

S231 PN-130

24/6/09

## **PNEUMATIC NOTCHER**

### OPERATION MANUAL AND PARTS LIST

Model Type **PN-130**

MANUFACTURED DATE: 2009 05  
SERIAL NO. : 080965



### **PNEUMATIC NOTCHER**



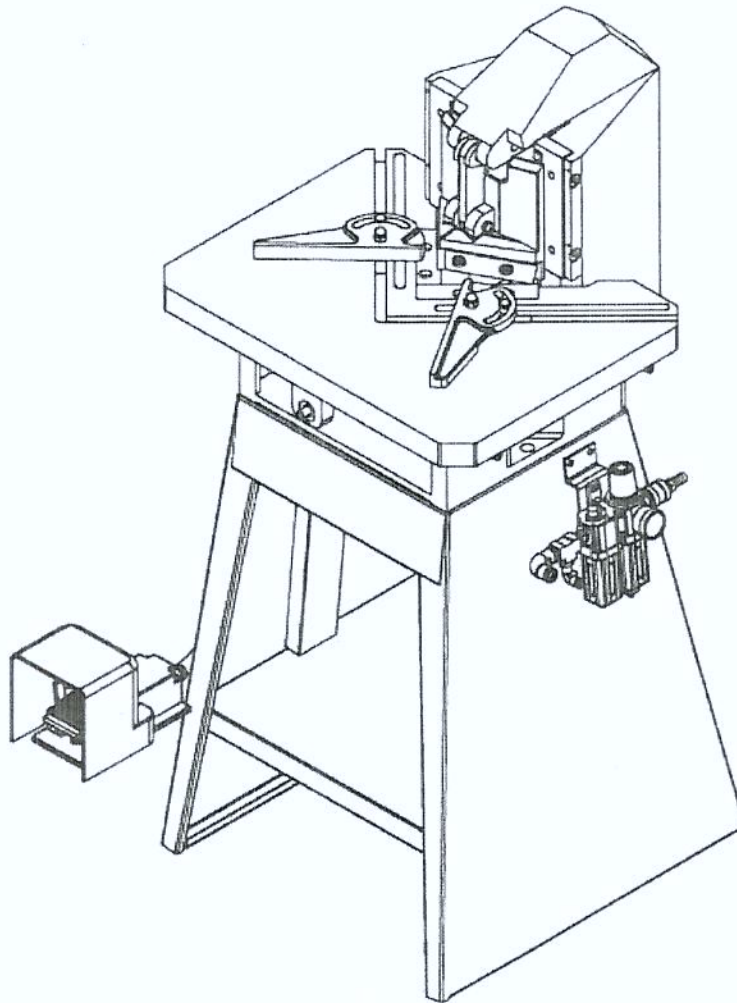
#### SPECIFICATION

Model	PN-130
Working Pressure	115 P.S.I.
Blade Length	130 x 130 mm
Table Size	600 x 460 mm
Strokes per minute	50
Working Force	2.2 Tons
Cutting Capacity:	
Mild Steel R=42 kg/mm <sup>2</sup>	3 mm / 11 GA
Mild Steel R=60 kg/mm <sup>2</sup>	2 mm / 13 GA
Noise	63 dB
Overall Dimension	660 x 712 x 1270 mm
Shipping Weight	187 kgs

Note : Based on the necessity of improving the machine, the company reserve the rights to revise specifications and dimensions.

# Pneumatic Notcher

## Operational Manual & Parts List



### ATTENTION

Operator must thoroughly read and understand this manual before operating machine. Care should be taken to follow all the safety rules and warning instructions – failure to do so may result in serious injury.

## Table of Contents

General Safety Instructions.....	3
Grounding Instructions.....	4
Technical Specifications .....	5
Installation.....	6-11
Pneumatic System Diagram.....	12
Exploded Diagram .....	13
Parts list.....	14-15

### **WARNING!!**

**This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine and equipment. Failure to read, understand and follow the instructions given in this manual could result in serious personal injury, electrocution or death.**

**The operator is responsible for proper installation in a safe environment, proper inspection and maintenance, and manual availability. Operator should fully comprehend the application of safety devices and use personal protective equipment at all times.**



