Pocket Cloth Three-fold Hemming Machine

MHA-JPH100C-J (MHA-P100M)

(2- needle double chain-stitch type) Instruction Manual

Thank you for purchasing our product. Please be sure to read this manual before using MHA-JPH100C-J and keep it within easy access.

HAMS CORPORATION

 59-2, Nishiakeda-cho, Higashikujo,
 20

 Minami-ku, Kyoto 601-8045, Japan
 20

 Phone: +81-75-661-1134
 Fax: +81-75-681-0908
 20

 E-mail : info@hams-jp.com
 20

 http://www.hams-jp.com/
 20

 $\begin{array}{c} 2001.\ 6.26\\ 2002.\ 6.\ 1\\ 2002.\ 3.11\\ 2003.\ 7.\ 1\\ 2003.\ 7.14\\ 2003.\ 8.\ 5\\ 2004.\ 8.25 \end{array}$

IMPORTANT SAFETY INSTRUCTIONS

To safely and properly use MHA-JPH100C-J read and comply with the following instructions.

- 1. Before the machine is used, ensure that general safety measures are taken, including the following instructions.
- 2. Appropriately trained operators should operate the machine.
- 3. You should stop operating the machine immediately when you find any abnormality or failure. Conduct the appropriate repairs.
- 4. You must not modify or alter the machine. We will not undertake any liability for the consequences of any modifications or alterations.

DANGER

To avoid the risk of electric shock, the following safety instructions should be observed.

- 1. The machine should be electrically grounded throughout its operation. The main plug should be inserted into a properly grounded outlet.
- 2. The electrical components of the machine should always be maintained and serviced by qualified electrical engineers or otherwise under expert supervision and guidance.

WARNING

To eliminate electric shocks, fire, burnout or personal injury, the following measures should be taken.

- 1. You should not touch any parts or devices while the machine remains energized.
- 2. You should turn the machine OFF by turning the power switch (Main Switch) off before;
 - 2-1 you replace parts, or
 - 2-2 you make repairs.

IMPORTANT SAFETY INSTRUCTIONS

- 3. You should not operate the machine when it is found not to work correctly. You should contact our officially authorized dealers or otherwise Hams Corporation, directly for consultation when the machine needs to be electrically or mechanically adjusted or repaired.
- 4. The machine should be repaired or adjusted by appropriately trained engineers or experts. Only the designated spare parts should be used.
- 5. Routine maintenance and inspections should be conducted by appropriately trained staff.
- 6. You should block the pressurized air flow by removing the air-supply socket from the air plug before you repair or maintain any components which contain parts involved in air pressure, including air cylinders. However, this does not apply in cases appropriately trained engineers or experts adjust them or examine the operating condition.
- 7. All the covers should be placed on the specified positions before the machine is started.
- 8. You should clean the machine regularly to ensure that yarn waste, scraps of fabric or dust does not build up on the device and control box.
- 9. You should not touch any moving parts while the machine is operated. Human body parts (including hair and clothes worn) should be kept away.
- 10. You must not operate the machine with wet hands.
- 11. Three types of warning indications are displayed.



SAFETY PRECAUTIONS





SAFETY PRECAUTIONS

3. A label warning against electric shock risk is placed on the area containing hazardous high voltage electrodes. Only qualified electrical engineers are allowed to open the cover to maintain or inspect the controls with hazardous labels.

