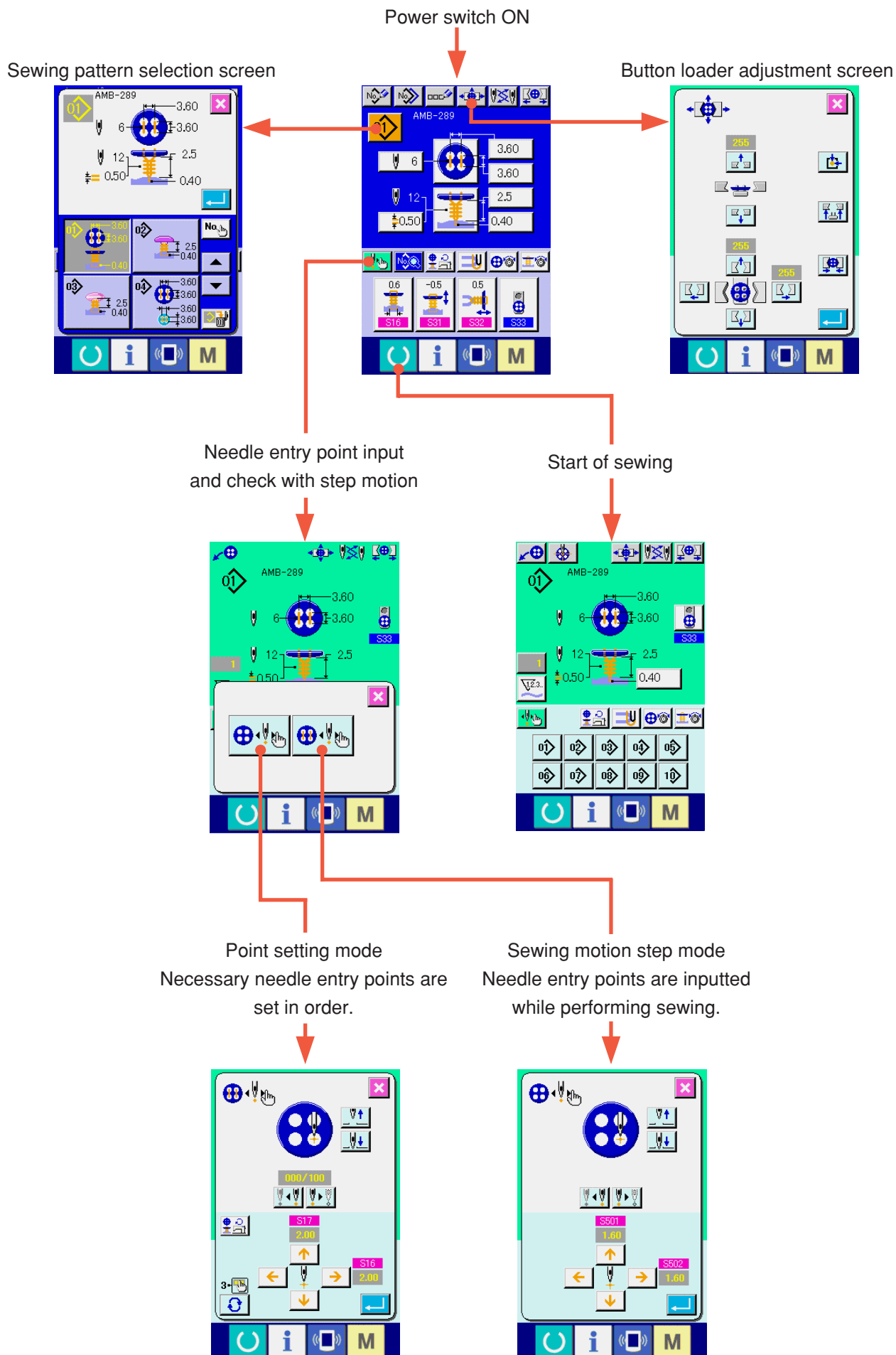


# ***SIMPLIFIED MANUAL***

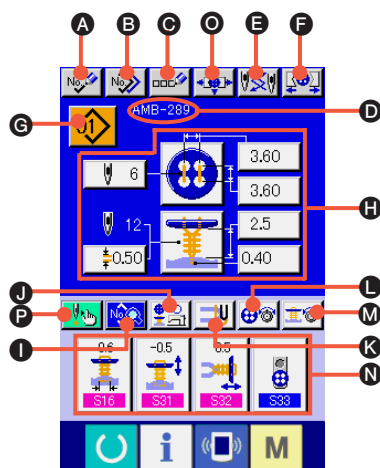


# 1. BASIC OPERATION OF THE SEWING MACHINE



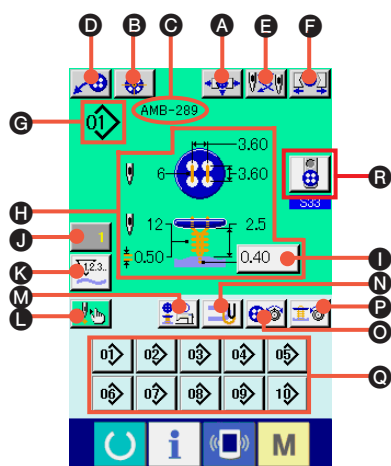
## <Explanation of the display at the time of independent sewing>

