MATSUYA

OPERATION MANUAL

操作说明书

SUPER-J212/312 系列

SUPER-TRIM 212 系列

2009-9-1

CONTENT 目录

1. BASIC OPERATION (PREPARATION BEFORE STARTING TO KNIT) …… 4-10
1.1 DATA EDITING …… 4
1.2 DATA OUTPUT…… 4
1.3 MACHINE POWER “ON” …… 4
1.4 OPERATION PANEL …… 5
1.5 MACHINE RESET…… 6
1.6 READ FILE …… 6
1.7 START TO KNIT …… 7
1.8 INPUT PASSWORD …… 7
1.9 BASIC OPERATION…… 7
1.10 SOLUTION TO ERRORS DURING KNITTING …… 8
1.11 CONFIGURATION OF OPERATION DISPLAYS …… 9-10
2. OPERATION PANEL…… 11-45
2.1 INITIAL DISPLAY …… 11
2.2 RUN DISPLAY…… 12-13
2.3 MACHINE CHECK-UP…… 14
2.3.1 INPUT TEST …… 14
2.3.2 OUTPUT TEST …… 14-15
2.4 MAIN TAKE-DOWN ROLLER …… 16
2.5 SETTING OF NO. OF PIECES TO BE KNITTED…… 16
2.6 SWITCHES …… 17-18
2.7 EDIT …… 18
2.7.1 STITCH DATA …… 18
2.7.2 ECONOMIZER DATA …… 19
2.7.3 FABRIC TAKE-DOWN ROLLER DATA…… 19
2.7.4 YARN CARRIER ADJUST DATA …… 19
2.7.5 CONTROL DATA …… 20
EXPLANATION …… 20-21
MOVE COMMAND …… 22
COPY COMMAND …… 23
CLEAR COMMAND …… 24
INSERT COMMAND …… 25
DELETE COMMAND …… 26
END EDIT COMMAND …… 27
2.7.6 PATTERN DEVELOPMENT DATA …… 27
INCREMENT…… 28
REPEAT …… 29
2.7.7 YARN CARRIER DATA …… 30
2.7.8 SPEED DATA …… 31
2.7.9 PATTERN DATA …… 31
2.7.10 SCHEDULE KNITTING …… 31
2.8 ADJUST… …… 32
2.8.1 RACKING ADJUST …… 32
2.8.2 STITCH CAM ADJUST .. …… 32

2.8.3 ORIGIN ADJUST ····· 33
2.8.4 STITCH DATA 0 ADJUST ····· 33
2.8.5 MACHINE GAUGE SETTING ····· 33
2.8.6 CHARACTER SETTING····· 34
2.8.7 SETTING OF MOTOR PARAMETERS ····· 34
2.8.8 CARRIAGE TURN POSITION ····· ····· 34
2.8.9 FINE ADJUSTMENT OF ACTUATORS····· 35
2.8.10 ADJUSTMENT OF PRESSER FOOT ····· 35
2.8.11 ADJUSTMENT OF ACTUATOR ····· 35
2.8.12 ADJUSTMENT OF SET-UP COMB ····· 36
2.8.13 CUTTER ADJUST ····· 36
2.8.14 SETTING TO READ ADJUST DATA ····· 37
2.8.15 SETTING TO SAVE ADJUST FILE ····· 37
2. 9 SETTING THE TERMINATION PERIOD OF THE CONTROL SYSTEM····· 37
2.10 CHANGE OF PASSWORD····· 38
2.11 FILE ····· 38
2.11.1 FILE READ ····· 38
2.11.2 FILE WRITE ····· 39
ALL DATA ····· 39
PARTIAL DATA ····· 39
FILE DELETE ····· 40
FILE FORMAT ····· 40
2.12 TIMER ····· 41
2.13 MANUAL SETTING ····· 41
2. 14 OTHERS ····· 41
2.14.1 CARRIAGE SPEED ADJUST ····· 42
2.14.2 TRANSFER STITCH ADJUST ····· 42
2.14.3 MAIN ROLLER TENSION REST VALUE····· 42
2.14.4 TRANSFER SPEED ····· 43
2.14.5 STOP MOTIONS ····· 43
2.14.6 SHOCK SENSOR ADJUST····· 43
2.14.7 YARN KNOT ····· 44
2.14.8 RESET PIECES····· 44
2.14.9 PANEL ADJUST ····· 44
2.14.10 BLOWER ADJUST ····· 45
3. SWITCH BAR OPERATION ····· 45
4. SUPPLEMENTARY TO SUPER-TRIM MACHINE····· 46
SUPPLEMENT 1 – LIST OF MACHINE ERROR MESSAGES ····· 47-48
SUPPLEMENT 2－LIST OF MISOPERATION ERROR MESSAGES ····· 48
SUPPLEMENT 3: －Electricity wiring diagram (included main circuit, carriage box & control system) ····· 49- 51

NOTE : THIS OPERATION MANUAL IS APPLICABLE FOR BOTH SUPER-J 212/312 AND SUPER-TRIM 212MACHINES. FOR FURTHER INSTRUCTION ON SUPER-TRIM 212 MACHINE, PLEASE REFER TO PAGE 46 "SUPPLEMENTARY TO SUPER-TRIM MACHINE"

1 P R E - K N I T T I N G P R O C E D U R E S

1.1 DATA EDITING

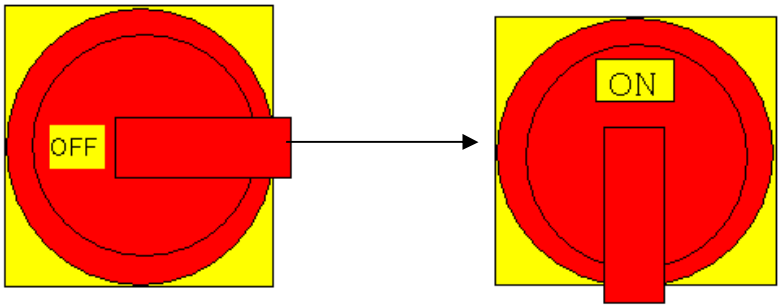
DATA EDITING BY PATTERN DESIGN SYSTEM
PATTERN DATA
CONTROL DATA
PATTERN DEVELOPMENT DATA
YARN FEEDER DATA

1.2 DATA OUTPUT

STORE YOUR EDITED DATA TO THIS USB KEY IN ORDER TO BE USED ON THE MACHINE.

1.3 MACHINE POWER “ON”

THE MAIN POWER SWITCH (CIRCUIT BREAKER) IS SITUATED AT THE REAR OF THE ELECTRIC BOX. PUSH UPWARD FOR “ON” AND DOWNWARD FOR “OFF”.
THE POWER SWITCH (AS BELOW) IS SITUATED ON THE FRONT LEFT SIDE OF THE MACHINE.
SEE BELOW FOR SWITCHING “ON” AND “OFF”.

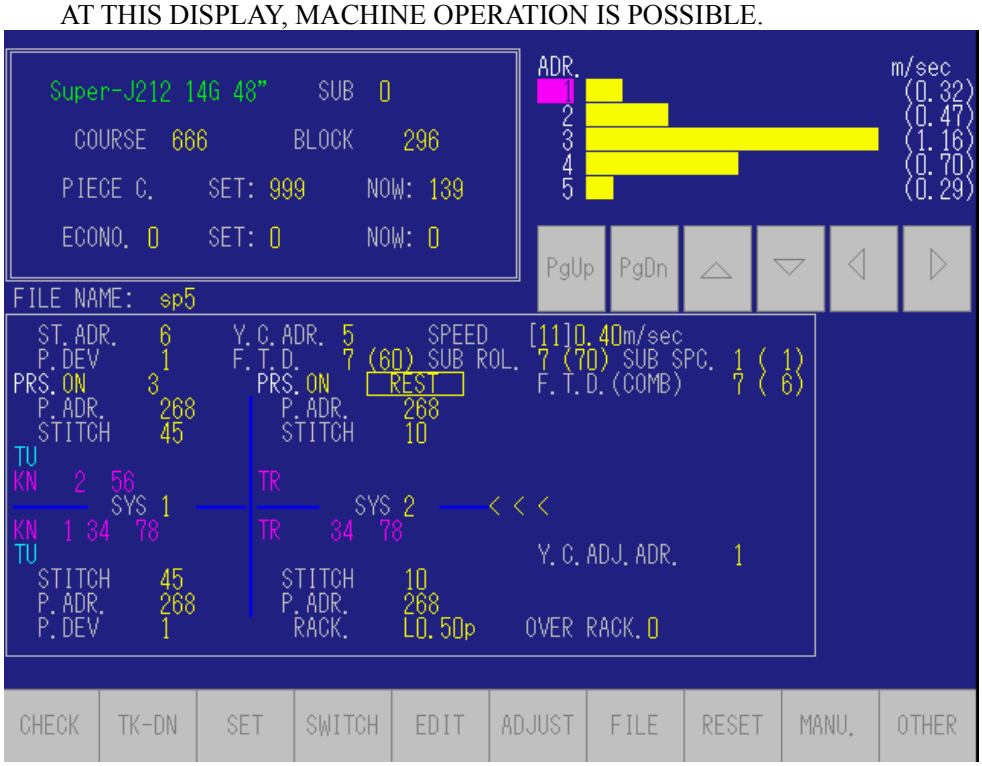


POWER OFF POWER ON

1.4 OPERATION PANEL

1) WHEN MACHINE POWER IS “ON”, TOUCH PANEL SHOWS “INITIAL DISPLAY”.

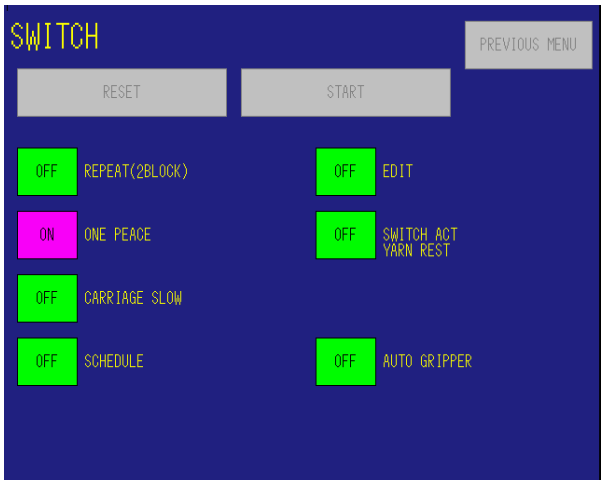
2) AFTER A WHILE, IT CHANGES TO “RUN DISPLAY”.
AT THIS DISPLAY, MACHINE OPERATION IS POSSIBLE.



3) PRESS “SWITCH “ ON THIS DISPLAY.

1.5 MACHINE RESET

AFTER PRESSING "SWITCH" AT THE "RUN DISPLAY", THE FOLLOWING DISPLAY APPEARS. (PRESS "RESET": CARRIAGE & NEEDLE BED RETURN TO THEIR ORIGIN POSITION AND MACHINE IS NOW READY TO START.)



PROCEDURES:

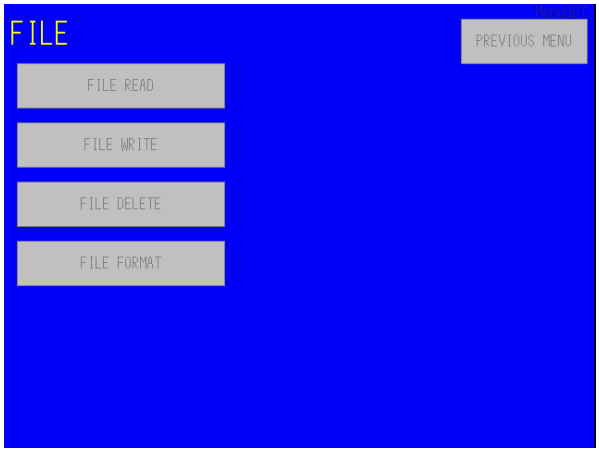
1. PRESS "RESET" AT "SWITCH DISPLAY" AND THE WORD "RESET" WILL APPEAR AT THE CENTER OF THE DISPLAY.
2. TURN SWITCH BAR TO "AUTO/SLOW".
3. CARRIAGE, NEEDLE BED ETC RETURN TO THEIR ORIGIN POSITION AND THE WORD "RESET" DISAPPEAR FROM THE DISPLAY.

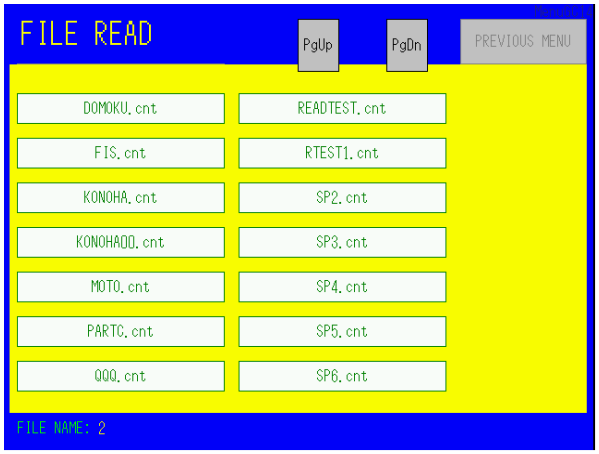
★ PLEASE EXECUTE "MACHINE RESET" TO START THE MACHINE EVERY TIME WHEN MACHINE POWER IS OFF.

★ DURING MACHINE RESET, WHEN THERE IS ERROR AND ERROR MESSAGE SHOWN ON THE DISPLAY, THE ERROR HAS TO BE REMOVED FOLLOWED BY SWITCHING OFF THE MACHINE. AFTER RE-STARTING THE MACHINE, DO THE "MACHINE RESET" AGAIN.

1.6 READ FILE

PRESS "FILE" AT THE "RUN DISPLAY" TO ENTER "FILE READ DISPLAY" AS SHOWN BELOW.
STORE THE EDITED DATA IN THE USB KEY AND INSERT THE KEY TO THE USB SOCKET.
PRESS "FILE READ" TO READ THE FILE.
ONLY ONE FILE CAN BE INPUT. NEW INPUT DATA WILL OVERWRITE THE PREVIOUS DATA AND STORE.





PROCEDURES:

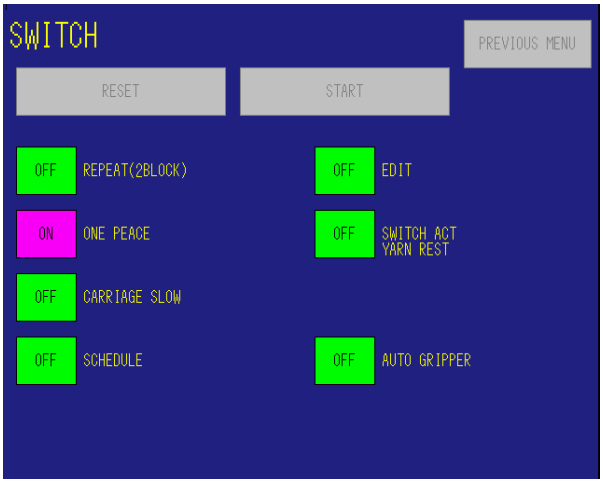
1) INSERT THE USB KEY STORED WITH THE EDITED DATA TO THE USB SOCKET.
2) PRESS "FILE READ" AT "FILE DISPLAY".
3) AS SHOWN BELOW, ALL DATA INSIDE USB KEY APPEARS ON THE DISPLAY.
   SELECT ONE OF THE DATA AND THIS PARTICULAR DATA WILL BE READ WHEN THE WORD "READ" IS SHOWN ON THE DISPLAY.

PRECAUTIONS:
AT THIS DISPLAY, IT IS FORBIDDEN TO INSERT, REMOVE OR CHANGE THE USB KEY.

4) WHEN THE WORD "READ" DISAPPEAR FROM THE DISPLAY, IT MEANS THE FILE HAS BEEN READ. PLEASE PRESS "PREVIOUS MENU" TWICE TO RETURN TO "RUN DISPLAY".
5) REMOVE THE USB KEY.

1.7 START TO KNIT

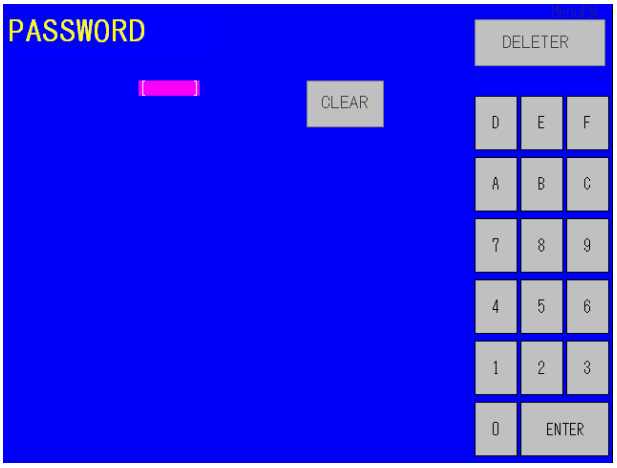
THE SAME PROCEDURE AS EXECUTING “MACHINE RESET”, PRESS “SWITCH” AT THE “RUN DISPLAY” TO ENTER BELOW “SWITCH DISPLAY”.
(PRESS “START” TO EXECUTE “MACHINE RESET”. NOW, MACHINE IS READY TO KNIT）



PROCEDURES:

1) PRESS “START” AT “SWITCH DISPLAY”. MACHINE RESETS WHEN THE WORD “RESET” IS SHOWN ON THE DISPLAY.
2) TURN THE SWITCH BAR TO “AUTO/SLOW”
3) CARRIAGE, NEEDLE BED ETC RETURN TO THEIR ORIGIN POSITIONS. THE WORD “RESET” DISAPPEAR FROM THE DISPLAY.
4) TURN THE SWITCH BAR AGAIN TO “AUTO/SLOW” AND MACHINE STARTS TO KNIT.

1.8 INPUT PASSWORD



CORRECT PASSWORD HAS TO BE INPUT FOR CERTAIN DISPLAYS.

PROCEDURES:

1. INPUT THE CORRECT PASSWORD.
2. PRESS “ENTER” AND MACHINE PROCEEDS AUTOMATICALLY TO THE NEXT DISPLAY.

1.9 BASIC OPERATION

1. [△], [▽] KEYS: MOVING THE CURSOR “UP” AND “DOWN” (ONE COLUMN EACH TIME)
2. [<], [>] KEYS: MOVING THE CURSOR “RIGHT” AND “LEFT” (ONE ROW EACH TIME)
3. “PREVIOUS PAGE”, “NEXT PAGE” : CHANGING OF PAGES
4. [0]~[F] NUMBER KEYS: INPUT OF NUMBERS
5. “ENTER” KEY: CONFIRMATION OF NUMBERS INPUT
6. “CLEAR” KEY: TO CLEAR ALL NPUT DATA
7. “DELETE” KEY: TO DELETE THE PREVIOUS INPUT DATA
8. HOW TO INPUT NUMBERS : MOVE THE CURSOR TO THE PLACE WHERE YOU WANT TO INPUT THE NUMBER. INPUT THE NUMBER AND PRESS “ENTER” TO CONFIRM THE NUMBER THAT YOU HAVE INPUT.

1.10 SOLUTION TO ERRORS DURING KNITTING

WHEN MACHINE STOPS DUE TO MACHINE ERRORS, “ERROR MESSAGE” WILL APPEAR ON THE DISPLAY.
ACCORDING TO THE “LIST OF ERROR MESSAGE”, THOSE ERRORS WITH ⬭ AT THE “RESET” COLUMN INDICATE THE MACHINE CAN CONTINUE ITS KNITTING AFTER THE ERROR IS REMOVED.

