

EP-20



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GENERAL SAFETY RULES

There is a certain amount of hazard involved with the use of woodworking machinery. Using the machine with the respect and caution demanded as far as safety precautions are concerned will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, severe personal injury to the operator can occur.

1. Read the operation manual before operating this machine.
2. If you are not thoroughly familiar with the machine operation, obtain advice from a supervisor or other qualified person.
3. The machine should be disconnected from the power source before performing maintenance or adjustments to the internal mechanisms, or when making repairs.
4. After maintenance job is finished, check to see if there are any tools or objects left on the machine. Close all safety guards.
5. Before leaving the machine, make sure the work area is clean.
6. Check timber for loose knots, nails, or other items, which may cause a hazard or affect the machine's performance.
7. Learn the machine's applications and limitations, as well as the specific potential hazards peculiar to it. Keep the machine in top condition for best and safest performance.
8. Keep all guards in place and in working order.
9. Do not force the machine. It will do the job better and be safer working at the rate for which it was designed.
10. All children and visitors should be kept a safe distance from the working area.
11. The operator should keep proper footing and balance at all times.
12. Do not operate the machine while under the influence of drugs, alcohol, or any other medication.
13. Avoid awkward operations and hand positions where a sudden slip could cause your hand to move into the machine.
14. Never leave the machine until it comes to a complete stop, and never leave the machine running unattended.
15. The employer is responsible for selecting competent and qualified employees.
16. The employer must make sure that employees study and utilize this safety information.
17. Supervisors must alert personnel of any unsafe practices they observe.
18. All employees should be aware of first aid facilities and be encouraged to use them, regardless of the severity of the injury.
19. Fire prevention must be practiced and fire protection must be available to prevent loss of life, personal injury, and property damage.
20. Safety shoes should be worn to provide protection against rolling objects, falling objects, and sharp edges in the workplace.
21. Eye protection should be worn and such devices should be carefully selected, fitted and used. Compulsory wearing of glasses with impact resistant lenses and side shields is a good safety policy. All eye protection should conform to ANSI 87 standards.
22. Wear hearing protection when operating the machine.
23. Do not wear rings, necklaces or jewelry around moving machinery.
24. Do not wear loose fitting clothes. Clothing should be comfortable, but long sleeves, neckties, etc. should not be worn.
25. Do not wear gloves or other hand covering articles around moving machinery.
26. Cover long hair with a hair net or cap.

27. Protective guards and shields must be in place at all times unless they must be removed for specific service or maintenance. They should be immediately replaced when service or maintenance is completed.
28. Make sure that operator clearly knows how to stop the machine before starting work.
29. Never clean or remove chips while the machine is running.
30. Maintain the machine in good operating condition. Report unusual conditions or machine malfunctions immediately.
31. Do not alter or remove guards and warning labels.
32. Keep the immediate area clean. Do not allow the floor to become slippery, or covered with dust or obstacles. Dust that accumulates in the work area is a hazard that can cause you to fall or slip against the machine or its controls.
33. Employees should be required to report to their supervisors any hazardous condition of the machine or in the immediate area.

SHIPPING & RECEIVING INSTRUCTIONS

This machine has been carefully inspected and tested before packing. It was delivered in good condition and was shipped in one wooden pallet.

When receiving this machine, inspect the wooden pallet and check to see if there is any damage. Then check the machine model and all items as according to the packing list. If there is any damage on the machine or any missing parts, report it to your local distributor or the machine manufacturer immediately.

UNPACKING & CHECKING CONTENTS

The machine has been well packed at the manufacturer's factory and shipped in good condition. The machine is shipped in one wooden pallet.

Upon receiving the machine, carefully unpack it and check all items as according to the packing list.

If you find any part is missed or damaged, contact your local distributor or the manufacturer of the machine immediately. Do not attempt to operate the machine until the missing parts are obtained and are installed correctly.

CLEANING THE MACHINE

The machine is coated with rust preventative oil before shipment. When the machine has been moved to the proper work site, wipe the oil from the machine using a soft cloth soaked in kerosene. Do not use gasoline, lacquer thinner, or any other volatile solvent, as these may damage the paint surface of the machine.

LIFTING THE MACHINE

The machine should be lifted or moved by a forklift. Make sure the loading capacity of the forklift is sufficient to raise the machine. Pay special attention to the machine balance while lifting the machine to prevent the machine from falling. The forks of the forklift must protrude over the machine bottom for uniform distribution of the entire machine weight.