**ATTENTION**



**READ THIS MANUAL BEFORE OPERATION**

**SAVE THIS MANUAL FOR FUTURE REFERENCE**

## General Safety Instructions

1. Worker must carefully follow the recommended procedures and instructions for better use and preservation of the machine.
2. Only trained personnel should operate machine. Make sure operation instructions are clearly understood and followed.
3. Do not inhibit the safety locks installed on machine.
4. Before starting the machine, make certain that there are no dangerous conditions or circumstances around the machine. Make sure that there are no unauthorized objects that are left inside or above the machine.
5. Keep the bench and work area clean and tidy to avoid any hindrance on portions of already cut material.
6. Ensure that fixed hand protections are properly installed.
7. The use of gloves is highly recommended to avoid serious injuries.
8. Wear proper apparel. DO NOT wear loose fitting clothing, neckties, rings or jewelry that can catch in moving parts.
9. Do not force machine. Work with material for which the machine or accessory was designed.
10. Press the *RED* button for immediate power termination in case of emergency.
11. Disconnect the air supply and ensure that the main switch of the machine (found in the control box) is disconnected and locked to avoid accidental starting before carrying out any maintenance.
12. Be aware of all protruding parts to avoid any possible injuries.
13. Ensure that the air hose (found where the safety device of the air filter/reducer/lubricator unit is connected) is disconnected before carrying out any maintenance work
14. Never operate machinery when tired or under the influence of drugs or alcohol. Be alert at all times when operating machine.
15. Keep Children and visitors away. Keep all children and visitors a safe distance away from the work area.
16. Never leave machine running unattended. Turn the power OFF and make sure all moving parts come to a complete stop before leaving machine unattended.
17. Keep work area clean and well lit. Clutter and dark shadows may cause accidents.
18. Use a grounded extension cord rated for machine amperage. Grounded cords minimize shock hazards. Incorrect cord size may create excessive heat. Always replace damaged extension cords.

## Grounding Instructions

Appliance must be grounded

- ♦ If there is a malfunction or breakdown, grounding provides a path of least resistance for the electric current, thus reducing the risk of electric shock
- ♦ This appliance is equipped with a cord having equipment-ground conductor and grounding plug
- ♦ Plug must be inserted into appropriate outlet
- ♦ Outlet must be properly installed and grounded in accordance with all local codes and ordinances.

### **WARNING**

**Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do NOT modify the plug provided with the appliance – if it does not fit into the outlet; have a proper outlet installed by a qualified electrician.**

*For grounded, cord-connected appliances:*

- ♦ Appliance is for use on a circuit having a normal rating more than 120 Volts
- ♦ Is factory-equipped with a specific electric cord and plug to permit connection to a proper electric circuit.
- ♦ Ensure that appliance is connected to an outlet having the same configuration as plug.
- ♦ No adaptor should be used with this appliance
- ♦ If appliance must be reconnected for use on different type of electric circuit, qualified service personnel should make the reconnection

*For a permanently connected appliance:*

- ♦ Appliance must be connected to a grounded metal, permanent wiring system
- ♦ OR an equipment grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the appliance.

## Technical Specifications

Motor.....	3 HP
Blades Length.....	200 x 200 mm
Maximum Cutting Thickness.....	3 mm (R=70 kg/mm <sup>2</sup> ) 4 mm (R=42 kg/mm <sup>2</sup> )
Stroke per minute.....	50
Noise.....	Cutting 3 mm – 75dB @ 1 m Cutting 4 mm – 85dB @ 1 m
Table dimension.....	700 x 600 mm
Switch.....	Control Box
Overall Dimensions.....	890 x 815 x 1020mm
N.W.....	395 Kgs
G.W.....	445 Kgs
CUFT.....	32'

## Installation

### STEP 1: FOUNDATION

Refer to Figure 1

- ♦ Consider existing and anticipated needs - minimum working clearances are specified in Fig. 1
- ♦ Check for damages or shortages.
- ♦ Place foot pedal control in best position for operation

**Machine is able to cut up to 3 mm**

2 mm (R=70 kg/mm<sup>2</sup>)

3 mm (R=42 kg/mm<sup>2</sup>)

### WARNING

**Do not notch material with a higher thickness and whose features are different from characteristics for which the machine was designed**

