

# Pedal - operated pneumatic auto - lifter MO - 3900/AK101

## INSTRUCTION MANUAL

No.1018-00  
29162906

### Foreword

Congratulations on your purchase of an auto-lifter "AK101" (SC-1 type) for the MO-3900. The AK101 automatically lifts the presser foot by means of an air cylinder by depressing the back part of the motor pedal. Please read this Instruction Manual for the AK101 carefully before using it in order to get the most out of many functions of the device and operate it in safety.

### 1. Features

- (1) When the back part of the motor pedal is depressed, the presser foot will automatically go up. This helps reduce the operator's fatigue in the feet.
- (2) The device can be installed with ease. The foot-pedal operated presser foot lifting mechanism can easily be changed over to the pneumatic presser foot lifting mechanism.
- (3) The "AK101" has been designed exclusively to the SC-1 type of the sewing machine.

### 2. Applicable models

MO-3900 (SC-1 type)

### 3. Installing and adjusting the device

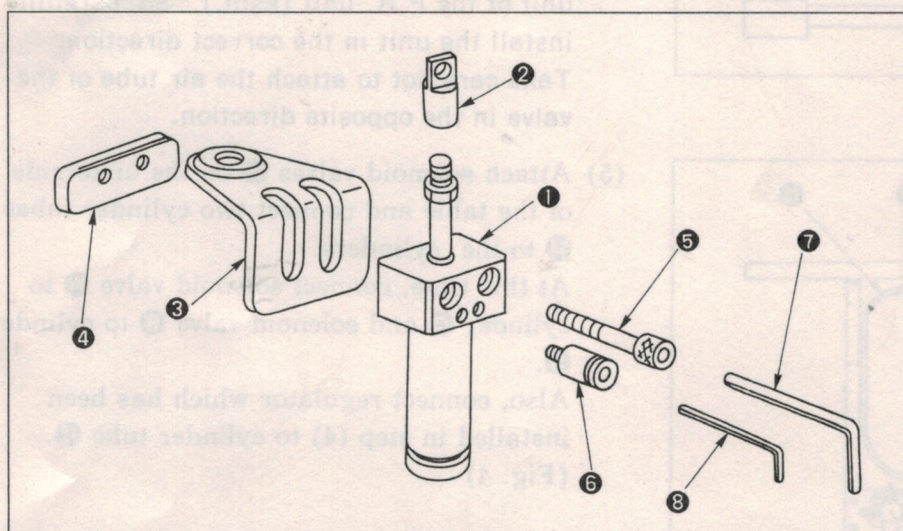


Fig. 1

- (1) Screw cylinder knuckle ② in presser foot lifting cylinder ① and fix the knuckle with the nut supplied with the cylinder.

Temporarily fix presser foot lifting cylinder ① on cylinder mounting base ③ using cylinder installing plate ④ and bolt ⑤. (Fig. 1)

(Caution)

It is not necessary to securely fix the presser foot lifting cylinder, since it is adjusted after it has been installed on the table-components.

Tighten the bolt using 4 mm hexagon wrench key ⑦.

- (2) Attach coupling ⑥ to cylinder ① which has been temporarily fixed in the previous step with 2 mm hexagon bolt hexagon wrench key ⑧.