ELECTRICAL SAFETY RULES

1. Do not alter or bypass any protective interlock.
2. Before starting the machine, read and observe all warning labels and markings such as nameplates and identification plates.
3. Only personnel who are properly trained and have adequate knowledge and skill should undertake all electrical/electronic troubleshooting and repair.
4. Use extra precautions in damp areas to prevent yourself from accidental grounding.
5. Make sure your body and your tools are clear of electrical grounding.
6. The control panel doors should be opened only when it is necessary to check the electrical equipment or electrical wiring.
7. Before applying power to any equipment, establish without a doubt that all persons are clear.
8. Be alert and be sure you can work with no outside distractions.
9. Avoid wearing metal frame glasses or wearing a metallic necklace or chain, and never work on electrical equipment while wearing rings, watches, or bracelets.
10. When replacing conductors, make sure they conform to the manufacturer's specifications, including proper color-coding.
11. Do not alter the electrical circuits. If machine damage is caused by an unauthorized alteration, the user is responsible, not the manufacturer.
12. Always assume the electrical power is ON and treat circuit as live. This caution develops a habit that may prevent an accident.
13. Give capacitors time to discharge. Otherwise, it should be done manually with care.
14. Use proper test equipment to make certain you have an open circuit. Test equipment must be checked and calibrated at regular intervals.
15. Open the control panel doors only when it is necessary to check the electrical equipment or wiring. After closing the door, make sure the disconnecting means are operating with the disconnecting handle mechanism in its proper position.
16. All covers on junction boxes must be closed before leaving any job.

VOLTAGE WARNING

Before connecting the machine to a power source, be sure the voltage supplied is the same as that specified on the nameplate of the machine. A power source with voltage greater than that specified for the machine can result in serious injury to the user as well as damage to the machine. If in doubt, do not plug in the machine. Using a power source with voltage less than the nameplate rating is harmful to the motor.

GROUNDING INSTRUCTIONS

This machine must be grounded while in use to protect the operator from electric shock. The machine is equipped with three-conductor cord and three prong grounding type plug to fit the proper grounding type receptacle. The green conductor in the cord is the grounding wire. Never connect the green wire to a live terminal.

SPECIAL PRECAUTIONS

1. Planing Operations: Do not perform planing operations on material shorter than 10" and 8- $\frac{3}{4}$ ", the distance between the centers of front and rear rolls, wider than the width of planer knives, or thinner than $\frac{1}{8}$ ".
2. Maintain the proper relationships of infeed and outfeed table surfaces and cutterhead knife path.
3. Support the work piece adequately at all times during operation; maintain control of the work at all times. Use rollers or outfeed table with long, heavy stock.
4. Do not back the work toward the infeed table.
5. Do not attempt to perform an abnormal or seldom used operation without study and the use of adequate hold-down/push blocks, jigs, fixtures, stops, etc.
6. Disconnect the machine from the power supply while the motor is being mounted, connected, or reconnected.

WARNING

For your own safety, read instruction manual before operating planer.

1. Wear eye protection.
2. Never perform planing operation with belt guard removed.
3. Never make planing cut deeper than $\frac{1}{4}$ ".

HOW TO USE

1. Dimensional Adjustment

Release the stop knob on the handwheel and turn the thickness adjustable handwheel clockwise (or counter-clockwise), aligning the indicator plate until the scale bar graduation for the desired finished dimension is reached. Align your work piece with the top of the table. (One handle revolution makes for 3/64" ascent or descent.)



Fig. 1

2. Depth of Cut

The maximum depth of cut with a piece of wood less than 8" wide is 3/16". (3/32" with a width of over 15") Do not try to cut more than the specified amount in one pass. Make two passes rather than put an overload on the planer that might cause trouble.

3. Stock Feed

Align the stock to be cut with the top of the table. If the stock is too thick to be cut, immediately lower the table by means of the hand wheel so as to reduce the size of the cut.

WARNING:

- Attempting to feed oversized stock will cause abnormal wear on the rollers.
- Keep planer level so that cutter action and roller wear will be even.

4. Return

Returning cut stock back to the front side is very easy if you use the convenient return rollers on top. Do not crank the handwheel so hard that you force the stopper ring to move. (Fig. 2)

5. Stopper Regulating Depth

Numerous work pieces can be planed to the same thickness very simply just by setting the stopper ring to the desired dimension.

CHANGING CUTTER KNIVES

WARNING: Unplug the planer from the power source to prevent any mishap.

1. Removal

When the machine stops running completely, open the finger guards and loosen the set bolt on the gib with wrench. Take note the inner two springs will jump out when taking off the knives and gib.

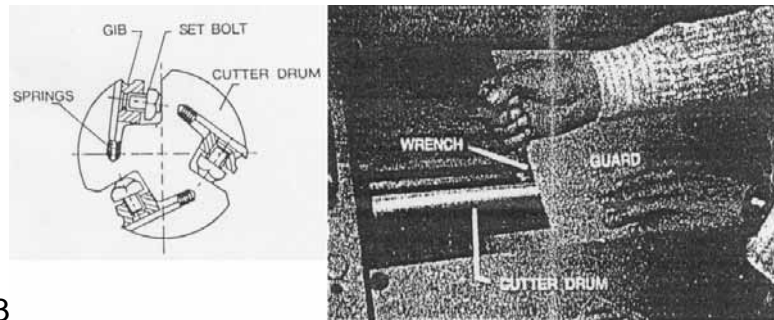


Fig. 3

2. Cutter Knives installation & Height Adjustment

- A. Align and fix both ends of the knife height adjustment gauge. Then adjust and fix the 4 adjusting screws to the same height of 1/8mm.
- B. Put in the springs.
- C. Put in the gib and then set the knife. Adjust the knife until contacting with the knife height adjustment gauge. Then, tighten the bolts in order. Tightening all bolts fully in order may cause the knife to move. At first, tighten bolts gradually and evenly before applying the final tightening torque.
- D. Turn the cutter drum and install the three knives one by one tightly. When tightening the knife, take note if the knife aligns with the cutter drum and the three knives are of the same height on the drum. After adjusting knife height on the three knives and locking tightly, replace the finger guards at original position.



