



# USER'S MANUAL

## INVERTING CLAMP DEVICES SPS/A(B)-SERIES

Electronic Pattern Sewing Machine

SunStar CO., LTD.

- 1) FOR AT MOST USE WITH EASINESS,  
PLEASE CERTAINLY READ THIS MANUAL  
BEFORE STARTING USE.
- 2) KEEP THIS MANUAL IN SAFE PLACE  
FOR REFERENCE WHEN THE MACHINE  
BREAKS DOWN.

MME-120831



1. Thank you for purchasing our product. Based on the rich expertise and experience accumulated in industrial sewing machine production, SUNSTAR will manufacture industrial sewing machines, which deliver more diverse functions, high performance, powerful operation, enhanced durability, and more sophisticated design to meet a number of user's needs.
2. Please read this user's manual thoroughly before using the machine. Make sure to properly use the machine to enjoy its full performance.
3. The specifications of the machine are subject to change, aimed to enhance product performance, without prior notice.
4. This product is designed, manufactured, and sold as an industrial sewing machine. It should not be used for other than industrial purpose.

 **SUNSTAR CO., LTD.**

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# 1

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## Notice Before Using

- 1) Before inputting air pressure by air pressure control devices, check if a needle is not attached.



**If the up-feed plate and reversal feeding frame ascend simultaneously with air pressure input so that a needle is put over the reversal feeding frame, the needle can be broken**

- 2) Before reading patterns, check the pattern number once more.



**If you use read patterns, incorrectly a needle can be broken when the reversal feeding frame ascend during sewing or after finishing sewing.**

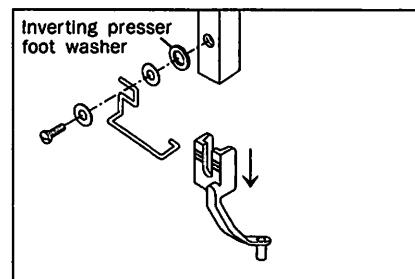
- 3) Using presser foot is not available for normal inverting working. In case of using the presser foot, you should be careful since the sewing range around reversal crank differs from the normal sewing range.

# 2

## Inverting Clamp Devices of SPS/A-1306 Series

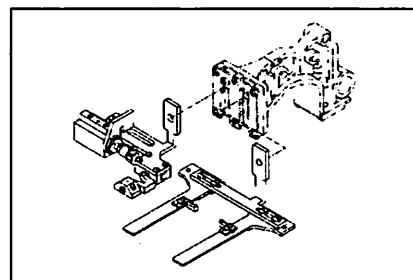
### 1. Installing the Inverting Clamp Devices

- 1) Remove the up-feed plate and feed plate clamp attached to feed bracket.
- 2) Remove the presser foot and insert the Inverting presser foot washer on that spot, then fasten a fixing screw.



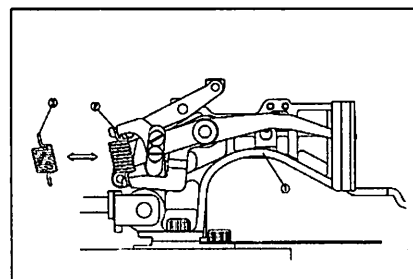
[ Fig. 1 ]

- 3) Install the Inverting clamp devices as seen in the figure 2.



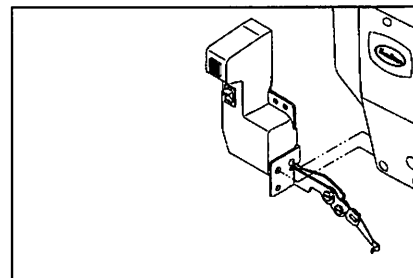
[ Fig. 2 ]

- 4) If the machine is an electronic type, replace the lift lever extension spring② located on the left side of the feed bracket① with the lift lever extension spring for turnover device③.



[ Fig. 3 ]

- 5) Attach the wiper for the inverting clamp devices.



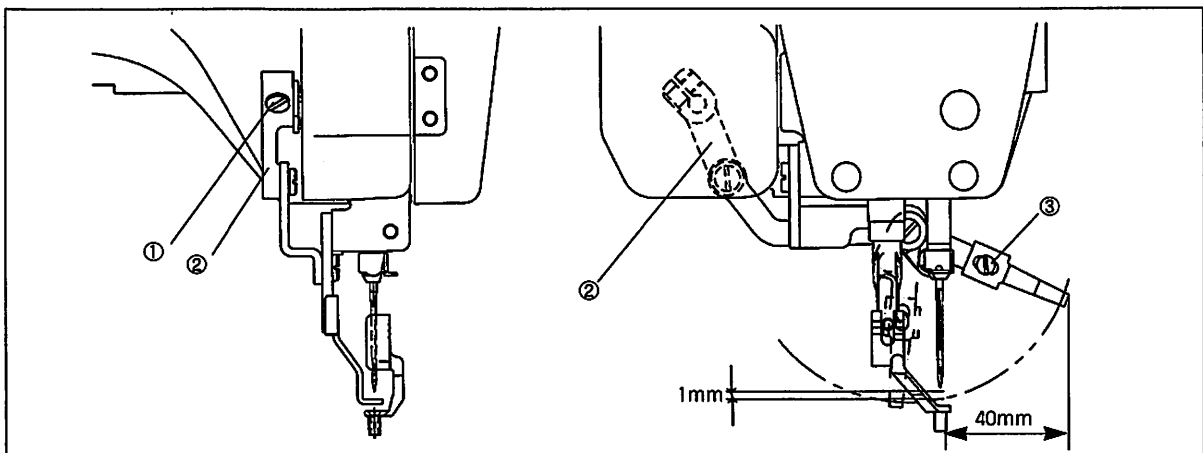
[ Fig. 4 ]

## 2. Adjusting the Wiper Parts

- 1) Unfasten the crank fixing screw ① when a needle is stopped upward.
- 2) Adjust the wiper crank ② for wiper and needle to be apart from about 40mm.
- 3) Fasten the wiper crank fixing screw ①.
- 4) Unfasten the wiper fixing screw ③ and adjust it for wiper tail and needle tip to be apart from about 1mm, then fasten the wiper fixing screw ③.

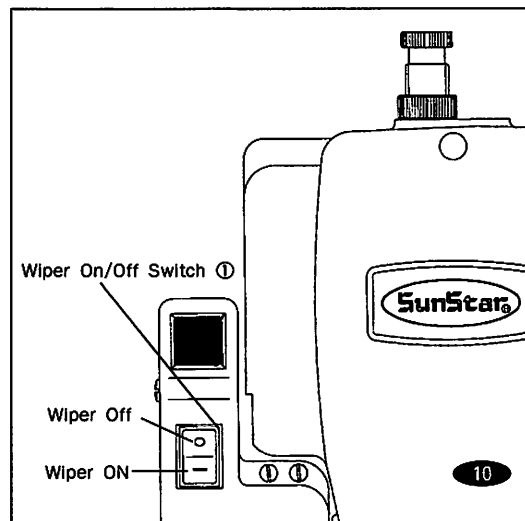


If a position of wiper is not proper, the wiper can be interfered with needle or inverting clamp devices during operating, therefore, precise operation can not be achieved.



[ Fig. 5 ]

- 5) For using the wiper, press the wiper operation switch — ① and for not using it, press the wiper operation switch ○ ①.



[ Fig. 6 ]

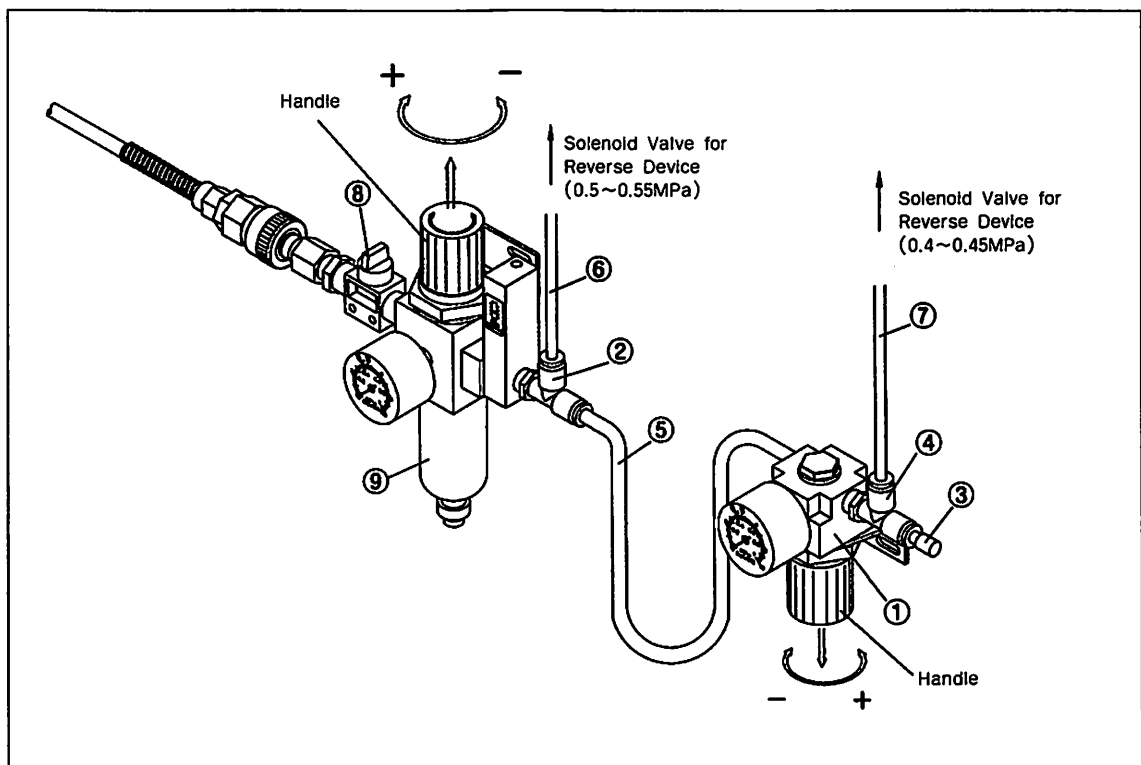
### 3. Installation and Adjustment of Pneumatic Control Parts



Make sure that the power is turned off during parts installation and adjustment in order to prevent safety accidents.

#### A. For pneumatic type

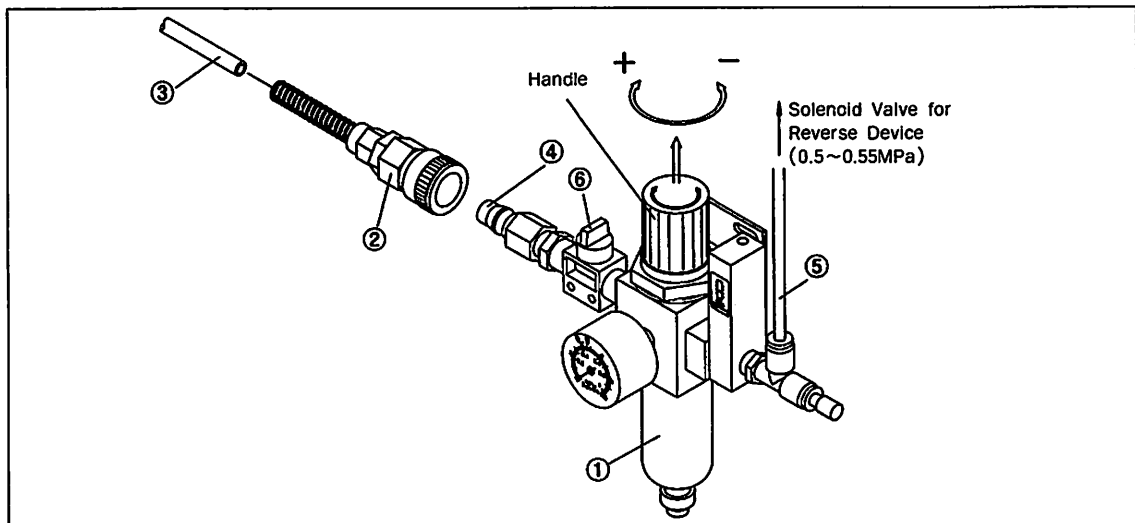
- 1) Attach the pressure adjuster① to the rear side of the table leg using the screw.
- 2) Remove the plug③ attached to T②, and insert it into T④. Connect the air hose⑤ as in the figure below.
- 3) Connect the air hoses⑥,⑦ to the corresponding solenoid entrances.
- 4) Open the finger valve⑧ and pass the air to move in.
- 5) Pull the pressure adjuster⑨ handle for the reverse device in the arrow direction. When it is turned in the (+) direction, the pressure increases. When it is turned in the (-) direction, the pressure decreases. Set the air pressure at the appropriate level of 0.5~0.55MPa (5~5.5Kgf/cm<sup>2</sup>).
- 6) Pull the pressure adjuster① handle for upper feed in the arrow direction. When it is turned in the (+) direction, the pressure increases. When it is turned in the (-) direction, the pressure decreases. Set the air pressure at the appropriate level of 0.4~0.45MPa (4~4.5Kgf/cm<sup>2</sup>).



[ Fig. 7 ]

#### B. For electronic type

- 1) Attach the pressure adjuster② to the rear side of the table leg using the screw.
- 2) Connect the air hose③ to the quick joint socket②.
- 3) Assemble the quick joint socket② and the quick joint plug④.
- 4) Connect the air hose⑤ as in the figure and connect it to the reverse device solenoid entrance.
- 5) Open the finger valve⑥ and pass the air to move in.
- 6) Pull the pressure adjuster① handle for the reverse device in the arrow direction. When it is turned in the (+) direction, the pressure increases. When it is turned in the (-) direction, the pressure decreases. Adjust the air pressure at the appropriate level of 0.5~0.55MPa (5~5.5Kgf/cm<sup>2</sup>).



[ Fig. 8 ]



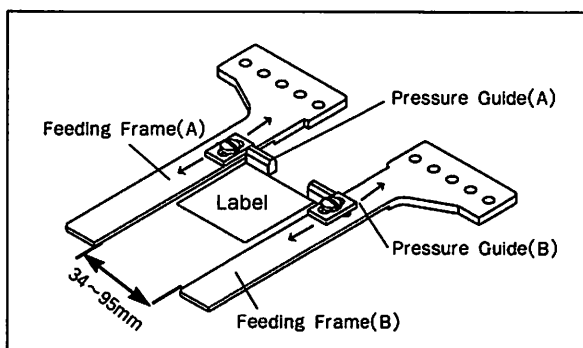
**Caution** If the air pressure of the pressure adjuster for the reverse device decreases in the middle of use (3Kgf/cm<sup>2</sup> or below), error message will be displayed and the machine will stop its operation.



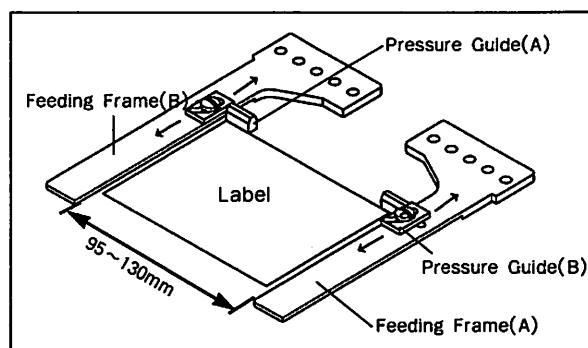
**Note** When closing the finger valve after use, the remaining air inside the valve will be released. Therefore, the air pressure is displayed 0 MPa (0 Kgf/cm<sup>2</sup>).

#### 4. Adjusting the Reversal Feeding Frame

- 1) Attach the feeding frame guide (A) and (B) to the feeding frame (A) and (B).
- 2) If the width of label is 34~95mm, attach them as seen in the fig. 9, and if 95~130mm, attach them as seen in the fig. 10.



[ Fig. 9 ]



[ Fig. 10 ]



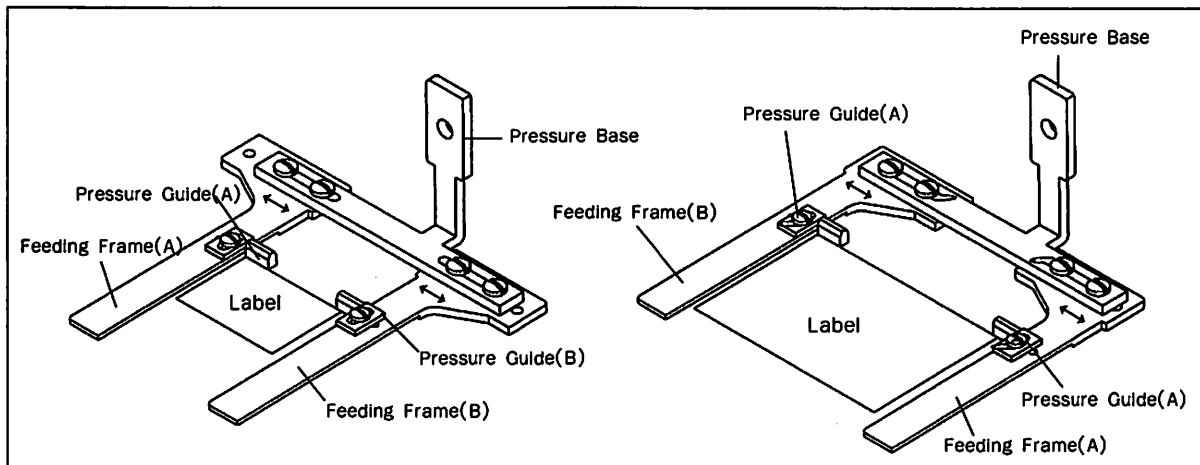
- 3) Adjust the precise position by moving the pressure guide (A) and (B) to the arrow direction according to the available sewing range for label.



