SunStar

USER'S MANUAL

INVERTING CLAMP DEVICES
SPS/A(B)-SERIES

Electronic Pattern Sewing Machine

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.

SunStar CO., LTD.

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.

CONTENTS

1

Notice Before Using

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

Caution	**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.

Caution	**If you use read patterns, incorretly 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.

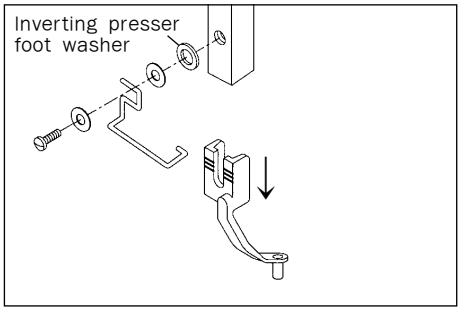
2

Inverting Clamp Devices of SPS/A-1306 Series

1. Installing the Inverting Clamp Devices

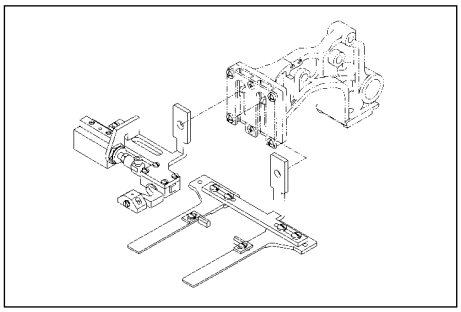
1) Remove the up-feed plate and feed plate cramp attached to feed bracket.

2) Remove the presser foot and insert the Inverting presser foot washer on that spot, then fasten a fixing screw.



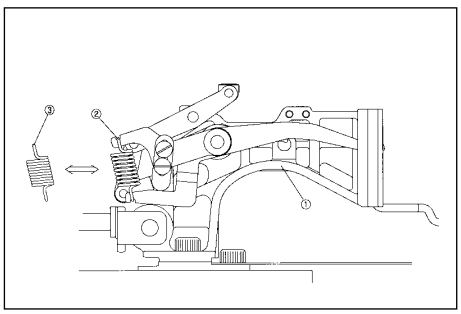
[Fig. 1]

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



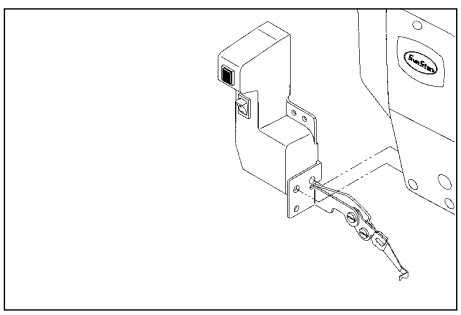
[Fig. 2]

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.

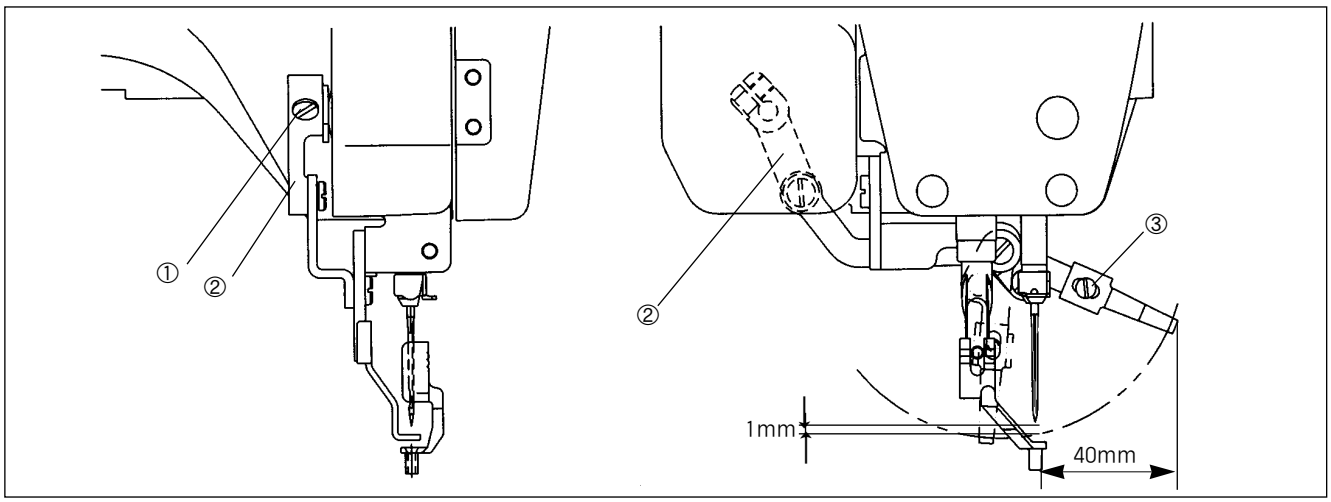


[Fig. 4]

2. Adjusting the Wiper Parts

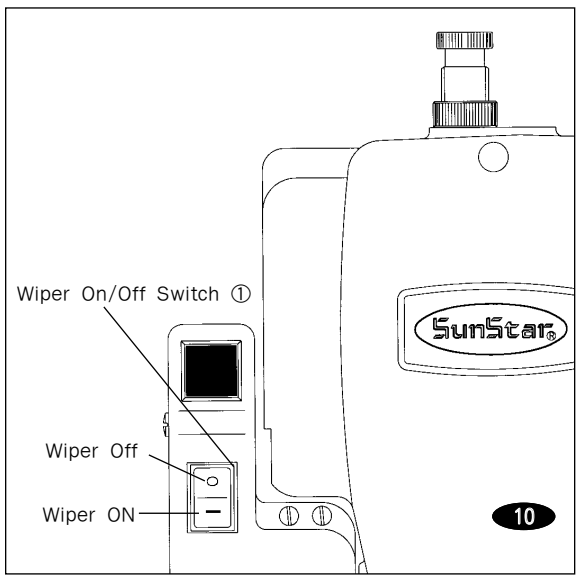
1) Unfasten the crank fixing screw① when a needle is stopped upward.
2) Adjust the wiper crank ② for wiper and needle to be apart from about 40mm.
3) Fasten the wiper crank fixing screw ①.
4) Unfasten the wiper fixing screw ③ and adjust it for wiper tail and needle tip to be apart from about 1mm, then fasten the wiper fixing screw ③.

Caution	**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 a chieved.**



[Fig. 5]

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



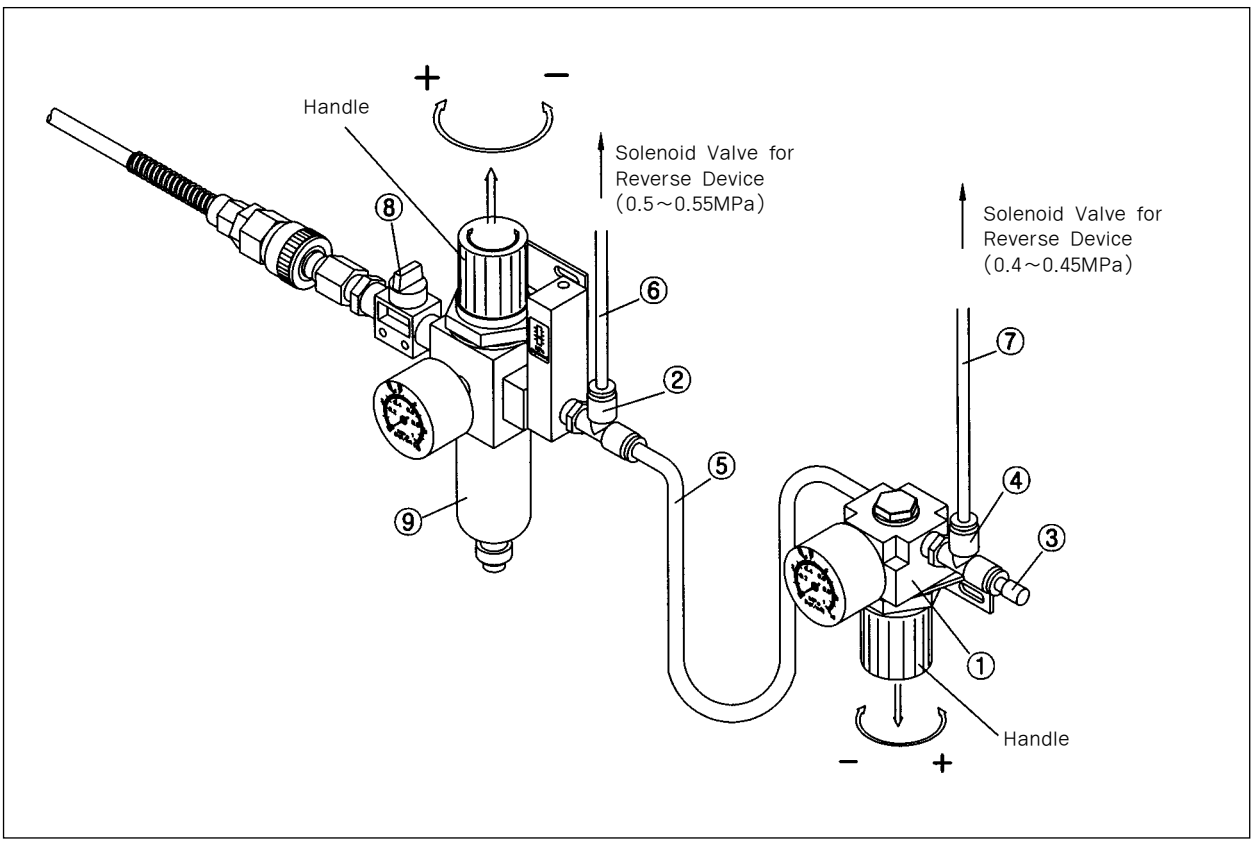
[Fig. 6]

3. Installation and Adjustment of Pneumatic Control Parts

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

A. For pneumatic type

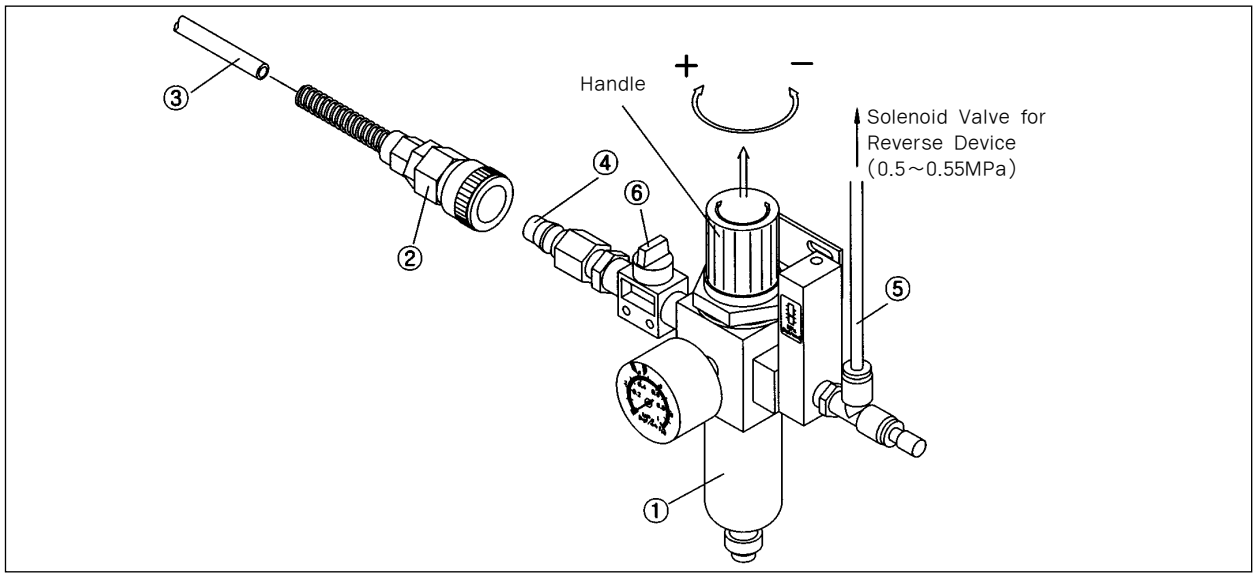
1) Attach the pressure adjuster① to the rear side of the table leg using the screw.
2) Remove the plug③ attached to T②, and insert it into T④. Connect the air hose⑤ as in the figure below.
3) Connect the air hoses⑥,⑦ to the corresponding solenoid entrances.
4) Open the finger valve⑧ and pass the air 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/㎠).
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 (4~4.5Kfg/㎠).



[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/㎠).



[Fig. 8]

Caution

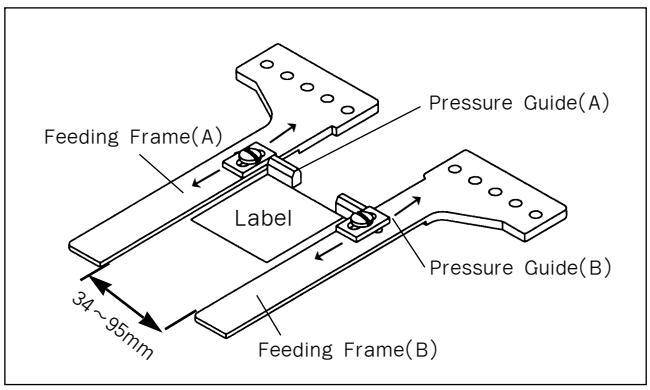
If the air pressure of the pressure adjuster for the reverse device decreases in the middle of use (3Kgf/㎠ or below), error message will be displayed and the machine will stop its operation.

Note

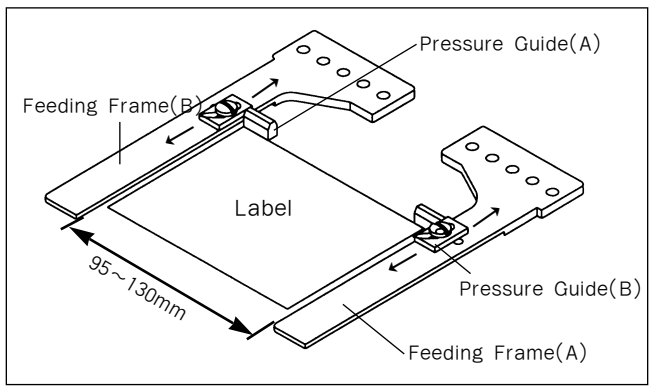
When closing the finger valve after use, the remaining air inside the valve will be released. Therefore, the air pressure is displayed 0 MPa (0 Kfg/㎠).

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]

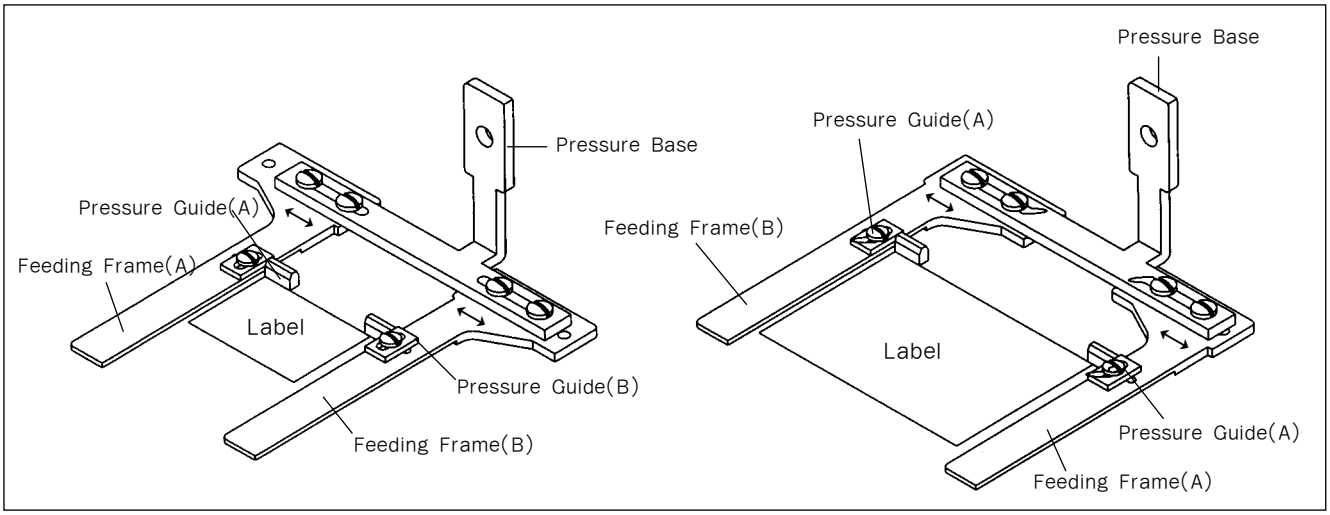


[Fig. 10]

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).**

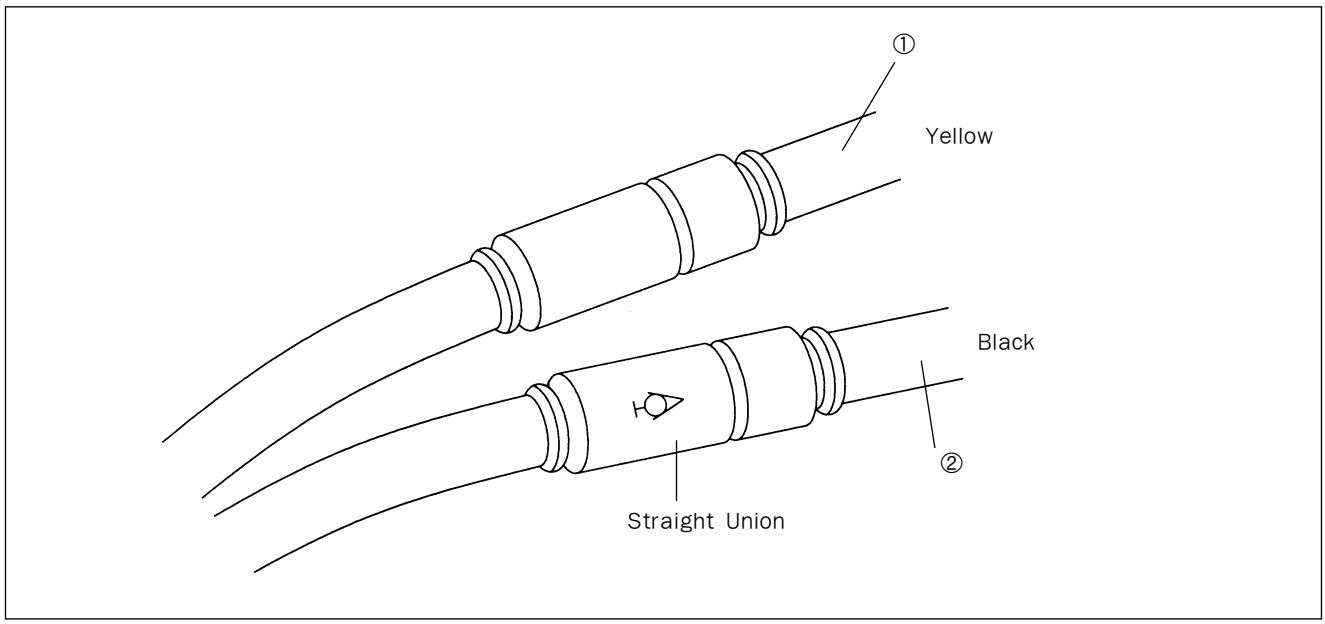
4) Attach the feeding frame (A) and (B) to the feeding frame base.
Adjust the precise position by moving the width of label to the arrow direction.



