4.2 Setting screens

To enter each setting screen, press [MAN.] key on the MAIN SCREEN.
The setting screens are constructed shown below.

- [FWD PAGE] key: Pressing the key displays "2nd page of the setting screen".
- [REV PAGE] key: Pressing the key displays "1st page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

1st page of the setting screen

WAFER SIZE	CASS. MODE	T/DATA	START
WAFER TYPE	LAMP TIME	TOTAL TIMER	STOP / AUTO / MAN.
UV, N2 SELECT	T3 ALI. SELECT		RESET / ESC
		FWD PAGE	BUZZER STOP

2nd page of the setting screen

ALIGNER	3-TIMES APPLY	APPLY DOWN	START
T/1, 2 SELECT	T/3 SELECT	REPEEL SELECT	STOP / AUTO / MAN.
PAD UP TIMER	TABLE BLOW	IRRA., N2 TIMER	RESET / ESC
REV PAGE	TBL. PAD SELECT	ROB. VAC. SELECT	BUZZER STOP

4.2 Setting screens (Continued)

ALIGNER
<SCREEN FOR ALIGNER>
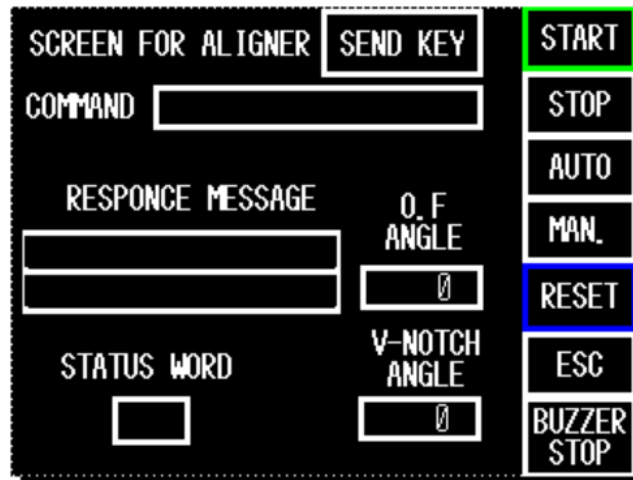
The screen is used to operation individually for maintenance of the aligner.

- [SEND KEY]:   Pressing the key sends the entered command to the aligner.
- COMMAND: Input the command to operate the aligner.
                                      Refer to 5.2 Manual operations for the aligner for further information.
- RESPONSE MESSAGE: Shows the details of "BYTE3" of the status word.
- STATUS WORD: Shows the current status of the aligner with signal of 4-digit.
- O.F ANGLE: Shows the OF wafer angle after the alignment has finished.
- V-NOTCH ANGLE: Shows the Notch wafer angle after the alignment has finished.
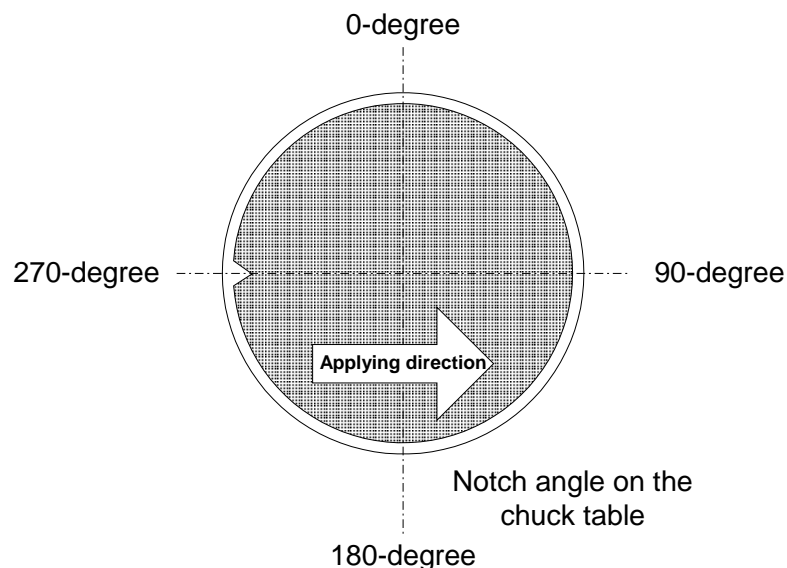
<Setting method>
(1) Press the display of "COMMAND". The keyboard is indicated.
(2) Enter the number and press [ENT] key. The value is input.
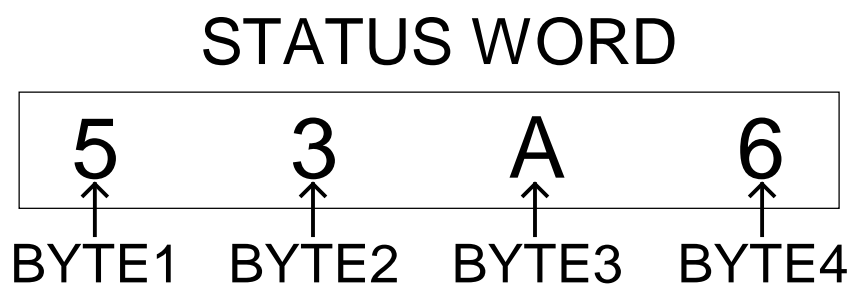*Refer to 4-2-5 for the detail of the command.