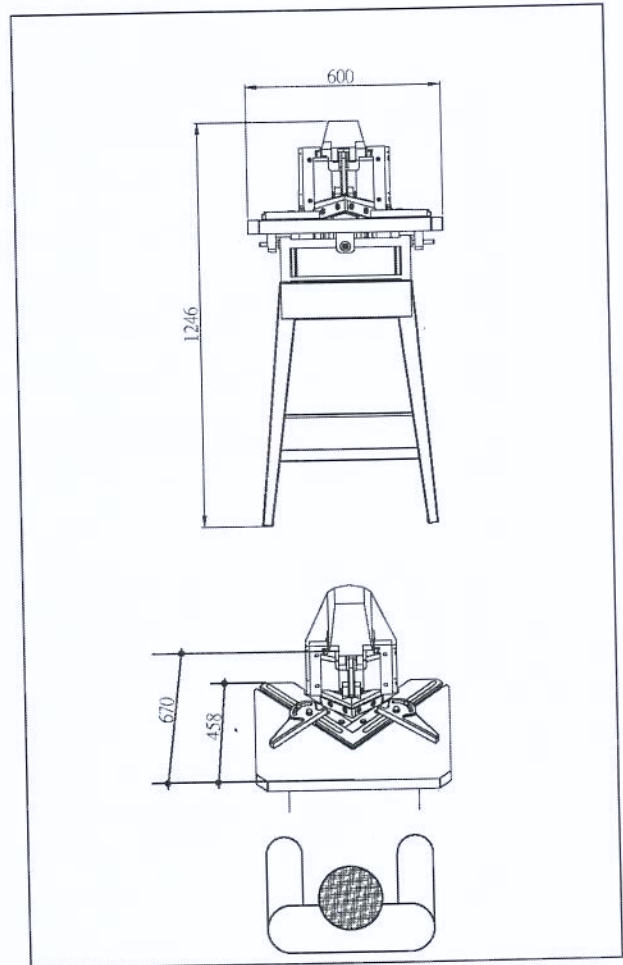


Figure 1

**Major Components:** Refer to Figure 2

1. Pressure Regulator
2. Pressure Gauge
3. Cutting Blade
4. Adjustable Fence
5. Table
6. Foot Control Pedal
7. Scrap Collecting Box (NOT INCLUDED)
8. Air Control Unit
9. Safety Cover
10. Head Set
11. Multipurpose Valve

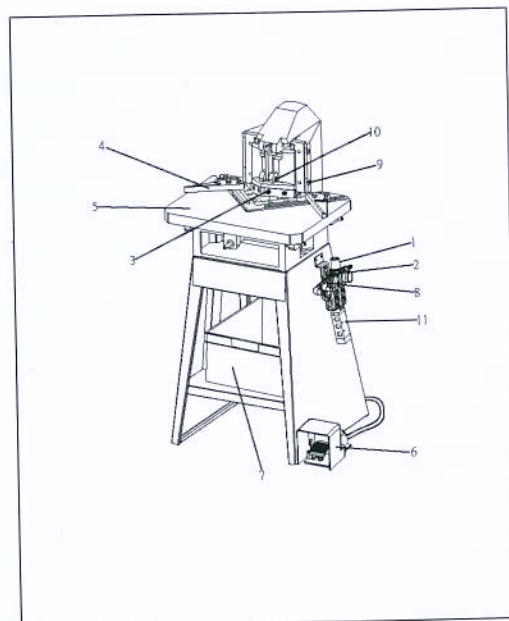


Figure 2

## STEP 2: UNPACKING

Refer to Figure 3

- ♦ Machine is carefully packed in wooden crate and sealed with plastic bag. Check for any damage before operation
- ♦ Unscrew wood screws from pallet to remove machine – place machine at chosen location
- ♦ Keep at least 1 meter distance in all four directions for work space

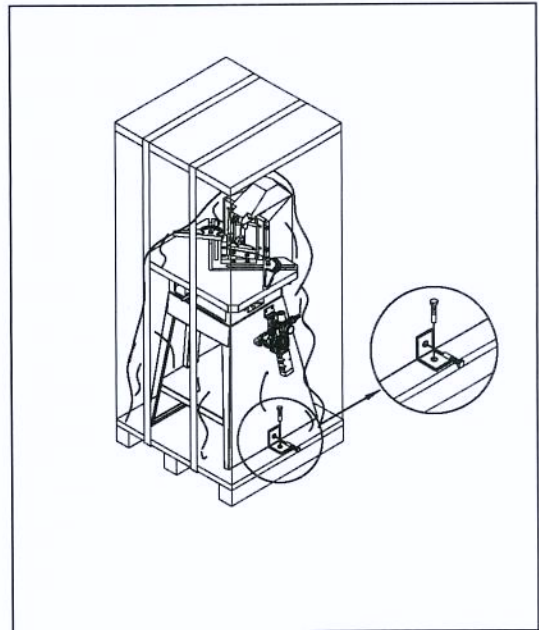


Figure 3

## STEP 3: MOVING MACHINE

Refer to Figure 4

- ♦ Properly balance the forks when lifting machine, an unbalanced machine will drop during transportation
- ♦ Once the machine lifts evenly, move it to its permanent location
- ♦ Never lift machine at edge of table or under the stand. Make sure the forks are directly under the table and balanced before lifting up