### 1) Data input screen



| Symbol   | Display                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b> | PATTERN NEW REGISTER button                 | Pattern No. new register screen is displayed.<br>→ Refer to <b>"21. PERFORMING NEW REGISTER OF SEWING PATTERN"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>B</b> | PATTERN COPY button                         | Sewing pattern copy screen is displayed.<br>→ Refer to <b>"22. COPYING SEWING PATTERN"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>C</b> | PATTERN NAME SETTING button                 | Sewing pattern name input screen is displayed.<br>→ Refer to <b>"5. NAMING THE PATTERN"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>D</b> | PATTERN NAME display                        | Name which has been inputted to the sewing pattern being selected is displayed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>E</b> | NEEDLE CHANGE button                        | This button performs origin retrieval, makes needle come down, and displays the needle change screen.<br>→ Refer to <b>"33. PERFORMING CHANGE OF NEEDLE"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>F</b> | CHUCK CLOSE/OPEN button                     | This button performs close/open of the chuck. Chuck is opened as long as the button is pressed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>G</b> | PATTERN SELECTION button                    | Pattern No. being selected at present is displayed on this button and when the button is pressed, the pattern No. change screen is displayed.<br>→ Refer to <b>"4. PERFORMING PATTERN No. SELECTION"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>H</b> | CONTENTS OF PATTERN display                 | Contents of the pattern which is registered to the pattern No. being selected at present are displayed. The respective display sections consist of buttons and can be changed. The contents of display differ in accordance with the sewing method.<br>* Sewing flat/wrapped-around button with blindstitch<br>→ Refer to <b>"7. PERFORMING DATA SETTING OF SEWING BUTTON WITH BLINDSTITCH (SHANK/MARBLE BUTTON)"</b> and <b>"8. PERFORMING DATA SETTING OF SEWING BUTTON WITH BLINDSTITCH (FLAT BUTTON)"</b> in Operation section of INSTRUCTION MANUAL.<br>* Sewing flat button directly to cloth<br>→ Refer to <b>"9. PERFORMING DATA SETTING OF SEWING FLAT BUTTON DIRECTLY TO CLOTH"</b> in Operation section of INSTRUCTION MANUAL.<br>* Sewing flat button with blindstitch<br>→ Refer to <b>"10. PERFORMING DATA SETTING OF SEWING FLAT BUTTON WITH BLINDSTITCH"</b> in Operation section of INSTRUCTION MANUAL.<br>* Counter/stay button<br>→ Refer to <b>"11. PERFORMING SETTING OF COUNTER/STAY BUTTONS"</b> in Operation section of INSTRUCTION MANUAL.<br>* Neck wrapping sewing<br>→ Refer to <b>"12. PERFORMING DATA SETTING OF NECK WRAPPING SEWING DATA"</b> in Operation section of INSTRUCTION MANUAL. |
| <b>I</b> | SEWING DATA CHANGE button                   | Sewing data list screen is displayed.<br>→ Refer to <b>"20. CHANGING SEWING DATA"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>J</b> | NUMBER OF REVOLUTIONS SETTING button        | Number of revolutions setting screen is displayed. Change of number of revolutions of sewing machine for button sewing and that for neck wrapping can be performed.<br>→ Refer to <b>"15. PERFORMING SETTING NUMBER OF REVOLUTIONS OF SEWING MACHINE"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>K</b> | STAY THREAD SETTING button                  | Stay thread setting screen is displayed. This screen is displayed only in case of sewing flat/wrapped-around button with blindstitch or flat button with blindstitch, and setting of stay thread is possible.<br>→ Refer to <b>"16. PERFORMING SETTING STAY THREAD"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>L</b> | BUTTON SEWING THREAD TENSION SETTING button | Button sewing thread tension setting screen is displayed.<br>→ Refer to <b>"17. PERFORMING INPUT OF BUTTON SEWING THREAD TENSION"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>M</b> | NECK WRAPPING THREAD TENSION SETTING button | Neck wrapping thread tension setting screen is displayed. This screen is displayed only in case of sewing flat/wrapped-around button with blindstitch or neck wrapping sewing.<br>→ Refer to <b>"18. PERFORMING INPUT OF NECK WRAP THREAD TENSION"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>N</b> | CUSTOMIZE button                            | Sewing data which are more frequently used can be laid out to four buttons. When this button is pressed, the laid-out sewing data change screen is displayed.<br>→ Refer to <b>"35. CUSTOMIZING DATA INPUT SCREEN"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>O</b> | CHUCK ADJUSTMENT button                     | Chuck adjustment screen is displayed.<br>→ Refer to <b>"23. PERFORMING CHUCK ADJUSTMENT"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>P</b> | STEP SEWING button                          | When this button is pressed, the step sewing screen which performs input and check of needle entry point is displayed.<br>→ Refer to <b>"25. PERFORMING INPUT AND CHECK OF DATA WITH STEP MOTION"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