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

Input value = 5725 – (6000 / 360 x the angle on the table)

4.2 Setting screens (Continued)

Display of "STATUS WORD"

STATUS WORD

5	3	A	6
↑	↑	↑	↑
BYTE1	BYTE2	BYTE3	BYTE4

Details of BYTE1				
	Self-test	Vacuum switch	Pad position	Ready / Operating
0	OK	OFF	Not at the reference position	Ready
1	Error	OFF	Ditto	Ditto
2	OK	ON	Ditto	Ditto
3	Error	ON	Ditto	Ditto
4	OK	OFF	At the reference position	Ditto
5	Error	OFF	Ditto	Ditto
6	OK	ON	Ditto	Ditto
7	Error	ON	Ditto	Ditto
8	OK	OFF	Not at the reference position	Operating
9	Error	OFF	Ditto	Ditto
A	OK	ON	Ditto	Ditto
B	Error	ON	Ditto	Ditto
C	OK	OFF	At the reference position	Ditto
D	Error	OFF	Ditto	Ditto
E	OK	ON	Ditto	Ditto
F	Error	ON	Ditto	Ditto

Details of BYTE2		
	Detect mode	Recognize the command
0	Notch detect	Recognized
1	OF detect	Ditto
2	Notch detect	Ditto
3	OF detect	Ditto
4	Notch detect	Not recognized
5	OF detect	Ditto
6	Notch detect	Ditto
7	OF detect	Ditto

4.2 Setting screens (Continued)

Details of BYTE3	
0	No error
1	CCD reading error
2	CCD out of the range
3	-
4	-
5	Motor board time out
6	-
7	-
8	Vacuum sensor error
9	-
A	Aligner data error
B	Aligner X-axis reset error
C	Aligner Y-axis reset error
The detail of BYTE4	
3	Wafer diameter 3-inch
4	Wafer diameter 4-inch
5	Wafer diameter 5-inch
6	Wafer diameter 6-inch
8	Wafer diameter 8-inch

<Example>

STATUS WORD

5	3	A	6

→ Wafer diameter 6-inch

→ Reset failure

→ OF detect, Diagnostic mode, Recognized

→ Self-test: Error
Vacuum switch: OFF
Pad position: At the reference position
Ready
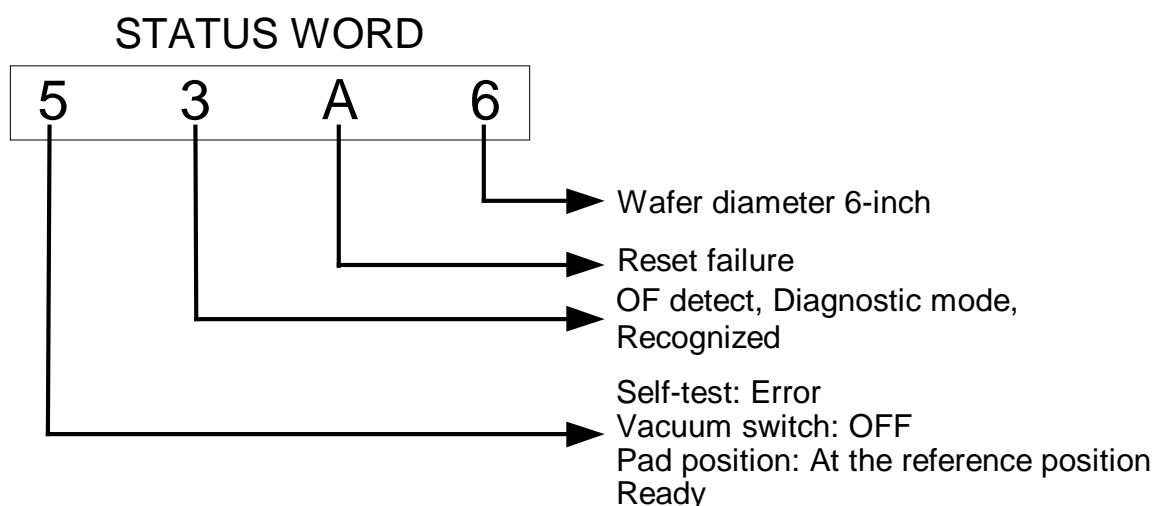
4.2 Setting screens (Continued)

Command type:

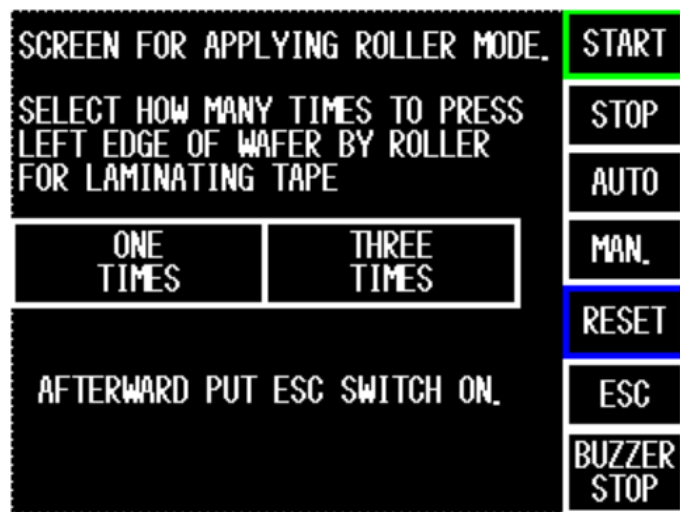|	
BW:	Switches to the alignment operation for T3. Only the wafer centering is performed without V-notch detection.
FW <offset>:	Aligns the wafer at an offset angle you input. (The offset angle is 0-degree if the value is not input)
GW:	The offset angle ("SR" command) is read from the battery backup RAM, and aligns the wafer.
RC:	The vacuum pad is moved to the reference position.
RS:	Reset the aligner.
RX <step>:	Moves X-axis direction by an increment of the step.
RY <step>:	Moves Y-axis direction by an increment of the step.
RW <step>:	Turns the pad by an increment of the step.
SF:	Sets the OF detect mode.
SN:	Sets the Notch detect mode.
SR<Offset>:	It is used with GW command. Inputs the previous offset angle to the battery backup RAM.
SX:	Change the CCD unit size. (Enter the wafer size to "X")
VN:	Turns on vacuum.
VF:	Turns off vacuum.

