OPERATION MANUAL

SWV-1614

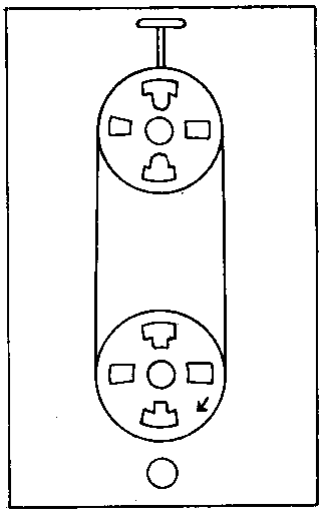
SWV-1614
VERTICAL BAND SAW MACHINE
<Index>

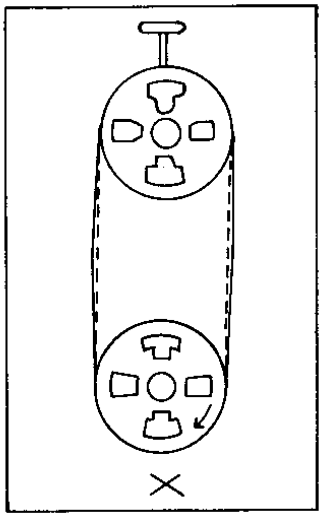
SWV-1614 Vertical Band Saw Machine
Specification

Model				SWV-1614
Cutting Capacity	Max. Sawing Thickness		mm	330
	Max. Throat Depth		mm	380
Table	Table Dimensions		mm	600 × 500
	Inclination	Front & Rear		10°
		Left & Right		15°
Saw Blade	Size	Length	mm	3460
	Speed	Max.	m/min	460
		Min.		30
Motors Output	Saw Blade		KW(HP)	0.75KW (1HP)
Welding capacity			mm	5 ~ 16
Dimensions		L×W×H	mm	1100 × 877 × 1885
Net Weight			kg	410

1. FIX SAW BLADE

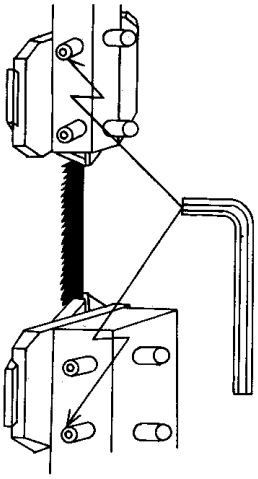
Low down the wheel and put the saw blade on the wheels. Then turn the elevating hand wheel until saw blade is in suitable tightness.

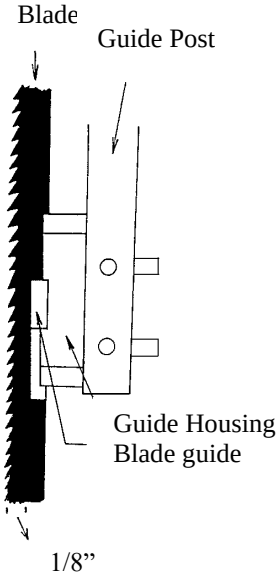




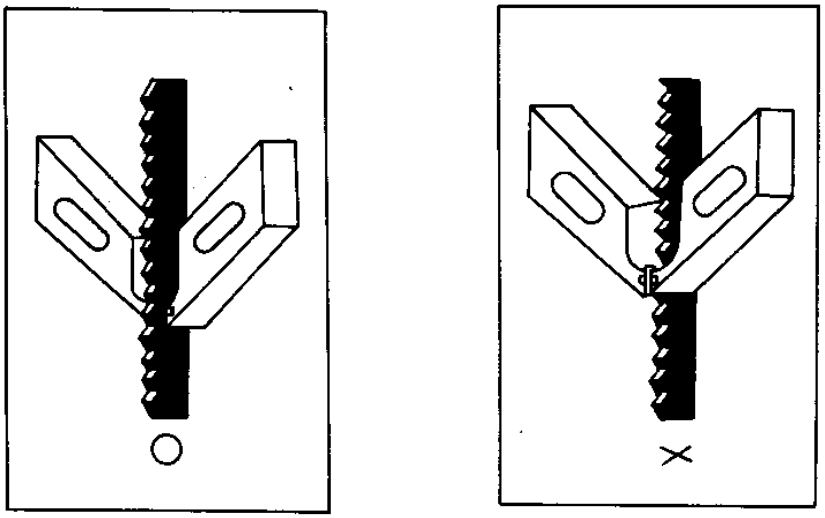
2. GUIDE HOUSING ADJUSTMENT

1. Loose the inner hexagonal screws located at the rear side with an "L" spanner.
2. Adjust the Guide Housing forward or backward according to the blade width. The front end of the Blade Guides must be adjusted about 1/8" behind the blade teeth.
3. Lock the screws tightly.



