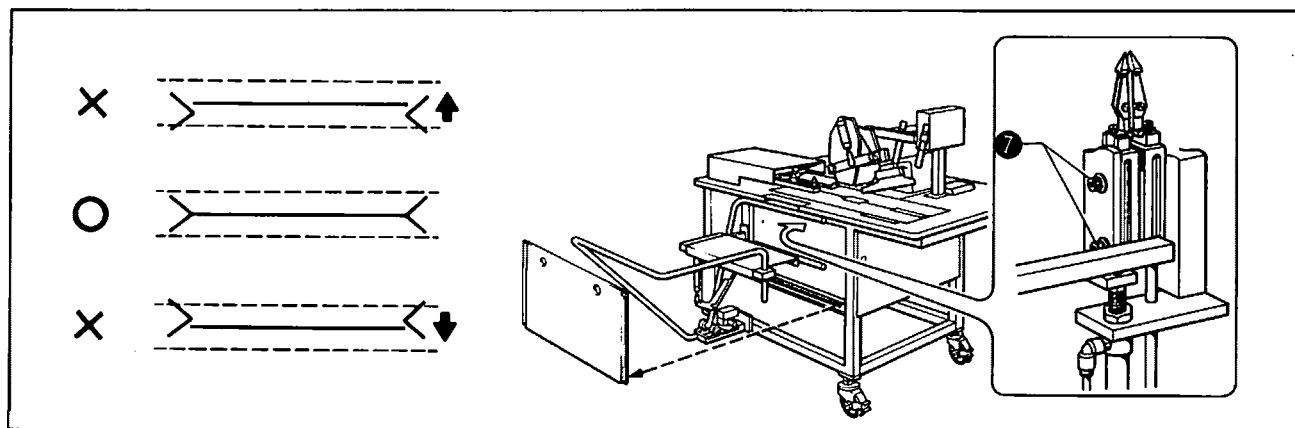
**To replace the knife bracket unit:**



1. Set MODE selector ❶ to KNIFE CHANGE.
2. Loosen screws ❶ by half a turn.
3. Press the EMERGENCY STOP switch twice. The corner knife will rise above the table.
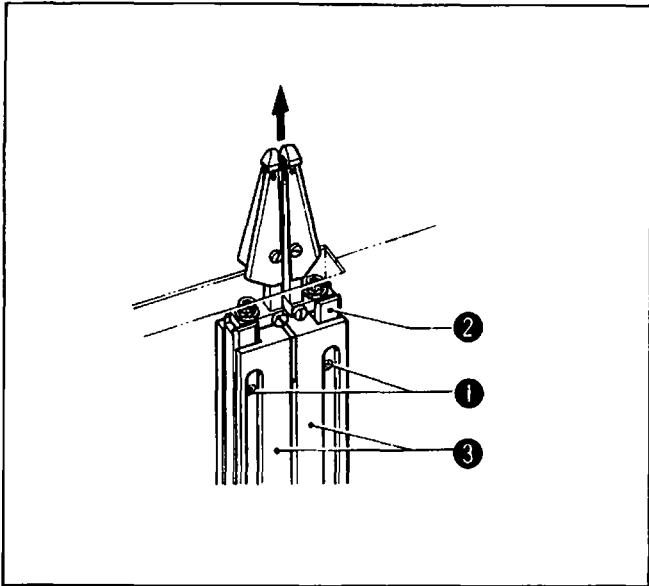4. Close the air supply and replace knife bracket unit ❷.
   * Be careful not to loosen the screws too far, otherwise the knife bracket unit will come into contact with slide guide ❸.

**To fit the knives:**



Corner knife L

Corner knife

Corner knife bracket unit

1. Loosen screws ❶ and move knives S❷ in the arrowed directions; fit the knives according to the sewing pattern.
2. A maximum deviation of 4 mm can be set.
3. Finely adjust the distances to the seams by changing the angles of the knives secured by set screws ❸.

Corner knife types (knife bracket units are available as optional parts)

| | Size | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
|---|---|---|---|---|---|---|---|---|
| Corner knife bracket unit | | S15881-001 | S15882-001 | S15883-001 | S15884-001 | S15885-001 | S15886-001 | S15887-001 |
| Corner knife | LR | | | | S09416-001 | | | |
| | LL | | | | S09417-001 | | | |
| Corner knife | SR | | | | S08322-001 | | | |
| | SL | | | | S08302-001 | | | |
| Ceramic corner knife | L | | | | S14051-001 | | | |
| | S | | | | S14050-001 | | | |

# KNIFE REPLACEMENT [2]

< Needle thread knife replacement >
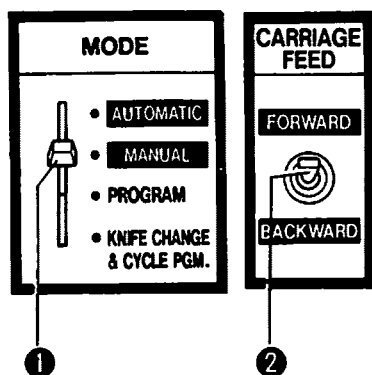
1. Set MODE selector ❶ to MANUAL.
2. Set CARRIAGE FEED switch to FORWARD and move the carriage feed to a position convenient for knife replacement.
3. Set power switch to OFF.
4. Remove screw ❹ and remove movable knife ❺ .
5. Remove screw ❻ and remove fixed knife ❼ .

* Reverse the order above to install the knives.

**MODE**
* AUTOMATIC
* MANUAL
* PROGRAM
* KNIFE CHANGE & CYCLE PGM.

**CARRIAGE FEED**
FORWARD
BACKWARD

(Caution on installation)
· Adjust fixed knife ❼ and spring ❽ so as to leave no clearance over movable knife ❺ , and to apply pressure evenly on knife ❺ .
  * Increase the pressure if the knives do not cut properly.
· If the pressure is increased too much, movable knife operation will become sluggish or the needle threads will not be released smoothly.

