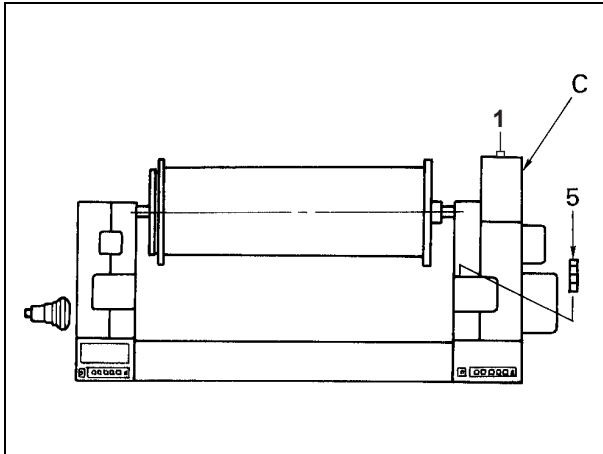


# **Section 0.2**

## **Switches and Signal Indicator**

0.2.1	Main Power Switch 1 .....	0.2-2
0.2.2	Emergency Stop Buttons, 2T, 2L, and 2R.....	0.2-2
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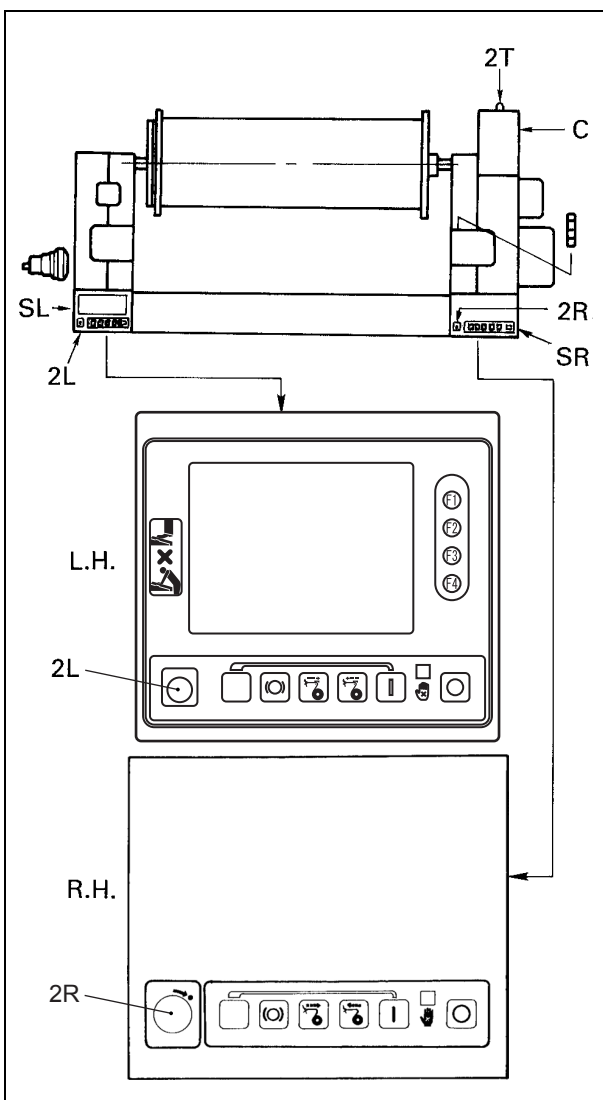
## 0.2 Switches and Signal Indicator



### 0.2.1 Main Power Switch 1

- (1) Main power switch **1** is located at the rear side of main control box **C**. Turning the switch ON energizes the motor circuits and control circuits.
- (2) After a few seconds, the white lamp in signal indicator **5** will come on.  
(If the white lamp flashes or any other lamp lights or flashes, it means that some electrical error has occurred.)
- (3) Never turn on main power switch **1** immediately after turning it off. Wait at least 30 seconds before turning it on again; otherwise, the system might fail to start up correctly.

### 0.2.2 Emergency Stop Buttons, 2T, 2L, and 2R



- (1) Three emergency stop buttons are provided at the rear of main control box **C** and at the left and right switch boxes, **SL** and **SR**.
- (2) These buttons should be used to stop the weaving machine in an emergency or to lock the machine. Do not use any of these buttons for ordinary stop.
- (3) Pressing any of these switches automatically locks the machine.
- (4) To release the lock, lightly press any one of these buttons and turn it clockwise.