EX）TENSION ERROR

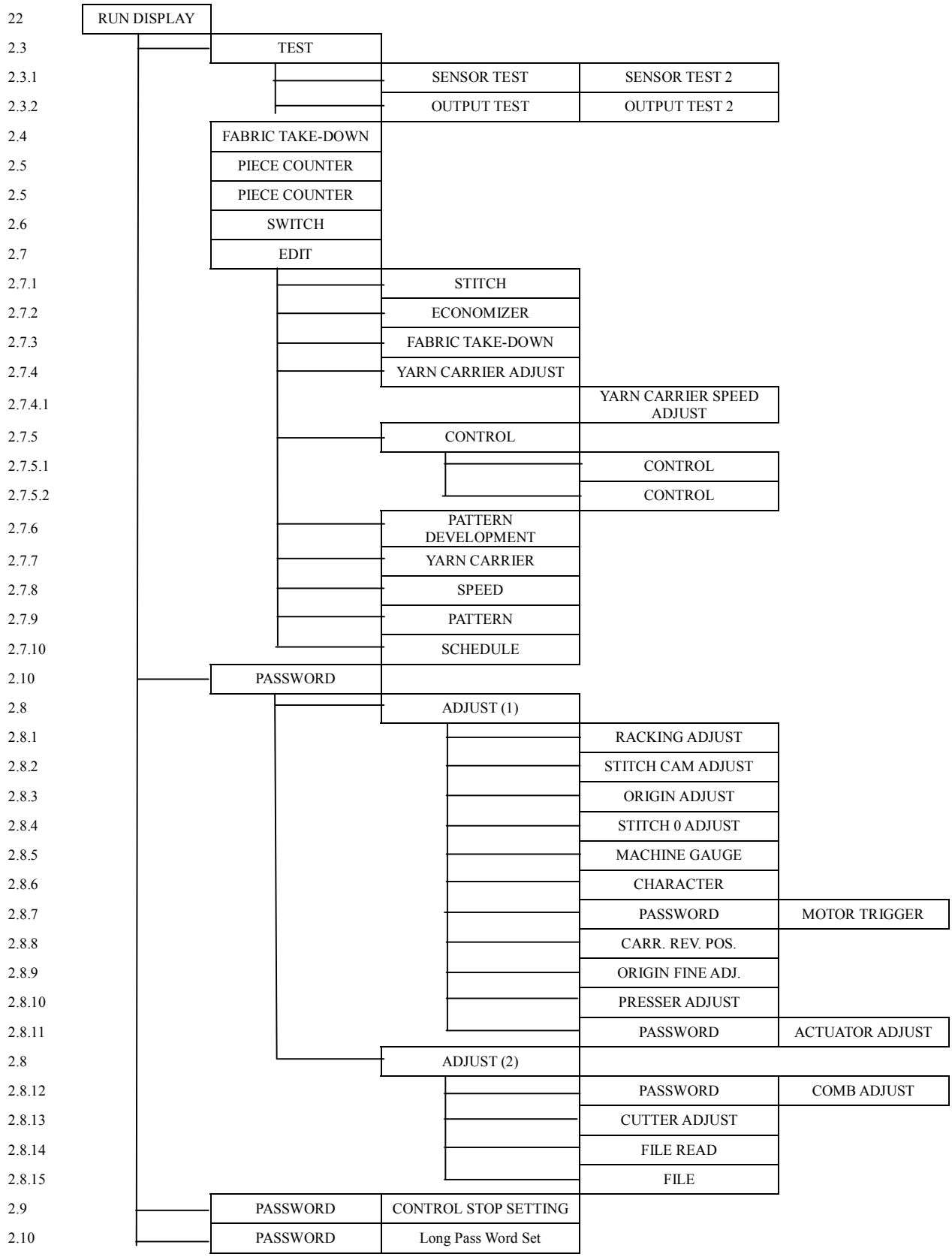
1． CONNECT THE YARN TO REMOVE THE YARN BREAKAGE PROBLEM
↓
2． TURN SWITCH BAR TO “AUTO/SLOW” FOR CONTINUOUS KNITTING.
IF THERE IS NO ⬭ AT THE “RESET” COLUMN IN THE “LIST OF ERROR MESSAGE”, EVEN AFTER REMOVING THE FAULT, THE MACHINE CANNOT PERFORM CONTINUOUS KNITITNG.

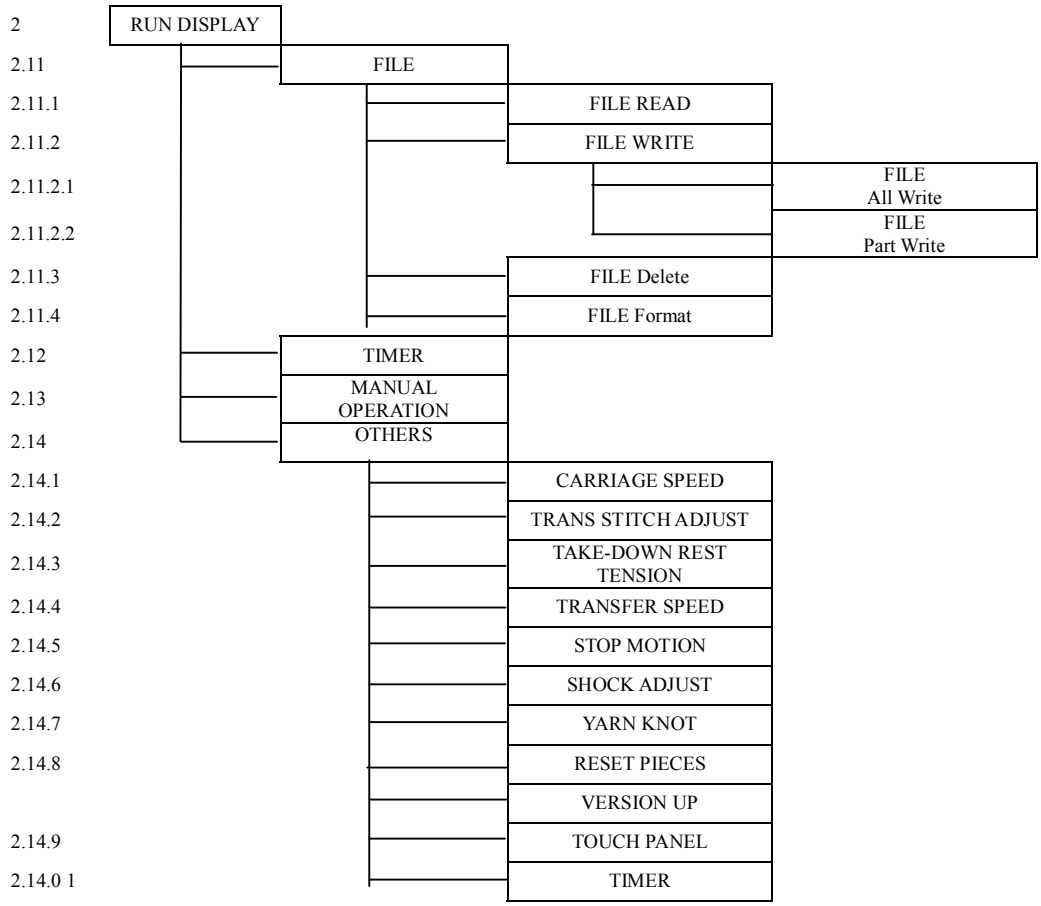
EX）RACK ORIGIN ABNORMAL

1． TURN SWITCH BAR TO “AUTO/SLOW”
↓
2． TURN MACHINE POWER “OFF”
↓
3． MOVE THE CARRIAGE MANUALLY TO THE FURTHER END OF KNITTING DIRECTION
↓
4． MOVE ALL YARN FEEDERS MANUALLY TO THEIR ORIGIN POSITIONS
↓
5． REMOVE THE FAULT
↓
6． TURN THE MACHINE POWER “ON”
↓
7． EXECUTE MACHINE RESET
↓
8． START TO KNIT

PLEASE REFER TO THE SUPPLEMENT “LIST OF ERROR MESSAGES” (2 PAGES)

1.11 CONFIGURATION OF OPERATION DISPLAYS



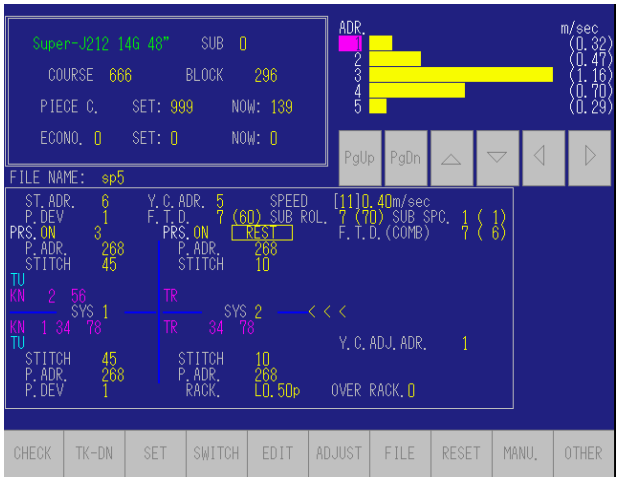

2
RUN DISPLAY
2.11
FILE
2.11.1
FILE READ
2.11.2
FILE WRITE
2.11.2.1
FILE
All Write
2.11.2.2
FILE
Part Write
2.11.3
FILE Delete
2.11.4
FILE Format
2.12
TIMER
2.13
MANUAL
OPERATION
2.14
OTHERS
2.14.1
CARRIAGE SPEED
2.14.2
TRANS STITCH ADJUST
2.14.3
TAKE-DOWN REST
TENSION
2.14.4
TRANSFER SPEED
2.14.5
STOP MOTION
2.14.6
SHOCK ADJUST
2.14.7
YARN KNOT
2.14.8
RESET PIECES
VERSION UP
2.14.9
TOUCH PANEL
2.14.0 1
TIMER

2 OPERATION PANEL

2.1 INITIAL DISPLAY

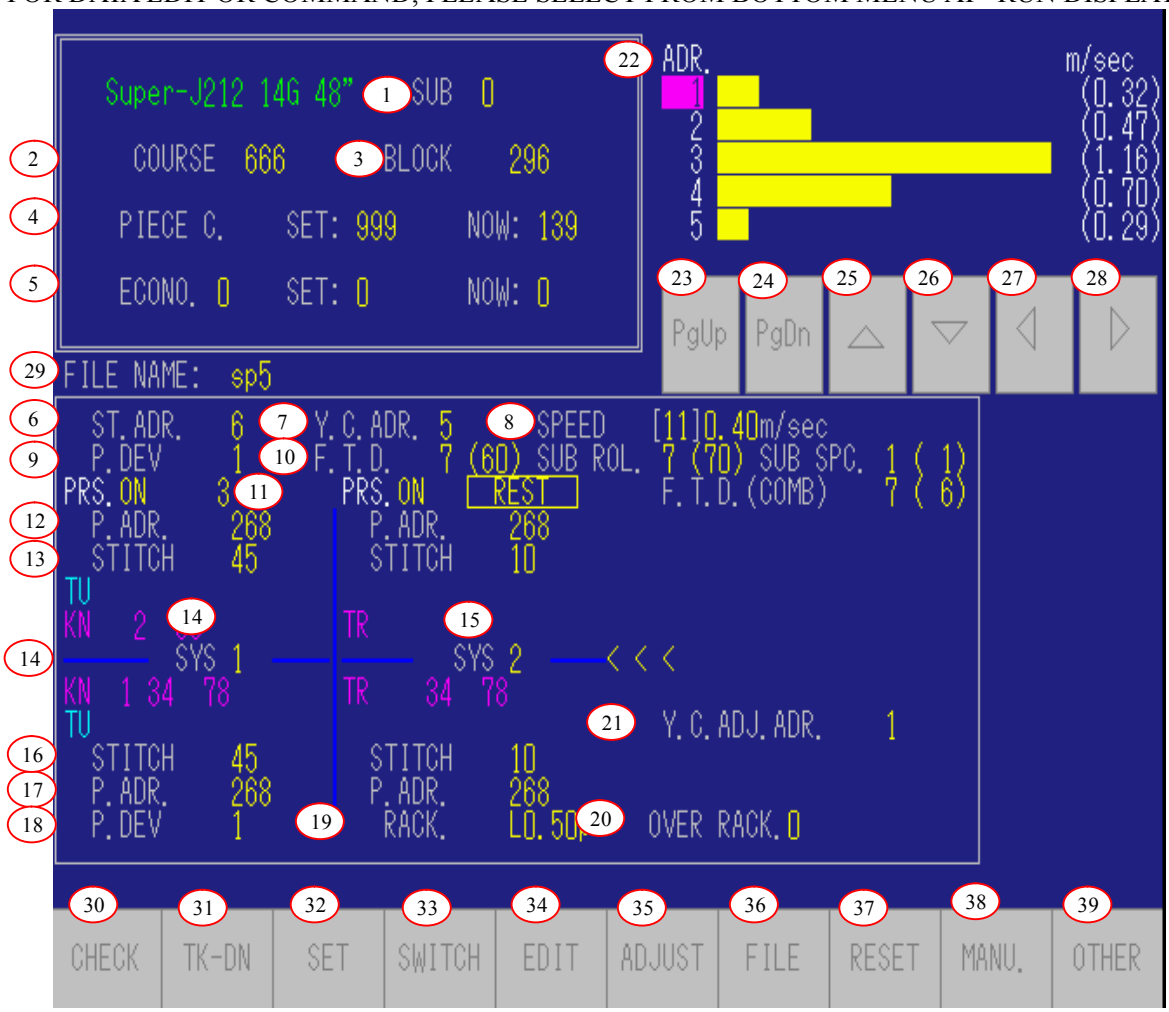
WHEN POWER IS “ON”, “INITIAL DISPLAY” STARTS UP.
MACHINE CONTROLLER CPU STARTS UP. THIS “INTIAL DISPLAY” CONTINUES UNTIL EACH MACHINE FUNCTION HAS COMPLETED THEIR INITIALIZATION.
DURING MACHINE INITIALIZAITON, NO MACHINE OPERATION CAN BE EXECUTED.

AFTER A WHILE, THE FOLLOWING “RUN DISPLAY” APPEARS.
(IN THE CASE “RUN DISPLAY” DOES NOT SHOW UP AFTER SOME TIME, PLEASE POWER “ON” THE MACHINE AGAIN.)
“INITIAL DISPLAY” CHANGES TO “RUN DISPLAY” AFTER INITIALIZATION OF ALL FUNCTIONS.
“RUN DISPLAY” IS THE STARTING MENU FOR ALL OTHER DISPLAYS.



2.2 RUN DISPLAY

MACHINE NORMALLY SETS AT THIS DISPLAY. IT SHOWS PRESENT KNITTING COMMAND.
FOR DATA EDIT OR COMMAND, PLEASE SELECT FROM BOTTOM MENU AT "RUN DISPLAY".



EXPLANATION OF RUN DISPLAY:

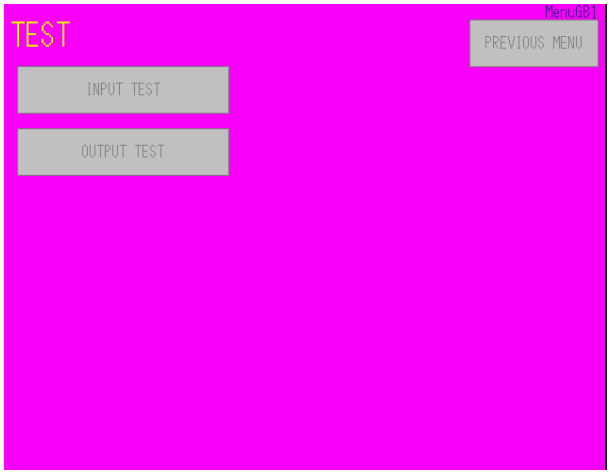
1. SUB: INDICATING THE PRESENT EXECUTING SUB-ROUTINE NO. (WHEN "0" APPEARS, IT INDICATES IT IS PRESENTLY EXECUTING THE MAIN ROUTINE.
2. COURSE: INDICATING THE TOTAL NO. OF COURSES TO BE KNITTED
3. BLOCK: INDICATING THE PRESENT NO. OF KNITTED COURSES OF MAIN/SUB ROUTINE.
4. PIECE: INDICATING THE PRESET/PRESENT COMPLETED NO. OF PIECES.
5. ECONO.: INDICATING THE PRESENT EXECUTING ECONOMIZER ADDRESS NO. SHOWING BOTH PRESET AND PRESENT COMPLETED DATA.
6. ST.ADR.: INDICATING THE STITCH ADDRESS NO.
7. Y.C. ADR.: INDICATING THE YARN CARRIER ADDRESS NO.
8. SPEED: INDICATING THE SPEED ADDRESS NO. AND THE ACTUAL SPEED.
9. P.DEV.: INDICATING THE REAR PATTERN DEVELOPMENT ADDRESS NO.
10. F.T.D.: INDICATING THE TAKE-DOWN ROLLER ADDRES NO.
11. INDICATING THE ACTUAL YARN CARRIER IN APPLICATION.
12. P.ADR.: INDICATING THE REAR PATTERN ADDRESS NO.
13. STITCH: INDICATING THE ACTUAL STITCH VALUE OF THE REAR PATTERN
14. SYS 1: INDICATING THE NEEDLE SELECTION NO. OF SYSTEM 1 (RIGHT DIRECTION TO BE SYSTEM 2)
15. SYS 2: INDICATING THE NEEDLE SELECTION NO. OF SYSTEM 2 (RIGHT DIRECTION TO BE SYSTEM 1)
16. STITCH: INDICATING THE ACTUAL STITCH VALUE OF THE FRONT PATTERN.
17. P.ADR.: INDICATING THE FRONT PATTERN ADDRESS NO.
18. P.DEV.: INDICATING THE FRONT PATTERN DEVELOPMENT ADDRESS NO.

19. RACK: INDICATING THE RACKING POSITION
20. OVER RACK: INDICATING OVER-RACKING.
21. Y.C.ADJ.ADR.: INDICATING THE YARN CARRIER ADJUST ADDRESS NO.
22. SPEED: INDICATING THE CONTENT OF THE SPEED DATA.
23. PGUP TURN TO NEXT PAGE FOR SPEED DATA.
24. PGDN: TURN TO PREVIOUS PAGE FOR SPEED DATA.
25. ▲ PAGE UP TE SPEED ADDRESS NO.
26: ▼ PAGE DOWN THE SPEED ADDRESS NO.
27. ◄ LEFT DIRECTION TO DECREASE THE SPEED
28: ► RIGHT DIRECTION TO INCREASE THE SPEED
29. FILE NAME: INDICATING THE FINAL INPUT FILE NAME
30. CHECK: TESTING OF MOTORS, SOLENOIDS AND SENSORS.
31. TK-DN: SETTING OF MANUAL TAKE-DOWN DATA AND SELECTION OF AUTO/MANUAL TAKE-DOWN
32. SET: SETTING OF NO. OF PIECES TO BE KNITTED
33. SWITCH: RESET OF CARRIAGE ORIGIN
34. EDIT: DATA EDIT
35. ADJUST: ADJUST OF ORIGIN FOR RACKING , STITCH ETC.
36. FILE: SAVING OF FILES
37. TIMER: KNITTING TIME
38. MAN.: SETTING OF VARIOIUS MANUAL SETTINGS
39. OTHER: SETTING OF OTHER INITIAL SETTINGS.

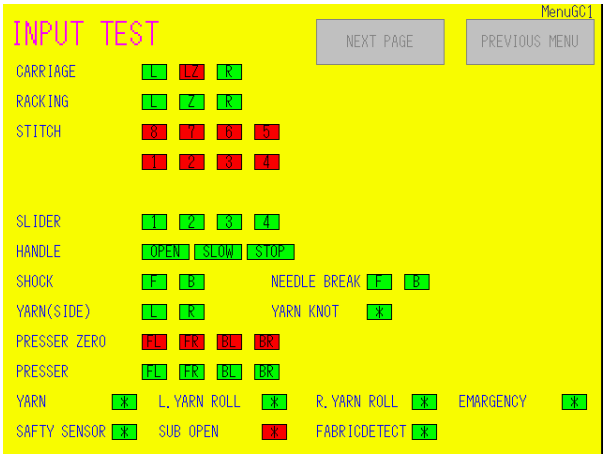
30 ~ 39 PLEASE REFER TO THE EXPLANATION IN FOLLOWING PAGES

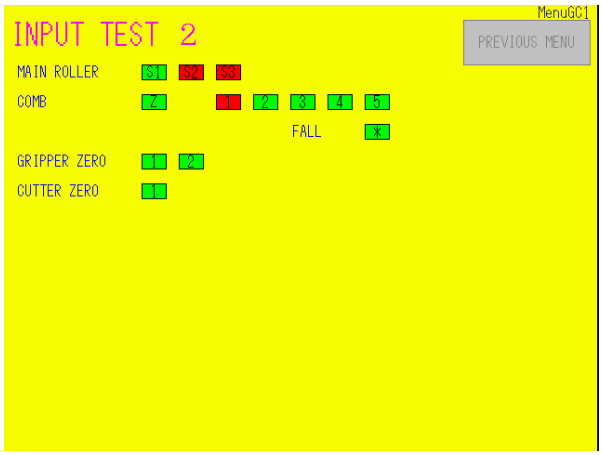
2.3 MACHINE CHECK-UP

MACHINE CHECK-UP IS DIVIDED INTO INPUT TEST (SENSORS/SWITCHES) AND OUTPUT TEST.
ONLY AFTER MACHINE RESET CAN THESE INPUT/OUTPUT TESTS BE OPERATED.
PLEASE DO MACHINE RESET BEFORE MACHINE CHECK-UP (REFER TO 1.5)

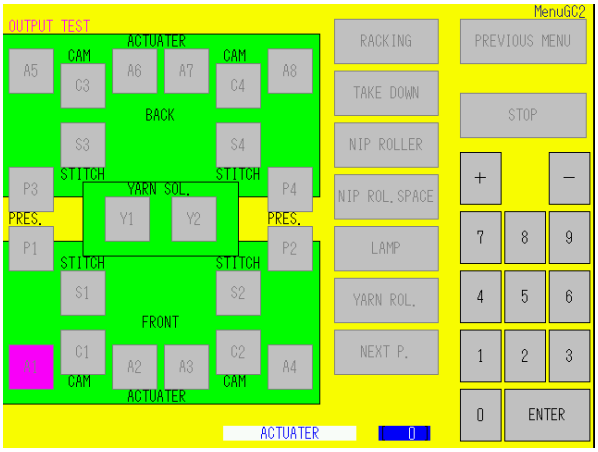


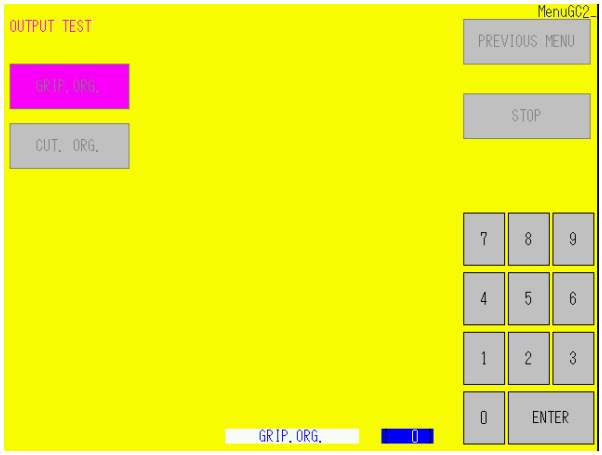
2.3.1) INPUT TEST(SENSORS/SWITCHES)
TESTING THE CONDITIONS OF THE SWITCHES AND SENSORS.
LIGHT INDICATIONS : “ON” – RED, “OFF” - GREEN





2.3.2)OUTPUT TEST
TESTING THE CONDITIONS OF SOLENOIDS AND MOTORS.
SELECT THE CHECK ITEM AT “OUTPUT TEST DISPLAY” AND AFTER INPUTTING THE FIGURE, P PRESS “ENTER” TO EXECUTE THE TEST. FOR STOP, PRESS “STOP” BUTTON. DEPENDING ON THE FIGURE YOU INPUT, CONTINUOUS TESTING OF SMALL GROUP IS POSSIBLE.