**< Bobbin thread knife replacement >**
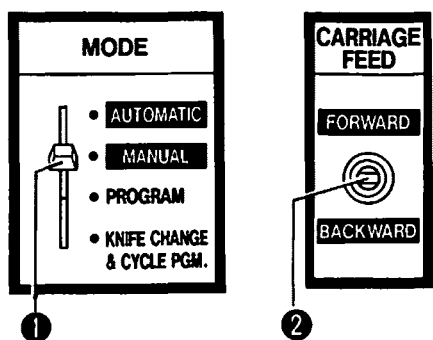
1. Set MODE selector ❶ to MANUAL.
2. Set CARRIAGE FEED switch ❷ to FORWARD to advance the carriage feed.
3. Set power switch ❸ to OFF.
4. Remove slide plates R and L ❹ .
5. Tilt the machine head.
6. Loosen screws ❺ and remove screws ❻ ; remove knife bracket ❼ .
7. Remove bobbin thread trimmer knives ❽ .
   * Reverse the order above to install.

(Cautions on installation)
- Install bobbin thread trimmer knives ❽ so that it will not protrude from the needle plate top surface.
- Install bobbin thread trimmer knives ❽ so that the knife grooves are aligned with the needle plate groove when the cylinder rod is fully retracted.

**MODE**
- AUTOMATIC
- MANUAL
- PROGRAM
- KNIFE CHANGE & CYCLE PGM.

❶

**CARRIAGE FEED**
FORWARD
BACKWARD

❷

❸

❹

**THREAD TRIMMER**
UPPER
LOWER

Bobbin thread
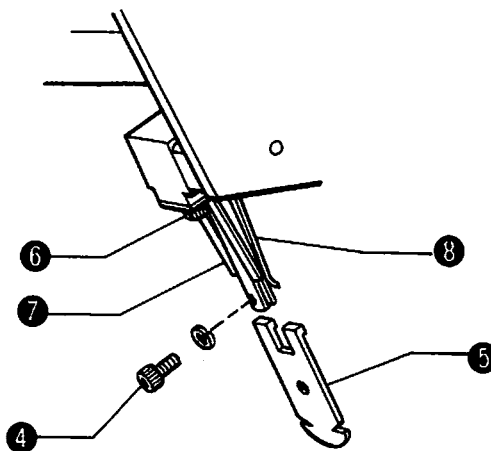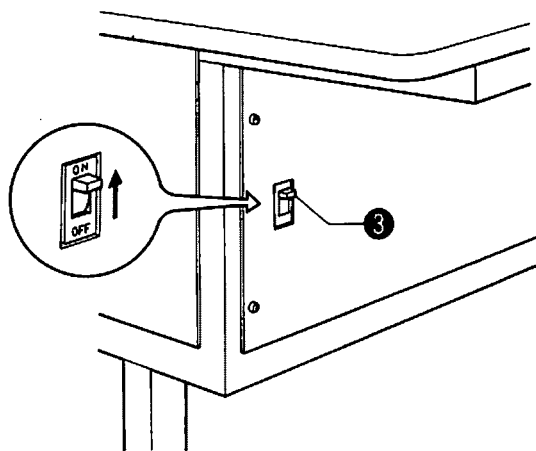
90°

Needle plate
❻

❺

❻

❼
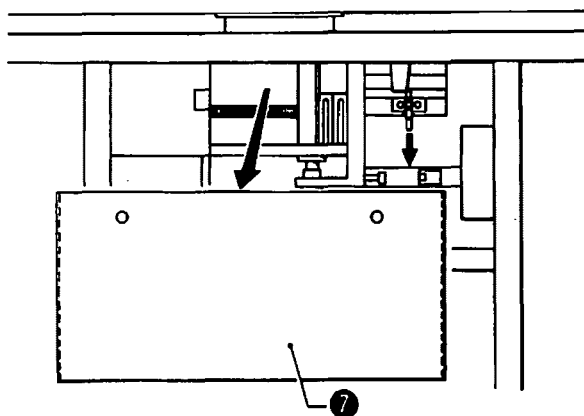
# KNIFE REPLACEMENT [3]

< Center knife replacement >
1.  Set MODE selector ❶ to MANUAL.
2.  Set CARRIAGE FEED switch ❷ to FORWARD to advance the carriage feed.
3.  Set power switch ❸ to OFF.
4.  Remove screws ❹ and remove center knife ❺
    *  Reverse the order above to install.
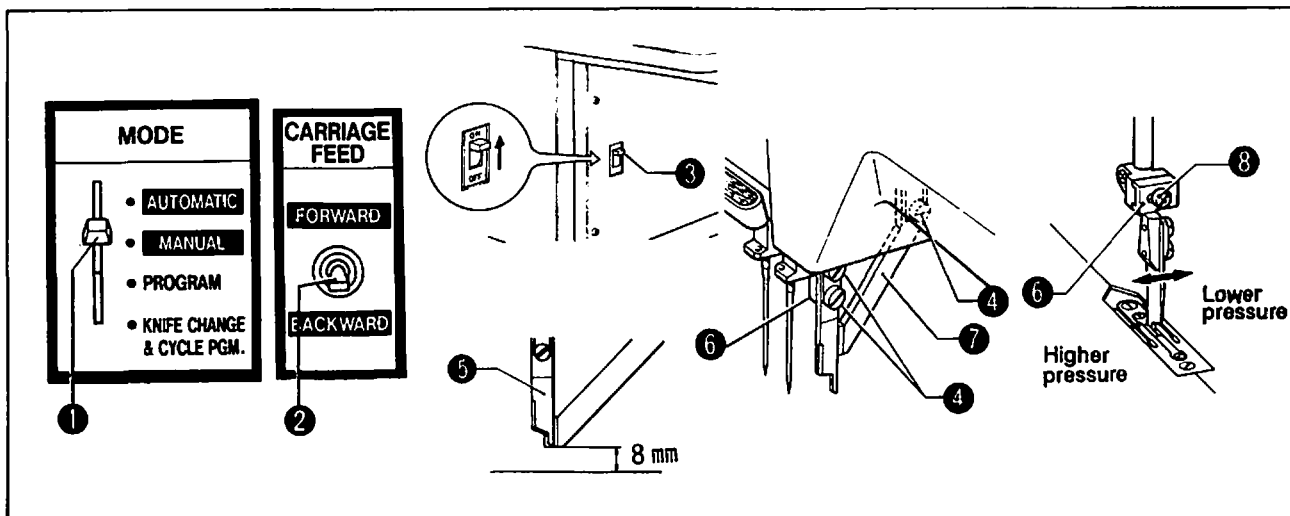


(Cautions on installation)
·  Align center knife ❺ with the screw hole in center knife bracket ❻ and secure with screws ❹ .
·  Fit the tip of the center knife 8 mm above the top surface of the needle plate (align the knife tip with the center knife guide bottom).
·  Turn the power switch to ON and make sure that the center knife tip does not protrude from center knife guide ❼
·  Loosen screws ❽ and adjust the center knife pressure by center knife bracket ❻ Increasing the pressure too much will decrease center knife durability.