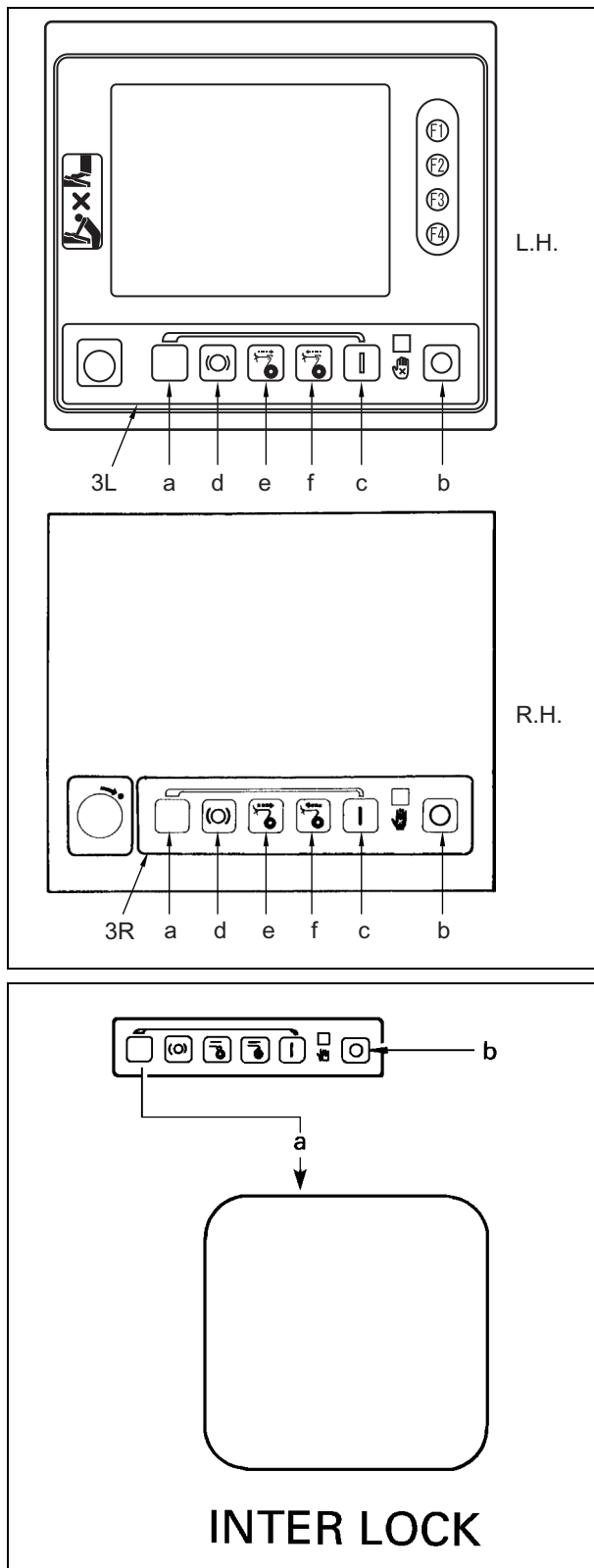
**NOTE:** If any of these buttons is pressed, the weaving machine immediately stops its operation regardless of the ordinary stop timing. In such a case, release lock and perform the operation for recovery from weft insertion miss. (Refer to Chapter 5 “WEFT INSERTING • MEASURING MOTION”.)

**0.2.3 Operation Panels, 3L and 3R**

Operation panels, **3L** and **3R**, are located at the left and right side of the weaving machine, respectively. Each of them has six switches which are arranged the same way.

The table below lists the switches on each operation panel:

