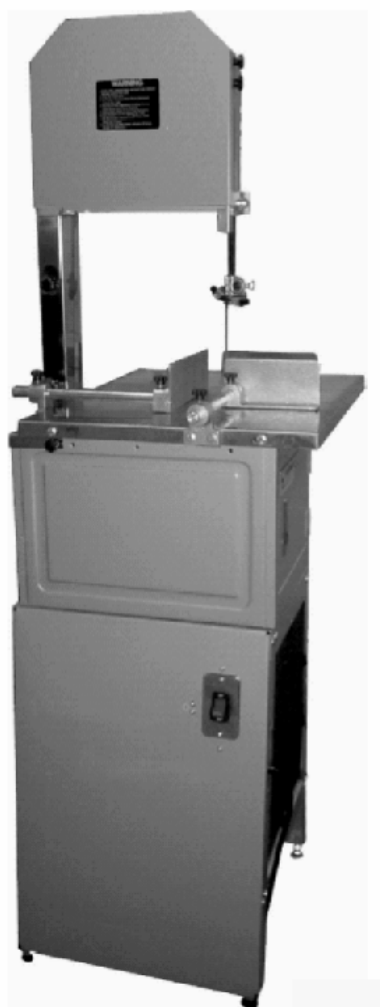

INSTRUCTION MANUAL

Deluxe 10" Meat Saw/Grinder



The Serial NO./ Model No . Plate is attached to the right side of base casting . Locate this plate and record the Serial No.and Model No.in your manual for future reference.

SERIAL NO. _____

MODEL NO. _____

Before Using Be Sure To Read This Manual.
This machine is to be used only from 12 C~35 C (53.6 F~95 F)

GROUNDING INSTRUCTIONS

1. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
2. Do not modify the plug if it will not fit the outlet. Have the proper outlet installed by a qualified electrician.
3. Improper connection of the equipment grounding conductor can result in a risk of electric shock. The conductor (with or without yellow stripe) is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.
4. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if uncertain whether the tool is properly grounded.
5. Use only extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.

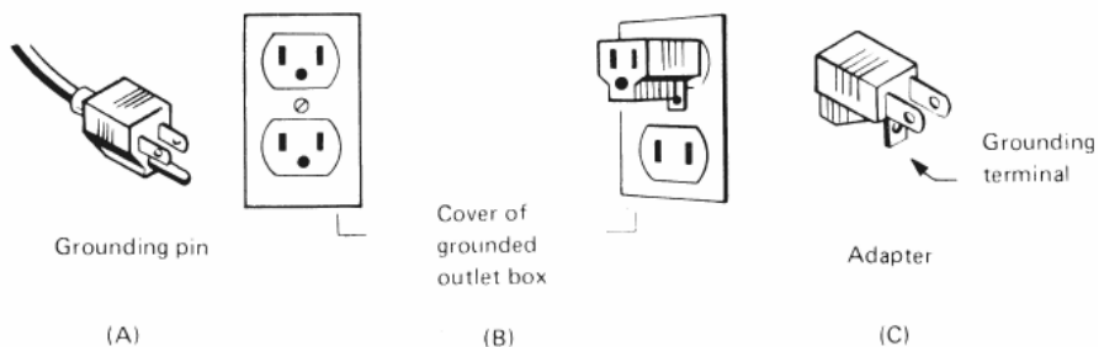
6. Repair or replace damaged or worn cord immediately.
7. This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in sketch A. The tool has a grounding plug that looks like the plug illustrated in sketch A. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect the plug to a 1-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, etc. extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

Note:

The type of electrical plug and receptacle differs from country to country.

Caution:

In Canada only the grounding shown in figure (A) is acceptable. The extension cords should be CSA certified S.J.T. type or something better.



POWER CONNECTIONS

A separate electrical circuit should be used for the power tools. This circuit should not be less than No.12 wire and should be protected with a 20 Amp time lag fuse. Never use long extension cords. If an extension cord is used, use only 3-wire extension cords which have 3-prong grounding type plugs and 3-pole receptacles which accept the tool plug. Before connecting the motor to the power line, be sure that the electric current is of the same characteristics as stamped on motor nameplate. All line connections should make good contact. Running on low voltage will damage the motor.

IMPORTANT

As with all power tools there is a certain amount of hazard involved with the operation and use of the tool. Using the tool with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may occur.

SAFETY RULES

1. KEEP GUARDS IN PLACE and in working order.

2. REMOVE ADJUSTING KEYS AND WRENCHES.

Form a habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.

3. KEEP WORK AREA CLEAN.

Cluttered areas and benches invite accidents.

4. DON'T USE IN A DANGEROUS ENVIRONMENT.

Don't use power tools in damp or wet locations or expose them to rain. Keep work areas well lighted.

5. KEEP CHILDREN AWAY.

All visitors should be kept a safe distance from work area.

6. MAKE WORKSHOP KID-PROOF with padlocks, master switches, or by removing starter keys.

7. DON'T FORCE TOOL. Don't force tool or attachment to do a job for which it was not designed.

8. USE PROPER TOOL. It will do the job better and safer for the purpose it was designed.

9. WEAR PROPER APPAREL. No loose clothing, neckties, rings, bracelets or other jewelry that can get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

10. ALWAYS USE SAFETY GLASSES. Also use face mask when cutting. Everyday eyeglasses only have impact-resistant lenses and are NOT safety glasses.

11. SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.

12. DON'T OVERREACH. Keep proper footing and balance at all times.

13. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

14. DISCONNECT TOOLS before servicing; when changing accessories such as blades.

15. REDUCE THE RISK OF UNINTENTIONAL

STARTING. Make sure switch is in off position before plugging in tool.