< Fixed knife replacement >
1.  Set MODE selector ❶ to MANUAL.
2.  Set CARRIAGE FEED switch ❷ to FORWARD to advance the carriage feed.
3.  Set power switch ❸ to OFF.
4.  Remove screws ❹ and remove center knife ❺ .
5.  Remove screws ❹ and needle plate ❺ .
6.  Remove setscrews ❻ and fixed knife ❼ .
    *  Reverse the order above to install.
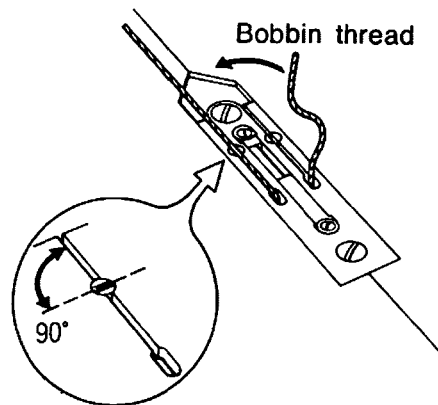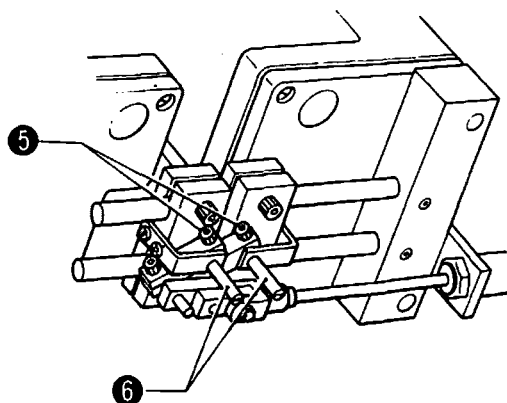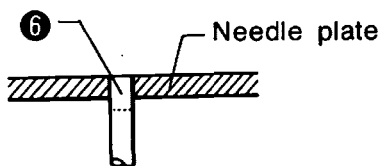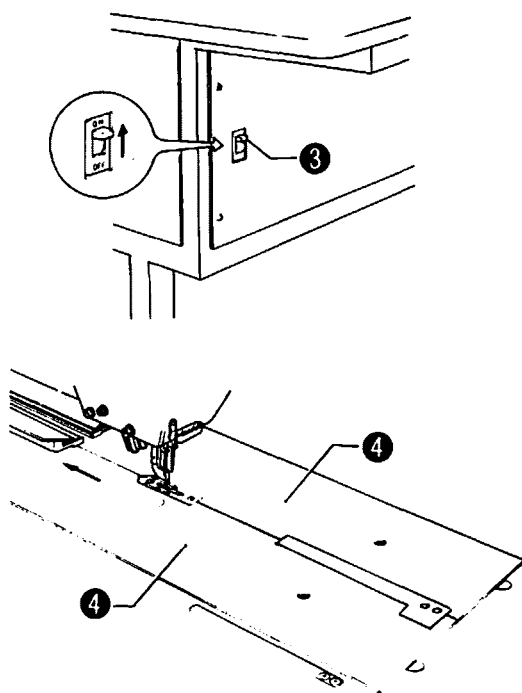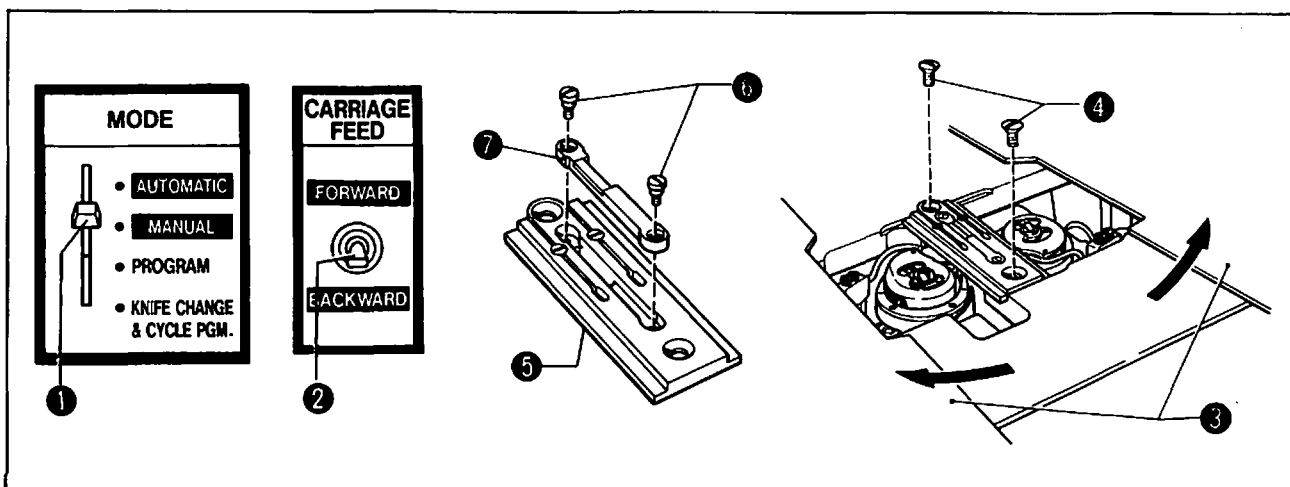
# PARTS REPLACEMENT FOR SINGLE WELTING