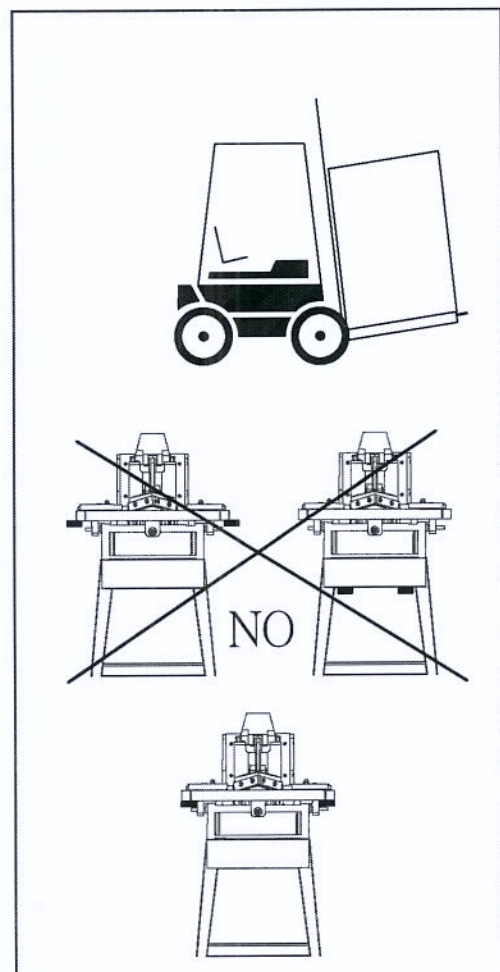


Figure 4



#### STEP 4: ACCESSORIES

Refer to Figure 5

Required accessories:

- ♦ [A] Angle indicator
- ♦ [B] 5 mm Allen Wrench
- ♦ [C] 0.3 mm Thickness Gauge

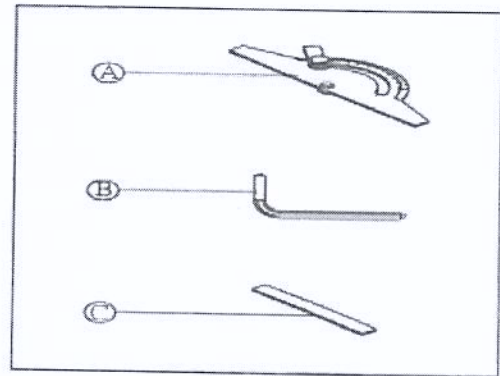


Figure 5

#### STEP 5: OPERATION Refer to Figure 6

- ♦ Place working piece on table
- ♦ Measure size by using indicators on table
- ♦ Use angle indicator to measure angle of working piece
- ♦ Use left & right squares against working piece to fix position
- ♦ Tighten the nuts

Noise:

Machine was designed and built so that continuous acoustic radiation pressure level of workplace does not exceed 87 dB.

#### **\*\*NOTE\*\***

With continuous exposure to noise, it is recommended that operator wear suitable protective equipment (ear phones or anti-noise caps)

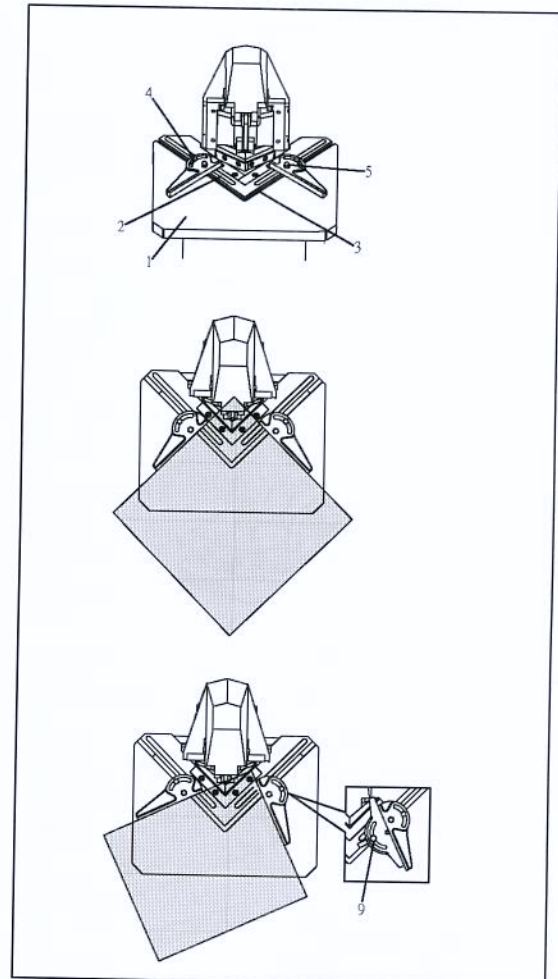


Figure 6

**STEP 6: AIR COMPRESSED  
CONNECTION**

Refer to Figure 7

- ♦ Check to make sure there is no air leaking from any hoses or connectors [no. 1&2]
- ♦ Pressure is pre-set at 7 bars (7 kg/cm<sup>2</sup> or 11 psi)
- ♦ If air pressure adjustment is required: pull and turn pressure adjust regulator [no.3] then check pressure gauge [no.4]