CCD correction
CB:	Corrects the CCD

* Described "Command <step / setting value>" is requires to input the value in <> when you input the value.

4.2 Setting screens (Continued)

3-TIMES APPLY
<SCREEN FOR APPLYING ROLLER MODE>

```
┌──────────────────────────────────┬─────────┐
│ SCREEN FOR APPLYING ROLLER MODE.  │  START  │
│                                   ├─────────┤
│ SELECT HOW MANY TIMES TO PRESS    │  STOP   │
│ LEFT EDGE OF WAFER BY ROLLER      ├─────────┤
│ FOR LAMINATING TAPE               │  AUTO   │
│                                   ├─────────┤
│     ONE       │    THREE          │  MAN.   │
│     TIMES     │    TIMES          ├─────────┤
│                                   │  RESET  │
│                                   ├─────────┤
│   AFTERWARD PUT ESC SWITCH ON.    │  ESC    │
│                                   ├─────────┤
│                                   │ BUZZER  │
│                                   │ STOP    │
└──────────────────────────────────┴─────────┘
```
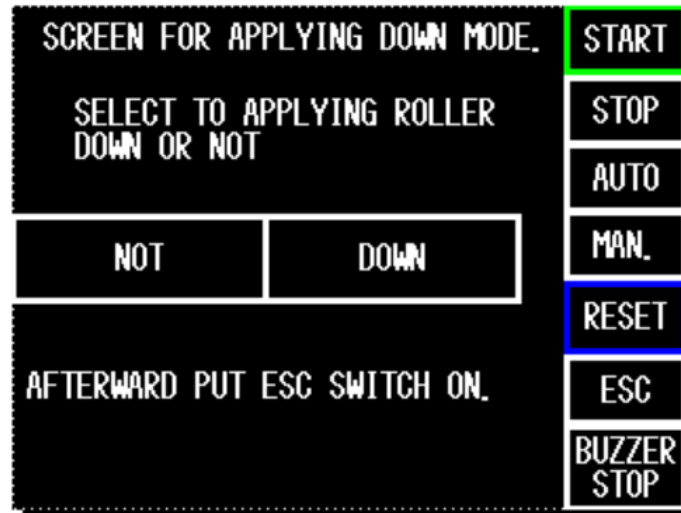
You can select the applying roller mode to peel the BG tape easier on the screen. The applying roller pressures the wafer left edge 1 or 3 times.
The selected item lights up green.

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
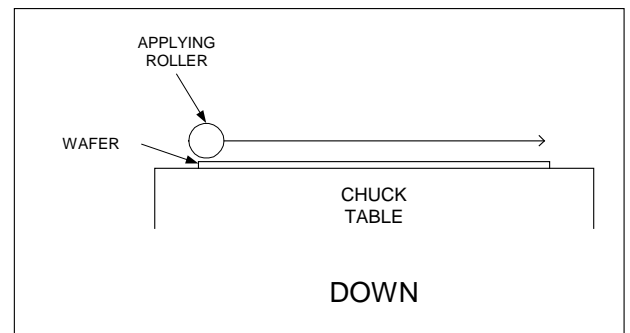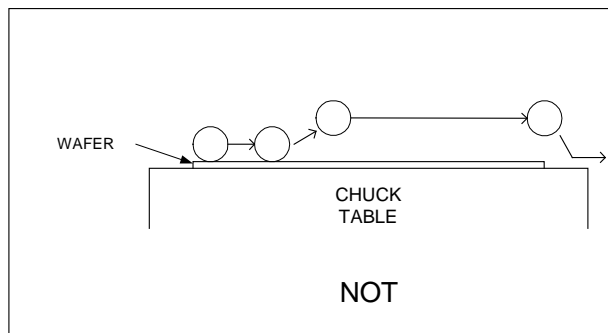- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

APPLY DOWN
<SCREEN FOR APPLYING DOWN MODE>

```
┌─────────────────────────────────┬────────┐
│ SCREEN FOR APPLYING DOWN MODE.   │ START  │
│                                  ├────────┤
│    SELECT TO APPLYING ROLLER     │ STOP   │
│    DOWN OR NOT                    ├────────┤
│                                  │ AUTO   │
│                                  ├────────┤
│                                  │ MAN.   │
│  ┌──────────────┬──────────────┐ ├────────┤
│  │    NOT       │    DOWN      │ │ RESET  │
│  └──────────────┴──────────────┘ ├────────┤
│                                  │ ESC    │
│  AFTERWARD PUT ESC SWITCH ON.    ├────────┤
│                                  │ BUZZER │
│                                  │ STOP   │
└─────────────────────────────────┴────────┘
```

You can select the applying roller movement shown below figure.
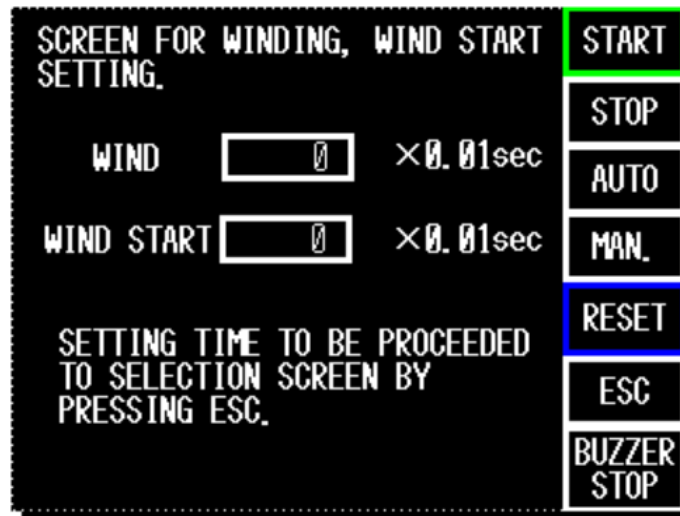The selected item lights up green.