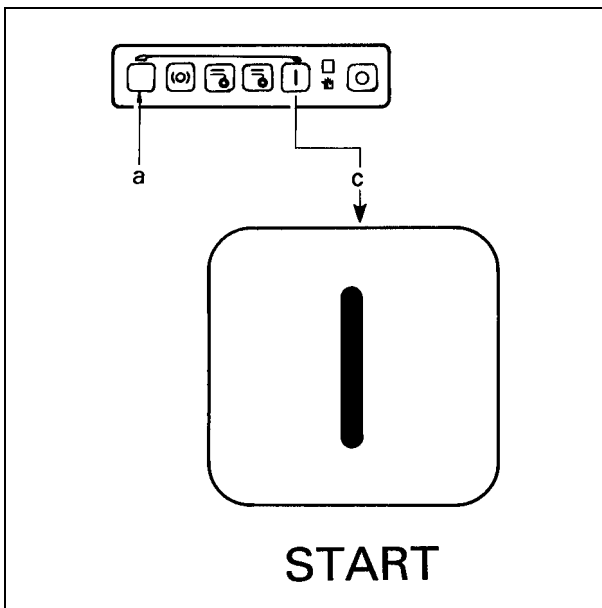
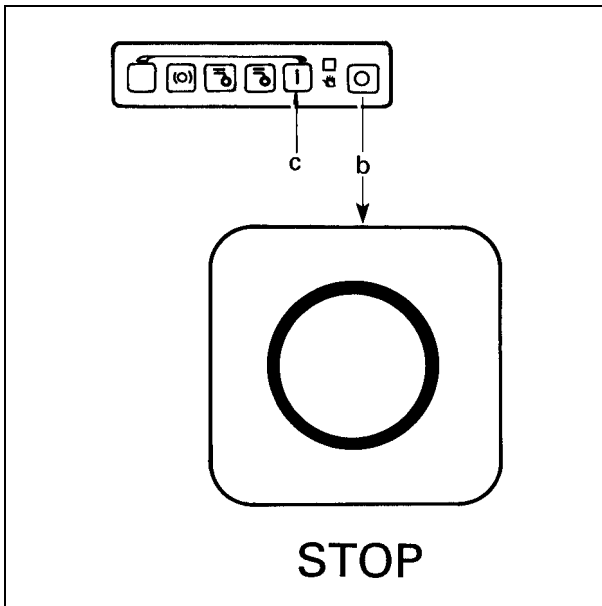
Symbol	Switch name
<b>a</b>	INTERLOCK switch
<b>b</b>	STOP switch
<b>c</b>	START switch
<b>d</b>	RELEASE BRAKE switch
<b>e</b>	FORWARD inching switch
<b>f</b>	REVERSE inching switch



- (1) INTERLOCK switch (a)  
 INTERLOCK switch **a** prevents the weaving machine from running by pressing any other operation-panel switch accidentally or mistakenly.  
 To press the operation-panel switches except for STOP switch **b**, be sure to check the operation purpose and then press INTERLOCK switch **a** and the desired switch at the same time.

## 0. OPERATION

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### (2) STOP switch (b)

Pressing STOP switch **b** while the machine is in operation prevents weft insertion immediately preceding machine halt and stops the machine at the preset machine stop angle. If STOP switch **b** is pressed immediately after START switch **c** is pressed and before the machine starts operation, the machine immediately stops its operation.

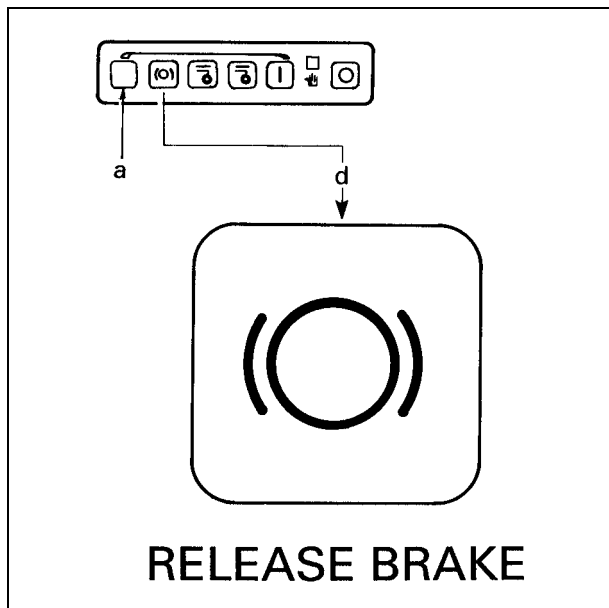
### (3) START switch (c)

This switch should be pressed with INTER-LOCK switch **a** held down.

Pressing START switch **c** automatically reverses the machine, stops temporarily at the machine start angle, then starts running.

In any of the following cases, pressing START switch **c** cannot start the machine operation:

- 1) When the emergency stop button is locked. (To prevent damages)
- 2) When REVERSE inching switch **f** should be pressed for recovery from a weft stop (that is, when the recovery is not completed). (To prevent the occurrence of fabric defects due to misoperation)
- 3) When the motor cover is removed. (For safety, the limit switch works. The FORWARD and REVERSE inching switches also are not operational when the motor cover is removed.)
- 4) When the machine is in the dobbie-prohibited area.