INPUT VALUE FOR SMALL GROUP TESTING

ACTUATOR（A1～A8）

0	CONTINUOUS TESTING OF THE SELECTED ACTUATOR
1 ～ 6	TESTING OF THE SELECTED ACTUATOR
9	CONTINUOUS TESTING OF ALL ACTUATORS

KNITTING CAMS (C1～C4)

0	CONTINUOUS TESTING OF THE SELECTED CAM
1 ～6	TESTING OF THE SELECTED CAM
	1：TRANSFER CAM
	2：LEFT 2-STEP STITCH CAM
	3：TUCK CAM
	4：RIGHT 2-STEP STITCH CAM
	5：LEFT HALF PRESS CAM
	6：RIGHT HALF PRESS CAM
8	CONTINUOUS TESTING ALL ALL CAMS
9	CONTINUOUS TESTING OF ALL ACTUATORS, CAMS AND YARN FEEDERS

STITCH CAM (S1～S4)

0	TESTING OF ORIGIN POSITIONF FOR ALL STITCH CAMS
+1～+98	TESTING THE SELECTED RIGHT HALF STITCH CAMS
- 1～- 98	TESTING THE SELECTED LEFT HALF STITCH CAMS
99	CONTINUOUS TESTING OF ALL STITCH CAMS

YARN CARRIER PIN

0	CONTINUOUS TESTING OF SELECTED YARN CARRIER PIN
1～ 8	TESTING OF SELECTED YARN CARRIER PIN
9	CONTINUOUS TESTING OF ALL YARN CARRIER PINS

PRESSER FOOT （P1～P4）

0	TESTING THE ORIGIN POSITIONS OF ALL PRESSER FOOT
1	TESTING THE KNIT POSITION OF THE SELECTED PRESSER FOOT
2	TESTING THE TRANSFER POSITION OF THE SELECTED PRESSER FOOT
3	CONTINUOUS TESTING OF PRESSER ORIGIN AND ITS KNIT POSITION
4	CONTINUOUS TESTING OF PRESSER ORIGN AND ITS TRANSFER POSITION

RACKING

R14-L14	TESTING THE SPECIFIED NEEDLE PITCH
L0.0	TESTING OF RACKING POSITION (POSITION OF NEEDLE & NEEDLE BED)
L0.25	TESTING OF RACKING POSITION (KNIT AND TRANSFER POSITION)
L0.5	TESTING OF RACKING ORIGIN POSITION (KNIT POSITION OF FRONT/REAR NEEDLES)
L0.5T	TESTING OF RACKING (TRANSFER POSITION)

TAKE DOWN

0～99	TESTING OF THE MAIN TAKE-DOWN ROLLER FORCE

NIP ROLLER

0～99	TESTING OF THE NIP ROLLER FORCE

NIP ROL.SPACE

1	OPEN
2	CLOSE

LAMP

0	CONTINUOUS TESTING (CONDITION OF MACHINE RUN/TEMPORARY STOP)
1	TESTING OF MACHINE RUN SIGNAL LAMP
2	TESTING OF STOP MOTION SIGNAL LAMP

AUX. YARN FEEDER DEVICE

1	TESTING THE ROTATION OF LEFT AUX. YARN FEEDING DEVICE
2	TESTING THE ROTATION OF RIGHT AUX. YARN FEEDING DEVICE

GRIPPER ORIGIN

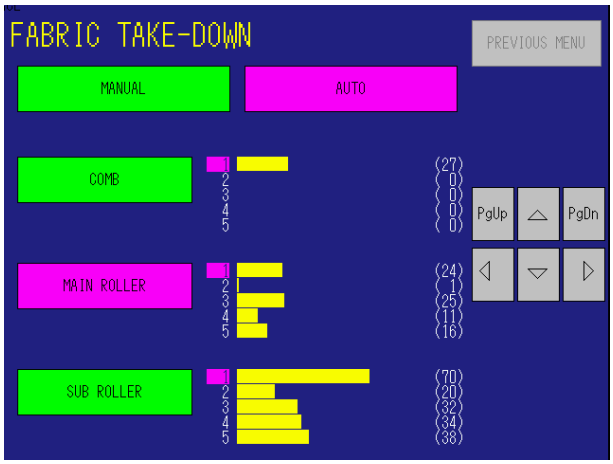
1	TESTING THE ORIGIN POSITION OF NO. 1 GRIPPER
2	TESTING THE ORIGIN POSITION OF NO. 2 GRIPPER
3	

YARN CUTTER ORIGIN: TESTING THE ORIGIN POSITION OF YARN CUTTER

BLOWER TESTING THE START/STOP OF BLOWER

2. 4 MAIN TAKE-DOWN ROLLER

SELECTION OF AUTO/MANUAL TAKE-DOWN AND SETTING OF MANUAL TAKE-DOWN DATA



SELECT “AUTO”: TAKE-DOWN DATA MADE FROM PATTERN DESIGN SYSTEM
SELECT “MANUAL”: CHOOSE THE REFERENCE DATA FROM THIS PAGE
USE △▽KEYS TO SELECT ADDRESS NO.
USE ◁ ▷ KEYS TO INCREASE/DECREASE THE SET VALUE

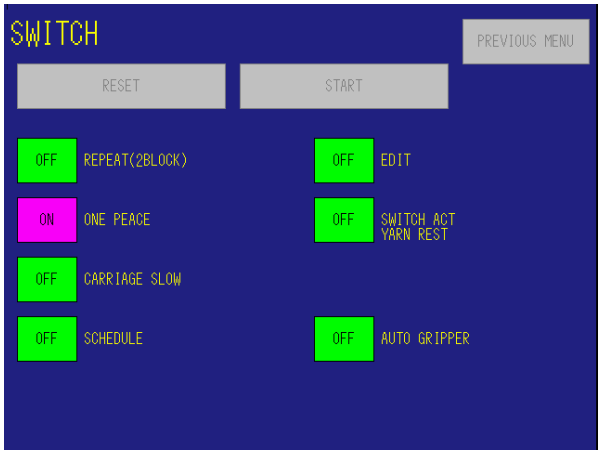
2. 5 SETTING OF NO. OF PIECES TO BE KNITTED

SETTING OF NO. OF PIECES TO BE KNITTED

“NOW” MEANS NO. OF PIECES KNITTED.
“SET” MEANS NO. OF PIECES TO BE PRESET.
FOR EVERY ONE PIECE KNITTED, THE NUMBER SET AT “NOW” WILL BE RENEWED. WHEN NO. OF PIECES SET AT “NOW” IS EQUAL TO OR LARGER THAN THE NUMBER SET AT “SET”, ERROR MESSAGE “PIECE OVER” WILL APPEAR AND THE MACHINE STOPS TO KNIT UNTIL CORRECT VALUE IS INPUT.
TO RESTART TO KNIT, RENEW YOUR SETTING AND INPUT “0” TO “NOW”.
EXAMPLE : SETTING NO. OF PIECES TO “20”.
SET “NOW” TO “0” AND “SET” TO “20”.

2. 6 SWITCHES

INDICATING ALL "ON/OFF" SWITCHES



1) MACHINE RESET: TO RESET ALL POSITIONS TO THEIR ORIGIN POSITIONS.
OPERATION 1 WHEN PRESS "RESET", MACHINE IS READY FOR MACHINE RESET BY SWITCH BAR. (THE WORD "RESET" APPEARS ON THE DISPLAY INDICATES MACHINE IS READY TO START MACHINE RESET BY SWITCH BAR.)
OPERATION 2 TURN THE SWITCH BAR TO "AUTO/SLOW".
MACHINE RESET OPERATION STARTS AND THE WORD "RESET" DISAPPEARS FROM THE DISPLAY. PRESENT DISPLAY THEN CHANGES TO "RUN DISPLAY"

2) START: INITIAL KNITTING DATA. MACHINE IS READY TO START TO KNIT.
OPERATION 1 WHEN PRESS "START", MACHINE IS READY FOR MACHINE RESET BY SWITCH BAR. (THE WORD "RESET 2" APPEARS ON THE DISPLAY INDICATES MACHINE IS READY TO START MACHINE RESET BY SWITCH BAR)
OPERATION 2 TURN THE SWTICH BAR TO "AUTO/SLOW".
MACHINE RESET OPERATION STARTS AND THE WORD "RESET" DISAPPEARS FROM THE DISPLAY. PRESENT DISPLAY THEN CHANGES TO "RUN DISPLAY"
OPERATION 3 TURN THE SWITCH BAR TO "AUTO/SLOW" AGAIN TO START TO KNIT.

3) REPEAT THIS IS THE SWITCH FOR REPETITION OF SPECIFIED BLOCK JUST AFTER MACHINE STARTS TO KNIT.
WHEN THIS KEY IS "ON", THE BLOCK TO BE REPEATED IS RESTRICTED TO THE FIRST AND SECOND FIXED BLOCK IN THE CONTROL DATA. WHEN THIS KEY IS "OFF", IT STARTS FROM THE THIRD BLOCK. TO USE THIS "REPEAT" FUNCTION, "REPEAT" KEY SHOULD PRESS "ON" FIRST BEFORE PRESSING THE KEY "START".

4) ONE PIECE THIS IS THE SWITCH TO STOP THE MACHINE AFTER KNITTING ONE PIECE.
PRESS THIS KEY FOR "ON" OR "OFF". WHEN PRESS "ON", THE MACHINE WILL STOP AFTER KNITTING ONE PIECE. HOWEVER, THE MACHINE WILL START TO KNIT AGAIN WHEN THE SWITCH BAR IS TURNED TO "AUTO/SLOW" PROVIDED IT IS WITHIN THE PRESET NO. OF PIECES.

5) CARRIAGE SLOW THIS IS THE SWITCH FOR LOW SPEED.
THIS KEY DOES NOT FUNCTION WHEN THE CARRIAGE IS RUNNING. WHEN THIS KEY IS "ON", TURN THE SWITCH BAR TO "AUTO/SLOW" AND THE CARRIAGE RUNS AT SLOW SPEED.

6) SCHEDULE THIS SWITCH IS TO EXECUTE SCHEDULE KNIT ACCORDING TO SCHEDULE FILE. THIS SCHEDULE KNIT CAN BE EXECUTED ONLY WHEN THE SCHEDULE FILE HAS BEEN READ TO THE MACHINE. "OFF" MEANS CANNOT EXECUTE SCHEDULE KNITTING.

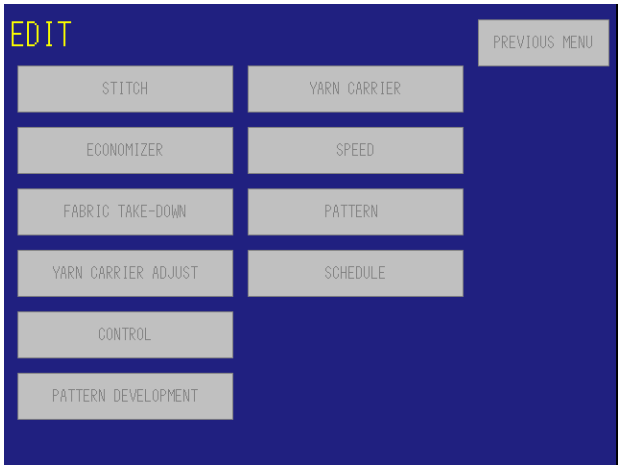
7) EDIT THIS SWITCH IS TO PERMIT EDITING AT "EDIT DISPLAY"
"OFF" : CANNOT ENTER "EDIT DISPLAY". "ON" ; CAN ENTER "EDIT DISPLAY".

8) SWITCH ACT YARN REST
THIS IS THE SWITCH TO RESET ACTUATORS, STITCH CAMS, PRESSER FOOT AND YARN CARRIERS. THIS SWITCH DOES NOT EXECUTE WHEN CARRIAGE IS RUNNING.

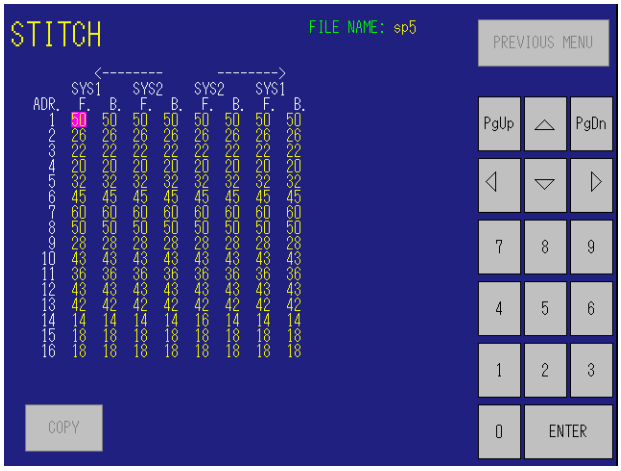
*WHEN MACHINE POWER IS “ON”, ALL THESE SWITCHES ARE AT “OFF” CONDITION. BEFORE RUNNING THE MACHINE, PLEASE CONFIRM THE ON/OFF OF ALL THESE SWITCHES AT “SWITCH DISPLAY”.

2.7 EDIT

EDIT EACH INDIVIDUAL DATA FROM THE KNIT DATA IN THE MEMORY OF THE MACHINE.
PRESS EACH OF THE BELOW KEYS FOR EDITING OR MODIFYING.



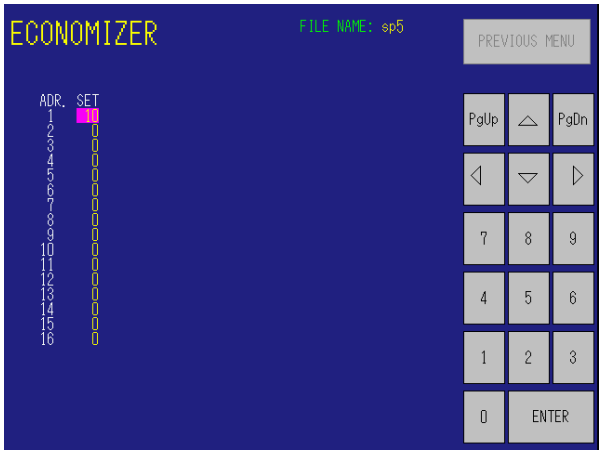
2.7.1 STITCH DATA



STITCH CAN BE ADJUSTED SEPARATED FOR EACH LEFT AND RIGHT CARRIAGE DIRECTION
STITCH ADDRESS RANGE : 1 TO 64 GROUPS

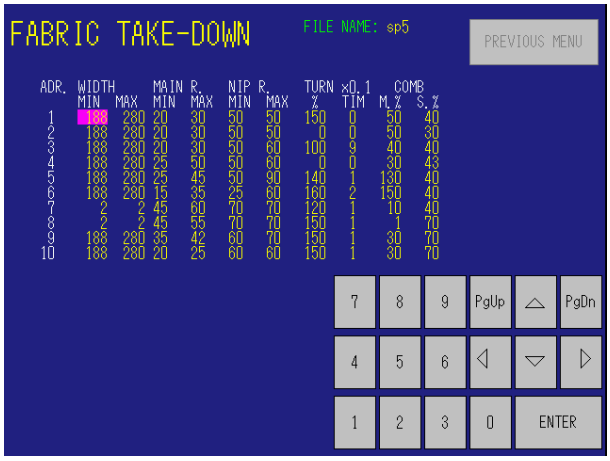
▽△◁▷ CURSOR
PgUp, PgDn CHANGE OF PAGES
0---9 NUMBERS TO BE INPUT
COPY COPY ALL THE CONTENT IN CERTAIN ADDRESS SO THAT ALL THE VALUES IN THAT ADDRESS BECOME AS THE SAME VALUE AS THE FIRST VALUE OF THAT ADDRESS.

2.7.2 ECONOMIZER DATA



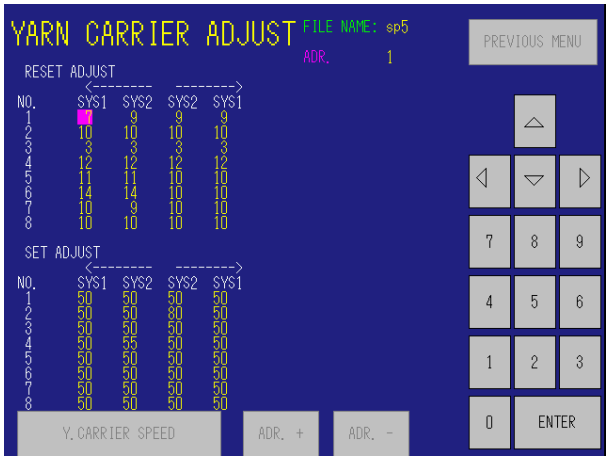
INPUT THE NO. OF REPEAT TO EACH ADDRESS.
ADDRESS RANGE : 1 T0 64 GROUPS
▽△◁▷ CURSOR
PgUp, PgDn CHANGE OF PAGES
0---9 NUMBERS TO BE INPUT

2.7.3 FABRIC TAKE-DOWN ROLLER DATA

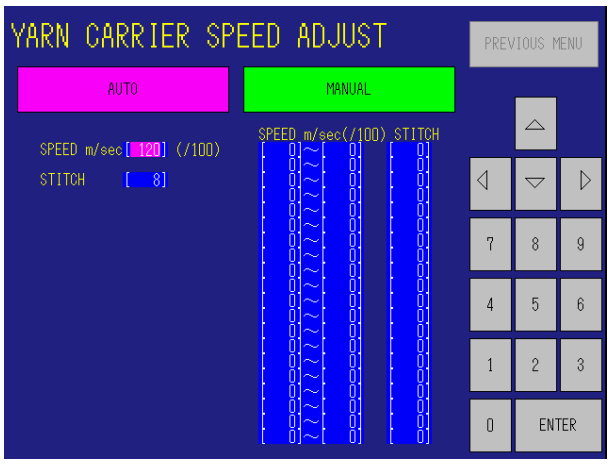


ACCORDING TO THE CHANGES OF THE KNITTING WIDTH, MAX.MIN FORCE OF MAIN TAKE-DOWN ROLLERS AND SUB ROLLERS; MAX/MIN FORCE DURING CARRIAGE TURN AND THE DEGREE TO OPEN/CLOSE THE SUB-ROLLERS CAN BE SPECIFIED AT EACH ADDRESS.
ADDRESS RANGE : 1 TO 32 GROUPS
▽△◁▷ CURSOR
PgUp、PgDn CHANGE OF PAGES
0---9 NUMBERS TO BE INPUT

2.7.4 YARN CARRIER ADJUST DATA



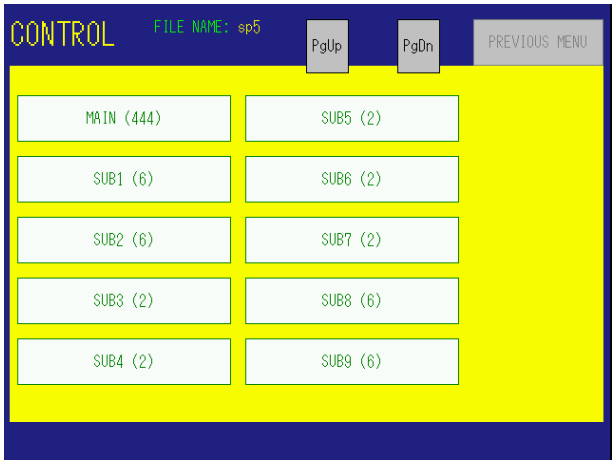
① RESET ADJUST
YARN CARRIERS CAN BE SPECIFIED THEIR REST (OFF) POSITIONS (NO. OF NEEDLES) INDIVIDUALLY AT EITHER LEFT OR RIGHT CARRIAGE DIRECTION.
ACCORDING TO THE RESET ADJUST DATA (VALUE), THE MACHINE WILL START FROM ONE KNITTING END AND SLOW DOWN TO STOP THE YARN CARRIER AT ITS ADJUST POSITION.
② SET ADJUST
YARN CARRIERS START (ON) POSITIONS (NO. OF NEEDLES) CAN BE INDIVIDUALLY SET FOR EITHER LEFT OR RIGHT CARRIAGE DIRECTION. ACCORDING TO THE SET ADJUST DATA (VALUE), THE YARN CARRIER WILL START BEFOREHAND.



