

ENGLISH

**AMS-221F / IP-500
Needle cooler
INSTRUCTION MANUAL**

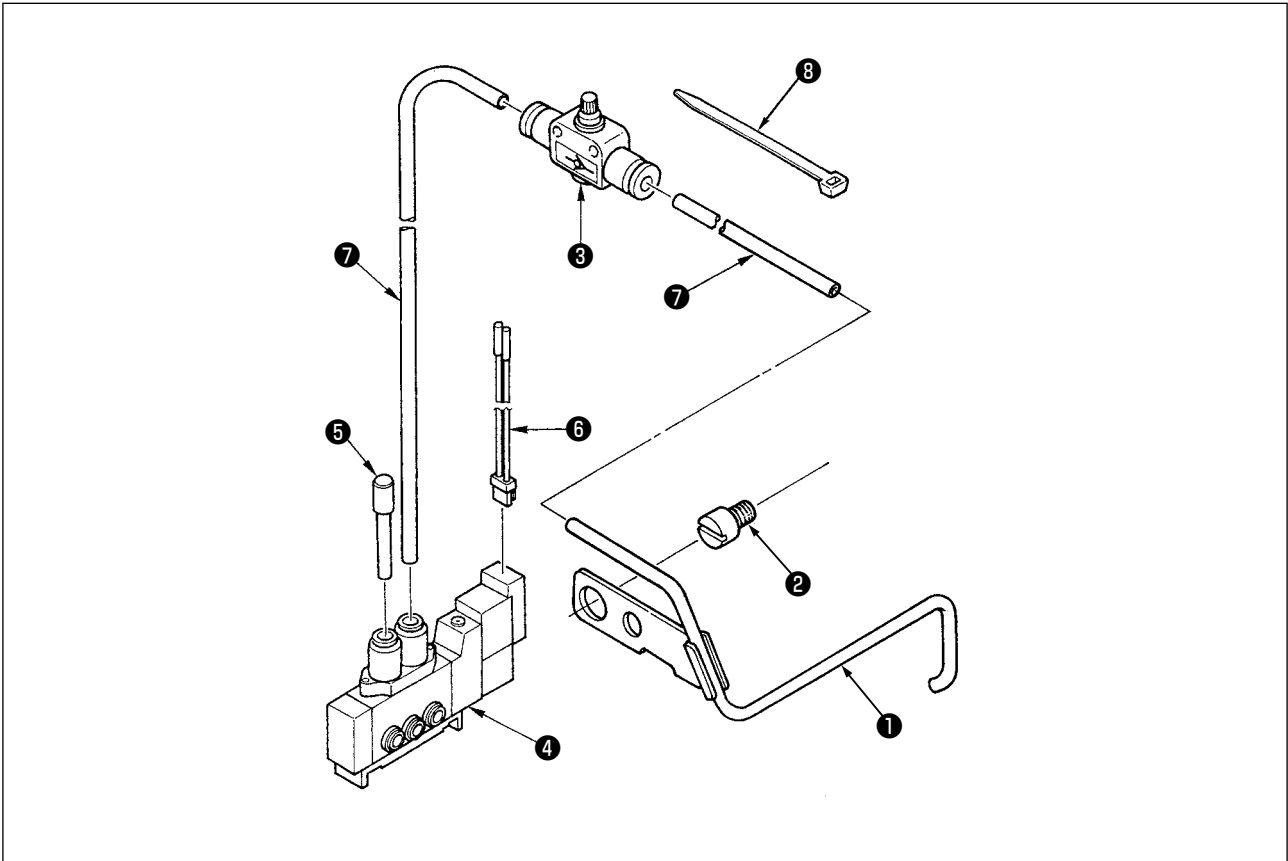
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WARNING :

This Instruction Manual is intended for the Needle Cooler. Read and fully understand the instructions given under "IMPORTANT SAFETY INSTRUCTIONS" in the Instruction Manual for AMS-F before putting the machine into service when this device is installed to the AMS-F Series. In addition, to emphasize the Needle Cooler, some illustrations are simplified. Also, illustrations of the safety devices are partially omitted.