Fig. 4

ADJUSTING VARIOUS COMPONENTS

WARNING: Disconnect plug from power source.

1. Feed Roller Pressure Adjustment

The feed roller pressure is factory-adjusted. However, if slippage occurs in feeding materials, perform the following adjustment procedure. Pressure can be made stronger by turning the pressure-adjust screw to the left and weaker by turning it to the right.

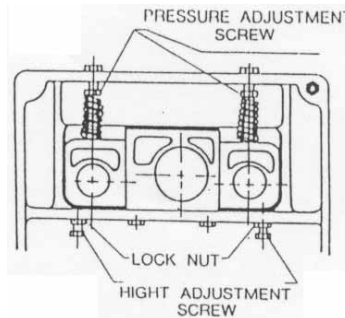


Fig. 5

2. Feed Roller Height Adjustment

The roller height is factory-adjusted. However, should the roller not be parallel in the height, perform the following adjustment procedure. Disconnect plug from power source. Place a piece of wood to be cut on the table, sliding it on the rollers. Turn the height adjust screws (front and back rollers) left or right until the rollers are in flush contact with the wood for parallel adjustment. One turn of the height adjust screw corresponds to 1/16" lowering or raising of the roller. Thus, the 4 screws should be turned to left to make the roller lower than the cutter drum approximately 3/64".

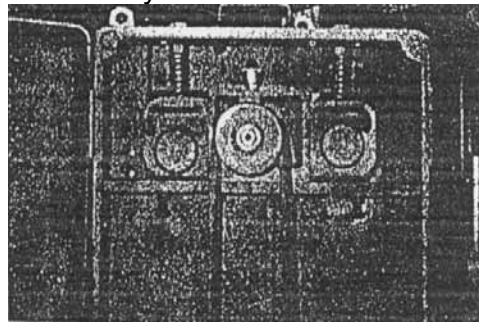
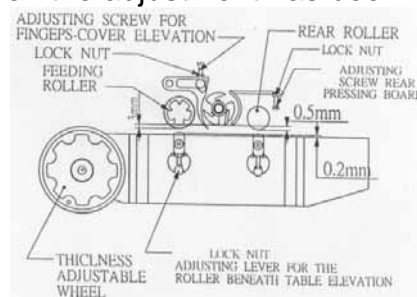


Fig. 6

3. Bed Roller Adjustment

The planer is factory-adjusted. If you notice the adjustment is off, do as follows.

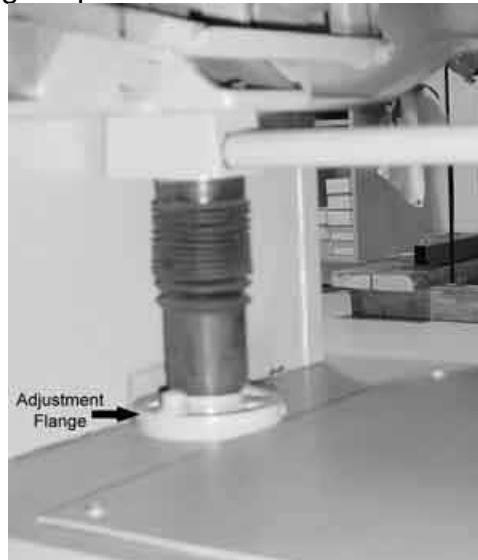
Disconnect plug from power source. Loosen the 4 piece hex bolts for each roller under the table. Use a wrench to turn the bolt to make the rollers 1/32"-3/32" higher than the table. If the rollers protrude too much, notching may result in the surface planed on the opposite end. Tighten the lock nut when the adjustment has been made.



4. Working Table Parallel Adjustment

The working table is factory-adjusted. Should the table not be parallel, perform the adjustment procedures as follows.

- A. Disconnect plug from power source.
- B. Set the wooden leveler on the working table and then turn the handwheel until contact with cutter drum.
- C. Loosen the bolts on the parallel adjusting flange under the table.
- D. Slide the wooden leveler on the table front and back to judge if the distance between the table and cutter drum is same. After completing adjustments, tighten the bolts on the adjusting flange by wrench.
- E. Set the knives at original position.



CAUTION: The above adjustment should be made on both sides to secure the balance adjustment in rollers. Otherwise, the stock may be twisted to the left or right.

5. The Finger Guard and Rear Pressing Board Height Adjustment

The height of the finger guard and rear pressing board is factory-adjusted. If notching happening in the two ends of the surface of wood piece planned, use wrench to adjust the bolts on the finger guard until the finger guards and rear pressing board lower than cutter drum for about 1/32". (Fig. 7)

MAINTENANCE

WARNING: Always disconnect electrical plug from power source before making any adjustment, performing any maintenance or cleaning.