**Caution**

As seen in the fig. 9, if the pressure guide (A) and (B) is interfered with the reversal crank since the width of label is too small, remove the pressure guide (A) and (B).

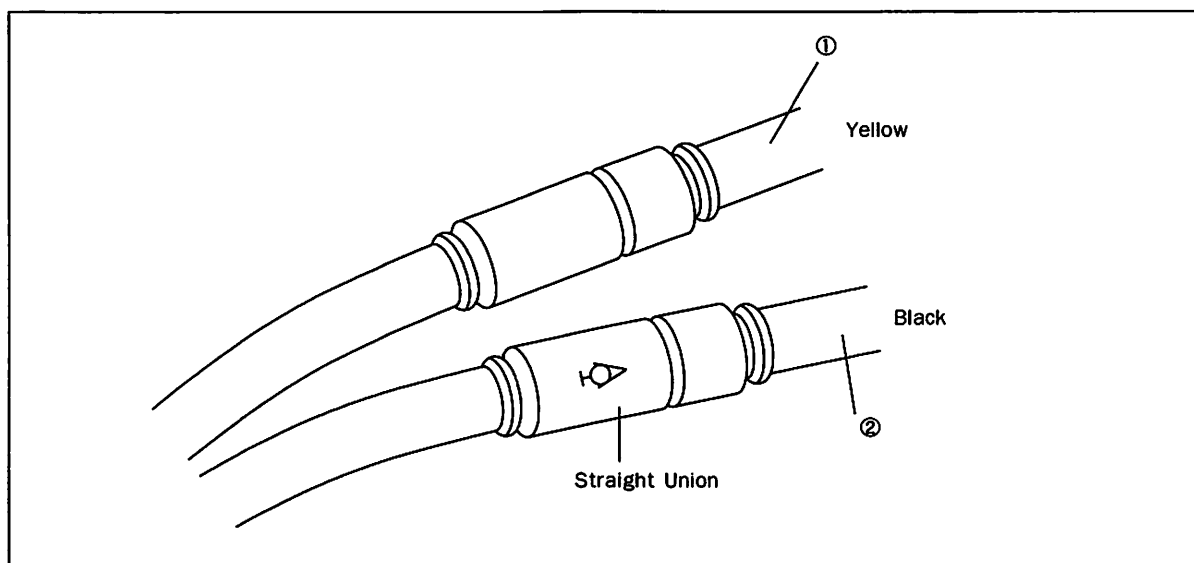
- 4) Attach the feeding frame (A) and (B) to the feeding frame base.  
Adjust the precise position by moving the width of label to the arrow direction.



[ Fig. 11 ]

## 5. Removing the Inverting Clamp Devices

- 1) Remove the inverting clamp devices when the machine is worked with standard specification.
- 2) Remove the inverting air tube ① and ② from one-touch juncture and straight union.
- 3) Unfasten the fixing screws and take off the parts for the inverting clamp devices.



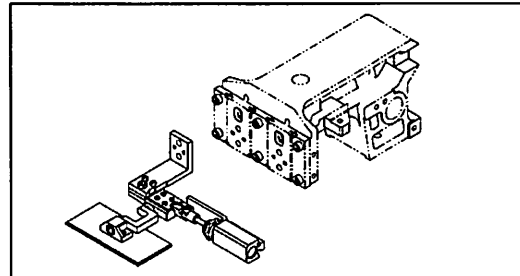
[ Fig. 12 ]

# 3

## Inverting Clamp Device of SPS/A-1811 Series

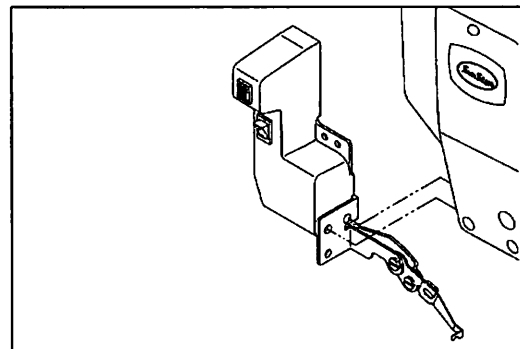
### 1. Installing the Inverting Clamp Devices

- 1) Exchange the up-feed plate and low-feed plate into up-feed plate for reversal and low-feed plate for reversal.
- 2) Attach the inverting clamp devices to the feed bracket as seen in the fig. 12.



[ Fig. 13 ]

- 3) Attach the wiper for the inverting clamp devices.



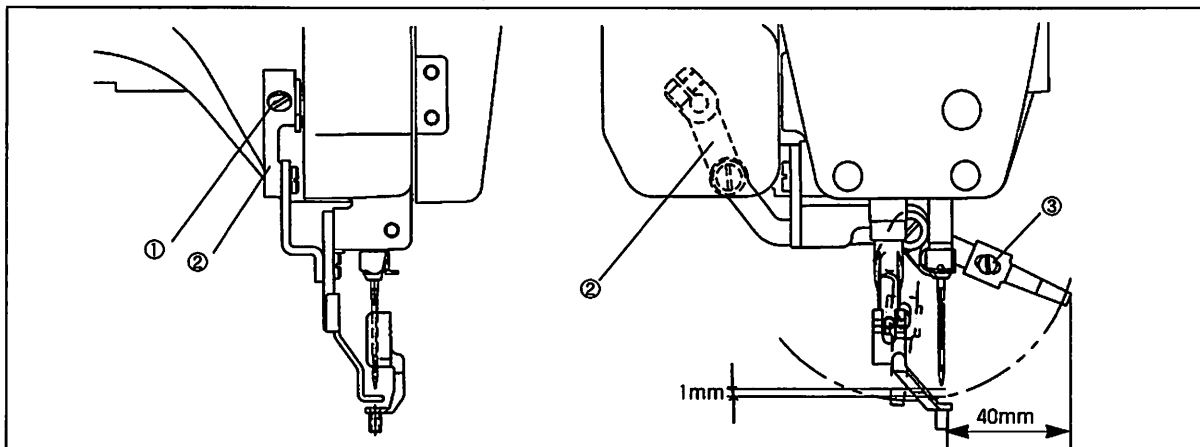
[ Fig. 14 ]

### 2. Adjusting the Wiper Parts

- 1) Unfasten the crank fixing screw ① when a needle is stopped upward.
- 2) Adjust the wiper crank ② for wiper and needle to be apart from about 40mm.
- 3) Fasten the wiper crank fixing screw ①.
- 4) Unfasten the wiper fixing screw ③ and adjust it for wiper tail and needle tip to be apart from about 1mm, then fasten the wiper fixing screw ③.

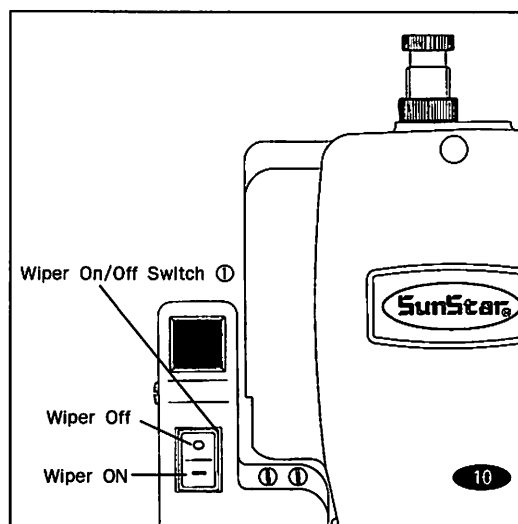


If a position of wiper is not proper, the wiper can be interfered with needle or inverting clamp devices during operating, therefore, precise operation can not be achieved.



[ Fig. 15 ]

- 5) For using the wiper, press the wiper operation switch — ① and for not using it, press the wiper operation switch ○ ①.



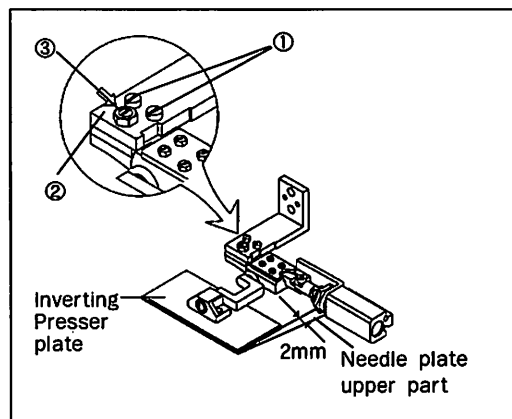
[ Fig. 16 ]

### 3. Adjusting the Inverting Presser Plate Feeding Frame

To prevent from lack of pressure at front area of reversal feeding frame during reversal working, adjust the front part of reversal feeding frame to be lower than back part.

- 1) Unfasten the fixing screw ① and nut ②, then turn the adjusting screw ③ clockwise until the front side of reversal feeding frame goes down.
- 2) After adjusting, fasten the fixing screw ① and nut ②.

At this time, when the front tail of reversal feeding frame is in accord with the surface of needle plate, adjust the front tail to be 2mm higher than the surface of needle plate.



[ Fig. 17 ]



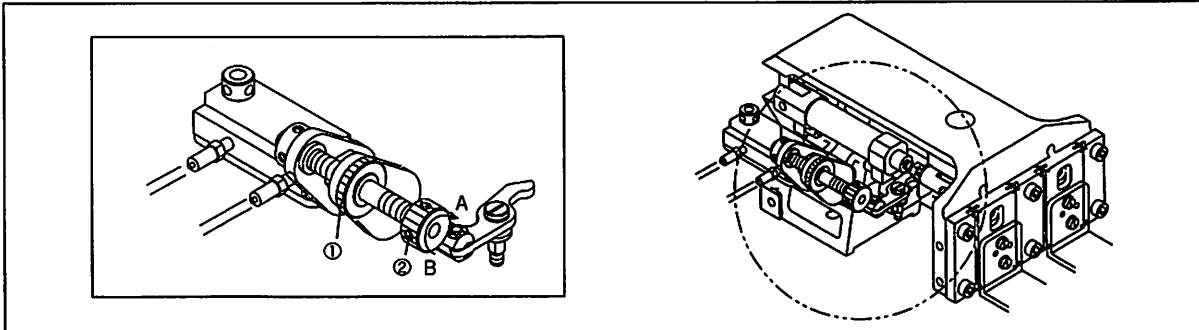
**Caution**

If the ascending quantity of back side end of reversal feeding frame is small, lack of pressure on the front side can be happened, and if the ascending quantity is large, the reversal crank does not turn and the reversal feeding frame does not ascend.

#### 4. Adjusting the Middle Stop Position of Reversal Feeding Frame

Adjust the middle for easy working stop position of reversal feeding frame to fit with the position of sewing materials. Adjust the gap between reversal feeding frame and sewing materials to be 1mm.

- 1) Unfasten the cylinder stroke adjusting nut ①.
- 2) Turn the cylinder bracket fixing nut ② for the middle stop position to be placed a little higher than sewing materials. If the cylinder bracket fixing nut ② is turned to the A direction, the middle stop position will be lower.
- 3) Fasten the cylinder stroke adjusting nut ① tightly.



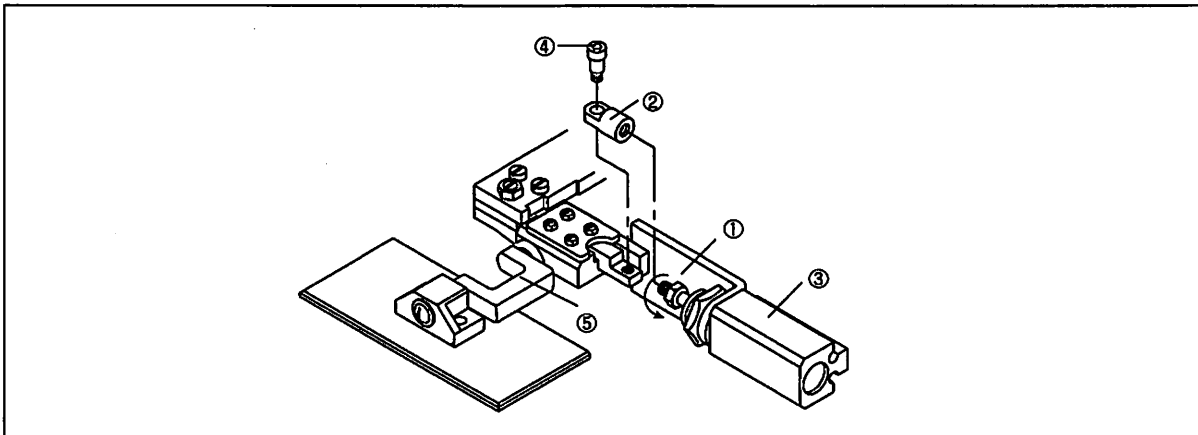
[ Fig. 18 ]

#### 5. Adjusting the Position of the Inverting Clamp Devices Crank

- 1) Turn the nut ① to the end of arrow direction.
- 2) Attach the reversal cylinder knuckle ② to the reversal cylinder ③.
- 3) After unfastening the reversal rack hinge screw ④, reverse the reversal crank ⑤.
- 4) If you turn the nut ① to the spanner direction, the reversal cylinder shaft will turn and the position of reversal crank ⑤ will to change.
- 5) Turn the nut ① to the opposite direction of arrow to let the reversal crank ⑤ reverse with balance for right and left, then fix the reversal cylinder knuckle ②.



If the position of reversal crank is not adjusted, the reversal crank can be interfered with reversal feeding frame when reversing.



[ Fig. 19 ]

## 6. Adjusting the Label Guide

- 1) Attach the label guide as seen in the fig. 19.



**Caution**

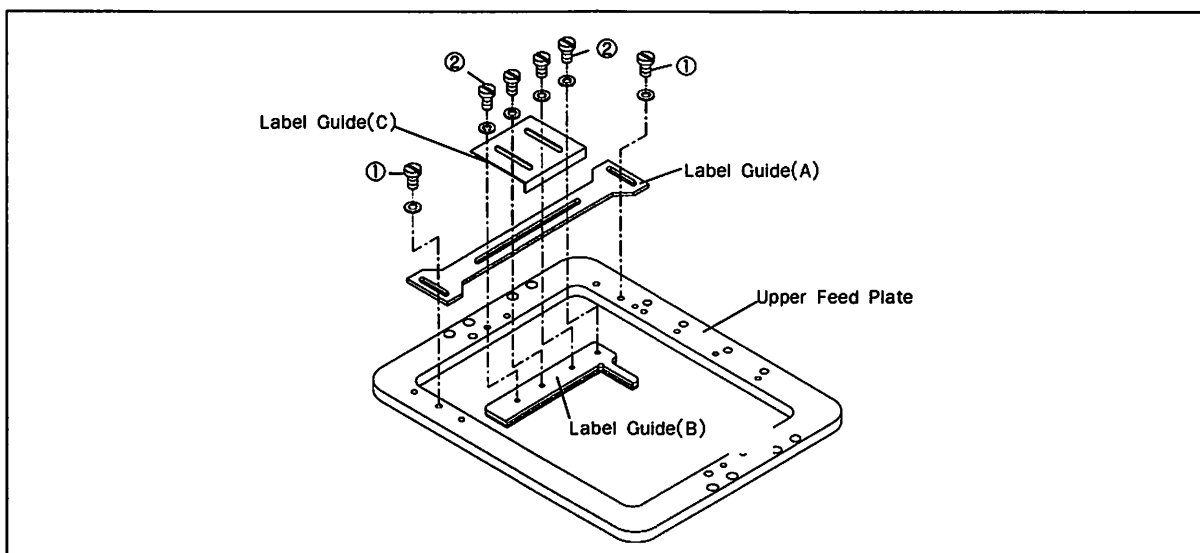
In case of using label guide, attach the accessory sponge to the lower part of up-feed plate.

- 2) After unfastening the fixing screw ①, adjust the position of label guide (A) to fit with the left end of label, then fasten the fixing screw ①.
- 3) After unfastening the fixing screw ②, adjust the position of label guide (B) to fit with the upper end of label, then fasten the fixing screw ②.



**Caution**

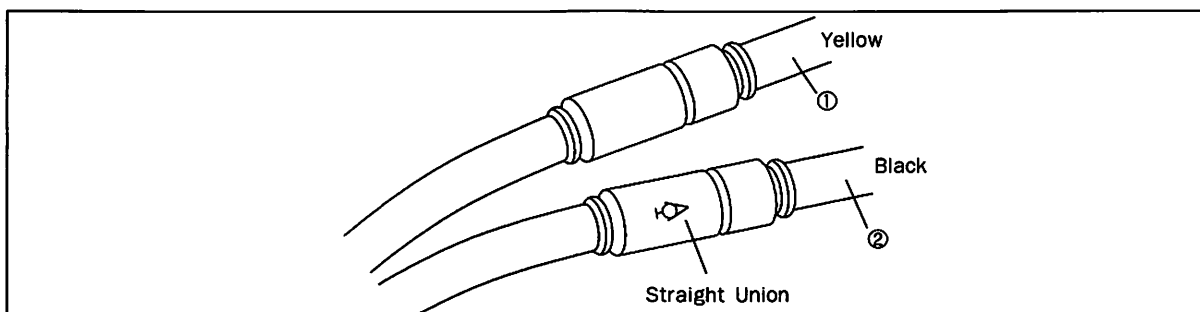
In case of using small sized label, use the label guide (C) since the label guide (A) can be interfered with the reversal devices.



[ Fig. 20 ]

## 7. Removing the Inverting Clamp Devices

- 1) Remove the inverting clamp devices when using the standard specification or adjusting X-Y precisely.
- 2) Remove the inverting air tubes ① and ②, and one-tough juncture from the straight union.
- 3) After unfastening the fixing screw, take off the inverting clamp devices (unit).