NOT

DOWN

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

T/1, 2 SELECT
WIND TIME
<SCREEN FOR WINDING, WIND START SETTING>

The setting screens for T1, T2 are different from T3.

You can set the peeling tape winding time and wind start time for T1 and T2.

- WIND: The timer to send the peeled tape to the detect position of the peel detect sensor. (Fig. 1)
(The time the peeling roller (lower) turns after the peeling unit has reached the right end peeling the BG tape)
The sensor cannot detect whether the BG tape peeled correctly or not if "WIND" is not appropriate. (Fig. 2)
In case of the fig. 2, the machine judges the BG tape has not peeled and error occurs.

Fig.1

Fig. 2

4.2 Setting screens (Continued)

- WIND START: The time that after the peeling unit starts moving to the arrow direction (Fig. 1) until the peeling roller (Lower) starts turning.
Input "0" in general use.
If other values are input to "WIND START", the BG tape has sag on the left side of the extension roller as shown Fig.2.
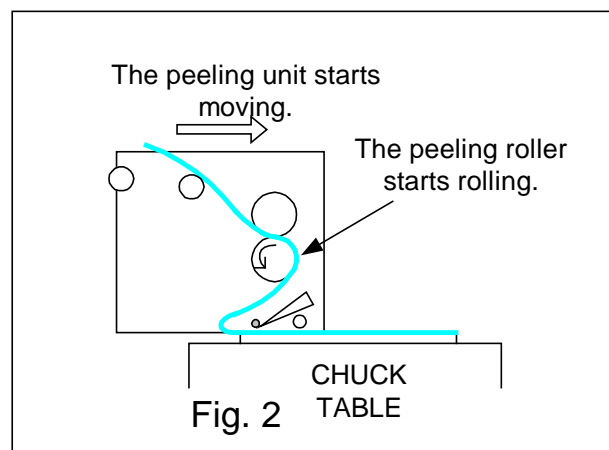
The peeling unit starts moving.

PEELING UNIT

CHUCK TABLE

Fig. 1

The peeling unit starts moving.

The peeling roller starts rolling.

CHUCK TABLE

Fig. 2

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "T/1, 2 SELECT SCREEN".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

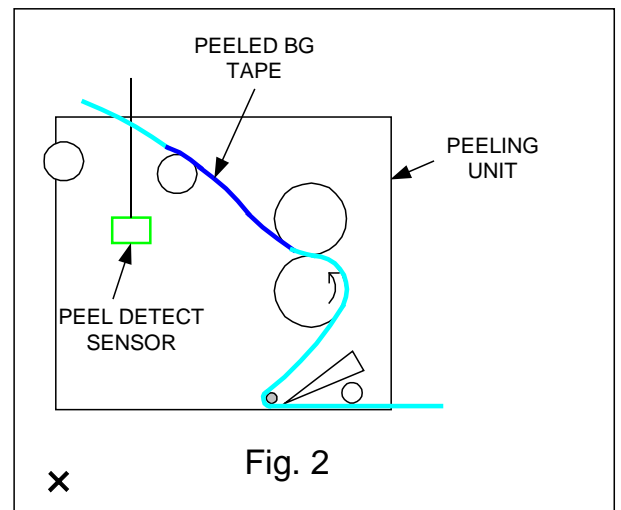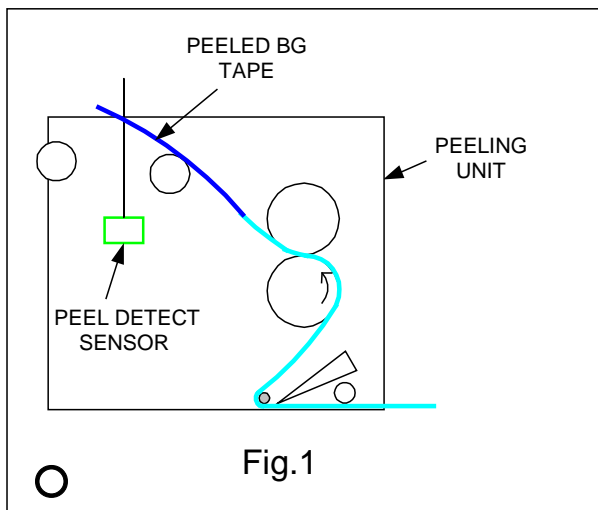## 4.2 Setting screens (Continued)