Label warning against electric shock risk



SAFETY PRECAUTIONS

4. Emergency stop switch should be used when the machine must be stopped urgently.



5. You should not lay electric cords on the floor.

6. For safety purposes, you should not operate the machine with the ground cable removed.

7. For safety purposes, you should stop operation and unplug the machine when thunder occurs.

8. Turn the power switch off before you leave the machine operating area, and after the work is finished.

9. You should not operate the machine with the covers removed.

Contents

1.	SPECIFICATIONS ······1
2.	INSTALLATION ····································
3.	PREPARATION FOR OPERATION
	(1) Power Source Voltage ····································
	(2) Air Pressure ······3
	(3) Lubrication ······3
	(4) How to Guide Threads ····································
	(5) Set Up Fabric
4.	OPERATION SWITCHBOARD ······8
5.	BASIC OPERATIONS ····································
6.	ADJUSTMENT FOR ROLLED HEMMING ······11
	(1) Fine Adjustment of Hemming Width
	(2) Adjustment of Hemming Positions
	(3) Adjustment of Rolled Edge ·····12
	(4) Standard for the Pressing Pressure of the Feeder
7.	ADJUSTMENTS OF DEVICE PARTS ······17
	(1) Fabric Interval ······17
	(2) Fabric Detector Switch ······18
	(3) Fabric Slippage Correction Cylinder
	(4) Sensitivity of Thread Breakage Detectors
	(5) Synchronizer ·····20
	(6) Stacker(Option)
8.	REPLACE THE MOVING CUTTER ······22
	(1) Remove the Moving Cutter ·····22
	(2) Adjustment
9.	BASIC OPERATION
10	. WIRING AND PIPING ······24
	(1) Wiring
	(2) Piping
11	. NAME LABEL SUPPLYING DEVICE (OPTION)26
	(1) Controls26
	(2) Change Name Label Widths
12	. SETTING OF THE MAIN BOARD AND SENSOR ······28
13	. FAILURES, CAUSES AND REMEDIES ······29

1. SPECIFICATIONS

Model	: MHA-JPH100C-J (MHA-P100M)
Stitch Type	: Two-Needle double Chain Stitch
Sewing Speed	: Max. 4000 spm (stitches per min)
Needles	: TVx7 #16-19
Thickness of Hemming	: 11-18mm (binder replaceable)
Power-supply Voltage	: Voltage rating $\pm 10\%$ 50/60 Hz
Power Consumption	: Max. 700VA
Air Pressure	: 0.5MPa (5kg/cm ²)
Air Consumption	: 0.5 liter/1 piece

2. INSTALLATION

(1) Fix the material sustaining table ① with the two supplied screws ②.



(2) Fix the fabric bearer ③ at the bottom plane of the table with the two supplied wood screws ④.



(3) Fix the spool holder (5) into the left rear hole on the table as shown in the picture. As for the assembly of the spool holder, refer to the "Instruction Manual for JUKI MH-380."

3. PREPARATION FOR OPERATION

- (1) Power Source Voltage
 - 1) Voltage rating $\pm 10\%$ is acceptable.
 - 2) Grounding cable must be connected to ground.
- (2) Air Pressure
 - 1) Air pressure should be maintained at 0.5MPa (5kg/cm²).
- (3) Lubrication
 - 1) Machine head

For lubrication of the machine head, refer to the "Instruction Manual for JUKI MH-380."

2) Parts other than the machine head

You should lubricate through the two lubricant inlets which are marked in red.

You should also clean the machine and lubricate through the same inlets which are marked in red every day after you finish the job.



- (4) How to Guide Threads
 - 1)Thread breakage detector

Pass thread through the detector as shown below;

When the machine is operated with two needles.



 Needle thread
 Image: Second secon

When the machine is operated with one needle.

2) How to open the feeder and pass threads through the looper Open the feeder (1) as shown below and get thread through the looper

i) Unlock the snap lock (2).



ii) Grip the feeder ① at the end and open it toward the direction indicated by the arrow \bigcirc .

(You should clean up the area 6 before the feeder is opened to avoid dust from entering under the table 3 when the feeder is closed.



iii) Open the covers 4 and 5 to pass thread through the looper.



For the thread guiding procedure for other parts, refer to the attached "Instruction Manual for JUKI MH-380."

(5) Set Up Fabric

Set up fabric 2 under the feeder 1 as shown in the picture below before sewing. The procedure is as follows.



1) Turn the Power switch $\ensuremath{\textcircled{3}}$ ON



2) Lift the lever (5), feed the fabric (2) into the area under the feed belt (6) along the fabric guide (4).



3) Feed the fabric ② into the feeder ① by pressing the [Feed] switch ⑦. You may press the [Feed] switch ⑦ with the lever ⑧ slightly lifted, when high frictional force between the upper surface of the table ① and the feed belt ⑥ prevents the feeder ① from feeding the fabric ② smoothly.



4) Feed the next fabric 9 along the fabric guide 4 until the fabric slightly touches the feed belt 6.



5) Feed the fabric (9) into the feeder (1) by pressing the [Feed] switch (7). You may press the [Feed] switch (7) with the lever (8) slightly lifted, when high frictional force between the upper surface of the table (12) and the feed belt (6) prevents the feeder (1) from feeding the fabric (9) smoothly. The feeder (1) automatically stops when another fabric is set up.



6) Repeat the procedures described in 4) and 5) on pp.6 and 7. When the first fabric 2 reaches the needle 0, the presser foot 1 automatically goes down and the feeder 1 automatically stops.



The fabric setting is complete.