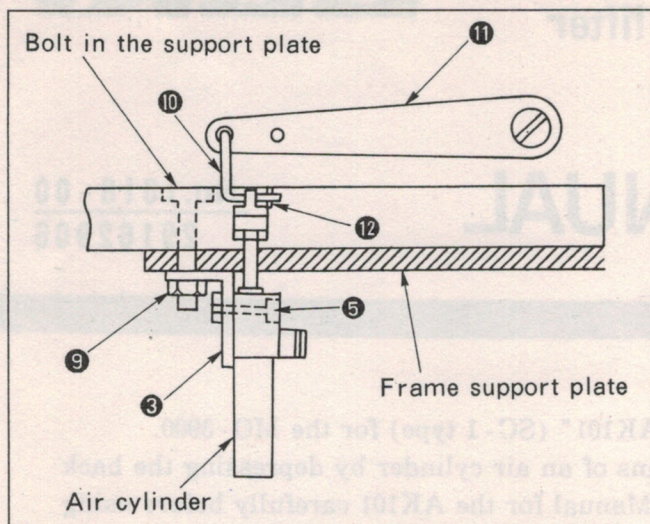


Fig. 2

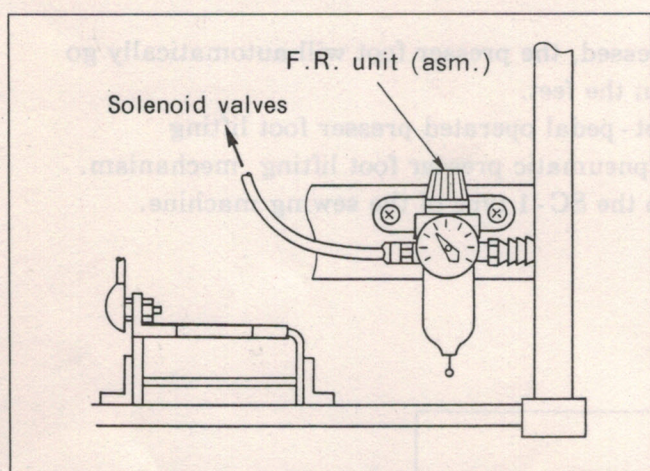


Fig. 3

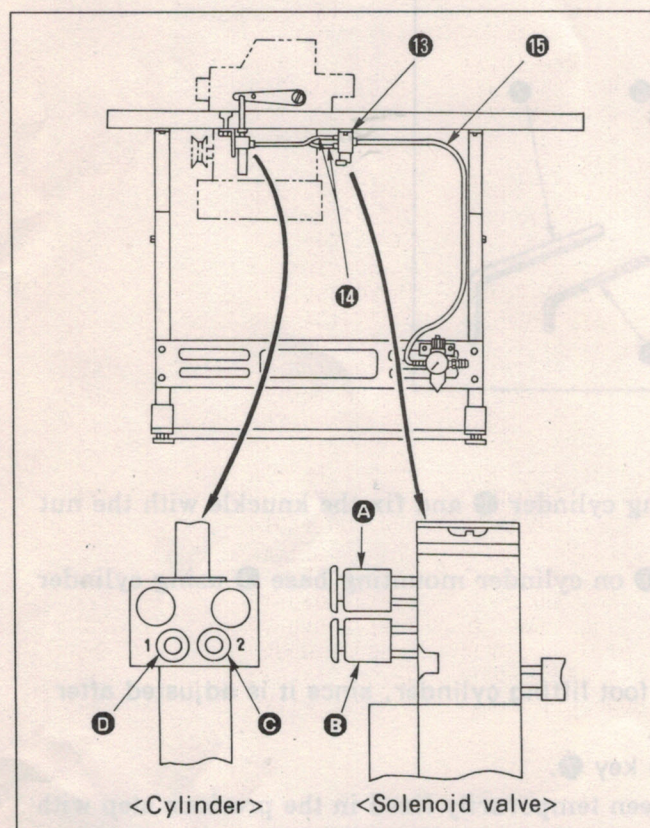


Fig. 4

- (3) Remove nut 9 from the bolt of the support frame, and attach cylinder mounting base 3 to the section located between the nut and frame.

Connect cylinder connecting hook 10 to presser foot lifting lever 11.

Put air cylinder connecting hook pin 12 in place.

Finally, when the cylinder shaft is lengthened the most, tighten bolt 5 at the position where presser foot lifting lever 11 has no play. (Fig. 2)

- (4) Attach the F.R. unit (asm.) [air regulator] to the rear side of the leg of the table.

(Fig. 3)

(Bore two prepared holes of 4.4 mm and fix the F.R. unit by tightening tapping screws supplied with the unit in the holes.)

(Note)

It is not necessary to tap the prepared holes. The arrow (→) which indicates the direction of air flow is shown on the main unit of the F.R. unit (asm.). So, carefully install the unit in the correct direction.

Take care not to attach the air tube of the valve in the opposite direction.

- (5) Attach solenoid valves 13 on the underside of the table and connect two cylinder tubes 14 to the cylinders.

At this time, connect solenoid valve A to cylinder C and solenoid valve B to cylinder D.

Also, connect regulator which has been installed in step (4) to cylinder tube 15.