**CAUTION**

Compressed air to machine should be free from impurities and have low humidity to avoid damaging machine and air cylinder

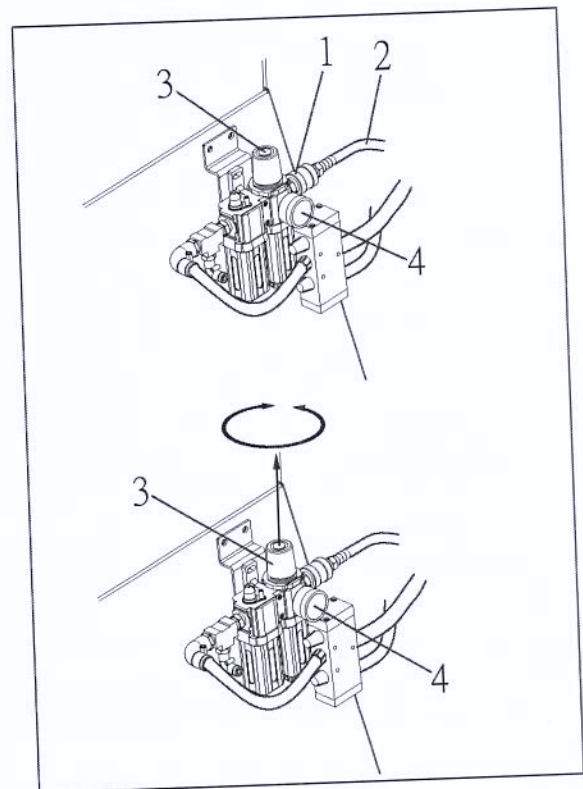


Figure 7

## STEP 7: ADJUSTMENT OF BLADE GAP TOLERANCE

Refer to Figures 8 and 9

### WARNING

**Never remove the safety cover during operation**

- ♦ Machine is pre-set to cut 3 mm ( $R=42 \text{ kg/mm}^2$ ) with 0.3 mm blade gap tolerance
- ♦ It is necessary to intervene when notching metal sheets thinner than 2 mm ( $R=70 \text{ kg/mm}^2$ ) – readjust blade gap tolerance as follows:
  1. Lower notching head by keeping pedal pressed
  2. Pull the safety switch located on air control unit
  3. Wait until air pressure is completely released
  4. Release pedal
  5. Disconnect air supply hose
  6. Remove safety cover [no. 1] by unscrewing screws [no.2] and loosening screws [no.3]

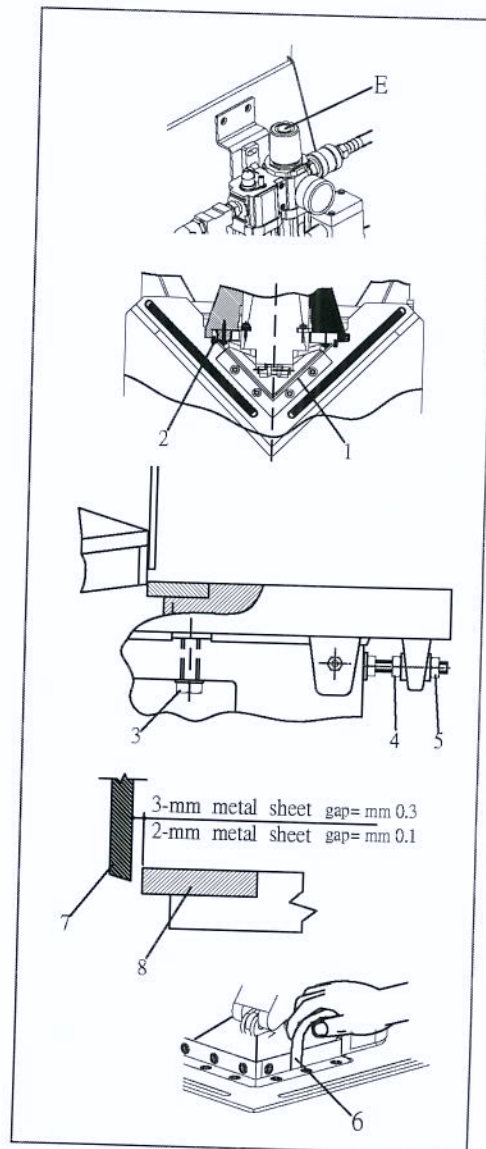


Figure 8

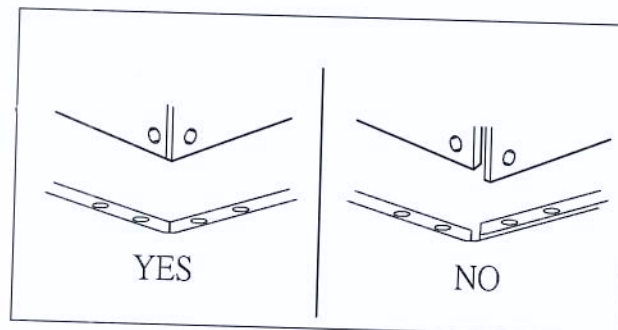


Figure 9

## STEP 8: MAINTENANCE, CLEANING AND LUBRICATION

### CAUTION

Disconnect the compressed air supply and ensure that the power switch is in the OFF position before doing any service or maintenance

