

INDUSTRIAL SEWING MACHINE Attachment

MODEL

MP-G10-TH

TECHNICAL MANUAL

Upper Thread-Holding Device

FOR SAFE USE

Before the installation, operation, and inspection for this product, read the "FOR SAFE USE" and the technical manuals carefully. Also read the other technical manuals, "Sewing Machine Head", "Control Unit" and "Operation Panel" describing some instructions, which are not in this manual, and use the sewing machine properly.

SAFETY INDICATIONS



CAUTION

Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage. Note that CAUTION level may lead to a serious consequence according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

CAUTION INDICATIONS

No.	Caution indication	Description
1		 Precaution for sewing machine operation: Indicates that removing the safety and operating the sewing machine for some other purposes with power-on are prohibited. Please do not operate the sewing machine without protective equipment such as a needle guard, an eye guard, a belt cover or the others. Please turn off the power switch when threading, changing a needle and a bobbin, cleaning, and lubricating.
2		Caution for fingers injury: Indicates a possibility of fingers (hands) injury in a certain condition.
3		Caution for squeezing fingers: Indicates a possibility of squeezing fingers in a certain condition.

1. Features

Upper Thread-Holding Device will improve the quality of the sewing start point. By gripping the upper thread after thread trimming sewing end, to prevent the thread fall out at the sewing start point.

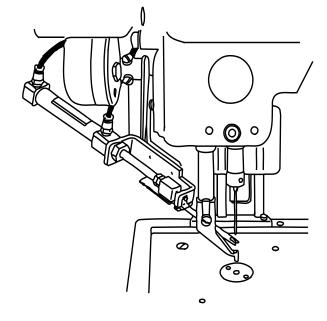


Fig.1

Mounting example of the upper thread holding mechanism

2. Applicable models

PLK-G1010

3. Specifications

Upper thread holding stroke : 23mm

Control power supply : DC24V

Drive source air pressure Primary side : 0.5 MPa (5 kgf /cm²) or more

Secondary side : 0.4 MPa (4 kgf /cm²)



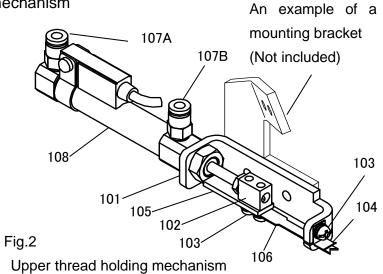
CAUTION

Trouble such as operation errors could occur if the secondary pressure is set too high. Use within the range of $0.4~MPa~(4~kgf/cm^2)$.

4. Configuration

The Fig. numbers in the drawing correspond to the part numbers given in the following explanations. When ordering service parts, please specify in the Parts No. (M********).

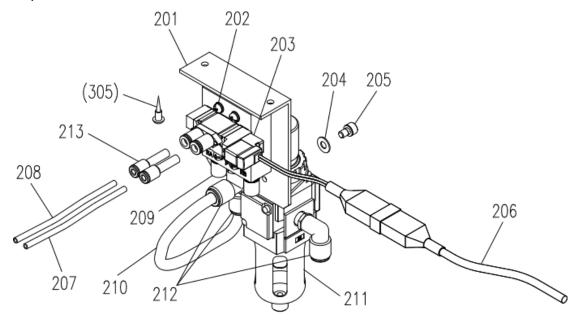
4.1 Upper thread holding mechanism



4.1 Upper thread holding mechanism (Parts list)

Fig	部品コード	品名	Description	数量
No.	Parts No.	HI 13		Amt. Req.
101	MB10H0429	ササエイタ	Support plate	1
102	MB10H0751	トリッケフ゛ロック	Installation block	1
103	M90859004	SW-PW プラマイナヘ゛ネシ゛M3X6	Screw M3X6	3
104	MB10H0700	ホシ゛ハ゛ネ	Holding spring	1
105	MB10H0477	ストッハ゜	Stopper	1
106	ML30A0181	イトサバ キ	Thread distributor	1
107	MA20A9571	ワンタッチツキ゛テ	One-touch coupling	2
108	ME25H0434	エアシリンタ゛	Air cylinder	1

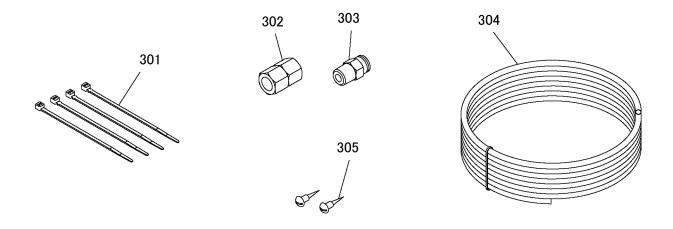
4.2 Pneumatic pressure control unit



4.2 Pneumatic pressure control unit (Parts list)

Fig	部品コード	品名	Description	数量
No.	Parts No.	品名	Description	Amt. Req.
201	MH25A1601	デンジへ`ントリツケイタ	Valve mounting plate	1
202	M91066004	SW-PW プラマイナヘ゛ネシ゛ M4X25	Screw M4X25	4
203	ME10X0599	デンジへ`ンクミタテ	Solenoid valve assy	1
204	M90511050	ታ ሽ	Washer 5	2
205	M95003017	セフティソケット M5X8	Safety socket bolt M5X8	2
206	MH10A8508	セツソ・クテ、ンセンクミタテ	Cable assy	1
207	MB10K4567	エアチューフ [*] クミタテ(A)	Air tube assy (A)	1
208	MB10K5567	エアチューフ゛クミタテ(B)	Air tube assy (B)	1
209	M91035089	サイレンサ	Muffler	2
210	MB20P1567	エアチューフ゛	Air tube	1
211	ME40A0963	フィルタレキ゛ュレータ	Filter regulator	1
212	MA20A8571	L カ [*] タワンタッチツキ [*] テ	L-type quick joint	3
213	MA30A0964	レジューサ	Reducer	2