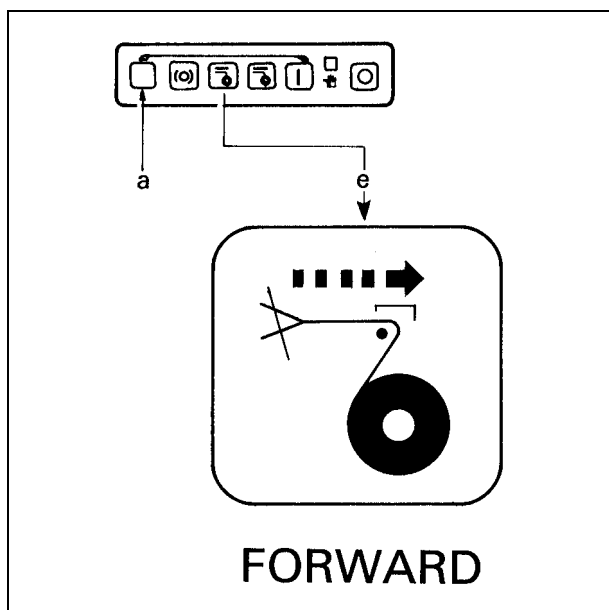
- (4) **RELEASE BRAKE switch (d)**  
 This switch should be pressed with INTER-LOCK switch **a** held down. Pressing RELEASE BRAKE switch **d** disengages the brake so that the weaving machine can be turned by hand.

**⚠ CAUTION**

When you release the brake, be careful with the heald frames and slay since they may move unexpectedly depending upon the current crank angle.

Never release the brake while gripping the manual wheel handle. Your hand will drag resulting in a wrist injury.

Pressing this switch again applies the brake so as not to allow the machine to be turned by hand.

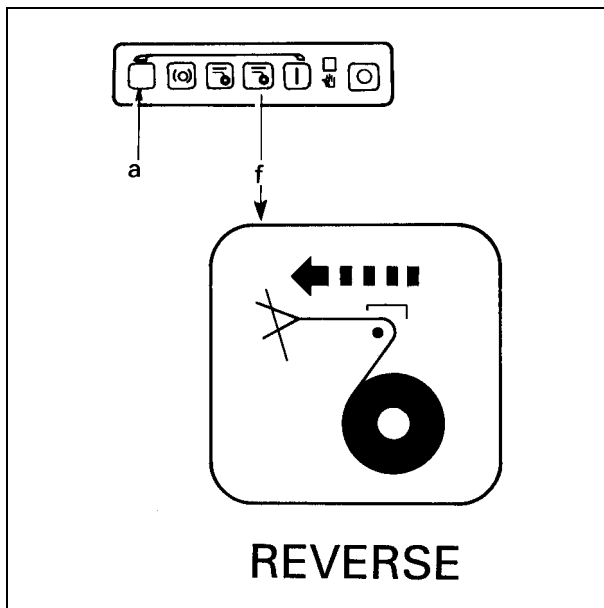


- (5) **FORWARD inching switch (e)**  
 This switch should be pressed with INTER-LOCK switch **a** held down. Holding down FORWARD inching switch **e** runs the machine in the forward direction at a low speed; releasing it stops the machine operation.

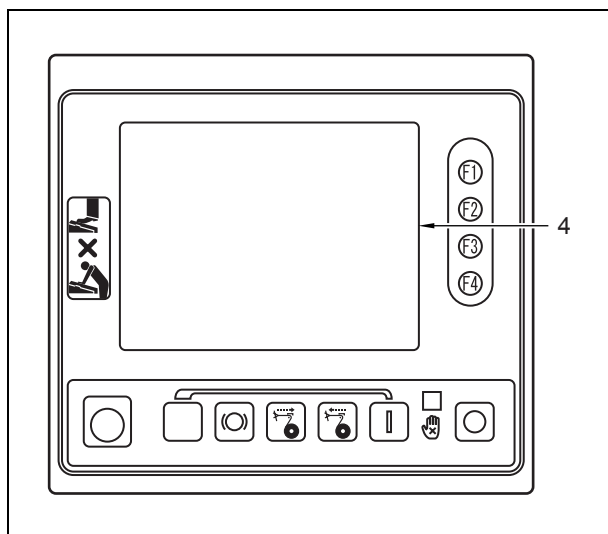
**NOTE:** During forward inching operation by this switch, none of the weft measuring devices and weft pool devices operate.

## 0. OPERATION

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- (6) REVERSE inching switch (f)  
This switch should be pressed with INTER-LOCK switch a held down.  
Holding down REVERSE inching switch f runs the machine in the reverse direction at a low speed; releasing it stops the machine operation.  
Irrespective of the continued pressure on this switch, the machine will stop at the reverse inching stop angle.



### 0.2.4 Function Panel 4

- (1) Function panel **4**, which is located on left switch box **SL** at the left of the front side, is a touch screen. Each display area on the panel screen contains touch-sheet switch(es).
- (2) Function panel **4** displays the various settings stored in the memory for each mode as well as allowing the operator to change modes or enter values just by touching the desired items.
- (3) For details, refer to Section 0.3 “Detailed Description of Function Panel”

**NOTE:** To remove fly, fleece, or dust from the touch-sheet switches on the function panel, use a soft brush or chemical duster.