- ♦ Clean worktable every time after completing work
- ♦ Periodically check to make sure that there is no condensation inside the filter [no.3] which may jeopardize machine operation

### DO NOT USE WATER JET FOR CLEANING

- ♦ Inject lubrication oil holes [no.A] and on connector rod [no.B] daily to keep machine running smoothly
- ♦ Check oil level in lubricator [no.1] and fill with high viscosity oil
- ♦ Top up lubricator [no.1] as follows:
  1. Blow out air and disconnect supply hose by acting on the coupling
  2. Push the safety switch and turn container [no.4] counter clockwise
  3. Top up and restore to normal condition.
- ♦ Periodically check oil flow in lubricator [no.1] one drop every five cycles
- ♦ In case of incorrect lubrication, use a

screwdriver , turn lubricator screw [no.2] clockwise to decrease oil flow – counter clockwise to increase oil flow

### REPLACE OIL LUBRICATOR MONTHLY

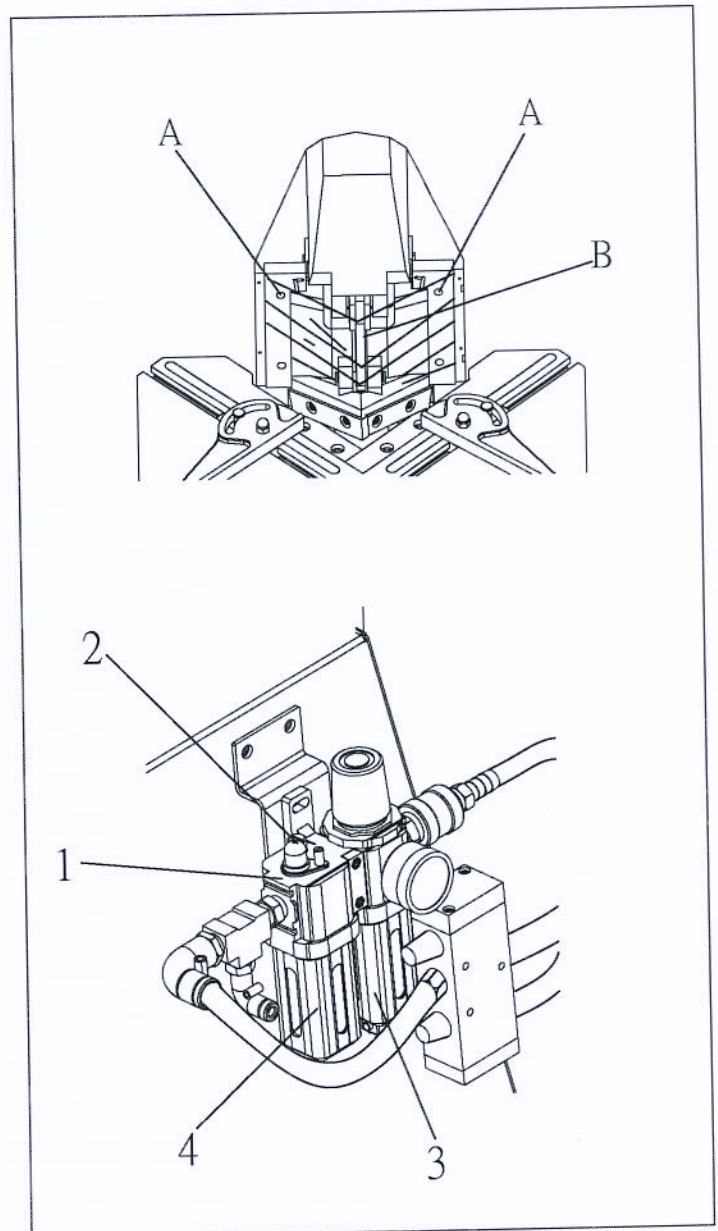
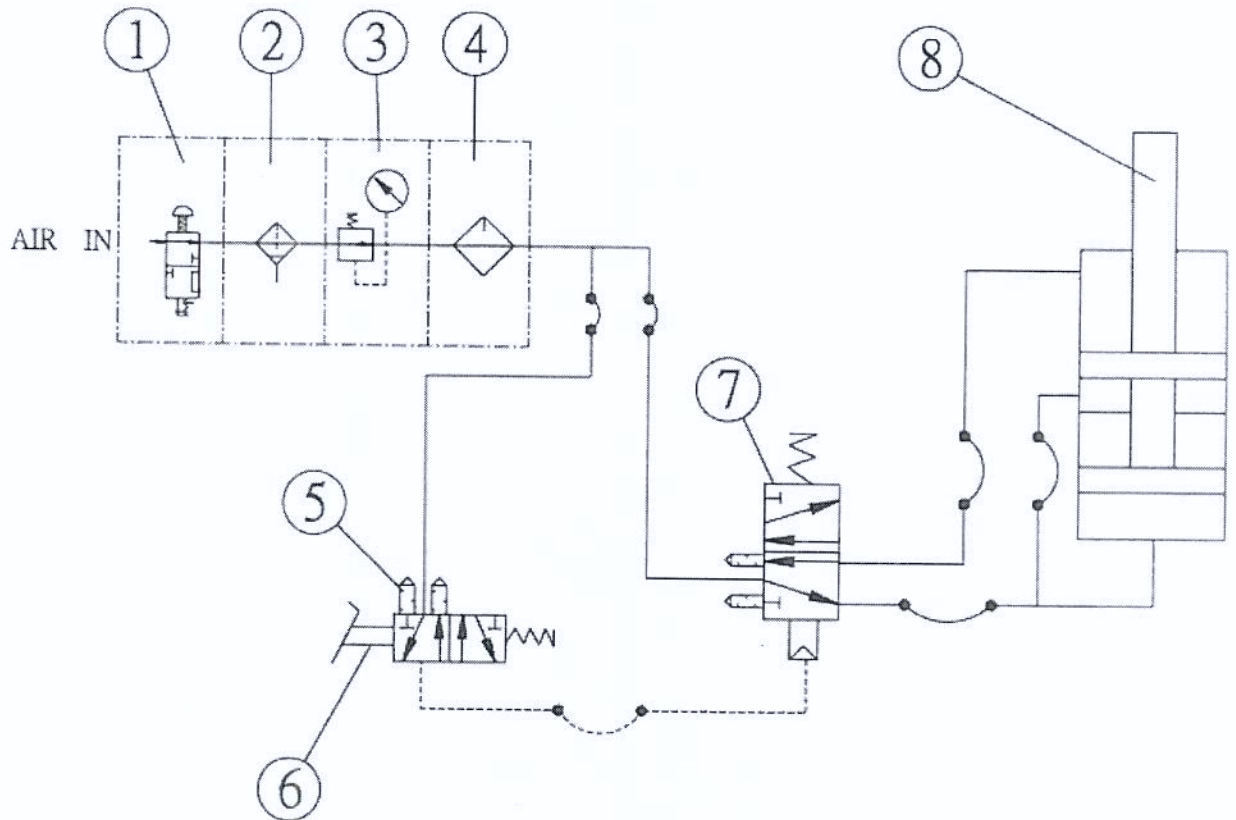