16. USE RECOMMENDED ACCESSORIES. Consult the owner's manual for recommended accessories.

The use of improper accessories may increase risk of injury.

17. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped over or if the cutting tool is accidentally contacted.

18. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully inspected. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. Damaged parts should be properly repaired or replaced.

19. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of the blade or cutter only.

20. NEVER LEAVE TOOL RUNNING UNATTENDED.

TURN POWER OFF. Don't leave tool until it comes to a complete stop.

21. OPERATION SHOULD BE SUPERVISED BY SKILLED PERSON if user is not experienced in operating this machine.

SPECIAL SAFETY RULES FOR BAND SAWS

1. ADJUST the upper guide about 1/8" (3.2mm) above the material being cut.
2. MAKE SURE that blade tension and blade tracking are properly adjusted.
3. STOP the machine before removing scrap pieces from the table.
4. ALWAYS keep hands and fingers away from blade.
5. CHECK for proper blade size and type.
6. DO NOT attempt to saw stock that does not have a flat surface unless a suitable support is used.
7. HOLD material firmly and feed into blade at a steady speed.
8. TURN OFF machine if the material is to be backed out of an uncompleted cut.
9. MAKE "relief" cuts before cutting long curves.
10. GET HELP so you do not strain yourself.

CLEANING AND SANITIZING

1. Before using, clean the inside of main body of the machine.
2. Right after use, clean the inside of machine to prevent meat scraps from spoiling inside the machine.

TROUBLESHOOTING GUIDE

PROBLEM: Motor won't start	(A) Band saw is not plugged in (B) Household circuit has fuse or open circuit breaker (C) Power cord is damaged. Replace (D) Switch is not in "on" position. (E) Motor requires service.
Band saw blade does not move although motor is running.	(A) Blade tension knob is not tight. Turn off motor, tighten knob. (B) Blade has slipped off pulley wheel. Open cover housing and reposition. (C) Blade is broken. Replace blade.
Blade will not cut or cuts slowly.	(A) Teeth have been dulled by contact with hardened steels or prolonged usage. Replace blade. (B) Blade mounted backwards.
Meat scraps collect inside of band saw.	(A) This is normal - clean out periodically. (B) Remove cover housing and clean out all meat scraps.
Meat scraps in motor housing.	(A) Use vacuum cleaner nozzle on air intake and exhaust grilles. (B) Keep workplace clean. Clean up excess meat scraps frequently.
Unable to get blade to track in driver of wheel.	(A) Backing bearing not properly adjusted. (B) Tension wheel not properly adjusted. (C) Damaged or worn blade. Replace blade.

BAND SAW BLADES

A band saw blade is a delicate piece of steel that is subjected to tremendous strain. You can obtain long use from a band saw blade if you give it proper treatment. Be sure you use blades of the proper thickness, width and temper for the type of material to be cut.

Always use the widest blade possible. Use the narrow blades only for sawing small pieces, abrupt curves and for fine, delicate work. This will save blades and will produce better work. Band saw blades may be purchased welded, set, sharpened and ready for use.

File and set the cutting blade whenever you find it requires pressure to make a cut. If a blade is broken, it can be brazed or welded. However, if it has become work-hardened, it will soon break in another place. If you are not equipped to file, set and braze or weld blades, take them to a saw filer for reconditioning. Under average conditions, blades should be resharpened after 4 hours of operation.

Many conditions may cause a band saw blade to break. Blade breakage is in some cases unavoidable. However, operator error often causes blades to break. The most common causes of blade breakage are: (1) Faulty alignment and adjustment of the guides, (2) Forcing or twisting a wide blade around a short-radius curve, (3) Feeding stock too quickly, (4) Dullness of the teeth or absence of sufficient set, (5) Excessive tightening of the blade, (6) Top guide set too high above the work being cut, (7) Using a blade with a lumpy or improperly finished braze or weld and, (8) Continuous running of the saw blade when not in use for cutting.

New blades for the standard band saw should be 77 1/2" (1968mm) length, 5/8" (16mm) width.

OPERATING THE BAND SAW

Before starting the machine, make sure that all adjustments are properly made and the guards are in place. Turn the pulley by hand to make sure that everything is correct BEFORE turning on the power.

Keep the top guide down close to the work at all times. Do not force the material against the blade too hard. Light contact with the blade will permit easier following of the line and prevent undue friction, heating and work-hardening of the blade at its back edge.

KEEP THE SAW BLADE SHARP and you will find that very little forward pressure is required for average cutting. Moving the stock into the blade at a steady speed will provide an easy cutting movement.

Avoid twisting the blade by trying to turn sharp corners. Remember you must saw around corners.

CUTTING CURVES

When cutting curves turn the stock carefully so that the blade can follow without being twisted. If a curve is so abrupt that it is necessary to repeatedly back up and cut a new kerf, either a narrow blade or a blade with more set is required. The more set a blade has, the easier it will allow the stock to be turned. However, the cut is usually rougher than a blade with a medium amount of set. In order to change the cut, the operator must be careful that he does not accidentally draw the blade off the wheels. In most cases it is easier and safer to turn the stock and saw with a series of cuts to protect the blade.

HOW TO ORDER

REPLACEMENT PARTS

Even this high quality power tool may need occasional replacement parts to maintain good working condition over the years. To order replacement parts, contact or write Northern Tool & Equipment Co.

Please give the following information:

1. Model No. and Serial No. and specifications on the Model No./Serial No. plate.
2. The number or numbers as shown in the replacement parts list supplied with your power tool.
3. A brief description of the trouble with the power tool.