4. OPERATION SWITCHBOARD

Operation Panel



Descriptions of Operation Panel

Name	Function
[Stop]	-Stops the whole sewing machine operation.
Switch (red)	-Pressing this moves the sewing machine presser foot up or down
[a.]	when the machine has been already stopped.
[Start]	-Starts automatic operation.
Switch (green)	-Restarts the sewing machine after it has been stopped due to
	The pressing of the [Stop] switch, or broken thread.
[Speed] Control	-Adjusts the sewing sneed up to 4000 rpm
[Epod Ditab]	Adjusts the feed new stitch provided by the feed belt in units of
Sotting dial	Adjusts the leed per stitch provided by the leed beit in units of
Setting that	The dial can also be set so as to change the stitch nitch in conjuncture
	with adjustment of feed pitch. (The method is described in
	"Instruction Manual for JUKI MH-380.")
[Feed] Switch (blue)	-Operates only the feed belt.
	-Resets the Cloth Counter to "0" only when the counter reaches the set
	number.
[Machine]	Exclusively when the feed table is left opened, pressing the switch
Switch (white)	and the [Slow speed] switch simultaneously starts the sewing
	operation alone at the sewing speed specified by the [Speed] control.
[Clow an and]	-The machine starts its operation after the presser foot goes down.
[Slow speed] Switch (vollow)	Starts slow operation.
	"The models" should be aslested when two wordles are used for
Dotoctor	sowing
Change-over switch	-"One-needle" should be selected when one needle is used for sewing
change over switch	The sewing machine is automatically stopped when broken thread is
	detected.
	-"OFF" should be selected when adjustments are made on the sewing
	machine.
	Detection of thread breakage is suspended.
[Cutter]	-"ON" automatically cuts blank stitches.
Change-over switch	-"OF'F" leaves blank stitches uncut.
	This switch is used as the [Feed Table Close] switch when installing
[Dowor] Lown (moon)	Lights up when the main switch is turned ON
[Thread]	Lights up when upper or lower thread is broken
Indicator Lamp (rod)	-Lights up when upper or lower thread is broken.
[Cloth Counter]	-Stops the machine automatically when the counter reaches the set
	number.

5. BASIC OPERATIONS

You can start sewing through the following procedures once the preparations described in pp.3 -7 are finished.



1) Press the [Slow Speed] switch 2 and sew the first fabric by several stitches.





3) The sewing machine stops automatically when the next fabric is set up on the table. Subsequently, the sewing machine will start sewing automatically when the fabric is set up.



6. ADJUSTMENT FOR ROLLED HEMMING



Release the screw ① for fine-tuning the binder and move the binder (right) ② in the direction indicated by the arrow ⑤. The clearance (A) should be no less than 3mm. (A clearance narrower than 3mm may cause the fabric to get jammed.)



(3) Adjustment of Rolled Edge

-Excessive amount for rolled edge to be three-ply folded in a specified width

-Insufficient amount for rolled edge to be three-ply folded in a specified width

 $\overline{}$

Release the two setscrews ① and move the fabric feed scale board ② in the direction indicated by the arrow to adjust rolled edge. When excessive edge is rolled up, the scale board ② should be moved in the direction indicated by the arrow ③. When insufficient edge is rolled up, the board should be moved in the opposite direction (indicated by the arrow ④).



Angle at which the feeder scale board is installed

The feed scale board ② should be slightly tilted in the direction indicated by the arrow ⑤ when it is installed, to avoid reduction of the threefold edge as the sewing proceeds.



(4) Standard for the pressing pressure of the feeder \bigcirc



Any deviation of the pressing pressure of the feeder ${\rm (I)}$ from the standard value may cause failure in rolled hemming.



1) Penetration depth of leading roller cap screw

i) The leading roller cap screw 2 should be further driven by approximately a 1/2 rotation from the position where the clearance between the roller 3 and the table 4 is 0mm, to fix the screw.



ii) The leading roller cap screw (5) should be further driven by approximately a 1/2 rotation from the position where the clearance between the roller (6) and the table (4) is 0mm, to fix the screw. (5)







In order to verify the clearances, remove the feeder (refer to pp.15 and 16) and make the rollers ① to ① free from any load by pulling the belt \circledast in the direction

indicated by the arrow 2.



Release the screw 0 and move the leading rollers (1) to (17) in the direction indicated by the arrow 0 to adjust the clearances.