<When changing from double welting to single welting>
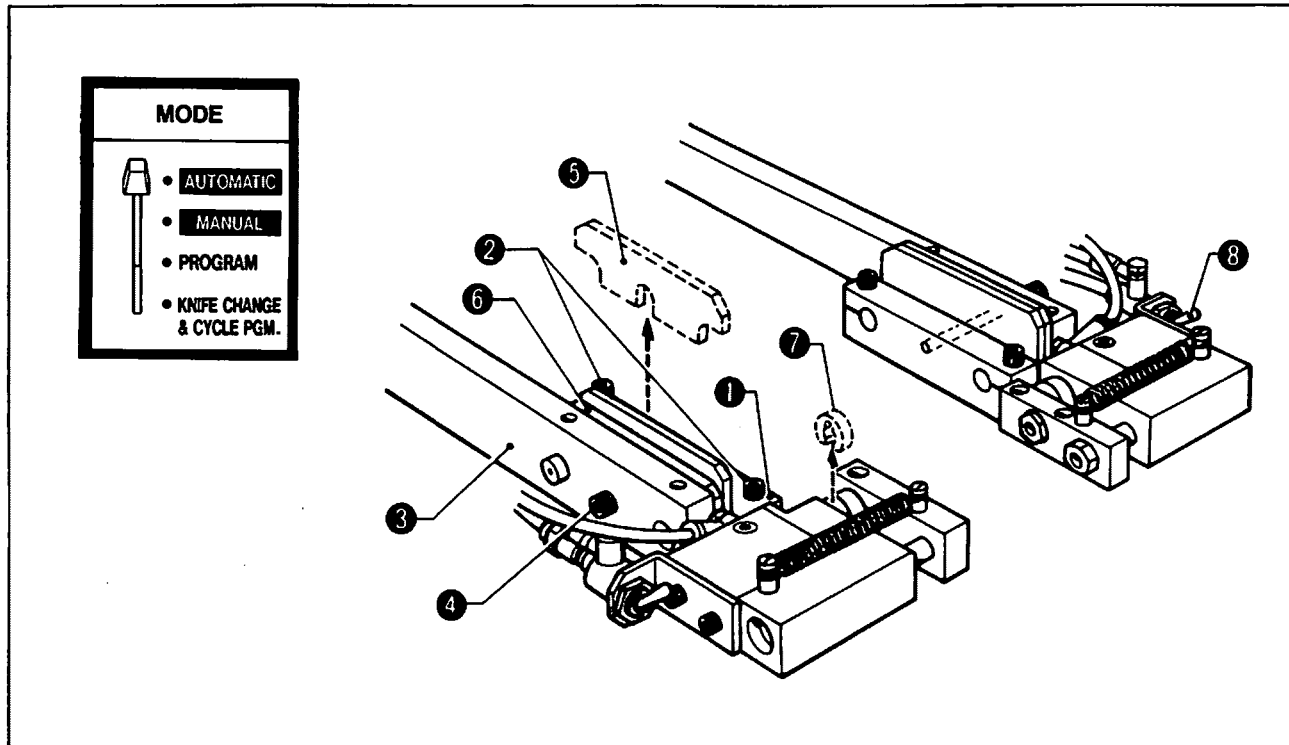


1. Set MODE selector ❶ to MANUAL and advance the carriage feed to the thread trimming position.
2. Replace the binder assembly for double welting with the one for single welting and press the treadle forward to adjust the height by operating the binder assembly.
3. Loosen screws ❷ on ruler fitting plate L ❶ and remove spacer W ❺ .
4. Slide ruler fitting plate L towards carriage feed arm L ❸ and firmly tighten screws ❷ .
5. Release the air pressure and remove spacer W ❼ inserted onto the rod of the cylinder for folding plate L.
6. Set the manual valve ❽ for folding plate R to OFF (down).
   * Set the manual valve to ON for single welt sewing for flap attachment.

# MAIN CIRCUIT BOARD DIP SWITCHES

Be sure to set the power switch to OFF before changing the dip switch settings.

### SW1

ON

| sw11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|------|----|----|----|----|----|----|----|
| □ | □ | □ | □ | □ | □ | □ | □ |

OFF



S W 2    SW4
S W 1    S W 3
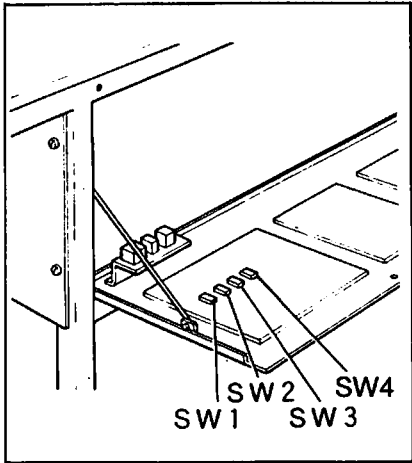
### SW2

ON

| sw21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
|------|----|----|----|----|----|----|----|
| □ | □ | □ | □ | □ | □ | □ | □ |

OFF

| Lock-stitch stitch length | PSW-11 | OFF | ON | OFF | ON | OFF | ON | OFF | ON |
|---|---|---|---|---|---|---|---|---|---|
| | PSW-12 | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
| | PSW-13 | OFF | OFF | OFF | OFF | ON | ON | ON | ON |
| | (mm) | 1.8 | 2.0 | 2.2 | 2.4 | 2.6 | 2.8 | 3.0 | 3.2 |

\* When the BAS-612 is used, the V back-stitching will start even if the PSW-14 is set.