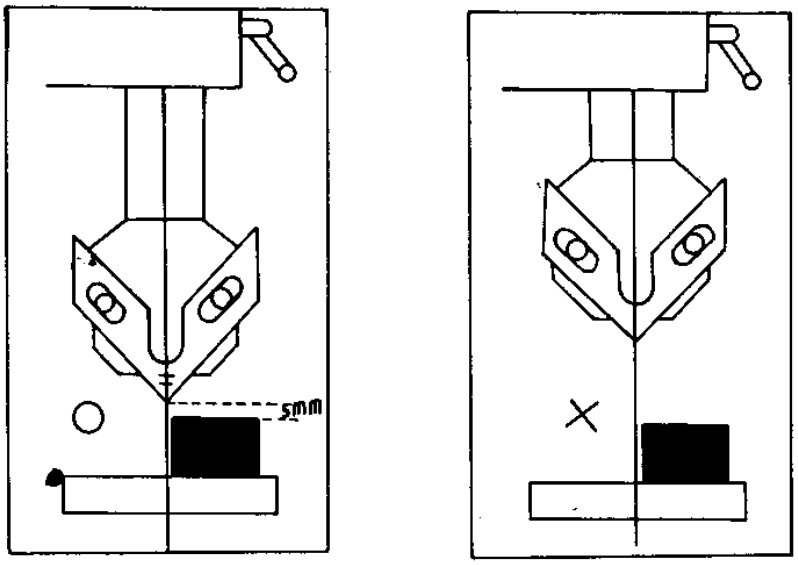


3. BLADE GUIDES ADJUSTING (as figure)

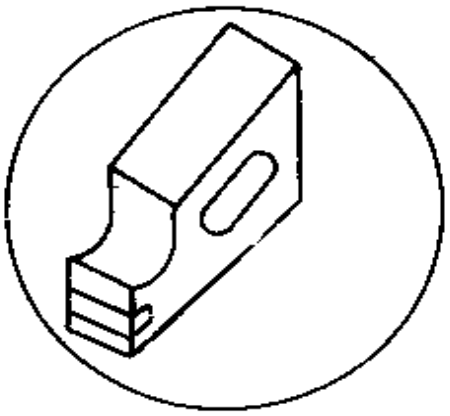


4. GUIDE POST ADJUSTING

1. Loose Guide Post Locker.
2. Lower or upper the Guide Post according to the thickness of the object. The height between the object and the Blade Guide End is suggested to be 1/4”.
3. Lock the Guide Post tightly.



5. In operating, blade should be in the middle of the Blade Guide exactly to prevent wear of the Blade Guide. ◦



SPEED CHANGING

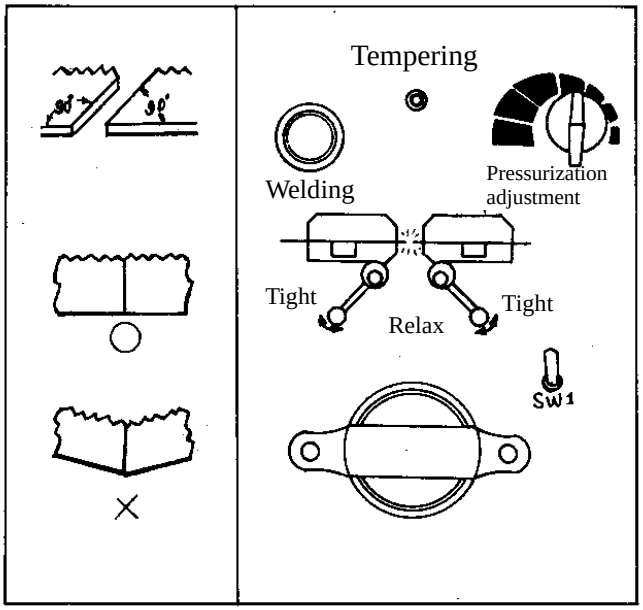
Set the Geared Speed Changing Bar to correct speed to suite to various material cutting.
You may see the blade speed from the Digital Readout Tachometer.

Speed adjustment and speed drive
Please check the front of the machine (speed pitch selector)
Operation: Turn on Motor Start, and then turn on Variable Speed Regulator to choose the speed.

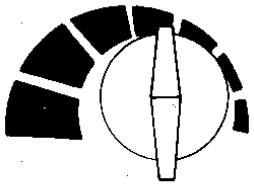
Drive parameters
1. Please do not adjust the parameters
2. Drive parameter is only used to provide technical assistance.

Changing the parameters of the machine may cause malfunction. The manufacturer is not responsible and it will void the manufacture warranty.

WELDING OPERATING AND PROCEDURE



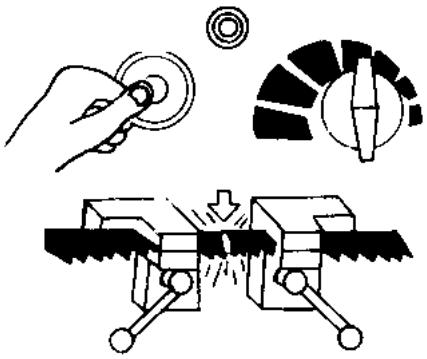
Pressurization adjustment method



The width of the saw blade is as shown in the diagram

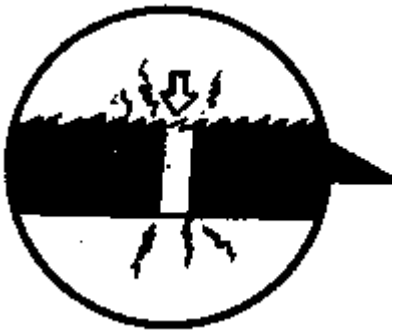
1. WELDING

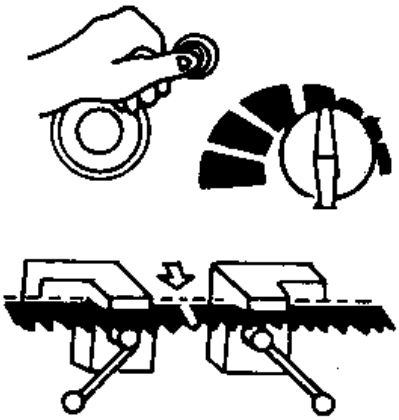
1. Adjust welding upset force selector to position 0.
2. Grind off blade ends, the cut off blade ends square allow for correct tooth spacing, clamp the two blade ends, put them in the center between the two jaws.
3. Adjust the welding upset force selector to the correct position for the blade width. For every 2m/m blade width increase to one scale.
4. Press down welding button (use a smooth and steady motion, not too fast or too slow) until the weld has cooled.