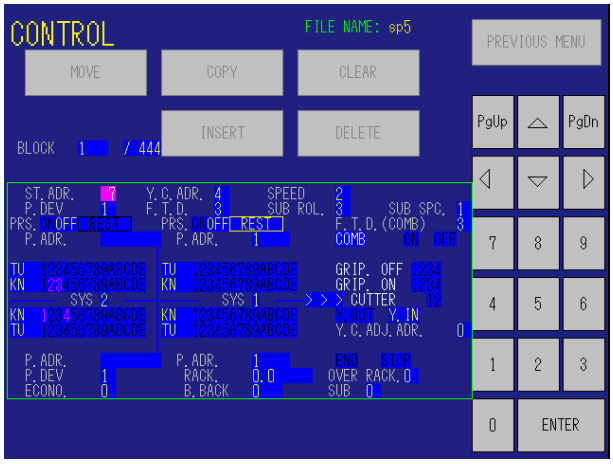
③ YARN CARRIER SPEED ADJUST
AS PER LEFT DIAGRAM, THE MACHINE WILL RESET ACCORDING TO THE CARRIAGE SPECIFIED SPEED. (NO. OF NEEDLES)

▽△◁▷ CURSOR
0---9 NUMBERS TO BE INPUT

2.7.5 CONTROL DATA



EXPLANATION
THERE ARE 2 KINDS OF CONTROL DATA, NAMELY MAIN CONTROL DATA AND 64 TYPES SUB CONTROL DATA.
FIRST, SELECT THE DATA YOU REQUIRE TO EDIT AND ENTER THE RELEVANT DISPLAY.



MODIFY THE VALUE AT THE CURSOR
▽△◁▷ CURSOR
PgUp , PgDn CHANGE OF PAGES

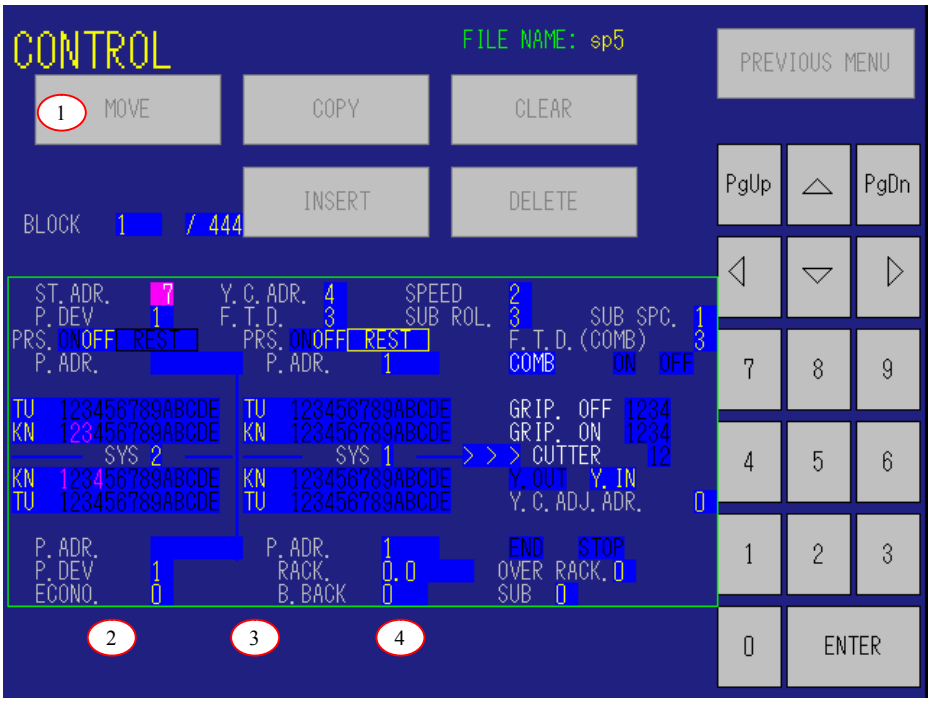
0---9	NUMBERS TO BE INPUT
ENTER	ON/OFF SELECTION COMMAND OF NEEDLE SELECTION ETC.
MOVE	TO MOVE THE BLOCK
COPY	TO COPY THE CONTENT OF THE BLOCK.
CLEAR	TO CLEAR THE CONTENT OF THE BLOCK.
INSERT	TO INSERT EMPTY BLOCK.
DELETE	TO DELETE THE BLOCK ITSELF
COMMAND	OPERATION
BLOCK	INPUT THE NO. OF THE BLOCK REQUIRED AND PRESS “ENTER”. (EX: INPUT 0123, THEN PRESS “ENTER” TO OBTAIN BLOCK 123)
ST.ADR.	INPUT STITCH ADDRESS NO.（EX: INPUT「0 1」TO OBTAIN ADDRESS NO. 1 DATA）
F.T.D.	INPUT TAKE-DOWN ADDRESS NO. (EX: INPUT「0 2」FOR ADDRESS NO. 2 DATA）
SPEED	INPUT SPEED ADDRESS NO.（EX: INPUT「0 3」TO OBTAIN ADDRESS NO. 3 DATA）
P.DEV.	INPUT PATTERN DEVELOPMENT ADDRESS NO.（EX: INPUT「0 4」FOR ADDRESS NO. 4 DATA）
Y.C.ADR.	INPUT YARN CARRIER ADDRESS NO.（EX: INPUT「0 5」FOR ADDRESS NO. 5 DATA）
REST	PRESS “ENTER” FOR YARN CARRIER REST.（RED-SPECIFY; WHITE- NOT SPECIFY）
P.ADR.	INPUT NUMBER OR [+] [-] FOR PATTERN ADDRESS NO.（EX：INPUT「＋」「1」FOR +1 TO PRESENT ADDRESS NO. HOWEVER, ADDING [+] TO THE PRESENT ADDRESS NO. WILL RESULT IN DELETING THE ＋ MAKING 1 ONLY） [+][1]
TU	PRESS “ENTER” TO SPECIFY THE KNITTING COMBINATION
KN	TUCK → TRANSFER → STITCH INCREASE KNIT → TIGHT STITCH KNIT → COURSE KNIT →
1～9	PRESS “ENTER” KEY TO SPECIFY THE NEEDLE SELECTION CODE.
A B C D E	PRESS “ENTER”: RED-OCCUPIED ; WHITE-AVAILABLE）
END	PRESS “ENTER” TO END THE BLOCK.（RED-TO END BLOCK; WHITE-NOT TO END BLOCK）
STOP	PRESS “ENTER” TO COMMAND STOP.（RED-COMMAND; WHITE-NOT COMMAND）
RACK	INPUT NUMBERS OR「R」「L」「0.5」「0.25」FOR RACKING.（EX: INPUT「L」「0.5」FOR 0.5 LEFT RACKING. HOWEVER, INPUT L0.50P TO「L0.50P」ADDRESS MEANS RACKING TO BE RETURNED TO 0.0. NO R0.00 COMMAND）
OVER RACK	INPUT TOCOMMAND THE DEGREE OF OVER RACK

BELOW SHOWS THE DEGREE OF OVER RACK AGAINST THE VALUE INPUT:

INPUT VALUE	OVER RACK
1	NIL
2	0.5 NEEDLE PITCH
3	1.0 NEEDLE PITCH
4	1.5 NEEDLE PITCH

CONTROL COMMAND	OPERATION
ECONO.	INPUT ECONOMIZER ADDRESS NO. （EX: INPUT「0」「6」SPECIFY ADDRESS NO. 6 ECONOMIZER ADDRESS NO.）
B.BACK	SPECIFY NO. OF BLOCKS TO BE RETURNED.（EX：INPUT「0」「0」「0」「7」SPECIFY RETURN OF 7 BLOCKS.
SUB	INPUT THE SUB-ROUTINE ADDRESS NO.

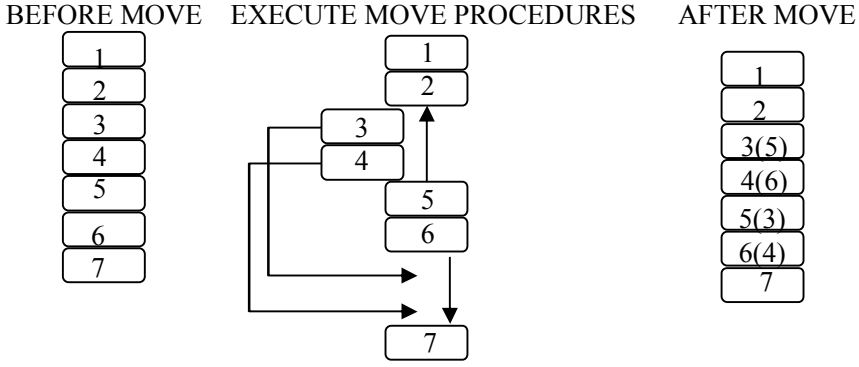
MOVE



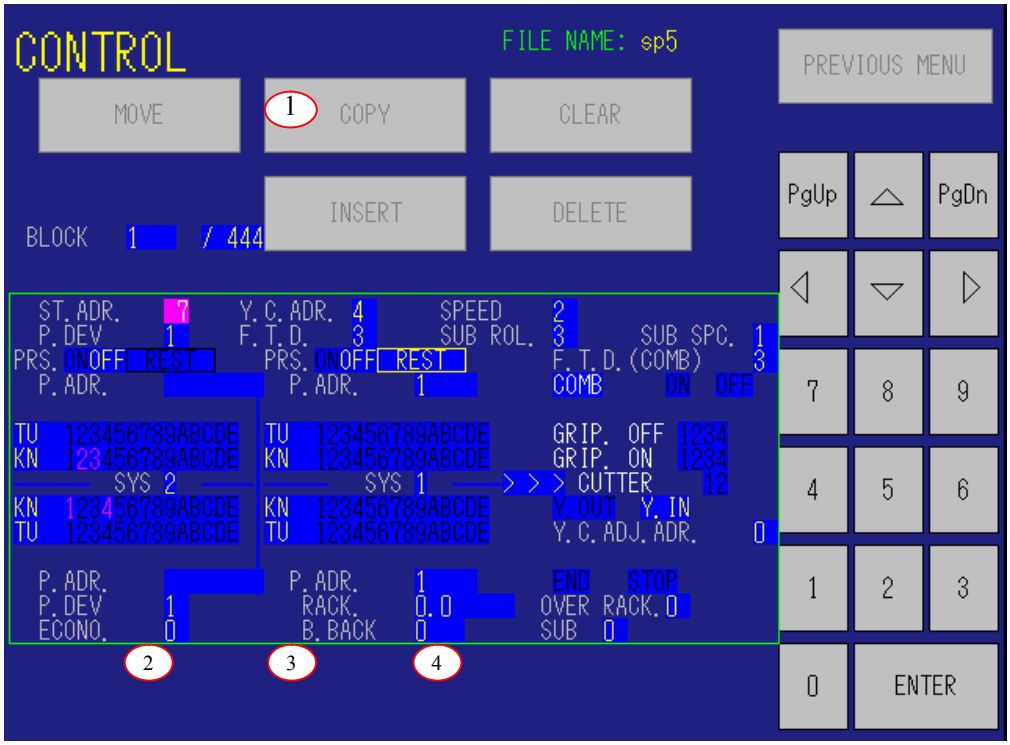
THIS IS THE COMMAND TO MOVE THE BLOCK TO THE SPECIFIED POSITION.
PROCEDURES

① PRESS “MOVE”（AT THE BOTTOM OF THIS DISPLAY SHOWS②③④）
② INPUT THE FIRST BLOCK NO. THAT YOU WISH TO MOVE
③ INPUT THE LAST BLOCK NO. THAT YOU WISH TO MOVE
④ INPUT THE BLOCK NO. TO WHERE YOU WISH TO MOVE
0---9 NUMBERS TO BE INPUT
◁▷ CURSOR
END

EX: INPUT “3” AND PRESS “ENTER” TO ②, INPUT “4” AND PRESS “ENTER” TO ③, INPUT “6” AND PRESS “ENTER” TO ④. BLOCK NO. 3 AND 4 WILL THEN MOVE TO THE BLOCK AFTER BLOCK NO. 6. THE ORIGINAL SPACE FOR BLOCK NO. 3 AND 4 WILL BE OCCUPIED BY BLOCK NO. 5 AND 6.
THERE WILL BE NO CHANGE IN THE TOTAL NO. OF BLOCKS.



COPY



THIS IS THE EDIT COMMAND TO COPY THE BLOCK.
PROCEDURES:

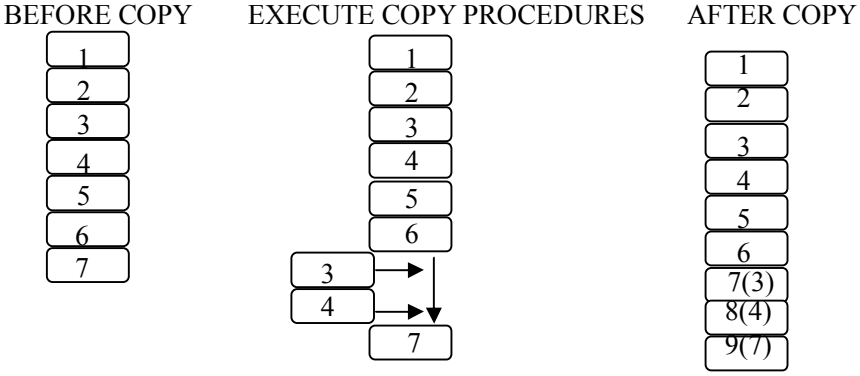
① PRESS “COPY”（AT THE BOTTOM OF THIS DISPLAY SHOWS②③④）
② INPUT THE FIRST BLOCK NO. THAT YOU WISH TO COPY
③ INPUT THE LAST BLOCK NO. THAT YOU WISH TO COPY
④ INPUT THE BLOCK NO. TO WHERE YOU WISH TO COPY

0---9 NUMBERS TO BE INPUT

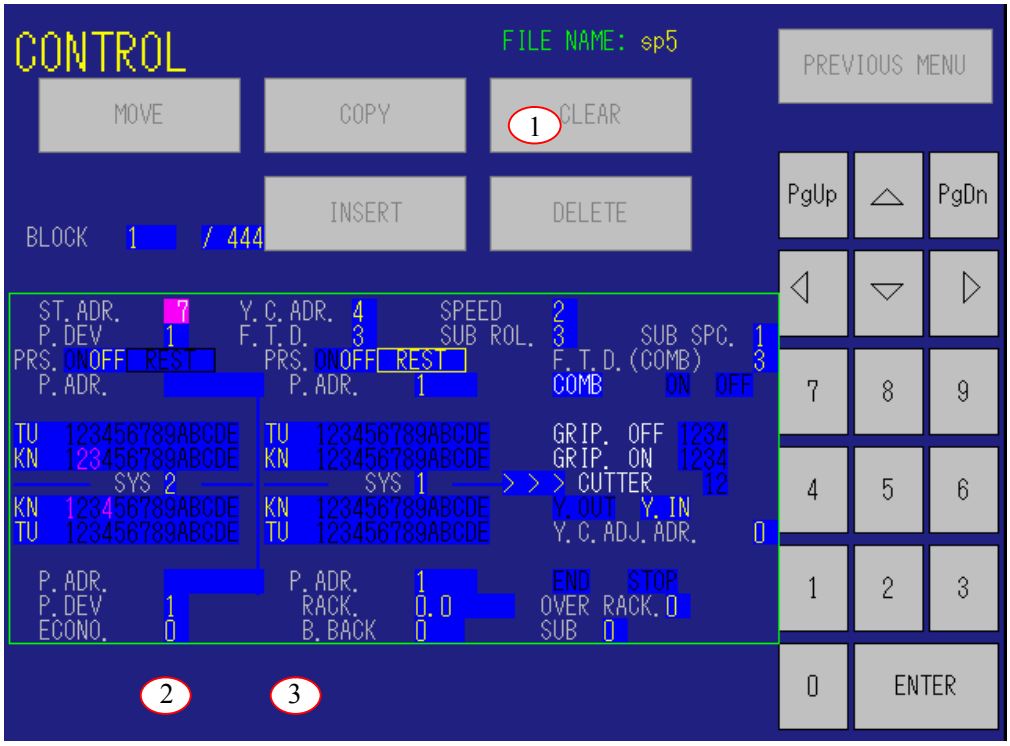
◁ ▷ CURSOR

△ END

EX: INPUT “3” AND PRESS “ENTER” TO ②, INPUT “4” AND PRESS “ENTER” TO ③, INPUT “6” AND PRESS “ENTER” TO ④. BLOCK NO. 3 AND 4 WILL THEN BE COPIED TO THE NEXT BLOCK AFTER BLOCK NO. 6. THE ORIGINAL BLOCK NO. 7 WILL BE LOWERED ACCORDINGLY.
2 BLOCKS WILL BE INCREASED TO THE TOTAL NO. OF BLOCKS.



CLEAR



THIS IS THE EDIT COMMAND TO CLEAR THE CONTENT OF THE BLOCK：

PROCEDURES:

① PRESS “CLEAR”（AT THE BOTTOM OF THIS DISPLAY SHOWS②③）

② INPUT THE FIRST BLOCK NO. THAT YOU WISH TO CLEAR

③ INPUT THE LAST BLOCK NO. THAT YOU WISH TO CLEAR

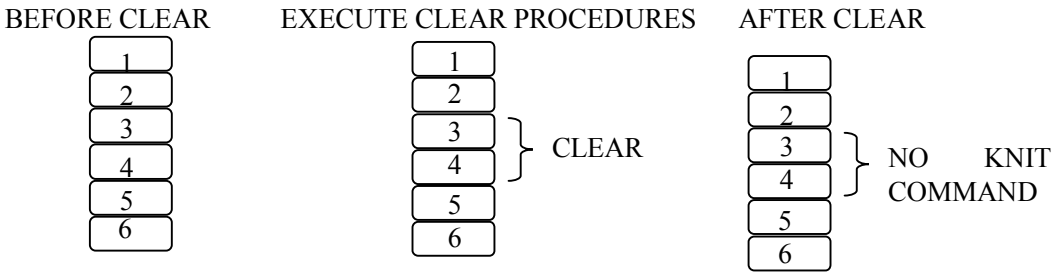
0---9 NUMBERS TO BE INPUT

◁ ▷ CURSOR

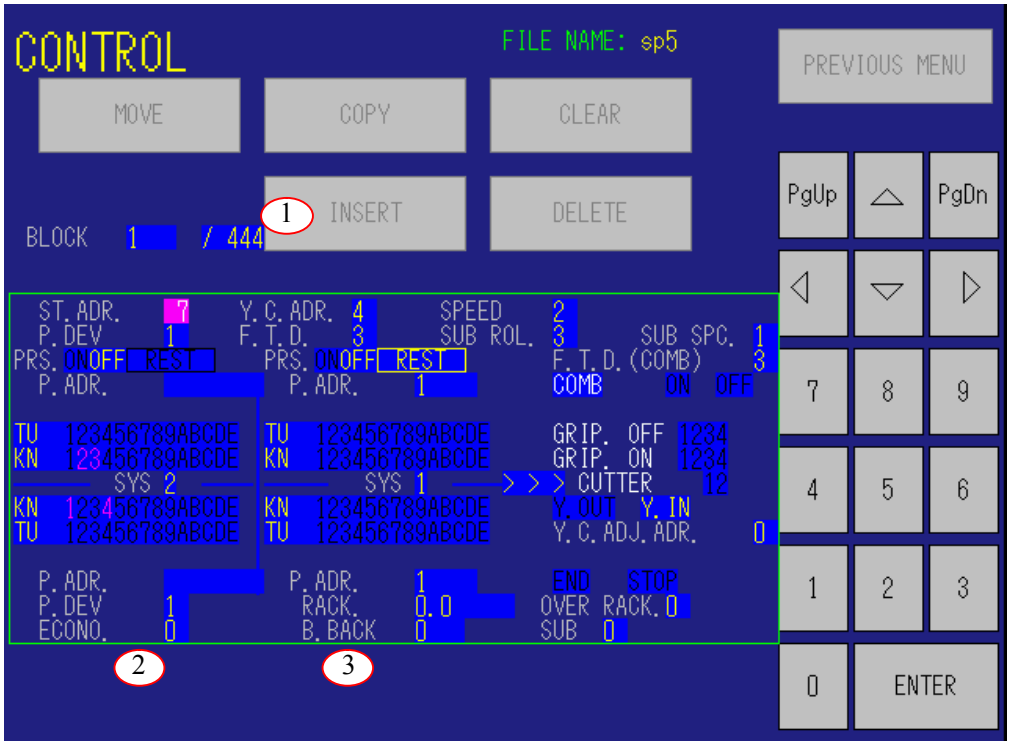
△ END

EX：INPUT “3” AND PRESS “ENTER” TO ②, INPUT “4” AND PRESS “ENTER” TO ③. THE CONTENT OF BLOCK NO. 3 AND 4 WILL THEN BE CLEARED

THERE WILL BE NO CHANGE IN TOTAL NO. OF BLOCKS BECAUSE ONLY THE CONTENT OF BLOCK NO. 3 AND 4 ARE CLEARED.