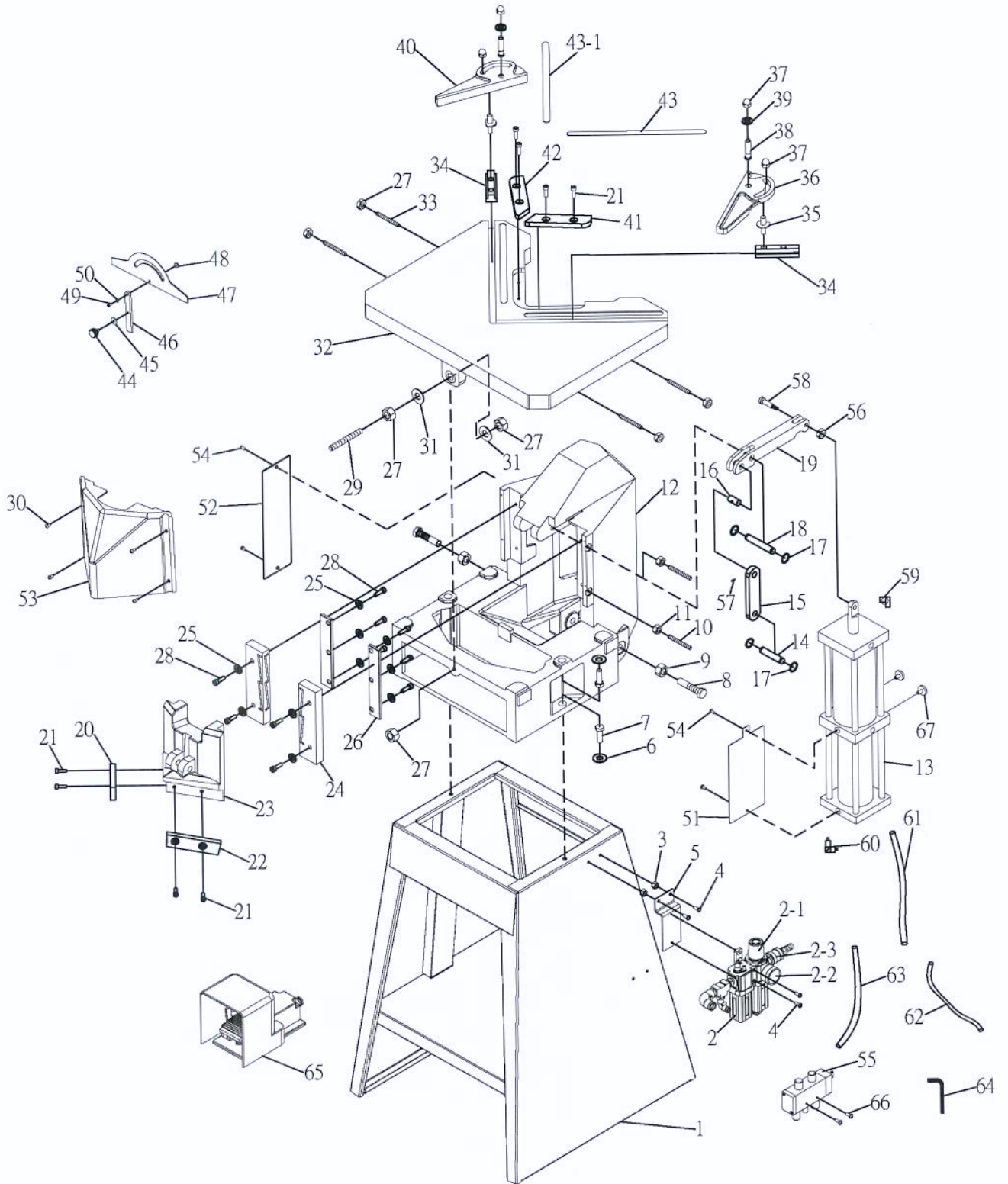
Figure 10

## PNEUMATIC SYSTEM DIAGRAM



1. Air drain valve switch
2. Condensate drain filter
3. Pressure reducer valve
4. Lubricator
5. Noise reducer
6. Foot control pedal
7. Multipurpose valve
8. Air cylinder

# Exploded Diagram



## Parts List

NO.	Description	Specification	Q'TY
1	Stand		1
2	Air Control Unit		1
2-1	Pressure Regulator		1
2-2	Pressure Gauge		1
2-3	Safety Switch		1
3	Nut	M6	2
4	Phillip Head Screw	M6*12	4
5	Fixing Plate		1
6	Washer	1/2*φ24*2.5	4
7	Hex Head Bolt	M12*40	4
8	Hex Head Bolt		2
9	Nut	M16*1.5	2
10	Set Screw	M8*20	2
11	Nut	M8	2
12	Head Set		1
13	Air Cylinder		1
14	Pin (Short)		1
15	Connection Plate		1
16	Pin		1
17	C-Ring	S-14	4
18	Spindle		1
19	Connection Kit		1
20	Cutter-D		1
21	Thin Cap Screw	M8*20	8
22	Cutter-E		1
23	Cutting Head Set		1
24	Block		2
25	Washer	5/16*19*3	10
26	Cutter-C		2
27	Nut	M12	7
28	Cap screw	M8*35	10
29	Thread	M12*120	1
30	Phillip Head Screw	M4*20	4
31	Washer	1/2*25*2	1
32	Table		1
33	Set Screw	M12*60	4
34	T-Type Key		2
35	Connection Pin		2
36	Right Square		1
37	Nut	M10*1.5	4
38	Fixing pin		2
39	Washer	3/8*φ22*2	4
40	Left Square		1

41	Lower Right Cutter		1
42	Lower Left Cutter		1
43	Left Indicator		1
43-1	Right Indicator		1
44	Knob	M6*10	1
45	Washer	1/4" *18*1.5	1
46	Rod		1
47	Angle Indicator		1
48	Knob		1
49	Phillip Head Screw	M4*8	1
50	Washer	5/32*10*1	1
51	Cover Plate		1
52	Air Cylinder Cover		1
53	Safety Cover		1
54	Bottom Head Screw	M4*10	2
55	Multipurpose Valve		1
56	Lock Nut	M8	1
57	Set Screw	M6*8	1
58	Hex Head Bolt		1
59	Hose Connector		1
60	Hose Double Head Connector		1
61	Hose A		1
62	Hose B		1
63	Hose C		1
64	Allen Wrench	5m/m	1
65	Foot Control Pedal		1
66	Phillip Head Screw	M5*40	2
67	Noise Reducer		2