2. ANNEALING

1. Release the jaw clamping handles, adjust the welding upset force selector to position 0, then close the jaw clamping handles.
2. Press the anneal button slowly to heat the blade slowly until the weld become a deep color. Continue to heat by jogging the anneal button until the width of the blue color is one-half the length of the blade exposed between the jaws. Don't overheat or the temper of the band will be damaged.
3. Anneal again for 2-3 times.
4. Grind the weld area down to the same thickness as the rest of the blade, again for 2-3 times.





Caution

1. Corroded blade must be ground or clean before welding.
2. If the Jaw clamping handles can not clamp the blade tightly, then gold colored axis can be adjusted.

4. Safety regulation:

1. Please to know your machine well, read instruction carefully, realize your machine application,

   to avoid any possibility of machine damage risk.

2. Keep working environment clean. If disorderly, dirty or dark could cause accident happen.

3. Do not let children near tools, and everyone should keep safe distance away from machine. Do not touch machine or electric power and do not make operator staffs lose focus on operation also.

4. Must not work in unsafe environment, keep machine away from rain, do not use machine in humidity place, and not to use machine in the place which with flammability gas/liquid.

5. Make sure that with ground connection protection, to reduce risk of electric shock. Model of double insulation, no need to make ground connected.

6. Please wear protection wear, to wear eyes protection glasses and anti-dust mask; do not take off mask randomly.

7. Dress in applicable clothes, do not in too wide or too long clothes, not to wear ornament also, and leash long sleeves stable, to prevent be rolled in machine.

8. Before turn on the switch, must take adjusting tools and wrench away.

9. To choose applicable model of machine, do not use small machine or accessories to bear over load work, and do not use machine to work for process out of regulation.

10. Do not use parts or accessories of incorrect, to use parts and accessories in the recommendation of instruction, otherwise could be cause dangerous.

11. Do not make cable damages, never pull cable to remove machine, and do not pull the cable for unplug socket.

12. Take good care and maintenance of your machine. For keep machine in best condition, to lubricate machine as per instruction, and replace parts regularly, keep clean, dry, regular check and repair. Please contact appoint services for the replacement of damaged parts,

13. Do not cross over machine, stand stable when operate machine, keep balance and never cross over machine for reach some things.

14. Before electrify, make sure all switches turned off, to prevent accident happened.

15. Before using, check every part of machine, to find out if every function working, and running normally. If there is any of damage, please contact services.

16. During machine is running and not totally stopped yet, operator shall not leave machine.

17. Unplug the plug and shot off the power when replace parts, maintain and stop using.

18. Keep focus on operation, never during the time when operator tired, un-concentrate, alcohol and drug effect.

19. Safekeeping when machine is not in using, shut off power, cleans away chips and lubricates sliding parts.

20. Beware the electric power before electrify, voltage must be the same with machine indicating. Otherwise, will make motor and some mechanism serious damaged.

21. Please check that clamping block should be intact, in order to ensure the safety of operating personnel.

22. Please don't touch the rotating parts, in order to avoid the area involved in the rotating machine or cut off.

23. The band saw has not been stopped, please don't remove or place a workpiece, especially the band saw.

24. Never touch or press the lock of main shaft.

25. Do not make any impact on saw blade, during the working process.

26. Make sure to turn off power when replace band saw.

27. Do not adjust angle of table if
   1. length of cutting object is over 300mm.
   2. length of band saw is more than 13mm.

5. Instruction for installation

Machine installation—can't hanging

Environmental position

(1) Choose a flat surface concrete ground for the machine.

(2) Avoid the place were direct sunlight and excessive heat or humidity.

(3) Avoid to install the machine in the place where has corrosive material.

(4) Set the machine in a well-ventilated area.

(5) Do not set the machine in a sandy and windy place.

Machine settings

(1) Machine setting space required around 2200mmx3000mm.

(2) Set the machine on an even surface concrete ground.

(3) When installing, there are adjustable blots on the 4 corners of machine bottom base for keeping machine on level.

(4) Tighten the four sides of the screw bolt to make the machine steady.

Attention for starting:

(1) Carefully read the operation manual and the related attention items.

(2) Check if the power voltage is matched the regulation before starting.

(3) Clear the obstacles and steel chips around the machine.

(4) Check all of the oil pipes to see if there is oil leaking.

(5) Check if all the adjusting switches are ready.

(6) Check if there is any electric wire damaged.