[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.



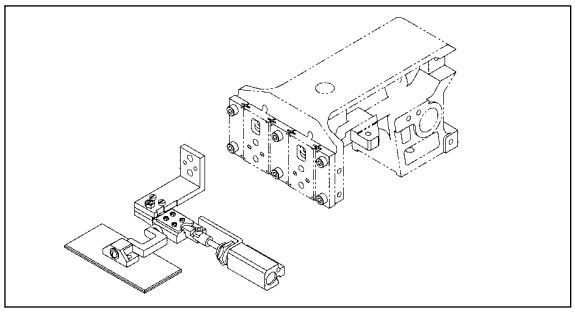
[Fig. 12]

3

Inverting Clamp Device of SPS/A-1811 Series

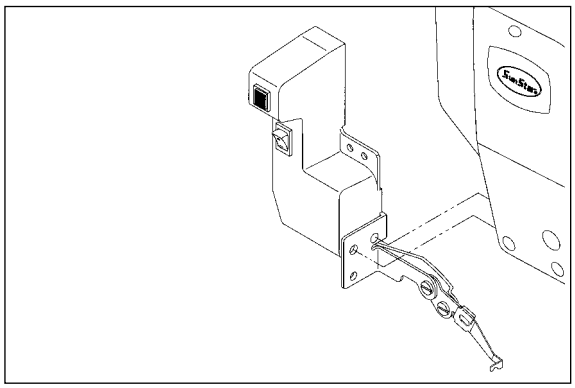
1. Installing the Inverting Clamp Devices

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.

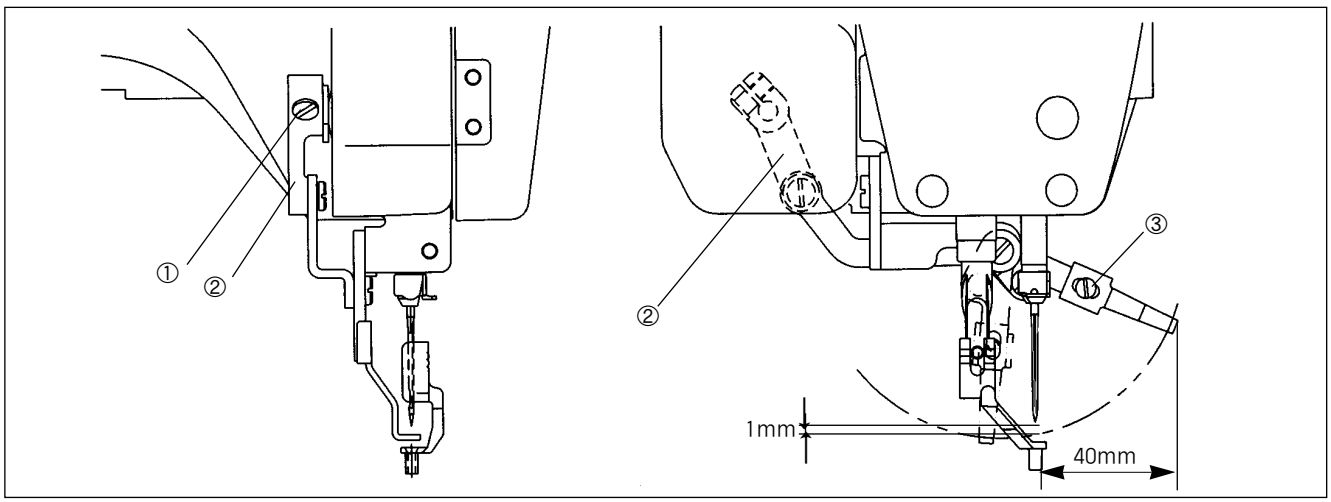


[Fig. 14]

2. Adjusting the Wiper Parts

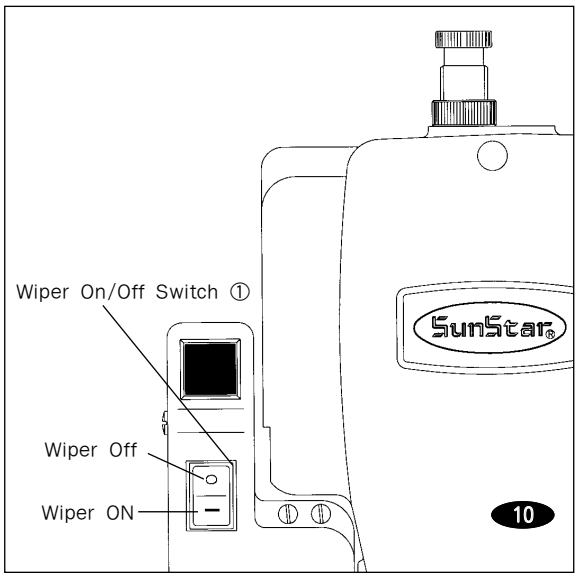
1) Unfasten the crank fixing screw① when a needle is stopped upward.
2) Adjust the wiper crank ② for wiper and needle to be apart from about 40mm.
3) Fasten the wiper crank fixing screw ①.
4) Unfasten the wiper fixing screw ③ and adjust it for wiper tail and needle tip to be apart from about 1mm, then fasten the wiper fixing screw ③.

Caution	**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 a chieved.**



[Fig. 15]

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

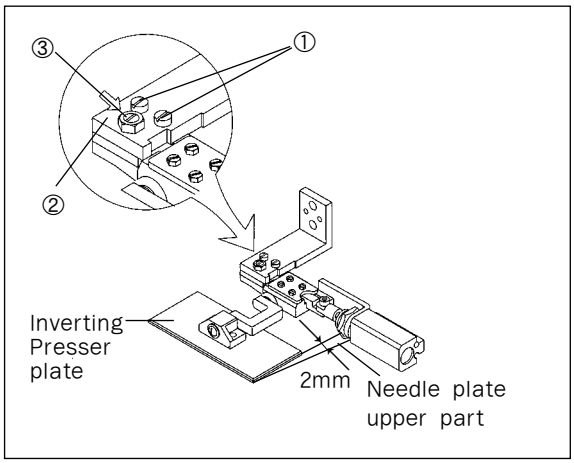


[Fig. 16]

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]

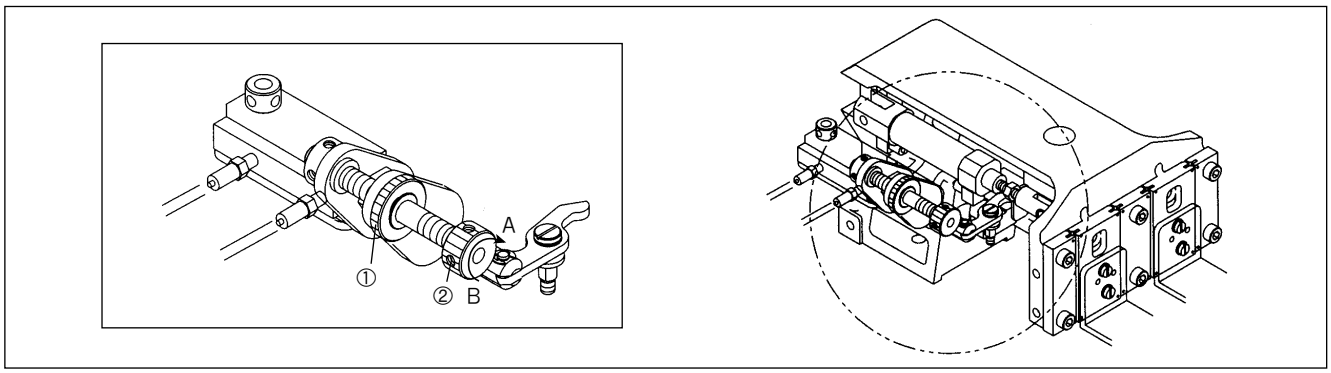
Caution

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.



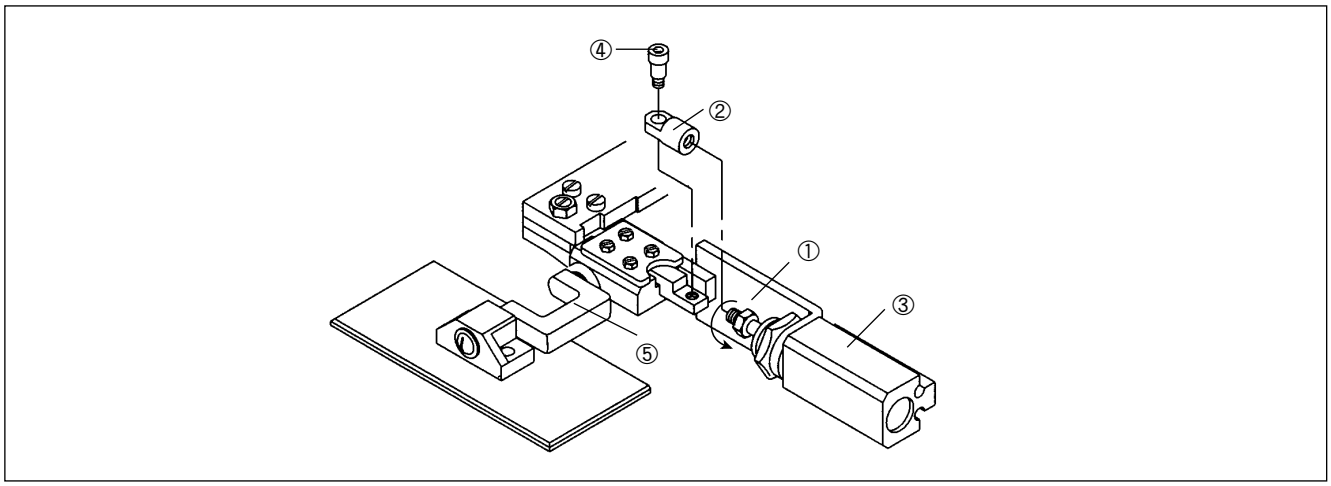
[Fig. 18]

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 several 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.

Caution

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



[Fig. 19]

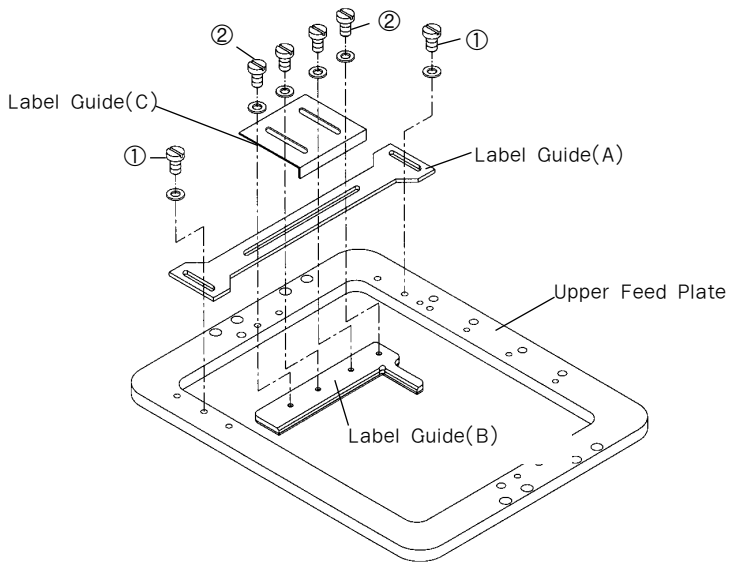
6. Adjusting the Label Guide

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.

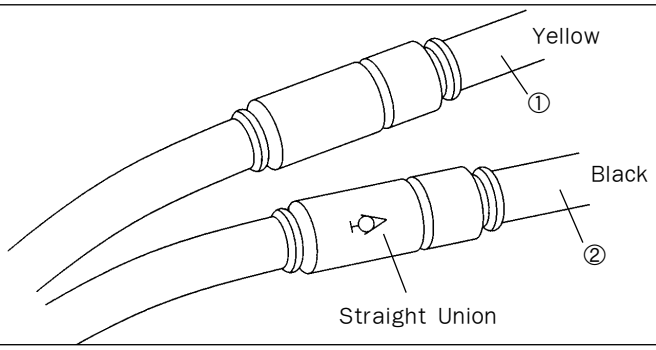
Caution	**In case of using small sized label, use the label guide (C) since the label guide (A) can be interfered with the reversal devices.**



[Fig. 20]

7. Removing the Inverting Clamp Devices

1) Remove the inverting clamp devices when using the standard specification or adjusting X-Y preciously.
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]

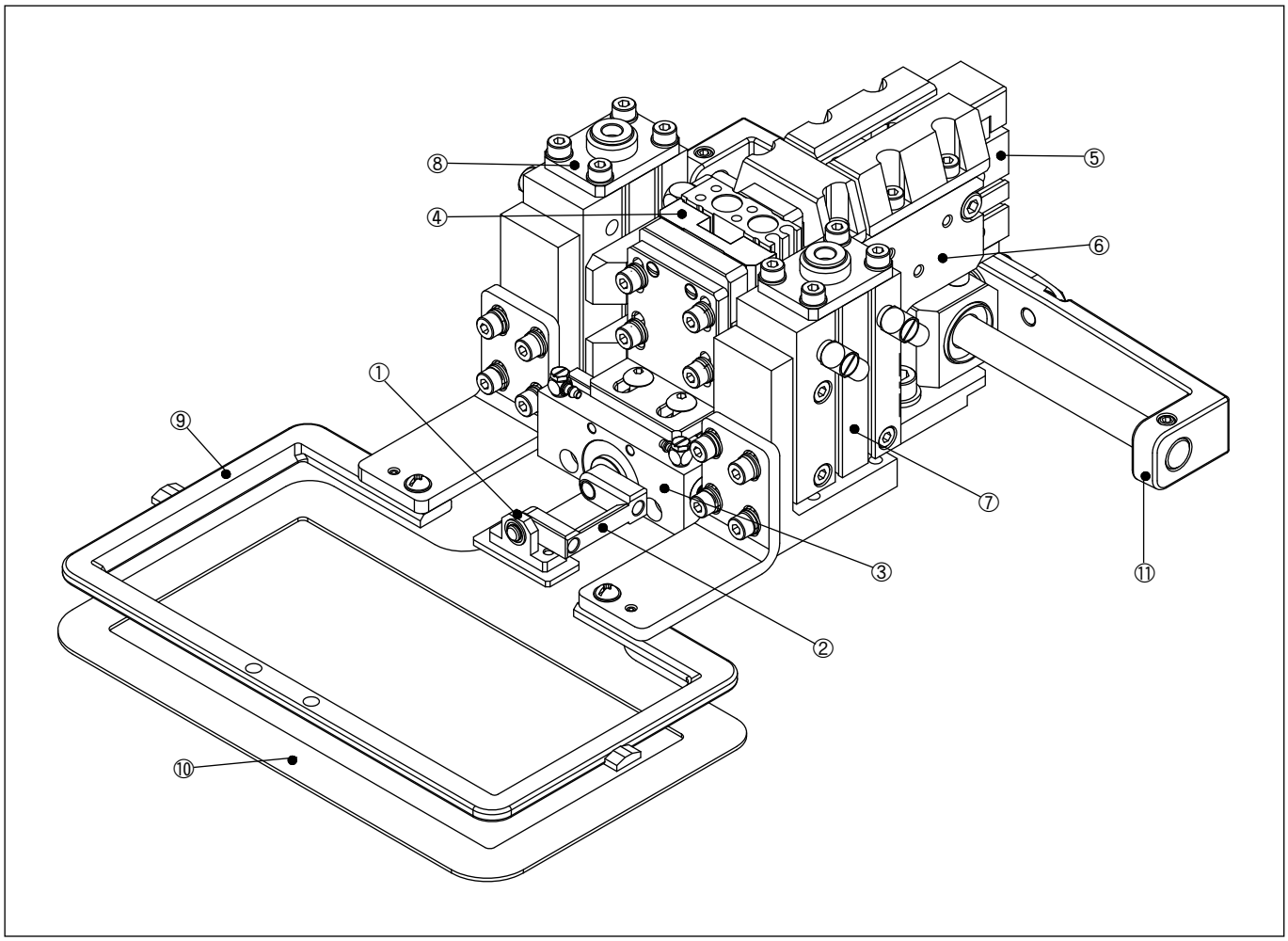
4

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^2 (0.39~0.44Mpa)

2. Structure of unit



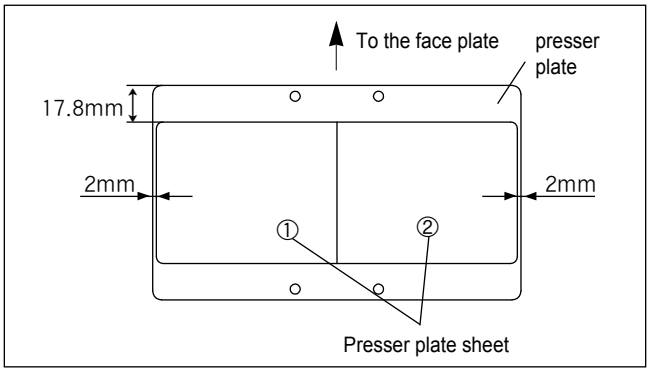
[Fig. 22]

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

3. Installation of machine

1) How to attach presser plate sheet

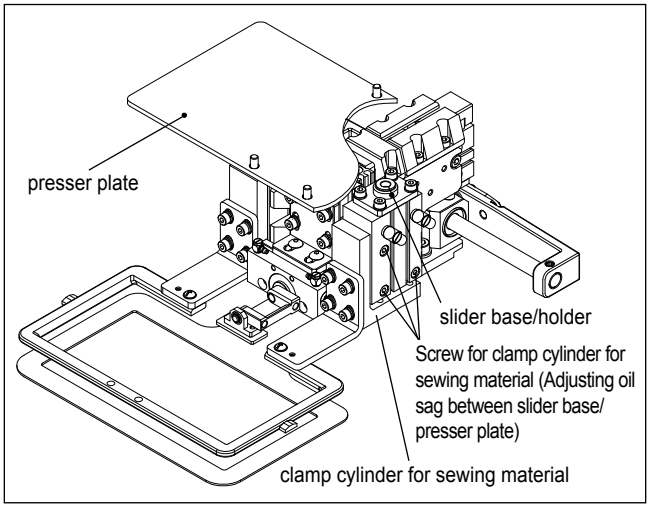
Attach the presser plate sheet on the side which slider base and presser plate are met as shown the Picture.