INSERT



THIS IS THE EDIT COMMAND TO INSERT EMPTY BLOCK(S).
PROCEDURES

(1) PRESS “INSERT”（AT THE BOTTOM OF THIS DISPLAY SHOWS ②③）
(2) INPUT THE NO. OF BLOCKS REQUIRED TO BE INSERT
(3) INPUT THE BLOCK NO. TO WHERE YOU WISH TO INSERT

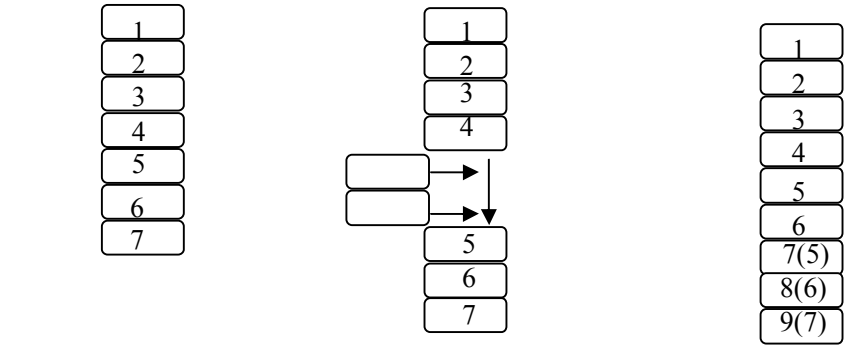
0---9 NUMBERS TO BE INPUT

CURSOR

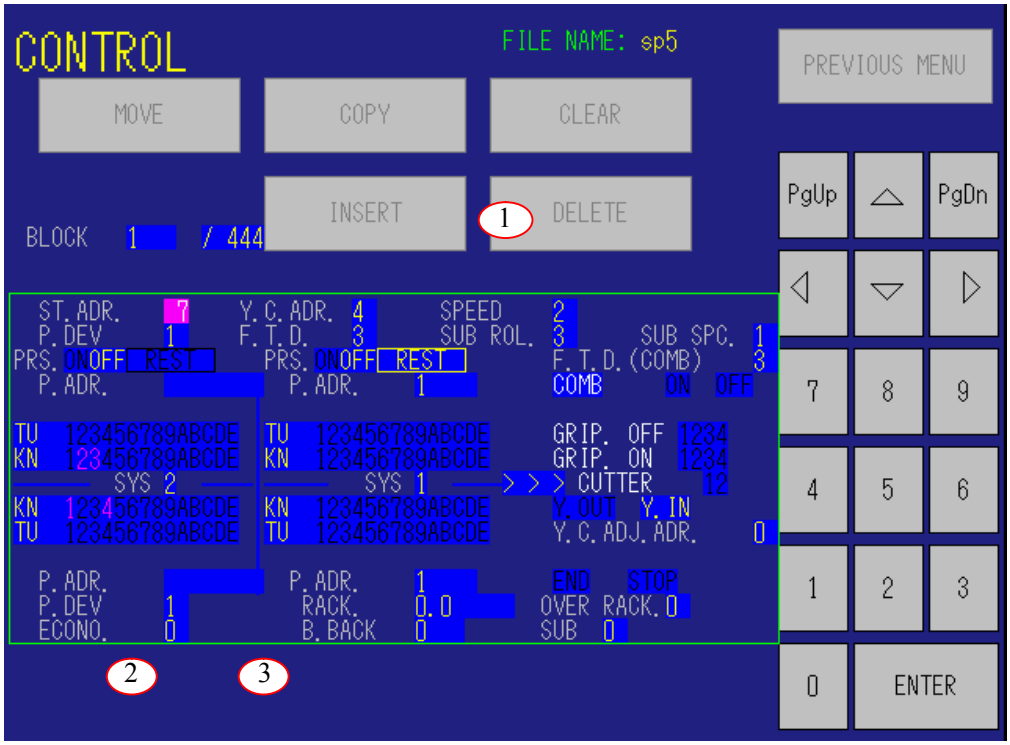
END

EX：INPUT “2” AND PRESS “ENTER” TO ② INPUT “4” AND PRESS “ENTER” TO ③. 2 EMPTY BLOCKS WILL BE INSERTED TO THE NEXT BLOCK AFTER BLOCK NO. 4. THE ORIGINAL BLOCK NO. 5 WILL BE LOWERED ACCORDINGLY.
2 BLOCKS WILL BE INCREASED TO THE TOTAL NO. OF BLOCKS

BEFORE INSERT EXECUTING INSERT PROCEDURES AFTER INSERT



DELETE

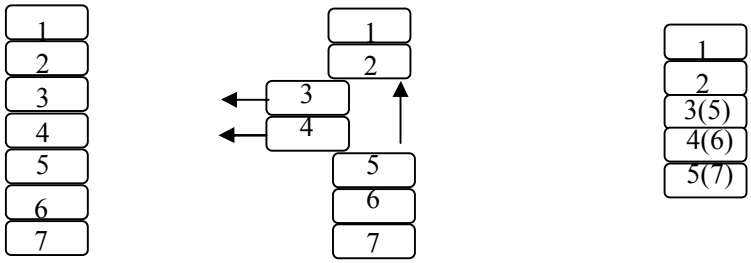


THIS IS THE EDIT COMMAND TO DELETE THE BLOCKS THAT ARE NOT REQUIRED.
PROCEDURES

① PRESS “DELETE”（AT THE BOTTOM OF THIS DISPLAY SHOWS②③）
② INPUT THE FIRST BLOCK NO. THAT YOU WISH TO DELETE
③ INPUT THE LAST BLOCK NO. THAT YOU WISH TO DELETE
0---9 NUMBERS TO BE INPUT
◁ ▷ CURSOR
△ END

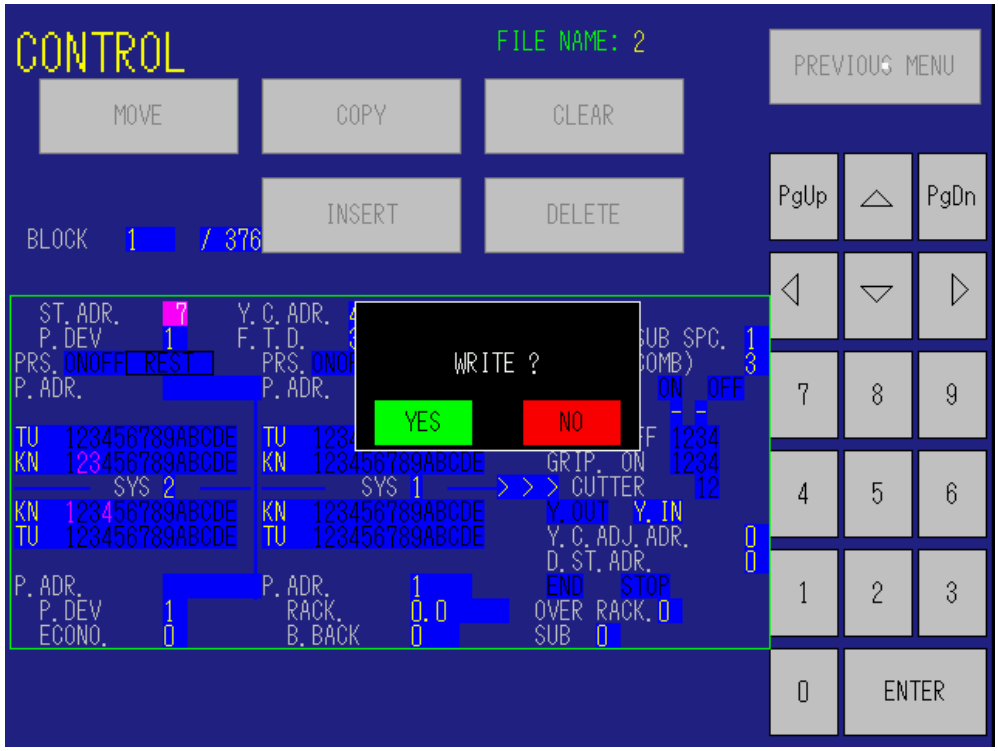
EX: INPUT “3” AND PRESS “ENTER” TO ②, INPUT “4” AND PRESS “ENTER” TO ③. BLOCK NO. 3 AND 4 WILL THEN BE DELETED. THE ORIGINAL BLOCK NO. 5 WILL MOVE UPWARDS ACCORDINGLY.
2 BLOCKS WILL BE DECREASED FROM THE TOTAL NO. OFBLOCKS

BEFORE DELETE EXECUTE DELETE PROCEDURES AFTER DELETE



END EDIT COMMAND

AFTER FINISH EDITING, PRESS “PREVIOUS MENU” AND THE DISPLAY WILL SHOW “WRITE”. PRESS”YES” IF YOU WANT TO SAVE AND “NO” IF YOU DO NOT WANT TO SAVE.



2.7.6 PATTERN DEVELOPMENT DATA

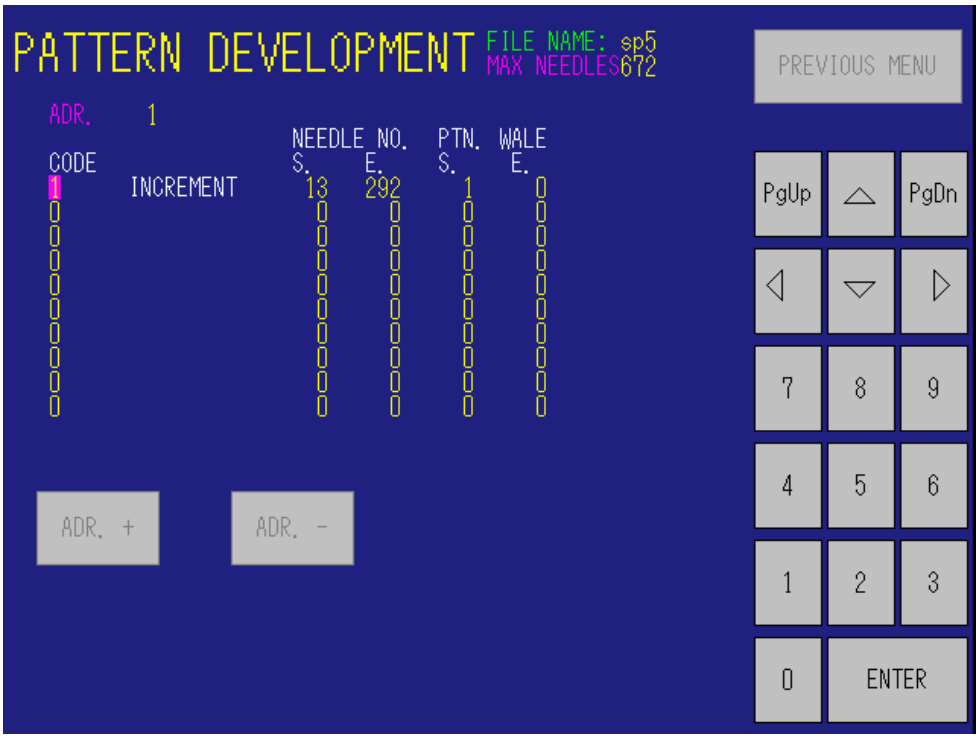
THIS IS THE COMMAND FOR PATTERN DEVELOPMENT. THIS IS TO DECIDE THE POSITION (NO. OF NEEDLES) ON THE MACHINE OF THE BASIC PATTERN.

RANGE OF ADDRESS : 1 TO 31 GROUPS

◁ ▷ CURSOR

PgUp , PgDn CHANGE OF PAGES

0---9 NUMBERS TO BE INPUT



ADR.+ TO INCREASE THE PATTERN ADDRESS NO.
ADR.- TO DECREASE THE PATTERN ADDRESS NO.

CONTENT OF PATTERN DEVELOPMENT COMMAND AND PROCEDURES TO INPUT

(INCREMENT),

PATTERN DEVELOPS BETWEEN THE STARTING NEEDLE(NO. Ｓ)～AND END NEEDLE(NO. Ｅ).

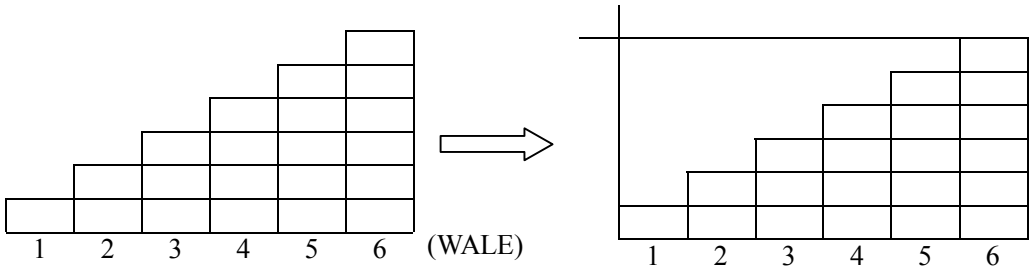
BASIC PATTERN STARTS TO DEVELOP FROM THE LEFT END.

IT IS POSSIBLE TO DEVELOP THE BASIC PATTERN BY SETTING THE START COMMAND (S) AT ANY WALE POSITION.

EX:INCREMENT

CODE		NEEDLE No. S	E	PTN. WALE S	E	
1	INCREMENT	101	106	1		

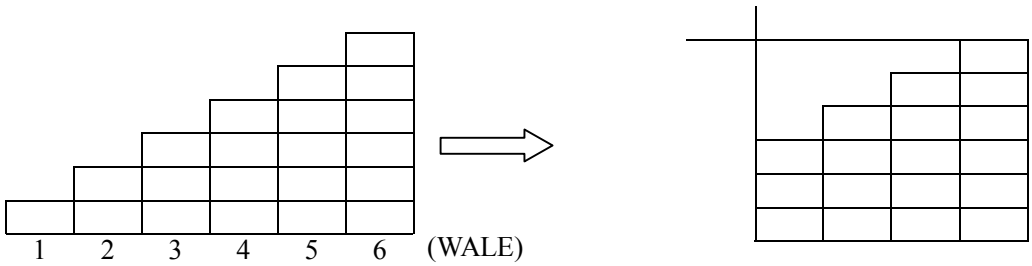
PATTERN 101 NEEDLE No. 106



EX:INCREMENT

CODE		NEEDLE No. S	E	PTN. WALE S	E	
1	INCREMENT	101	104	3		

PATTERN 101 NEEDLE No. 106



(REPEAT)

THIS IS TO DEVELOP REPEATEDLY THE BASIC PATTERN BETWEEN THE STARTING NEEDLE (NO. S) AND THE END NEEDLE (NO. E). HERE, SET THE REPEAT AREA BETWEEN THE START (NO. S) AND END (NO. E) WALE POSITION OF THE BASIC PATTERN.

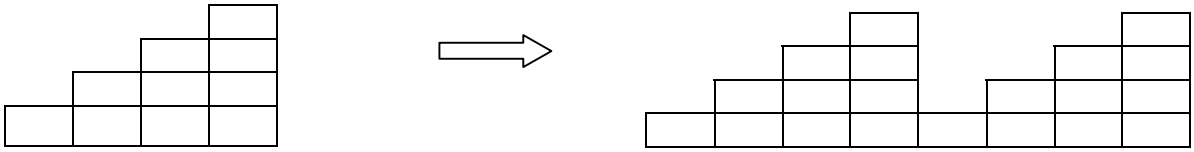
EX:REPEAT-1

CODE		NEEDLE No. S	E	PTN. WALE S	E	
2	REPEAT	101	108	1	4	

PATTERN

NEEDLE No

101 104 108

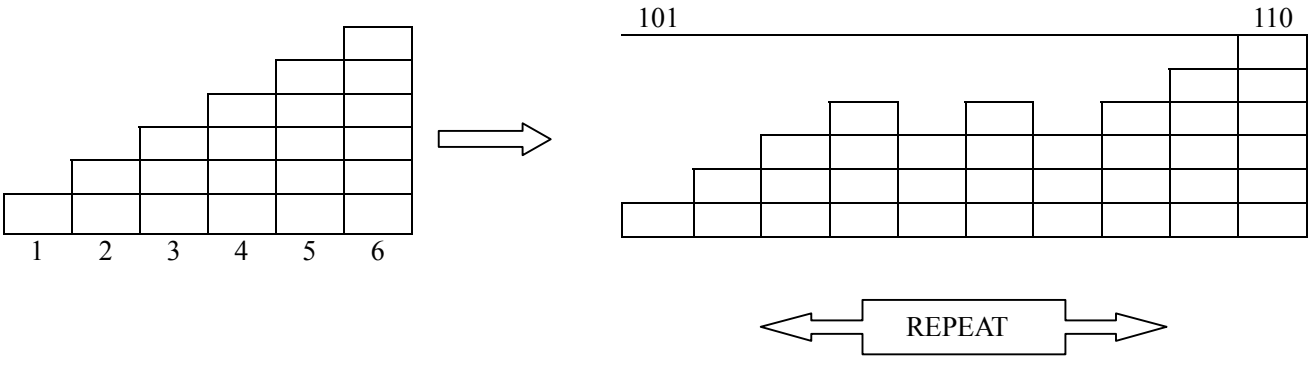


EX:REPEAT-2

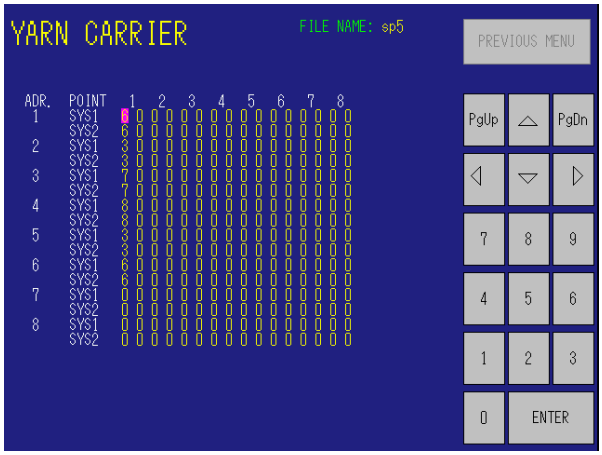
CODE		NEEDLE No. S	E	PTN. WALE S	E	
2	INCREMENT	101	102	1		
1	PEPEAT	103	108	3	4	
2	INCREMENT	109	110	5		

PATTERN

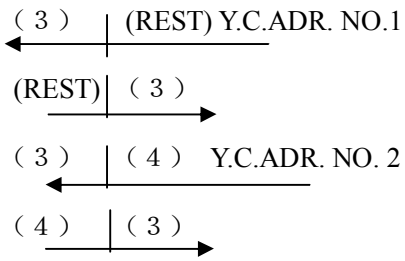
NEEDLE No

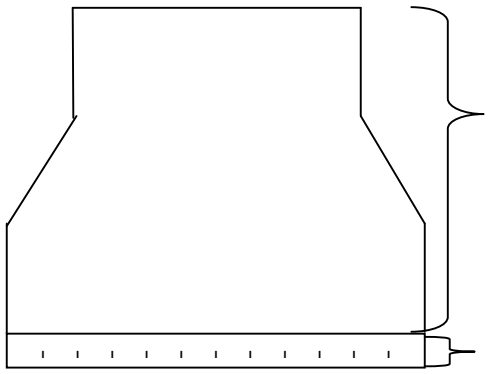


2.7.7 YARN CARRIER DATA



SPECIFY THE YARN CARRIER ADDRESS NO. MAX. NO. 31
THE MOVABLE RANGE OF THE YARN CARRIER IS DETERMINED ACCORDING TO THE “NEEDLE WIDTH” OR THE “YARN CARRIER STOP POINT”.
EX: THE CASE WHEN THE YARN CARRIER IS DETERMINED BY “NEEDLE WIDTH” (WITHOUT YARN CARRIER STOP POINT)：





Y.C.ADR.NO. 2
SYS 1： Y.C. 3
SYS 2： Y.C. 4

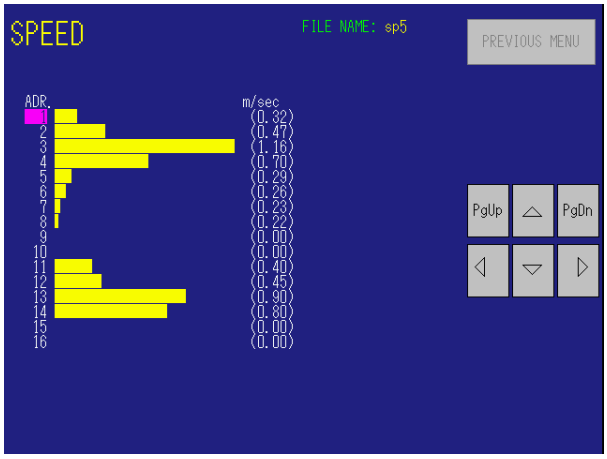
Y.C.ADR.NO. 1
SYS 1： Y.C. 3
SYS 2： Y.C. REST

ADR.	POINT	1	2	3	4	5	6
1	SYS1	3 0	0 0	0 0	0 0	0 0	0 0
	SYS2	0 0	0 0	0 0	0 0	0 0	0 0
2	SYS1	3 0	0 0	0 0	0 0	0 0	0 0
	SYS2	4 0	0 0	0 0	0 0	0 0	0 0

IN THE CASE THE YARN CARRIER MOVABLE RANGE IS DETERMINED BY “NEEDLE WIDTH”, INPUT THE COMMAND TO START AT YARN CARRIER POINT NO. 1.
WHEN YARN CARRIER IS AT REST POSITION, INPUT “0”.
EACH YARN CARRIER POINT CAN INPUT 2 YARN CARRIER NOS. FOR NORMAL KNITTING, INPUT THE YARN CARRIER NO. FROM THE LEFT.
FOR “PLATING” (KNIT STRUCTURE WHERE 2 DIFFERENT YARN CARRIERS KNIT AT THE SAME TIME), INPUT THE YARN CARRIER NOS. FROM BOTH LEFT AND RIGHT SIDES. 2 YARN CARRIERS CAN RUN SIMULTANIOUSLY AT THE SAME TIME.