(Fig. 4)



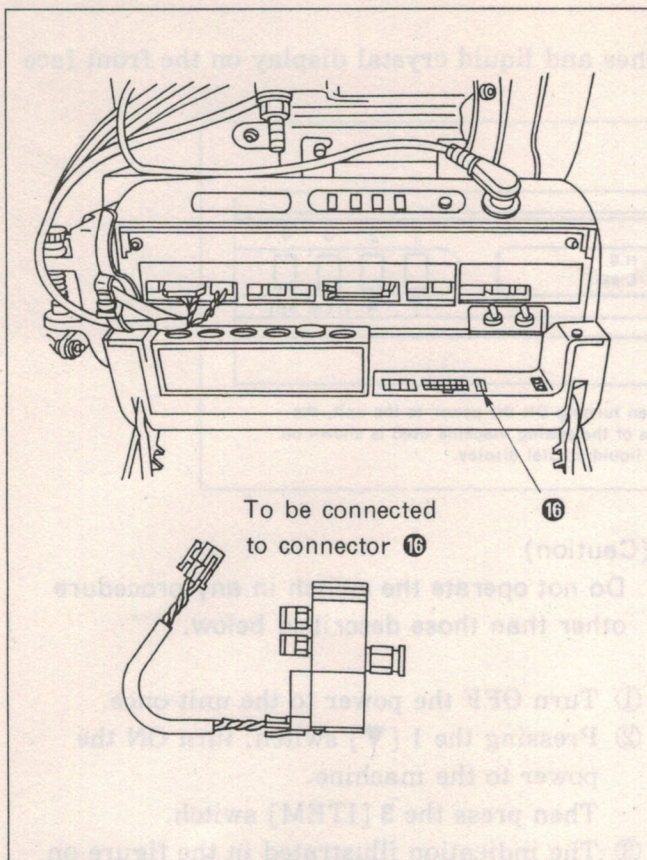


Fig. 5

- (6) Open the cover of the SC - 1, and connect the solenoid valve for the presser foot lifter to connector 16. (Fig. 5)

(Caution)

If you want to use the AK101, confirm that the SC - 1 has been set to "air" mode.

(Please refer to "4. Setting for the functions".)



#### 4. Setting for the functions

Specify the functions using the four setting switches and liquid crystal display on the front face of the PSC box.

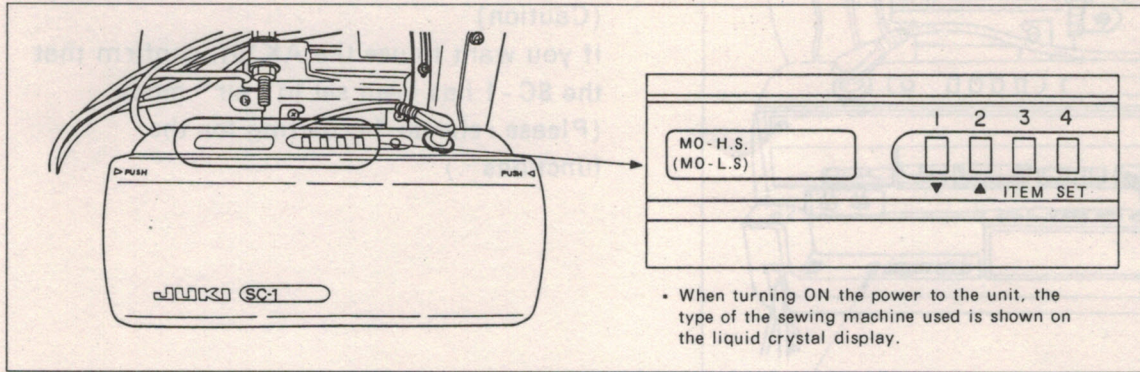


Fig. 6

Switch operation	Liquid crystal display
①	
②	 ③
④	No.46 is shown on the LCD.
⑤	⑥
⑦	
⑧	
⑨	

#### (Caution)

Do not operate the switch in any procedure other than those described below.

- ① Turn OFF the power to the unit once.
- ② Pressing the 1 [▼] switch, turn ON the power to the machine.  
Then press the 3 [ITEM] switch.
- ③ The indication illustrated in the figure on the left appears on the screen.  
(If the indication on the screen fails to change, re-perform the steps of procedure from step 1.)
- ④ Set the function No. to 46 by pressing the 1 [▼] switch or 2 [▲] switch.
- ⑤ Once the No. 46 is specified, press the 4 [SET] switch.
- ⑥ The indication on the screen changes as illustrated in the figure on the left. This is the state in which data can be modified.
- ⑦ Set the arrow to "1: air" by pressing the 1 [▼] switch or 2 [▲] switch.
- ⑧ After the completion of data changing procedure, enter the modified value by pressing the 4 [SET] switch.

#### (Caution)

If you omit this procedure by mistake, the specified value will not be entered.

- ⑨ After the completion of step ⑧, turn OFF the power to the unit, then turn it ON again. This will return the unit to the normal operation mode.