[ Fig. 21 ]

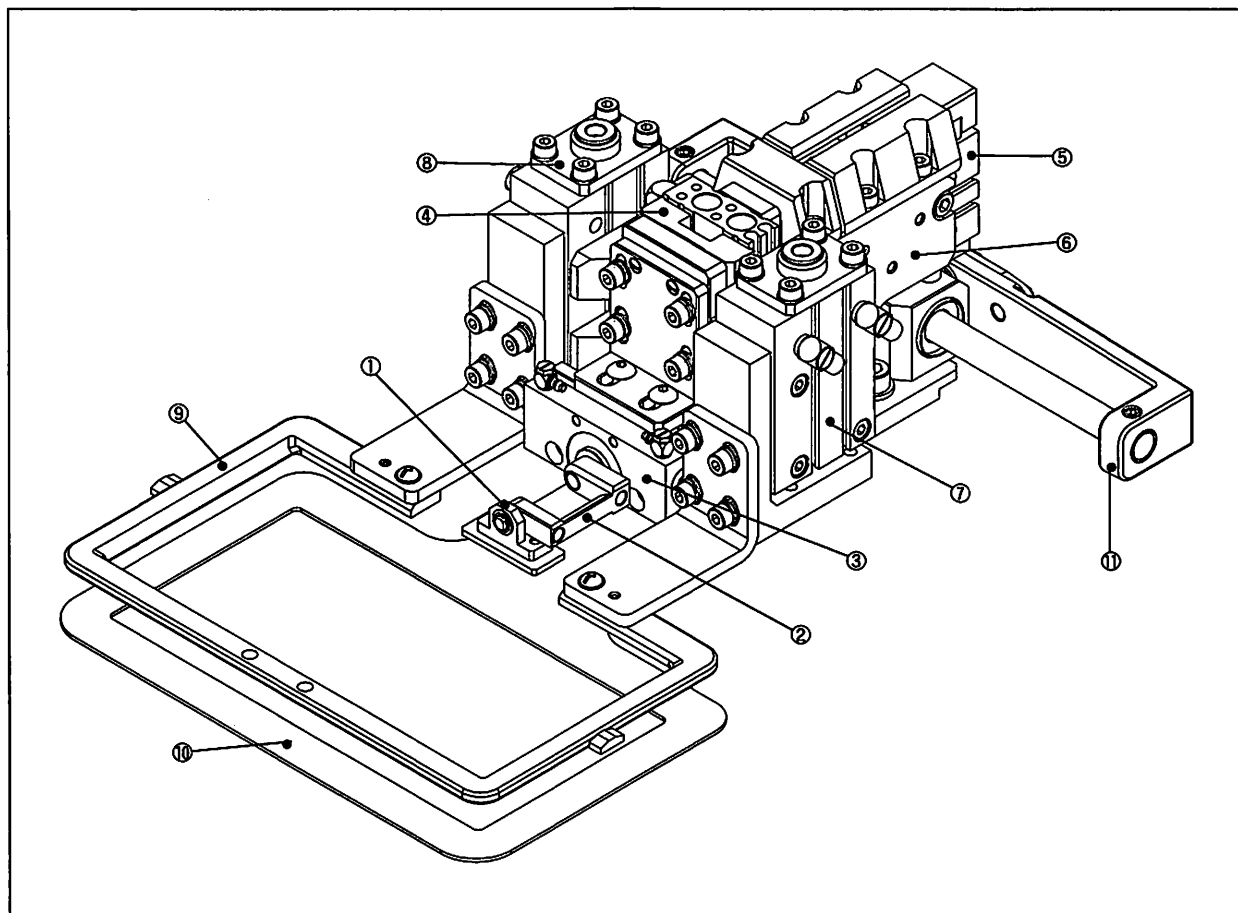
# 4

## SPS/B-1507 Series Inverting Clamp Devices

### 1. Specifications

Division	SPS/B-1507HJ-23 (Direct Motor, Mobile Reversal Unit)
Sewing area	X(Horizontal) * Y (Longitudinal) : 150mm x 70mm
Sewing speed	Maximum 2,500spm (width of stitch: less than 3mm)
Width of stitch	0.1~12.7mm
Using needle	DP *17, DP *5
Stroke on the needle bar	41.2mm
Hook	Hook against reversal rotation (for perfect stitch)
Bobbin case	Bobbin case for hook against reversal rotation (for perfect stitch)
Bobbin	Bobbin for against hook
Presser foot stroke	Standard 4mm
Amount of Presser foot increase	Maximum 20mm
Amount of feed plate increase	Standard 20mm
How to transfer feed plate	Transfer by means of stepping pulse motor
Function to emergent pause	Capable of pausing for emergency during sewing
Selection of patter	Capable of selecting a desired pattern number which ranges in 1~999.
Method of saving	USB flash drive
Memory backup	Capable of saving working points when the work stops due to blackout.
2nd reset function	Capable of setting 2nd reset using Jog Key.
Maximum speed	Capable of limiting speed at the scope of 200~2,500spm by external switch.
Safety device	Emergent stop, speed limitation
Motor	Motor direct AC, Servo motor
Power consumption	600VA
Proper temperature for mechanical use	5C~40C
Proper humidity for mechanical use	20%~80%
Electric power	Single phase current: 100~240, three-phase current: 200~44V, 50/60Hz
Air pressure	4~4.5kgf/cm <sup>2</sup> (0.39~0.44Mpa)

## 2. Structure of unit



[ Fig. 22 ]

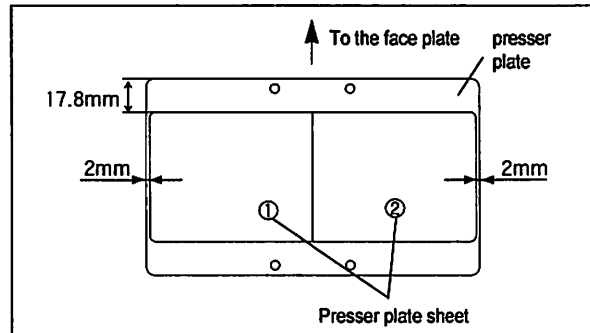
- |                                       |                                  |
|---------------------------------------|----------------------------------|
| ① Reversal base/ presser              | ⑦ Sewing material clamp cylinder |
| ② Reversal rotation crank             | ⑧ Slider base/ holder            |
| ③ Reversal rotation cylinder          | ⑨ Upper-feed plate               |
| ④ Reversal clamp cylinder             | ⑩ Lower-feed plate               |
| ⑤ Feed cylinder before /after reverse | ⑪ Feed guide shaft               |
| ⑥ Feed bracket                        |                                  |



### 3. Installation of machine

#### 1) How to attach presser plate sheet

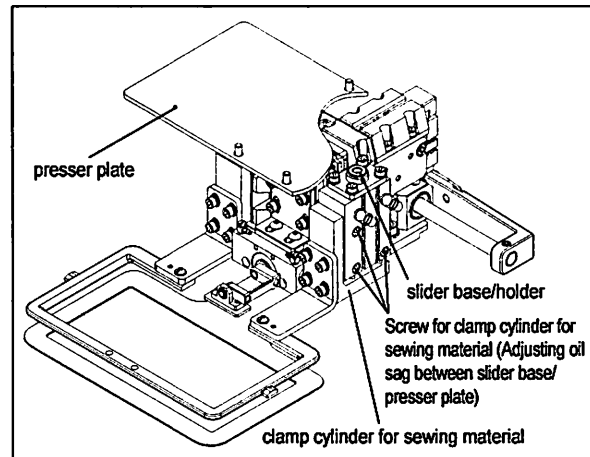
Attach the presser plate sheet on the side which slider base and presser plate are met as shown the Picture.



[ Fig. 23 ]

#### 2) How to control slider base sag

Change the presser plate and the slider base holder to adjust and assemble clamp cylinder for sewing material. Then adjust oil sag for feed between the feed bracket and the presser plate.

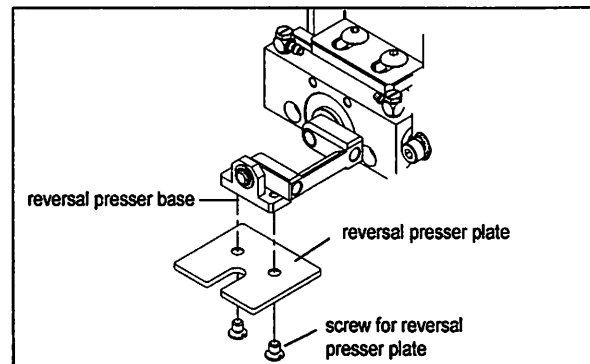
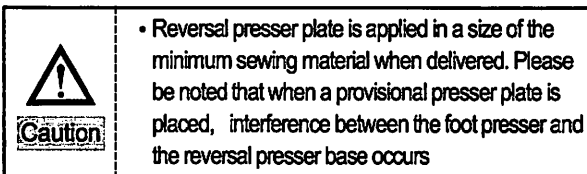


[ Fig. 24 ]

#### 3) How to change reversal presser plate

When the reversal presser plate is required to change following the change of the size of sewing material, loosen the screw for reversal presser plate (two screws) to change the plate. Then reassemble the presser plate.

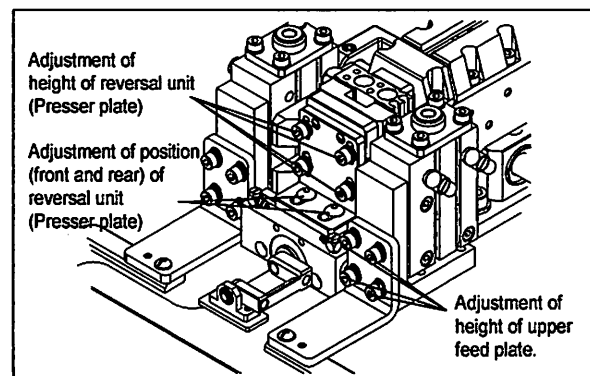
(Tools: '—' shaped driver / size of screw: 9/64"n=40



[ Fig. 25 ]

#### 4) How to adjust the position (height) of reversal unit and upper feed plate

When the position (height) of upper feed plate and reversal presser plate is required to change, loosen and adjust screw of feed plate clamp and reversal base.

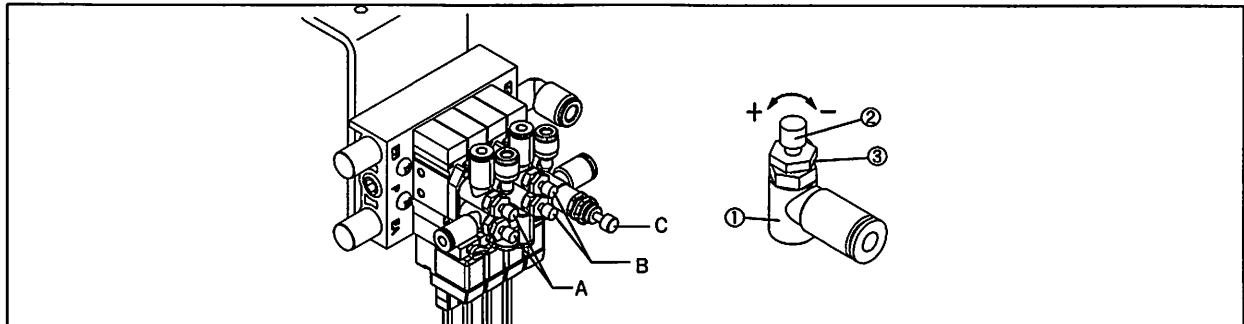


[ Fig. 26 ]



#### 5) How to control operating speed of reversal unit

Turn clockwise the knob② of speed controller① of Solenoid valve attached to the lower part of table as shown in the below picture in order to lower the speed. Turning counterclockwise is to accelerate the speed. Adjust the proper speed and then fix with the screw③.

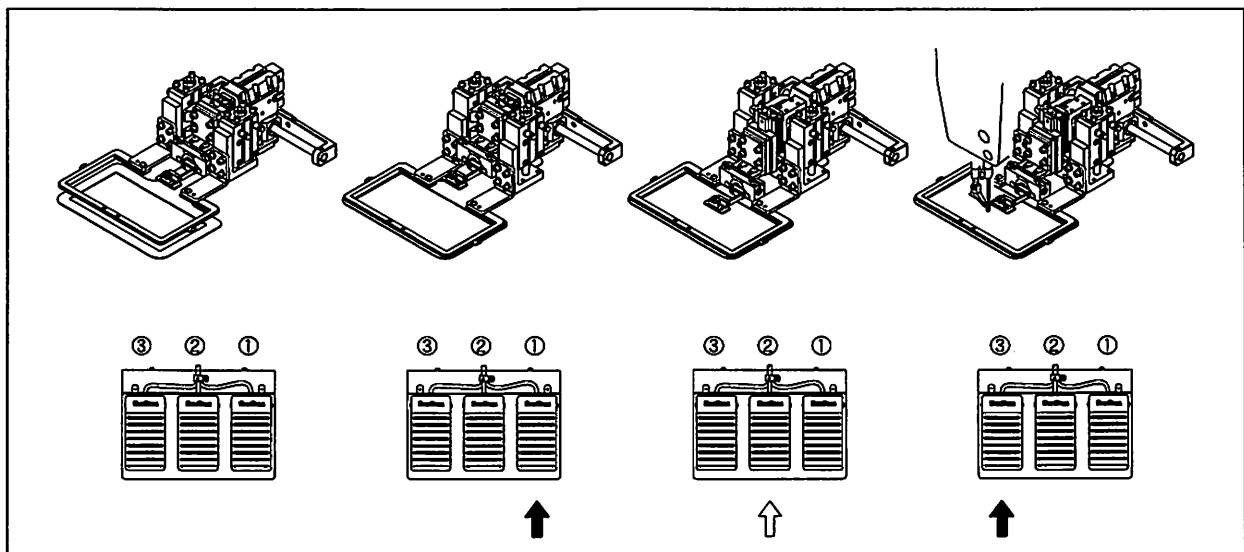


[ Fig. 27 ]

- A. Control the rotation speed of reversal cylinder
- B. Control the speed feed cylinder after/before reversal unit
- C. Control pressure of reversal unit's presser

#### 6) How to use the stroke switch

- ④ Check out that parameter (Function no: 60) related to general sewing is set at '4'  
If not, set the parameter at '4' (Refer to 'Change of Parameter for General Sewing' of manual)
- ⑤ Stroke switch for three strokes is provided: Right stroke① is for operating upper feed plate, middle stroke② is for operating reversal press plate, and left stroke③ is for starting sewing.
- ⑥ How to use
  - ① Lower the upper feed plate by pressing right stroke① to fix the position of sewing material.
  - ② When the sewing material is properly positioned, press middle stroke② to lower reversal presser plate and then fix sewing material. (In order to change the position of sewing material, press middle stroke or right stroke to the full once again. Then it goes up to the initial position.)
  - ③ When upper feed plate goes down to the bottom, press left stroke③ to start sewing.

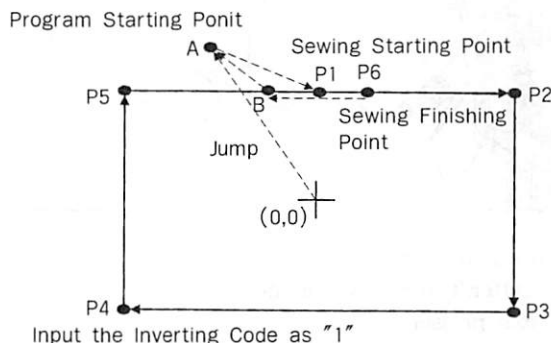


[ Fig. 28 ]

# 5

## The Use of Inverting Functions

They are used when inverting clamp devices are available. During programming the patterns, pay attention to that inverting clamp is interfered with needle bar, or inverting cylinder drive part is interfered with needle bar. There are two ways for inputting inverting codes (the orders to drive inverting devices), one is to call the already programmed pattern to add the inverting codes and the other is to program newly.



### 1. Pattern Programming by Using the Inverting Code

- ① Insert a USB flash drive into the USB terminal.
- ② Press a **MODE** key.
- ③ By using **Arrow** Keys **▲▼**, move to "2. Program" menu, then press **ENTER** **↵** key. At this time, the upper feed plate descends and move to the origin.

```
<< Main Menu>>
2. Program
3. Bobbin Wind
4. Machine Test
```

```
ORIGIN
X:00000A N:00000
Y:00000A
Function Code? █
```

- ④ After pressing **JUMP** key, move to the A point by pressing **Arrow** Keys. Then press **PNT SET** key.

```
004:JUMP
X:?????
Y:?????
N:001 █
```

- ⑤ If you press **EXE** key, the machine operates pattern date, then upper feed plate moves according the operated data.

```
JUMP NONE
X:?????A N:000??
Y:?????A
Function Code? █
```

- ⑥ After pressing **CODE** key, set up the 2nd origin by pressing **digit** keys, [0][0][1].

<Function Code>

CODE No : 001

- ⑦ Press **ENTER** key.

SEC-ORG NONE

X:?????A N:000??

Y:?????A

Function Code? ■

- ⑧ After pressing **JUMP** key, move to the sewing start point P1, by pressing **Arrow** key. Then press **PNT SET** key.

004:JUMP

X:?????

Y:?????

N:001 ■

- ⑨ If you press **EXE** key, the machine operates pattern data, then upper feed plate moves according the operated data.

JUMP NONE

X:?????A N:000??

Y:?????A

Function Code? ■

- ⑩ After pressing **LINE** key, input the stitch width by using **digit** keys, then press **ENTER** key.  
(For example, if you want to set up 3mm as stitch width, input [0][3][0].)

007:LINE

WIDTH:030[0.1mm]

- ⑪ Move to the P2, P3, and P4 by using **Arrow** keys, then press **PNT SET** key each time to input the coordinates of each corner.