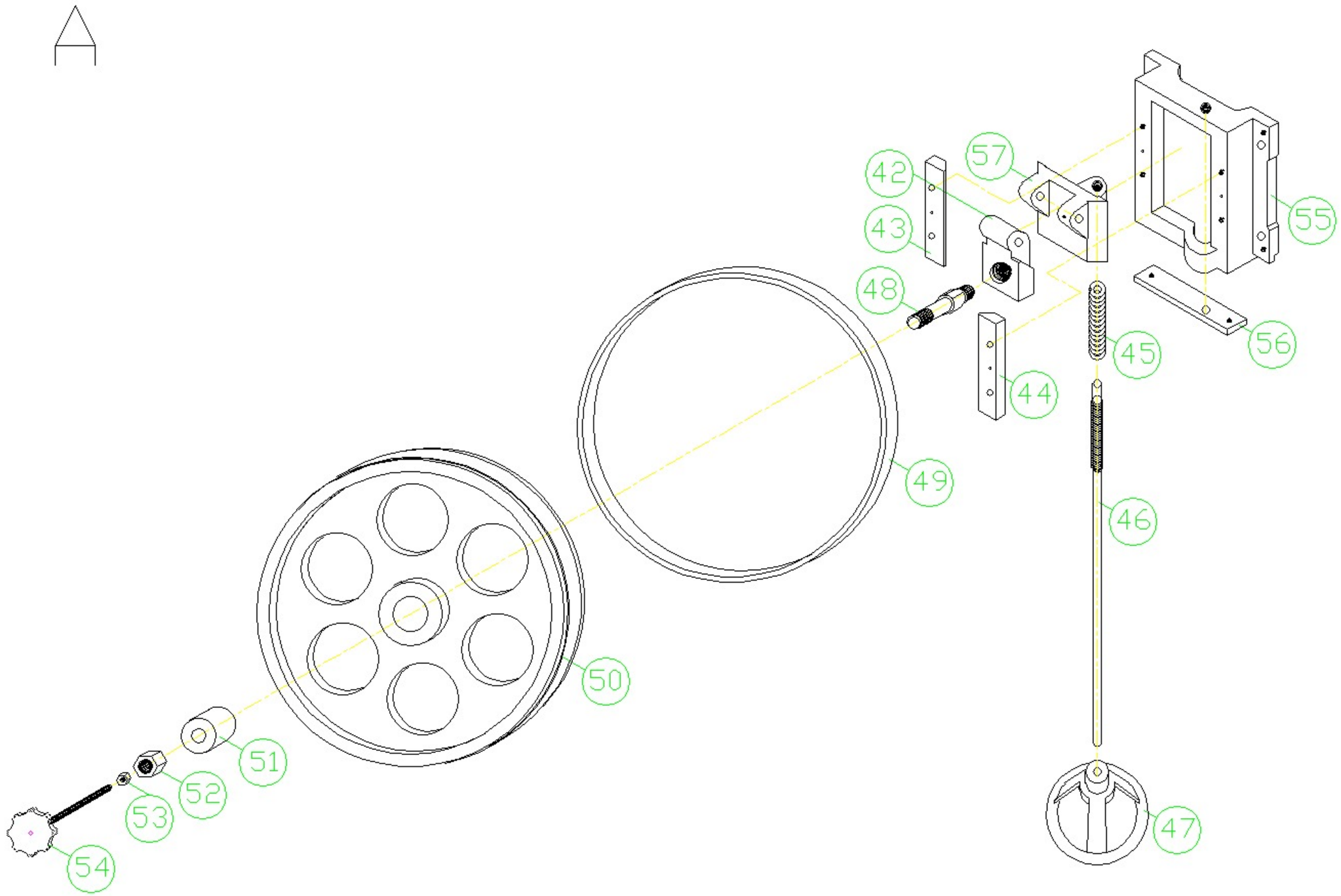
(7) Check if the oil in lubricator is sufficient.

(8) Check if the rotation direction of turret and the direction of chamfering tool are correct.

(9) Connect the power cord to the amps switch; the red, black and white line are the power cords, the green line as ground wire. The grounding wire lock up to iron place, and turn on the power switch.