1. Configuration of the needle cooler asm. (40218933)



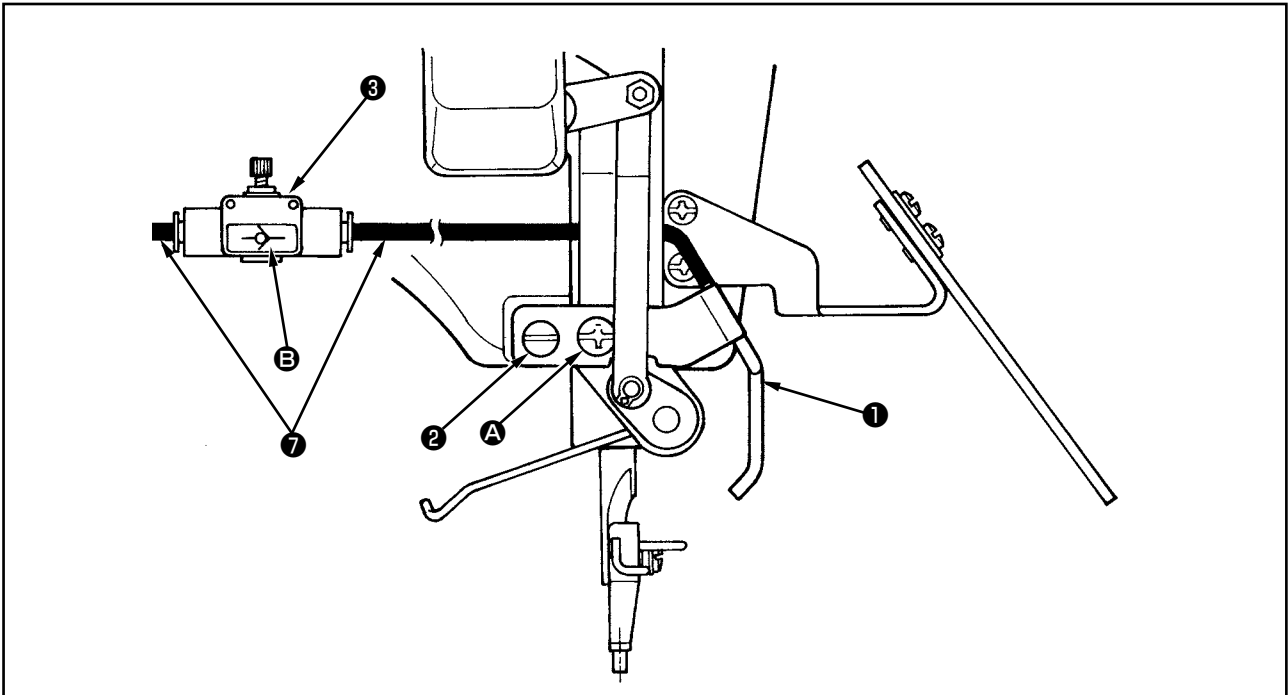
		Part No.	Q'ty
①	Needle cooler asm.	40215963	1
②	Needle cooler guide pin	40010457	1
③	Speed controller	PC012401000	1
④	Solenoid valve	PV150209000	1
⑤	Plug	PX500014000	1
⑥	Solenoid valve connector asm.	40035324	1
⑦	Urethane tube, black	BT0400251EB	1m
⑧	Cable clip band	HX002330000	3

2. Installation



WARNING :

Turn OFF the power before starting the work so as to prevent accidents caused by abrupt start of the sewing machine.

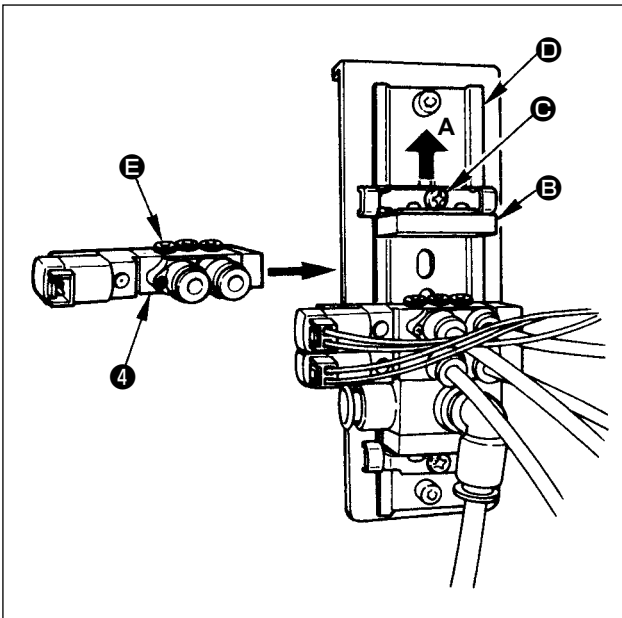


- 1) Install needle cooler guide pin **2** on the sewing machine frame.
- 2) Remove setscrew **A** from the wiper mounted on the sewing machine. Then, fit needle cooler coupling **1** in guide pin **2** as shown in the figure, and fix it with wiper setscrew **A**.
- 3) Insert $\varnothing 4$ air tube **7** into speed controller **3** so that symbol **B** of speed controller **3** is oriented to the direction as shown in the figure.
- 4) Fix $\varnothing 4$ air tube **7** to the binding places on the sewing machine with the clips supplied as accessories.