| Fraying prevention | PSW-14 | ON: (Backstitch)   OFF: (Condensed) |
|---|---|---|

| Backstitch stitch length | PSW-15 | OFF | ON | OFF | ON |
|---|---|---|---|---|---|
| | PSW-16 | OFF | OFF | ON | ON |
| | (mm) | 0.8 | 1.2 | 1.6 | 2.0 |

| Condensed stitch length | PSW-17 | OFF | ON | OFF | ON |
|---|---|---|---|---|---|
| | PSW-18 | OFF | OFF | ON | ON |
| | (mm) | 0.4 | 0.6 | 0.8 | 1.0 |

| Backstitch stitch length Condensed stitch length | PSW-21 | OFF | ON | OFF | ON |
|---|---|---|---|---|---|
| | SW-22 | OFF | OFF | ON | ON |
| | (mm) | 3.0 | 4.0 | 5.0 | 6.0 |

| Machine speed | PSW-23 | ON: (2,500 spm)   OFF: 2,200 spm |
|---|---|---|

| Carriage feed speed to corner knife position | PSW-24 | ON: 20 m/min. OFF: 15 m/min. |
|---|---|---|

| Carriage feed operating sequence | PSW-25 | OFF | ON | OFF | ON |
|---|---|---|---|---|---|
| | PSW-26 | OFF | OFF | ON | ON |
| | | Right → left | Left → right | Simultaneous R & L carriage feed | Simultaneous carriage feed and flap presser |

| Flap sensor operating sequence | PSW-27 | ON | Right flap : Right → left |
|---|---|---|---|
| | | | Left flap  : Left → right |
| | | OFF | Right flap : Left → Right |
| | | | Left flap  : Right → left |

| Switch operation | PSW-28 | ON:  Foot   OFF:  Timer start |
|---|---|---|

## SW3

ON

| sw31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
|------|----|----|----|----|----|----|----|
| □ | □ | □ | □ | □ | □ | □ | □ |

OFF

\* For the BAS-612, use the machine with the PSW-31 off.

| Gauge | PSW-31 | BAS-610·611 | | BAS-612 |
|-------|--------|-------------|---|---------|
| | | ON: 8, 10, 12, 14 mm | | |
| | | OFF: 16, 18, 20 mm | | 8 - 20 mm |

| Operation after thread breakage | PSW-32 | OFF | ON | OFF | ON |
|---------------------------------|--------|-----|----|----|----|
| | PSW-33 | OFF | OFF | ON | ON |
| | | No monitoring | Stop at corner knife position | Immediate stop | Re-sewing |

| Stacker type | PSW-34 | OFF | ON | OFF | ON |
|--------------|--------|-----|----|----|----|
| | PSW-35 | OFF | OFF | ON | ON |
| | | Pick-up | Bar | Roller | Air |

| Carrier feed position | PSW-36 | ON: Start SW monitored |
|-----------------------|--------|------------------------|

| Check routine | PSW-37 | ON: Sensor initialization |
|---------------|--------|---------------------------|
| | PSW-38 | ON: Memory initialization |

## SW4

ON

| sw41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|------|----|----|----|----|----|----|----|
| □ | □ | □ | □ | □ | □ | □ | □ |

OFF

| Options | PSW-41 | ON: Dart spreading |
|---------|--------|--------------------|
| | PSW-42 | ON: Corner knife safety device |
| | PSW-43 | ON: Automatic welt cloth mounting |
| | PSW-44 | ON: Automatic flap mounting |
| | PSW-45 | ON: Corner knife used (for slant sewing) |
| | PSW-46 | Spare |
| | PSW-47 | Spare |
| | PSW-48 | ON: N Backstitch   OFF: V Back-stitch |

# WHEN CHANGING THE TREADLE OPERATION TO TIMER SWITCH CONTROL

- Turn off dip switch 2-8.
- When running a flap program, the machine will not operate on pressing the start switch unless the flap presser is lowered.
- For standard sewing, the machine will operate on pressing the start switch after the folding plate has operated.
- Set the MODE selector either to AUTOMATIC or to MANUAL.
- Input programs with the MODE selector set to AUTOMATIC.
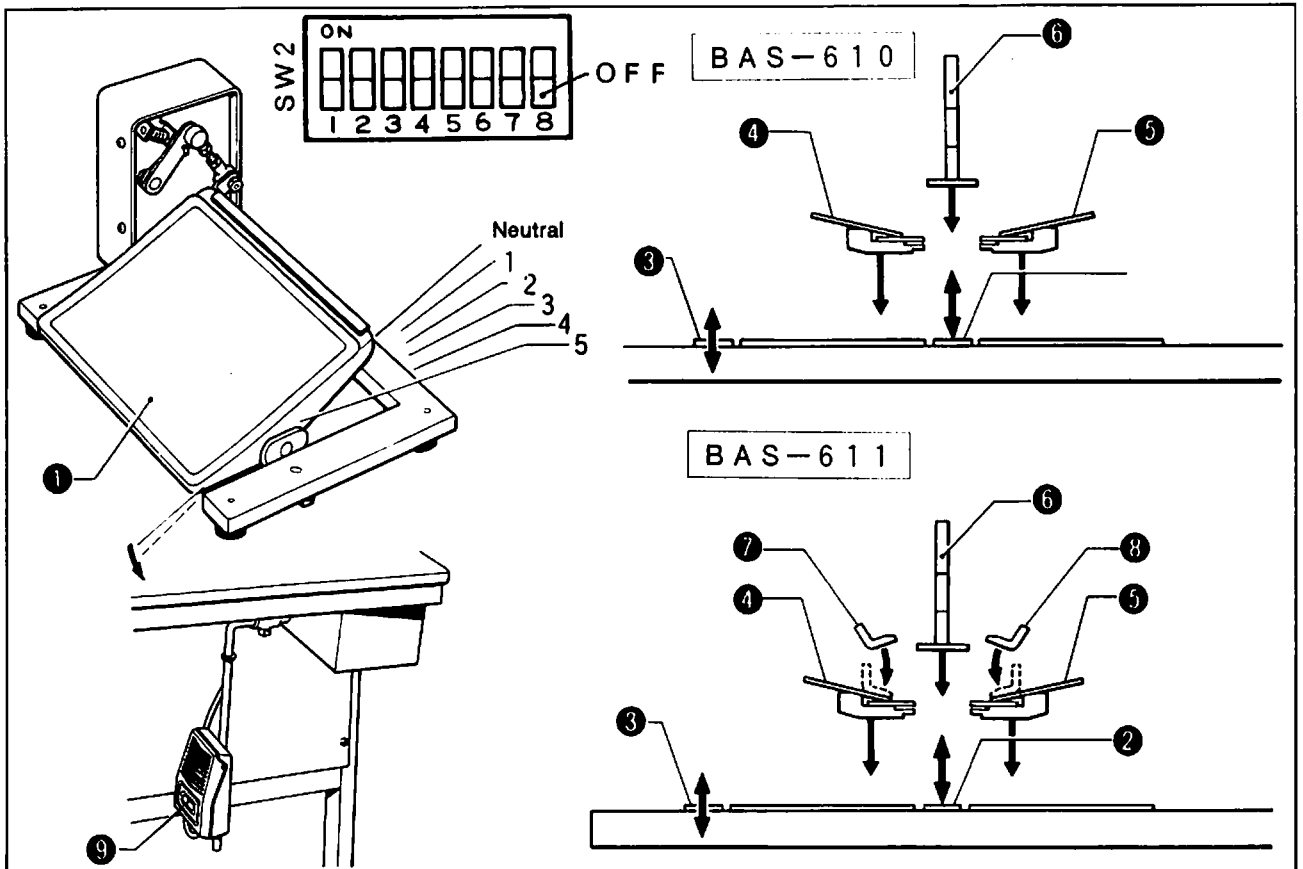