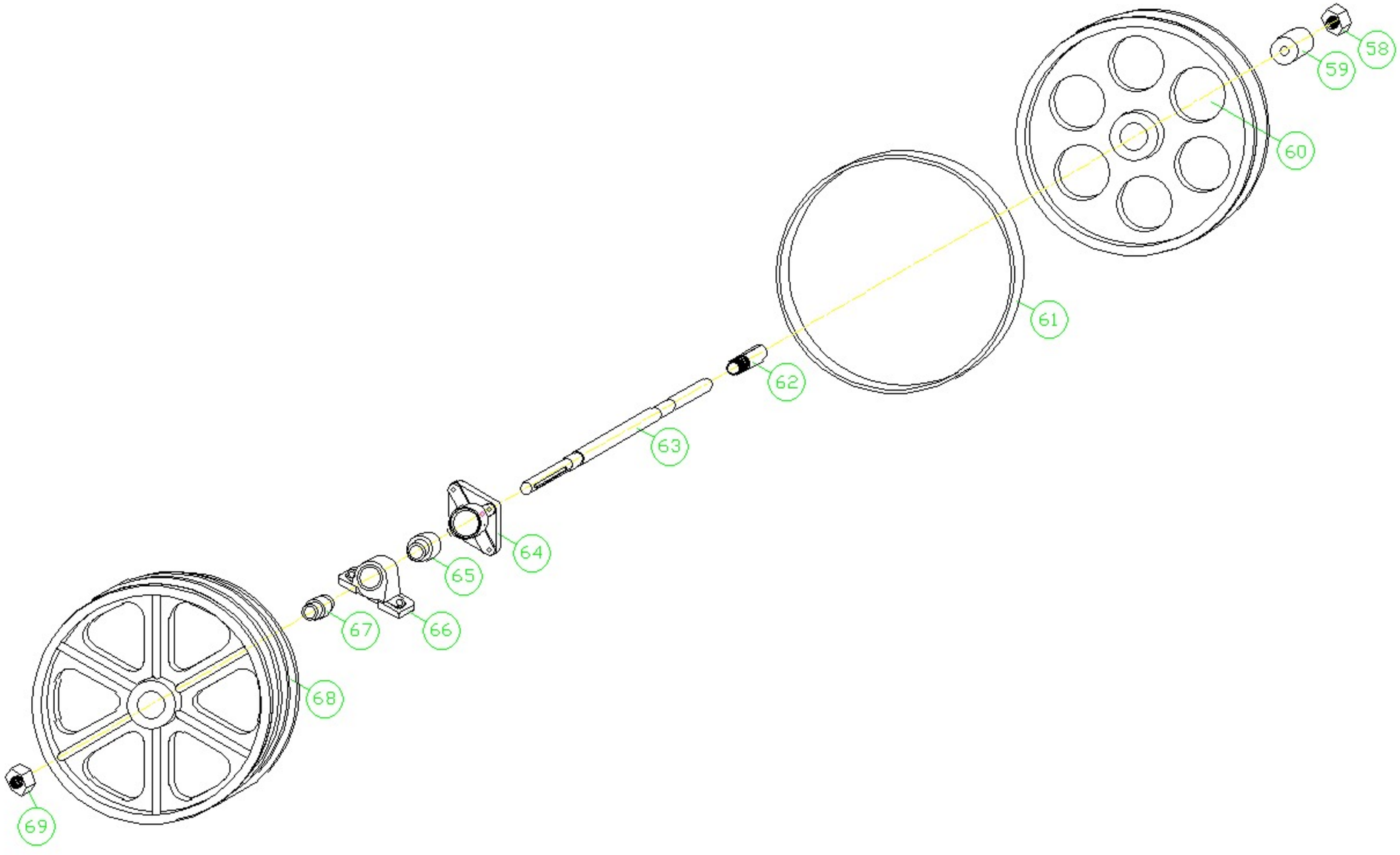
6. Instruction for each part

A ASS'Y	PART NAME
42	Angle adjustment seat
43	Slider fixing block
44	Slider fixing block
45	Spring
46	Screw
47	Hand wheel
48	Upper wheel mandrel
49	Belt
50	Upper belt wheel
51	Bearing
52	Nut
53	M10 nut
54	Angle adjustment rod
55	Tray seat
56	Screw fixing plate
57	Tray slider


42
57
43
55
48
56
45
44
49
46
50
47
51
52
53
54

B ASS'Y	PART NAME
58	Nut
59	Bearing
60	Lower belt wheel
61	Wheel
62	Sleeve
63	Lower wheel mandrel
64	UCF206 bearing seat
65	UCF206 bearing seat
66	UCP206 bearing seat
67	UCP206 bearing seat
68	Transmission wheel
69	Nut

B



7. Machine maintenance

Daily maintenance:

Check the lubricating oil gauge, oil bucket and the lubricating condition of each activities' parts; when the oil below the standard should be added right away. (Refer to the machine maintenance diagram that indicates the location)

Every week maintenance:

(1) Check if the coolant is sufficient and the cooling machine is normal before starting.

(2) Excessive accumulation of iron filings should be removed.

(3) When work is finished, keep the cleanness of machine table.

(4) Please check the saw belt wear circumstances, and replace new one when the wear serious immediately.

Monthly maintenance:

(1). In accordance with the provisions of regularly replace the use of oil

(2). Check the operation buttons on the control panel are sensitive and if the operations are normal.

Annual maintenance:

(1). Machine external maintenance.

(2). The machine internal adjustment, fine-tuning operation.

(3). Check the machine part that broken situation, and replace parts.

8. SIMPLE TROUBLE SHOOTING GUIDE:

Trouble	Cause	Action
1.Machine doesn't work.	**a.** Main power isn't ON or power isn't well connected. **b**. Power indicating lamp isn't ON and transformer is burnt out. **c.** Fuse breaks. **d**. Emergency switch of main control panel doesn't return to origin. **e.** Hydraulic pump doesn't start & doesn't have working pressure. **f.** Hydraulic pump reverses. **g.** Hydraulic oil amount isn't sufficient.	**a.** Check main power's wiring and turn the power switch to ON. **b.** First check transformer and see if input pressure has normal pressure. If no out-put pressure, that means the inside is burnt out. Please replace with new transformer. **c.** Check by eyes if fuse breaks or check voltmeter. If fuse breaks, replace it with new one in the same specification. **d.** Turn the emergency switch as per the arrow to let it return. **e.** Start the hydraulic pump. **f.** Change its running direction. **g.** Replenish hydraulic oil.
2. Machine suddenly stops while working.	**a.** The setting safe current ampere is too low. **b.** band saw is blunt, so load is increased and hence causing current rising to the setting safe current. **c.** The controlling line isn't well connected.	**a**. Re-set the proper current. The normal setting is zero-load current + 2 amperes. **b.** Replace saw blade. **c.** Check 220V wiring. If line's terminal loosens because of vibration while cutting, please tighten the terminal.
3. Main motor don't work.	**a.** 3-phase of main power isn't complete. **b.** Overload protective electronic board is burnt out. **c.** Solenoid switch isn't well connected. There is any connecting point blocked. **d.** Motor switch is damaged. **e.** Motor itself is burnt out or defective.	**a.** Check if the power supply (3-phase supply) is correct. **b.** Use voltmeter to measure if 3-phase output from electronic board is normal. If shortage of 1 phase, that means the electronic board is burnt out. Replace it. **c.** Use voltmeter to measure if 3-phase connecting points of solenoid switch ("a" points) are all well connected. If there is one point disconnected, that means solenoid switch is damaged. Replace it with the same edification. **d.** Use voltmeter to measure if connecting points of motor switch (ON/OFF) is normal or directly remove motor switch and then connect to motor. If motor runs normally, that means the switch is damaged. **e.** Use voltmeter to measure if 3-phase power is normal. If normal, that means motor itself has a problem. Replace or repair it.