- Do not use a damp cloth.
- Do not get water on the touch-sheet switches.

Handle the touch-sheet switches with care. They and their underlying liquid crystal plate cannot take rough handling. Touch them with your fingers only, never with a metal material.

For the function panel unit, also take care not to apply heavy load exceeding ordinary operation. Heavy load will damage or break the liquid crystal plate. Never lean against the function panel or climb onto it.

**REFERENCE:** After three minutes from start up of the machine, the backlight of function panel **4** will automatically go off. This will increase the service life of the function panel (liquid crystal display).

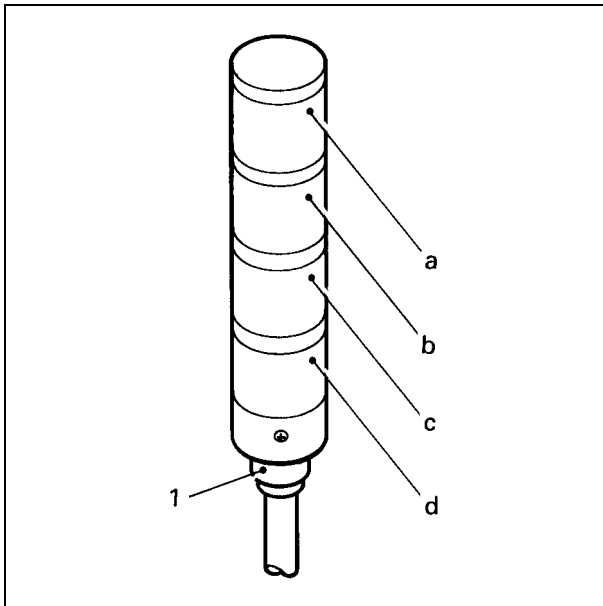
Touching the function panel will immediately turn on the backlight. If the machine stops, the backlight will automatically come on.

### 0.2.5 Signal Indicator 5 (Signal Lamp)

(1) Signal indicator **5** is located at the middle of the right front side of the machine. It signals that the machine has halted due to an error/failure or for prevention of further troubles, while the function panel shows the detailed reasons.

(2) Each of the 4-color and 6-color signal indicators has the color signal lamps arranged as shown at left.

- a. Red lamp
- b. Green lamp
- c. White lamp
- d. Yellow lamp





## 0.2 Switches and Signal Indicator

(3) The table below lists the relationship between the indicator state and the message shown in the message display mode on the function panel.

(\* Indicator colors listed below are TOYOTA standard.)

Signal indicator		Message on the function panel		Remarks
Color*	State			Control section
Red	ON	NORMAL STOP	WARP STOP WASTE-SELVAGE STOP	Main control
	Flashing	MACHINE TROUBLE	MAIN CONTROL: STOP SIGNAL FROM LET-OFF MAIN CONTROL: FAILURE TO LET-OFF FOR PATTERN CHANGE MAIN CONTROL: FAILURE TO LET-OFF FOR PATTERN SETTING MAIN CONTROL: FAILURE TO LET-OFF FOR END OF OPERATION MAIN CONTROL: FAILURE TO LET-OFF FOR FELL-FWD SIGNAL MAIN CONTROL: FAILURE TO LET-OFF FOR BEAM PREPARE MODE MAIN CONTROL: FAILURE TO TAKE-UP FOR FELL-FWD SIGNAL	Main control
			TAKE-UP: SERVO AMPLIFIER ERROR TAKE-UP: SERVO AMPLIFIER OVERSHOOT TAKE-UP: RESOLVER FEEDBACK ERROR TAKE-UP: SERVO AMP. TENTATIVELY OVERLOADED TAKE-UP: SERVOMOTOR OVERHEAT (SOFTWARE-DETECTED) TAKE-UP: SERVO AMP., SPEED CONTROL AMP. SATURATED TAKE-UP: SERVO AMP. OVERCURRENT (SOFTWARE-DETECTED) TAKE-UP: SERVO AMP., MAIN CIRCUIT CONTACTOR ERROR TAKE-UP: RESOLVER CABLE BROKEN TAKE-UP: DROPPED MAIN AC POWER SUPPLY VOLTAGE TO SERVO AMP. TAKE-UP: OVERVOLTAGE SUPPLIED TO SERVO AMP. TAKE-UP: SERVO AMP., IPM ERROR TAKE-UP: SERVO COUNTER OVERFLOW TAKE-UP: SERVO AMP. RELEASE ERROR TAKE-UP: ABNORMAL SIGNAL FROM ENCODER TAKE-UP: COMMUNICATION, TIME-OUT ERROR TAKE-UP: COMMUNICATION, SERVO_AMP RECEIVE ERROR TAKE-UP: COMMUNICATION, SERVO_AMP RESPONSE ERROR TAKE-UP: COMMUNICATION, DIRECTION SIGNAL FAILURE	Take-up control
		WARNING	WASTE-SELVAGE ROLLER TANGLED WARP DETECTOR OFF WASTE SELVAGE SENSOR OFF WARP DETECTOR DISCONNECTED MAIN CONTROL: EMERGENCY STOP SIGNAL FROM LET-OFF MAIN CONTROL: EMERGENCY STOP SIGNAL FROM LH TAKE-UP DECLARE (M/C TROUBLE)	Main control
	STATE	SURFACE ROLLER IN FORWARD ROTATION SURFACE ROLLER IN REVERSE ROTATION TAKE-UP: SERVO AMP. EMERGENCY-STOP BEING RELEASED	Take-up control	
Green	ON	NORMAL STOP	WEFT STOP BY WF1 (COLOR 1) WEFT STOP BY WF1 (COLOR 2) WEFT STOP BY WF1 (COLOR 3) WEFT SUPPLY STOP BY LH FEELER (COLOR 1) WEFT SUPPLY STOP BY LH FEELER (COLOR 2) WEFT SUPPLY STOP BY LH FEELER (COLOR 3)	Main control