4.3 Accessories



4.3 Accessories (Parts list)

Fig	部品コード	п Я	Description	数量
No.	Parts No.	品名		Amt. Req.
301	MF06A1620	ケッソクハ゛ント゛	Cable tie	4
302	M91010089	ロッカクソケット	Socket	1
303	MA30A0571	ワンタッチツキ゛テ	Quick joint	1
304	MS06A0567	エアチューフ゛	Air tube	1
305	M90409041	マルモクネシ゛4.5X20	Screw 4.5X20	2

5. Assembly procedures



CAUTION

- ★ To work in the presence of residual pressure in the pneumatic circuit It is dangerous. Please work after you remove the residual pressure always. The method of removing the residual pressure, and pull up the handle of the pressure regulating filter regulator, can be done by turning counter-clockwise until the pressure gauge shows 0.
- ★ When installing removal of parts, please go to turn off the power before. In addition, qualified personnel of electrical work, please be performed by wiring work.

5.1 Installing the upper thread holding mechanism

- (1) Make a bracket for mounting the upper thread holding mechanism. (Shows an example in Figure 2.)
 - ★ Please consult sewing machine shop for the fabrication of bracket.

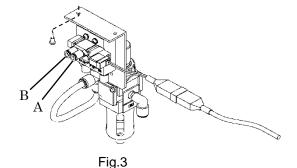
The mounting of the upper thread holding mechanism, you can use the mounting holes of the wiper mechanism, to or attached to the face cover. Attach a position that does not interfere with the holding jig to position the sewing material, consider including the sewing pattern and workability.

- (2) Remove the wiper mechanism from the machine arm. Is not only part of the wiper drive, please remove the connection wires from the sewing machine.
 - ★ Can not be shared with the wiper mechanism and Upper Thread-Holding Device.
- (3) Attach the upper thread holding mechanism to the machine arm. Please adjust the position of the upper thread holding mechanism so that the thread distributor Fig.No.106 scoop a thread between the presser foot and the needle, as shown in Figure 1.

5.2 Installing the pneumatic pressure control related parts and piping

Please connect the pipes so that the state of the air cylinder rod is returned when the power is turned off. If the rod is advanced, please replace the pipe to the joint A and B of the solenoid valve after the removal of the air pressure to stop the air.

- (1) Please fix with two wood screws provided the pneumatic pressure control unit of sewing machine table underside as shown in Figure 3
- (2) Insert to match the symbols A and B of the air tubes "Fig.No.207 and 208" into the ports "Fig.No.107A and 107B" of the upper thread holding mechanism.
- (3) Pass the air tubes through the notched section on the side of the sewing machine unit's motor cover, and lead the tubes to the bottom of the table from the square hole on the table.
- (4) Insert to match the symbols A and B of the air tubes into the ports "A and B" of the solenoid valve.
- (5) Bind the air tubes appropriately with the enclosed Fig.No.301 Cable ties.



5.3 How to setup and cable connection

- (1) Remove the circuit board cover on the back of the sewing machine.
- (2) Disconnect the cable connector of the wiper connected to CON11 on the circuit board.
- (3) Connect the connector of Fig.No.203 cable assy to CON11 on the circuit board.
- (4) Connect the connector of sensor of the air cylinder to CON9 on the circuit board.
- (5) Install the circuit board cover removed.

Output (CON 11)

Printed character		Pin No.	
	02	Upper thread holding	1
W	-	-	2
	+24V	DC24V	3

Input (CON 9)

Printed character	Signal		Pin No.
	+12V	DC12V	1
FSW	17	I7 S6	
		(Thread trimming protection signal)	
	GND	Ground	3

5.4 How to setup and cable connection

(1) Press the MENU on the standard screen to open the MENU mode.

(2) Press the

in the menu icon. The Input/Output setting mode screen is displayed.

(3) Press the



on the Input/Output setting mode, and enter a password.

Please ask the dealer about a password.

Input Customize Setting screen, press the button on the lower side of the physical input RAM "I7".(Input signal is displayed on the button, the default is "NO".) The Function Section screen will open.

(4) Select input signal "S6" by pressing the button



(5) Press the



and display the screen of the Detailed Setting.



(7) Press the



.

(8) Press the



and return to standard screen.

The settings will be changed to the table shown next by the above operation.

For details, refer to the clause [14] Input/output setting mode of the technical manual "Operation Panel".

	Default value	After changing the setting	
Input signal	NO	S6	
Signal name		Thread trimming protection signal	
Logical setting	normal	reversed	

6. Operation



Assembly of this device is completed, please check your work once again.

Because there is a case to unexpected behavior, please away from the sewing machine when the power is turned on and the air pressure.

- (1) Pull up on the handle of the filter regulator, adjust to 0.4MPa(4kgf/cm²) air pressure by turning in a clockwise direction.
- (2) Upper Thread-Holding Device will work in the program of the wiper.

For the timing adjustment of the operation, refer to the clause of the technical manual "Control Unit".

7. Upper thread holding mechanism outline drawing