## 5. Items to be confirmed

Adjust the suction force of the air nozzle, if necessary, by loosening the air regulating nut and appropriately tightening or loosening the screw. (6- (2))

- [ Tighten the screw. → The air is weakened. ]
- [ Loosen the screw. → The air is strengthened. ]

## 6. Cautions in operation

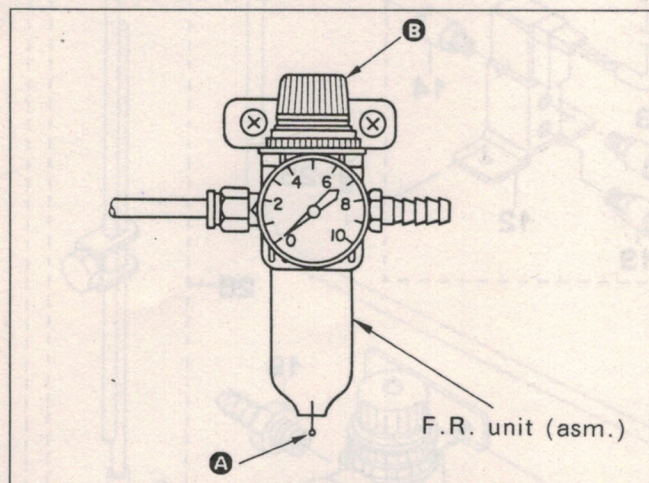


Fig. 7

- (1) If water gathers in the lower section of the F.R. unit (asm.), lightly push up top end **A** of the drain pin.

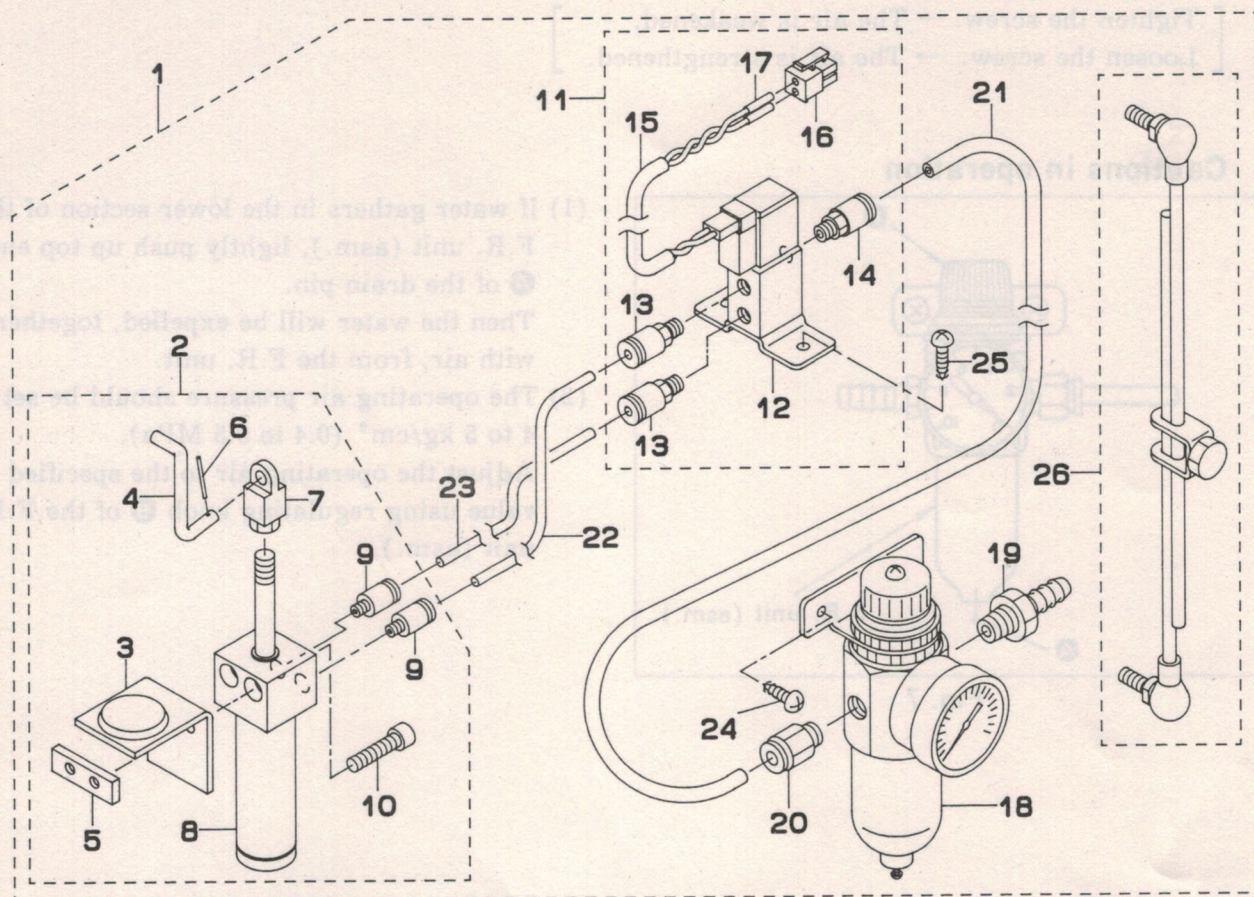
Then the water will be expelled, together with air, from the F.R. unit.