2.7.8 SPEED DATA

THIS DISPLAY IS FOR SETTING SPEED PARAMETER.



EXPLANATION OF DISPLAY:

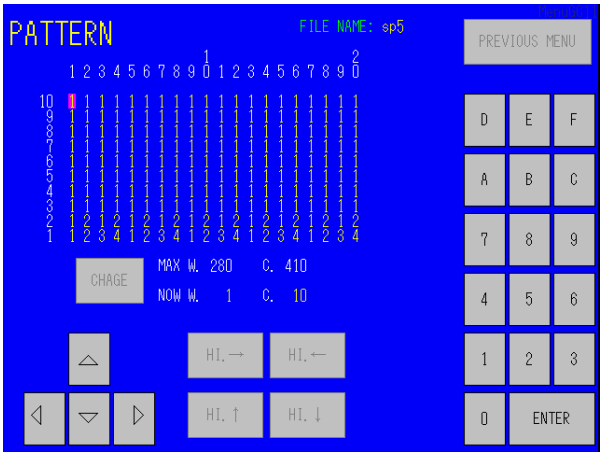
THERE ARE 2 PAGES FOR SPEED PARAMETER SETTING. TOTAL 32 ADDRESS NOS.
SETTING RANGE OF THE SPEED VALUE TO BE FROM 0.2 TO 1.2m/sec. THIS SPEED PARAMETER ACTS AS THE ACTUAL KNITTING SPEED OF EACH BLOCK IN THE KNITTING PROCEDURE.

PRODCEDURES:

1. PRESS [△], [▽] FOR CHANGING ADDRESS NO.
2. PRESS [<]=, [>] FOR CHANGING THE SPEED VALUE.

2.7.9 PATTERN DATA

THIS IS FOR DISPLAY OR EDIT OF PATTERN DATA.
THIS DISPLAY SHOWS THE PRESENT PATTERN DATA IN OPERATION AND CAN BE MODIFIED EASILY.

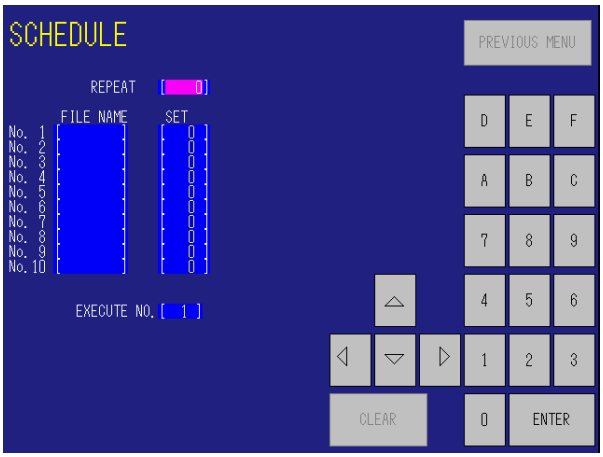


PROCEDURES:.

1. PRESS [HI.↑], [HI.↓]TO CHANGE TO THE PREVIOUS OR NEXT ROW. (EACH TIME 10 ROWS).
2. PRESS [HI.→], [HI.←] TO CHANGE TO THE RIGHT AND LEFT NEIGHBOUR COLUMN. (EACH TIME 20 COLUMNS).
3. PRESS [CHANGE AND INPUT THE ROW NO. THAT YOU WISH AT NOW W. AND THEN PRESS “ENTER”. THE CURSOR WILL INDICATE THE ROW THAT YOU INPUT.
4. INPUT DIRECTLY THE NUMBERS (0~F) AND PRESS “ENTER”. THE CURSOR WILL INDICATE YOUR NEW INPUT DATA.

2.7.10 SCHEDULE KNITTING

CONTROL SEVERAL FILES (PATTERNS) FOR SCHEDULE KNITTING. MAX 10 FILES.



PROCEDURES:

1. REPEAT : INPUT THE NO. OF REPEAT FOR SCHEDULE KNITTING
   THE WHOLE PAGE INDICATES ONE CYCLE OF THE SCHEDULE KNITTING.
2. FILE NAME : PATTERN FILE NAME.
3. SET : INPUT THE NO. OF TIMES OF THE RELEVANT FILE (PATTERN) TO BE EXECUTED. (MAX. 9999 TIMES).
4. EXECUTE NO.: INDICATE THE NEXT FILE (PATTERN) NO. TO BE EXECUTED.

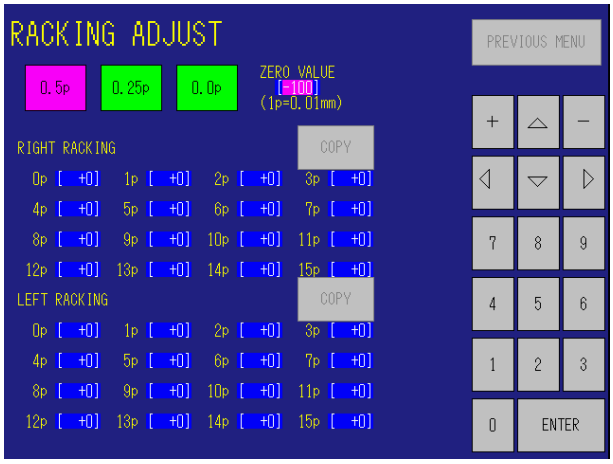
2.8 ADJUST

THIS IS TO ADJUST THE POSITIONS OF ALL MOVABLE PARTS IN THE MACHINE. THIS FUNCTION HAS 2 PAGES, TOTAL 15 KINDS OF ADJUSTMENT. PRESS DIRECTLY THE RELEVANT KEY TO OBTAIN ITS DISPLAY. PLEASE NOTE THAT PASSWORD IS REQUIRED FOR CERTAIN DISPLAYS.

★THE DATA IN THE DISPLAYS TO BE DESCRIBED HEREINAFTER ACTUALLY AFFECTS THE MACHINE PERFORMANCE. IT IS ADVISABLE THAT ONLY MANAGING OFFICERS OR SUPERINTENDANTS SHOULD DO THE CHANGES.

2.8.1 RACKING ADJUST

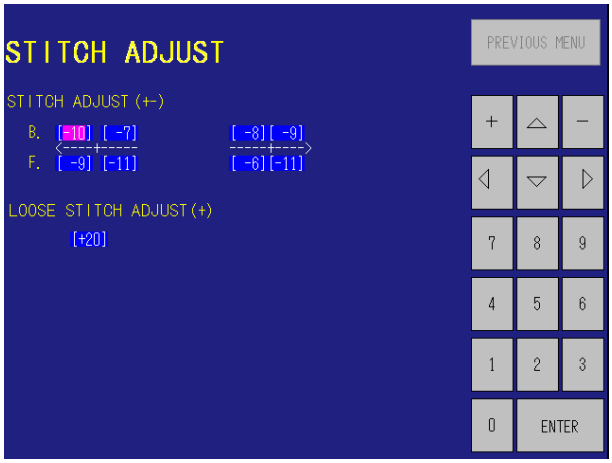
ADJUSTMENT OF REAR NEEDLE BED RACKING POSITIONS. TOTAL 96 POSITIONS, NAMELY NORMAL NEEDLE POSITION (NEEDLE TO BED TEETH), 1/4 PITCH, 1/2PITCH. EACH PITCH HAS LEFT/RIGHT 16 POSITIONS MAKING TOTAL 3*(16+16)=96



EXPLANATION OF DISPLAY:
[0.5p]: 1/2 PITCH (32 POSITIONS)
[0.25p]:1/4PITCH (32 POSITIONS)
[0.0p] : KNIT POSITION (33 POSITIONS)
[＋]= LEFT : RACK LEFTWARDS
RIGHT : RACK RIGHWARDS
[－]= LEFT : RACK RIGHTWARDS
RIGHT : RACK LEFTWARDS
EACH PITCH :0.01mm
PRESS [COPY] AND VALUE OF 0p WILL BE COPIED TO ALL 15 POSITIONS. HOWEVER, THE CURSOR SHOULD BE AT 0p POSITION.

2.8.2 STITCH CAM ADJUST

ADJUST THE STITCH POSTION OF EACH STITCH MOTOR TO HAVE SAME STITCH DATA.



EXPLANATION OF DISPLAY:
1. [F.]= FRONT NEEDLE BED
2. [B.]=REAR NEEDLE BED
3. LOOSE STITCH ADJUST: THE STITCH ADJUSTMENT AT LOOSE STITCH KNITTING.
4. MOVE THE CURSOR TO THE REQUIRED PLACE AND INPUT THE NUMBER DIRECTLY. RANGE: -99 TO +99

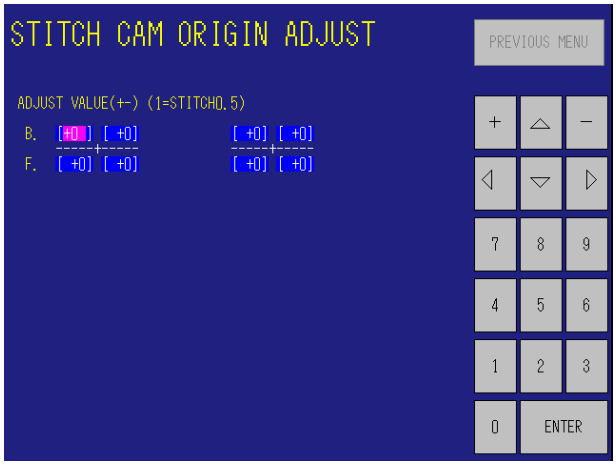
2.8.3 ORIGIN ADJUST

TO ADJUST THE ORIGIN OF THE CARRIAGE.

JUST PRESS “ENTER” DIRECTLY

2.8.4 STITCH DATA 0 ADJUST

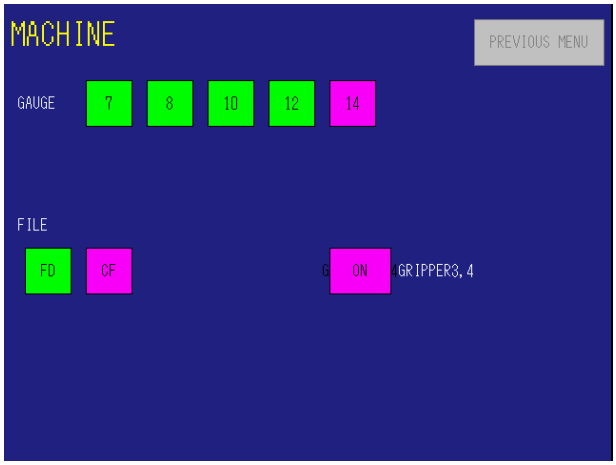
ADJUST THE STITCH PARAMETER FOR EACH STITCH SO AS TO HAVE EVERY STITCH CAM THE SAME ORIGIN (0) POSITION.



EXPLANATION OF DISPLAY:
USE THE CURSOR TO MOVE TO THE RELEVANT POSITION AND INPUT YOUR REQUIRED NUMBER.
[＋] INCREASE STITCH (STITCH CAM LOWERS DOWN)
[－] DECREASE STITCH (STITCH CAM RISES)

2.8.5 MACHINE GAUGE SETTING

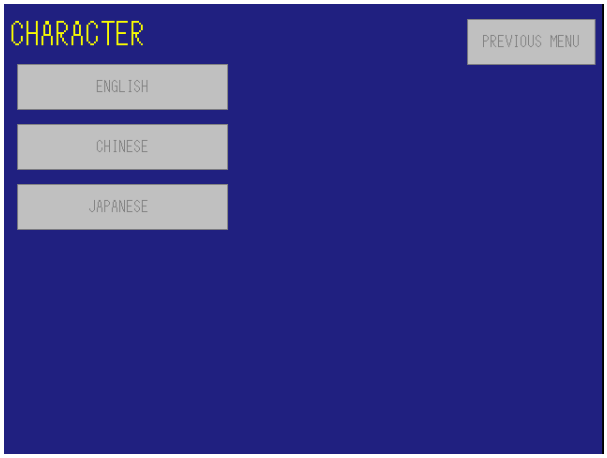
SETTING THE GAUGE OF THE MACHINE.



EXPLA NATION OF DISPLAY:
1. GAUGE : INPUT THE GAUGE OF THE MACHINE (NO. OF NEEDLES IN ONE INCH)
2. FILE : MEDIA FOR SAVING THE FILES. NORMALLY SETS AT “CF”.
3. OFF : THIS IS FOR “ON”/”OFF” OF GRIPPER NO. 3 AND 4. SITUATED AT RIGHT SIDE OF MACHINE.

2.8.6 CHARACTER SETTING

SETTING THE CHARACTER (LANGUAGE) ON THE DISPLAY.



INPUT DIRECTLY THE REQUIRED CHARACTER (LANGUAGE)

2.8.7 SETTING OF MOTOR PARAMETERS

SETTING OF THE PARAMETER FOR THE MOTOR (OPTIMUM RANGE FOR DRIVE MECHANISM)

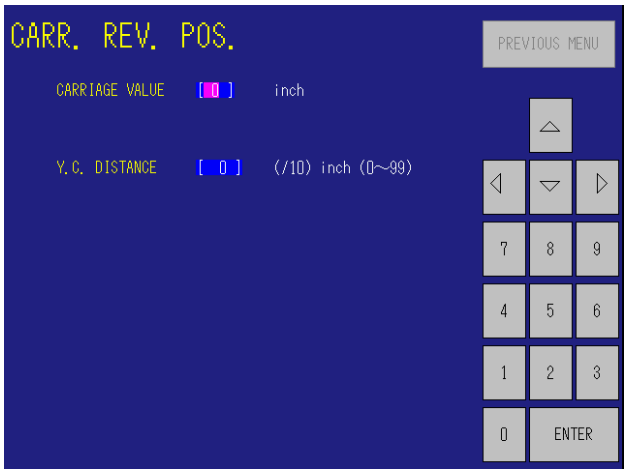
EXPLANATION OF DISPLAY:

1. SUB ROLLER : SUB ROLLER MOTOR
2. SUB OPEN-CLOSE: MOTOR TO OPEN/CLOSE THE SUB ROLLER.
3. MAIN ROLLER : MAIN ROLLER MOTOR
4. MAIN OPEN-CLOSE: MOTOR TO OPEN/CLOSE THE MAIN ROLLER.
5. COMB UP DOWN: MOTOR FOR COMB
6. SLIDER : MOTOR FOR SLIDER
7. MOVE THE CURSOR TO THE REQUIRED POSITION AND INPUT DIRECTLY THE NUMBER.

2.8.8 CARRIAGE TURN POSITION

CARRIAGE RUNS A LITTLE FURTHER DISTANCE BEFORE IT MAKES THE TURN.

WHEN THE CARRIAGE FINISHES THE PRESET KNITTING WIDTH, IT WILL RUN A LITTLE FURTHER DISTANCE BEFORE IT MAKES THE TURN.



EXPLANATION OF DISPLAY:

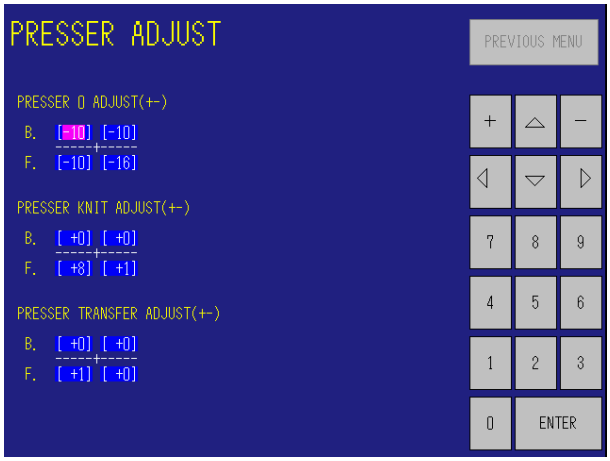
1. CARRIAGE VALUE : THE DISTANCE THAT THE CARRIAGE REQUIRES TO RUN FURTHER AFTER FINISHING THE KNITTING WIDTH AND BEFORE THE CARRIAGE TURNS.
2. Y.C. DISTANCE : THE VALUE SET FOR THE “START” AND “END” POSITION OF THE YARN CARRIER. (DISTANCE BETWEEN THE FIRST NEEDLE OF THE NEEDLE BED AND THE PLACE WHERE THE YARN CARRIER IS PLACED

2.8.9 FINE ADJUSTMENT OF ACTUATORS

.TO ADJUST THE ORIGIN OF ALL ACTUATORS.（＋）: ADVANCE,（－）: DELAY.
UNIT : PER NEEDLE PITCH

2.8.10 ADJUSTMENT OF PRESSER FOOT

TO ADJUST THE FINAL POSITION OF ALL PRESSER FOOT (2- SYSTEM : 4PCS; 3-SYSTEM :6PCS)



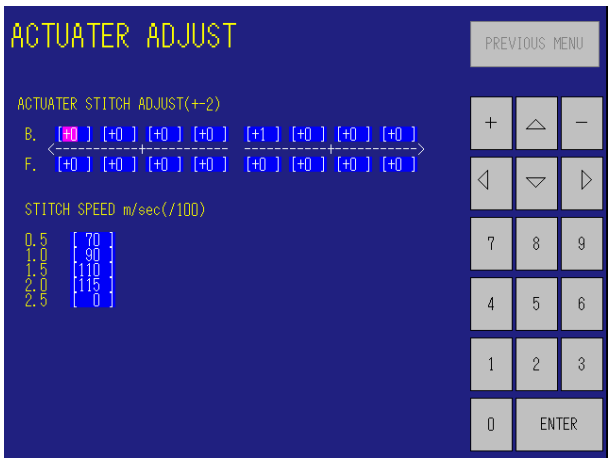
EXPLANATION OF DISPLAY:

1. PRESSER 0 ADJUST(+-): REST POSITION
2. PRESSER KNIT ADJUST(+-): KNIT POSITION
3. PRESSER TRANSFER ADJUST(+-) : TRANSFER POSITION
4. [F.]=POSITION OF FRONT CARRIAGE
5. [B.]=POSITION OF REAR CARRIAGE
6. [＋] PRESSER FOOT LOWERS DOWN
7. [－] PRESSER FOOT RISE UP

2.8.11ADJUSTMENT OF ACTUATOR

TO ADJUST INDIVIDUAL ACTUATOR.（＋）: ADVANCE,（－）: DELAY UNIT: PER NEEDLE PITCH
PASSWORD IS REQUIRED TO ACCESS THIS DISPLAY.

★ANY CHANGES IN THIS DISPLAY WILL AFFECT THE WHOLE MACHINE PERFORMANCE. THUS, IT IS ADVISABLE THAT ONLY FACTORY MANAGEMENT OR SUPERINTENDANT SHOULD DO THIS ADJUSTMENT. PLEASE ALSO TAKE NOTICE THAT BEFORE INPUTING THE NEW ADJUSTMENT VALUE, PLEASE BE SURE TO TAKE RECORD OF THE PRESENT DATA.