1. After use for a period of time, the planer knives should be taken out for sharpening.
2. Oil the rollers turning parts. The periodic lubrication should be performed with grease or machine oil to assure the durability and accuracy of the use of machine.
3. Always brush off dirt, chips and foreign matter adhering to roller surfaces. See that water or oil does not enter the motor.

PARTS LIST

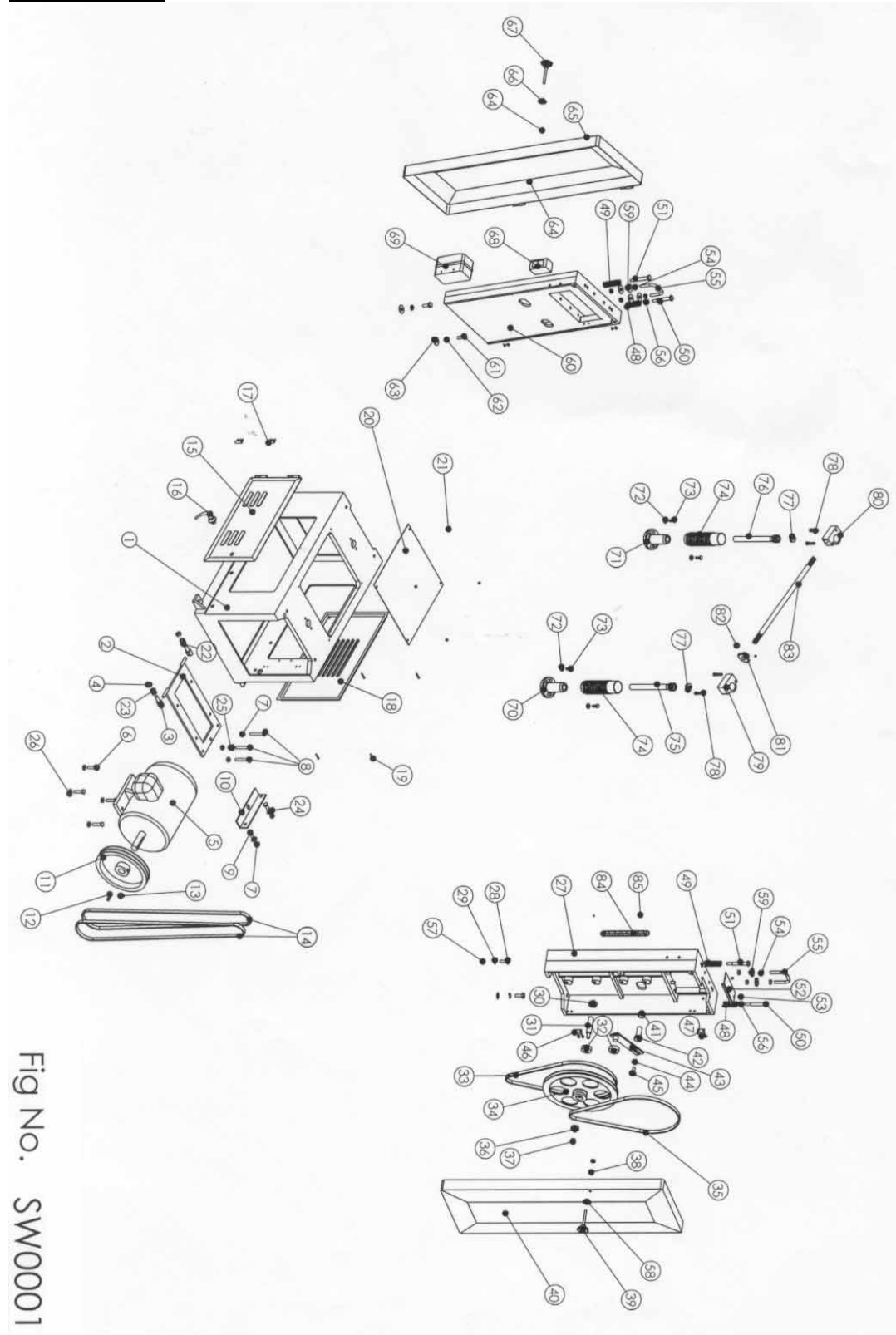


Fig No. SW0001

SW0001

No	Part Name	Qty	No	Part Name	Qty
1	Stand	1	50	Screw M12x90	2
2	Motor Bracket	1	51	Screw M12x80	2
3	Motor Bolt	2	52	Guard Plate	1
4	Nut M12	2	53	Screw M6x10	2
5	Motor	1	54	Nut M10	8
6	Screw M10x30	4	55	Hoisting Hook	2
7	Nut M10	5	56	Nut M12	2
8	Screw M10x70	3	57	Washer	4
9	Screw M10x25	2	58	Washer	1
10	Angle Iron	1	59	Washer	8
11	Motor Belt Wheel	1	60	Left Frame	1
12	Key	1	61	Screw M12x30	2
13	Screw M10x10	1	62	Spring Washer	2
14	V-Belt A77	2	63	Washer	2
15	Door	1	64	Nut M8	2
16	Knob	1	65	Door (L)	1
17	Catch Plate	2	66	Washer	1
18	Door	1	67	Start Handle	1
19	Screw M6x15	4	68	Switch	1
20	Cover	1	69	Electrical Box	1
21	Screw M6x10	4	70	Flange Nut Balance (R)	1
22	Washer	2	71	Flange Nut Balance (L)	1
23	Spring Washer	2	72	Washer	4
24	Spring Washer	2	73	Screw M8x30	4
25	Washer	1	74	Rubber Sleeve	2
26	Spring Washer	4	75	Screw Table Raising (R)	1
27	Right Frame	1	76	Screw Table Raising (L)	1
28	Screw	2	77	Bearing 2900	2
29	Spring Washer	2	78	Screw M8x35	4
30	Nut M20	1	79	Housing Worm Gear (R)	1
31	Shaft	1	80	Housing Worm Gear (L)	1
32	Bearing 6204	2	81	Sprocket	1
33	V-Belt-A55	1	82	Screw M8x10	2
34	Shaft	1	83	Worm	1
35	V-Belt-A45	1	84	Graduated Scale	1
36	Bearing 6201	1	85	Nail	2
37	Nut M12	1		Contactor	
38	Nut M8	2		Thermal Overload Relay	
39	Start Handle	1			
40	Door (R)	1			
41	Ring	1			
42	Screw M20x30	1			
43	Adjusting Plate	1			
44	Washer	1			
45	Screw M12x25	1			
46	Catch Plate	4			
47	Screw Hex Head M6x10	8			
48	Spring	2			
49	Spring	2			