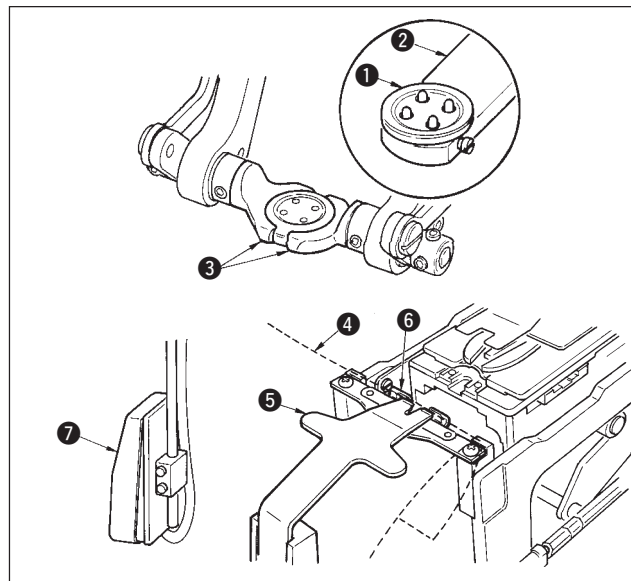
## 2) Sewing screen



| Symbol   | Display                                     | Description                                                                                                                                                                                                                                                                                                         |
|----------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A</b> | CHUCK ADJUSTMENT button                     | Chuck adjustment screen is displayed.<br>→ Refer to <b>"23. PERFORMING CHUCK ADJUSTMENT"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                            |
| <b>B</b> | BUTTON CENTERING button                     | This is not displayed in the initial state.<br>→ Refer to <b>"24. PERFORMING BUTTON CENTERING"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                                      |
| <b>C</b> | PATTERN NAME display                        | Pattern name which is set in the pattern data during sewing is displayed.                                                                                                                                                                                                                                           |
| <b>D</b> | LOADER MOTION button                        | When this button is pressed, loader works and sets button to the chuck.                                                                                                                                                                                                                                             |
| <b>E</b> | NEEDLE CHANGE button                        | This button makes needle come down, and the needle change screen is displayed.<br>→ Refer to <b>"33. PERFORMING CHANGE OF NEEDLE"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                   |
| <b>F</b> | CHUCK CLOSE/OPEN button                     | This button performs close/open of the chuck.<br>Chuck is opened as long as the button is pressed.                                                                                                                                                                                                                  |
| <b>G</b> | PATTERN NO. display                         | Pattern No. during sewing is displayed.                                                                                                                                                                                                                                                                             |
| <b>H</b> | PATTERN CONTENTS display                    | Contents of pattern registered to pattern No. during sewing are displayed. Contents of display depend on the sewing method. Blindstitch amount only can be set in the sewing screen.                                                                                                                                |
| <b>I</b> | BLINDSTITCH AMOUNT SETTING button           | Setting of blindstitch amount is possible.<br>* This is displayed only in case of sewing flat/wrapped-around button with blindstitch or flat button with blindstitch.                                                                                                                                               |
| <b>J</b> | COUNTER VALUE CHANGE button                 | Existing counter value is displayed on this button. When the button is pressed, the counter value change screen is displayed.<br>→ Refer to <b>"31. USING COUNTER"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                  |
| <b>K</b> | COUNTER CHANGE OVER button                  | Display of sewing counter/No. of pcs. counter can be changed over.<br>→ Refer to <b>"31. USING COUNTER"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                                             |
| <b>L</b> | STEP SEWING button                          | When this button is pressed, the step sewing screen which performs input and check of needle entry point is displayed.<br>→ Refer to <b>"25. PERFORMING INPUT AND CHECK OF DATA WITH STEP MOTION"</b> in Operation section of INSTRUCTION MANUAL.                                                                   |
| <b>M</b> | NUMBER OF REVOLUTIONS SETTING button        | Number of revolutions setting screen is displayed. Change of number of revolutions of the sewing machine for button sewing and that for neck wrapping can be performed.<br>→ Refer to <b>"15. PERFORMING SETTING NUMBER OF REVOLUTIONS OF SEWING MACHINE"</b> in Operation section of INSTRUCTION MANUAL.           |
| <b>N</b> | STAY THREAD SETTING button                  | Stay thread setting screen is displayed. This screen is displayed only in case of sewing flat/wrapped-around button with blindstitch or flat button with blindstitch, and setting of stay thread is possible.<br>→ Refer to <b>"16. PERFORMING SETTING STAY THREAD"</b> in Operation section of INSTRUCTION MANUAL. |
| <b>O</b> | BUTTON SEWING THREAD TENSION SETTING button | Button sewing thread tension setting screen is displayed.<br>→ Refer to <b>"17. PERFORMING INPUT OF BUTTON SEWING THREAD TENSION"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                   |
| <b>P</b> | NECK WRAPPING THREAD TENSION SETTING button | Neck wrap thread tension setting screen is displayed. This screen is displayed only in case of sewing flat/wrapped-around button with blindstitch or neck wrapping sewing.<br>→ Refer to <b>"18. PERFORMING INPUT OF NECK WRAP THREAD TENSION"</b> in Operation section of INSTRUCTION MANUAL.                      |
| <b>Q</b> | DIRECT button                               | Pattern No. is changed over to pattern No. which is registered to the button.<br>→ Refer to <b>"36. CUSTOMIZING SEWING SCREEN"</b> in Operation section of INSTRUCTION MANUAL.                                                                                                                                      |
| <b>R</b> | BUTTON LOADER SELECTION button              | Button loader being selected at present is displayed on the button.<br>When the button is pressed, the state of button loader can be changed.                                                                                                                                                                       |

## 2. SETTING PROCEDURE OF SEWING PRODUCT

### <In case of sewing flat/wrapped-around button with blindstitch or sewing flat button with blindstitch>



Set button ① to button loader ② and depress the back part of the pedal to insert the button into button chucks ③. (When the button loader is not used, insert the button by hand since the chuck is opened by depressing the back part of the pedal.)

Set cloth ④ to tongue ⑤ and make it come in contact with tongue stopper ⑥. (Release of the tongue is performed by depressing the back part of the pedal.)