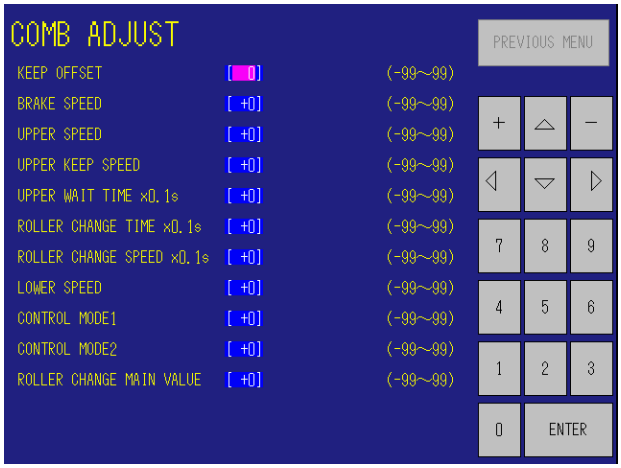
EXPLANATION OF DISPLAY:

1. ACTUATOR STITCH ADJUST (+-2): TO INPUT VALUE TO ADVANCE OR DELAY
2. [F.] : POSITION OF FRONT CARRIAGE
3. [B.] : POSITION OF REAR CARRIAGE
4. [PITCH] : 0.5, 1.0, 1.5, 2.0, 2.5RESPECTIVELY
5. [SPEED] : TO INPUT THE VALUE WHICH REFERS TO THE TIMING TO ADVANCE THE START OF THE CAM NOTE: THI VALUE AFFECTS ALL KNIT CAMS.

2.8.12 ADJUSTMENT OF SET-UP COMB

SETTING THE PARAMETER FOR THE SET-UP COMB AT DIFFERENT POSITION (TOTAL: HH, H, S, L, LL 5 POSITIONS) . SETTING RANGE : -99~+99.. THE BIGGER THE VALUE, THE FASTER THE SPEED. PASSWORD IS REQUIRED TO ACCESS THIS DISPLAY.

★ANY CHANGES IN THIS DISPLAY WILL AFFECT THE WHOLE MACHINE PERFORMANCE. THUS, IT IS ADVISABLE THAT ONLY FACTORY MANAGEMENT OR SUPERINTENDANT SHOULD DO THIS ADJUSTMENT.

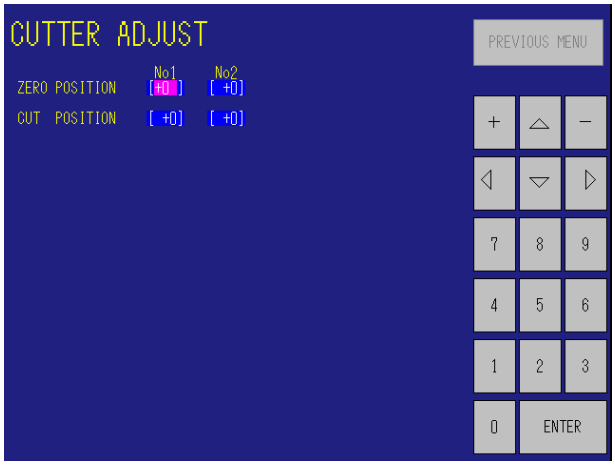


EXPLANATON OF DISPLAY:

1. KEEP OFFSET :
   THIS VALUE KEEPS THE SET-UP COMB AT ITS BALANCE LEVEL AT ANY POSITION UNDER NO-LOADCONDITION..
2. BRAKE SPEED :
   SPEED OF COMB FROM H TO HH POSITION
3. UPPER SPEED :
   SPEED OF COMB FROM LL TO H POSITION
4. UPPWER KEEP SPEED :
   KEEP FORCE AT HH POSITION
5. UPPWER WAIT TIME x0.1s :
   TIME PER 0.1 SEC. FOR COMB TO STAY AT HH POSITION AFTER ARRIVAL.
6. ROLLER CHANGE TIMEx0.1s :
   COMB WILL RISE UP WHEN RETURNING BACK TO S POSITION FROM KNITTING. THIS IS TO SET THE TIME IN 0.1 SEC. FOR THE COMB TO REACH THE HIGHEST POINT BEFORE IT BEGINS TO LOWER DOWN.
7. ROLLER CHANGE SPEED:
   COMB WILL RISE UP WHEN RETURNING BACK TO S POSITION FROM KNITTING. THIS IS TO SET THE SPEED FOR RISING UP.
8. LOWER SPEED : SPEED FOR COMB TO LOWER DOWN
9. CONTROL MODE 1: FOR FUTURE PURPOSE
10. CONTROL MODE 2 FOR FUTURE PURPOSE
11. ROLLER CHANGE MAIN VALUE

2.8.13 CUTTER ADJUST

SETTING THE POSITION OF THE CUTTER.

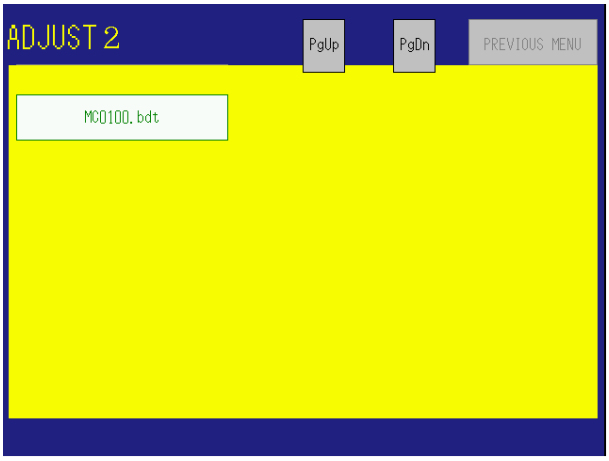


EXPLANATION OF DISPLAY:

1. ZERO POSITION: TO ADJUST THE POSITION FOR PREPARATION
2. CUT POSITION :TO ADJUST THE CUT POSITION
3. No1. : LEFT CUTTER
4. No2. : RIGHT CUTTER

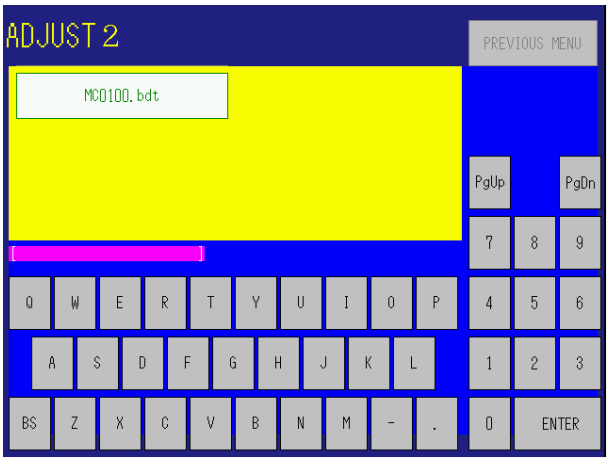
2.8.14 SETTING TO READ ADJUST DATA

READ THE ADJUST DATA FILE FROM THE USB PROTECT KEY.



2.8.15 SETTING TO SAVE ADJUST DATA

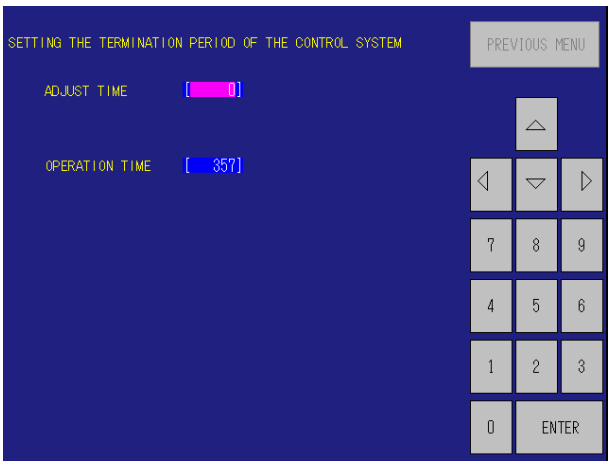
COPY THE ADJUST DATA TO THE USB PROTECT KEY.



EXPLANATION OF DISPLAY
INPUT THE FILE NAME AND PRESS “ENTER”. THE MACHINE SYSTEM WILL COPY ALL DATA TO THE USB PROTECT KEY UNDER THIS INPUT FILE NAME.

2.9 SETTING THE TERMINATION PERIOD OF THE CONTROL SYSTEM

PASSWORD IS REQUIRED TO ACCESS TO THIS DISPLAY
SET THE TERMINATION PERIOD OF THE CONTROL SYSTEM

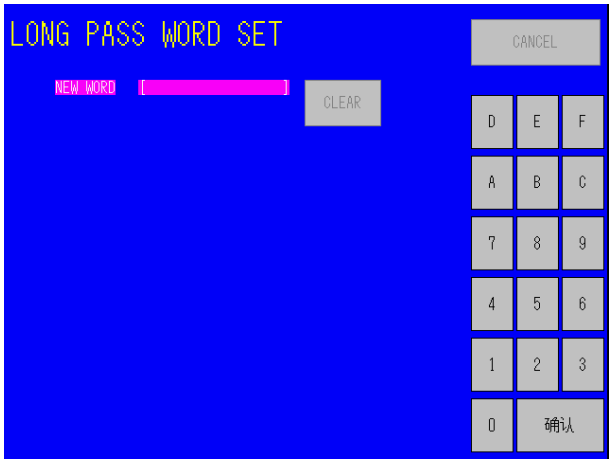


EXPLANATION OF DISPLAY:
[ADJUST TIME] : THE TIME SETTING TO ALLOW THE MACHINE CONTROL SYSTEM TO OPERATE
[OPERATION TIME] : TIME SHOWING THE NO.OF HOURS PASSED DURING MACHINE POWER “ON”.
NOTE:

1. [ADJUST TIME] > [OPERATION TIME]= TERMINATION OF CONTROL SYSTEM.
2. MACHINE STARTS COUNTING THE TIME WHEN THE POWER IS “ON”
3. THE SYSTEM ACCUMULATES THE TIME EVERY ONE HOUR.
4. MACHINE ACCUMULATES THE TIME EVERY ONE HOUR AFTER MACHINE POWER IS “ON”

2.10 CHANGE OF PASSWORD

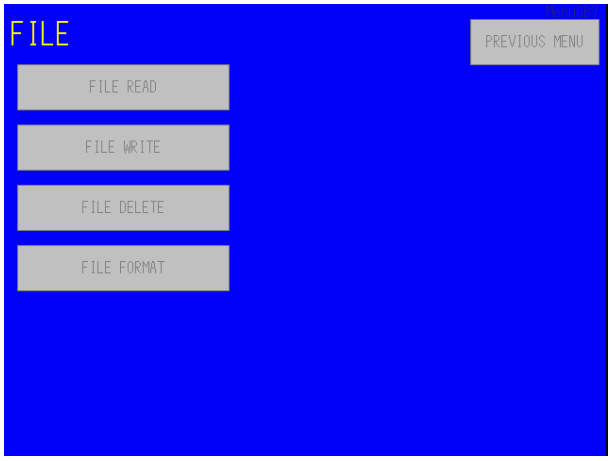
THIS IS TO CHANGE THE PASSWORD.



EXPLANATION OF DISPLAY:
IN PUT THE NEW PASSWORD AND PRESS “ENTER”.
[CLEAR] TO CLEAR THE INPUT DATA.

2. 11 FILE

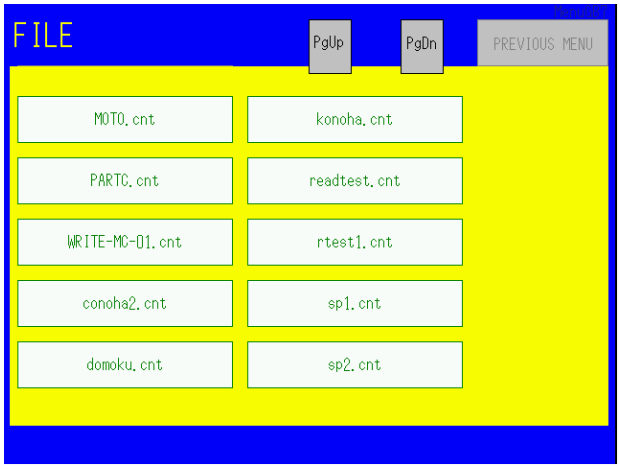
THIS DISPLAY HAS 4 FUNCTIONS. NAMELY, FILE READ, FILE WRITE, FILE DELETE AND FILE FORMAT.



EXPLANATION OF DISPLAY:
PRESS THE RELEVANT KEY TO ENTER ITS DISPLAY.

FILE READ

COPY THE FILE FROM USB PROTECT KEY TO MACHINE CONTROL SYSTEM.



EXPLANATION OF DISPLAY:
WHEN ENTERING THIS DISPLAY, THE MACHINE SYSTEM WILL AUTOMATICALLY READ AND LIST OUT ALL THE FILES IN THE USB PROTECT KEY.
SELECT THE REQUIRED FILE AND THE MACHINE SYSTEM WILL COPY THE FILE AND OVERWRITE THIS READ FILE TO THE PRESENT FILE.

FILE WRITE

COPY THE FILE INSIDE THE MACHINE SYSTEM TO THE USB PROTECT KEY.. THERE ARE 2 FUNCTIONS IN THIS DISPLAY

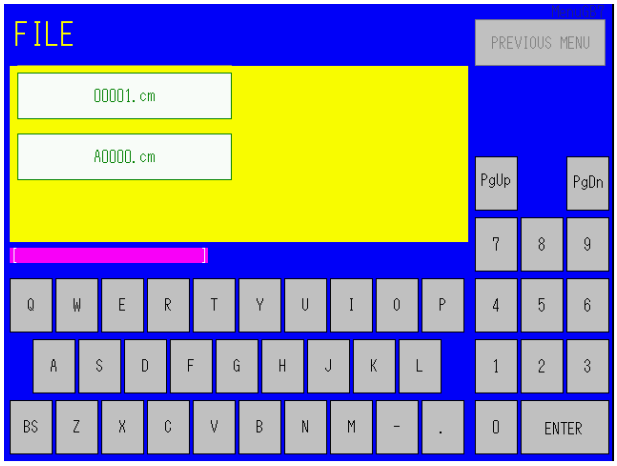
一) ALL DATA

二) PARTIAL DATA

EXPLANATION OF DISPLAY:
PRESS THE REQUIRED RELEVANT KEY TO ENTER ITS DISPLAY.

ALL DATA

COPY ALL THE DATA IN THE MACHINE SYSTEM TO THE USB PROTECT KEY)



EXPLANATION OF DISPLAY:
INPUT THE FILE NAME AND PRESS “ENTER”. MACHINE SYSTEM WILL THEN COPY ALL DATA TO THE USB PROTECT KEY USING THE SAME FILE NAME.

PARTIAL DATA

COPY THOSE SELECTED FILES ONLY TO THE USB PROTECT KY.

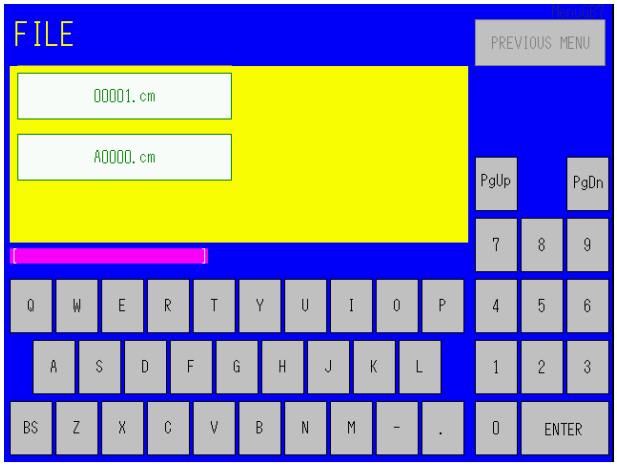
EXPLANATION OF DISPLAY:
[ALL DATA] : COPY ALL DATA
[PARTIAL DATA] : COPY ONLY PARTIAL DATA
［ALL ON］： ALL DATA NOT BE SELECTED

SELECT THE FILE OR FILES THAT YOU WANT TO COPY AND IT WILL TURN TO RED COLOR.

EXPLANATION OF DISPLAY:
INPUT THE FILE NAME AND THEN PRESS “ENTER”. MACHINE SYSTEM WILL THEN COPY THE SELECTED FILE TO THE USB PROTECT KEY USING THE SAME FILE NAME.

FILE DELETE

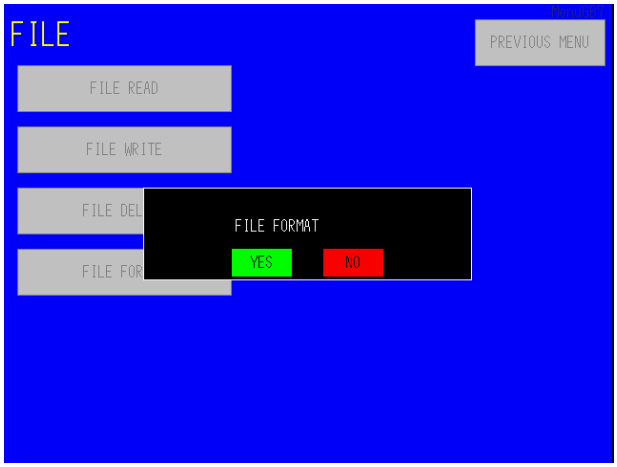
DELETE THE FILE INSIDE THE USB PROTECT KEY.



THERE ARE 2 METHODS:
一). PRESS DIRECTLY THE FILE NAME
二).INPUT THE FILE NAME AND PRESS “ENTER”

FILE FORMAT

FORMAT THE USB PROTECT KEY
A NEW WINDOW WILL APPEAR ON THE “FILE READ” DISPLAY

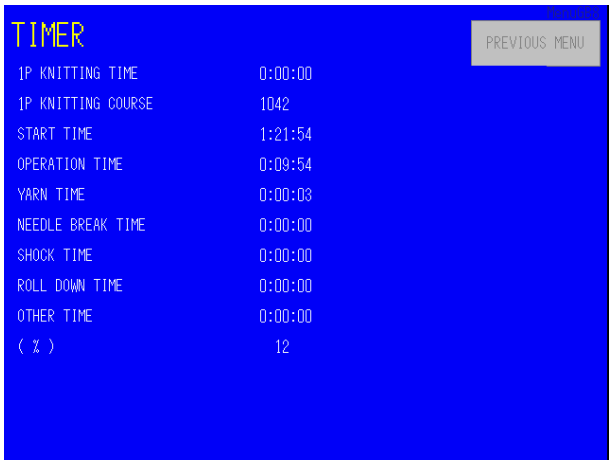


EXPLANATION OF DISPLAY:

[YES] : ENTER FORMAT
[NO] : DELETE FORMAT .

2.12 TIMER

INDICATING THE TIME RECORDED FOR EACH WORKING CONDITION.

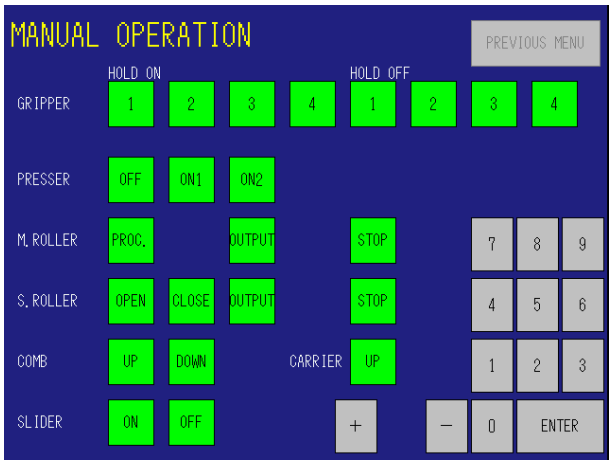


2.13 MANUAL SETTING

MANUAL SETTING OF EACH INDIVIDUAL MOVING PARTS..

★TO PREVENT MACHINE PROBLEMS, IT IS NECESSARY TO CHECK THE POSITION AND CONDITION OF EACH PARTS AFTER MANUAL SETTING.

★THIS FUNCTION CANNOT BE OPERATED DURING MACHINE OPERATION.



2.14 OTHERS

SETTING OF OTHER PARAMETERS. THIS DISPLAY HAS 15 OTHER FUNCTIONS.

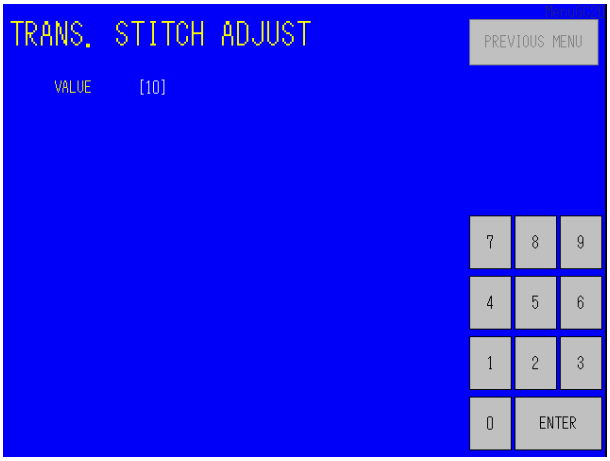
2.14.1 OTHERS – CARRIAGE SPEED ADJUST

ADJUST THE MAX. SPEED OF THE CARRIAGE ACCORDING TO VARIOUS CONDITIONS.