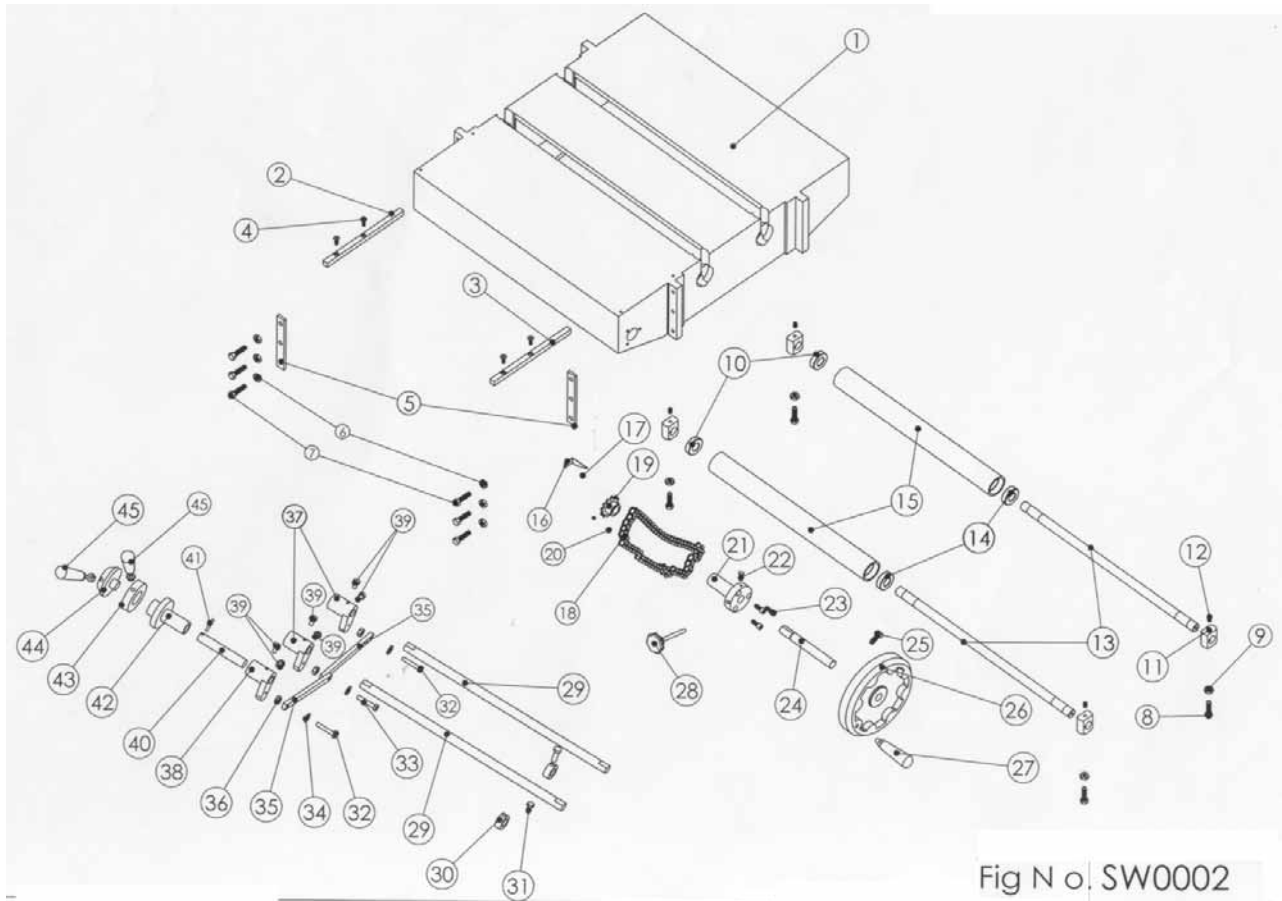
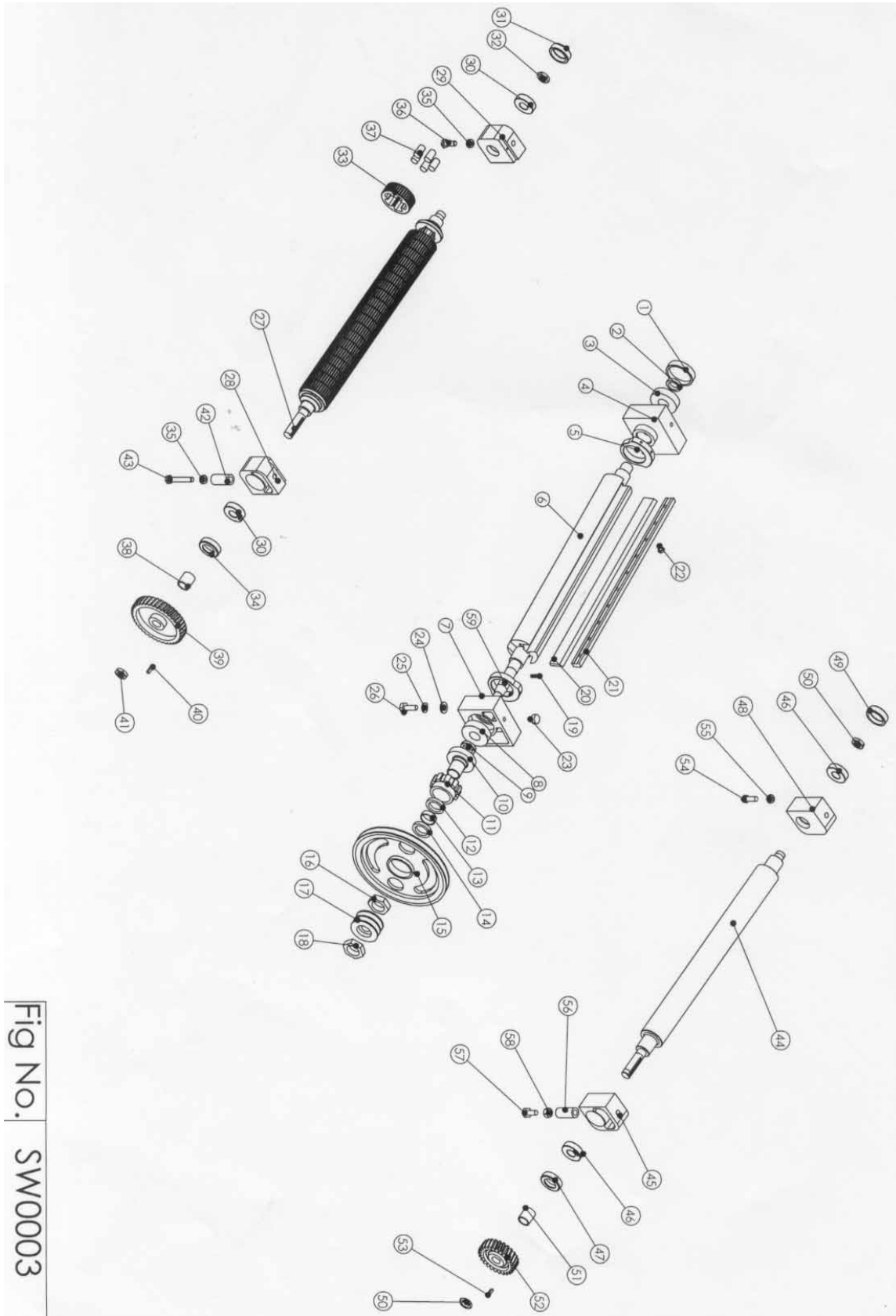


Fig No. SW0002

SW0002

No	Part Name	Qty	Part No	No	Part Name	Qty	Part No
1	Table	1		24	Shaft	1	
2	Guide Board (L)	1		25	Screw M10x25	1	
3	Guide Board (R)	1		26	Handwheel	1	
4	Screw M6x10	4		27	Handle	1	
5	Plate	2		28	Knob	1	
6	Nut M10	6		29	Shaft	2	
7	Screw M10x35	6		30	Ferrule	2	
8	Screw M10x35	4		31	Screw M8x15	2	
9	Nut M10	4		32	Screw M6x30	2	
10	Bearing 6004	2		33	Screw M6x40	1	
11	Fixed Support	4		34	Washer	3	
12	Screw M8x10	4		35	Plate	2	
13	Shaft	2		36	Nut M6	3	
14	Bearing 6004	2		37	Accommodative Stand	2	
15	Ruler	2		38	Accommodative Stand	2	
16	Index	1		39	Screw	6	
17	Screw M8x10	1		40	Shaft	1	
18	Chain	1		41	Pin	1	
19	Sprocket	1		42	Ring	1	
20	Screw M6x6	2		43	Ring	1	
21	Flange Nut Balance Table	1		44	Handle	1	
22	Oiler	1		45	Handle	2	
23	Screw M8x15	3					