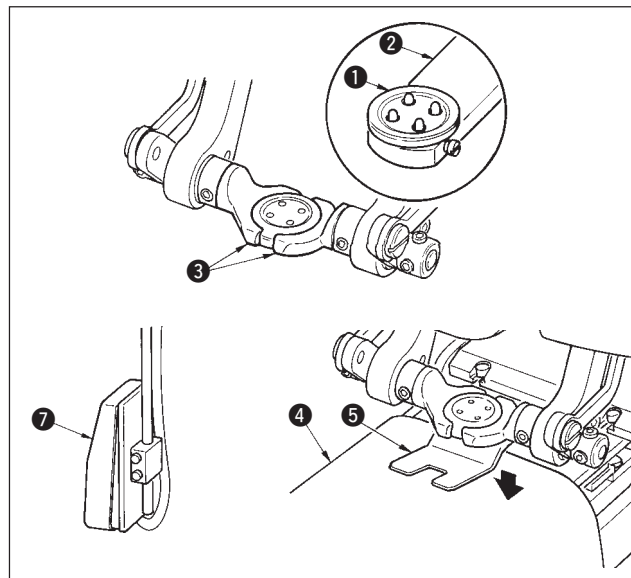
When the front part of the pedal is depressed, the button chuck comes down to the sewing position where the sewing is possible.

\* By setting the pedal motion mode of memory switch data **U01**, the button chuck automatically comes down to the sewing position.

→ For the details of the memory switch data, refer to "[32. \(2\) Memory switch data list](#)" in Operation section of INSTRUCTION MANUAL.

Sewing starts when start switch ⑦ is turned ON.

### <In case of sewing flat button directly to cloth>



Set button ① to button loader ② and depress the back part of the pedal to insert the button into button chucks ③. (When the button loader is not used, insert the button by hand since the chuck is opened by depressing the back part of the pedal.)

Set cloth ④ under the needle, make the tongue come in contact with the tongue stopper, and make cloth presser ⑤ come down by depressing the front part of the pedal to fix the cloth. (By depressing the pedal reversely, the cloth presser is released.)

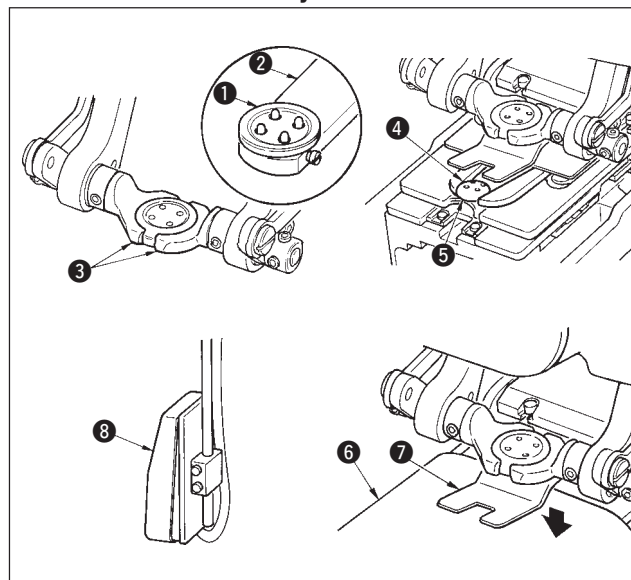
When depressing the front part of the pedal again, the button chuck comes down to the sewing position where the sewing is possible.

\* By setting the pedal motion mode of memory switch data **U01**, the button chuck automatically comes down to the sewing position.

→ For the details of the memory switch data, refer to "[32. \(2\) Memory switch data list](#)" in Operation section of INSTRUCTION MANUAL.

Sewing starts when start switch ⑦ is turned ON.

### <In case of counter/stay button>



Set upper button ① to button loader ② and depress the back part of the pedal to insert the button into button chucks ③. (When the button loader is not used, insert the button by hand since the chuck is opened by depressing the back part of the pedal.)

Insert lower button ④ into button setting section ⑤ of the feed plate.

Set cloth ⑥ under the needle, make the tongue come in contact with the tongue stopper, and make cloth presser ⑦ come down by depressing the front part of the pedal to fix the cloth. (By depressing the pedal reversely, the cloth presser is released.)

When the front part of the pedal is depressed, the button chuck comes down to the sewing position where the sewing is possible.

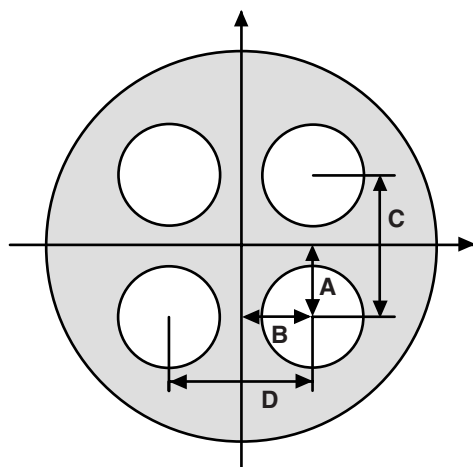
\* By setting the pedal motion mode of memory switch data **U01**, the button chuck automatically comes down to the sewing position.

→ For the details of the memory switch data, refer to "[32. \(2\) Memory switch data list](#)" in Operation section of INSTRUCTION MANUAL.

Sewing starts when start switch ⑧ is turned ON.