[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]

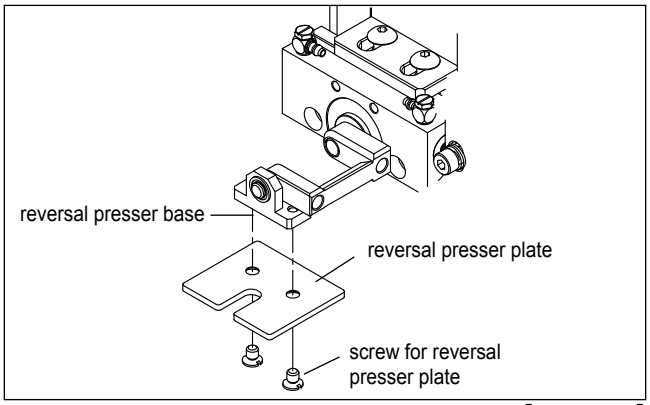
3) How to change reversal presser plate

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

Caution

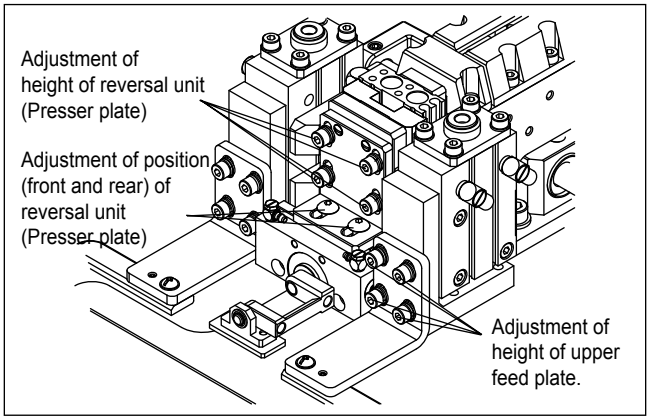
- Reversal presser plate is applied in a size of the minimum sewing material when delivered. Please be noted that when a provisional presser plate is placed, interference between the foot presser and the reversal presser base occurs



[Fig. 25]

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

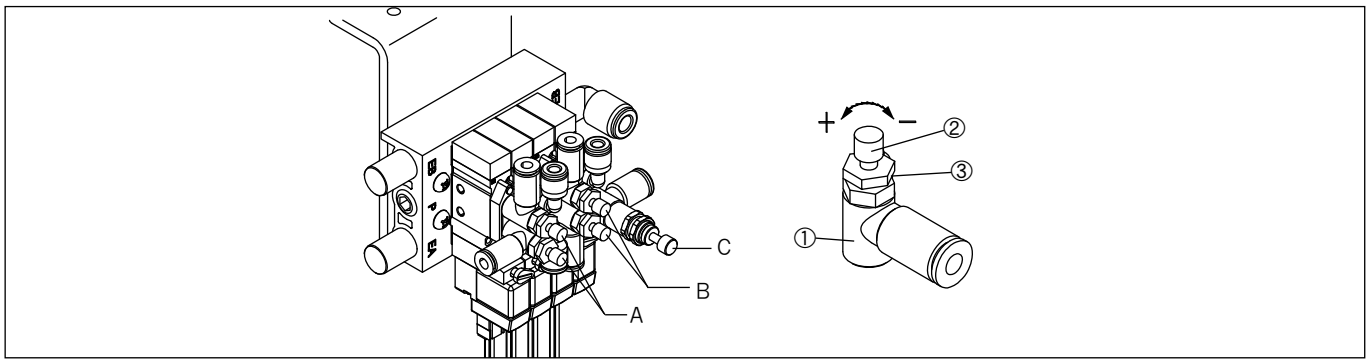
When the position (height) of upper feed plate and reversal presser plate is required to change, loosen and adjust screw of feed plate clamp and reversal base.



[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

ⓐ 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)

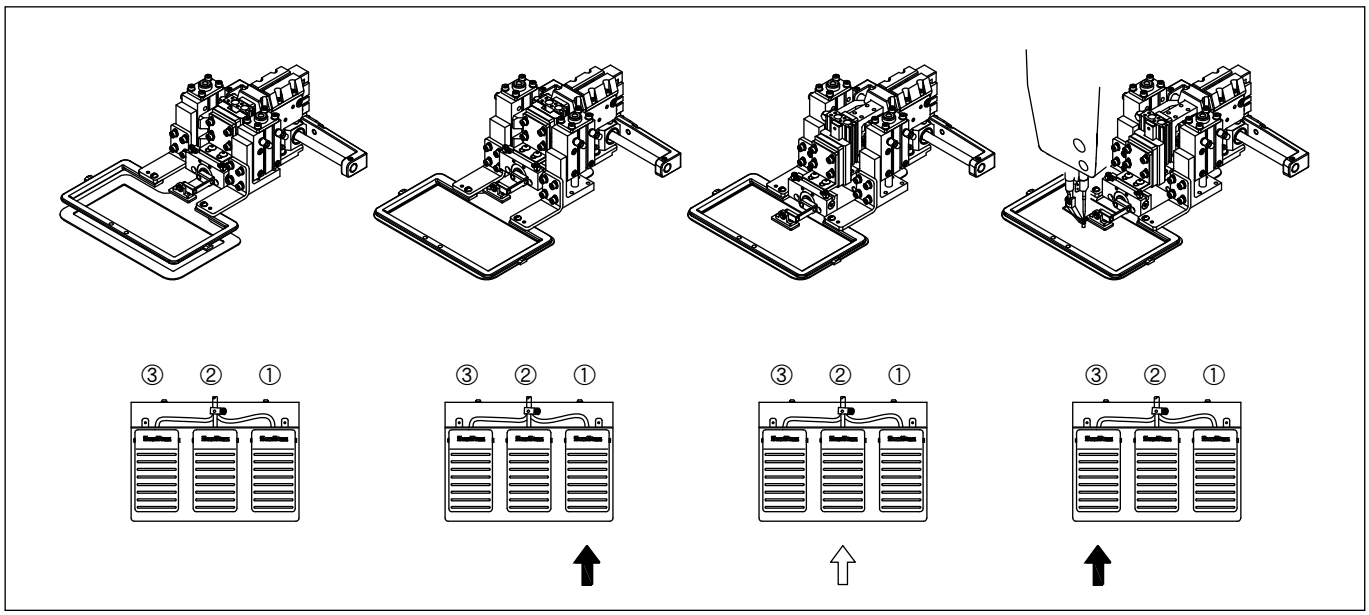
ⓑ Stroke switch for three strokes is provided: Right stroke① is for operating upper feed plate, middle stroke② is for operating reversal press plate, and left stroke③ is for starting sewing.

ⓒ 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.

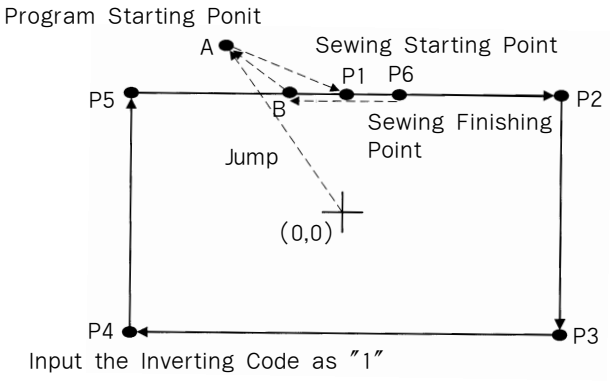


[Fig. 28]