UNPACKING

Carefully unpack the band saw and check all items. Figure 1~4 illustrates the contents of the carton. Do not discard any packing material until the band saw is fully assembled and operational.



1. Band saw base unit as shown in (Fig. 1)

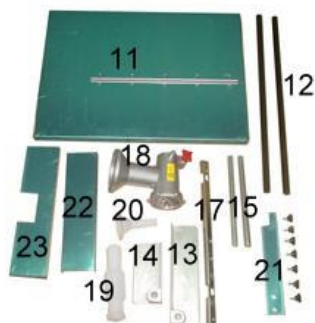


Stand Pieces (Fig. 2)

2. Stand Hardware Bag

-Knob Screw M6-1 x 12.....	17
-Special Hex Bolt M10-1.5 x 16.....	3
-Hex Bolt M8-1.25 x 20.....	4
-Carriage Bolt M8-1.25 x 16.....	22
-Hex Nut M8-1.25.....	30
-Flat Washer 8mm.....	34
-Hex Bolt M6-1 x 20.....	4
-Hex Bolt M6-1 x 12.....	4
-Flat Washer 6mm.....	8
-Tap Screw #6x3/8".....	12

3. Front Plate.....	1
4. Rear Plate.....	1
5. Lower Bracket.....	2
6. Side Cover	2
7. Face Plate	1
8. Upper Bracket.....	1
9. Motor Mount Plate.....	1
10. Foot Hardware	
-Rubber Pad.....	4
-Type set Plate.....	4



Table, fence and grinder pieces (Fig.3)



Motor, drive belt and switch pieces (fig.4)

11. Table.....	1
12. Guide Sliding Rail.....	2
13. Large Fence.....	1
14. Small Fence.....	1
15. Fence Stand Rod.....	2
16. Fence Supporter.....	2
17. Table Fixed Plate.....	1
18. Grinder Kit.....	1
19. Plastic Pusher.....	1
20. Plastic Sausage Stuffer.....	1
21. Blade Guard.....	1
22. Blade Cover.....	1
23. Table Guard Cover.....	1

24. Motor with Motor Pulley.....	1
24-1. Motor Pulley.....	1
25. Switch Box.....	1
26. Switch.....	1
27. Power Cord.....	1
28. V-Belt A53 41530.....	1

ASSEMBLE STAND

All the following stand pieces except the rubber pad should be assembled with the M8 x 1.25 x 16 mm carriage bolts, 8 mm washers, M8 hex nuts.

1. Place the face plate upside down on a level surface. Fasten the rear plate and front plate to face plate using carriage bolts. Place the 4 L type set plates on the corner of stand, install the rubber pad, insert 4 Hex nuts and 4 flat washers into the rubber pad and attach the pad to the stand corners. Attach the lower bracket to the stand sides. (Fig.5)



Fig.5

2. Attach the motor plate to the upper bracket using M8 carriage bolts x2 ,M8 Washer x2 and M8 Nut x2 (Fig.6) Please note below the holes for attachment.

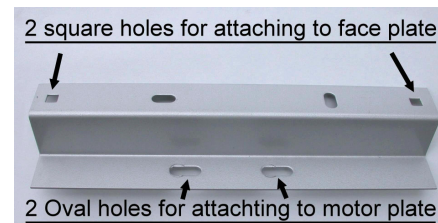
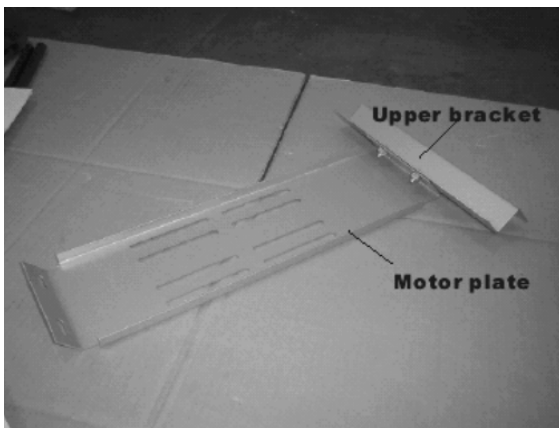


Fig.6

3. Attach the motor plate with the upper bracket to the inside of the stand as shown in (Fig.7) using M8 carriage bolts x2 ,M8 Washer x2 and M8 Nut x2
4. Turn over the stand on its pad to square out the sides, tightening all the above loose nuts.

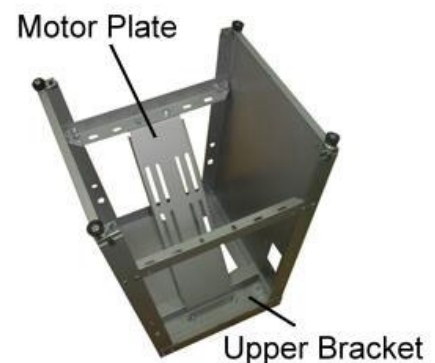


Fig.7

ASSEMBLE SWITCH AND MOTOR

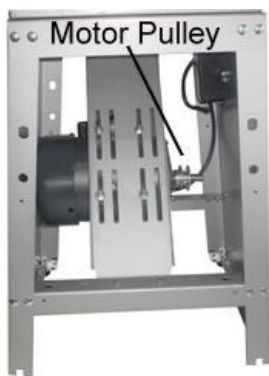
1. Mount the switch on the front plate with 2 Phillips head screws (3/16" x 1/2"), hex nuts (3/16") and star washers (M5). (Fig.8)



wiring the on/off switch



Fig.8



2. Place the motor in the motor plate so the motor pulley is directly under the pulley slot in the top of the stand. Fasten the motor, which should be placed on both sides of the motor plate. (Fig.9)