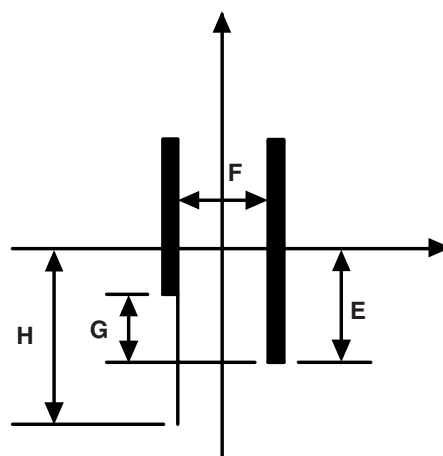
### 3. STITCHING DIAGRAM OF SEWING FLAT/WRAPPED-AROUND BUTTON WITH BLINDSTITCH

Needle entry to button



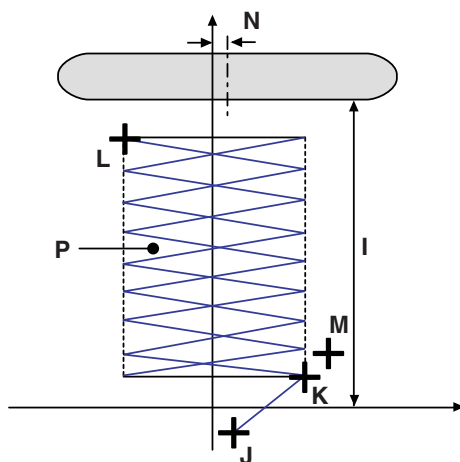
- A **S501** 1st stitch hole position of upper button (longitudinal)
- B **S502** 1st stitch hole position of upper button (lateral)
- C **S08** Upper buttonhole interval (longitudinal)
- D **S09** Upper buttonhole interval (lateral)

Needle entry to cloth



- E **S17** Blindstitch amount
- F **S16** Blindstitch width
- G **S14** Compensation of lower left position of upper button
- H **S57** Amount of stay thread

Needle entry of neck wrapping



- I **S26** Button sewing height (only neck wrapping of sewing flat/wrapped-around button with blindstitch)
- S27** Button sewing height (shank and marble buttons)
- J **S510** **S512** Tie stitch position at the start of sewing of neck wrapping (longitudinal)
- S511** **S513** Tie stitch position at the start of sewing of neck wrapping (lateral)
- K **S518** Start position of neck wrapping
- S516** Stitch width of neck wrapping (right side)
- L **S519** Top position of neck wrapping
- S517** Stitch width of neck wrapping (left side)
- M **S532** Tie stitch position at the end of sewing of neck wrapping (longitudinal)
- S533** Tie stitch position at the end of sewing of neck wrapping (lateral)
- N **S506** Whole compensation of button holding position (lateral)
- P **S113** Neck wrapping pitch



**S501** to **S537** can select the step motion mode  and  only.

## 4. SEWING DATA LIST

Sewing data are those that can be inputted to 99 patterns from pattern 1 to 99 and can be inputted to each pattern. However, the sewing data that can be inputted differ according to the selected sewing method or sewing shape.

| No.        | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Setting range | Edit unit  | Initial display                                                                                                                                                                                                                  | Remarks |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>S01</b> | <b>Sewing method</b><br>This item sets the sewing method.<br> : Sewing flat/wrapped-around button with blindstitch  : Sewing flat button directly to cloth<br> : Sewing flat button with blindstitch  : Neck wrapping  : Counter/stay button sewing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ---           | ---        | <br>Sewing flat/wrapped-around button with blindstitch                                                                                        |         |
| <b>S02</b> | <b>Stitch shape (sewing flat/wrapped-around button with blindstitch)</b><br>This item sets the stitch shape of sewing flat/wrapped-around button with blindstitch.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ---           | ---        | <br>4-holed button without cross-over stitches (longitudinal)                                                                                 |         |
| <b>S03</b> | <b>Stitch shape (sewing flat button directly to cloth)</b><br>This item sets the stitch shape of sewing flat button directly to cloth.<br>     <br>                                                                                                                                                              | ---           | ---        | <br>4-holed button without cross-over stitches (longitudinal)                                                                                 |         |
| <b>S04</b> | <b>Stitch shape (sewing flat button with blindstitch)</b><br>This item sets the stitch shape of sewing flat button with blindstitch.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ---           | ---        | <br>4-holed button without cross-over stitches (longitudinal)                                                                                |         |
| <b>S05</b> | <b>Stitch shape (counter/stay button sewing)</b><br>This item sets the stitch shape of counter/stay button sewing.<br>* Selection of the shape of lower button is performed with  .<br>     <br>      | ---           | ---        | <br>Front : 4- holed button without cross-over stitches (longitudinal)<br>Rear : 4- holed button without cross-over stitches (longitudinal) |         |
| <b>S08</b> | <b>Upper buttonhole interval (longitudinal)</b><br>This item sets the needle entry interval of top feed.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.10 to 6.00  | 0.05mm     | 3.60                                                                                                                                                                                                                             |         |
| <b>S09</b> | <b>Upper buttonhole interval (lateral)</b><br>This item sets the needle entry interval of top feed.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.10 to 6.00  | 0.05mm     | 3.60                                                                                                                                                                                                                             |         |
| <b>S10</b> | <b>Needle entry interval of bottom feed (longitudinal)</b><br>This item sets the needle entry interval of bottom feed.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.10 to 6.00  | 0.05mm     | 3.60                                                                                                                                                                                                                             |         |
| <b>S11</b> | <b>Needle entry interval of bottom feed (lateral)</b><br>This item sets the needle entry interval of bottom feed.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.10 to 6.00  | 0.05mm     | 3.60                                                                                                                                                                                                                             |         |
| <b>S12</b> | <b>Number of stitches for button sewing</b><br>This item sets the number of stitches for button sewing.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2 to 32       | 2 stitches | 6                                                                                                                                                                                                                                |         |
| <b>S13</b> | <b>Number of stitches at the start of button sewing (1 to 3 stitches)</b><br>This item sets the number of stitches at the start of button sewing.<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1 to 3        | 1stich     | 1                                                                                                                                                                                                                                |         |