Trouble	Cause	Action
4. Band Saw is broken.	**a.** Select wrong saw blade. **d.** Tongs is seriously damaged and no fix it. **c.** Cutting speed is too fast. . **d.** The cutting direction of band saw is contrary. e. Tightness of band saw holder no follows those properties.	**a.** The material quality and thickness to be cut relates to the number of saw teeth, so number of teeth must be classified. Please inquire or contact our service staff to know the correct saw blade and the number of teeth. **d.** When tongs are worn and rock, workpiece will grip saw blade while saw is cutting workpiece and hence breaking is incurred. Tongs must be replaced. **e.** Well adjust the proper cutting speed. **i.** Please install the band saw as per the indicated arrow. **j.** Make sure to actually tighten of band saw.
5. Band saw stuck that can't easy to rotation.	**a. The axle of upper and lower wheel is dust accumulation or get rusty.**	**a.** Please take out the axle, clean the rusty and add oil to lubricating or replace new axle.

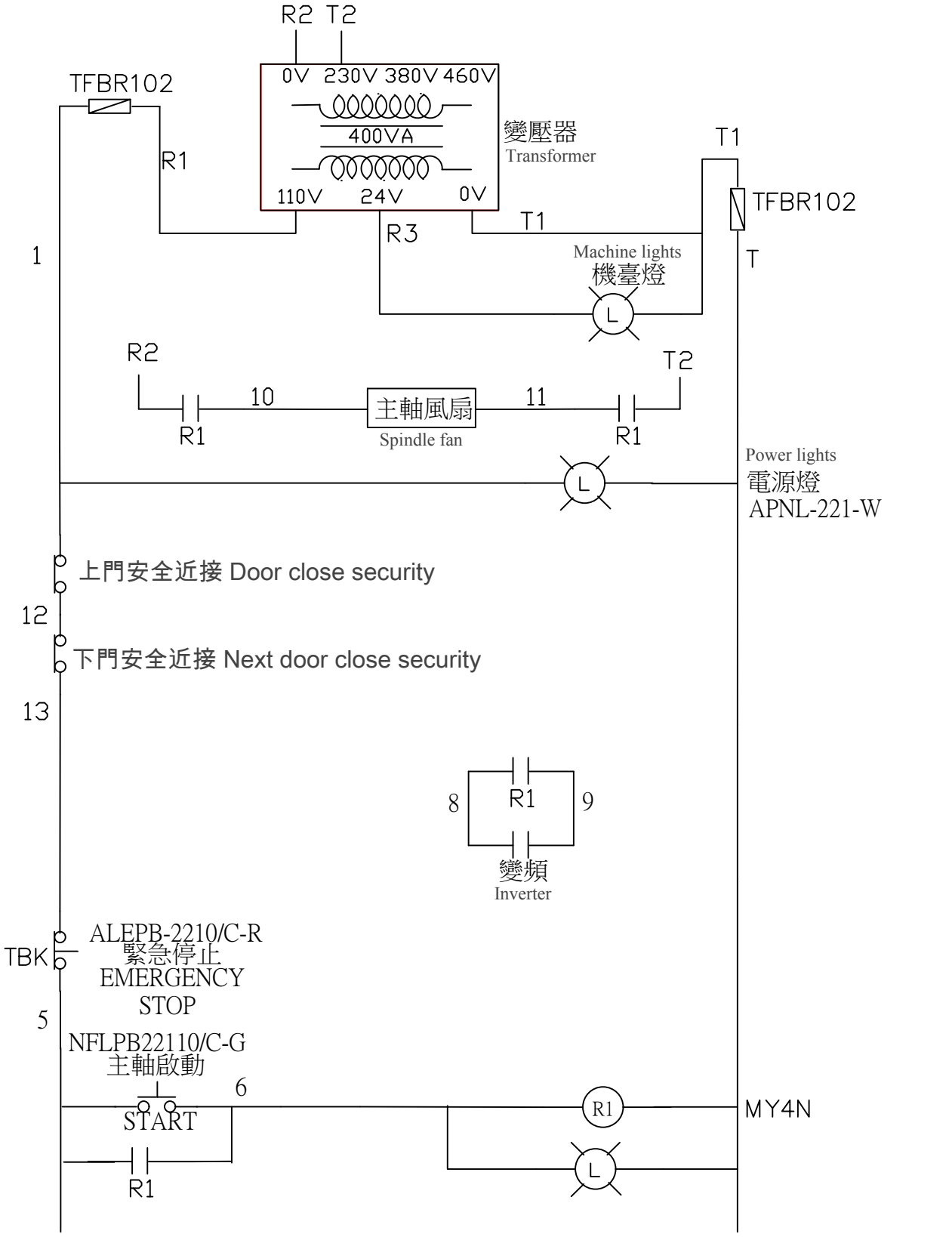
9. Electrical circuit diagram

1. Control circuit diagram

2. Power configuration diagram

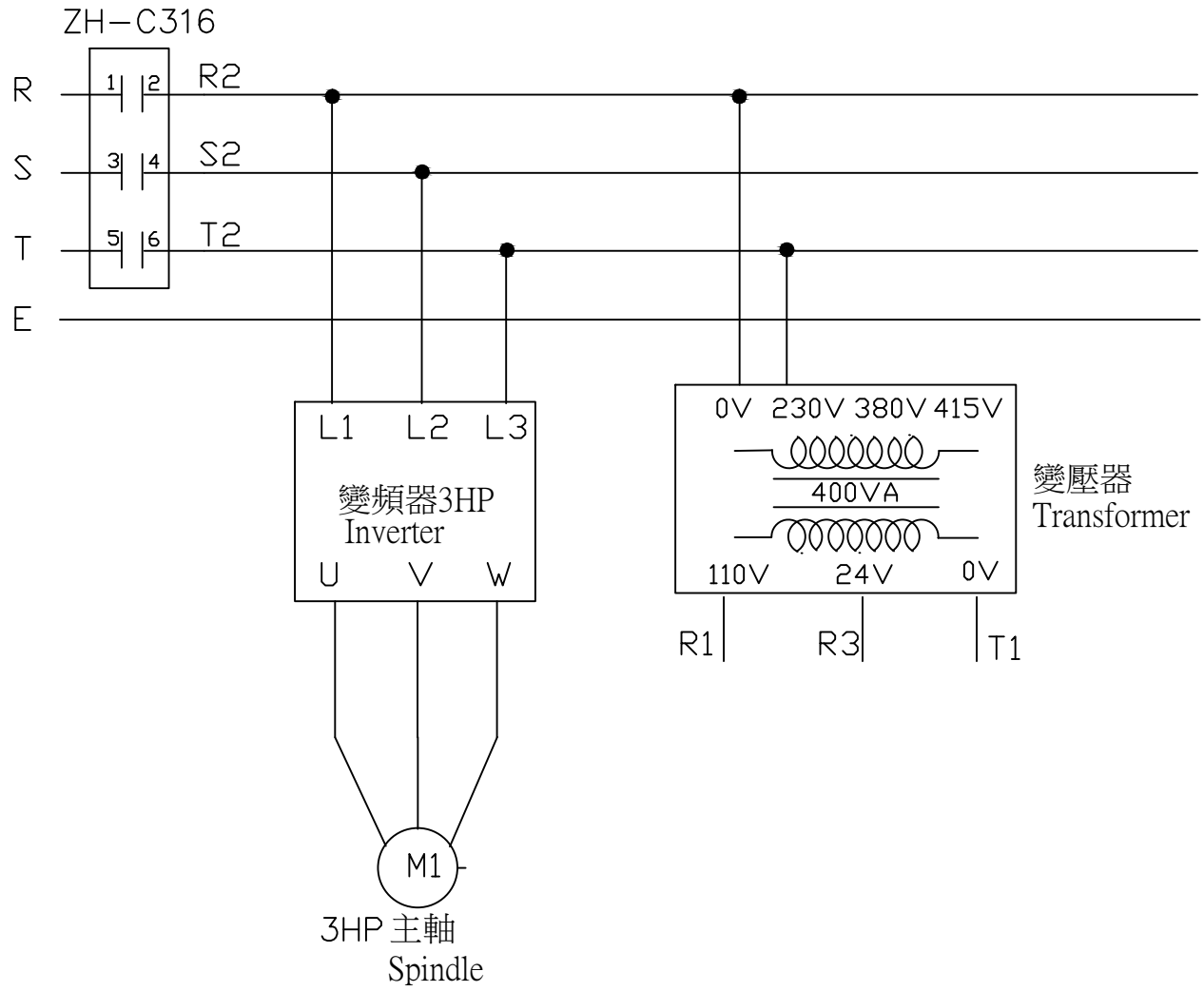