< Treadle operation >

1. Press treadle ❶ backwards to raise padding cloth presser foot springs R ❷ and L ❸ .
2. Release treadle ❶ to lower padding cloth presser foot springs R ❷ and L ❸ .
3. Press treadle ❶ forward to position ❶ to lower carriage feed arm L ❹ .
4. Continue pressing treadle ❶ at position 1, for 0.5 seconds, to lower carriage feed arm R ❺ .
5. Continue pressing treadle ❶ at position 1, for 1.7 seconds, to lower binder ❻ and operate the folding plate.
   * The folding plate will start to operate 0.25 to 0.35 seconds after binder ❻ is lowered.
6. Continue pressing treadle ❶ at position 1, for 1.5 seconds, to lower flap presser L ❼ .
7. Continue pressing treadle ❶ at position 1, for 1 second, to lower flap presser R ❽ .
8. Press START switch ❾ to operate the carriage feed.
   * The carriage feed and other mechanisms will not be reset even if the treadle is released at steps 3 to 7. Press treadle ❶ backwards to reset.
   * If the MODE selector is set to MANUAL, the carriage feed will operate without actual sewing.
   * The sequence of carriage feed and flap presser operations (steps 3, 4, 6 and 7 above) can be changed by setting the dip switches (see page 50).

< Setting the timer for treadle operation >
- Set MODE selector **❶** to AUTOMATIC.
- Select a program number from 1 to 5.
  Treadle operation in the program with the flashing number indicator can be modified.
1. Turn power switch **❶** to OFF and then to ON.
2. Press SET switch **❷** . "Str.Pro" will be displayed.
3. While pressing the SET switch, press EMERGENCY STOP switch **❸** . The displays will show "F-ⵑ" steadily and "Pro" flashing.
4. Press the treadle forward and position the material.
5. While pressing the treadle forward, press SET switch **❷** . The "Pro" display will now be changed into the BOBBIN COUNTER SET display and programming of the material positioning periods (steps 4 to 8 on the preceding page) will be enabled.
6. Press start switch **❹** to start sewing.
   Press SET switch **❷** to program
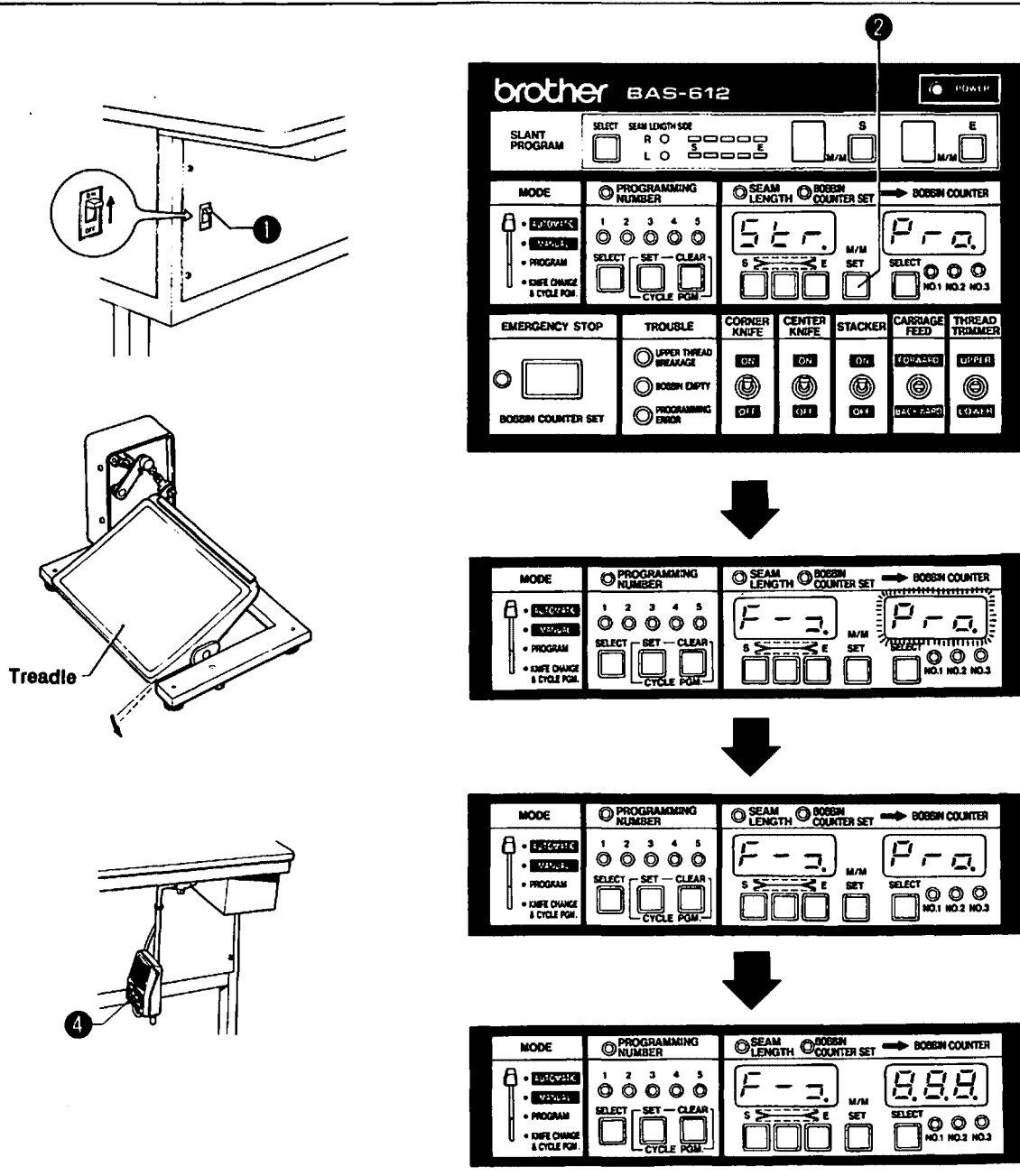