007:LINE

X:?????

Y:?????

N:003

- ⑫ If you press **EXE** key, the machine operates pattern data, then upper feed plate moves according the operated data.

LINE NONE

X:?????A N:00???

Y:?????A

Function Code? ■

- ⑬ After pressing **CODE** key, input the inverting code by pressing **digit** keys [0][4] and [9].

<Function Code>

CODE No : 049

- ⑭ Press **ENTER** key. Operate the inverting cylinder by pressing **digit** key, 1.

049:REV SET  
POS : 1 [0/1]

- ⑮ After confirming, input the inverting code by pressing **ENTER** key.

REV SET NONE  
X:?????A N:00???  
Y:?????A  
Function Code? ■

- ⑯ Program P5 and P6 by using **LINE**.

007:LINE  
X:?????  
Y:?????  
N:002 ■

- ⑰ Press **Trim** key to input trimming code.  
"000 : TRIM" appears on the screen, then the screen on the right appears again.

TRIM NONE  
X:?????A N:00???  
Y:?????A  
Function Code? ■

- ⑱ After pressing **JUMP** key, move to the B point by using **digit** keys. Then, press **PNT SET** key.

004:JUMP  
X:?????  
Y:?????  
N:001 ■

- ⑲ If you press **EXE** key, the machine operates pattern data, then upper feed plate moves according the operated data.

JUMP NONE  
X:?????A N:00???  
Y:?????A  
Function Code? ■



- ② Perform test sewing.
- ② After pressing **WRITE** key, input the number you want to save by using **digit** keys, and press **ENTER** key. Save the generated pattern data into a USB flash drive as the relevant number.  
(For example, to save the pattern number as 551, input [5][5] and [1].)
- ② For completing pattern data generation, press **MODE** key. The upper feed plate moves to the origin, then ascends. To back to the initial screen, press **ESC** key.

```
015:PTRN WRITE
NO: 551
```

```
<<Main Menu>>
2.Program
3.Bobbin Wind
4.Machine Test
```

## 2. Adding the Codes for Reversal to the Patterns Already Programmed

### 1) Reading the pattern that does not have inverting codes.

- ① Insert a USB flash drive that has a pattern to be added the inverting code.
- ② Press **MODE** key.
- ③ After moving to "2. Program" menu by using **Arrow** key, **▲▼**, press **ENTER** key. At this time, the upper feed plate descends and moves to the origin.

```
<<<Main Menu>>
2.Program
3.Bobbin Wind
4.Machine Test
```

```
ORIGIN
X:00000A N:00000
Y:00000A
Function Code?
```

- ④ After pressing **READ** key, input the pattern number that contains a sewing speed you want to change by using **digit** keys, then press **ENTER** key to read the pattern.  
(For example, to read pattern number 500, input [5][0][0].)

```
014:PTRN READ
NO: 500
```

### 2) Inserting the inverting code

- ⑤ Add the inverting code by using **FORW.** **BACK** keys, and move to the P4 that you want to add the inverting code.

```
LINE
X:?????A N:000??
Y:?????A
Function Code?
```

- ⑥ After pressing **CODE** key, input the inverting code by pressing **digit** keys, [0][4] and [9].

```
<Function Code>
CODE No: 049
```

- ⑦ Press **ENTER** key.  
Operate the inverting cylinder by pressing **digit** key **1**.

```
049:REV      SET
POS   :1[0/1]
```

- ⑧ After confirming, press **ENTER** key to input the inverting code.

```
REV      SET
X:?????A N:00???
Y:?????A
Function Code? █
```

### 3) Test sewing

- ⑨ Press **TEST** key. After moving to the origin, the upper feed plate moves to the sewing start point and ascends to turn on the **READY LED**. After adjusting proper speed for test sewing by pressing **SPEED** key, if you press **down right pedal** switch once, the upper feed plate descends, and if you press **down left pedal** switch once more, the test sewing comes to start. After completing the test sewing, the up-feed plate moves to the sewing start point then ascends.
- ⑩ By repressing **TEST** key, complete the test sewing. After the upper feed plate descends and moves to the origin, the **READY LED** turns off.

```
<Test Sewing>
SP:1200
```

```
ORIGIN
X:00000A N:00000
Y:00000A
Function Code? █
```

### 4) Saving as new pattern number

- ⑪ After pressing **WRITE** key, input the pattern number you want to save by using **digit** key, and press **ENTER** key. Save the generated pattern data into a USB flash drive as a relevant number. (For example, to save the pattern number as 552, input [5],[5] and [2].) During saving the pattern, **READY LED** flickers. After completing the saving, the **READY LED** turns off, and the upper feed plate moves to the origin.

```
015:PTRN WRITE
N0:552
```

```
ORIGIN
X:00000A N:00000
Y:00000A
Function Code? █
```

- ⑫ To complete the pattern data generation, press **MODE** key. After moving to the origin, the upper feed plate ascends. To back to the initial screen, press **ESC** key.

```
<<Main Menu>>
2.Program
3.Bobbin Wind
4.Machine Test
```

# Parts book

.....

## WARNING

1. 조에 속한 파트는 개별 조립 시 제품의 파손 또는 재봉 불량 발생될 수 있어 해당 파트에 대한 주문 시에는 조 품목으로만 구입이 가능합니다.
  2. 본 책자는 Part Book으로 제작되었으므로 매뉴얼로 사용 불가합니다.
  3. 사전 예고 없이 사양이 변경 될 수도 있습니다.
- 
1. The parts classified as ass'y items may cause damage to the machine or bad sewing when they are separately assembled. Hence, when they are ordered, they can be purchased as ass'y items only.
  2. This is a parts book. It cannot be used as a manual.
  3. Parts are Subject to change in Design Without Prior Notice.

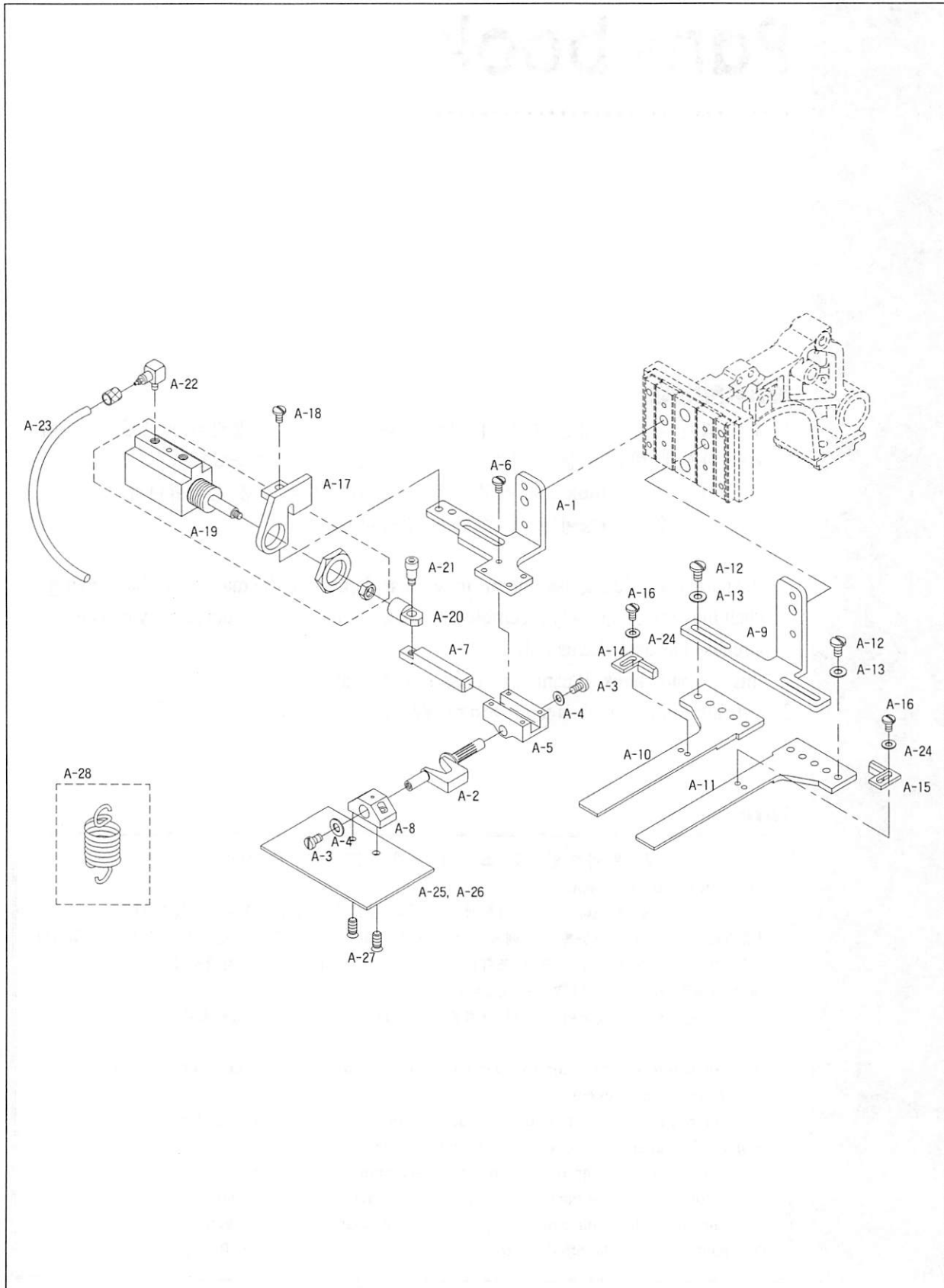
## Note

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- 
- You can make an order for the parts of Sunstar machine to connect internet address.  
<http://www.sunstarcs.com>
  - You can request for parts you want after login if you are a registered member.
  - In parts Management - Order Management - Order Registration entry, you can place an order by entering the part number and quantity.
  - If you don't know the parts number, click the parts book menu bar.  
In a download list, you can read parts book by searching model you use.
  - This parts book is classified by the mechanism, therefore you can find part easily.





## Inverting Clamp Devices Mechanism ( SPS/A-1306 Series )



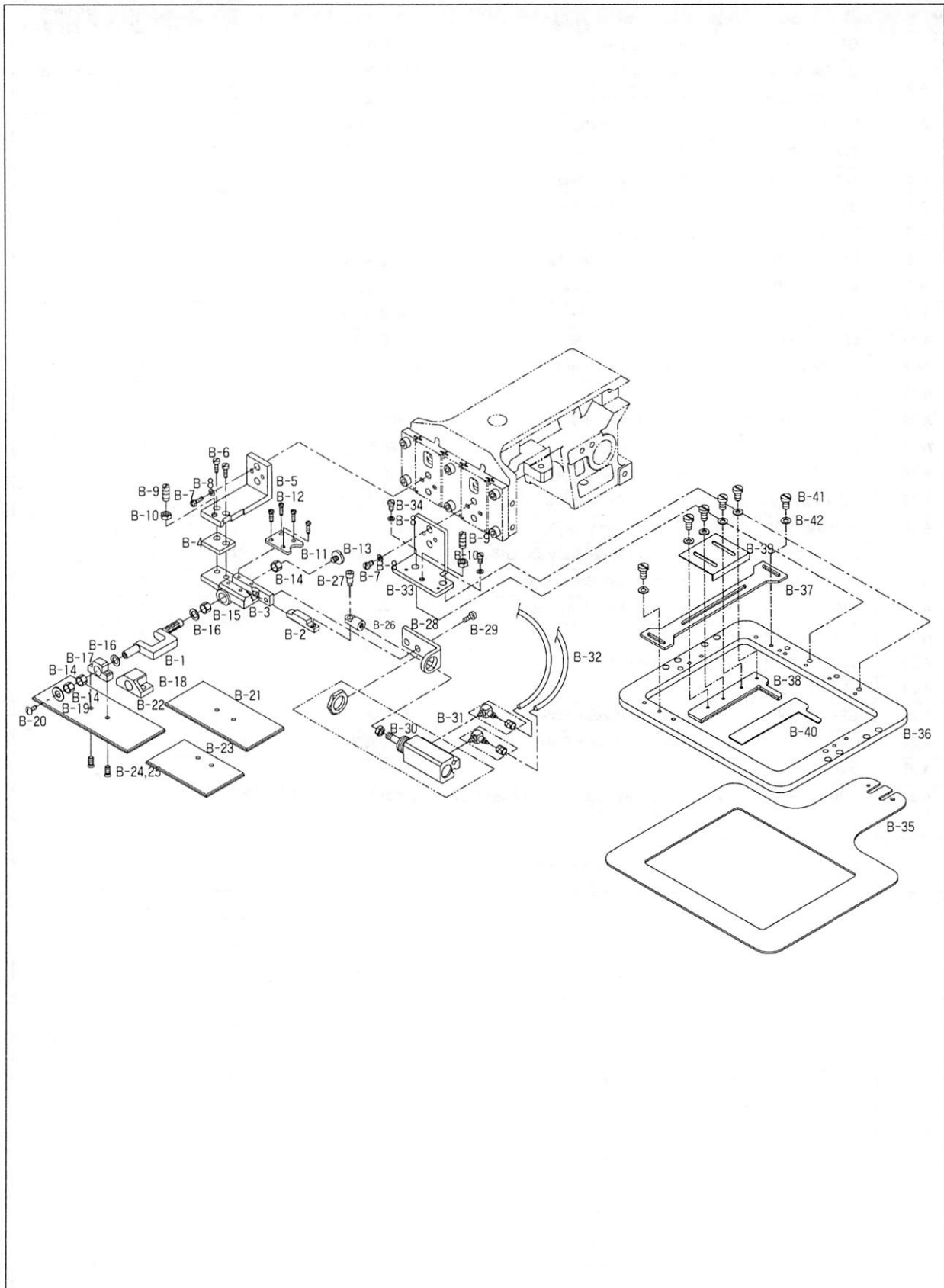


[illegible]

Note) Part A-28 marked with a sign ★ is exclusively used for electronic equipment.