Fig.9

3. Wiring Diagram

These wiring colors are not specified except for the green ground wire. (Fig.10)

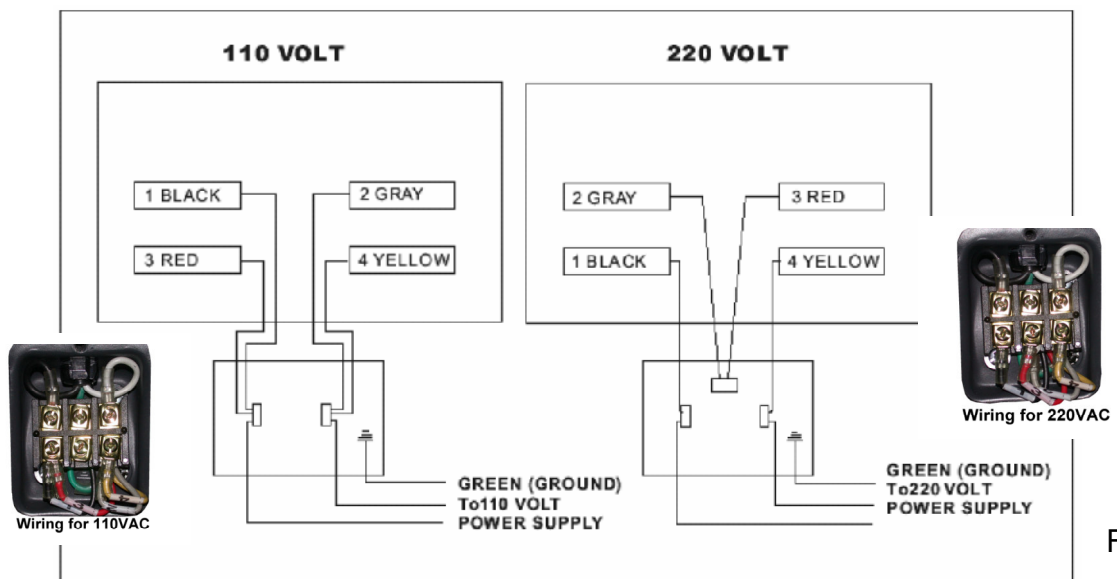


Fig.10

ASSEMBLE BAND SAW UNIT

Place the band saw unit on the stand, fasten the stand to the band saw unit with 3 set bolts (m1-1.5*16) as shown in Fig.11

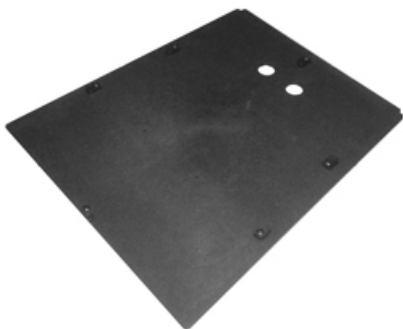


Fig.11

ASSEMBLE V-BELT

1. Loosen the 4 motor mounting bolts, raise the motor up, fitting the V-belt into the pulley grooves, then let the motor down.
2. Place a slight pressure on the motor to tension the belt, then tighten the 4 motor mount bolts.
3. Make sure the motor does not twist and re-check the pulley alignment. Adjust the positioning as needed.

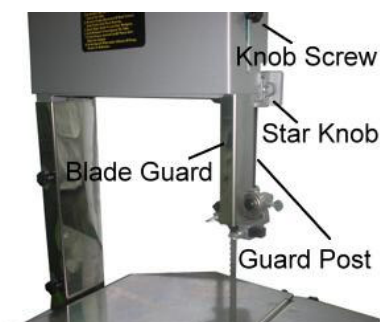
ASSEMBLE SIDE COVER



Fit the 2 side covers inside the stand opening and attach by turning the catch tabs over the edges of the stand as shown in (Fig. 11-1).

ASSEMBLE TABLE GUARD COVER AND BLADE COVER

1. Place the table guard around the throat of band saw unit on the top edge with 2 knob screws of the guard cover.
2. Place the blade cover around the side of the band saw, covering the blade with 4 knob screws as shown in (Fig. 12)



ASSEMBLE TABLE

1. Place and fix one guide sliding rail to the underside of the sliding table as shown in (Fig. 13)



Fig.13

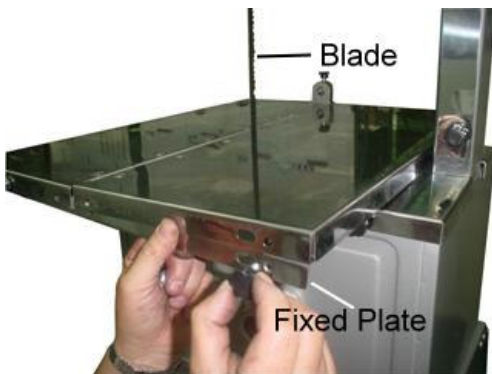


Fig.14

2. Slide the blade of band saw through the slot in the sliding table and place the sliding table on the rollers. (Note that the rails should be seated on and put rail hex corner in the grooves.) Align the table to make the blade at the center of the slot so it won't hit the blade by adjusting the position of the screw for the sliding rail.
3. Attach the fixed plate under the open edge of the table with (M6-1*12) hex bolts as shown in (Fig. 14)