T/1, 2 SELECT
REWIND TIME
<SCREEN FOR REWIND TIMER SETTING>

```
┌────────────────────────────────────┬─────────┐
│ SCREEN FOR REWIND TIMER SETTING     │  START  │
│                                     ├─────────┤
│    5INCH    [    0 ] ×0.01sec       │  STOP   │
│                                     ├─────────┤
│    6INCH    [    0 ] ×0.01sec       │  AUTO   │
│                                     ├─────────┤
│                                     │  MAN.   │
│    8INCH    [    0 ] ×0.01sec       ├─────────┤
│                                     │  RESET  │
│    SETTING TIME TO BE PROCEEDED     ├─────────┤
│    TO SELECTION SCREEN BY           │  ESC    │
│    PRESSING ESC.                    ├─────────┤
│                                     │ BUZZER  │
│                                     │  STOP   │
└────────────────────────────────────┴─────────┘
```
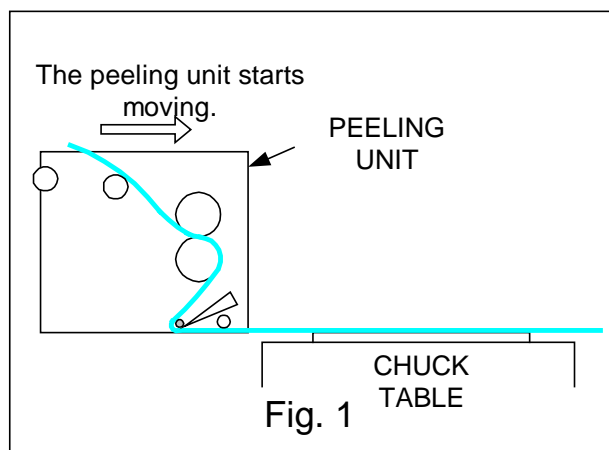
The setting screens for T1, T2 are different from T3.

You can set the timer to adjust the tape pitch on the screen for T1 and T2.

REWIND TIMER is the time to that the peeling roller (Lower) turns clockwise to rewind the tape at the process the peeling unit moves left from the right end.

Adjust the value the tape pitch is 30 +/- 10mm.

To decrease the pitch, increase the time.

To increase the pitch, decrease the time.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
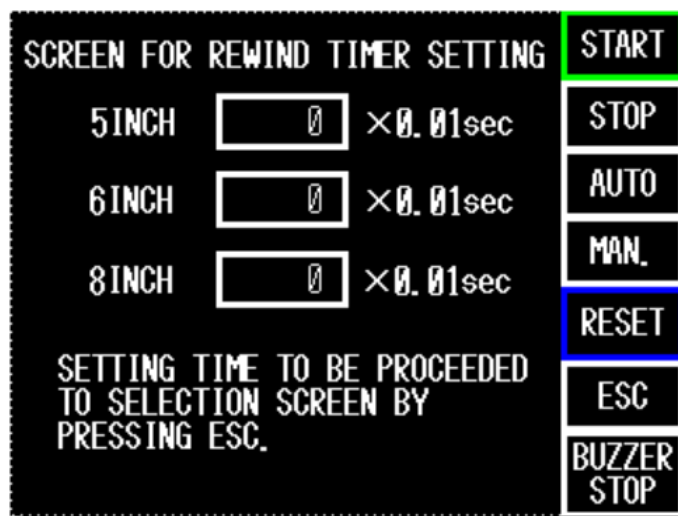(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "T/1, 2 SELECT SCREEN".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

T/3 SELECT
WIND TIME
<SCREEN FOR T/3 WINDING SETTING>

The setting screens for T1, T2 are different from T3.

You can set the peeling tape winding time and wind start time for T3.

Refer to the T/1, 2 SELECT for more information.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "T/3 SELECT SCREEN".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)
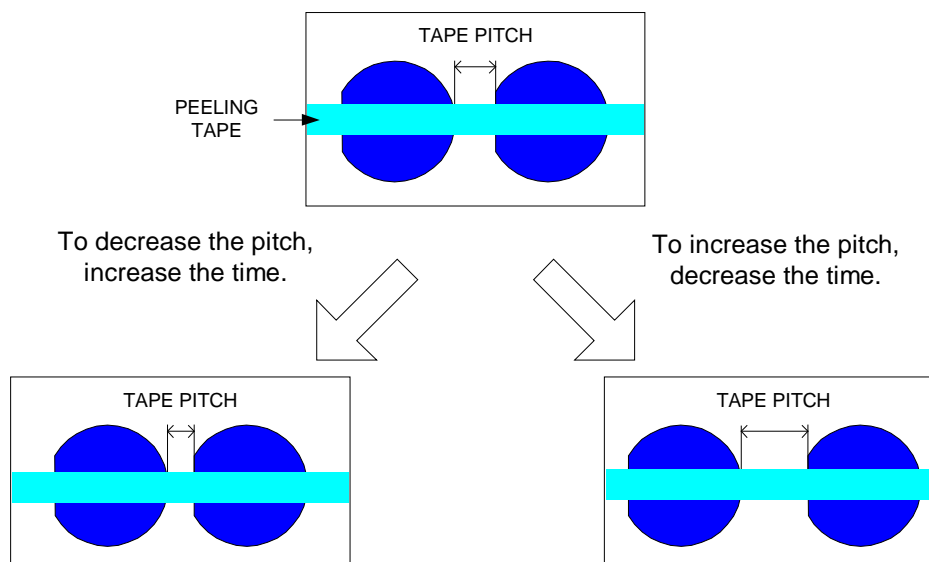
T/3 SELECT
REWIND TIME
<SCREEN FOR T/3 WIND TIMER SETTING>

```
┌─────────────────────────────────┬────────┐
│ SCREEN FOR T/3 REWIND           │ START  │
│ TIMER SETTING                   ├────────┤
│                                 │ STOP   │
│   5INCH    [    0 ] ×0.01sec    ├────────┤
│                                 │ AUTO   │
│   6INCH    [    0 ] ×0.01sec    ├────────┤
│                                 │ MAN.   │
│   8INCH    [    0 ] ×0.01sec    ├────────┤
│                                 │ RESET  │
│   SETTING TIME TO BE PROCEEDED  ├────────┤
│   TO SELECTION SCREEN BY        │ ESC    │
│   PRESSING ESC.                 ├────────┤
│                                 │ BUZZER │
│                                 │ STOP   │
└─────────────────────────────────┴────────┘
```

The setting screens for T1, T2 are different from T3 .

You can set the timer to adjust the tape pitch on the screen for T3.