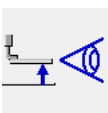
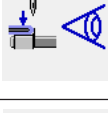
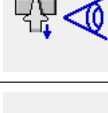
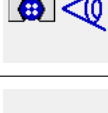
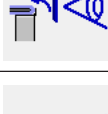
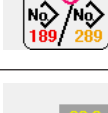
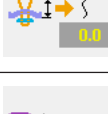
| No. | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Setting range | Edit unit | Initial display                                                                                         | Remarks |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|---------------------------------------------------------------------------------------------------------|---------|
| S14 | <b>Compensation of lower left position of upper button</b><br>This item is set when cloth is pulled and the amount of blindstitch on the left side is different from that on the right side.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -1.00 to 1.00 | 0.05mm    | 0                                                                                                       |         |
| S15 | <b>Compensation of 3rd stitch at the start of sewing</b><br>This item compensates the position of 3rd stitch at the start of sewing to prevent thread from slipping off at the start of button sewing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0 to 0.5      | 0.05mm    | 0                                                                                                       |         |
| S16 | <b>Blindstitch width</b><br>This item has to be set within the range where needle and tongue do not come in contact with each other.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.0 to K05    | 0.2mm     | 0.6                                                                                                     | *1      |
| S17 | <b>Blindstitch amount</b><br>This item sets the blindstitch amount to cloth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -1.00 to 5.00 | 0.05mm    | 0.40                                                                                                    |         |
| S18 | <b>Buttonhole height of shank/marble button sewing (Height from the feed plate)</b><br>This item is set to prevent the contact of needle and buttonhole.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.0 to 10.0   | 0.1mm     | 3.0                                                                                                     |         |
| S21 | <b>Thinning level of the stay button</b><br>This item decreases the number of cross-over stitches of the lower side button at the time of stay button sewing. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  : Without thinning         </div> <div style="text-align: center;">  : Thinning level 1         </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  : Thinning level 2         </div> <div style="text-align: center;">  : Thinning level 3         </div> </div> | ---           | ---       | <br>Without thinning |         |
| S22 | <b>Lateral compensation of needle entry of lower button at the time of sewing counter button (front : 4 holes, rear : 2 holes)</b><br>Perform compensation to such an extent that needle does not come in contact with buttonhole within the range of lower buttonhole.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0 to 0.30     | 0.05mm    | 0                                                                                                       |         |
| S24 | <b>Number of stitches of tie stitch at the end of sewing flat button directly to cloth.</b><br>This item sets the number of stitches of tie stitch at the end of sewing flat button directly to cloth.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2 to 3        | 1 stitch  | 2                                                                                                       |         |
| S25 | <b>Number of stitches of tie stitch at the end of counter sewing</b><br>This item sets the number of stitches of tie stitch at the end of counter sewing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1 to 3        | 1 stitch  | 2                                                                                                       |         |
| S26 | <b>Button sewing height (only neck wrapping of sewing flat/wrapped-around button with blindstitch)</b><br>This item sets the button holding height (finished height) in the neck wrapping process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.5 to 15.0   | 0.1mm     | 2.5                                                                                                     |         |
| S27 | <b>Button height (shank/marble)</b><br>This item sets the button holding height (finished height) in the neck wrapping process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 to 15.0     | 0.1mm     | 4.0                                                                                                     |         |
| S28 | <b>Button height (counter button)</b><br>This item sets the button holding height (finished height) in the button sewing process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0 to 20.0     | 0.1mm     | 6.0                                                                                                     |         |
| S29 | <b>Number of stitches at the start of sewing of neck wrapping</b><br>This item sets the number of stitches at the start of sewing of neck wrapping.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 to 3        | 1 stitch  | 2                                                                                                       |         |
| S30 | <b>Number of stitches of tie stitch at the end of sewing of neck wrapping</b><br>This item sets the number of stitches of tie stitch at the end of sewing in the neck wrapping process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2 to 3        | 1 stitch  | 2                                                                                                       |         |
| S31 | <b>Compensation of the button holding height at the time of sewing flat/wrapped-around button with blindstitch</b><br>This item sets when compensating the button holding height in the button sewing process and desiring to give slackness between button and neck wrapping section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -5.0 to 5.0   | 0.1mm     | -0.5                                                                                                    |         |
| S32 | <b>Thread release compensation</b><br>This item is the compensation value of the button holding height in the button sewing process. Sewing is performed in the neck wrapping process by gradually returning the compensation value to the former one. This item is set when desiring to tightly wrap up to the root of the button.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -5.0 to 5.0   | 0.1mm     | 0.5                                                                                                     |         |

\* 1 The maximum value of the range of data editing depends on the setting of K05.