4. Attach the rails to the table end with knob screws as shown in (Fig.15)

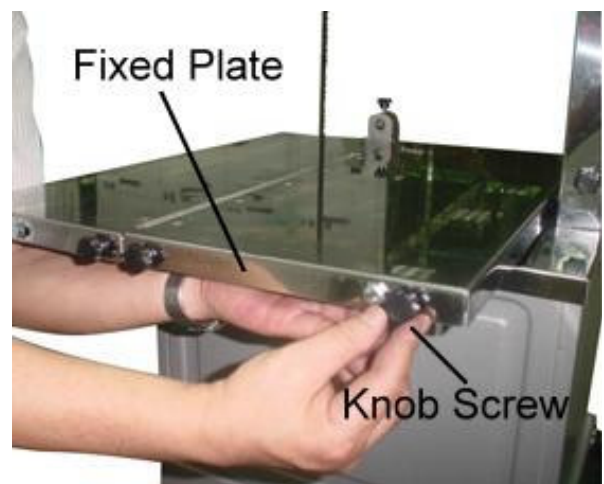


Fig.15

5. Tighten the rails in place, so they can slide in the roller grooves.

Attention: It is best to position the inside rail so the Blade is centered in the slot, then squeeze the outer rail into the roller groove and tighten the screw. Please make sure the rails are secure in the rollers and the blade does not make contact with blade.

6. Make sure the rails are in the roller grooves and that the table slides smoothly as shown in (Fig. 15-1).



Fig.15-1

ASSEMBLE FENCE

1. Attach the fence supporter with hex bolts (M6-1*20) to the table as shown (Fig. 16-1)
2. Insert the fence rod into the large fence and small fence with knob screws.
3. Attach the large fence into the supporter on the left, and the small fence into the supporter in front with knob screws as shown in (Fig.16)

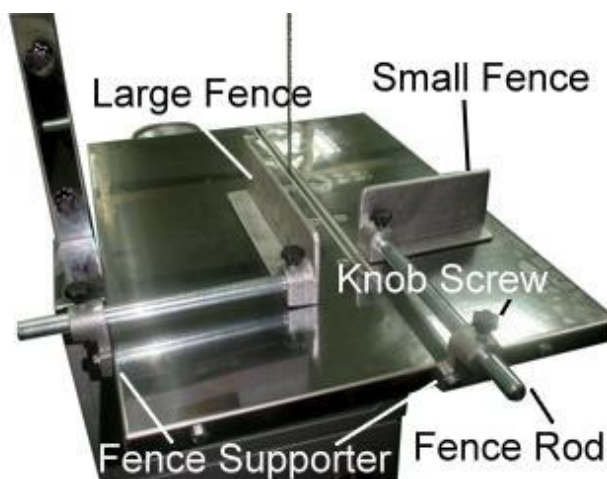


Fig.16

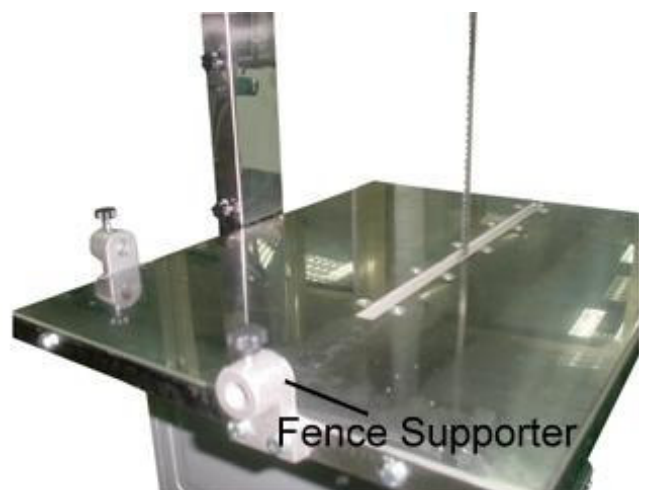


Fig.16-1

ASSEMBLE BLADE GUARD

Fix the blade with 2 knob screws, and the star knob on the guide post can be used to raise and lower the blade guard as shown in (Fig. 18)

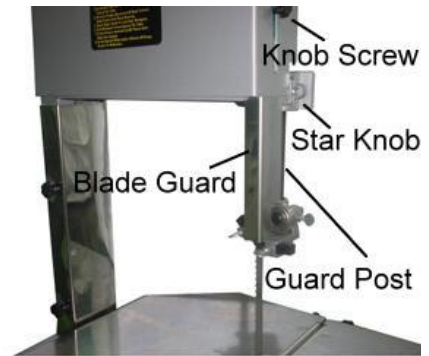


Fig.18

BLADE TENSION ADJUSTING

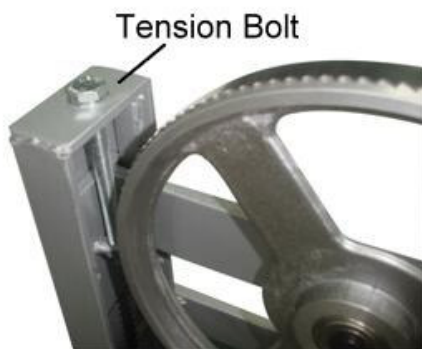


Fig.19

1. Turn power off and remove the upper cover.
2. Turn the tension bolt to adjust the tension or increase the tension as shown in (Fig. 19) & (Fig.20) (Fig.20-1).
1. Turn power off, open upper wheel cover and remove the sliding table from the band saw unit.
2. Move the blade guides away from the blade, so the blade can easily slide out and away from the blade guide assembly.
Tension bolt
3. Remove the V-belt, and release the tension from the blade tension bolt.
4. Remove the blades as shown in (Fig. 21)