## 0. OPERATION

Signal indicator		Message on the function panel		Remarks
Color*	State			Control section
Green	Flashing	WARNING	WF1 IS OFF SETTING WF1 SENSOR OFF WF1 FAILURE DECLARE (MENDING) BOBBIN SENSOR AND TAIL END SENSOR ARE OFF	Main control
White	ON	NORMAL STOP	[ STOP ] SWITCH PRESSED REMOTE CONTROL STOP	Main control
	Flashing	NORMAL STOP	CLOTH BEAM FULL CLOTH BEAM TO BE DOFFED EMERGENCY STOP BUTTON PRESSED	Main control
		WARNING	MACHINE TO BE POWER-OFF BRAKE RELEASED INCHING WEFT INSERSION IS ON SETTING DOBBY IS LEVELLING ON SETTING DOBBY: INVERSION PROHIBITED FM FWD TO REVERSE DOBBY: INVERSION PROHIBITED FM REVERSE TO FWD DECLARE (CLOTH DOFFING)	Main control
		LOCK	HANDLE COVER NOT INSTALLED STARTING INTERLOCK BY LEVELING DOBBY: INCHING IN UNINVERTIBLE-ANGLE RANGE (FM FWD TO REVERSE) DOBBY: INCHING IN UNINVERTIBLE-ANGLE RANGE (FM REVERSE TO FWD) REMOTE CONTROL LOCK REPLACE THE EMPTY BOBBIN	Main control
		CAUTION	CLOTH BEAM DOFFING SIGNALLED	Main control
Yellow	ON	NORMAL STOP	FULL-LENO SELVAGE STOP, RIGHT-HAND FULL-LENO SELVAGE STOP, LEFT-HAND	Main control
	Flashing	FAILURE	[ START ] SWITCH DEFECTIVE [ STOP ] SWITCH DEFECTIVE [ REVERSE ] SWITCH DEFECTIVE [ FORWARD ] SWITCH DEFECTIVE [ INTERLOCK ] SWITCH DEFECTIVE TWO-HAND CONTROL SWITCH DEFECTIVE [ RELEASE BRAKE ] SWITCH DEFECTIVE DOBBY: NO.01 SOLENOID BREAK DOBBY: NO.02 SOLENOID BREAK DOBBY: NO.03 SOLENOID BREAK DOBBY: NO.04 SOLENOID BREAK DOBBY: NO.05 SOLENOID BREAK DOBBY: NO.06 SOLENOID BREAK DOBBY: NO.07 SOLENOID BREAK DOBBY: NO.08 SOLENOID BREAK DOBBY: NO.09 SOLENOID BREAK DOBBY: NO.10 SOLENOID BREAK DOBBY: NO.11 SOLENOID BREAK DOBBY: NO.12 SOLENOID BREAK DOBBY: NO.13 SOLENOID BREAK DOBBY: NO.14 SOLENOID BREAK DOBBY: NO.15 SOLENOID BREAK DOBBY: NO.16 SOLENOID BREAK DOBBY: NO.17 SOLENOID BREAK DOBBY: NO.18 SOLENOID BREAK DOBBY: NO.19 SOLENOID BREAK DOBBY: NO.20 SOLENOID BREAK	Main control