## Inverting Clamp Devices Mechanism ( SPS/A-1811 Series )

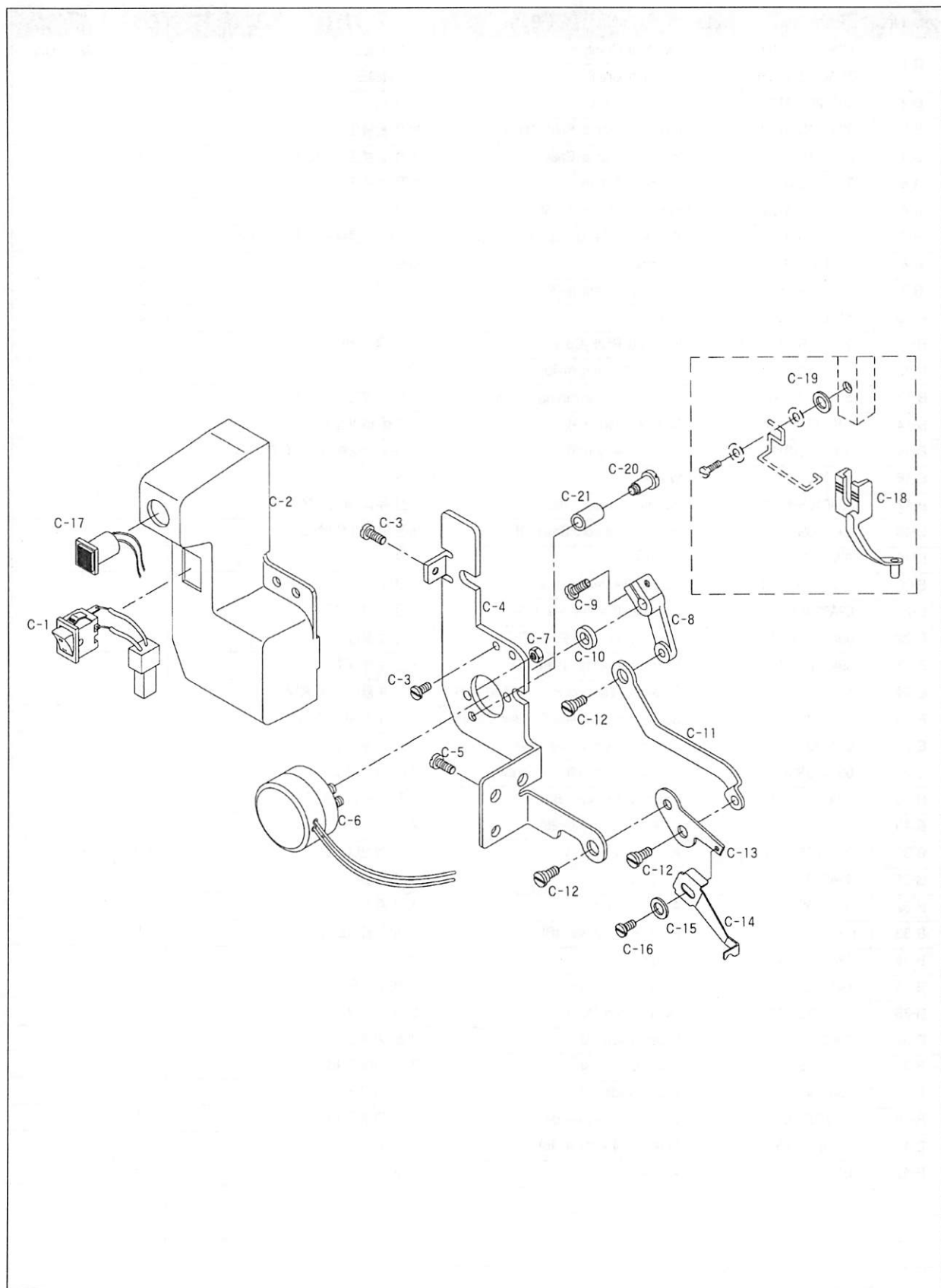


Ref. No.	Parts No.	Note	Name of Parts	품 명	Q' ty	Applied Period
B-1	GP-048393-00		Inverting Crank	반전크랭크	1	Jan.25.09
	09-A017S-811H		Inverting Crank	반전크랭크	1	
B-2	09A026S-811H		Inverting Rack	반전 랙	1	
B-3	09A021S-811H		Inverting Clamp Shaft Base	반전 클램프 축 베이스	1	
B-4	09A011S-811H		Inverting Clamp Spacer	반전 클램프 스페이서	1	
B-5	09A010S-811H		Inverting Clamp	반전 클램프	1	
B-6	SC-0183-4122		Screw (0.61mm n=28)	줄나사	2	
B-7	22A043S-811H		Screw For Feed Plate Clamp B	피이드판 클램프 고정나사 (B)	4	
B-8	06-022W-2350		Washer	와셔	6	
B-9	SC-0508-4515		Screw (0.61mm n=28)	고정나사	2	
B-10	SN-0120-4000		Nut	너트	2	
B-11	09A025S-811H		Inverting Rack Cover	반전 랙 커버	1	
B-12	SC-0156-4118		Screw (0.36mm n=40)	줄나사	4	
B-13	SC-000458-00		Screw(B) For Inverting Clamp	반전 클램프 나사 (B)	1	
B-14	09A013S-811H		Needle Bearing(A)	니이들 베어링 (A) [KT7108N]	3	
B-15	09A015S-811H		Needle Bearing(B)	니이들 베어링 (B) [KT 71010]	1	
B-16	09A016S-811H		Washer	와셔	2	
B-17	09A018S-811H		Inverting Support Base "A"	반전 누름 베이스 "A"	1	
B-18	09A019S-811H		Inverting Support Base "B"	반전 누름 베이스 "B"	1	
B-19	SW-0120-1011		Washer	와셔	1	
B-20	SC-0200-4123		Screw (0.46mm n=40)	줄나사	1	
B-21	09A020S-811H		Inverting Presser Plate "A"	반전 누름판 "A"	1	
B-22	09A021S-811H		Inverting Presser Plate "B"	반전 누름판 "B"	1	
B-23	09A022S-811H		Inverting Presser Plate "D"	반전 누름판 "D"	1	
B-24	SC-0120-4120		Screw For Inverting Presser Plate "A,B"	반전 누름판(A,B) 줄나사	2	
B-25	09A023S-811H		Screw For Inverting Presser Plate "D"	반전 누름판(D) 줄나사	2	
B-26	09A029S-811H		Inverting Cylinder Knuckle	반전 실린더 너클	1	
B-27	09A030S-811H		Inverting Rack Hinge Screw	반전 랙 힌지나사	1	
B-28	09A027S-811H		Inverting Cylinder Bracket	반전 실린더 브라켓	1	
B-29	SC-0151-3118		Screw (0.61mm n=28)	줄나사	2	
B-30	09A028S-811H		Air Cylinder Ass'y	에어 실린더 (조)	1Set	
B-31	49A003S-811H		Air Elbow	에어 엘보우	2	
B-32	05A039S-811H		Air Hose (φ4)	에어 호스	2	
B-33	09A-031S-811H		Feed Plate Clamp (R)	피이드 클램프(우)	1	
B-34	22A043S-811H		Screw	줄나사	2	
B-35	GP-013524-02		Lower Feed Plate	하피이드 판	1	
B-36	09A037S-811H		Upper Feed Plate	상피이드 판	1	
B-37	09A032S-811H		Label Guide (A)	라벨 가이드 (A)	1	
B-38	09A033S-811H		Label Guide (B)	라벨 가이드 (B)	1	
B-39	09A034S-811H		Label Guide (C)	라벨 가이드 (C)	1	
B-40	09A035S-811H		Seet for Label Guide (B)	라벨 가이드 (B) 부착 시트	1	
B-41	SC-0543-4525		Screw (0.46mm n=40)	줄나사	6	
B-42	01-017W-1600		Washer	와셔	6	





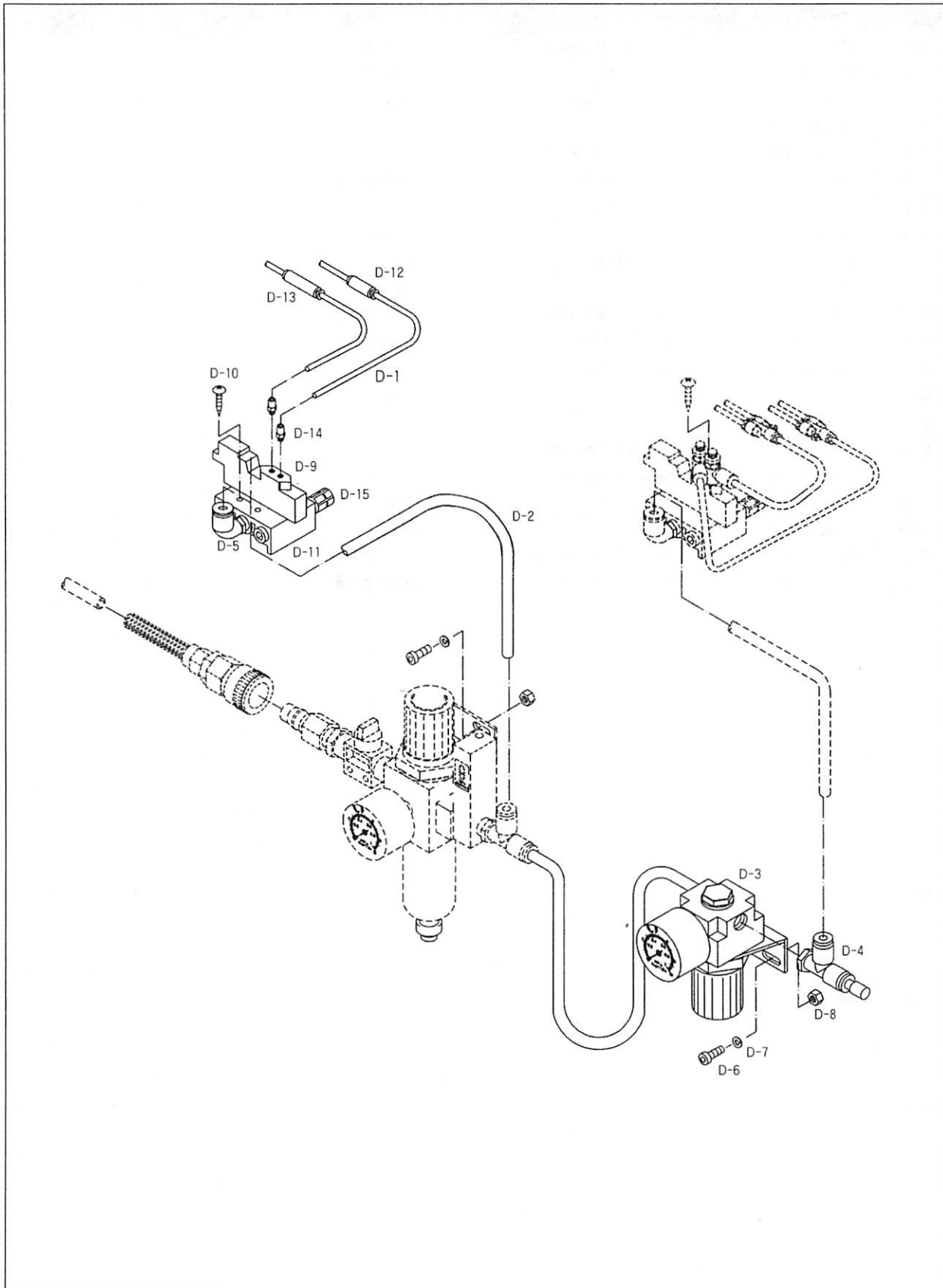
## Wiper & Presser Foot Mechanism



[illegible]



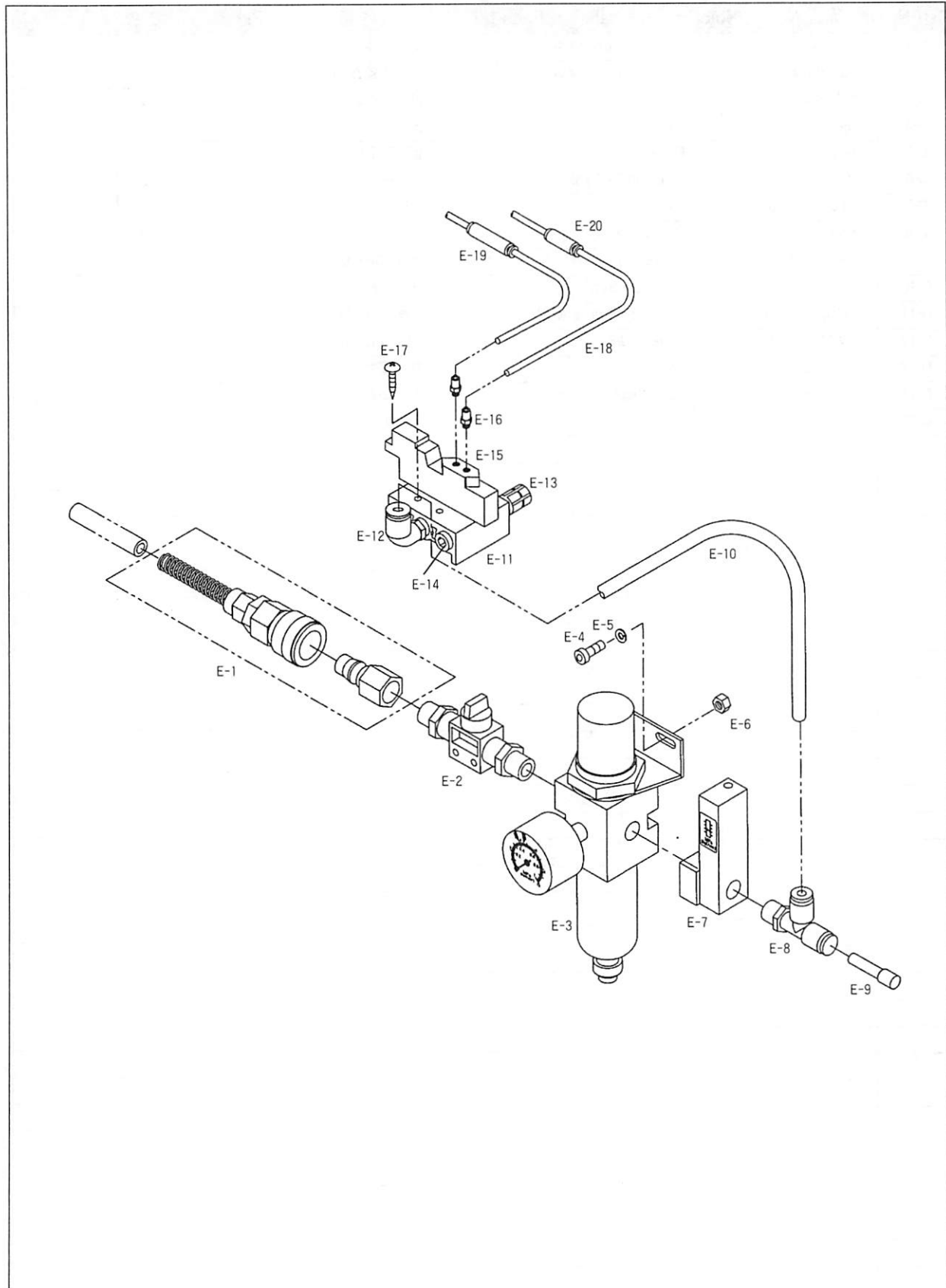
# Pneumatic Control Mechanism ( SPS/A-1306 Pneumatic Machine Seires )



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# Pneumatic Control Mechanism (SPS/A-1306 Electronic Machine Series)

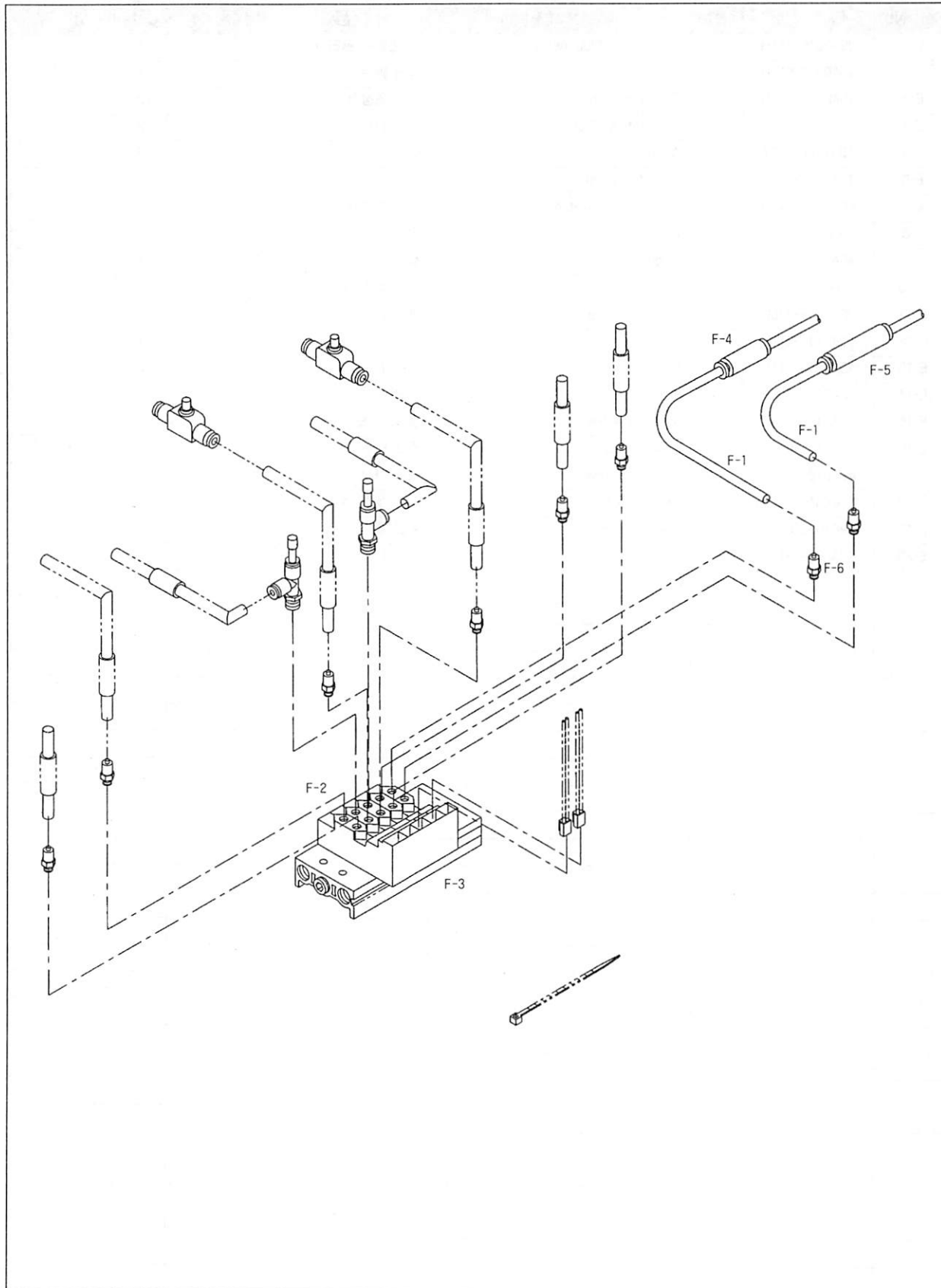




33



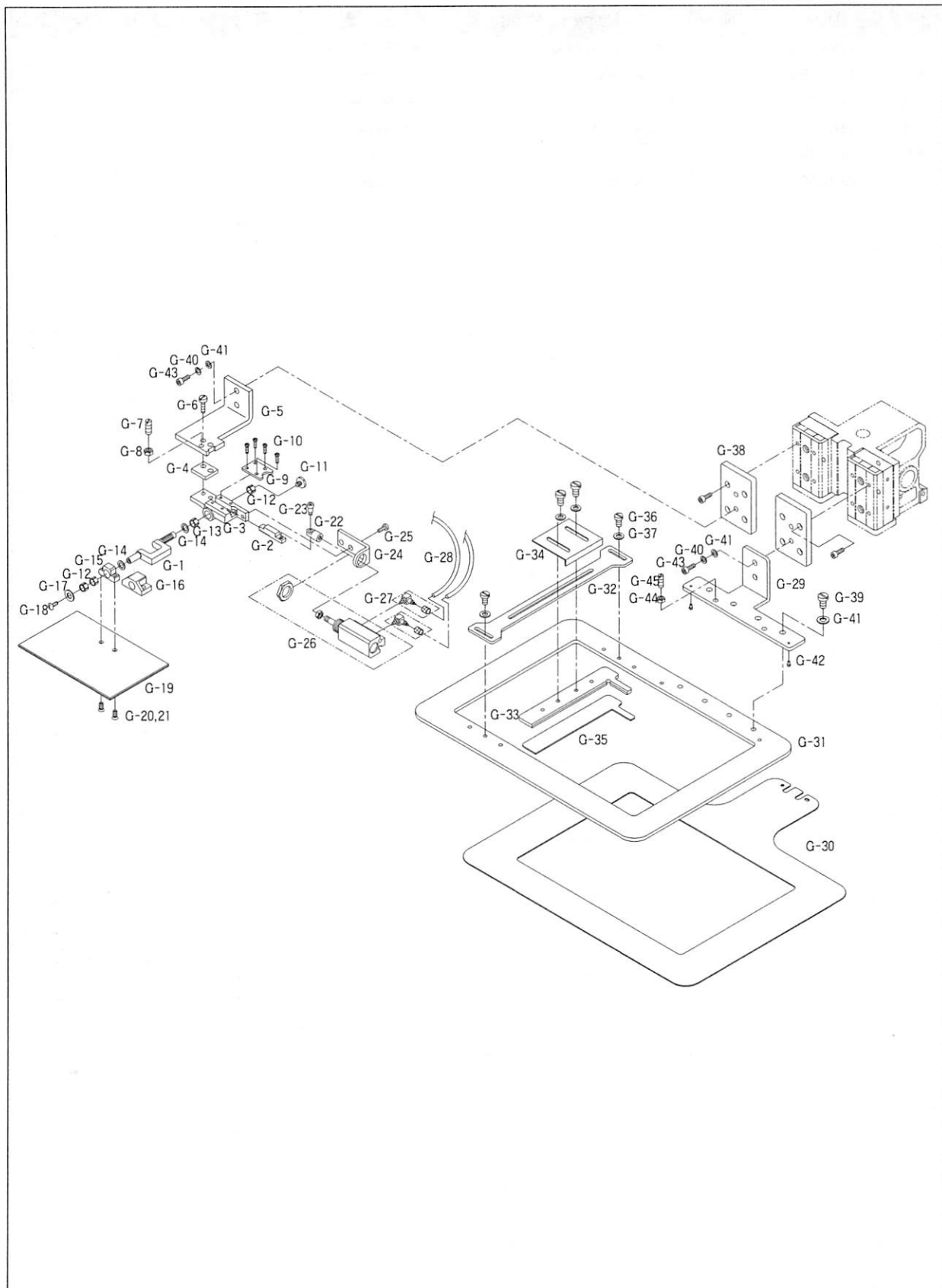
## Pneumatic Control Mechanism ( SPS/A-1811 Series )