Refer to the T/1, 2 SELECT for more information.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
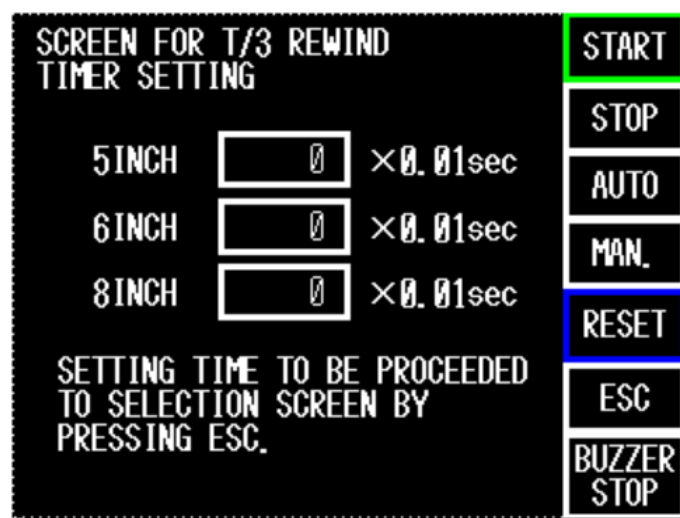(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "T/3 SELECT SCREEN".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

T/3 SELECT
PEELING BAR UP TIME
<SCREEN FOR T/3 PEELING BAR UP TIMER SETTING>

```
┌─────────────────────────────┬────────┐
│ SCREEN FOR T/3 PEELING       │ START  │
│ BAR UP TIMER SETTING         ├────────┤
│                              │ STOP   │
│  5INCH  ┌──────┐  ×0.01sec   ├────────┤
│         │    0 │             │ AUTO   │
│                              ├────────┤
│  6INCH  ┌──────┐  ×0.01sec   │ MAN.   │
│         │    0 │             ├────────┤
│                              │ RESET  │
│  8INCH  ┌──────┐  ×0.01sec   ├────────┤
│         │    0 │             │ ESC    │
│                              ├────────┤
│ SETTING TIME TO BE PROCEEDED │ BUZZER │
│ TO SELECTION SCREEN BY       │ STOP   │
│ PRESSING ESC.                │        │
└─────────────────────────────┴────────┘
```

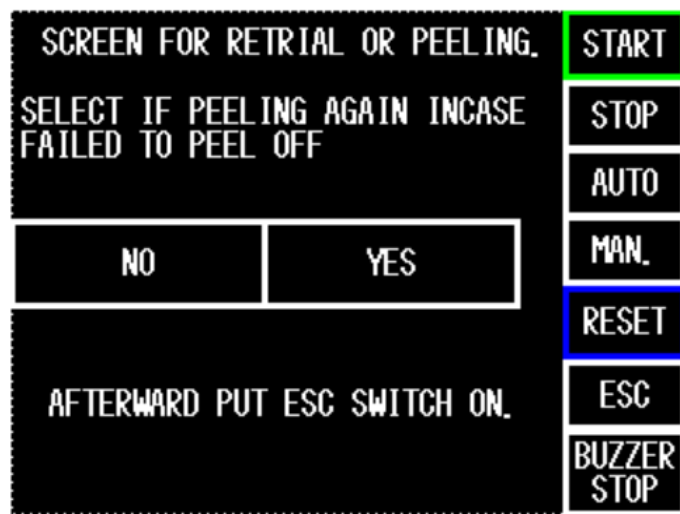You can set the timer to up the peeling bar for T3.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "T/3 SELECT SCREEN".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

REPEEL SELECT
<SCREEN FOR RETRIAL OR PEELING>

```
┌─────────────────────────────────┬────────┐
│ SCREEN FOR RETRIAL OR PEELING.  │ START  │
│                                  ├────────┤
│ SELECT IF PEELING AGAIN INCASE   │ STOP   │
│ FAILED TO PEEL OFF               ├────────┤
│                                  │ AUTO   │
│                                  ├────────┤
│                                  │ MAN.   │
│  ┌──────────┬──────────┐         ├────────┤
│  │   NO     │   YES    │         │ RESET  │
│  └──────────┴──────────┘         ├────────┤
│                                  │  ESC   │
│                                  ├────────┤
│  AFTERWARD PUT ESC SWITCH ON.    │ BUZZER │
│                                  │ STOP   │
└─────────────────────────────────┴────────┘
```

You can select retrial function on the screen. When peeling movement is failed, the machine tries the movement again.

- NO: The machine stops when the peeling movement is failed.
- YES: The machine stops after the peeling movement failed total 3 times.

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

PAD UP TIMER
<SCREEN FOR PAD UP TIMER SETTING>
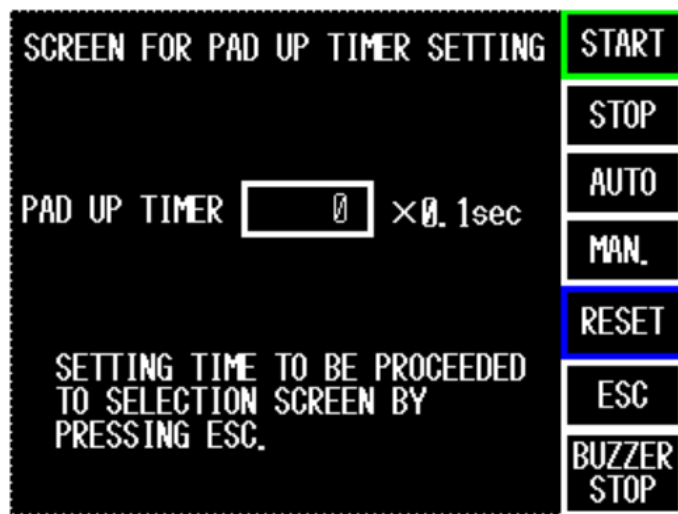
You can set the pad up timer for the chuck table.