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?
```

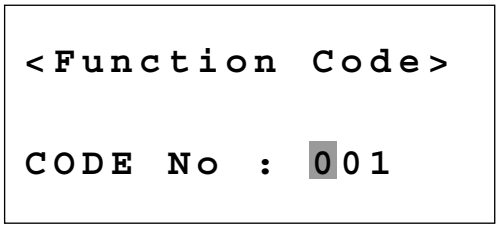
④ After pressing JUMP key, move to the A point by pressing Arrow Keys. Then press PNT SET key.

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

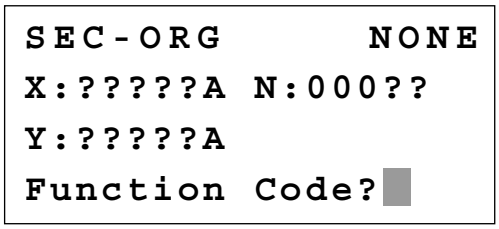
⑤ If you press EXE key, the machine operates pattern date, then upper feed plate moves according the operated data.

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

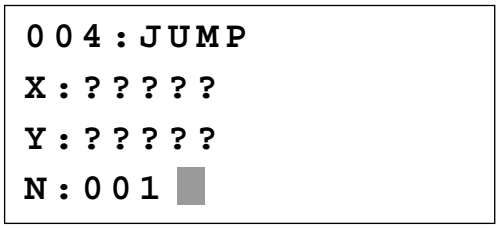
⑥ After pressing CODE key, set up the 2nd origin by pressing digit keys, [0][0][1].



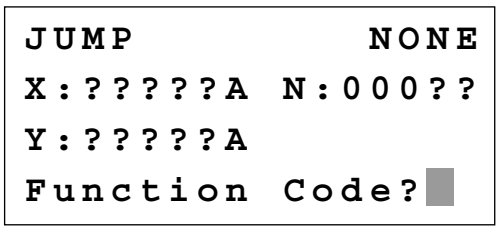
⑦ Press ENTER key.



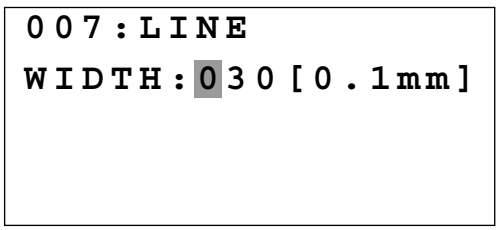
⑧ After pressing JUMP key, move to the sewing start point P1, by pressing Arrow key. Then press PNT SET key.



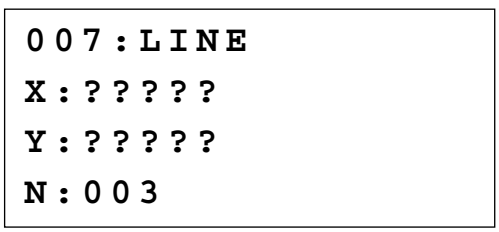
⑨ If you press EXE key, the machine operates pattern data, then upper feed plate moves according the operated data.



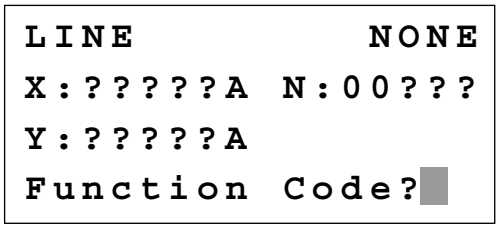
⑩ After pressing LINE key, input the stitch width by using digit keys, then press ENTER ↵ key.
(For example, if you want to set up 3mm as stitch width, input [0][3][0].)



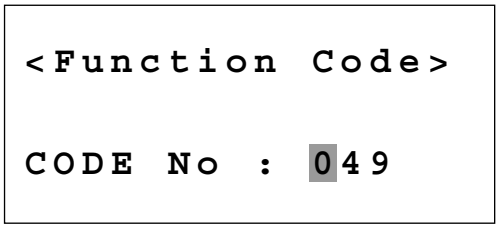
⑪ Move to the P2, P3, and P4 by using Arrow keys, then press PNT SET key each time to input the coordinates of each corner.



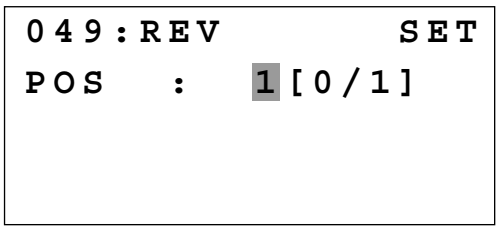
⑫ If you press EXE key, the machine operates pattern data, then upper feed plate moves according the operated data.



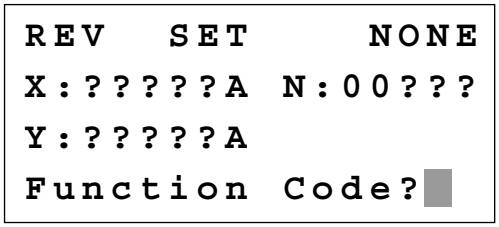
⑬ After pressing CODE key, input the inverting code by pressing digit keys [0][4]and [9].



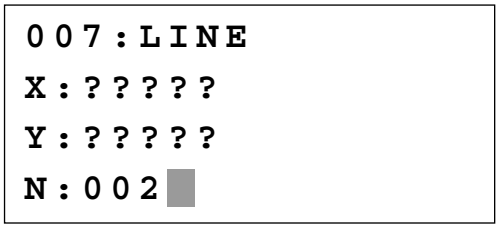
⑭ Press ENTER key. Operate the inverting cylinder by pressing digit key, 1.



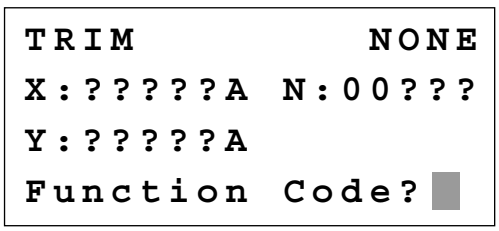
⑮ After confirming, input the inverting code by pressing ENTER key.



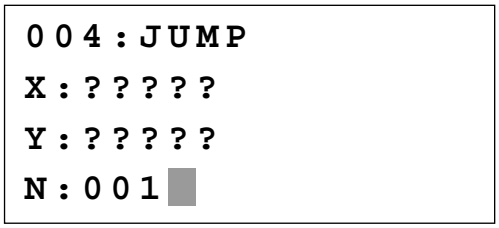
⑯ Program P5 and P6 by using LINE.



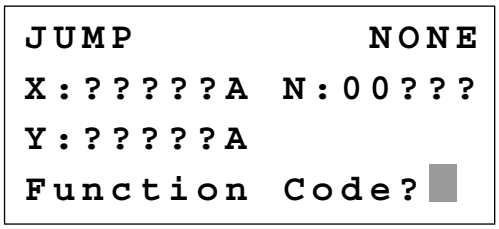
⑰ Press Trim key to input trimming code.
"000 : TRIM" appears on the screen, then the screen on the right appears again.



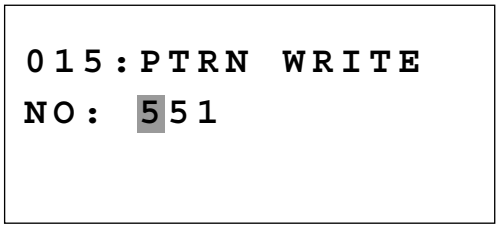
⑱ After pressing JUMP key, move to the B point by using digit keys. Then, press PNT SET key.

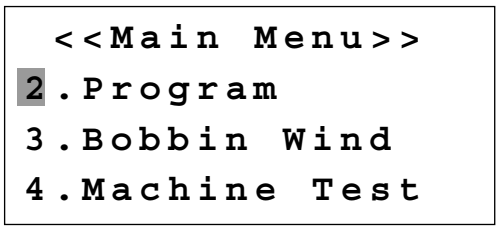


⑲ If you press EXE key, the machine operates pattern data, then upper feed plate moves according the operated data.



⑳ Perform test sewing.
㉑ 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].)
㉒ 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.

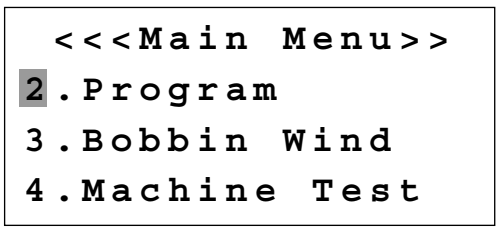


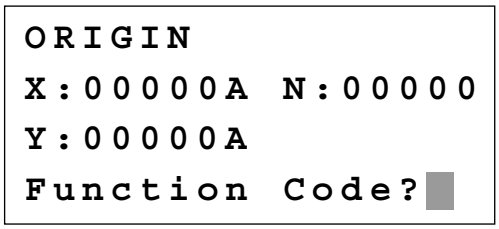


2. Adding the Codes for Reversal to the Patterns Already Programmed

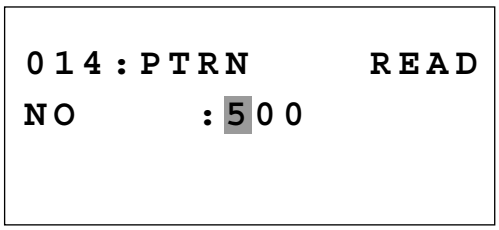
1) Reading the pattern that does not have inverting codes.

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.



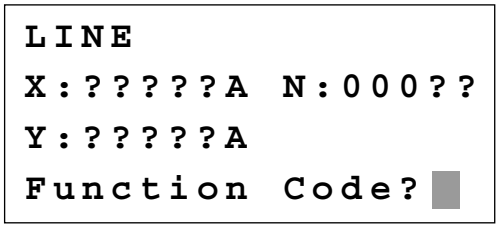


④ After pressing READ key, input the pattern number that contains a sewing speed you want to change by using digit keys, then press ENTER key to read the pattern.
(For example, to read pattern number 500, input [5][0][0].)

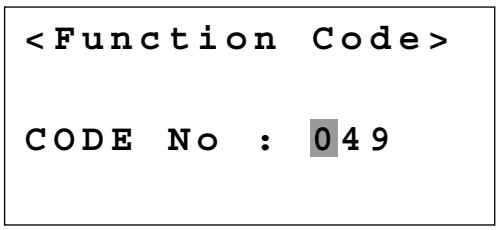


2) Inserting the inverting code

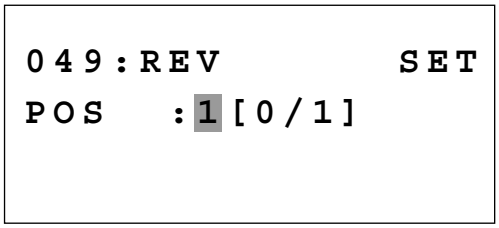
⑤ Add the inverting code by using FORW, BACK keys, and move to the P4 that you want to add the inverting code.