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## Inverting Clamp Devices Mechanism ( SPS/A-2516 Series)

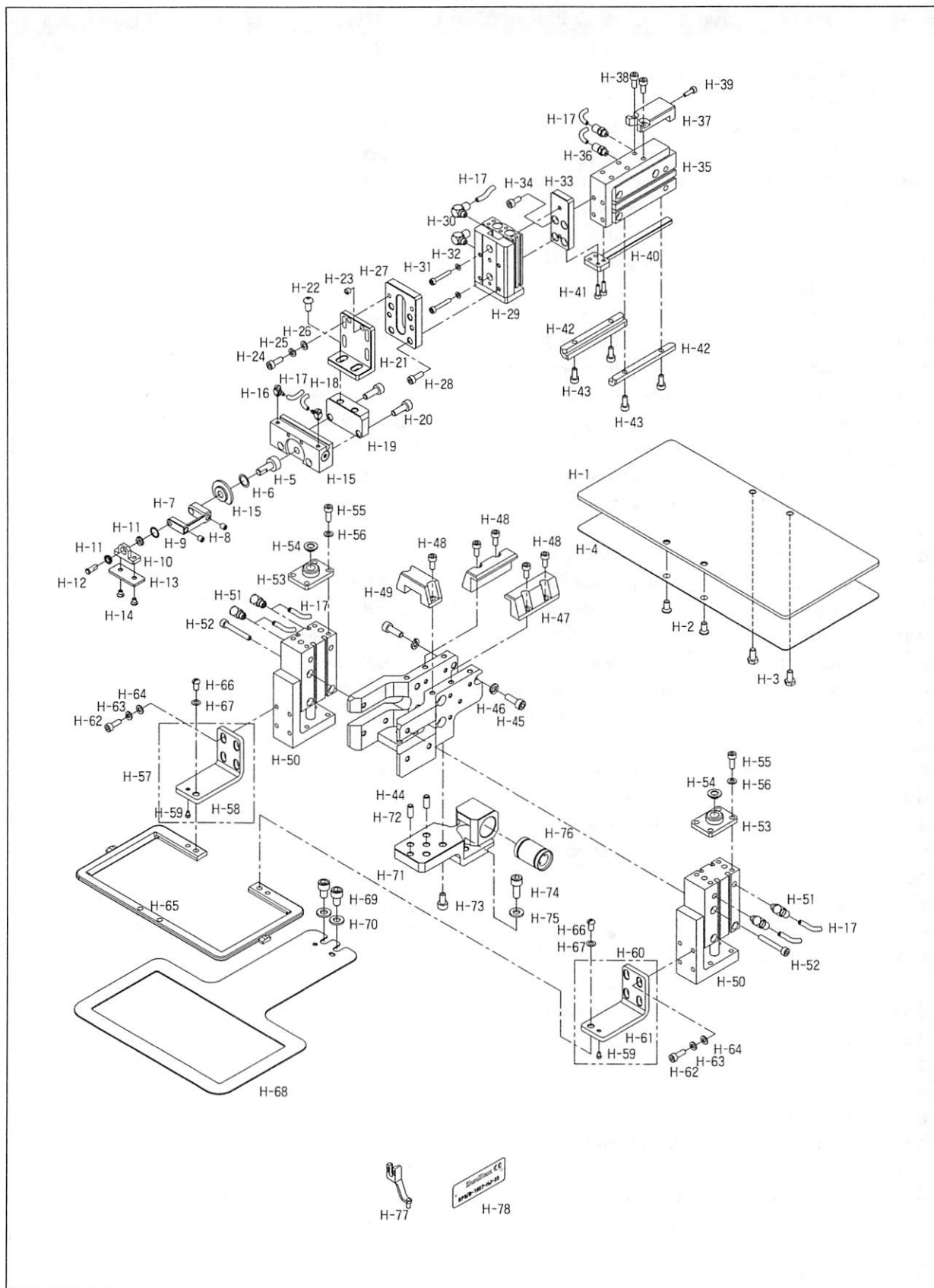




Ref. No.	Parts No.	Note	Name of Parts	품 명	Q' ty	Applied Period
G-1	GP-048393-01		Inverting Crank	반전크랭크	1	Mar.08.12
	GP-048393-00		Inverting Crank	반전크랭크	1	Jan.25.09
	09A017S-811H		Inverting Crank	반전크랭크	1	
G-2	09A026S-811H		Inverting Rack	반전 랙	1	
G-3	09A021S-811H		Inverting Clamp Shaft Base	반전 클램프 축 베이스	1	
G-4	09A011S-811H		Inverting Clamp Spacer	반전 클램프 스페이서	1	
G-5	GP-027965-00		Inverting Clamp	반전 클램프(좌)	1	
G-6	SC-0183-4122		Screw (0.61mm n=28)	접나사	2	
G-7	SC-0508-4515		Screw (0.61mm n=28)	고정나사	1	
G-8	SN-0120-4000		Nut	너트	1	
G-9	09A025S-811H		Inverting Rack Cover	반전 랙 커버	1	
G-10	SC-0156-4118		Screw (0.36mm n=40)	접나사	4	
G-11	SC-000458-00		Screw(B) For Inverting Clamp	반전 클램프 나사 (B)	1	
G-12	09A013S-811H		Needle Bearing(A)	니이들 베어링 (A) [KT7108N]	3	
G-13	09A015S-811H		Needle Bearing(B)	니이들 베어링 (B) [KT 71010]	1	
G-14	09A016S-811H		Washer	와셔	2	
G-15	09A018S-811H		Inverting Support Base "A"	반전 누름 베이스 "A"	1	
G-16	09A019S-811H		Inverting Support Base "B"	반전 누름 베이스 "B"	1	
G-17	SW-0120-1011		Washer	와셔	1	
G-18	SC-0200-4123		Screw (0.46mm n=40)	접나사	1	
G-19	GP-027935-00		Inverting Presser Plate "A"	반전 누름판 "A"	1	
G-20	SC-0120-4120		Screw For Inverting Presser Plate "A,B"	반전 누름판(A,B) 접나사	2	
G-21	09A023S-811H		Screw For Inverting Presser Plate "D"	반전 누름판(D) 접나사	2	
G-22	09A029S-811H		Inverting Cylinder Knuckle	반전 실린더 너클	1	
G-23	09A030S-811H		Inverting Rack Hinge Screw	반전 랙 힙지나사	1	
G-24	09A027S-811H		Inverting Cylinder Bracket	반전 실린더 브라켓	1	
G-25	SC-0151-3118		Screw (0.61mm n=28)	접나사	2	
G-26	09A028S-811H		Air Cylinder Ass'y	에어 실린더 (조)	1Set	
G-27	49A003S-811H		Air Elbow	에어 엘보우	2	
G-28	05A039S-811H		Air Hose (φ4)	에어 호스	2	
G-29	GP-027964-00		Feed Plate Clamp (R)	피이드 클램프(우)	1	
G-30	GP-027967-00		Lower Feed Plate	하피이드 판	1	
G-31	GP-027959-00		Upper Feed Plate	상피이드 판	1	
G-32	GP-027936-00		Label Guide (A)	라벨 가이드 (A)	1	
G-33	GP-027958-00		Label Guide (B)	라벨 가이드 (B)	1	
G-34	09A034S-811H		Label Guide (C)	라벨 가이드 (C)	1	
G-35	GP-027957-00		Seet for Label Guide (B)	라벨 가이드 (B) 부착 시트	1	
G-36	SC-0543-4525		Screw (0.46mm n=40)	접나사	6	
G-37	01-017W-1600		Washer	와셔	6	
G-38	50-006A-2516		Air Slide Table holder	에어 슬라이드 테이블 홀더	2	
G-39	22A039S-811H		Screw	접나사	4	
G-40	50-003W-2516		Spring Washer	스프링 와셔	4	
G-41	06-002W-2350		Washer	와셔	10	
G-42	22S014S-306H		Guide Pin	가이드 핀	2	
G-43	22S026S-306H		Scrw	고정 나사	4	
G-44	SN-0121-7400		Nut	너트	2	
G-45	SC-0508-1230		Screw	고정 나사	2	



## Inverting Clamp Devices Mechanism (SPS/B-1507HJ)

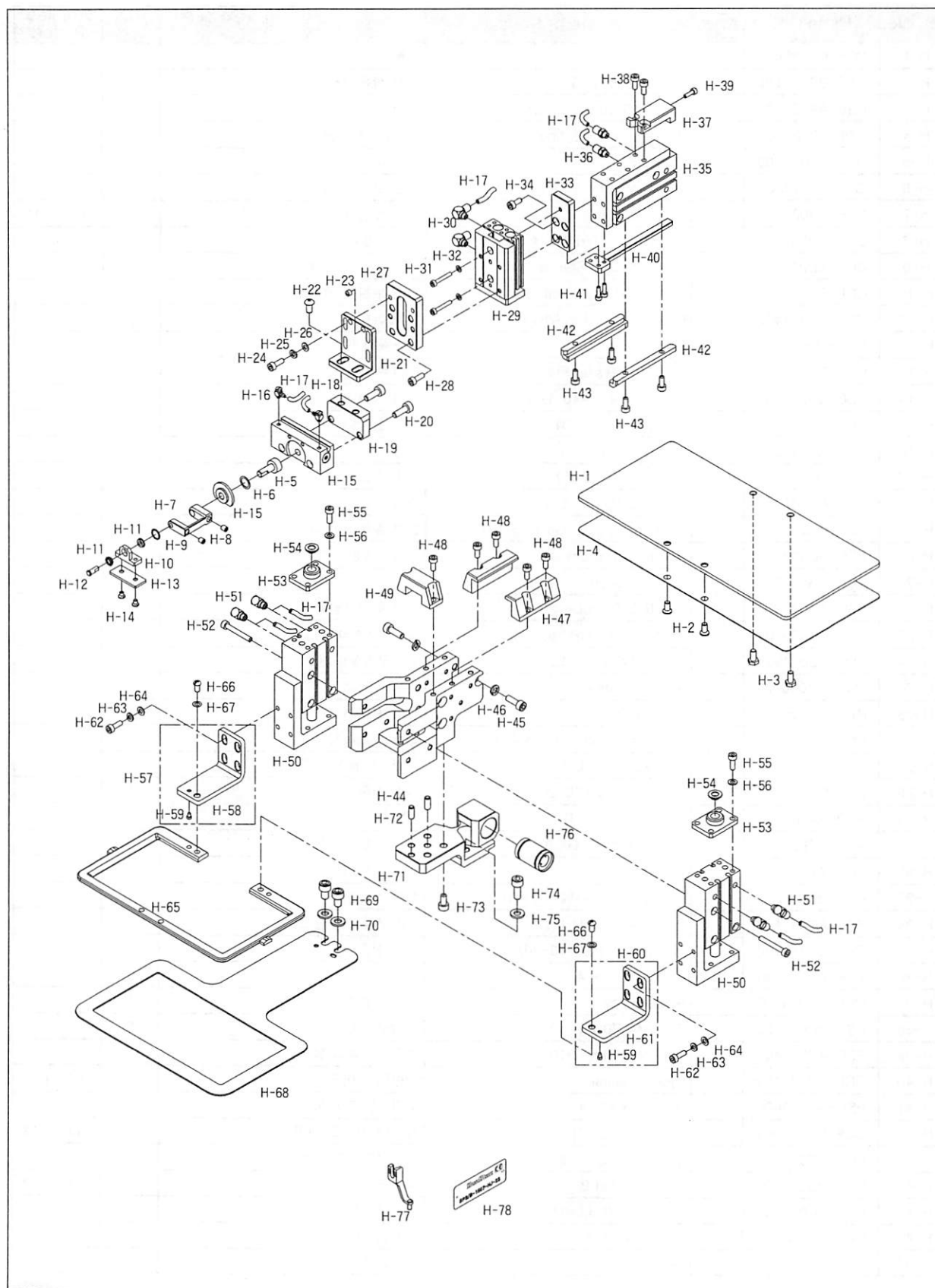




Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
H-1	CCP-BB039600		Presser Plate	누름판	1	
H-2	DSC-BB008100		Screw(3/16" n=32)	접시 작은나사	2	
H-3	DSC-AA003100		Bolt(3/16" n=32, L=10)	육각 볼트	2	
H-4	CPR-LF000200		Presser Plate Coating Film	누름판 코팅 필름	2	
H-5	DGR-AF002600		Rack Gear	랙 기어	1	
H-6	CCP-BJ014600		Inverting Crank Washer	반전 크랭크 와셔	1	
H-7	CCP-BB039203		Inverting Crank	반전 크랭크	1	Jan.17.13
H-8	DSC-CB000300		Set Screw (11/64" n=40, L=5)	육각구멍볼이 멈춤나사	4	
H-9	CCP-BB048801		Inverting Base Spacer	반전 베이스 스페이서	1	
H-10	CCP-BB039104		Inverting Presser Plate Base	반전 누름판 베이스	1	
H-11	PBR-AA014400		Ball Bearing (NSK MF74)	볼 베어링	2	
H-12	DPN-AD014502		Pin	헤드볼이 핀	1	
H-13	CCP-BB039002		Inverting Presser Plate	반전 누름판	1	
H-14	DSC-BB008300		Screw(9/64" n=40, L=5)	접시 작은나사	2	
H-15	PPP-CA009600		Air Cylinder (CRJB1-180)	에어 실린더	1	
H-16	PPP-AA002500		Fitting (M-3ALU-4)	피팅	2	
H-17	PPP-AD000100		Air Hose(TU-0425)	에어 호스	9	
H-18	PPP-AD001000		Air Hose(TU-0425-Y)	에어 호스	1	
H-19	CCP-BB038901		Inverting Cylinder Base(CRJB1-180)	반전 실린더 베이스	1	
H-20	PSC-AC003900		Bolt(M5xP0.8,L=15)	육각구멍볼이 볼트	2	
H-21	CCP-BB038802		Inverting Base	반전 베이스	1	
H-22	PSC-AG000800		Bolt (M5*P0.8,L=10)	동근 육각구멍볼이 볼트	2	
H-23	PSC-CB005700		Set Screw (M5xP0.8,L=4)	육각구멍볼이 멈춤나사	2	
H-24	PSC-AC004900		Bolt (M4xP0.7,L=12)	육각구멍볼이 볼트	4	
H-25	PWS-CA000900		Spring Washer	스프링 와셔	4	
H-26	PWS-AA000200		Washer	원형 평와셔	4	
H-27	CCP-BB038702		Cylinder Bracket (MXS8-20)	실린더 브래킷	1	
H-28	PSC-AC025100		Bolt(M3xP0.5, L=12)	육각구멍볼이 볼트	4	
H-29	PPP-CA010100		Air Cylinder MXS8-20	에어 실린더	1	
H-30	PPP-AA000100		Fitting (M-5HL-4)	피팅	2	
H-31	PSC-AC025000		Bolt (M3xP0.5, L=20)	육각구멍볼이 볼트	2	
H-32	PWS-AA002100		Washer	원형 평와셔	4	
H-33	CCP-BB038603		Cylinder Base (MXH10-40)	실린더 베이스	1	
H-34	PSC-AC007100		Bolt (M4xP0.7,L=10)	육각구멍볼이 볼트	4	
H-35	PPP-CA010200		Air Cylinder (MXH10-40)	에어 실린더	1	
H-36	PPP-AA000200		Fitting (M-5H-4)	피팅	2	
H-37	CCP-BB044101		Guide Block B	가이드 블록 B	1	
H-38	PSC-AC007100		Bolt (M4xP0.7,L=10)	육각구멍볼이 볼트	2	
H-39	PSC-AC013400		Bolt (M3xP0.5,L=10)	육각구멍볼이 볼트	1	
H-40	CCP-BB045102		Cylinder Guide	실린더 가이드	1	Oct.19.12
H-41	PSC-AC002800		Bolt (M3xP0.5,L=8)	육각구멍볼이 볼트	4	
H-42	CCP-BB045002		Cylinder Guide Rail	실린더 가이드 레일	2	Oct.19.12
H-43	PSC-AC013000		Bolt (M4xP0.7,L=8)	육각구멍볼이 볼트	4	
H-44	CCP-BB039503		Feed Bracket B	피이드 브래킷 B	1	Oct.19.12
H-45	PSC-AC013200		Bolt (M5xP0.8,L=15)	육각구멍볼이 볼트	6	
H-46	PWS-CA000800		Spring Washer	스프링 와셔	6	
H-47	CCP-BB044001		Guide Block A	가이드 블록 A	2	