Roller No.	Clearance
1)	0
2	0
3	0
4	0
5	0
6	0
\bigcirc	0
8	3
9	3
10	3
(11)	3
12	3
13	3
14)	0
15	0
16	0
(17)	0

3) How to remove the feeder

Remove the feeder as described below.

i) Pull out the air tube ①.



ii) Remove the screw 2 and then the pocket detector switch attaching board 3.



iii) Release the cap screws ④ and ⑤ and remove the feed belt presser foot ⑥ and ⑦.



iv) Release the screws $\,\circledast\,$ and $\,\circledast\,$ and remove the pins $\,\circledast\,$ and $\,\circledast\,$



v) Remove the feeder 1 in the direction indicated by the arrow 3.



7. ADJUSTMENTS OF DEVICE PARTS

(1) Fabric interval

The fabric interval should be set at 15mm.



The fabric interval can be adjusted with the dip switch (DS1) on the main substrate $\, \mathbbm{1} \,$ in the control box.

(Adjustment should be made while the power switch is OFF.)



Switches Nos.1 to 3 are used

$\nabla \Gamma$]		
V	NO. 1	NO. 2	NO. 3]
1	0FF	OFF	OFF	
2	ON	OFF	OFF	
3	0FF	ON	OFF	
4	ON	ON	OFF]
5	0FF	0FF	ON]
6	ON	OFF	ON]
7	0FF	ON	ON	
8	ON	ON	ON	

(2) Fabric Detector Switch

When placing the fabric edge ① so it touches the feed belt, align the fabric detector switch at the position where the indicator light ③ of the pocket detector switch ② turns off.

How to adjust the switch position

1) Press the [Stop] switch to ensure that the machine does not start.

2) Release the setscrew 4 on the pocket detector switch 2 and move the fabric detector switch 2 back and forth (in the direction indicated by the arrow 6.)



(3) Fabric slippage correction cylinder

Some types of fabric ① slip as shown below when they come under the feed belt ⑤. The lower the fabric slippage correction cylinder ② is lowered in the direction indicated by arrow ④, the more effectively it prevents fabric from slippage, as shown in the figure below. However, setting the fabric becomes harder.

Release the setscrew ③ to adjust the cylinder for the position.





(4) Sensitivity of Thread breakage detectors

Adjust the thread breakage detector ① for sensitivity by tuning the control ② while observing the lamp ③ of the thread breakage detector.

	Status	ON/OFF	Remarks
	Machine out of service	ON	
Lamp ③	Machine in service	OFF	Turn the "thread breakage detector" turnover switch OFF during slow operation.
	Thread broken while the machine is in service.	ON	
Thread breakage lamp 5	Thread broken	ON	The machine stops

Event 1) Although the thread is broken during operation, the sewing machine still continues operation, with the lamp ③ left off.

[Adjustment] Turn the control ② in the direction indicated by the arrow ⑥ to the position which allows the machine to stop. (The lamp ③ lights up.)

Event 2) Although the thread remains unbroken during operation, the sewing machine stops, with the lamp ③ lit up.

(The thread breakage lamp \bigcirc lights up on the operation panel.)

[Adjustment] Turn the control O in the direction indicated by the arrow O to the position which allows the machine to continue operation. (In this case the lamp O turns off.)



(5) Synchronizer



1) Position where the Machine stops.



Make adjustments to ensure that the machine stops when the sewing arm reaches the top dead center.

Adjustment

i) Release the setscrew ②.

ii) Rotate the detection boards 3 and 4 simultaneously and bring them onto the sewing arm's top dead center.

2) Feed timing of the feed belt



Ensure that the feed belt starts its motion when the hole center of the needle 6 which is being lifted aligns with the upper surface of the needle board 5.

Adjustment

Rotate the red detection board ③ for alignment. (in this case there is no need to release the setscrew @.)

(6) Stacker (Option)

To adjust the position of the opening and closing door @ to fit the size of the fabric ①. Is performed by moving the door @ Loosen the screws ③ adjustment.



Note) Set to ON the No.5 of SW2 of the main board when you install the Stacker unit.



8. REPLACE THE MOVING CUTTER

(1) Remove the moving cutter

Release the two setscrews 1 to remove the cutter.



(2) Adjustment

Ensure that the end of the moving cutter ② is 0.5 to 1.0 mm below the upper surface of the fixed cutter ③ when the moving cutter closes.

Release the setscrews 4 for adjustment.