| No.  | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Setting range  | Edit unit | Initial display                                                                                                    | Remarks |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|--------------------------------------------------------------------------------------------------------------------|---------|
| S33  | <b>Button loader selection</b><br><In case of shank/marble button><br> : Loader OFF  : Loader ON<br><br><In case of normal button><br> : Loader OFF   : Loader ON                                                       | ---            | ---       | <br>Loader used<br>(Front side) |         |
| S34  | <b>Number of times of wrapping</b><br>This item sets the number of times of thread wrapping sewing in the neck wrapping process.                                                                                                                                                                                                                                                                                                                                                                                                                            | 0 to 5         | 1 time    | 0                                                                                                                  |         |
| S35  | <b>Number of stitches of thread air-blow</b><br>This item sets the number of stitches of thread air-blow in the neck wrapping process.                                                                                                                                                                                                                                                                                                                                                                                                                      | 0 to 20        | 1 stitch  | 6                                                                                                                  |         |
| S36  | <b>Compensation of button height in the neck wrapping process</b><br>This item compensates the button holding height in the neck wrapping process and adjusts the wrapped condition.                                                                                                                                                                                                                                                                                                                                                                        | -5.0 to 5.0    | 0.1mm     | 0                                                                                                                  |         |
| S37  | <b>Button positioning motion With/without</b><br> : With  : Without<br>This item sets whether the compensation motion of button positioning is performed at the time of operation by operator before driving the sewing machine. It is convenient to use this item when sewing buttons which are uneven in shape.<br>* Compensation value which has been set here is applied to one button sewing only and the compensation value returns to 0 after completion of sewing. | ---            | ---       | <br>Without                     |         |
| S38  | <b>Needle height at the time of button positioning</b><br>This item sets the angle which automatically lowers needle at the time of button positioning motion.<br>Set the angle which is easy to perform positioning according to kinds of buttons, neck wrapping height, etc.                                                                                                                                                                                                                                                                            | 0 to 130       | 1°        | 80                                                                                                                 |         |
| S39  | <b>Thread drawing motor start position in the button sewing process</b><br>This item sets the thread slack amount at the start of sewing to stabilize thread remaining amount at the start of sewing.                                                                                                                                                                                                                                                                                                                                                     | 0 to 100       | 1 pulse   | 30                                                                                                                 |         |
| S40  | <b>Number of stitches to start thread drawing motor operation in the button sewing process</b><br>This item sets number of stitches to hold the thread slack amount set in No. S39.                                                                                                                                                                                                                                                                                                                                                                       | 1 to 2         | 1 stitch  | 1                                                                                                                  |         |
| S41  | <b>Compensation of tension timing on cloth side and rear side in the button sewing process</b><br>This item changes the tension changeover timing at the needle entry on cloth side and rear side, and shifts the knotting position.                                                                                                                                                                                                                                                                                                                      | -90 to 90      | 1°        | 0                                                                                                                  |         |
| S501 | <b>1st stitch hole position of upper button (longitudinal)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -2.00 to 4.00  | 0.05      | 1.80                                                                                                               |         |
| S502 | <b>1st stitch hole position of upper button (lateral)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -2.00 to 4.00  | 0.05      | 1.80                                                                                                               |         |
| S504 | <b>1st stitch hole position of lower button (longitudinal)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -13.00 to 4.00 | 0.05      | 1.80                                                                                                               |         |
| S505 | <b>1st stitch hole position of lower button (lateral)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -2.00 to 4.00  | 0.05      | 1.80                                                                                                               |         |
| S506 | <b>Whole compensation of button holding position (lateral)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -3.0 to 3.0    | 0.1       | 0                                                                                                                  |         |
| S508 | <b>Compensation of shank/marble blindstitch position (left)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -2.0 to 2.0    | 0.1       | 0                                                                                                                  |         |
| S509 | <b>Hole position of shank/marble button</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -5.0 to 5.0    | 0.1       | 0.3                                                                                                                |         |
| S510 | <b>Tie stitch position of 1st stitch at the start of sewing of neck wrapping (longitudinal)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | -4.0 to 4.0    | 0.1       | 0                                                                                                                  |         |