Fig No. SW0003



SW0003

No	Part Name	Qty	Part No	No	Part Name	Qty	Part No
1	Shaft w/ Bolt (L)	1		31	Collar Bolt (L)	1	
2	Circular Nut (L)	1		32	Circular Nut (L)	1	
3	Bearing 6305	1		33	Collar	19	
4	Housing (L)	1		34	Collar Bolt (R)	1	
5	Collar (L)	1		35	Nut M10	2	
6	Cutter	1		36	Screw M10x40	1	
7	Housing (R)	1		37	Circular Rubber	95	
8	Bearing 6305	1		38	Space	1	
9	Circular Nut (R)	1		39	Helical Gear	1	
10	Shaft w/ Bolt (R)	1		40	Key	1	
11	Helical Gear	1		41	Nut M10	1	
12	Bearing 6808	1		42	Space	1	
13	Ferrule	1		43	Screw M10x70	1	
14	Bearing 6808	1		44	Outfeed Roller	1	
15	Pulley	1		45	Housing (R)	1	
16	Nut	1		46	Bearing 6204	2	
17	Pulley	1		47	Collar Bolt (R)	1	
18	Nut	1		48	Housing (L)	1	
19	Spring	6		49	Collar Bolt (L)	1	
20	Knife	3		50	Circular Nut	2	
21	Gib	3		51	Space	1	
22	Screw M8x10	10		52	Helical Gear	1	
23	Cup Grease	2		53	Key	1	
24	Washer	4		54	Screw M10x40	1	
25	Spring Washer	4		55	Nut M10	1	
26	Screw M10x30	4		56	Space Ring	1	
27	Shaft	1		57	Screw M10x70	1	
28	Housing (R)	1		58	Nut M10	1	
29	Housing (L)	1		59	Collar (R)	1	
30	Bearing 6204	2					