Treadle

# PROGRAMMING THE CARRIAGE FEED RESET TIMER

- Select a program number from ❶ to ❺.
  Treadle operation in the program of which number indicator is
1. Set the power switch ❶ to ON.
2. Pressing PROGRAMMING NUMBER - SELECT selector, Press EMERGENCY STOP switch.
3. The SEAM LENGTH display shows the carriage feed waiting time.
4. Change the carriage feed waiting time by pressing SEAM LENGTH setters ❸ and ❹.
   (Ex.: "3.5" will be displayed for 3.5 seconds.)
5. Press BOBBIN COUNTER - SET switch ❺ to return the carriage feed to the home position and the machine will be in the ordinary system start-up status.
   * This timer is available only with dip switch SW33 off and the stacker switch on.
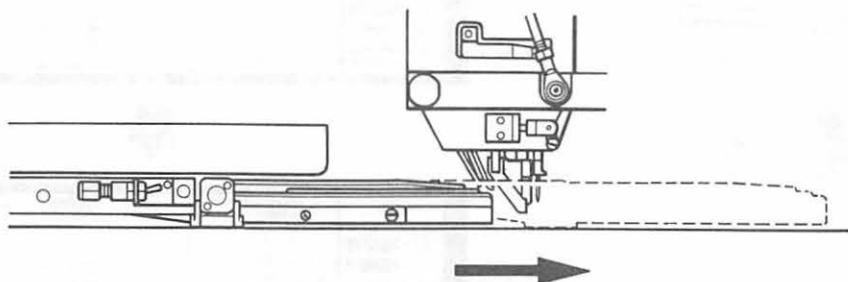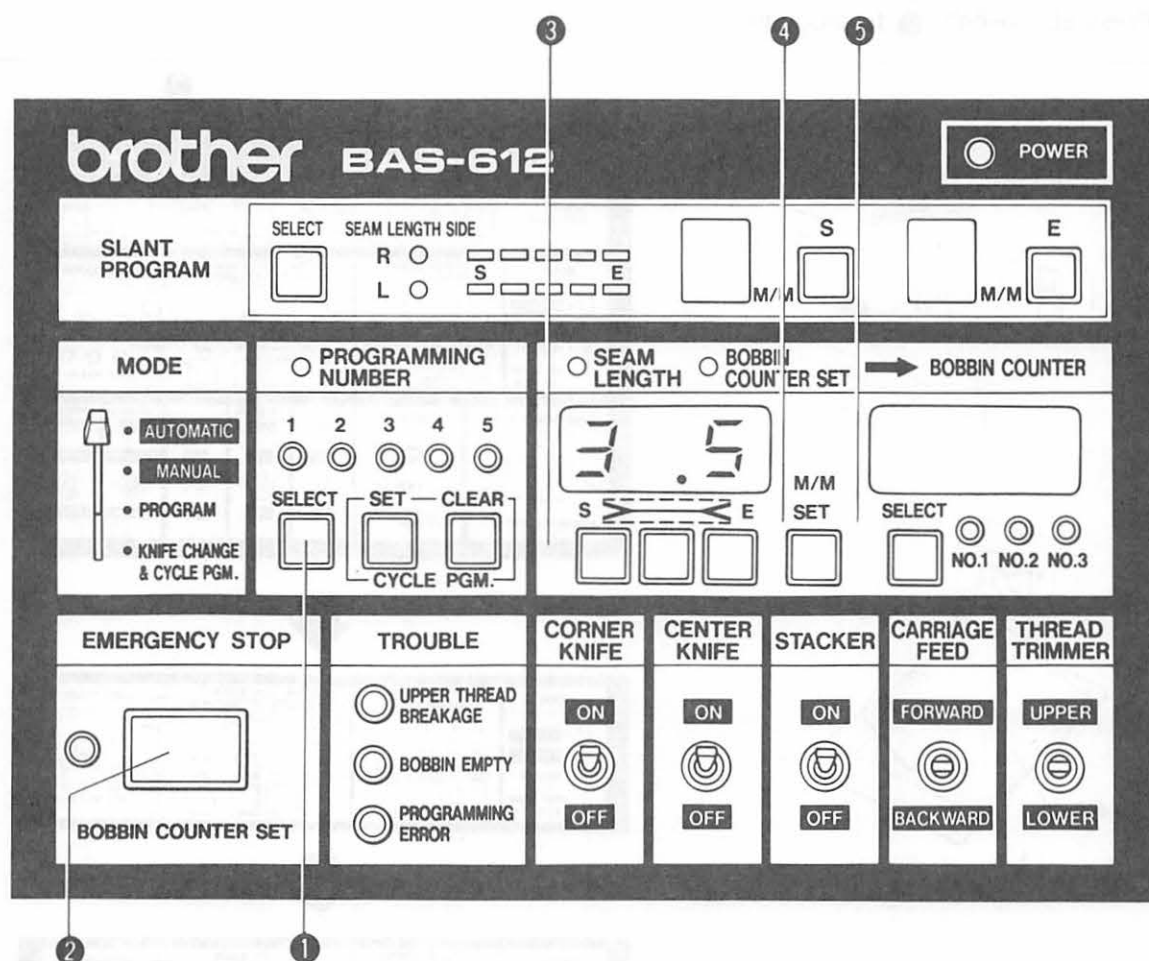
# MEMORY INITIALIZATION

- Use this to initialize or clear the memory of back-up data necessary for sewing.
1. Set the power switch to OFF.
   Set switch 3-8 on the main circuit board to ON.
2. Set the power switch to ON.
   The memory will be completely cleared and standard data will be written.
   When writing is completed, the alarm will sound once and program number indicators 1 to 5 and bobbin counter indicators 1 to 3 will illuminate.
3. Set the power switch to OFF.
   Set switch 3-8 on the main circuit board to OFF.