After the BG tape peeling has completed, the vacuum is turned off, and the table pad moves up to enable getting the wafer with robot arm. When the table pad moves up, the wafer could damage by wafer linking.
To prevent from the damage, set the time from turning off the vacuum to the table pad moving up.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

TABLE BLOW
<SCREEN FOR TABLE BLOW TIMER SETTING>

```
┌─────────────────────────────────┬─────────┐
│ SCREEN FOR TABLE BLOW TIMER      │  START  │
│ SETTING                          ├─────────┤
│                                  │  STOP   │
│                                  ├─────────┤
│                                  │  AUTO   │
│ TABLE BLOW TIMER [    0 ] ×0.1sec├─────────┤
│                                  │  MAN.   │
│                                  ├─────────┤
│                                  │  RESET  │
│ SETTING TIME TO BE PROCEEDED     ├─────────┤
│ TO SELECTION SCREEN BY           │  ESC    │
│ PRESSING ESC.                    ├─────────┤
│                                  │ BUZZER  │
│                                  │  STOP   │
└─────────────────────────────────┴─────────┘
```

The wafer may have damaged by wafer linking with the wafer table after DC tape applying has completed. The wafer table blow function prevents the wafer from damages.
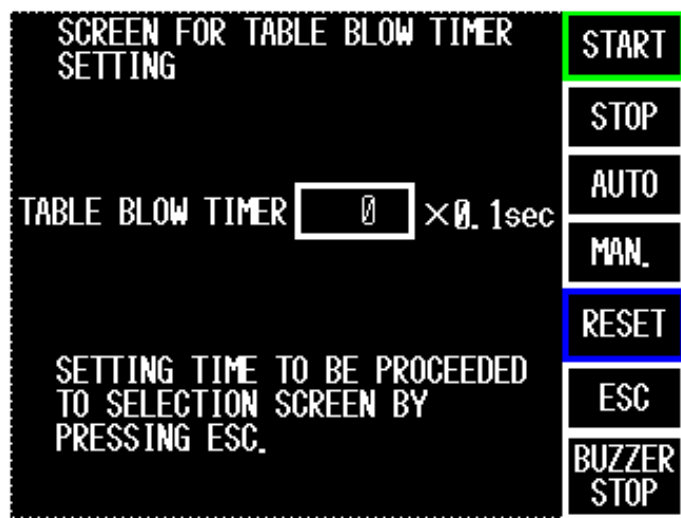
<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "1st page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

IRRA, N2 TIMER
<SCREEN FOR SETTING N2 TIMER IRRA. MODE>

```
┌──────────────────────────────────┬────────┐
│ SCREEN FOR SETTING N2 TIMER       │ START  │
│ IRRA. TIME                        ├────────┤
│                                   │ STOP   │
│ N2 PURGE        [    0  ] ×0.1SEC ├────────┤
│                                   │ AUTO   │
│ IRRADIATION TIME [   0  ] SEC     ├────────┤
│                                   │ MAN.   │
│                                   ├────────┤
│ SETTING TIME TO BE PROCEEDED      │ RESET  │
│ TO SELECTION SCREEN BY            ├────────┤
│ PRESSING ESC.                     │ ESC    │
│                                   ├────────┤
│                                   │ BUZZER │
│                                   │ STOP   │
└──────────────────────────────────┴────────┘
```

You can set the purge time of N_2 and UV irradiation time on the screen.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

TBL. PAD SELECT
<SCREEN FOR TABLE PAD UP TIMING SETTING>

```
SCREEN FOR TABLE PAD           START
UP TIMING SETTING
                               STOP
WAFER PUT TIMING TO TABLE PAD
                               AUTO

                               MAN.

    BEFORE       AFTER         RESET

                               ESC

                               BUZZER
  AFTERWARD PUT ESC SWITCH ON. STOP
```

- BEFORE: After the table pad has moved up, robot arm moves to put the wafer on the table pad.
- AFTER: After the robot arm has moved above the wafer chuck table, the table pad moves up.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "2nd page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

ROB. VAC. SELECT

CASS. VAC. SELECT	ALI. VAC. SELECT	UV VAC. SELECT	START
TAB. VAC. SELECT			STOP
			AUTO
			MAN.
			RESET
REV PAGE			ESC
			BUZZER STOP

4.2 Setting screens (Continued)

The machine checks whether the wafer is vacuum chucked to robot arm correctly at each stage (Cassette, Aligner, UV, and Wafer chuck table).
The robot arm has three holes for vacuum chucking.
Select how many holes are used to check wafer vacuum chucking status.

CASS. VAC. SELECT
<SCREEN FOR ROBOT ARM VACUUMCHECK SELECTION>

```
SCREEN FOR ROBOT ARM VACUUM      START
CHECK SELECTION.
SELECT THE CASSETTE.             STOP

                                 AUTO

                                 MAN.
     ONE          TWO
                                 RESET
     THREE
                                 ESC

                                 BUZZER
                                 STOP
     AFTERWARD PUT ESC SWITCH ON.
```

ALI. VAC. SELECT
<SCREEN FOR ROBOT ARM VACUUMCHECK SELECTION>

```
SCREEN FOR ROBOT ARM VACUUM      START
CHECK SELECTION.
SELECT THE ALIGNER.              STOP

                                 AUTO

                                 MAN.
     ONE          TWO
                                 RESET
     THREE
                                 ESC

                                 BUZZER
                                 STOP
     AFTERWARD PUT ESC SWITCH ON.
```