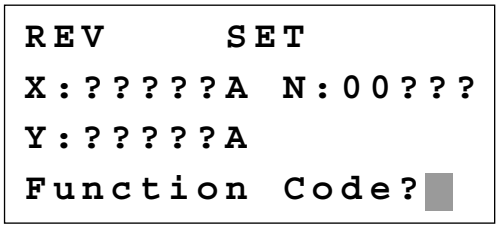
⑥ After pressing CODE key, input the inverting code by pressing digit keys, [0][4] and [9].



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

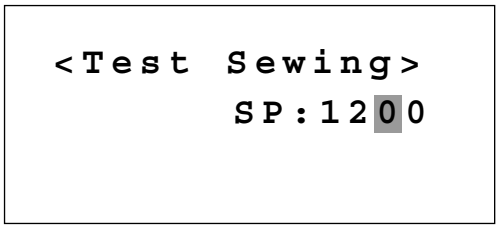


⑧ After confirming, press ENTER key to input the inverting code.

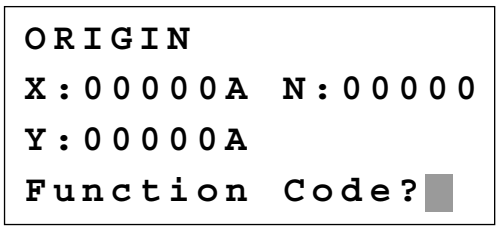


3) Test sewing

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.

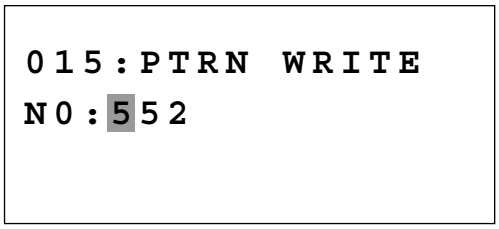


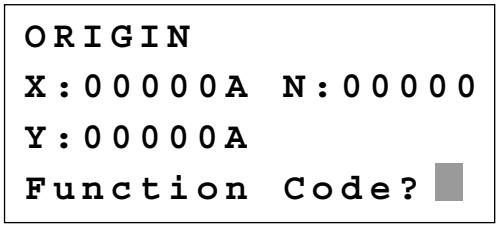
⑩ By repressing TEST key, complete the test sewing. After the upper feed plate descends and moves to the origin, the READY LED turns off.



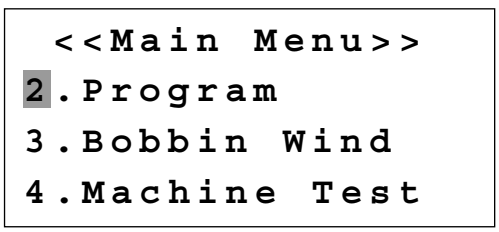
4) Saving as new pattern number

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.





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



Parts book

WARNING

1. 조에 속한 파트는 개별 조립 시 제품의 파손 또는 재봉 불량이 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.

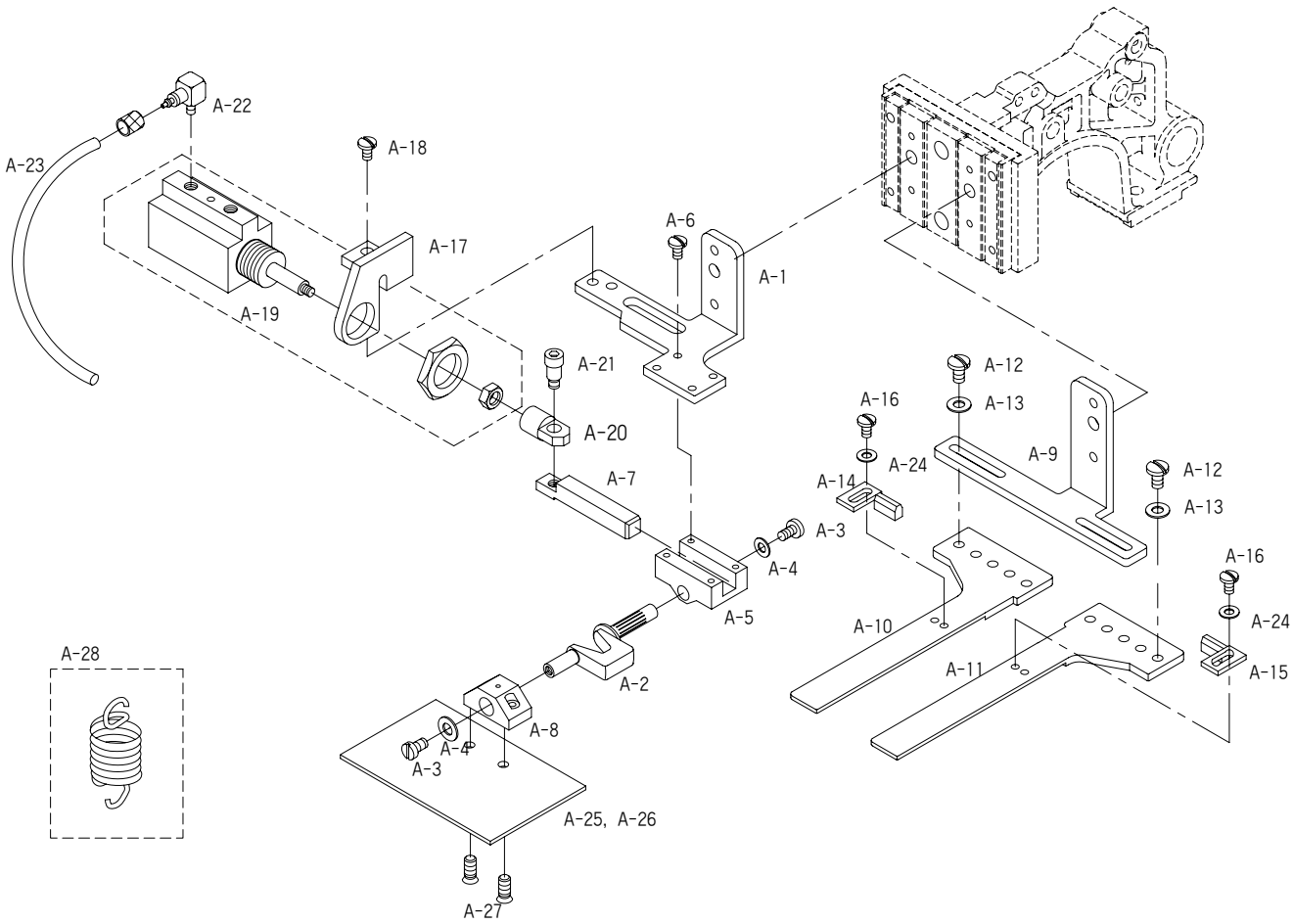
1. The parts classified as ass'y items may cause damage to the machine or bad sewing when they are separtately assembled. Hence, when they are ordered, they can be purchased as ass'y items only.
2. This is a parts book. It cannot be used as a manual.
3. Parts are Subject to change in Design Without Prior Notice.

Note

· 썬스타 제품의 부품은 아래 인터넷주소로 접속하시어 신청할 수 있습니다.
  http://www.sunstarcs.com
· 가입된 회원께서는 썬스타 포탈 사이트에 로그인후 필요한 부품을 신청할 수 있습니다.
· 부품관리-발주관리-발주등록 항목에서 부품번호와 신청수량을 입력하여 등록하시면 발주가 됩니다.
· 부품번호를 모르시는 경우 파츠북 조회를 클릭하시고 사용하는 기종을 검색하여 선택하시면
  해당 기종의 파츠북을 조회할 수 있습니다.
· 파츠북은 관계별로 구분되어 있으며 관계를 알고 있다면 부품 찾기가 용이합니다.

· 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.

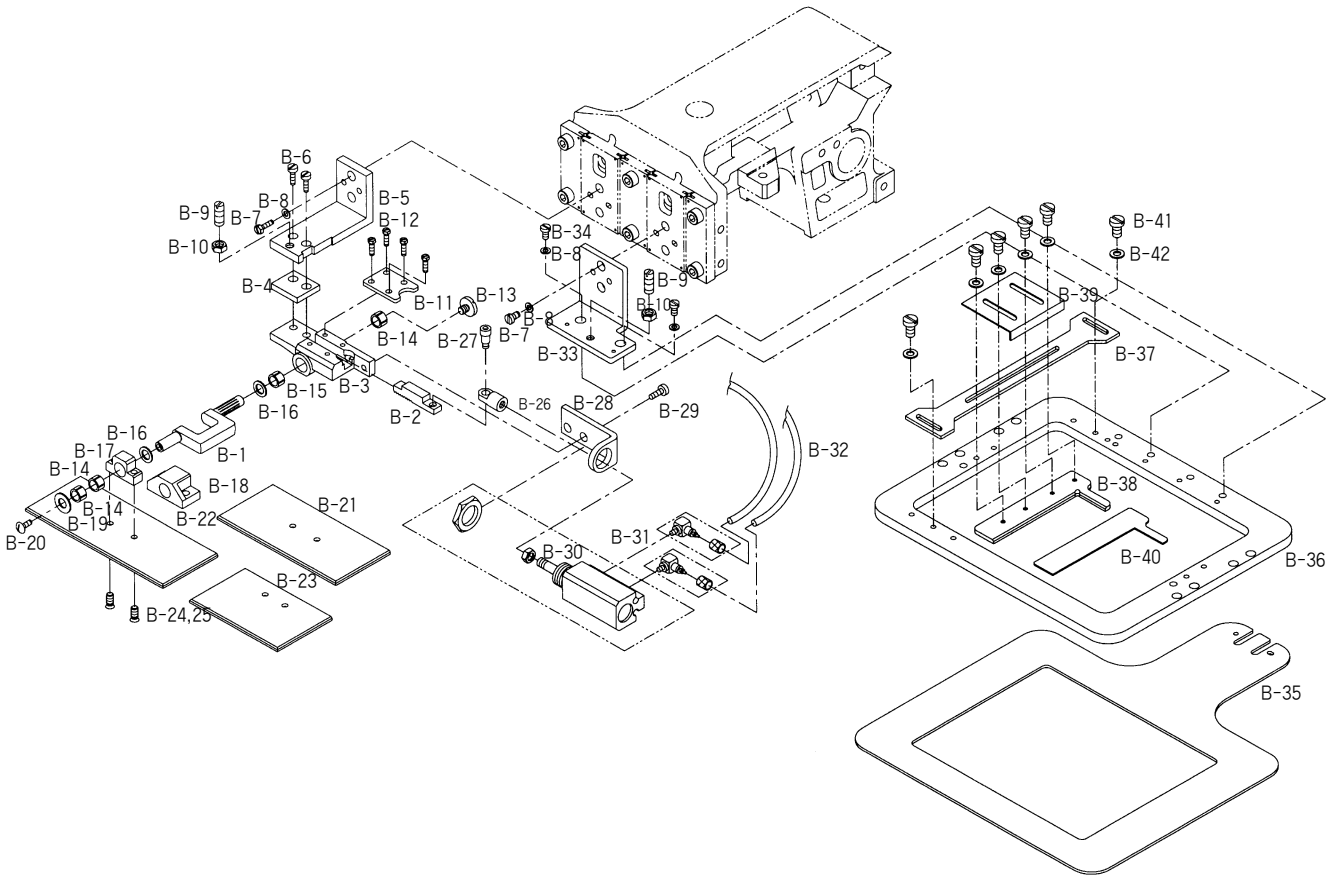
Inverting Clamp Devices Mechanism (SPS/A-1306 Series)



Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
A-1	GP-036450-00		Inverting Base	반전 베이스	1	
A-2	GP-048392-00		Inverting Crank	반전 크랭크	1	Jan.25.09
	52A002S-306H		Inverting Crank	반전 크랭크	1	
A-3	DSC-BJ004800		Screw (1/8"n=40)	죔나사(1/8"n=40)	2	
A-4	SW-0103-9011		Washer	와셔	2	
A-5	52A005S-306H		Inverting Crank Base	반전 크랭크 베이스	1	
A-6	SC-0524-4122		Screw (0.33mm n=44)	죔나사	4	
A-7	52A007S-306H		Inverting Rack	반전 랙	1	
A-8	52A008S-306H		Inverting Support Base	반전 누름 베이스	1	
A-9	GP-036449-00		Presser Plate Base	반전 누름판 베이스	1	
A-10	52A010S-306H		Feeding Frame (A)	이송 후레임(A)	1	
A-11	52A011S-306H		Feeding Frame (B)	이송 후레임(B)	1	
A-12	SC-0543-4525		Screw (0.46mm n=40)	죔나사	4	
A-13	22S021S-306H		Washer	와셔	4	
A-14	52A014S-306H		Guide Presser (A)	누름판 가이드 (A)	1	
A-15	52A015S-306H		Guide Presser (B)	누름판 가이드 (B)	1	
A-16	SC-0502-4125		Screw (0.36mm n=40)	죔나사	2	
A-17	52A017S-306H		Inverting Cylinder Bracket	반전 실린더 브라켓	1	
A-18	SC-0548-4122		Screw (0.13mm n=28)	죔나사	2	
A-19	PPP-CA005900		Inverting Cylinder Ass'y (CQ2B16-7.5D)	반전 실린더 (조) (CQ2B16-7.5D)	1set	
A-20	09A029S-811H		Inverting Cylinder Knuckle	반전 실린더 너클	1	
A-21	09A030S-811H		Inverting Rack Hinge Screw	반전 랙 힌지나사	2	
A-22	49A029S-811H		Air Elbow	에어 엘보우	2	
A-23	05A039S-811H		Air Hose (ϕ4)	에어호스	1	
A-24	01-017W-1600		Washer	와셔	2	
A-25	GP-017759-02		Inverting Presser Plate(A)	반전 누름판 (A)	1	
A-26	09A021S-811H		Inverting Presser Plate(B)	반전 누름판 (B)	1	
A-27	09A023S-811H		Screw	죔나사	2	
A-28	52A022S-306H	★	Lifting Lever Tension Spring (Invert Clamp)	올림레버 안장 스프링 (반전용)	1	

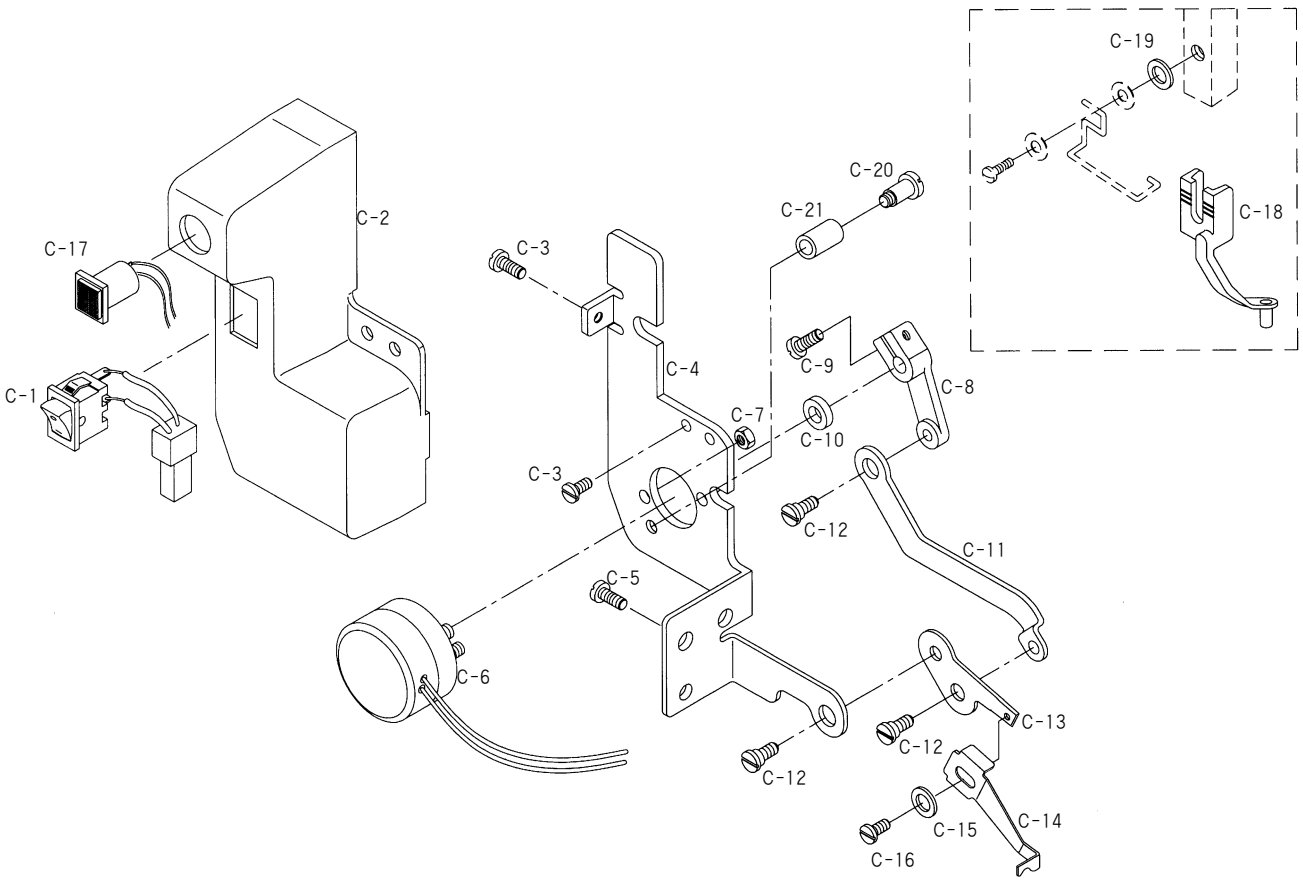
Note) Part A-28 marked with a sign ★ is exclusively used for electronic equipment.