## 0.2 Switches and Signal Indicator

Signal indicator		Message on the function panel		Remarks
Color*	State			Control section
Yellow	Flashing	FAILURE	YARN TAIL END SENSOR 1 IS ABNORMAL (WIRE BREAK) YARN TAIL END SENSOR 2 IS ABNORMAL (WIRE BREAK) YARN TAIL END SENSOR 3 IS ABNORMAL (WIRE BREAK) YARN TAIL END SENSOR 4 IS ABNORMAL (WIRE BREAK)	Main control
		MACHINE TROUBLE	AUTO LEVELING : ABNORMAL CONDITION AUTO LEVELING : NO SIGNAL OF NORMAL POSITION AUTO LEVELING : INTERRUPTED BY STOP PB OILING SENSOR STOP (SHEDDING MACHINE) OILING FAILED (PRESSURE IS LOW ) OILING FAILED (PRESSURE IS HIGH ) AUTO LEVELING : ILLEGAL INPUT FROM SENSOR FULL-LENO SELVAGE SENSOR OFF STROBO SCOPE ON BRAKE VOLTAGE FAILURE MAIN MOTOR OVERLOAD 140 VDC FAILURE 24 VDC1 FAILURE 24 VDC2 FAILURE 24 VDC3 FAILURE 48 VDC FAILURE 15 VDC FAILURE P15 VDC FAILURE M15 VDC FAILURE 12 VDC FAILURE 5 VDC FAILURE ENCODER, Z-PHASE ERROR ENCODER, A- OR B-PHASE ERROR BLOWER MOTOR OVERLOAD INVERTER FAILURE OR INCHING OVERLOAD LACK OF BRAKE TORQUE NO INPUT FROM ENCODER Z-PHASE (IN OPERATION) ENCODER FWD-REV. PULSE COUNT ERROR (IN OPERATION) MAIN CONTROL: WATCH DOG RESET MAIN CONTROL: COMMUNICATIONS ERROR, WITH SC INVERTER DOBBY: ABNORMAL SIGNALLING FM PROXIMITY SWITCHES FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 1 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 2 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 3 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 4 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 5 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 6 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 7 FAILED TO EXHAUST REMAINED YARN AROUND BOBBIN 8 SIGNAL ARRIVAL FROM THE YARN TAIL END SENSOR IS TIME OUT NO SIGNAL FROM BOBBIN SENSOR SC INVERTER:OVERHEAT SC INVERTER:OVERCURRENT SC INVERTER:OVERVOLTAGE SC INVERTER:LOW VOLTAGE SC INVERTER:MAIN MOTOR REVOLUTION ERROR	Main control