4.2 Setting screens (Continued)

UV VAC. SELECT
<SCREEN FOR ROBOT ARM VACUUMCHECK SELECTION>

```
SCREEN FOR ROBOT ARM VACUUM         START
CHECK SELECTION.
   SELECT THE UV.                   STOP

                                    AUTO

                                    MAN.
   ONE           TWO
                                    RESET
   THREE
                                    ESC

                                   BUZZER
                                    STOP
AFTERWARD PUT ESC SWITCH ON.
```

TBL VAC. SELECT
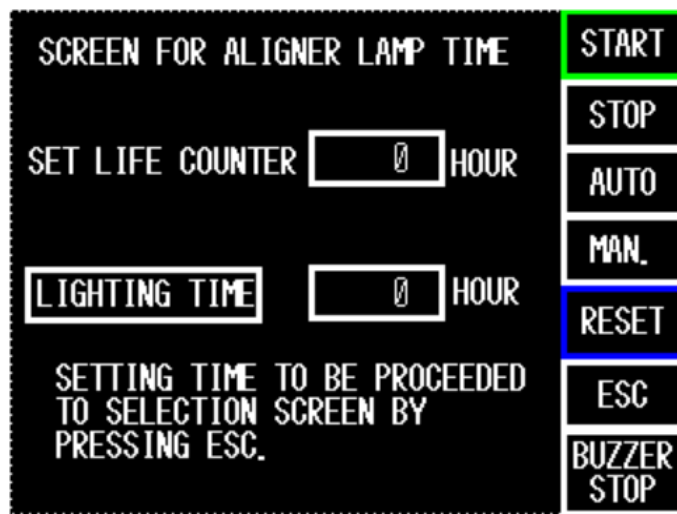<SCREEN FOR ROBOT ARM VACUUMCHECK SELECTION>

```
SCREEN FOR ROBOT ARM VACUUM         START
CHECK SELECTION.
   SELECT THE TABLE.                STOP

                                    AUTO

                                    MAN.
   ONE           TWO
                                    RESET
   THREE
                                    ESC

                                   BUZZER
                                    STOP
AFTERWARD PUT ESC SWITCH ON.
```

4.2 Setting screens (Continued)

LAMP TIME
<SCREEN FOR ALIGNER LAMP TIME>

You can set the lifetime of the aligner lamp and confirm and reset the used hours of the aligner lamp after replacing the aligner lamp on the screen.

- SET LIFE COUNTER: Set the aligner lamps lifetime. The used hours of the aligner lamp reaches the time, it is informed to the operators with buzzer and messages.
Recommended value: 1500 hours
The machine stops after the wafers in processing have been put into the cassette.

- [LIGHTING TIME]:   Shows the used hours of the aligner lamp after replacing the aligner lamp. Pressing [LIGHTING TIME] resets the used hours.
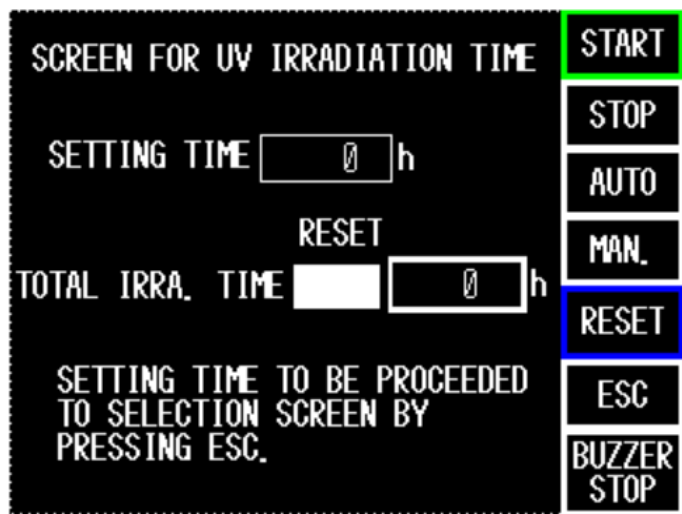
<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "1st page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.

4.2 Setting screens (Continued)

TOTAL TIMER
<SCREEN FOR UV IRRADIATION TIME>

```
┌─────────────────────────────────┬────────┐
│ SCREEN FOR UV IRRADIATION TIME   │ START  │
│                                  ├────────┤
│                                  │ STOP   │
│   SETTING TIME  [    0  ] h      ├────────┤
│                                  │ AUTO   │
│              RESET               ├────────┤
│ TOTAL IRRA. TIME [    ][   0  ]h │ MAN.   │
│                                  ├────────┤
│                                  │ RESET  │
│ SETTING TIME TO BE PROCEEDED     ├────────┤
│ TO SELECTION SCREEN BY           │ ESC    │
│ PRESSING ESC.                    ├────────┤
│                                  │ BUZZER │
│                                  │ STOP   │
└─────────────────────────────────┴────────┘
```

You can set the lifetime of the UV lamp, and confirm and reset the used hours of the UV lamp after replacing the UV lamp on the screen.

- SETTING TIME: Set the UV lamps lifetime. The used hours of the UV lamp reaches the time, it is informed to the operators with buzzer and messages.
  Recommended value: 1000 hours
  The machine stops after the wafers in processing have been put into the cassette.

- TOTAL IRRA. TIME: Shows the used hours of the UV lamp after replacing the UV lamp. Pressing [LIGHTING TIME] resets the used hours.

<Setting method>
(1) Press the numeric display part. The keyboard is indicated.
(2) Enter the value and press [ENT] key. The value is input.

- [ESC] key: Pressing the key displays "1st page of the setting screen".
- [AUTO] key: Pressing the key displays MAIN SCREEN.