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



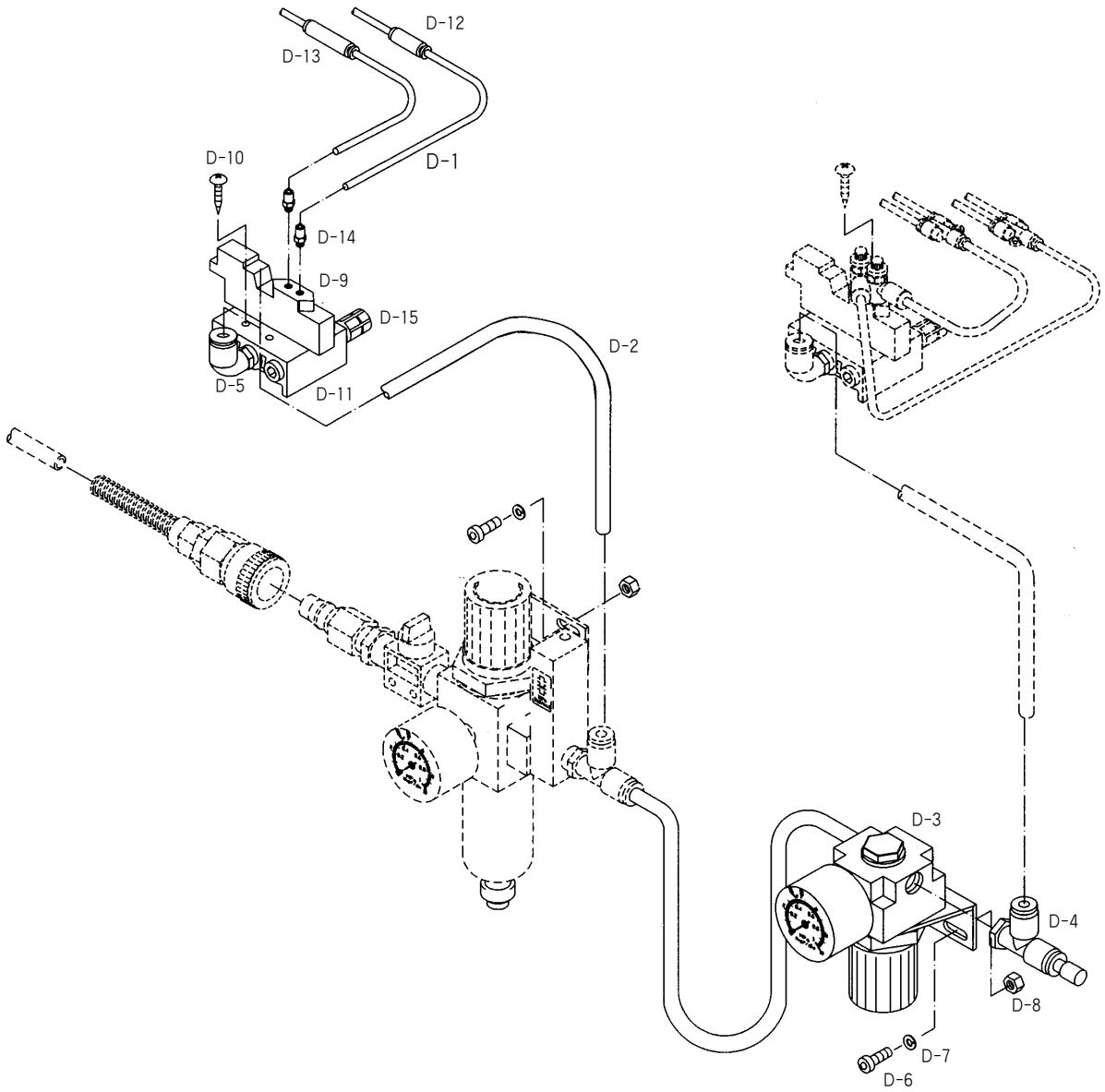
Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
B-1	GP-048393-00		Inverting Crank	반전크랭크	1	Jan.25.09
	09-A017S-811H		Inverting Crank	반전크랭크	1	
B-2	09A026S-811H		Inverting Rack	반전 랙	1	
B-3	09A021S-811H		Inverting Clamp Shaft Base	반전 클램프 축 베이스	1	
B-4	09A011S-811H		Inverting Clamp Spacer	반전 클램프 스페이셔	1	
B-5	09A010S-811H		Inverting Clamp	반전 클램프	1	
B-6	SC-0183-4122		Screw (0.61mm n=28)	죔나사	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)	죔나사	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		Invering Support Base "A"	반전 누름 베이스"A"	1	
B-18	09A019S-811H		Invering 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)	죔나사	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) 죔나사	2	
B-25	09A023S-811H		Screw For Inverting Presser Plate "D"	반전 누름판(D) 죔나사	2	
B-26	09A029S-811H		Inverting Cylinder Knuckle	반전 실린더 너클	1	
B-27	09A030S-811H		Inverting Rack Hlinge 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)	죔나사	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	죔나사	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)	죔나사	6	
B-42	01-017W-1600		Washer	와셔	6	

Wiper & Presser Foot Mechanism



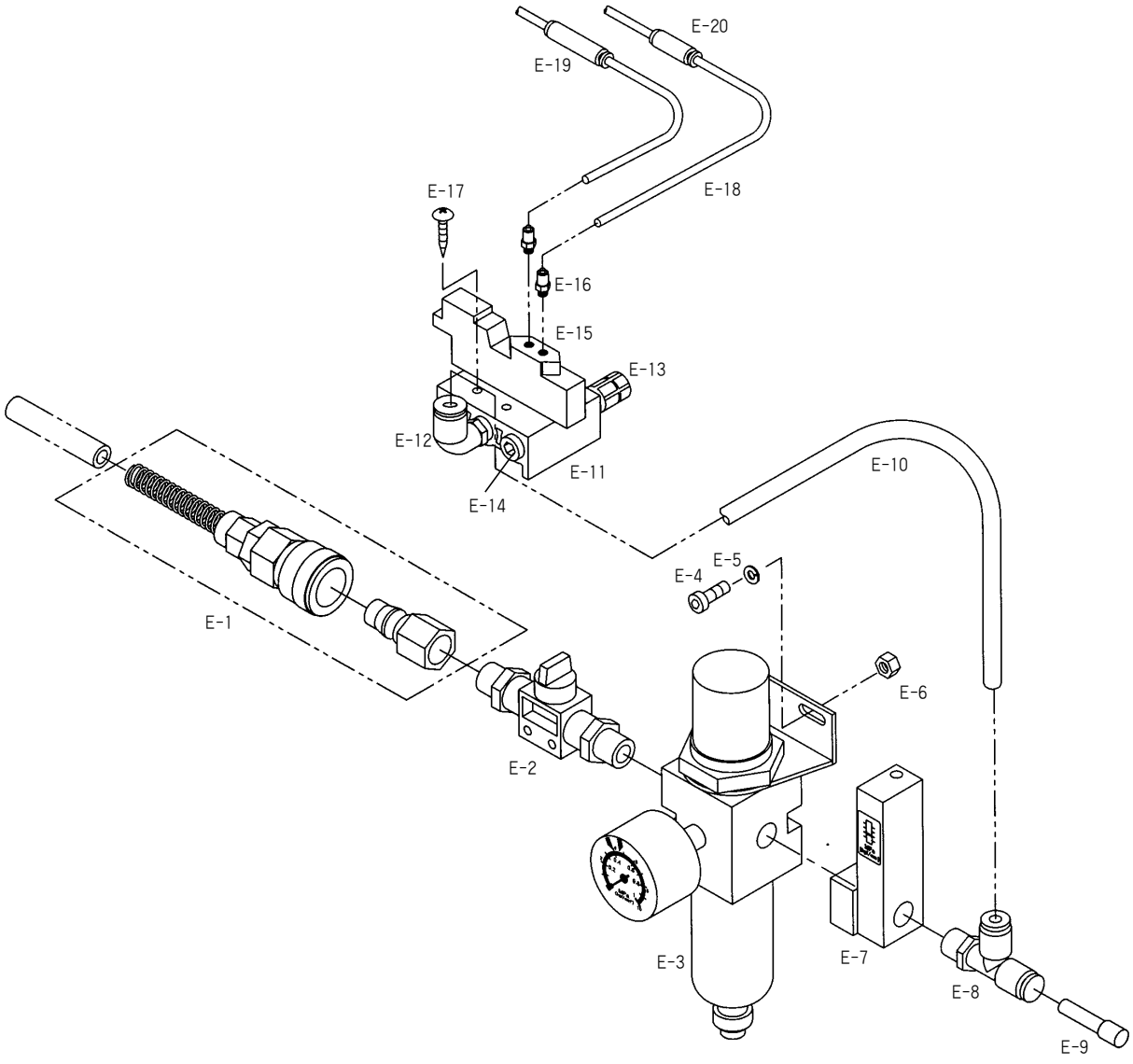
Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
C-1	11S036S-306H		Wiper On/Off Switch Ass'y	와이퍼 작동 스위치(조)	1Set	
C-2	09A004S-811H		Wiper Cover	와이퍼 커버	1	
C-3	SC-0543-4525		Screw (0.46mm n=40)	죔나사	3	
C-4	09A005S-811H		Wiper Base	와이퍼 베이스	1	
C-5	SC-0525-4122		Screw (0.46mm n=40)	죔나사	2	
C-6	09A001S-811H		Wiper Solenoid Ass'y	와이퍼 솔레노이드(조)	1	
C-7	-		Nut (M4×P0.7)	너트	1	
C-8	09A006S-811H		Wiper Crank	와이퍼 크랭크	1	
C-9	SC-0330-4422		Screw (0.61mm n=28)	죔나사	1	
C-10	06-034W-7400		Washer	와셔	1	
C-11	09A007S-811H		Wiper Connecting Rod	와이퍼 연결 로드	1	
C-12	05A045S-811H		Hinge Screw For B-11	와이퍼 연결 죔나사	3	
C-13	09A008S-811H		Wiper Installing Plate	와이퍼 부착판	1	
C-14	09A009S-811H		Wiper	와이퍼	1	
C-15	01-071W-1600		Washer	와셔	1	
C-16	SC-0502-4125		Screw (0.36mm n=28)	죔나사	1	
C-17	01S057S-306H		Emergency Switch	비상스위치	1	
C-18	09A003S-811H		Presser Foot	노루발	1	
C-19	09A002S-811H		Washer	와셔	1	
C-20	09A036S-811H		Stud for Wiper Stopper	와이퍼 스토퍼 단나사	1	
C-21	06-040R-106L		Rubber for Wiper Stopper	와이퍼 스토퍼 고무	1	

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



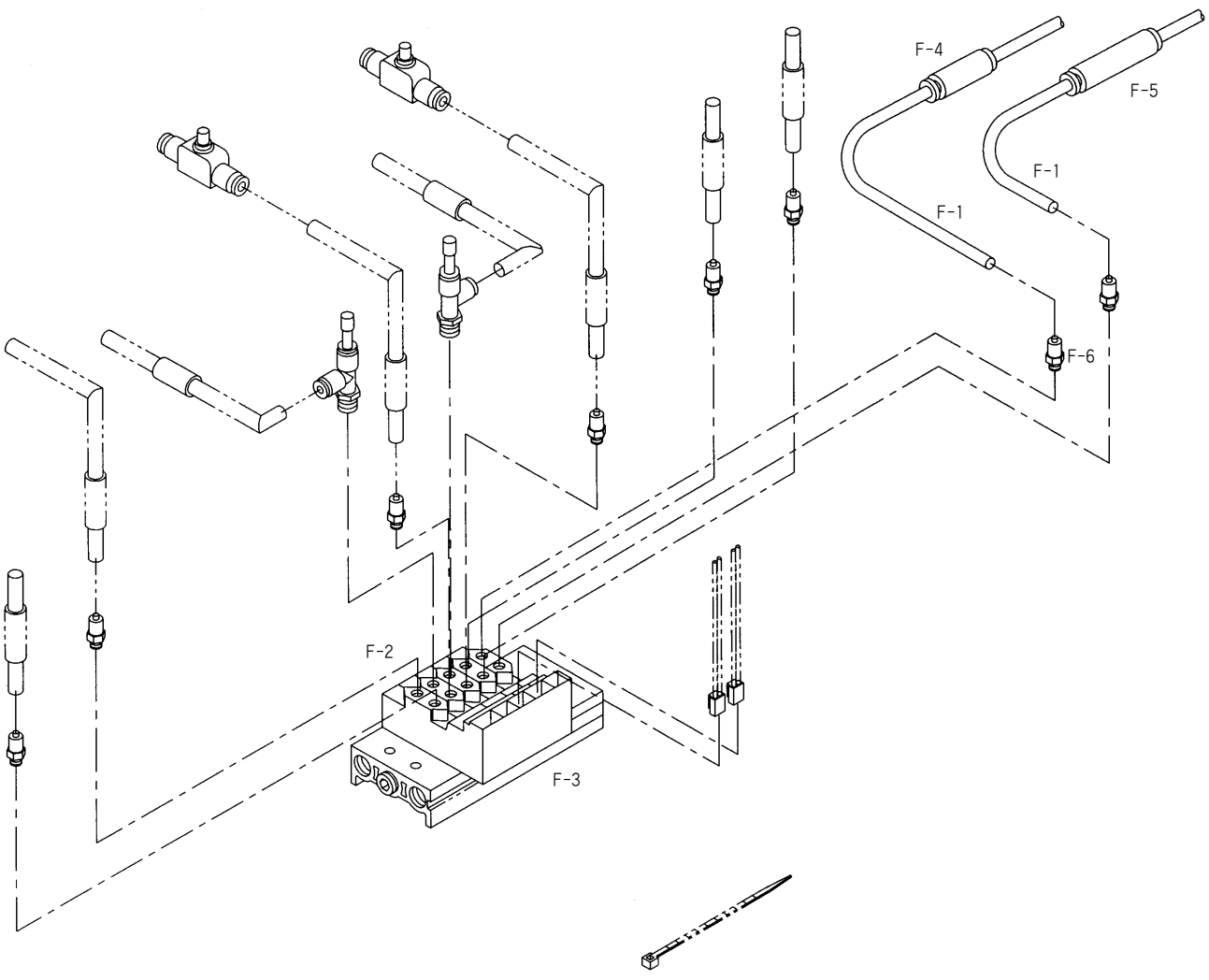
Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
D-1	49A001S-811H		Urethane Hose (ϕ4)	우레탄 호스 (ϕ4)	1	
D-2	05A052S-811H		Urethane Hose (ϕ6)	우레탄 호스 (ϕ6)	1	
D-3	49A006S-811H		Regulator	압력 조정기	1	
D-4	49A009S-811H		Tee	티	1	
D-5	49A014S-811H		Elbow Union	엘보우 유니온	1	
D-6	02031SC-2113		Screw (M5×P0.8)	죔나사	2	
D-7	10-010W-7507		Washer	와셔	2	
D-8	SN-0115-2000		Nut (M5×P0.8)	너트	2	
D-9	49A017S-811H		Solenoid Valve	솔레노이드 밸브	1	
D-10	49A018S-811H		Tapping Screw	태핑 나사	2	
D-11	22A060S-306H		Solenoid Valve Bracket	솔레노이드 밸브 브라켓	1	
D-12	49A013S-811H		Straight Union	스트레이트 유니온	1	
D-13	49A100S-811H		Check Valve	체크 밸브	1	
D-14	49A015S-811H		Hose Nipple	호스 니플	2	
D-15	49A020S-811H		Silencer	소음기	2	

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



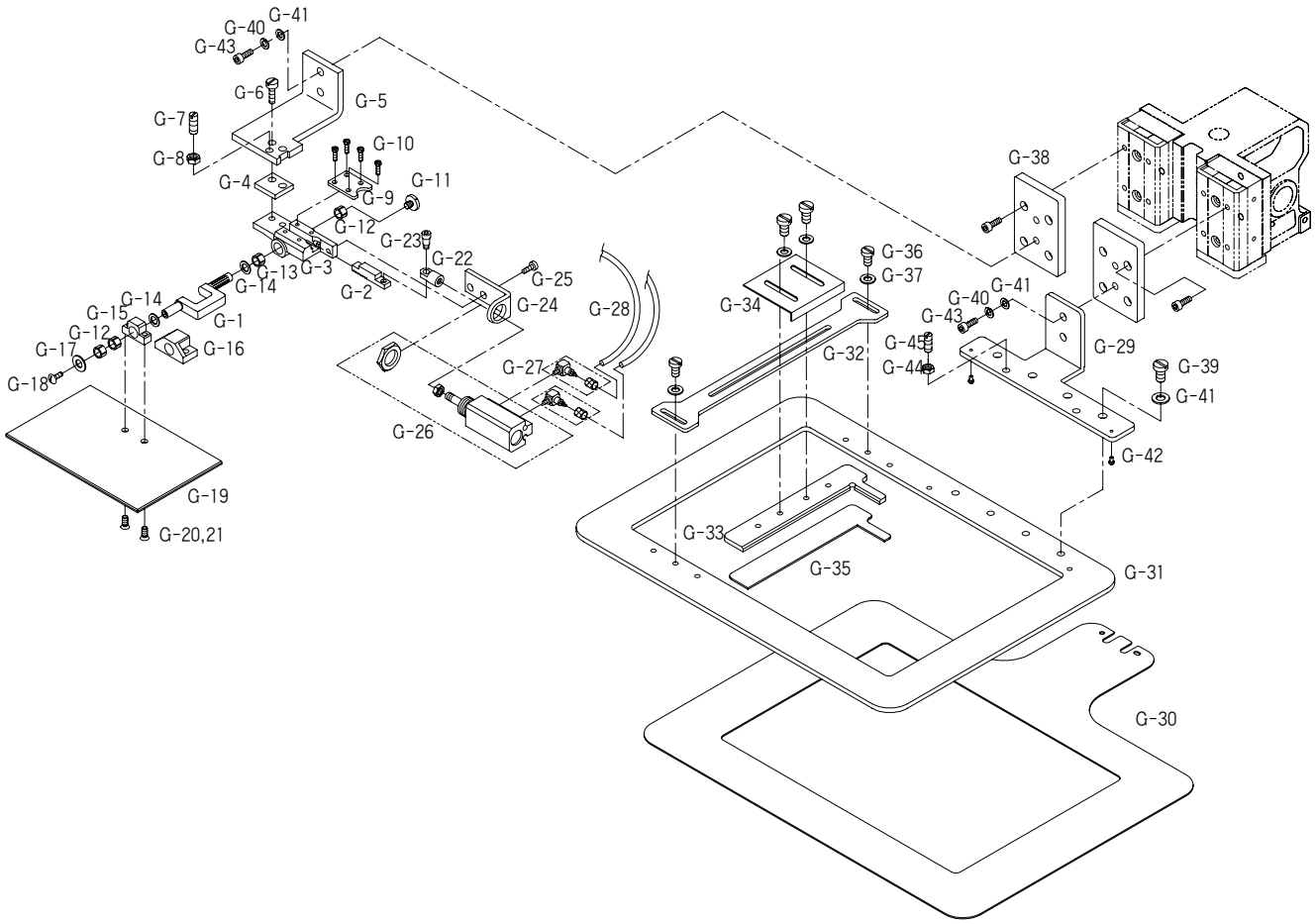
Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
E-1	49A004S-811H		Quick Joint Plug Ass'y	퀵 조인트 플러그	1	
E-2	49A005S-811H		Finger Valve	핑거 밸브	1	
E-3	49A006S-811H		Filter Regulator	압력 조정기	2	
E-4	49A008S-811H		Screw(M5×P0.8)	고정나사	2	
E-5	10-010W-7507		Washer	와셔	2	