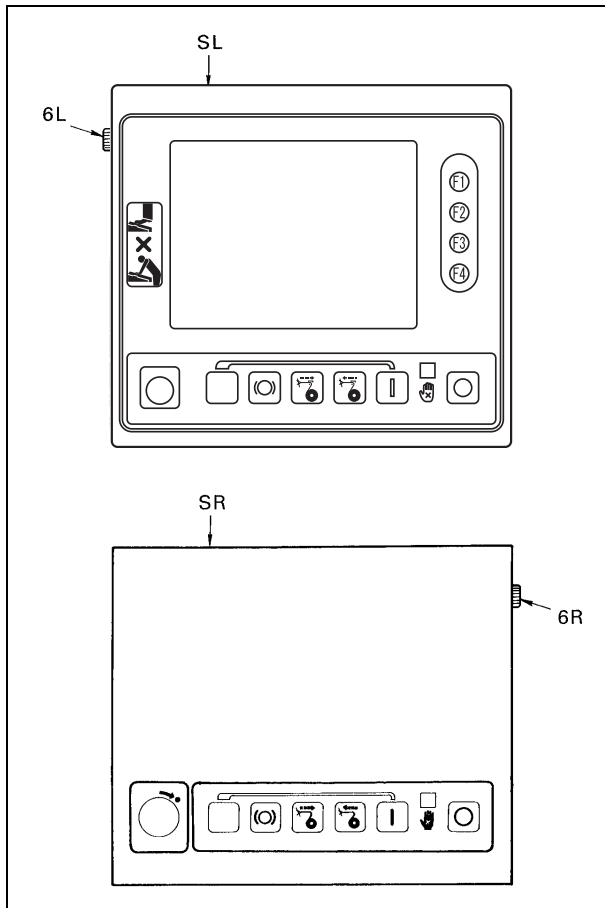
## 0. OPERATION

Signal indicator		Message on the function panel		Remarks
Color*	State			Control section
Yellow	Flashing	WARNING	MAIN CONTROL:SETTING VALUES INITIALIZED INVERTER IS OFF SETTING WINDING SENSOR OFF BLOWER MOTOR THERMAL SENSOR OFF MAIN CONTROL:LOW BATTERY VOLTAGE WINDING SENSOR FAILURE WINDING SENSOR SIGNALS MORE THAN NO. OF ACTUAL TURNS (COLOR 1) WINDING SENSOR SIGNALS MORE THAN NO. OF ACTUAL TURNS (COLOR 2) WINDING SENSOR SIGNALS MORE THAN NO. OF ACTUAL TURNS (COLOR 3) WINDING SENSOR SIGNALS LESS THAN NO. OF ACTUAL TURNS (COLOR 1) WINDING SENSOR SIGNALS LESS THAN NO. OF ACTUAL TURNS (COLOR 2) WINDING SENSOR SIGNALS LESS THAN NO. OF ACTUAL TURNS (COLOR 3) MAIN CONTROL: EMERGENCY STOP SIGNAL FROM SC INVERTER DECLARE (WARP OUT) DECLARE (FOREMAN CALL ON) YARN RUN OUT AROUND BOBBIN 1 YARN RUN OUT AROUND BOBBIN 2 YARN RUN OUT AROUND BOBBIN 3 YARN RUN OUT AROUND BOBBIN 4 YARN RUN OUT AROUND BOBBIN 5 YARN RUN OUT AROUND BOBBIN 6 YARN RUN OUT AROUND BOBBIN 7 YARN RUN OUT AROUND BOBBIN 8 YARN TAIL END SENSOR 1 DETECTS SIGNAL YARN TAIL END SENSOR 2 DETECTS SIGNAL YARN TAIL END SENSOR 3 DETECTS SIGNAL YARN TAIL END SENSOR 4 DETECTS SIGNAL	Main control
		CAUTION	OPERATE YARN TAIL HANDLING MANUALLY CHECK WHETHER YARN TAIL EXISTING	Main control
		STATE	SC INVERTER:EMERGENCY STOP SIGNAL FM MAIN CONTROL	SCI control
Red, yellow, and white	Flashing	STATE	(EMERGENCY STOP BUTTON PRESSED)	Main control
All colors	Flashing	STATE	MACHINE DOES NOT RUN, WHILE AUTOMATIC YARN TAIL HANDLER IS OPERATING	Main control
OFF		MACHINE TROUBLE	REVERSE-REV. PULSE FROM ENCODER (IN OPERATION) MAIN CONTROL: CPU ERROR MAIN CONTROL: ACCESS-POINT OVERRIDE MAIN CONTROL: SEND TIME-OUT, WITH LET-OFF MAIN CONTROL: SEND ERROR, WITH LET-OFF MAIN CONTROL: NEGATIVE RESPONSE FROM LET-OFF MAIN CONTROL: TIME-OUT ERROR, WITH LET-OFF	Main control
		WARNING	INCHING WEFT INSERSION IS ON SETTING DEMO STOP MAIN CONTROL: PATTERN 1ST PICK INITIALED	Main control
		LOCK	MACHINE TO BE REVERSED	Main control

## 0.2 Switches and Signal Indicator

Signal indicator		Message on the function panel		Remarks
Color*	State			Control section
OFF	STATE	OILING NOW OILING FINISHED OILING NOW (VALVE RESTORING ) REPLACE THE LH-CUTTER SUPPLY THE OIL MANUALLY SUPPLY THE GEAR-BOX OIL MANUALLY SUPPLY THE LETOFF-OIL MANUALLY SUPPLY THE SHEDDING-BOX OIL MANUALLY BEAM PREPARE MODE MAIN CONTROL: CLOCK ABNORMAL MONITORING STOP NOW		Main control
		SC INVERTER:SETTING NOT ALLOWED		SCI control

### 0.2.6 Two-hand Control Switches, 6L and 6R (Option)



- (1) Two-hand control switches, **6L** and **6R**, are optionally provided at the left side of switch box **SL** and at the right side of switch box **SR**, respectively.
- (2) Use either of these two-hand control switches together with the following switches. The machine will not run without pressing any of these two-hand control switches.
  - RELEASE BRAKE switch
  - FORWARD inching switch
  - REVERSE inching switch
  - START switch
- (3) When the machine has optional two-hand switches, the INTERLOCK switch is not operational since each of those two-hand switches **6L** and **6R** works as an interlock switch instead.