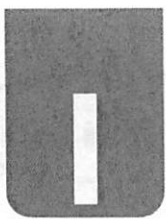


## Inverting Clamp Devices Mechanism (SPS/B-1507HJ)

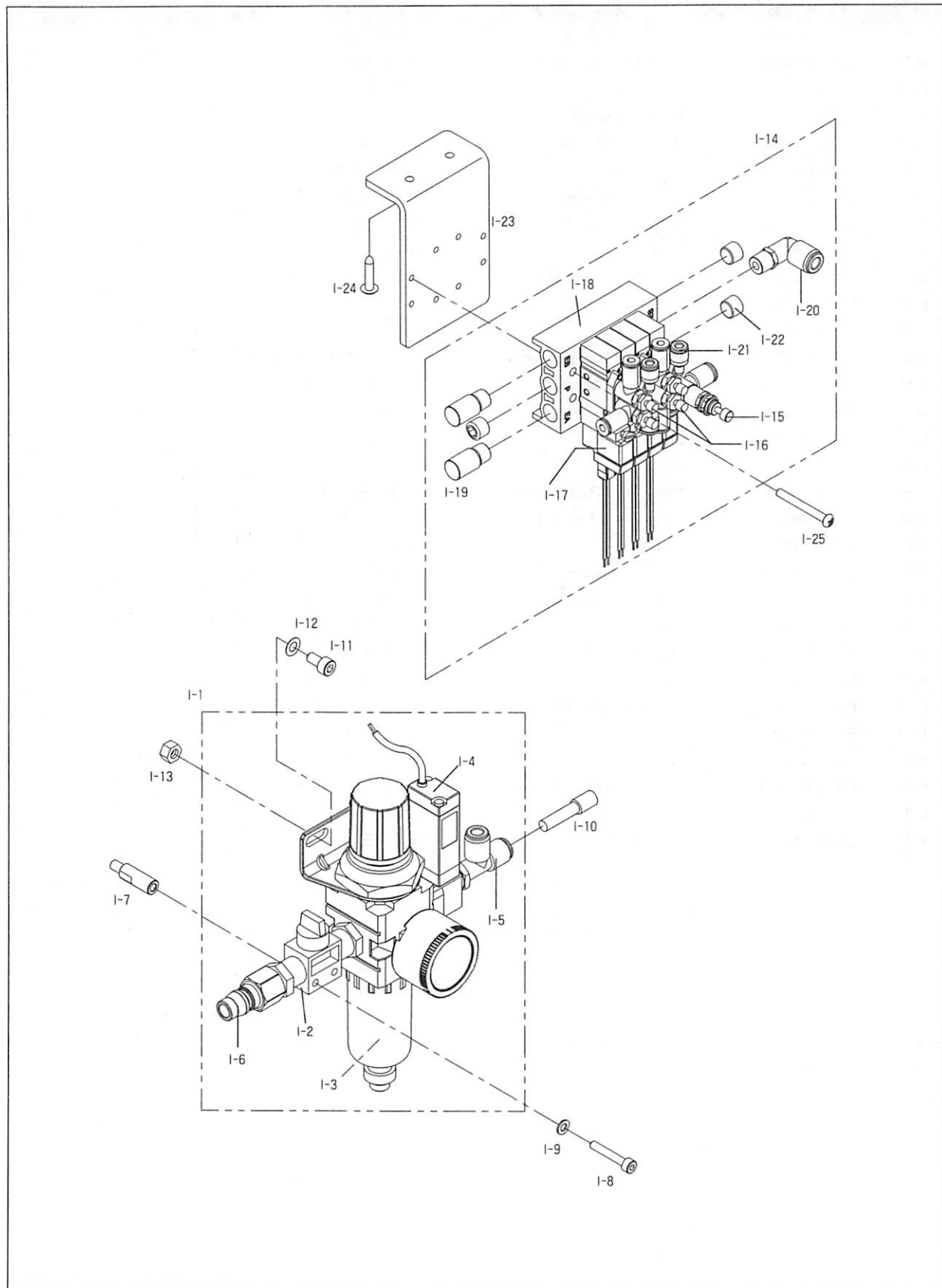




41



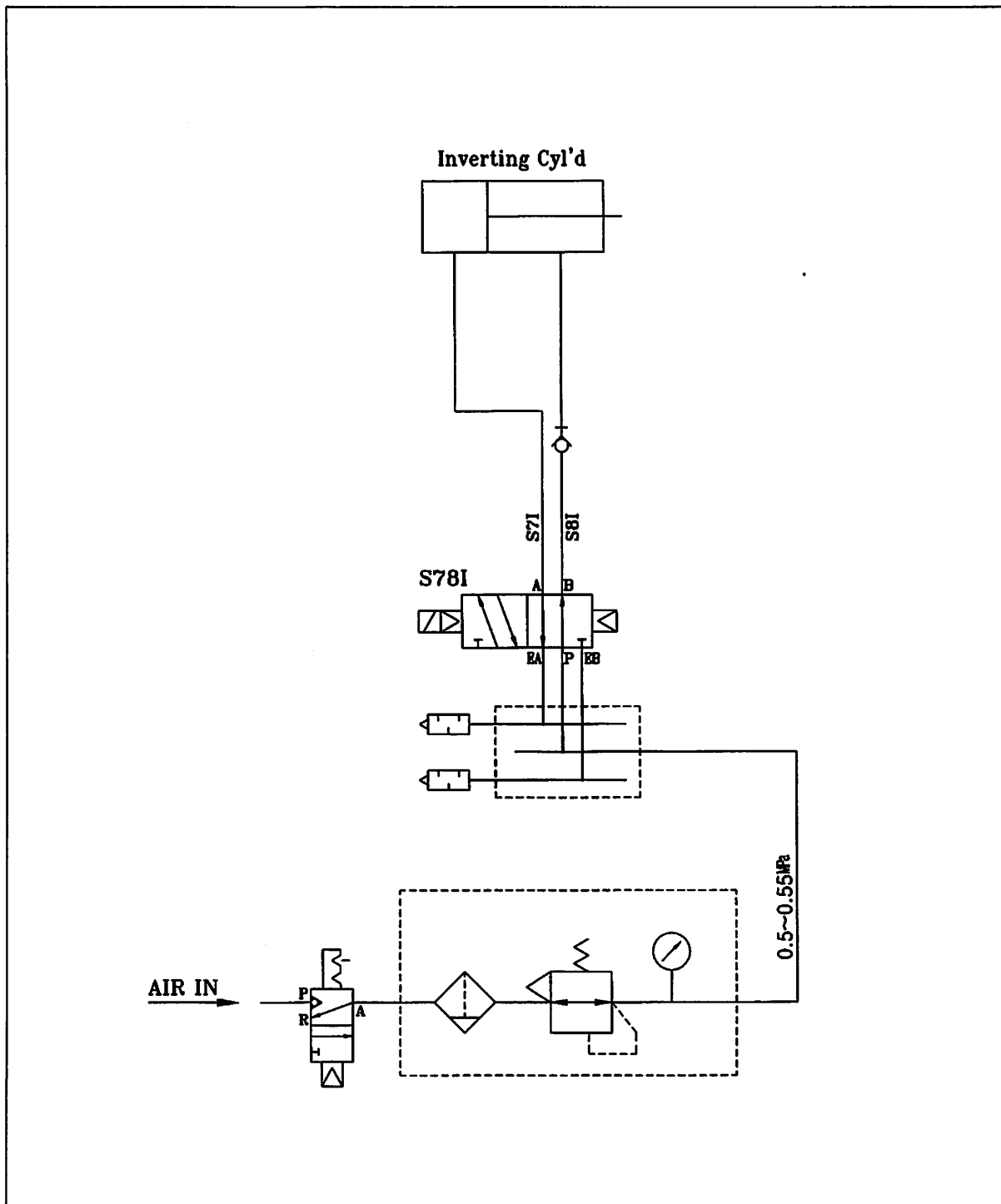
## Pneumatic Control Mechanism (SPS/B-1507HJ)



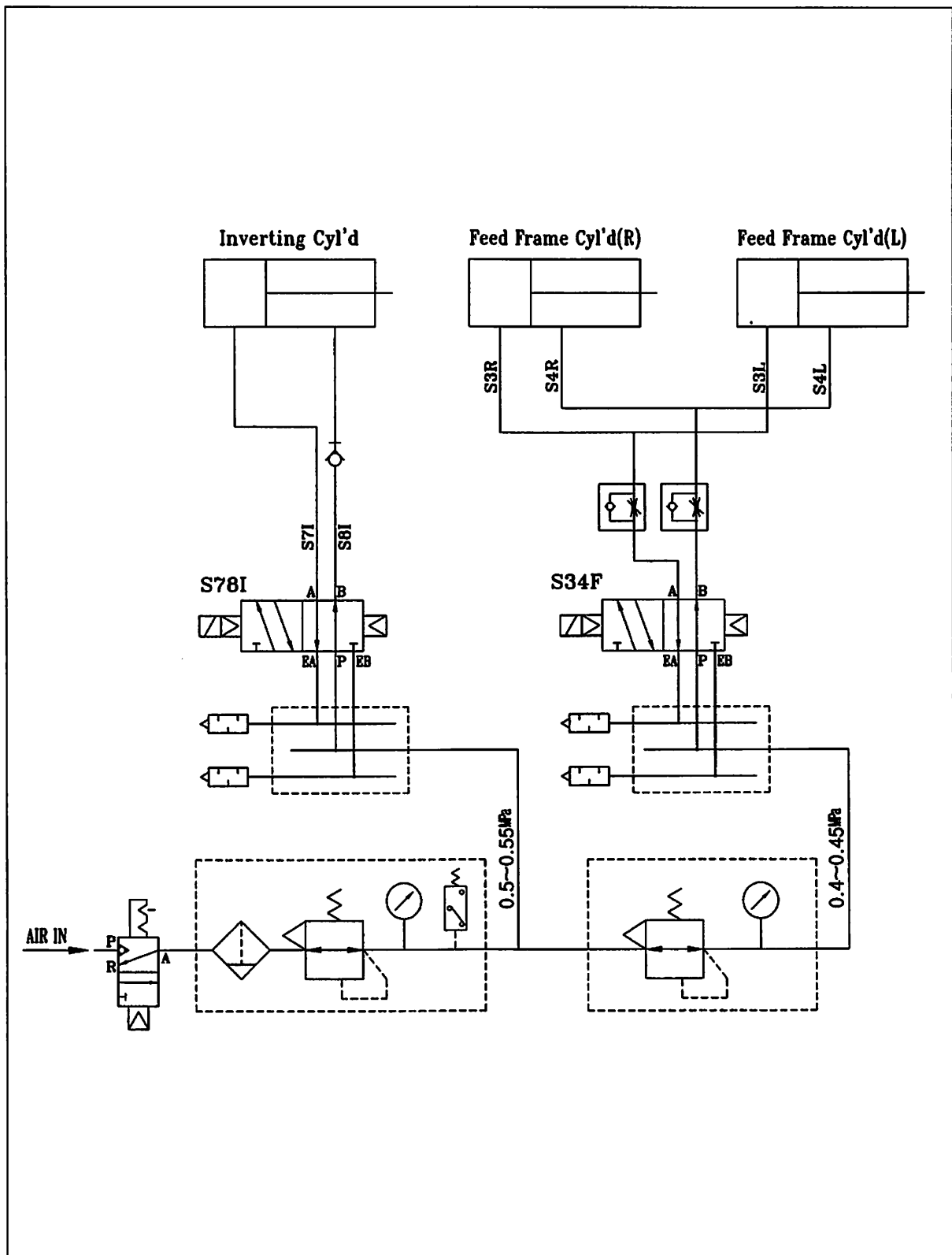
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# Attachments