E-6	49A009S-811H		Nut (M5×P0.8)	너트	1	
E-7	49A007S-811H		Air Pressure Switch	압력 스위치	1	
E-8	49A011S-811H		Tee	티	1	
E-9	49A013S-811H		Plug(A)	플러그 (A)	1	
E-10	05A052S-811H		Air Hose (ϕ6)	에어 호스 (ϕ6)	1	
E-11	22A060S-306H		Manifold Block	매니폴드 블럭 (1련)	1	
E-12	49A014S-811H		Elbow Union	엘보우 유니온	1	
E-13	49A020S-811H		Silencer	소음기	2	
E-14	52A014S-306H		Plug (B)	플러기 (B)	1	
E-15	52A015S-306H		Solenoid Valve	솔레노이드 밸브	2	
E-16	49A015S-811H		Hose Nipple	호스 니플	2	
E-17	49A018S-811H		Tapping Screw	태핑 나사	2	
E-18	49A001S-811GH		Air Hose (ϕ4)	에어 호스 (ϕ4)	1	
E-19	49A100S-811H		Check Valve	체크 밸브	1	
E-20	49A013S-811H		Straight Union	스트레이트 유니온	1	

Pneumatic Control Mechanism (SPS/A-1811 Series)



Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
F-1	49A001S-811H		Urethane Hose (ϕ4)	우레탄 호스 (ϕ4)	1	
F-2	49A017S-811H		Solenoid valve	솔레노이드 밸브	1	
F-3	51A048S-81H2		Manifold Block	메니폴드 블럭	1	
F-4	49A013S-811H		Straight Union	스트레이트 유니온	1	
F-5	49A100S-811H		Check Valve	체크 밸브	1	
F-6	49A015S-811H		Hose Nipple	호스 니플	2	

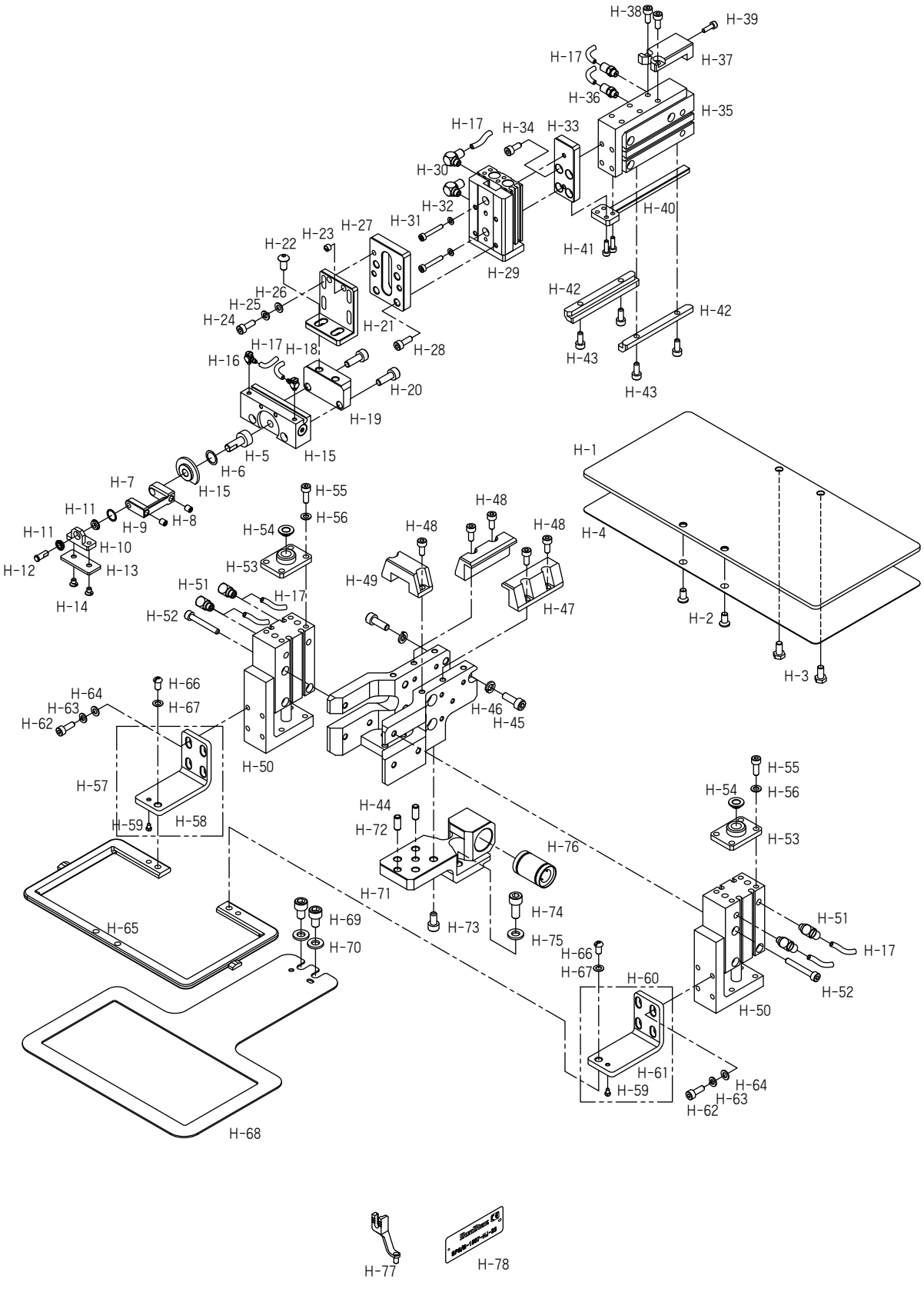
Inverting Clamp Devices Mechanism (SPS/A-2516 Series)



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 스페이셔	1	
G-5	GP-027965-00		Inverting Clamp	반전 클램프(좌)	1	
G-6	SC-0183-4122		Screw (0.61mm n=28)	죔나사	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)	죔나사	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		Invering Support Base "A"	반전 누름 베이스"A"	1	
G-16	09A019S-811H		Invering 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)	죔나사	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) 죔나사	2	
G-21	09A023S-811H		Screw For Inverting Presser Plate "D"	반전 누름판(D) 죔나사	2	
G-22	09A029S-811H		Inverting Cylinder Knuckle	반전 실린더 너클	1	
G-23	09A030S-811H		Inverting Rack Hlinge Screw	반전 랙 힌지나사	1	
G-24	09A027S-811H		Inverting Cylinder Bracket	반전 실린더 브라켓	1	
G-25	SC-0151-3118		Screw (0.61mm n=28)	죔나사	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 (ø4)	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)	죔나사	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	죔나사	4	
G-40	50-003W-2516		Spring Washer	스프링 와셔	4	
G-41	06-002W-2350		Washer	와 셔	10	
G-42	22S014S-306H		Giude 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	

H

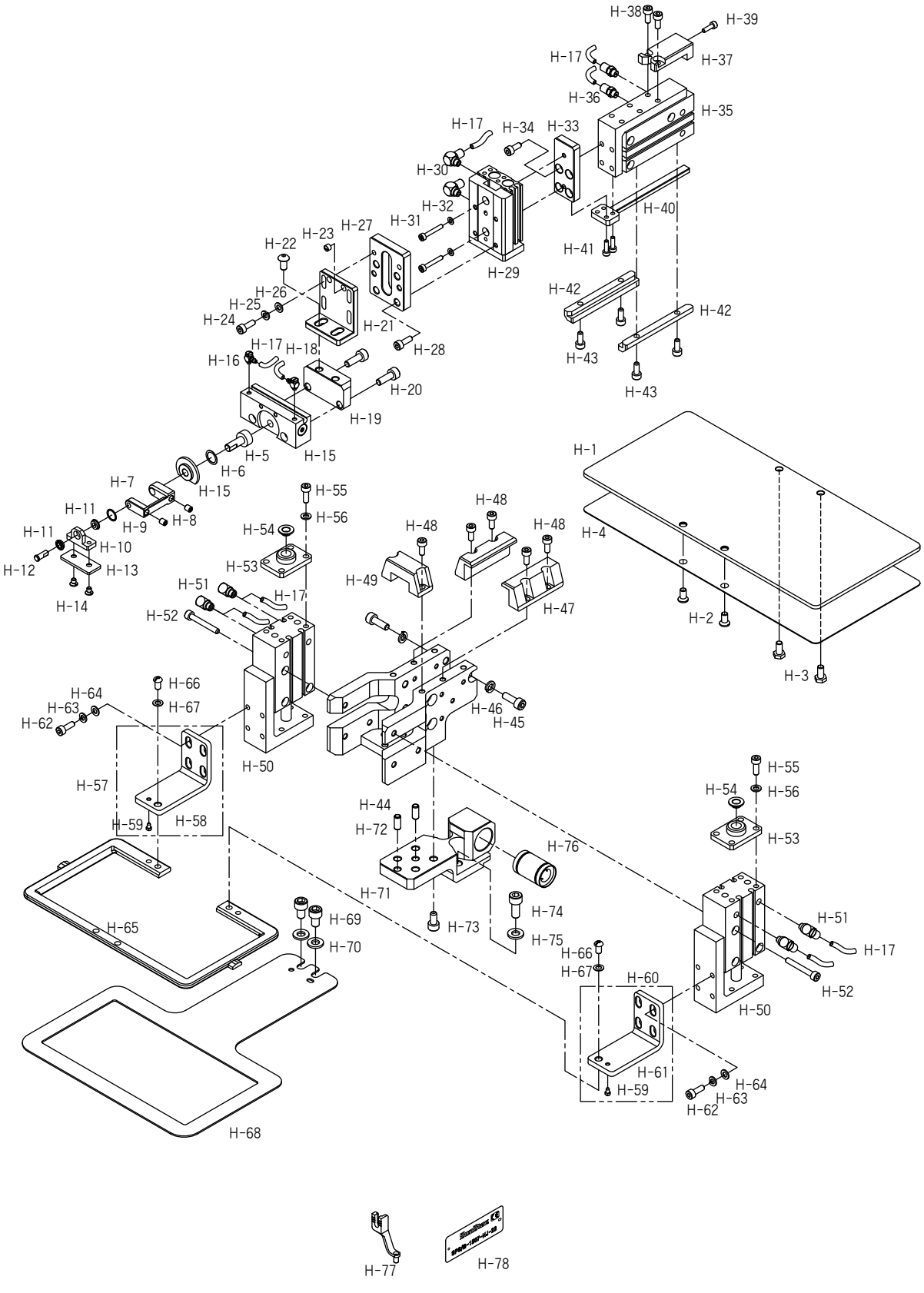
Inverting Clamp Devices Mechanism (SPS/B-1507HJ)



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)	육각구멍붙이 멈춤나사	4	
H-9	CCP-BB048801		Inverting Base Spacer	반전 베이스 스패이서	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	헤드붙이 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)	육각구멍붙이 볼트	2	
H-21	CCP-BB038802		Inverting Base	반전 베이스	1	
H-22	PSC-AG000800		Bolt (M5*P0.8,L=10)	둥근 육각구멍붙이 볼트	2	
H-23	PSC-CB005700		Set Screw (M5xP0.8,L=4)	육각구멍붙이 멈춤나사	2	
H-24	PSC-AC004900		Bolt (M4xP0.7,L=12)	육각구멍붙이 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)	육각구멍붙이 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)	육각구멍붙이 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)	육각구멍붙이 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)	육각구멍붙이 볼트	2	
H-39	PSC-AC013400		Bolt (M3xP0.5,L=10)	육각구멍붙이 볼트	1	
H-40	CCP-BB045102		Cylinder Guide	실린더 가이드	1	Oct.19.12
H-41	PSC-AC002800		Bolt (M3xP0.5,L=8)	육각구멍붙이 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)	육각구멍붙이 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)	육각구멍붙이 볼트	6	
H-46	PWS-CA000800		Spring Washer	스프링 와셔	6	
H-47	CCP-BB044001		Guide Block A	가이드 블록 A	2	

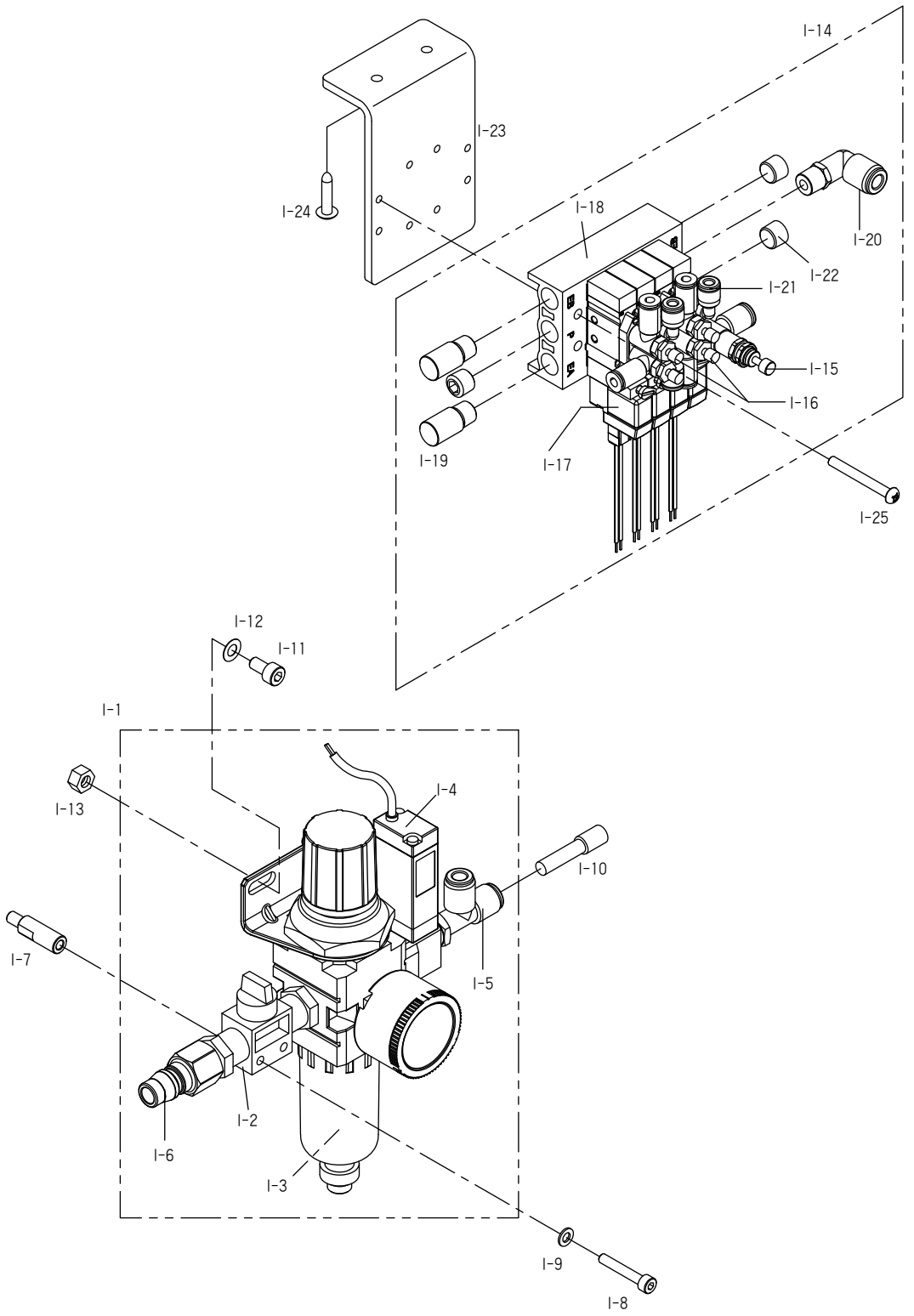