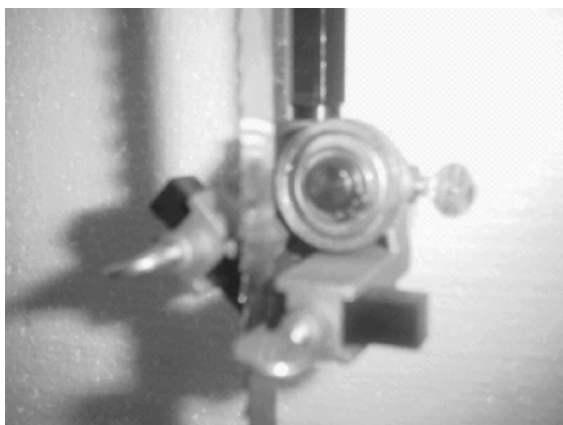


Fig.20

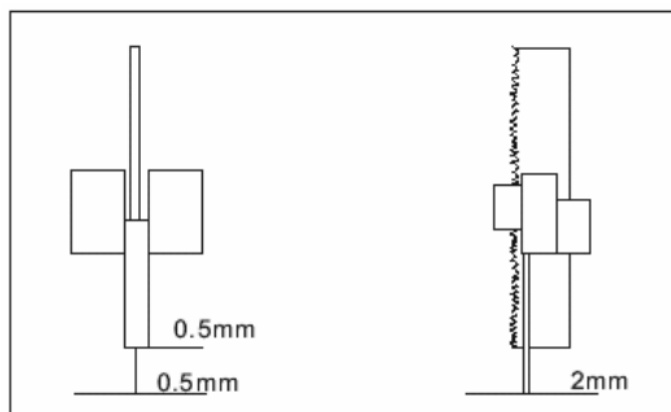




Fig.21

BLADE TRACKING

1. Turn power off and remove the upper wheel cover.
2. Each setscrew moves portion of wheel in or out to adjust the upper, lower and left side of the wheel as shown in (Fig. 22)