Installing procedure of L type is different from that of S type. Install the respective types in accordance with the numbers below.

L type : 5) to 10)

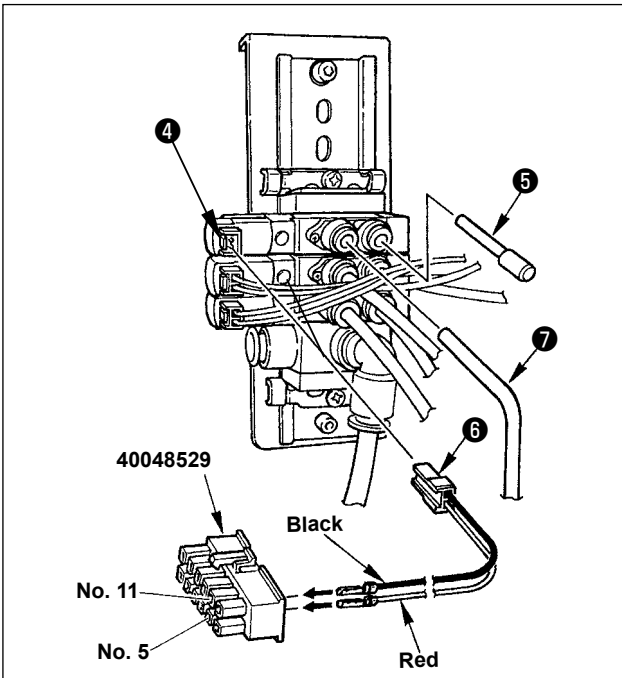
S type : 11) to 17)



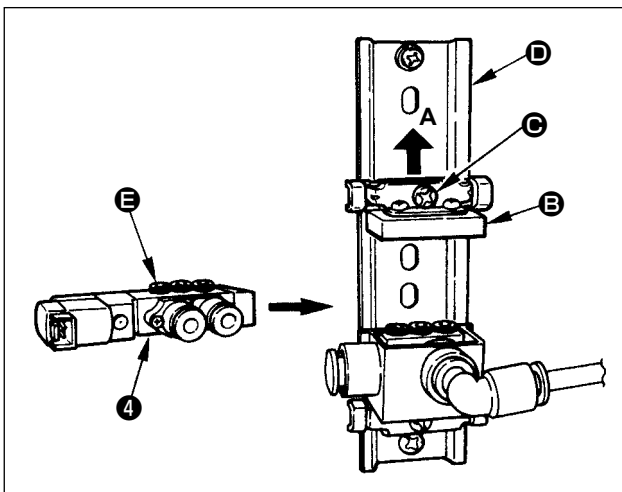
- 5) Loosen setscrew **C** in end block **B**, and draw out end block **B** in the direction **A**.
- 6) Insert solenoid valve **4** into the position as shown in the figure.
- 7) Insert end block **B** into rail **D**, and tighten setscrew **C** while contacting the end block closely to the solenoid valve.



When tightening setscrew **C**, care should be taken so that there will be no clearance among the solenoid valve and other components since air leakage will be caused if solenoid valve and other components are not closely set. Be sure to insert three bushings **E** into solenoid valve **4**.



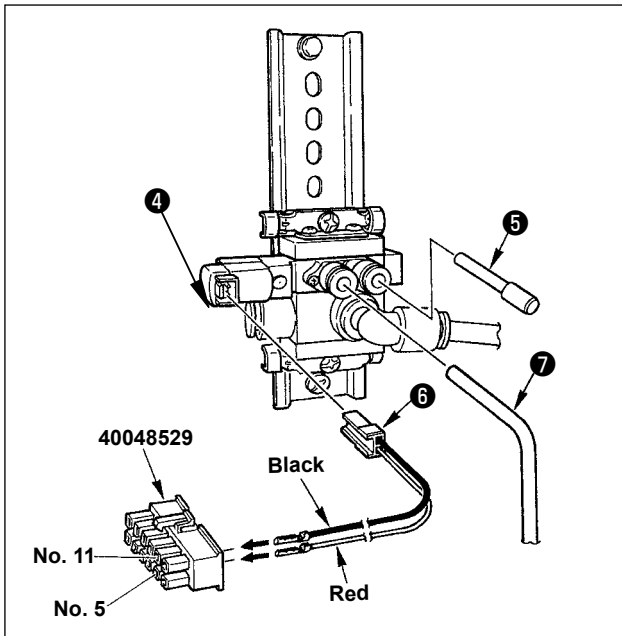
- 8) Insert plug **5** and air tube **7** into the solenoid valve.
- 9) Insert solenoid valve connector asm. **6** into solenoid valve **4**.
- 10) Insert the pins of solenoid valve connector asm. **6** into the specified positions of connector (40048529) supplied with the sewing machine as accessories.
Red lead wire → to No. 5 of the connector
Black lead wire → to No. 11 of the connector