H

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



Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
H-48	PSC-AC013000		Bolt (M4xP0.7,L=8)	육각구멍붙이 볼트	6	
H-49	CCP-BB044201		Guide Locking Block C	가이드 록킹 블록 C	1	
H-50	PPP-CA009800		Air Cylinder	에어 실린더	2	
H-51	PPP-AA001100		Fitting (KJL04-M5)	피팅	4	
H-52	PSC-AC009800		Bolt (M4xP0.7,L=30)	육각구멍붙이 볼트	6	
H-53	CCP-BB039300		Slider Base	슬라이더 베이스	2	
H-54	CCP-BF000700		Clamp Shaft Holder	클램프 축 홀더	2	
H-55	PSC-AC004900		Bolt (M4xP0.7,L=12)	육각구멍붙이 볼트	8	
H-56	PWS-AA000200		Washer	원형 평와셔	8	
H-57	ACP-PS004401		Feed Plate Clamp Assembly(L)	피이드 판 클램프[좌](조)	1	
H-58	CCP-BB038301		Feed Plate Clamp(L)	피이드 판 클램프(좌)	1	
H-59	DPN-BB000500		Locating Pin	위치결정핀	2	
H-60	ACP-PS004301		Feed Plate Clamp Assembly(L)	피이드 판 클램프[우](조)	1	
H-61	CCP-BB038201		Feed Plate Clamp(R)	피이드 판 클램프(우)	1	
H-62	PSC-AC004900		Bolt (M4xP0.7,L=12)	육각구멍붙이 볼트	8	
H-63	PWS-CA000900		Spring Washer	스프링 와셔	8	
H-64	PWS-AA000200		Washer	원형 평와셔	8	
H-65	CCP-BJ014300		Upper Feed Plate Bracket	상 피이드판 브래킷	1	
H-66	DSC-BF003600		Screw (11/64" n=40, L=8)	납작 작은나사	2	
H-67	PWS-AA000200		Washer	원형 평와셔	2	
H-68	CGA-GJ001601		Lower Feed Plate	하 피이드판	1	
H-69	PSC-AA002600		Bolt (M6xP1, L=12)	육각 볼트	2	
H-70	PWS-AA000600		Washer	원형 평와셔	2	
H-71	CCP-BB039402		Feed Bracket A	피이드 브래킷 A	1	
H-72	DPN-AA026400		Pin	피이드 브라켓 맞춤핀	2	
H-73	PSC-AC001700		Bolt (M5xP0.8,L=10)	육각구멍붙이 볼트	4	
H-74	PSC-AC003200		Bolt	육각구멍붙이 볼트	2	
H-75	PWS-AA000600		Washer	원형 평와셔	2	
H-76	PBR-FA000400		Linear Bushing (SDM 10UU)	리니어 부시	1	
H-77	CGA-GC026901		Presser Foot	노루발	1	
H-78	CMB-LD028100		Model Mark	모델 마크	1	

Pneumatic Control Mechanism (SPS/B-1507HJ)

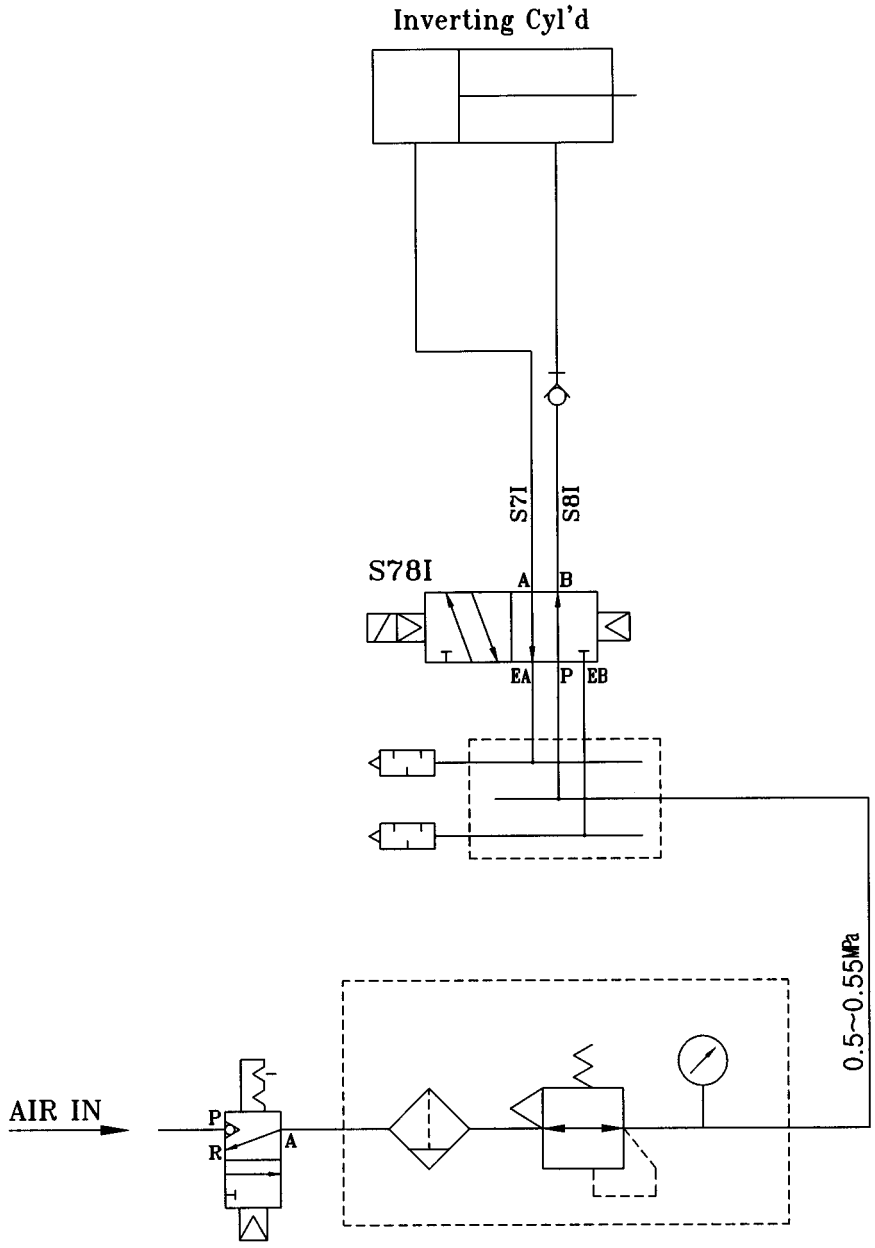


Ref. No.	Parts No.	Note	Name of Parts	품 명	Q'ty	Applied Period
I-1	AAR-PS000200		Filter Regulator Assembly	필터레귤레이터(조)	1	
I-2	PPP-AG000100		Finger Valve	핑거 밸브	1	
I-3	PPP-BD000100		Filter Regulator	필터레귤레이터	1	
I-4	PPP-BG000100		Air Pressure Switch	공압 스위치	1	
I-5	PPP-AA000400		Fitting	피팅	1	
I-6	PPP-AA000500		Fitting	피팅	1	
I-7	DSC-HB000700		Stud Screw	원형 지지나사	2	
I-8	PSC-AC002300		Bolt	육각구멍붙이 볼트	1	
I-9	PWS-AA001000		Washer	원형 평와셔	1	
I-10	PPP-AF000200		Plug	플러그	1	
I-11	PSC-AC001700		Bolt	육각구멍붙이 볼트	1	
I-12	DWS-AA002100		Washer	원형 평와셔	1	
I-13	PSN-AA000700		Nut	육각 너트	1	
I-14	AAR-PS009500		Solenoid Valve Assembly	솔레노이드 밸브(조)	1	
I-15	PPP-BF000100		Pressure Reducing Valve	감압 밸브	2	
I-16	PPP-AB000200		Speed Controller	스피드 콘트롤러	4	
I-17	PPP-BA000400		Solenoid Valve	솔레노이드밸브	4	
I-18	PPP-BB000400		Manifold	매니폴드	1	
I-19	PPP-BC000100		Silencer	소음기	1	
I-20	PPP-AA000300		Fitting	피팅	1	
I-21	PPP-AA001100		Fitting	피팅	3	
I-22	PPP-AF000100		Plug	플러그	3	
I-23	CAR-BB000100		Manifold Bracket	매니폴드 브라켓	1	
I-24	PSC-DD000100		Tapping Screw	트러스 태핑나사	2	
I-25	PSC-BA000200		Screw	냄비 작은나사	4	

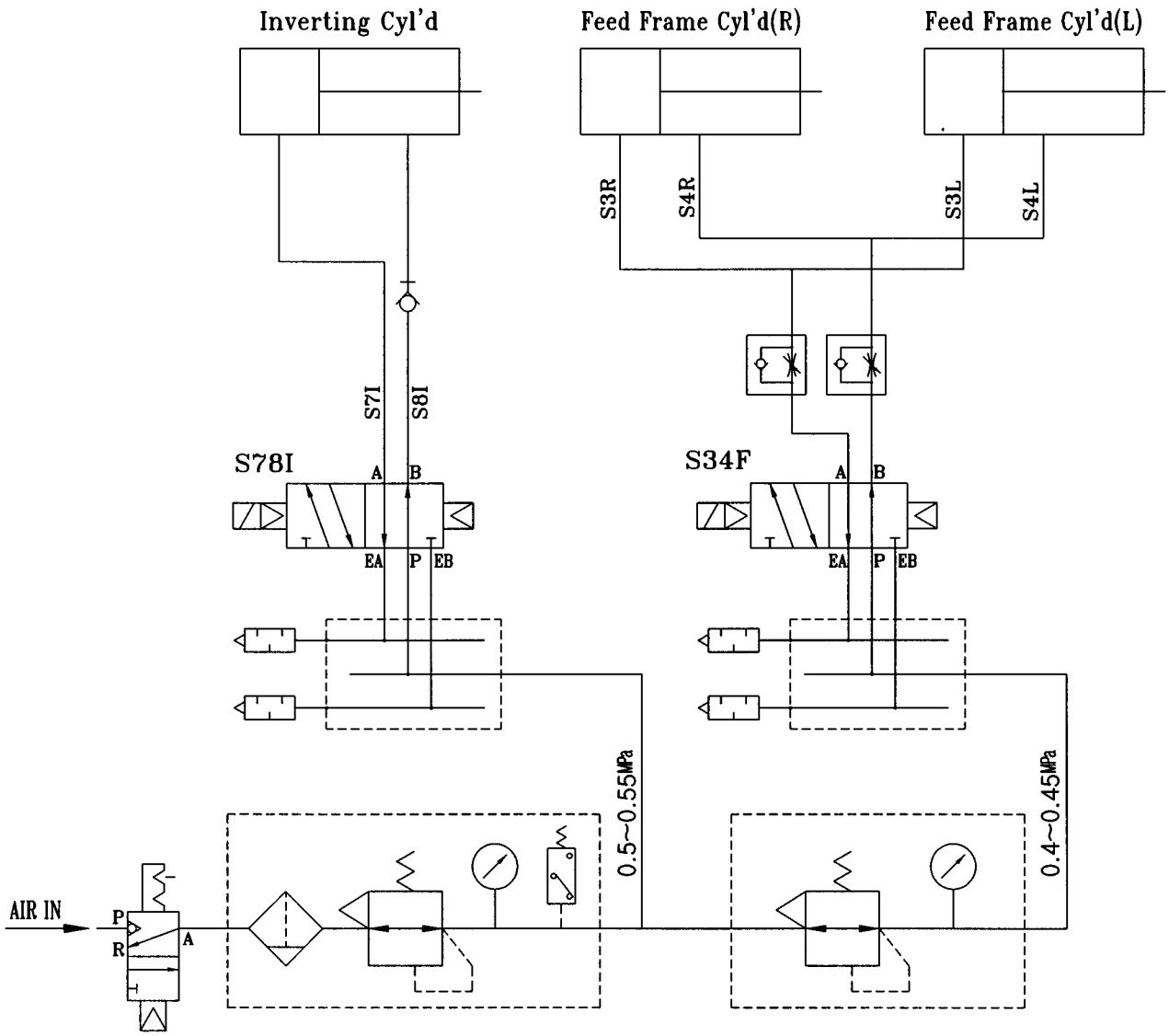
Attachments

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

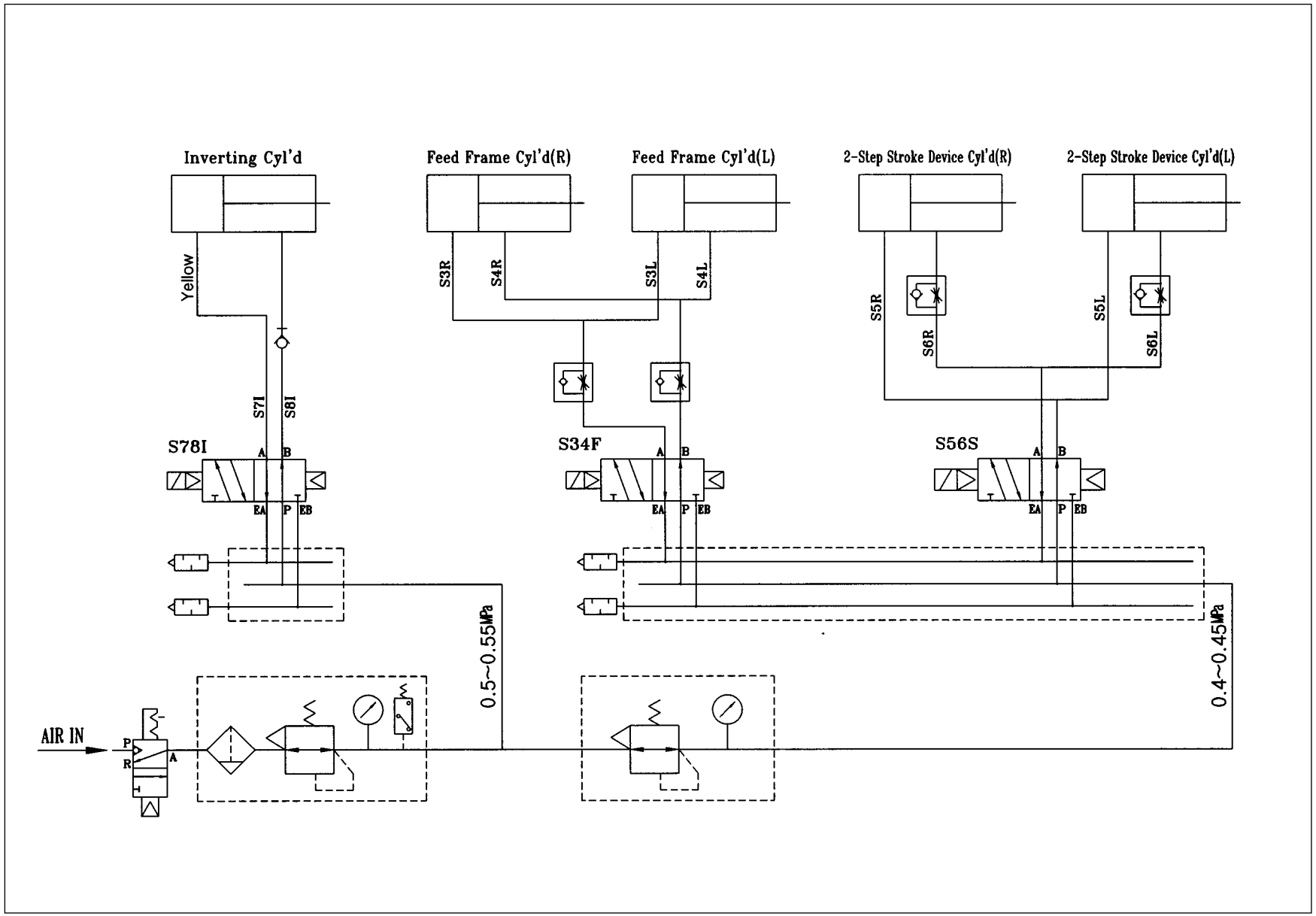
1) SPS/A-1306-HS-10



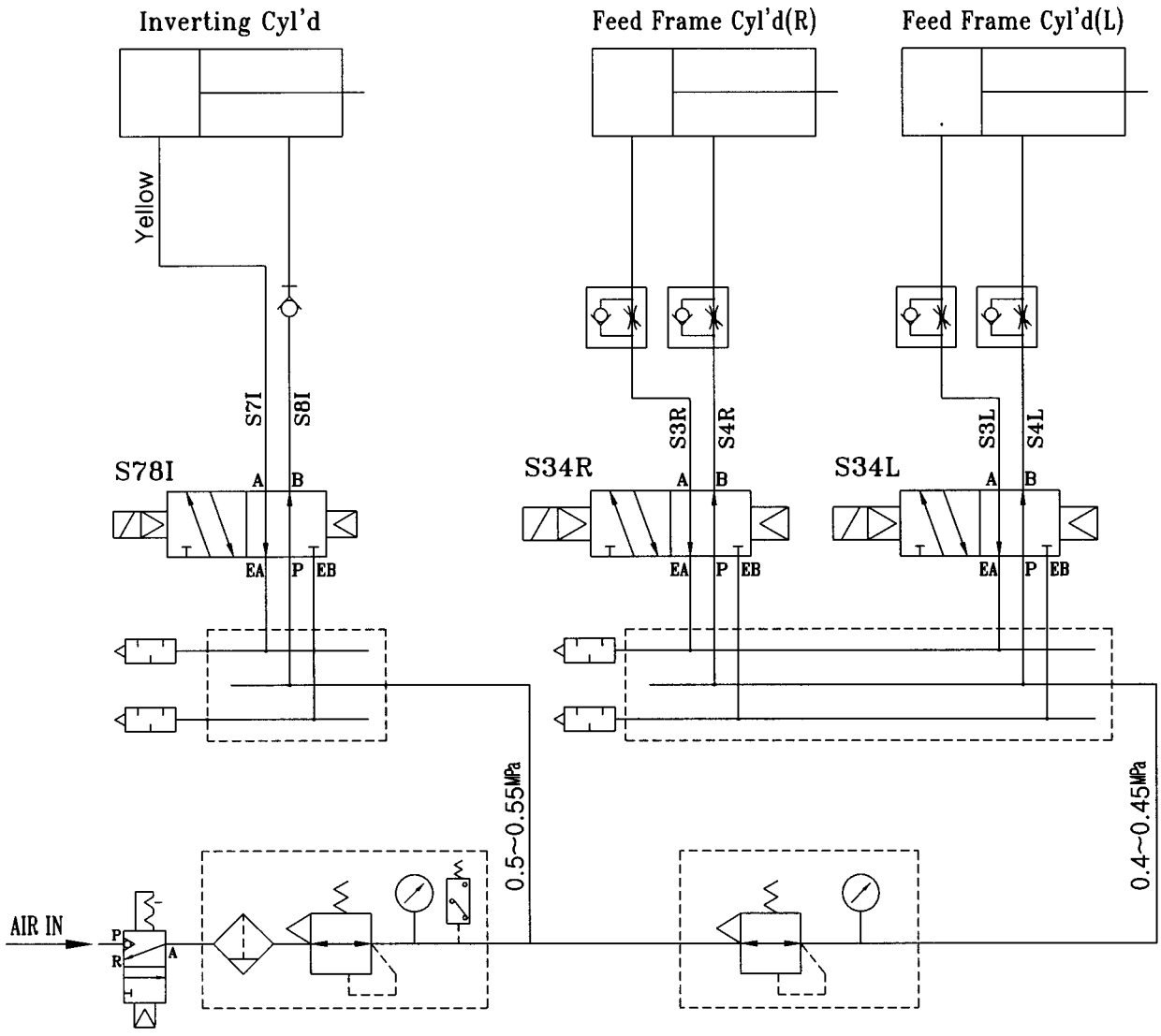
2) SPS/A-1306-HS-20



3) SPS/A-1306-HS-21

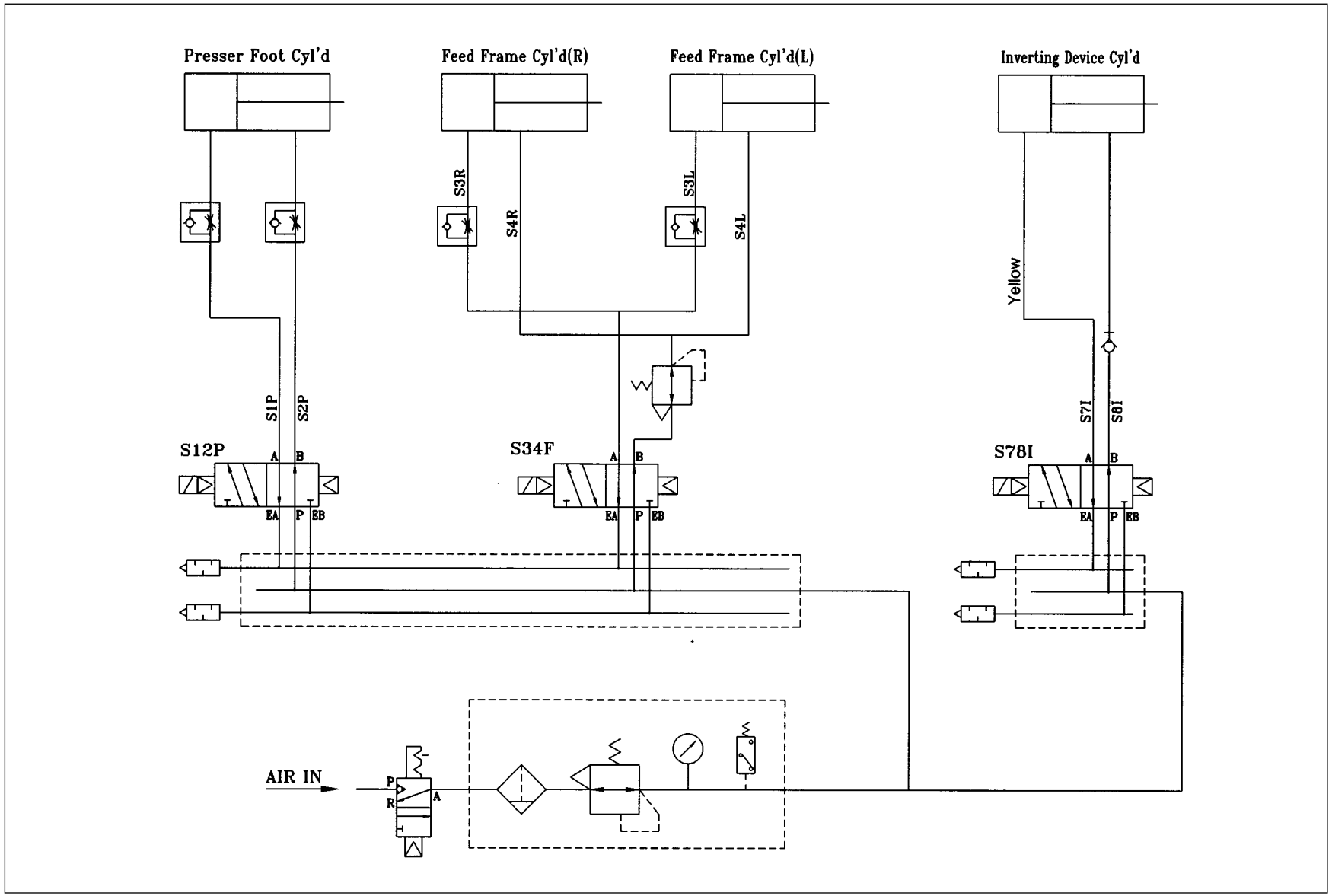


4) SPS/A-1306-HS-23(SPS/A-1306-HS-22)

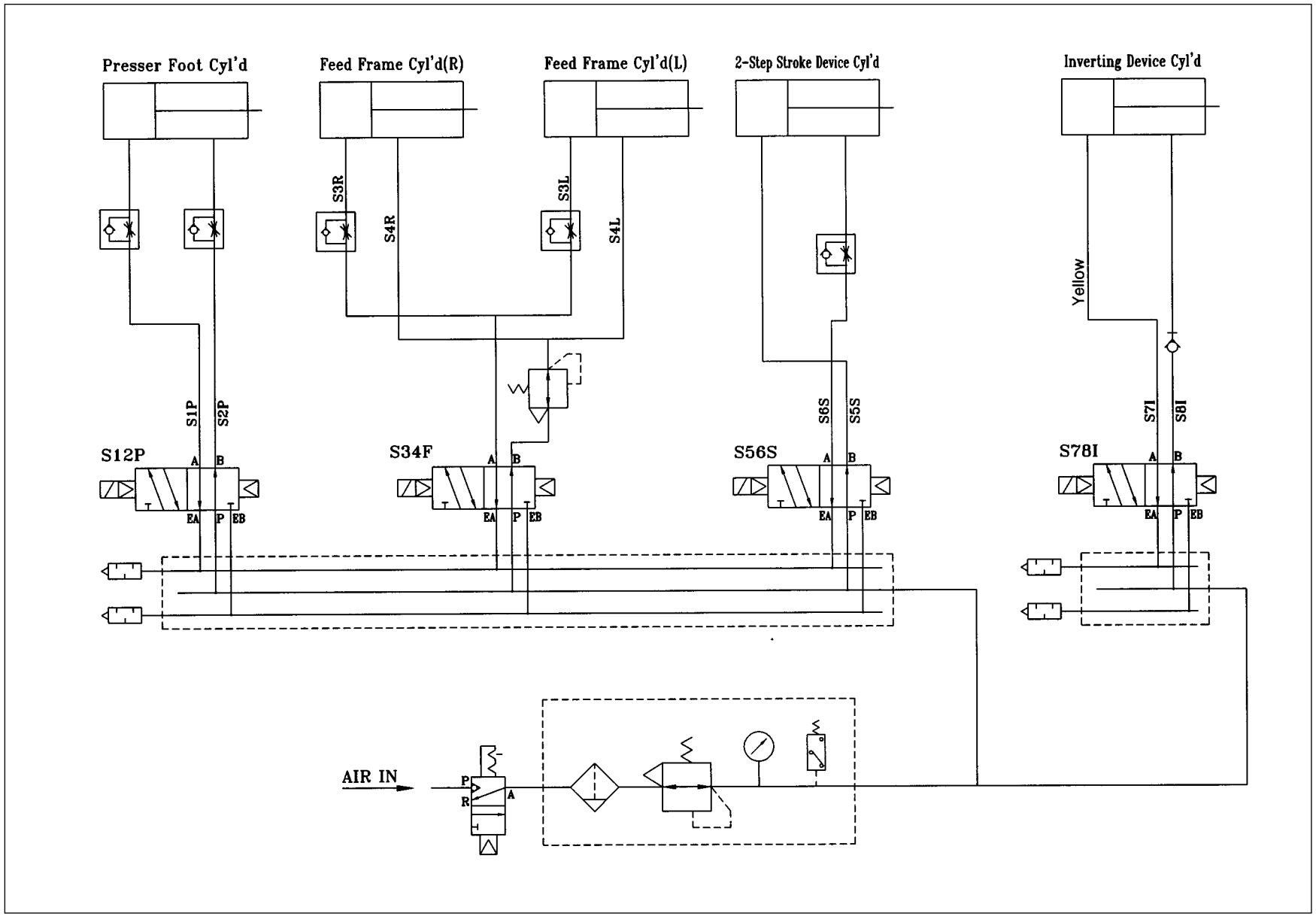


2. Pneumatic circuit diagram for SPS/A-1811 series turnover device

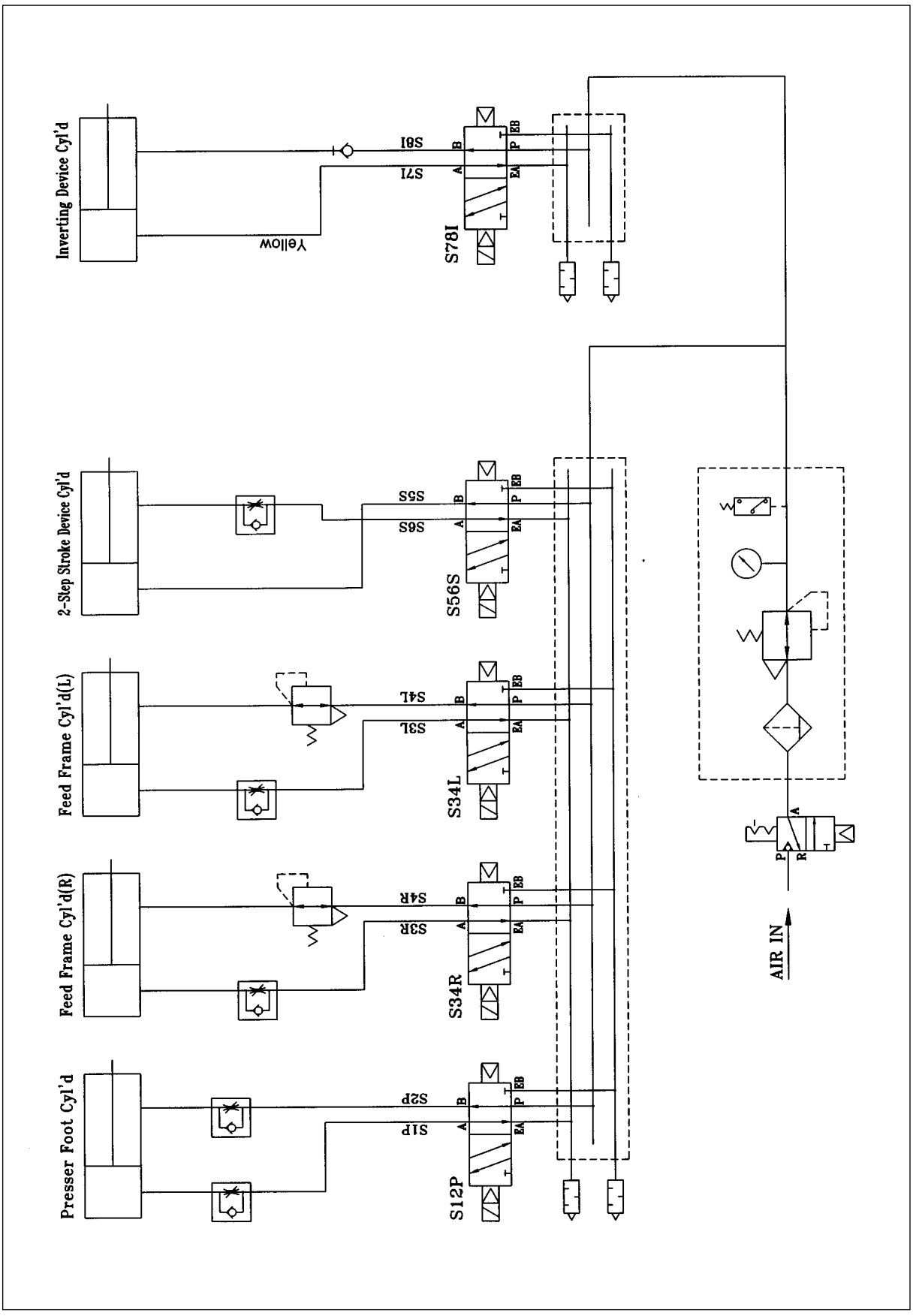
1) SPS/A-1811-HS-20



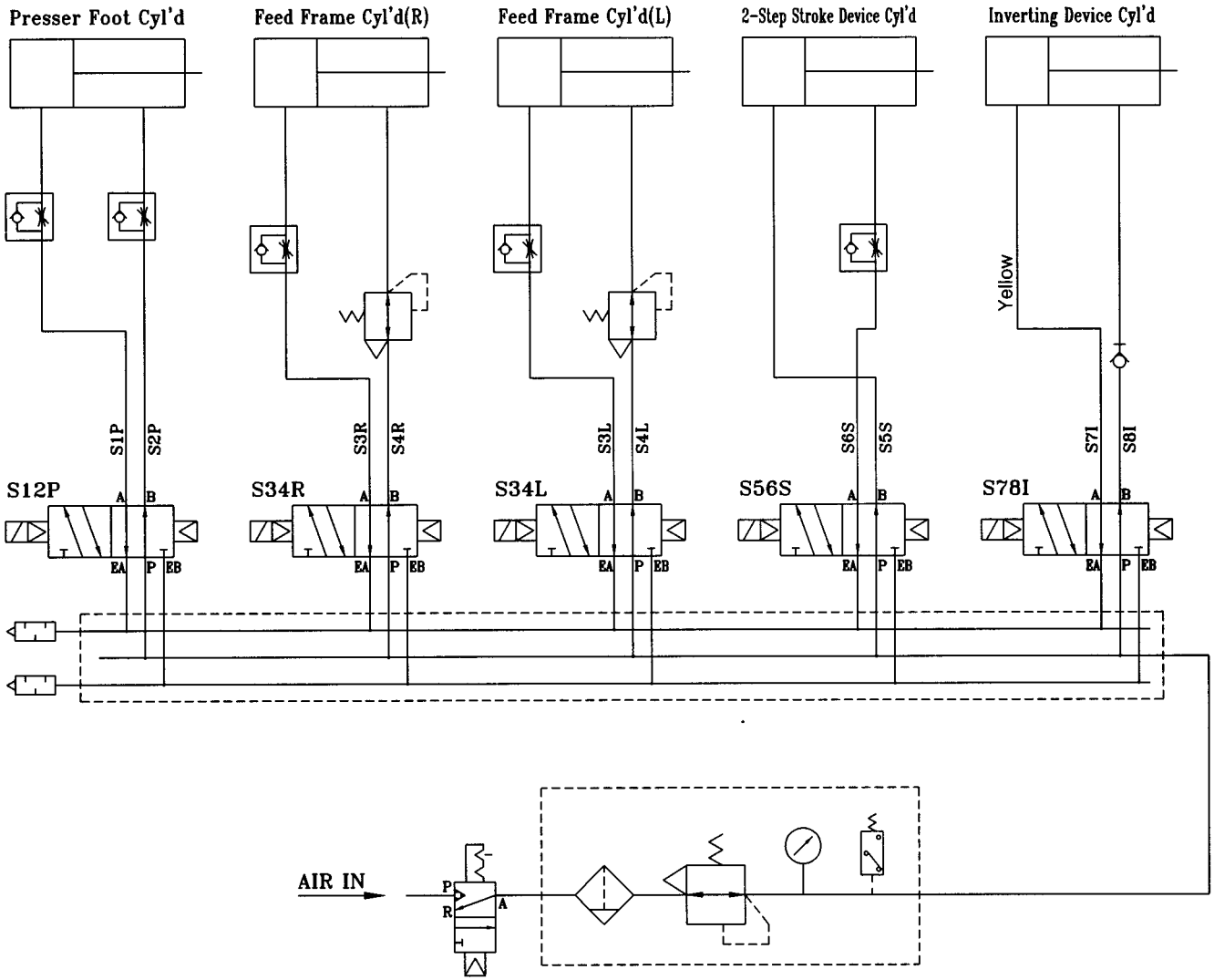
2) SPS/A-1811-HS-21



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