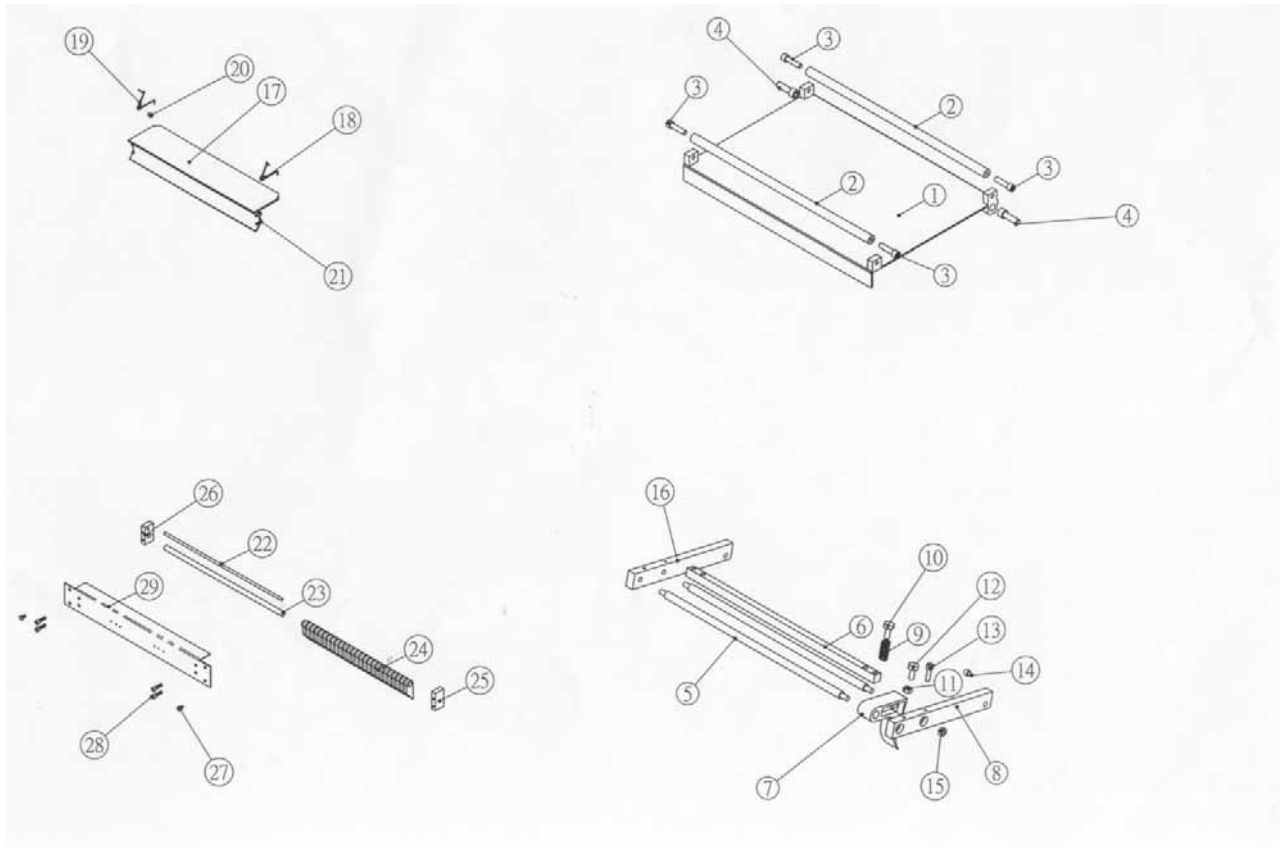


Fig No. SW0004

SW0004

No	Part Name	Qty	Part No	No	Part name	Qty	Part No
1	Top Guard Plate	1		16	Paw Arm (L)	2	
2	Rod	2		17	Pressure Plate	1	
3	Screw M8x25	4		18	Spring (R)	1	
4	Screw M12x20	2		19	Spring (L)	1	
5	Rod	2		20	Screw M6x16	2	
6	Support Rod	1		21	Screw M8x15	2	
7	Front Pressure Paw	14		22	Rod	1	
8	Paw Arm (R)	1		23	Rod	1	
9	Spring	14		24	Check Plate	29	
10	Screw	14		25	Fixed Support (R)	1	
11	Nut M8	2		26	Fixed Support L)	1	
12	Screw M8x80	2		27	Screw M8x15	2	
13	Screw M8x30	2		28	Screw M8x15	4	
14	Screw M10x45	2		29	Guard	1	
15	Nut M10	4					

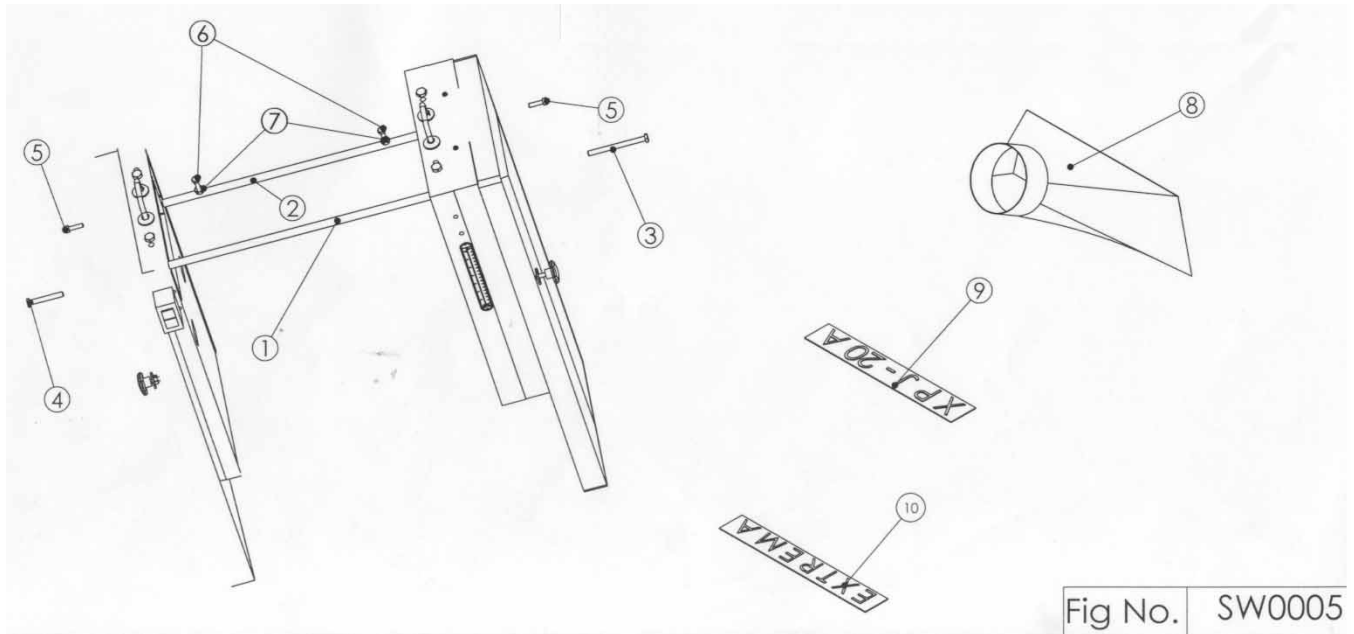


Fig No. SW0005

SW0005

No	Part Name	Qty	Part No
1	Rod	1	
2	Rod	1	
3	Screw M10x120	1	
4	Screw M10x70	1	
5	Screw M10x30	2	
6	Screw M8x35	2	
7	Nut M8	2	
8	Chip Discharge Cover Tube	1	
9	Sticker	1	
10	Sticker	1	