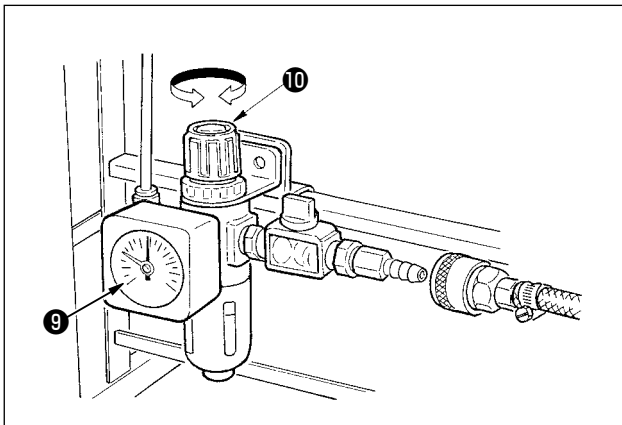
- 11) Loosen setscrew **C** in end block **B**, and draw out end block **B** in the direction **A**.
- 12) Insert solenoid valve **4** into the position as shown in the figure.
- 13) Insert end block **B** into rail **D**, and tighten setscrew **C** while contacting the end block closely to the solenoid valve.



When tightening setscrew **C**, care should be taken so that there will be no clearance among the solenoid valve and other components since air leakage will be caused if solenoid valve and other components are not closely set. Be sure to insert three bushings **E** into solenoid valve **4**.



- 14) Insert plug ⑤ and air tube ⑦ into the solenoid valve.
- 15) Insert solenoid valve connector asm. ⑥ into solenoid valve ④ .
- 16) Insert the pins of solenoid valve connector asm. ⑥ into the specified positions of connector (40048529) supplied with Air unit asm. (40089848).
Red lead wire → to No. 5 of the connector
Black lead wire → to No. 11 of the connector



- 17) After completing the aforementioned assembling, set the manual valve to the position of release, E. Then adjust air adjustment knob ⑩ so that air pressure gauge ⑨ indicates 0.5 to 0.55 MPa (5 to 5.5 kgf/cm²).

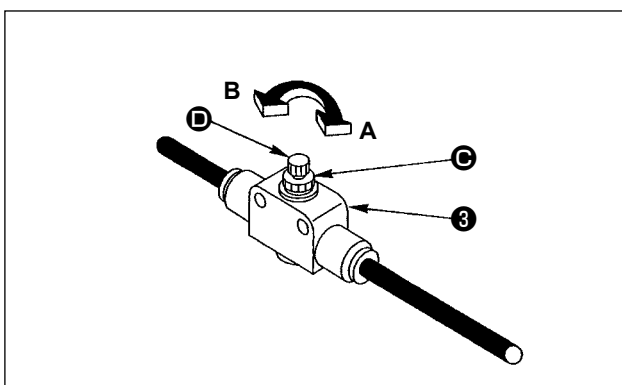
3. How to use the needle cooler

1) Operation of the needle cooler

When the needle cooler is installed in the state of delivery of the sewing machine, it is set so as to operate during sewing. The needle cooler operates from the start of sewing to the end of sewing (thread trimming) while the main shaft is operating.

It automatically stops in the following state.

- Stop of the sewing machine when needle thread is broken.
- Stop of the sewing machine when the temporary stop switch is turned ON.
- Stop of the sewing machine with the temporary stop command or the like in the sewing pattern.
- At the time of jump feed



2) Air amount adjustment and stop of the needle cooler

(Adjusting method)

Loosen nut ③ of speed controller ③ . Turn knob ④ in the direction B to increase the air amount, and in the direction A to decrease the amount.

(How to stop)

Turn knob ④ fully in the direction A and air blowing stops.

After the adjustment, tighten nut ③.