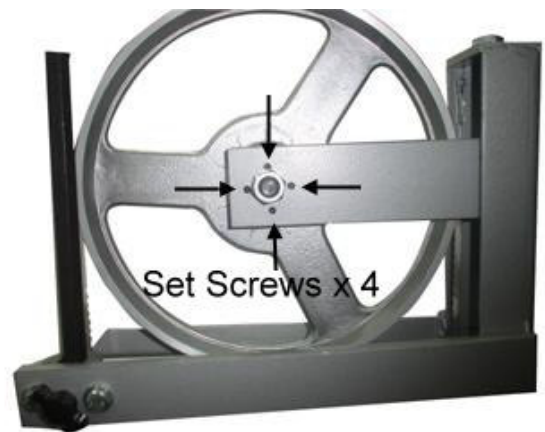


Fig.22

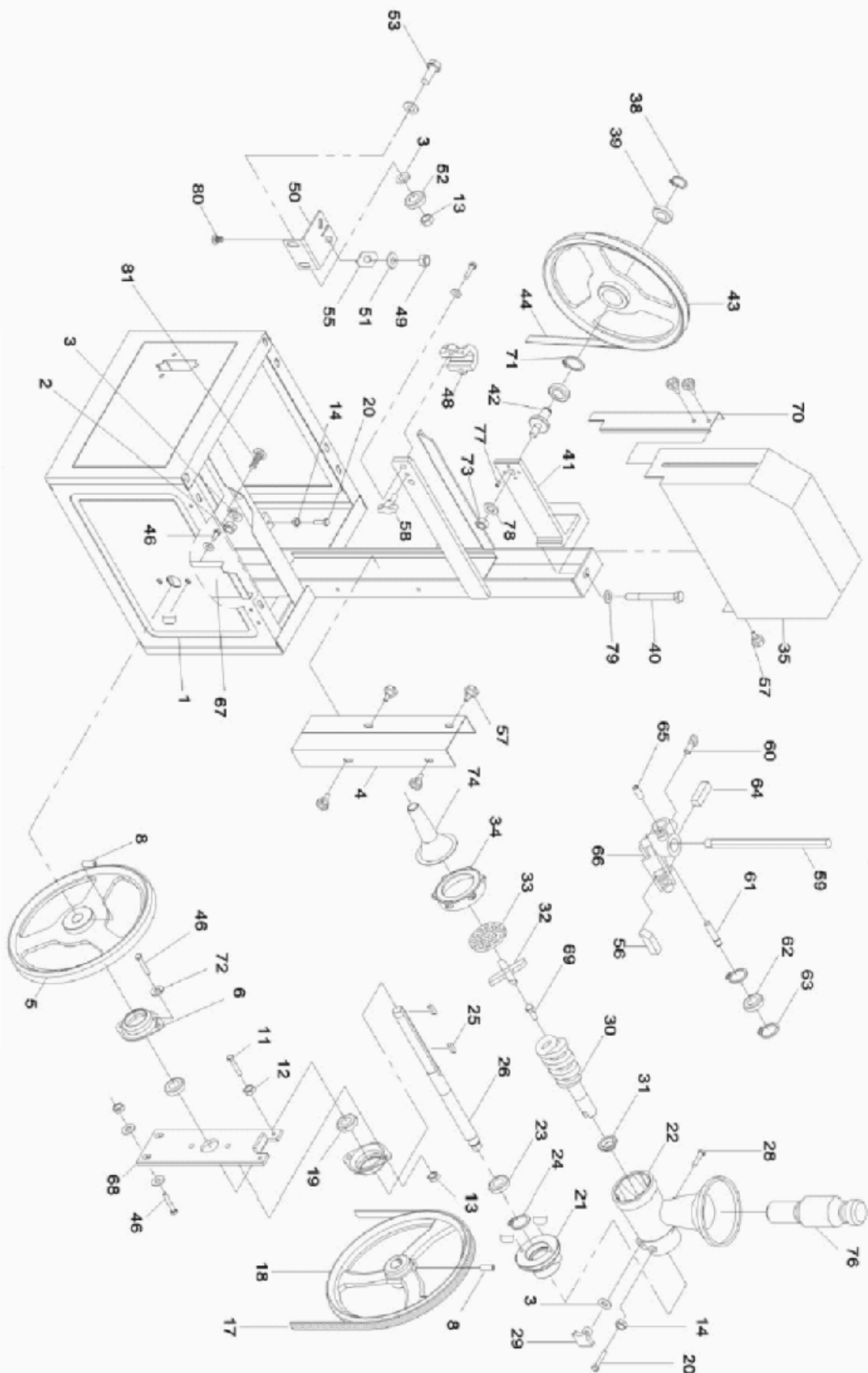
ASSEMBLE MEAT GRINDER

1. Turn power off and attach grinder kit to the keyway. Slide the meat grinder into the housing and tighten the lock cover.
2. To attach a sausage stuffer, remove the lock cover from the end of the meat grinder housing, fit the collar over the sausage stuffer and put the cover back on the housing as shown in (Fig. 23)