< Standard data contents >

| Cycle sewing | 1 → 2 → 3 |
|---|---|
| Program 1 | 28 mm (36 mm) |
| Program 2 | 50 mm |
| Program 3 | 100 mm |
| Program 4 | 150 mm |
| Program 5 | 190 mm |
| Flap correction 1 | 40.0 mm |
| Flap correction 2 | 40.0 mm |
| Flap correction 3 | 40.0 mm |
| Flap correction 4 | 40.0 mm |
| Flap correction 5 | 40.0 mm |
| Corner knife correction 1 | 5-5 |
| Corner knife correction 2 | 5-5 |
| Corner knife correction 3 | 5-5 |
| Corner knife correction 4 | 5-5 |
| Corner knife correction 5 | 5-5 |
| Bobbin thread 1 | 100 |
| Bobbin thread 2 | 150 |
| Bobbin thread 3 | 200 |

# ERROR CODES

- The machine will not operate when characters unrelated to the program are shown on the LED displays, either on turning on the power or during sewing.
Please contact your Brother dealer if error display cannot be reset.
Contents of the codes are as below:

| | |
|---|---|
| E-1-** Switch-related error | E-4-** Sensor-related error |
| E-2-** Machine-related error | E-6-** Error related to thread breakage |
| E-3-** Error related to the carriage feed | E-8-** Error related to the corner knife |

| | Contents of Error Codes | Reset procedure |
|---|---|---|
| E-0-00 | EMERGENCY STOP pressed while carriage feed moving. | See the footnote. |
| E-1-00 | Start switch pressed when power turned on. | Release start switch. |
| E-1-01 | Treadle pressed for padding cloth presser foot operation when power turned on. | Release start switch. |
| E-1-02 | Treadle pressed when power turned on. | Release start switch. |
| E-2-00 | Machine motor not stopping at needle up position. | Turn pulley to raise needle. |
| E-2-01 | Needle not at up position at sewing start. | Turn power switch off. |
| E-2-02 | Needle not stopping at up position at sewing end. | Turn power switch off. |
| E-3-00 | Feed home position overrun (home side). | Turn power switch off. |
| E-3-01 | Feed overrun. | Turn power switch off. |
| E-3-02 | Feed time-up. | Turn power switch off. |
| E-3-03 | Waiting for a feed command. | Turn power switch off. |
| E-3-04 | Feed error at error reset. | Turn power switch off. |
| E-3-05 | Feed fault stop. | Turn power switch off. |
| E-3-06 | Overrun to home side when power turned on. | Move carriage feed away from operator by hand. |
| E-4-01 | Right flap sensor fault. | Same as emergency stop. |
| E-4-10 | Left flap sensor fault. | Same as emergency stop. |
| E-5-00 | Cycle program interrupted. | Cycle program will be cleared and automatically reset. |
| E-6-01 | Right thread breakage. | Same as emergency stop. |
| E-6-10 | Left thread breakage. | Same as emergency stop. |
| E-7-00 | Memory read/write fault. | Replace circuit board. |
| E-8-01 | Corner knife rises at sewing start. | Turn power switch off. |
| E-8-02 | Corner knife locker rod contacting knife bracket when the rod is caught. | Turn power switch off. |
| E-8-03 | Corner knife contacting knife bracket while knife operating. | Turn power switch off. |

<Emergency stop>
If the EMERGENCY STOP switch is pressed while the carriage feed is moving, the feed motor and main motor will stop immediately. The machine will now be in the same status as when the power is first turned on. The carriage feed will remain in the same position as when the EMERGENCY STOP switch was pressed (see page 33).

# TROUBLE-SHOOTING

| Phenomenon | Cause | Where to check | Solution | Page |
|---|---|---|---|---|
| Needle thread breaks | Bent needle, blunt tip | Needle | Replace needle | 35 |
| | Incorrect needle fitting | Needle facing | Re-fit needle correctly | 35 |
| | Incorrect threading | Threading | See "Threading the needle thread" | 11 |
| | Excessive needle thread tension | Needle thread tension | See "Stitch tension" | 27 |
| | Incorrect clearance between rotary hook and bobbin case opener | | See "Needle and rotary hook timings adjustment" | 35 |
| | Incorrect needle and rotary hook timing | | See "Needle and rotary hook timing adjustment" | 35 |
| Bobbin thread breaks | Incorrect threading | Threading | See "Threading the needle threads" | 11 |
| | Excessive bobbin thread tension | Bobbin thread tension adjustment screw tightening | Correctly tighten screw | 27 |
| | Oil, waste threads on bobbin case surface | | Clean away all waste threads and oil | ◣ |
| Uneven stitches | Bent needle, blunt tip | Needle | Replace needle | 35 |
| Skipped stitches | Bent needle, blunt tip | Needle | Replace needle | 35 |
| | Incorrect needle fitting | Needle facing, height | See "Fitting the needle" | 35 |
| | Incorrect threading | Needle thread threading | See "Threading the needle threads" | 11 |
| | Incorrect timing of needle and rotary hook | | See "Needle and rotary hook timing adjustment" | 35 |
| | Trimmings collected around rotary hook | | Clean around rotary hook | ◣ |
| Stitches do not tighten | Weak thread take-up spring or its limited working range | Thread take-up spring power, action | See "Stitch tension" | 27 |
| | Insufficient needle thread tension | Needle thread tension | See "Stitch tension" | 27 |
| | Insufficient bobbin thread tension | Bobbin thread tension | See "Stitch tension" | 27 |
| Needle breaks | Incorrect needle fitting | Needle facing, height | See "Fitting the needle" | 35 |
| | Bent needle, blunt tip | Needle | Replace needle | 35 |
| | Incorrect needle and rotary hook timing | | See "Needle and rotary hook timing adjustment" | 35 |
| Needle doesn't stop at up position. | Needle up stop element fault | Needle up stop element position | See "Position detector adjustment" | ◣ |

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