| No.  | Item                                                                                                | Setting range | Edit unit | Initial display | Remarks |
|------|-----------------------------------------------------------------------------------------------------|---------------|-----------|-----------------|---------|
| S511 | Tie stitch position of 1st stitch at the start of sewing of neck wrapping (lateral)                 | -4.0 to 4.0   | 0.1       | -0.3            |         |
| S512 | Tie stitch position of 2nd stitch at the start of sewing of neck wrapping (longitudinal)            | -4.0 to 4.0   | 0.1       | 1.0             |         |
| S513 | Tie stitch position of 2nd stitch at the start of sewing of neck wrapping (lateral)                 | -4.0 to 4.0   | 0.1       | 0.3             |         |
| S516 | Stitch width of neck wrapping (right side)                                                          | 0 to 5.0      | 0.1       | 3.0             |         |
| S517 | Stitch width of neck wrapping (left side)                                                           | 0 to 5.0      | 0.1       | 3.0             |         |
| S518 | Start position of neck wrapping                                                                     | -1.0 to 3.0   | 0.1       | 0               |         |
| S519 | Top position of neck wrapping                                                                       | -1.0 to 5.0   | 0.1       | 0               |         |
| S520 | 1st stitch of first compensation of tie stitch position at the end of button sewing (longitudinal)  | -1.0 to 1.0   | 0.1       | 0               |         |
| S521 | 1st stitch of first compensation of tie stitch position at the end of button sewing (lateral)       | -1.0 to 1.0   | 0.1       | 1.2             |         |
| S522 | 2nd stitch of first compensation of tie stitch position at the end of button sewing (longitudinal)  | -1.0 to 1.0   | 0.1       | 3.0             |         |
| S523 | 2nd stitch of first compensation of tie stitch position at the end of button sewing (lateral)       | -1.0 to 1.0   | 0.1       | -1.0            |         |
| S524 | 3rd stitch of first compensation of tie stitch position at the end of button sewing (longitudinal)  | -1.0 to 1.0   | 0.1       | -0.5            |         |
| S525 | 3rd stitch of first compensation of tie stitch position at the end of button sewing (lateral)       | -1.0 to 1.0   | 0.1       | 0.3             |         |
| S526 | 1st stitch of second compensation of tie stitch position at the end of button sewing (longitudinal) | -1.0 to 1.0   | 0.1       | 0.3             |         |
| S527 | 1st stitch of second compensation of tie stitch position at the end of button sewing (lateral)      | -1.0 to 1.0   | 0.1       | 1.0             |         |
| S528 | 2nd stitch of second compensation of tie stitch position at the end of button sewing (longitudinal) | -1.0 to 1.0   | 0.1       | 0.5             |         |
| S529 | 2nd stitch of second compensation of tie stitch position at the end of button sewing (lateral)      | -1.0 to 1.0   | 0.1       | 0               |         |
| S530 | 3rd stitch of second compensation of tie stitch position at the end of button sewing (longitudinal) | -1.0 to 1.0   | 0.1       | 0               |         |
| S531 | 3rd stitch of second compensation of tie stitch position at the end of button sewing (lateral)      | -1.0 to 1.0   | 0.1       | 0               |         |
| S532 | Tie stitch position at the end of sewing of neck wrapping (longitudinal)                            | -4.0 to 4.0   | 0.1       | 0               |         |
| S533 | Tie stitch position at the end of sewing of neck wrapping (lateral)                                 | -4.0 to 4.0   | 0.1       | 0               |         |
| S534 | Longitudinal position of thread trimming of button sewing                                           | -4.0 to 8.0   | 0.1       | 0               |         |
| S535 | Longitudinal position of thread trimming of neck wrapping sewing                                    | -4.0 to 8.0   | 0.1       | 0               |         |
| S536 | Blindstitch width of shank/marble (right)                                                           | -2.0 to 5.0   | 0.1       | 0               |         |
| S537 | Blindstitch width of shank/marble (left)                                                            | -2.0 to 5.0   | 0.1       | 0               |         |

## 5. ERROR CODE LIST

| Error code | Pictograph                                                                          | Description of error                                                                                                                                                                                               | How to recover                | Place of recovery |
|------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------|
| E023       |    | <b>Detection of step-out of presser lifting motor error</b><br>This error occurs when step-out of presser lifting motor is detected. Check whether the mechanical load is heavy.                                   | Possible to recover by reset. | Data input screen |
| E031       |    | <b>Air pressure drop</b><br>Check whether the air pressure dropped.                                                                                                                                                | Possible to recover by reset. | Data input screen |
| E050       |    | <b>Stop switch</b><br>This error occurs when stop switch is pressed.                                                                                                                                               | Possible to recover by reset. | Data input screen |
| E099       |    | <b>Button loader motor step-out detection error</b><br>This error occurs when step-out of button loader motor is detected.                                                                                         | Possible to recover by reset. | Data input screen |
| E302       |    | <b>Confirmation of tilt of machine head</b><br>Check whether tilt of machine head sensor is OFF.                                                                                                                   | Possible to recover by reset. | Data input screen |
| E394       |   | <b>Feed plate lowering sensor undone error</b><br>This error occurs when feed plate lowering sensor fails to work during sewing machine operation. Check whether a button or the like is put under the feed plate. | Possible to recover by reset. | Data input screen |
| E395       |  | <b>Feed plate lifting sensor undone error</b><br>This error occurs when feed plate lifting sensor fails to work during sewing machine operation.                                                                   | Possible to recover by reset. | Data input screen |
| E396       |  | <b>Tongue close/open sensor undone error</b><br>This error occurs when sensor is not ON or OFF at the time of tongue close/open operation.                                                                         | Possible to recover by reset. | Data input screen |
| E397       |  | <b>Chuck close/open sensor undone error</b><br>This error occurs when a button is not in the chuck at the time of sewing machine operation.                                                                        | Possible to recover by reset. | Data input screen |
| E398       |  | <b>Chuck level sensor undone error</b><br>This error occurs when sensor fails to work at the time of chuck level operation. Perform confirmation of the sensor position.                                           | Possible to recover by reset. | Data input screen |
| E399       |  | <b>Chuck inversion sensor undone error</b><br>This error occurs when sensor fails to work at the time of chuck inversion operation. Perform confirmation of the sensor position.                                   | Possible to recover by reset. | Data input screen |
| E497       |  | <b>Tongue type error</b><br>This error occurs when "AMB289" type tongue and "AMB189" type one are mixedly used in the cycle data. Change the cycle data.                                                           | Possible to recover by reset. | Data input screen |
| E498       |  | <b>Button holding height over at the time of sewing</b><br>This error occurs when button holding height (22.0 mm) is over and sewing cannot be performed at the time of button sewing. Change the sewing data.     | Possible to recover by reset. | Data input screen |
| E499       |  | <b>Y feed motor move limit value over</b><br>This error occurs when input data of the button height of shank/marble sewing exceeded the maximum (15 mm) of Y feed move amount. Change the sewing data.             | Possible to recover by reset. | Data input screen |

\* For errors other than these errors, refer to the Instruction Manual.