1. Pneumatic circuit diagram for SPS/A-1306 series turnover device
  - 1) SPS/A-1306-HS-10

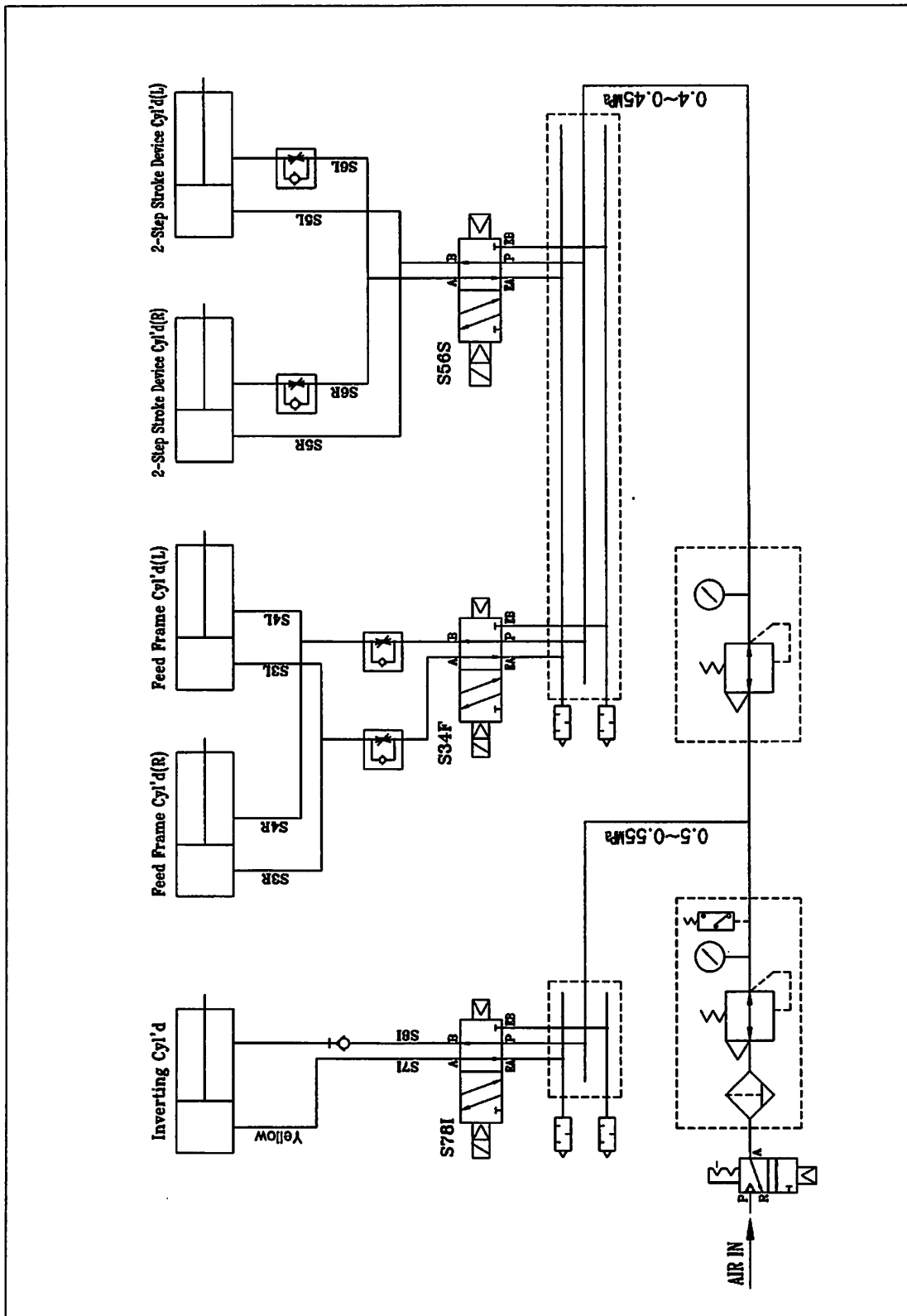


2) SPS/A-1306-HS-20

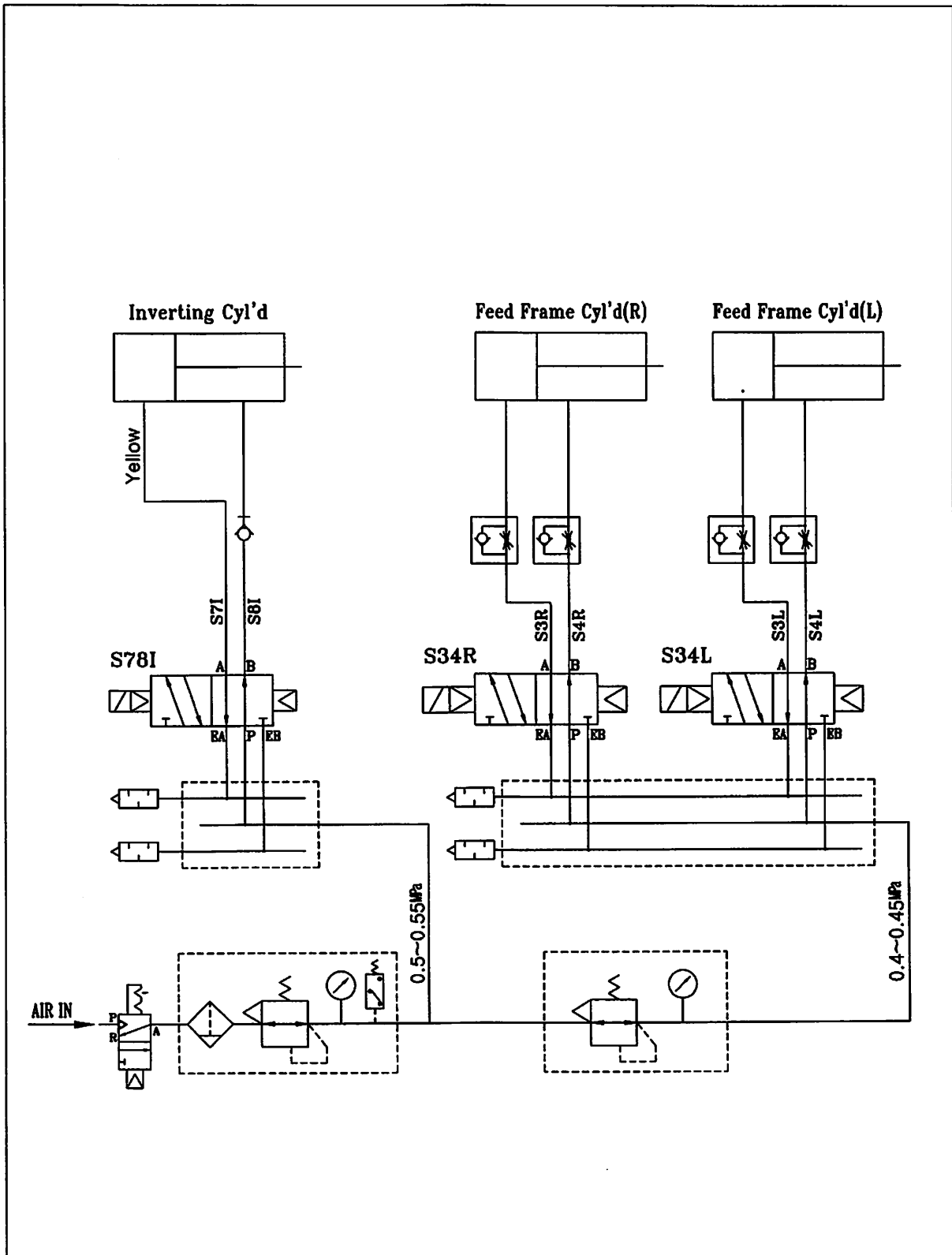




### 3) SPS/A-1306-HS-21

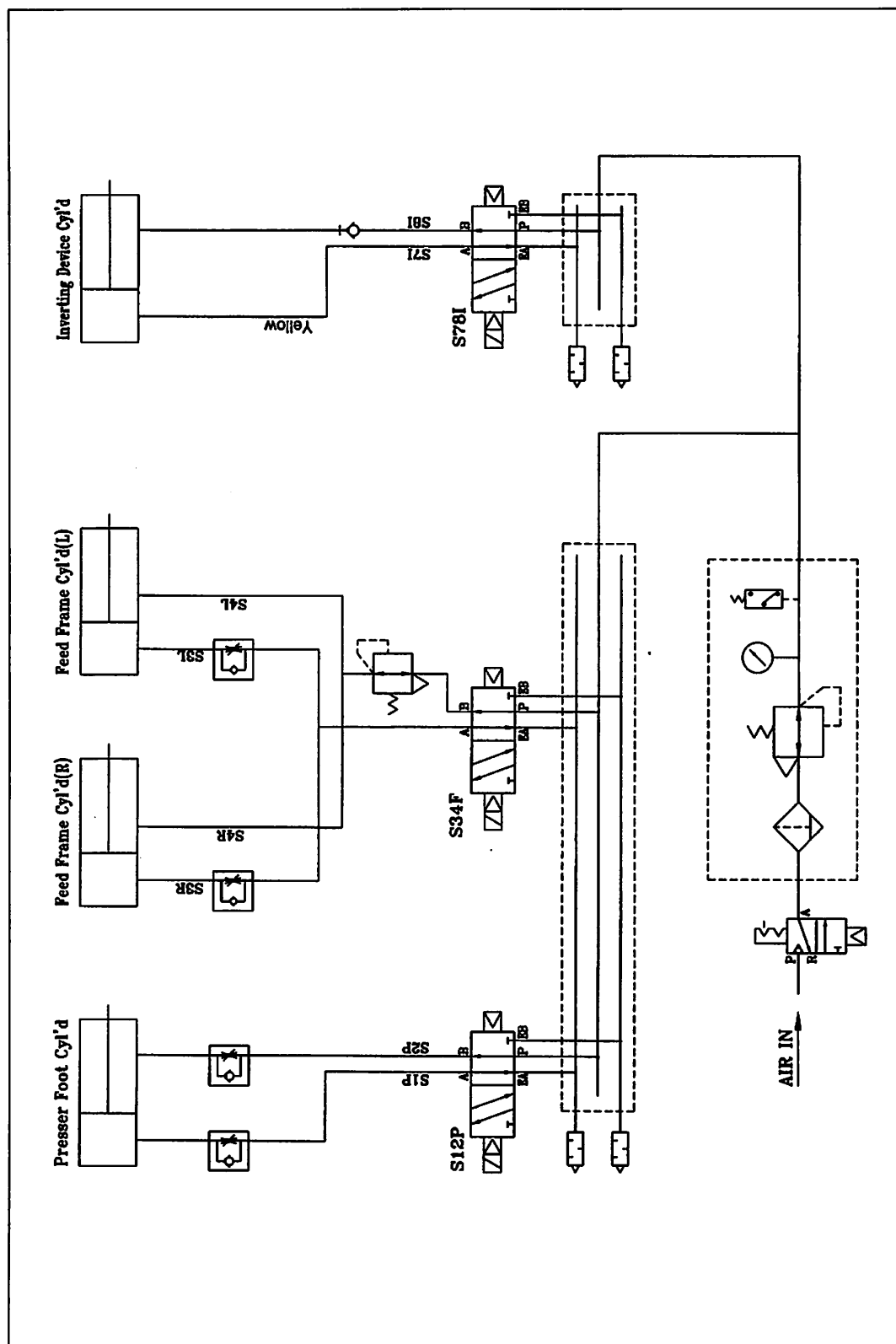


4) SPS/A-1306-HS-23(SPS/A-1306-HS-22)

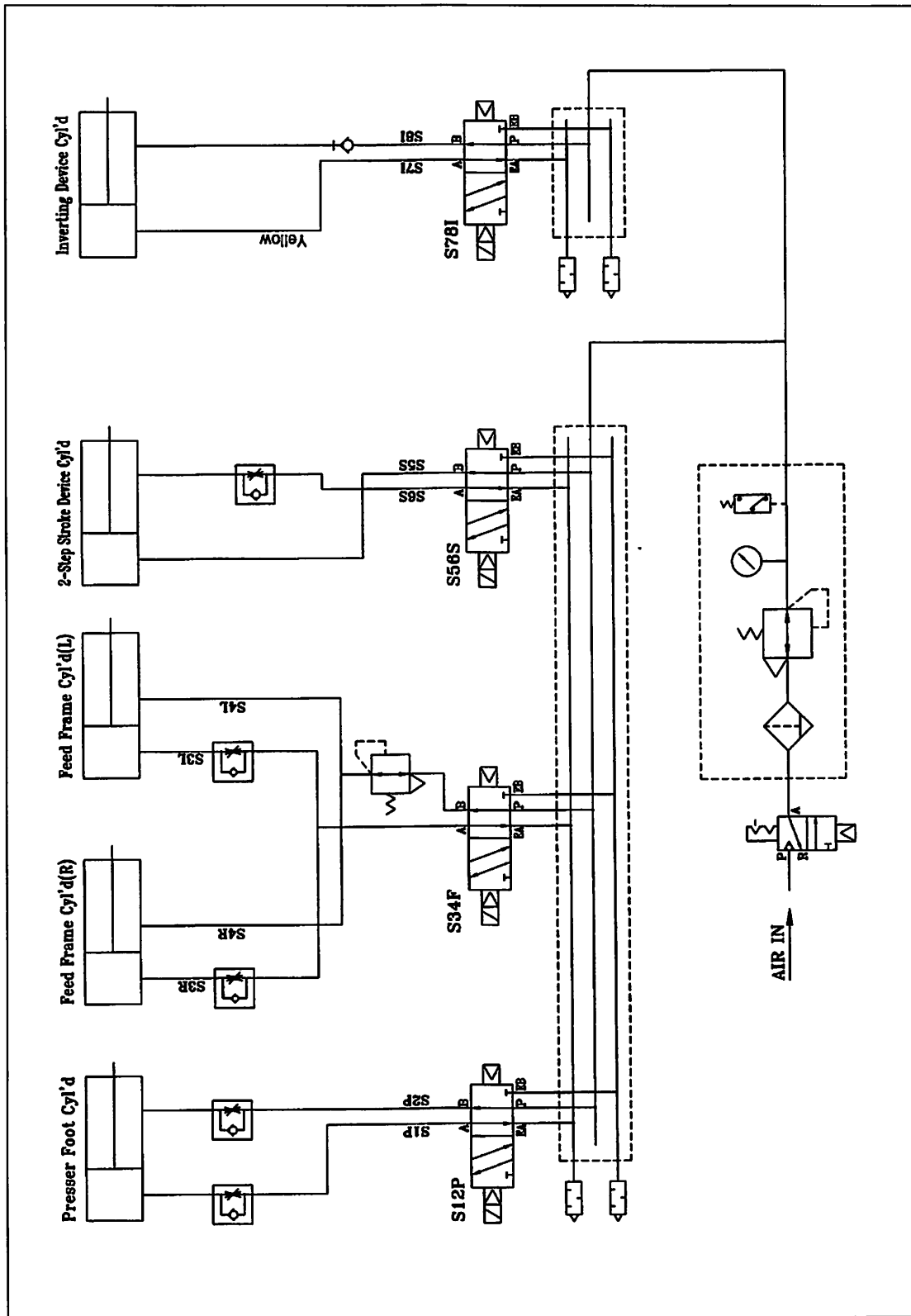


## 2. Pneumatic circuit diagram for SPS/A-1811 series turnover device

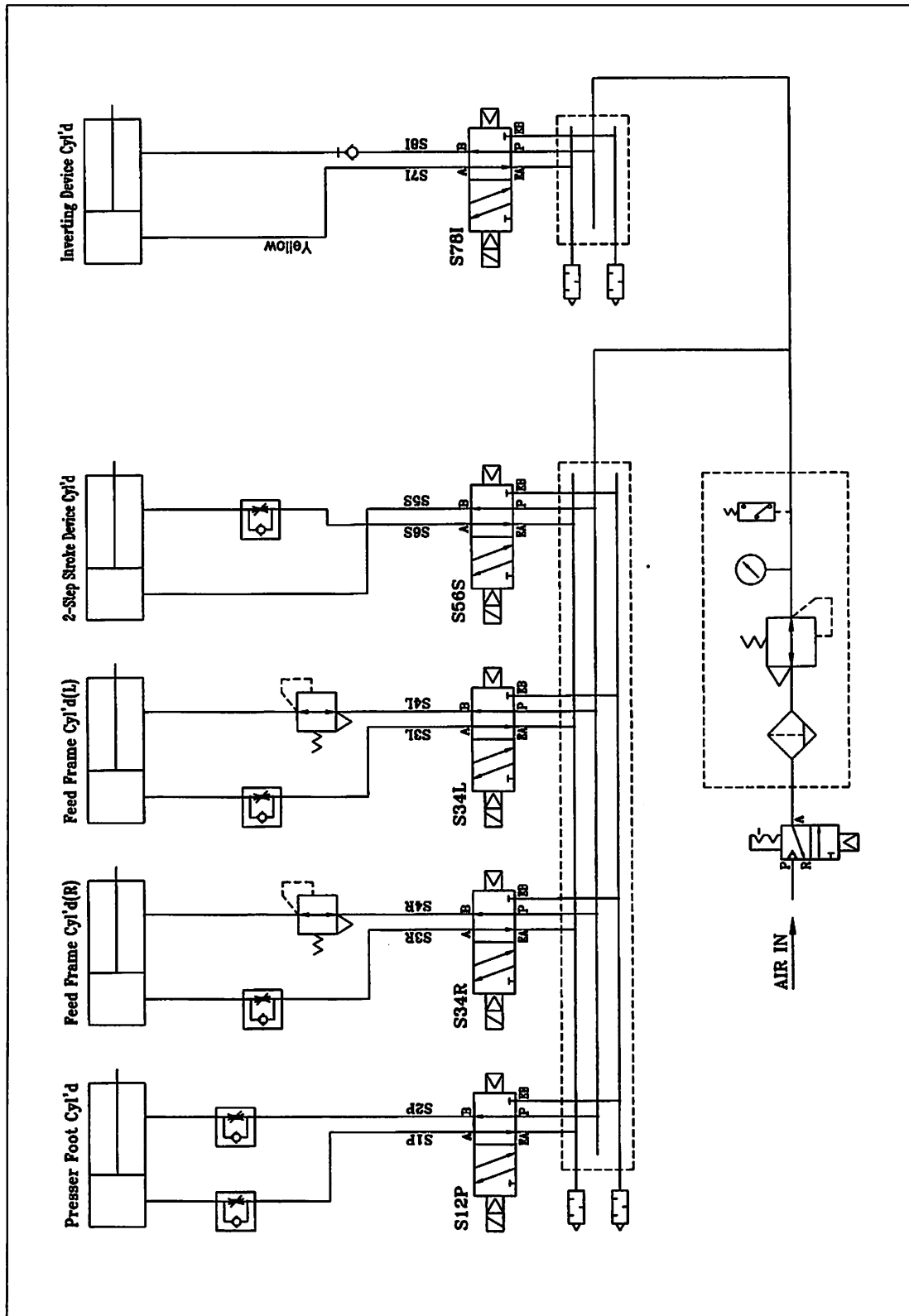
1) SPS/A-1811-HS-20



## 2) SPS/A-1811-HS-21

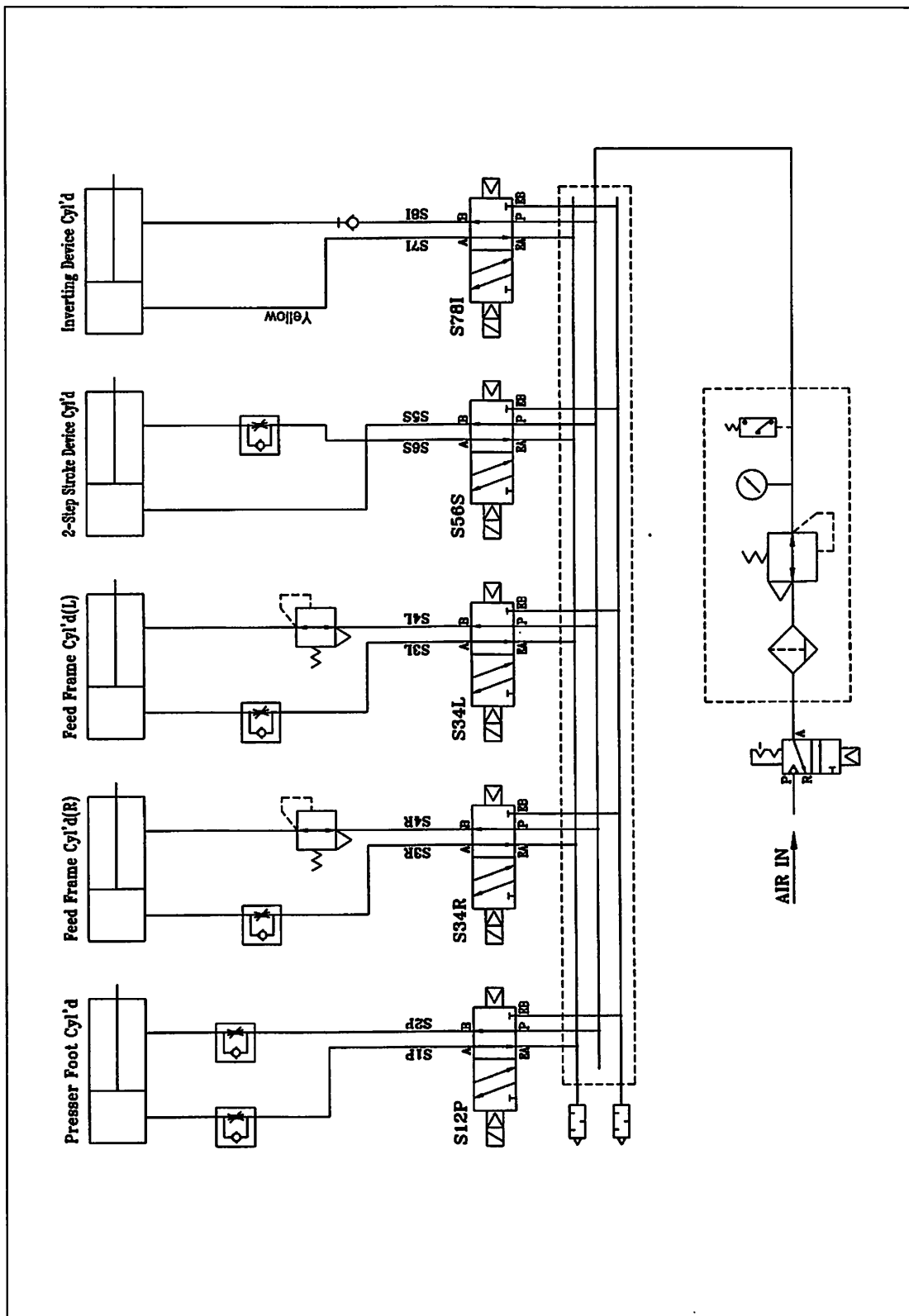


### 3) SPS/A-1811-HS-22





#### 4) SPS/A-1811-HS-23



### 3. Pneumatic circuit diagram for SPS/B-1507 series turnover device

1) SPS/B-1507-HJ-23