EXPLANATION OF DISPLAY:
USE THE CURSOR TO MOVE TO THE RELEVANT POSITION. INPUT YOUR REQUIRED NUMBER AND THEN PRESS “ENTER”

2.14.2 OTHERS – TRANSFER STITCH ADJUST

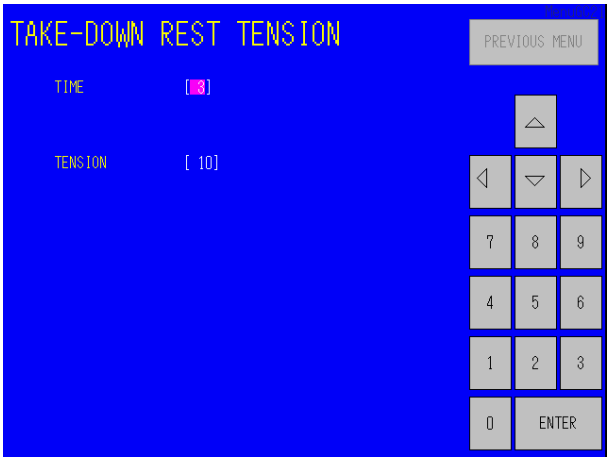
SETTING THE STITCH PARAMETER FOR TRANSFER



EXPLANATION OF DISPLAY:
USE THE CURSOR TO MOVE TO THE RELEVANT POSITION. INPUT YOUR REQUIRED NUMBER AND PRESS “ENTER”.

2.14.3 OTHERS - MAIN ROLLER TENSION REST VALUE

SETTING OF THE MAIN ROLLER TENSION REST VALUE.



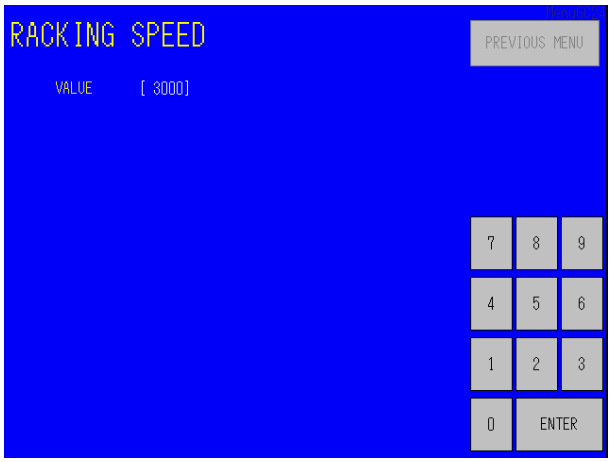
EXPLANATION OF DISPLAY:
[TIME]: THIS IS FOR SETTING
THE MAIN ROLLER TENSION KEEP TIME WHEN THE MACHINE STOPS KNITTING.

[TENSION]: THIS IS THE TORQUE FORCE OF THE MAIN ROLLER. WHEN THE VALUE EXCEEDS THE SETTING TIME, THE TENSION WILL BE RELEASED.

USE THE CURSOR TO MOVE TO THE RELEVANT POSITION. INPUT YOUR REQUIRED NUMBER AND PRESS “ENTER”

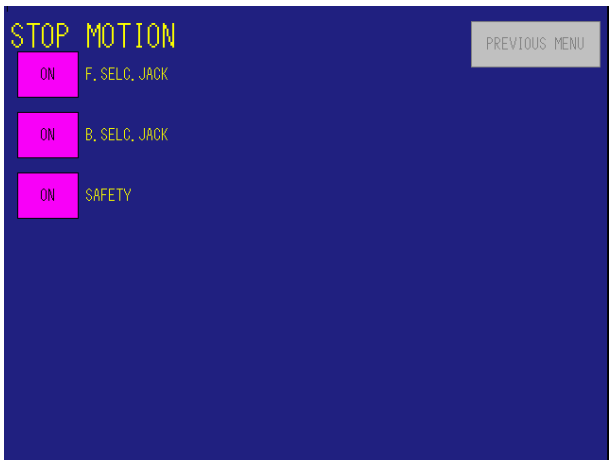
2.14.4 OTHERS- TRANSFER SPEED

SETTING OF TRANSFER SPEED (RPM): RANGE 1-9999 (TEMPORARY SETTING IN FACTORY:2800)



2.14.5 OTHERS – STOP MOTION

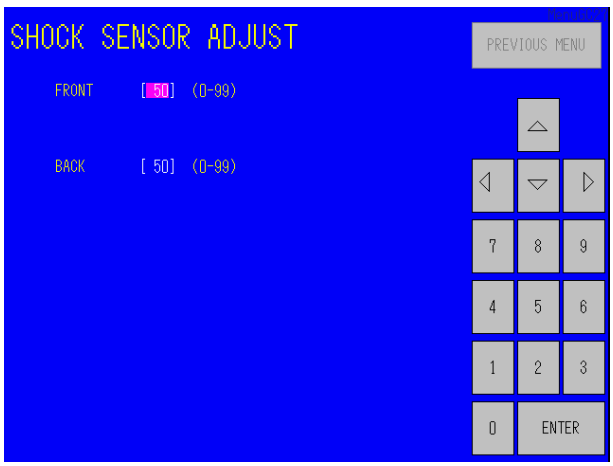
SETTING ON/OFF FOR STOP MOTION DEVICES



EXPLANATION OF DISPLAY:
DIRECTO SETTTING OF “ON” OR “OFF” FOR THE RELEVANT STOP MOTION DEVICES.

2.14.6 OTHERS – SHOCK SENSOR ADJUST

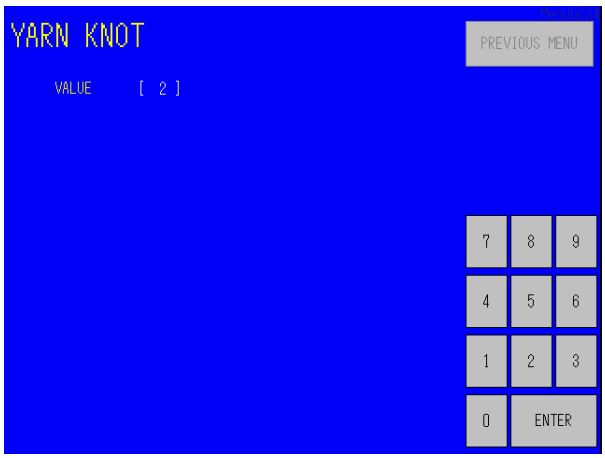
ADJUST THE SENSITIVITY OF SHOCK SENSORS.



EXPLANATION OF DISPLAY:
DIRECT INPUT OF FIGURES TO THE FRONT/BACK SHOCK SENSOR AND THEN PRESS “ENTER” FOR INPUT CONFIRMATION.

2.14.7 OTHERS – YARN KNOT

THIS IS THE SETTING OF NO. OF COURSES TO RUN SLOW SPEED AFTER SENSING YARN KNOT.



IF “0” IS SET TO THE NO. OF COURSES AT THIS DISPLAY, MACHINE WILL NOT RUN SLOW SPEED AFTER SENSING YARN KNOT.

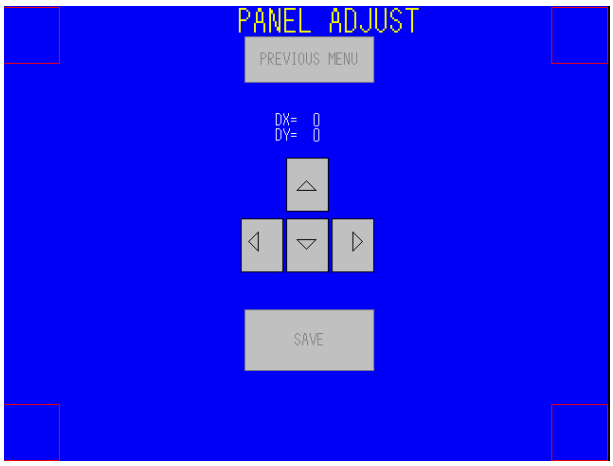
2.14.8 OTHERS – RESET PIECES

WHEN REACHING THE PRESET PIECE COUNT, MACHINE WILL AUTOMATICALLY DO RESET.

EXPLANATION OF DISPLAY:
DIRECT INPUT THE NO. OF PIECES AND PRESS “ENTER” KEY.

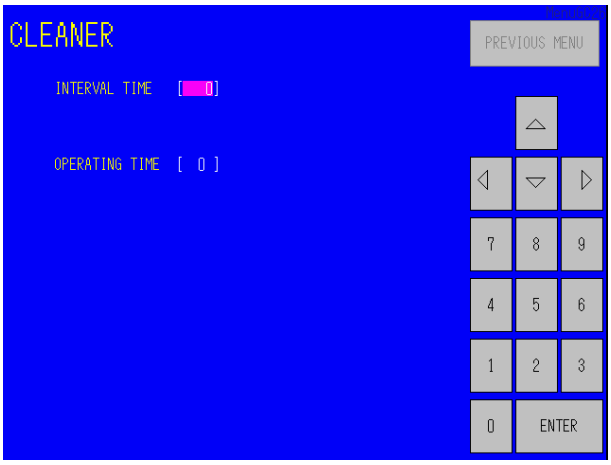
2.14.9 OTHERS – PANEL ADJUST

ADJUST IN ALIGNMENT THE SENSOR POINT & TOUCH POINT OF THE TOUCH PANEL



USE YOUR FINGER TO TOUCH THE TOUCH PANEL. THE PLACE WHERE YOU TOUCH WILL APPEAR WHITE SMALL DOT. IF THE POSITION OF THE WHITE DOT IS DIFFERENT FROM THE PLACE THAT YOU TOUCH, USE THE DIRECTION KEYS TO DO THE ADJUSTMENT. AFTER ADJUSTMENT, PRESS “SAVE” AND THE COMPUTER WILL AUTOMATICALLY RECORD THIS NEW DATA.

2.14.10 OTHERS – CLEANER

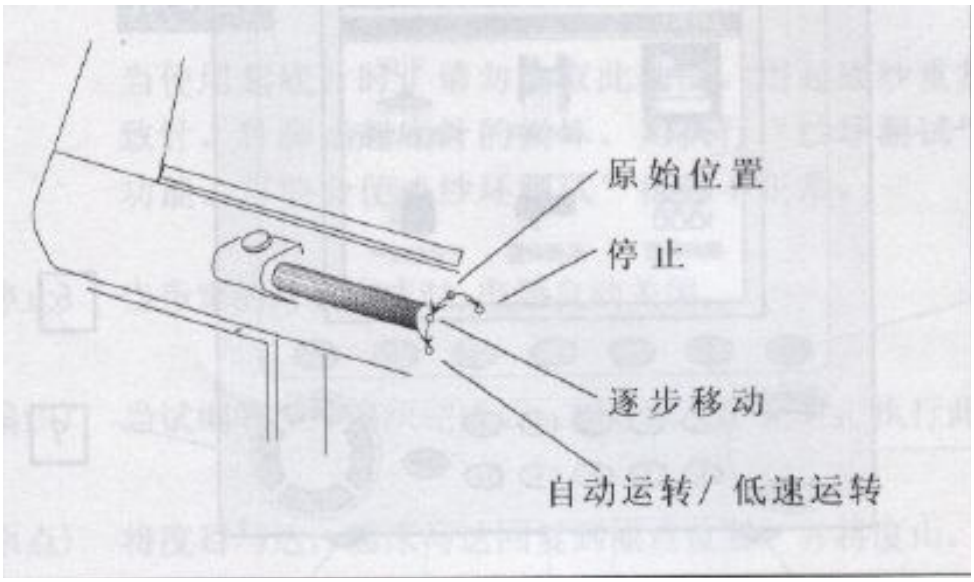


3. SWITCH BAR OPERATION

FUNCTIONS:

SWITCH BAR CAN BE TURNED CLOCKWISE AND ANTI-CLOCKWISE. WHEN LETTING GO OF YOUR HAND(S), IT WILL RETURN TO ITS ORIGINAL POSITION.

THERE ARE 3 KINDS OF OPERATION FOR SWITCH BAR : “STOP”, “JOG” AND “AUTO/SLOW”.



EXPLANATION OF THE FUNCTIONS:

STOP : WHEN SWITCH BAR IS TURNED CLOCKWISE, THE MACHINE STOPS.

JOG : WHEN SWITCH BAR IS TURNED ANTI-CLOCKWISE LITTLE BY LITTLE, MACHINE PERFORMS JOG MOVEMENT.
WHEN SWITCH BAR IS RETURNED TO ITS ORIGINAL POSITION, MACHINE STOPS.

AUTO/SLOW WHEN SWITCH BAR IS TURNED ANTI-CLOCKWISE COMPLETELY, MACHINE WILL RUN AT SLOW SPEED FOR ONE COURSE AND THEN CHANGE TO NORMAL SPEED.
EVEN WHEN SWITCH BAR IS TURNED TO ITS ORIGIAL POSITON, THE MACHINE KEEPS ON RUNNING.

4. SUPPLEMENTARY TO SUPER-TRIM MACHINE

4.1 SUPER-TRIM MODEL IS NOT EQUIPPED WITH AUX. TAKE-DOWN ROLLER DEVICE, SET-UP COMB DEVICE, SCISSORS & YARN HOLDER, YARN FEEDING DEVICE AND SINKER SYSTEM.

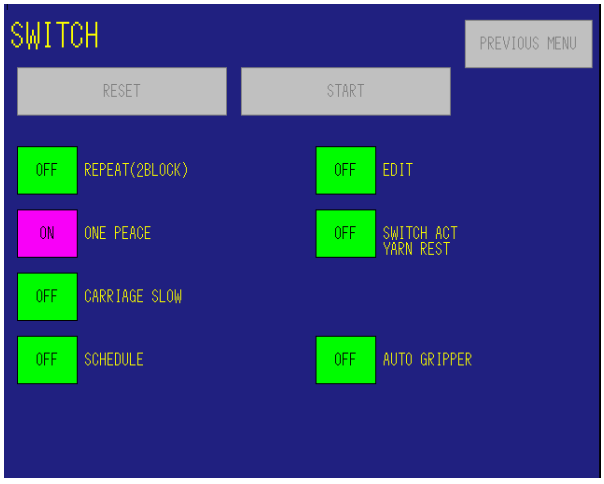
4.2. PREPARATIONS BEFORE STARTING THE MACHINE

4.21. HANG A FABRIC TO THE MACHINE

PROCEDURE 1: BEFORE STARTING THE MACHINE, HANG A THIN FABRIC TO THE FRONT & REAR NEEDLE BEDS (WIDTH OF THE FABRIC TO BE HANGED SHOULD BE THE SAME AS THE FABRIC REQUIRED TO BE KNITTED

PROCEDURE 2: AT THE "SWITCH" DISPLAY, SELECT "REPEAT (2 BLOCK)" KEY AND START THE MACHINE. (IN DOING THIS, THE MACHINE WILL KNIT THE 1ST AND 2ND COURSES REPEATEDLY UNTIL THIS THIN FABRIC EXCEEDS THE MAIN TAKE-DOWN ROLLER AT A FLAT AND LEVELLED CONDITION. AT THIS STAGE, STOP THE MACHINE MANUALLY.）

PROCEDURE 3: WHEN THE CARRIAGE REACHES THE LEFT END, CANCEL THE "REPEAT (2 BLOCK) FUNCTION AND START NORMAL KNITTING PROCEDURES.



4.22. FEEDING OF YARN

PROCEDURE 1: PLACE THE YARNS ON TOP OF THE MACHINE AND FEED THEM TO THE TOP TENSIONERS, SIDE TENSIONERS AND YARN FEEDERS.

PROCEDURE 2: PULL THE YARNS COMING OUT FROM THE YARN FEEDERS TO THE KNITTING AREA AND FEED THEM TO THE NEEDLE HOOKS.

PROCEDURE 3: START TO KNIT

SUPPLEMENT (1)

LIST OF MACHINE ERROR MESSAGES

RESET ○	CONTROL ERROR NO.	REMARKS
	F/R/R STITCH ERROR	
	F/R/L STITCH ERROR	
	F/L/R STITCH ERROR	
	F/L/L STITCH ERROR	
	B/R/R STITCH ERROR	
	B/R/L STITCH ERROR	
	B/L/R STITCH ERROR	
	B/L/L STITCH ERROR	
○	FRONT CAM ERROR	
○	BACK CAM ERROR	
○	SIDE TENSION ERROR	
	COMB ERROR	
	SUB ROLLER ERROR	
	GRIPPER ERROR	
○	YARN	
○	FABRIC (ROLLED UP)	
○	F. SHOCK	
○	B. SHOCK	
○	STITCH SENSOR ERROR	
○	F. NEEDLE	
○	B. NEEDLE	
○	DROP STITCH ERROR	
	RACKING ZERO ERROR	
○	SAFETY	
	RACKING ERROR	
○	FABRIC DROP ERROR	
	CARRIAGE ZERO ADJ. ERROR	
	CARRIAGE SERVO ERROR(2)	DO NOT STOP
	CARRIAGE SERVO ERROR(4)	END LIMIT ERROR
	CARRIAGE SERVO ERROR(7)	SERVO DRIVER ABNORMAL
	RACKING SERVO ERROR(2)	DO NOT STOP
	RACKING SERVO ERROR(4)	END LIMIT ERROR
	RACKING SERVO ERROR(7)	SERVO DRIVER ABNORMAL
○	FRONT SINKER ERROR	
○	BACK SINKER ERROR	
○	CATCH THE YARN	
	SLIDER ERROR	
○	EMERGENCY STOP	
	CUTTER ERROR	
○	ROLLER OPEN ERROR	

○	PIECES OVER	
○	ONE PIECE FINISH	
○	PIECES FINISH	
	F/R PRESSER ERROR	
	F/L PRESSER ERROR	
	B/R PRESSER ERROR	
	B/L PRESSER ERROR	
	B/R PRESSER ERROR (R.C.)	
	B/L PRESSER ERROR (R.C.)	
	CONTROL ERROR	PLEASE REFER TO RELEVANT DATA

SUPPLEMENT (2)

LIST OF MIS-OPERATION ERROR MESSAGES

RESET ○	CONTROL ERROR MESSAGE	DESCRIPTION OF THE ERROR
	WIDTH OVER ERROR	CARRIAGE OVERRIDES THE KNITTING WIDTH
	COURSE DATA ERROR	COURSE DATA ERROR BETWEEN HOST AND MAIN
	RACKING DATA ERROR	RACKING DIRECTION ERROR
	GAUGE DATA ERROR	GAUGE DATA ERROR
	NIP ROLLER ZERO ERROR	NIP ROLLER ORIGIN ERROR
	COMMUNICATION ERROR	HOST COMMUNICATION ERROR
	ORIGIN FINE ADJ. ERROR	NEEDLE SELECTION ADJUSTMENT ERROR
	50/60HZ ERROR	OUT OF 50/60HZ AREA
	SLIDER ZERO ERROR	AFTER KNITTING 1 PIECE, SLIDER MOTOR ORIGIN OFF
	COMB LOWER OFF	AFTER KNITTING 1 PIECE, COMB LOWER LIMIT OFF
	SLIDER STOP ERROR	SLIDER MOTOR DOES NOT STOP ROTATING
	SLIDER STOP ERROR	SLIDER MOTOR DOES NOT STOP ROTATING
○	NIP ROLLER OPEN ERROR	SUB-ROLLER NOT CLOSE WHEN STARTING TO KNIT
○	SLIDER ZERO ERROR	COMB NOT RESET WHEN STARTING TO KNIT
○	COMB NO. 5 ERROR	SENSOR FOR NO. 5 COMB WAITING TO BE “ON”
	SLIDER STOP ERROR	SLIDER MOTOR DOES NOT STOP ROTATING
○	COMB NO. 5 ERROR	SENSOR FOR NO. 5 COMB WAITING TO BE “OFF”
	SLIDER ZERO ERROR	WHEN CHANGING TO MAIN ROLLER, SLIDER MOTOR DOES NOT STOP
	ENCODER SENSOR ERROR（R）	ENCODER SENSOR ERROR (R)
	ENCODER SENSOR ERROR（L）	ENCODER SENSOR ERROR (L)
	ENCODER SENSOR ERROR	ENCODER SENSOR ERROR
	GRIPPER 1 ERROR	NO. 1 GRIPPER DOES NOT STOP ITS MOVEMENT
	GRIPPER 1 ERROR	NO. 1 GRIPPER DOES NOT STOP ITS MOVEMENT
	GRIPPER 2 ERROR	NO. 2 GRIPPER DOES NOT STOP ITS MOVEMENT
	GRIPPER 2 ERROR	NO. 2 GRIPPER DOES NOT STOP ITS MOVEMENT
	CUTTER 1 ERROR	NO. 1 CUTTER DOES NOT STOP ITS MOVEMENT

SUPPLEMENT (3)