9. BASIC OPERATION



1 0. WIRING AND PIPING



(2) Piping



11. NAME LABEL SUPPLYING DEVICE (OPTION)

(1) Controls

Operation panel





Descriptions of the controls

Designation	Function
[LABEL MODE]	- [CONT] for sewing name labels on all pieces of fabric.
setting switch	- [ALT] for sewing name labels on every two pieces of fabric,
	i.e., in an alternate sequence of "with label" - "no label"- "with
	label".
	-[OFF] for canceling label sewing.
[LABEL	- Sets the position for label sewing by specifying the number of
POSITION]setting	stitches from the pocket end.
switch	
[LABEL] lamp	- Lights up when the machine is waiting for name labels to be
	supplied.
	- Blinks when name labels get jammed at the label chute end.

(2) Change Name Label Widths

1) Adjust the name label chute

Release the two setscrews 1 and adjust the chute width by using the name label guide 2.

Maintain the clearance between the name label guide 2 and the name label 3 at 0.3 to 0.5mm.



2) Adjust the sewing position

Adjust the name label sewing position by releasing the positioning setscrew 6 and then the setscrew 4 and moving the name label shoot platform 5 in the direction indicated by the arrow 7.

Once the adjustment is completed, fix the positioning setscrew (6) head on the far right surface of the name label shoot platform (5).



$1\ 2$. Setting of the main board and sensor



(1) Setting of the main board SW(SW2) is as follow.

SW№	function	detail
Nº 1		
Nº 2	Setting of fabric interval	Seep.17
Nº 3		
Nº 4	No setting	
Nº 5	Setting of thestacker unit	ON when mounted
Nº 6	Setting of sewing machine type	Chain stitch machine OFF Lock stitch machine ON
Nº 7	No setting	
Nº 8	No setting	

(2)Sensitivity setting of the needle side sensor

When the fabric passes under the needle side sensor(1), the lamp(2) of the fabric sensor amplifier is turned on.

It is carried out by the volume 3 adjustment.





13. FAILURES, CAUSES AND REMEDIES

Failure	Cause	Remedy	Reference pages
- Fabric gets jammed at the binder inlet.	- Narrow inlet cannot accept the fabric.	- Widen the inlet. (The outlet width, however, should not be changed.)	p.11
- Fabric gets jammed within the binder.	- Too much fabric edge is rolled.	- Adjust the position of the fabric feed scale board to correct the rolled edge.	p.12
- Less edge is rolled as hemming proceeds.	- The pressing pressure of the feeder deviates from the standard. (The frictional force of the feed belt does not work well on the fabric.)	- Restore the pressure to the standard.	p.13 p.14
	- The fabric feed scale board is installed at an inappropriate angle.	- Adjust the installation angle for the board.	p.12
End of hemming	- Fabric slippage correction cylinder is installed at an excessive elevation.	- Lower the installation elevation of the cylinder.	p.18
Beginning of hemming	- The feed pitch of the feeder is too large, in comparison with the sewing pitches.	- Reduce the feed pitch width by using the feed pitch setting switch.	p.8
- The machine will not start when	- The pocket detector switch is not turned on.	- Adjust the switch position of the pocket detector.	p.18
fabric is put forward.	- The [Stop] switch has been pressed.	- Press the start switch.	p.8
- Blank stitches cannot be cut off.	- The moving cutter is worn.	- Grind or replace the cutter.	p.22
- The sewing machine will not stop after the thread is broken.	- The thread breakage detection change-over switch is turned off.	- Select [Two-needle] or [One-needle] on the thread breakage detection change-over switch.	p.8
	- The sensitivity of the thread breakage detector is not appropriate.	- Adjust the sensitivity.	p.19
- Although the thread is	- The thread is wrongly guided.	- Guide it correctly.	p.3

unbroken, the sewing machine stops.	- The sensitivity of the thread breakage detector is not appropriate.	- Adjust the sensitivity.	p.19
(The thread breakage lamp lights up.)	- The sewing machine is operated at low speed.(The thread breakage detector is not functioning.)	- Turn off the thread breakage detection change-over switch.	p.8

Failure	Cause	Remedy	Reference pages
-The seam is curved as shown in the figure.	- The feed pitch of the feeder is narrow in comparison with the sewing pitch.	- Increase the feed pitch by using the feed pitch setting switch.	p.8
- The seam is curved as shown in the figure.	- The feed pitch of the feeder is large in comparison with the sewing pitch.	- Reduce the feed pitch width by using the feed pitch setting switch.	p.8
- The seam gets wrinkled	- The thread tension is too strong.	- Correct the tension.	Instruction manual for JUKI MH-380
	- The feed pitch of the feeder does not match the sewing pitch	- Set an appropriate feed pitch by using the feed pitch setting switch.	p.8