- (2) The operating air pressure should be set to 4 to 5 kg/cm<sup>2</sup> (0.4 to 0.5 MPa).

Adjust the operating air to the specified value using regulating knob **B** of the F.R. unit (asm.).



## 7. Components used



REF.NO	NOTE	PART NO.	DESCRIPTION	ヒ シ ム イ	Qty
1		GAK-A01000A0	AK101 ASM.	AK101 ソウクミ	1
2		GAK-A01010A0	CYLINDER ASM.	シリンダ ソウクミ	(1)
3		GAK-32003000	AIR CYLINDER BASE, AK-32	シリンダトリツタタ <sup>イ</sup>	(1)
4		GAK-32004000	AIR CYLINDER CONNECTING HOOK	シリンダレンケツフック	(1)
5		GAK-32005000	CYLINDER MOUNTING PLATE	シリンダトリツタタ <sup>イ</sup>	(1)
6		GAK-49003000	CONNECTING HOOK PIN	エアシリンダレンケツフックメ <sup>ヒ</sup> ン	(1)
7		GAK-52004000	AIR CYLINDER KNUCKLE, AK-32	エアシリンダフック (AK-52)	(1)
8		PA-2002520-A0	AIR CYLINDER	エアシリンダ <sup>キ</sup>	(1)
9		PJ-3010405-04	JOINTING	6カクアナツキ ストレート	(2)
10		SM-6062502-TP	SCREW M6 L=25	ロツカクアナホ <sup>ルト</sup> M6 L=25	(2)
11		GAK-A01020A0	SOLENOID VALVE ASM.	オキエアケ <sup>デ</sup> ンジ <sup>ハ</sup> ン クミ	(1)
12		PV-1505181-00	SOLENOID VALVE	デ <sup>ン</sup> ジ <sup>ハ</sup> ン	(1)
13		PJ-3010405-04	JOINTING	6カクアナツキ ストレート	(2)
14		PJ-3010605-01	UNION	ストレート	(1)
15		E876Q-452-F00	TUBE	スミチューブ <sup>キ</sup>	(0.5)
16		HK-0346100-20	2-POLE NYLON PLUG	ハウジ <sup>ソ</sup> ク <sup>キ</sup> 2P	(1)
17		HK-0346400-00	PIN SHAP TERMINAL	ピン タ <sup>ー</sup> ミナル	(2)
18		PF-0552010-B0	COMBINATION FR UNIT ASM.	コンビ <sup>ネ</sup> ション FRユニット クミ	(1)
19		F1021-003-000	HOSE JOINT	ホース ジョイント	(1)
20		GAS-12063000	MALE CONNECTOR	オス コネクタ <sup>ー</sup> (PT1/4-6)	(1)
21		BT-0600401-EB	TUBE	チューブ <sup>キ</sup>	(1)
22		BT-0400251-EB	URETHANE HOSE, BLACK	ウレタンホース クロ	(0.8)
23		BT-0400251-EB	URETHANE HOSE, BLACK	ウレタンホース クロ	(0.8)
24		GMD-01080000	SCREW M5 L=10	F.Rユニットトリツタネジ <sup>キ</sup>	(2)
25		SK-3412000-SC	WOOD SCREW D=4.1 L=20	マルモクネジ <sup>キ</sup> D=4.1 L=20	(2)
26		D7114-555-BAB	CONNECTING ROD ASM. (B)	レンケツホ <sup>キ</sup> クミ	(1)



Please do not hesitate to contact our distributors or agents in your area for further informations when necessary.  
\*The description covered in this instruction manual is subject to change for improvement of the commodity without notice.

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