3. Panel control configuration diagram

4. With disk configuration diagram



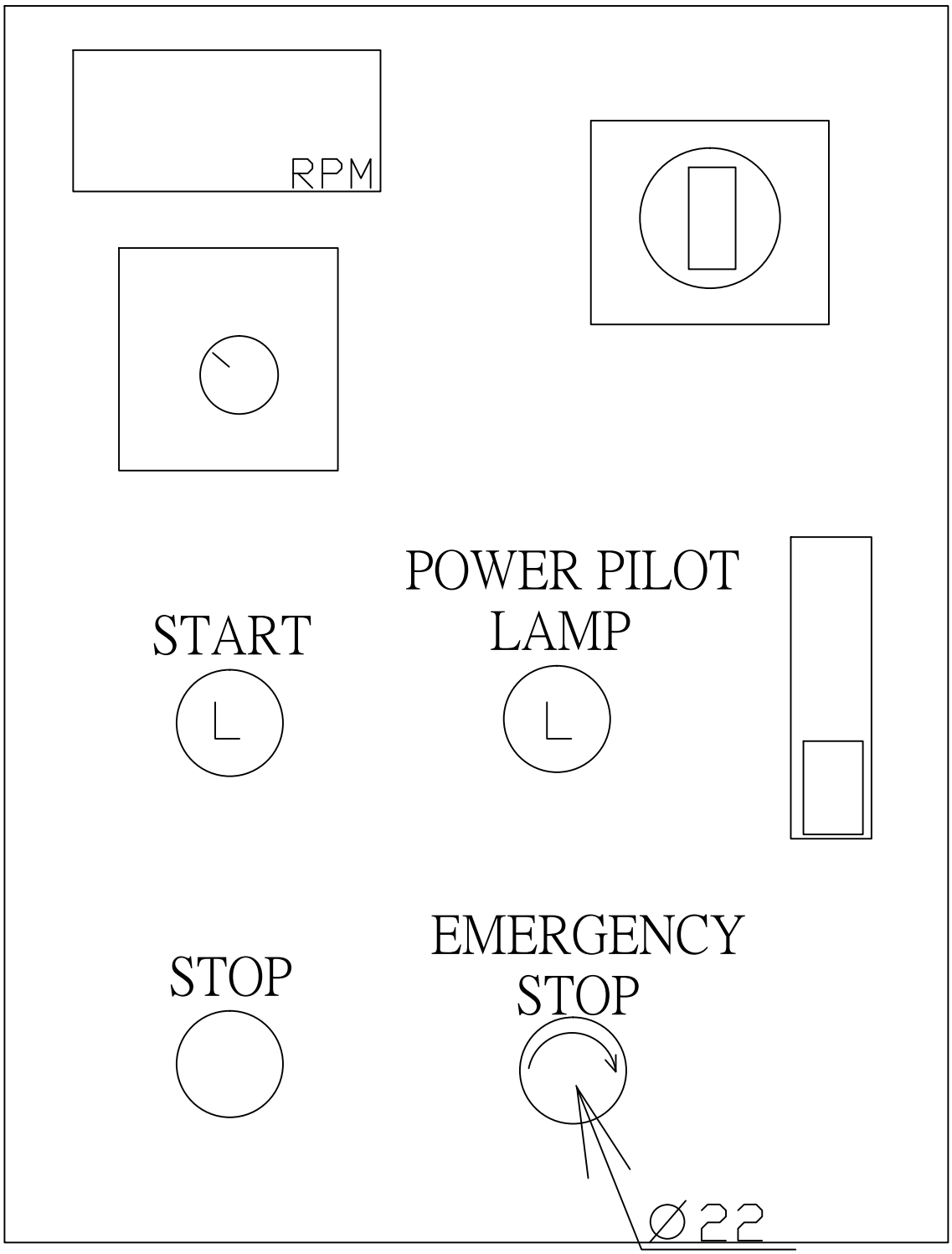
1.控制電路圖

Control circuit diagram



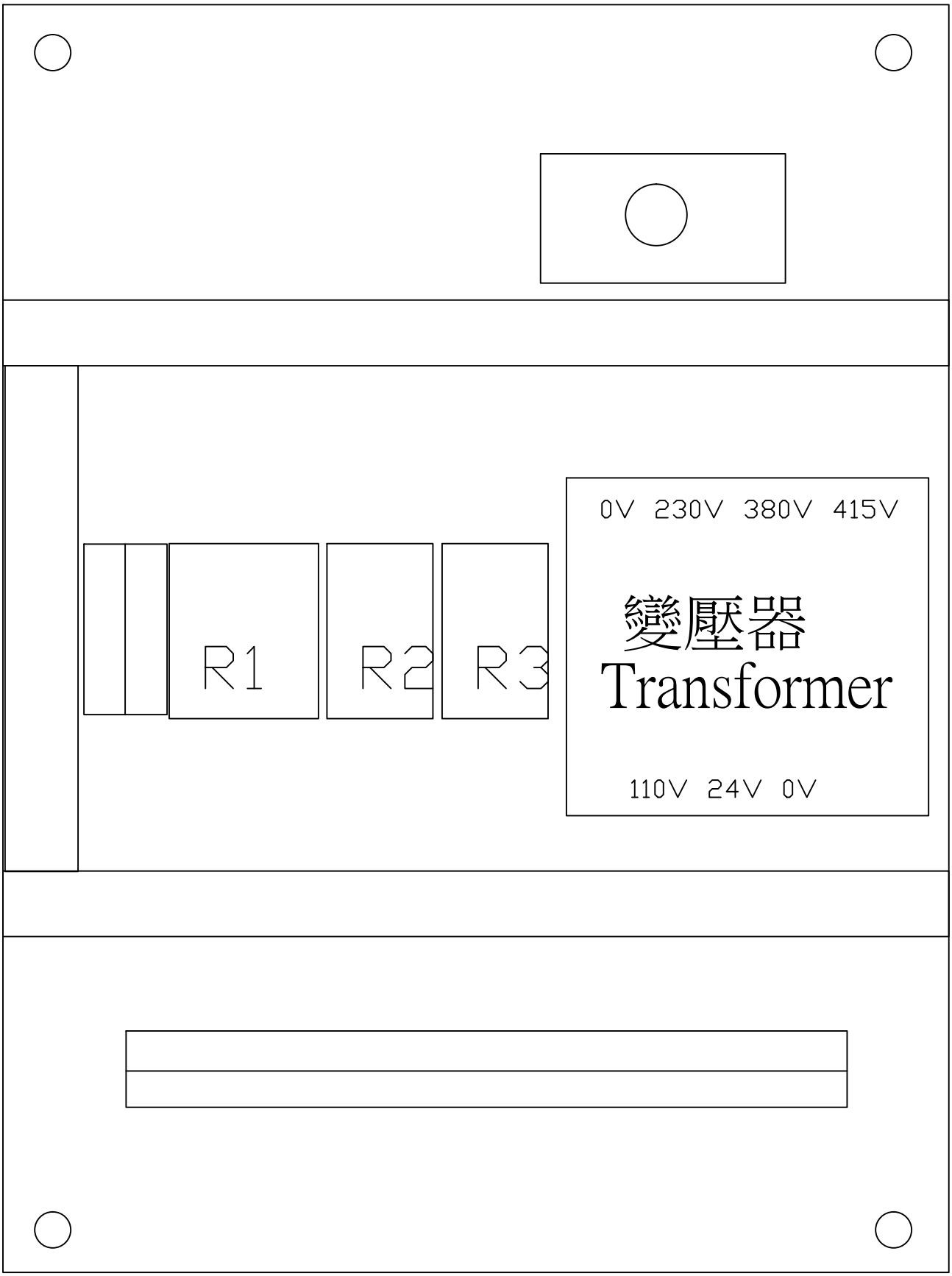
2.電力配置圖

Power distrbution diagram



3.面板控制配置圖

Panel control configuration diagram



4.配盤配置圖

With disk configuration diagram

10. Spare parts detailed

SWV-1614 parts list

Name	Quantity
Allen wrench	1
6204 bearing	1

Consumable parts/machine

Name	Quantity
Tungsten carbide clamp piece	4
Round tungsten carbide rod	2
Adjustment seat	2
Fixing bearing	1
Pulley belt	2
Driver belt	2