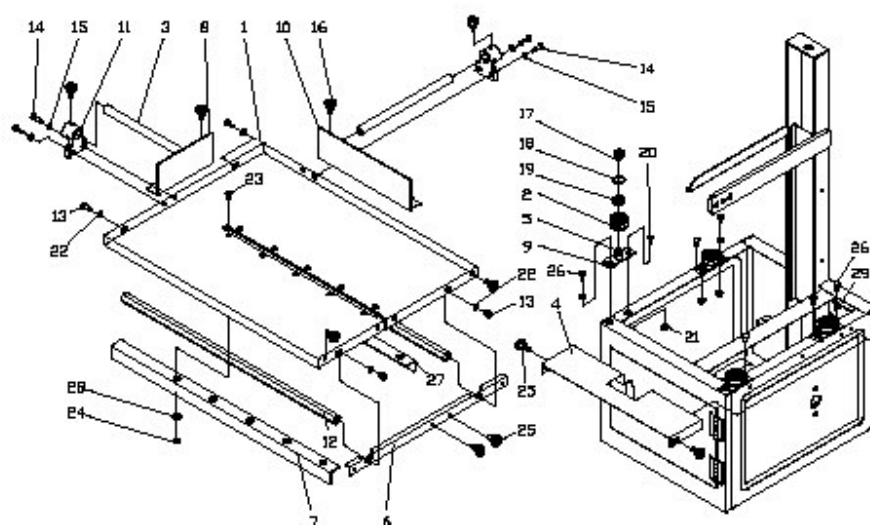
Fig.23

Main Saw Assembly



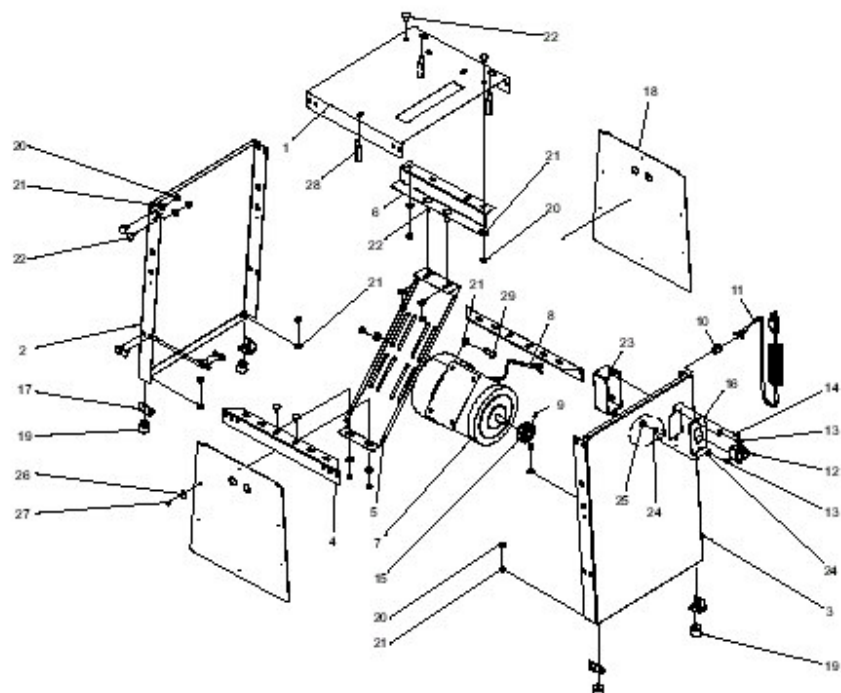
Main Saw Assembly

REF	PART#	DESCRIPTION	SIZE	QTY	REF	PART#	DESCRIPTION	SIZE	QTY
1	010001	Bandsaw Base		1	44	010044-1	Blade		1
2	NH081300	Hex Nut	M8	2	46	SH080400	Hex Bolt	M8x20	8
3	WF081818	Flat Washer	M8x18	10	48	010048	Hex Nut		1
4	010004	Blade Cover		1	49	NH061000	Flange Bolt	M6	2
5	010005	Lower Blade Wheel		1	50	010050	Lower Guide Seat		1
6	010006	Set Bearing		2	51	WF061310	Flat Washer	M6x13	2
8	SS060200	Set Screw	M6x10	3	52	BB608002	Ball Bearing	608zz	1
11	SH060504	Hex Bolt	M6x5/8	2	53	SH080500	Hex Bolt	M8x25	1
12	NH061000	Hex Nut	M6	2	55	010055	Clamping Luge		2
13	NH081300	Hex Nut	M8	5	56	010064	Blade Guide Block		1
14	NH061000	Hex Nut	M6	2	57	990624	Star Knob	M6x12	7
17	LA530000	V-Belt A-53 41530	A53	1	58	990701	Star Knob	M8x20	1
18	010018	Pulley		1	59	010059	Guide post		1
19	BB620401	Ball Bearing	6204z	2	60	150013	Thump Screw	M6x16	3
20	SH060404	Hex Bolt	M6x4, A3	2	61	010061	Blade Guide Bar		1
21	010021	Bracket		1	62	BB620002	Ball Bearing	6200zz	1
22	010022	Grinding Hopper		1	63	RS10000	Ext Retaining Ring	S10	2
23	BB620302	Ball Bearing	6203zz	1	64	010065	Blade Guide Block		1
24	RS170000	Ext Retaining Ring	S17	1	65	SS060200	Set Screw	M6x10	1
25	KS050525	Key	5x5x25	2	66	010066	Blade Guide Holder		1
26	010026	Shaft		1	67	010067	Connector Fixed Plate		1
28	SC080900	Carriage Bolt	M8x45	1	68	010068	Lower Wheel Fixed Plate		1
29	990505	Square Knob	M8	1	69	010069	Rod Set Screw		1
30	010030	Shaft, Thrust		1	70	010070	Blade Guard		1
31	010031	Bushing		1	71	RR350000	Int Retaining Ring	R35	1
32	010032	Reamer	M8	1	72	WS080000	Lock Washer	M8	4
33	014331	Filter Cover	ø4	1	73	NH121900	Hex Nut	M8x1.75	1
34	010034	Lock Cover		1	74	010074	Sausage Stuffer		1
35	010035	Upper Cover		1	76	010076	Pusher	M8x1.75x16	1
38	RS150000	Ext Retaining Ring	S15	1	77	SS050200	Set Screw	M5x10	4
39	BB620201	Ball Bearing	6202z	2	78	WS120000	Lock Washer	M12	1
40	SH102300	Hex Bolt	M10x115	1	79	WF102025	Flat Washer	M10x20	1
41	010041	Bracket		1	80	SC069300	Carriage Bolt	M6x12	2
42	010042	Shaft Bracket		1	81	SC089400	Carriage Bolt	M8x16	2
43	010043	Upper Blade Wheel		1					



Sliding Table Assembly

REF	PART#	DESCRIPTION	SIZE	QTY	REF	PART#	DESCRIPTION	SIZE	QTY
1	D13091	Table (Sliding)		1	16	990624	Philip Hd Scr	M6x12	4
2	D13002	Rollers		4	17	SF050200	Flange Bolt	M5x10	4
3	D13003	Stand Rod		2	18	RR220000	Int Retaining Ring	R22	4
4	D13004	Guard Cover		1	19	BB608002	Ball Bearing	608zz	4
5	D13005	Roller Shaft		4	20	SC069300	Carriage Bolt	M6x12	4
6	D13006	Fixed Plate		1	21	NF061300	Flange Nut	M6	8
7	D10232	Right-Support		1	22	NF061310	Flat Washer	M6x13	4
8	D13008	Small fence		1	23	990545	Flat Hd Screw	M5x10	10
9	D13009	Roller Fixed Plate		4	24	991190	Hex Nut	M5	10
10	D13010	Large fence		1	25	990624	Philip Hd Scr	M6x12	6
11	D13011	Supporter		2	26	SH069400	Hex Bolt	M6x16	4
12	D13012	Guide Rail		2	27	D10231	Left-Support		1
13	SH069300	Hex Bolt	M6x12	4	28	WF051310	Flat Washer	M5x13	10
14	SH060400	Hex Bolt	M6x20	4	29	NH061000	Hex Nut	M6	4
15	WF061310	Flat Washer	M6x13	4					



Stand Assembly Diagram

REF	PART#	DESCRIPTION	SIZE	QTY	REF	PART#	DESCRIPTION	SIZE	QTY
1	011201	Face Plate		1	16	998526	Switch Plate		1
2	113102	Rear Plate		1	17	998529	L Type Set Plate		4
3	113103	Front Plate		1	18	679113	Side Cover		2
4	600104	Lower Bracket		2	19	998632	Rubber Pad		4
5	600107	Motor Plate		1	20	NH081300	Hex Nut	M8	30
6	600109	Upper Bracket		1	21	WF081018	Flat Washer	M8x3/16	34
7	010410551	Motor		1	22	SC089400	Carriage Bolt	M8x1.25x16	22
8	999909	Motor Cord		1	23	998638	Switch Box		1
9	SC069100	Set Bolt	M6x6	1	24	WE050000	Ext Tooth Washer	M5	6
10	998636	Cord Bushing		1	25	NH550800	Hex Nut	3/16"	2
11	999910	Power Cord		1	26	998640	Clamp Door		12
12	994532	Switch		1	27	ST030204	Tap Screw	M3x10.48	12
13	SP550400	Philp Hd Scr	3/16x1/2"	4	28	010220	Set Bolt	M10-1.5x16	3
14	SP550300	Philp Hd Scr	3/16x3/8"	2	29	SH080400	Hex Bolt	M8x1.25x20	4
15	010215	Motor Pulley		1					