



4650 22" Bandsaw

Owner's Manual



Warranty

Oliver makes every effort possible to assure that its equipment meets the highest possible standards of quality and durability. All products sold by Oliver are warranted to the original customer to be free from defects for a period of 2 (two) years on all parts, excluding electronics and motors, which are warranted for 1 year. Oliver's obligation under this warranty shall be exclusively limited to repairing or replacing (at Oliver's option) products which are determined by Oliver to be defective upon delivery F.O.B. (return freight paid by customer) to Oliver, and on inspection by Oliver. This warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligence, accidents, unauthorized repairs, alterations, lack of maintenance, acts of nature, or items that would normally be consumed or require replacement due to normal wear. In no event shall Oliver be liable for death, personal or property injury, or damages arising from the use of its products.

Warning

Read this manual thoroughly before operating the machine. Oliver Machinery disclaims any liability for machines that have been altered or abused. Oliver Machinery reserves the right to effect at any time, without prior notice, those alterations to parts, fittings, and accessory equipment which they may deem necessary for any reason whatsoever.

For More Information

Oliver Machinery is always adding new Industrial Woodworking products to the line. For complete, up-to-date product information, check with your local Oliver Machinery distributor, or visit www.olivermachinery.net

WARNING

Read this manual completely and observe all warning labels on the machine. Oliver Machinery has made every attempt to provide a safe, reliable, easy-to-use piece of machinery. Safety, however, is ultimately the responsibility of the individual machine operator. As with any piece of machinery, the operator must exercise caution, patience, and common sense to safely run the machine. Before operating this product, become familiar with the safety rules in the following sections.

- **Always keep guards in place and in proper operating condition.**
 - **Keep hands out of line with the saw blade.**
 - **Use a push stick.**
1. **If you are not properly trained** in the use of a bandsaw do not use until the proper training has been obtained.
 2. **Read, understand and follow** the safety instructions found in this manual. Know the limitations and hazards associated with this machine.
 3. **Electrical grounding:** Make certain that the machine frame is electrically grounded and that a ground lead is included in the incoming electrical service. In cases where a cord and plug are used, make certain that the grounding plug connects to a suitable ground. Follow the grounding procedure indicated in the National Electrical Code.
 4. **Eye safety:** Wear an approved safety shield, goggles, or glasses to protect eyes. Common eyeglasses are only impact-resistant, they are not safety glasses.
 5. **Personal protection:** Before operating the machine, remove tie, rings, watch and other jewelry and roll up sleeves above the elbows. Remove all loose outer clothing and confine long hair. Protective type footwear should be used. Where the noise exceeds the level of exposure allowed in Section 1910.95 of the OSHA Regulations, use hearing protective devices. Do not wear gloves.
 6. **Guards:** Keep the machine guards in place for every operation for which they can be used. If any guards are removed for maintenance, DO NOT OPERATE the machine until the guards are reinstalled.
 7. **Work area:** Keep the floor around the machine clean and free of scrap material, saw dust, oil and other liquids to minimize the danger of tripping or slipping. Be sure the table is free of all scrap, foreign material and tools before starting to use the machine. Make certain the work area is well lighted and that a proper exhaust system is used to minimize dust. Use anti-skid floor strips on the floor area where the operator normally stands and mark off machine work area. Provide adequate work space around the machine.
 8. **Material condition:** Do not attempt to saw boards with loose knots or with nails or other foreign material. Do not attempt to saw twisted, warped, bowed stock.
 9. **Operator position:** Maintain a balanced stance and keep your body under control at all times.
 10. **Before starting:** Before turning on machine, remove all extra equipment such as keys, wrenches, scraps, and cleaning rags away from the machine.
 11. **Careless acts:** Give the work you are doing your undivided attention. Looking around, carrying on a conversation, and "horseplay" are careless acts that can result in serious injury.

12. **Disconnect all power sources:** Before performing any service, maintenance, adjustments or when changing blades. A machine under repair should be RED TAGGED to show it should not be used until the maintenance is complete.
13. **Job completion:** If the operator leaves the machine area for any reason, the bandsaw should be turned "off" and the blade should come to a complete stop before their departure.
14. **Replacement parts:** Use only genuine Oliver Machinery factory authorized replacement parts and accessories; otherwise the warranty and guarantee is null and void.
15. **Misuse:** Do not use this Oliver bandsaw for other than its intended use. If used for other purposes, Oliver disclaims any real or implied warranty and holds itself harmless for any injury or damage which may result from that use.
16. **Drugs, alcohol and medication:** Do not operate this machine while under the influence of drugs, alcohol, or any medication.
17. **This machine is deigned** for cutting wood products only. Do not use to cut any kind of metal or substance other then wood.
18. **Never start the saw** while a workpiece is in contact with the blade.
19. **Make sure** the blade is running in the proper direction. The teeth should be pointing down at the point the blade enters the table viewing from the front of the saw.
20. **Health hazards:** Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead-based paint.
 - Crystalline silica from bricks and cement and other masonry products.
 - Arsenic and chromium from chemically-treated lumber.Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specifically designed to filter out microscopic particles.

Familiarize yourself with the following safety notices used in this manual:

CAUTION: (This means that if precautions are not heeded, it may result in minor or moderate injury and/or possible machine damage)

WARNING: (This means that if precautions are not heeded, it could result in serious injury or possibly even death).

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Specifications

Model No.....	4650
Stock No.....	4650.001 (5HP, 1Ph)
.....	4650.002 (5HP, 3Ph)
Blade Speed (SFPM).....	4,000
Wheel Diameter (in.).....	20
Table Dim. (WxL/in.).....	26-3/4 x 20-1/2
Throat Distance (in.).....	19
Max. Stock Height (in.).....	11-1/4
Blade Length (in.).....	157
Blade width Cap. (in.).....	1/4 to 1-1/4
Table Height at 90° (in.).....	33-3/4
Table Tilt Limits.....	0° to 45°
Motor.....	3HP, 1Ph. 220V Only
.....	5HP, 3Ph, 220V
Gross Weight (lbs.).....	1021

Contents of the Shipping Containers

Picture 2

1. Fence
2. Rail
3. Miter guage
4. Rail brackets
5. Speed handle
6. Wrenches
7. Allen keys
8. Rail mounting hardware
9. Measuring tape for rail
10. Eye bolts
11. Tray

Uncrating the Machine

Your bandsaw should arrive crated as shown in Picture 1. Inspect the unit for signs of shipping damage. If damage is found, contact the delivering freight carrier immediately. Retain all packaging materials in case it becomes necessary to ship the machine back to the dealer or to another site.

Machine Preparation and Setup

!WARNING

The equipment used to lift this machine must have a rated capacity at, or above the weight of the bandsaw. Failure to comply may cause serious injury!

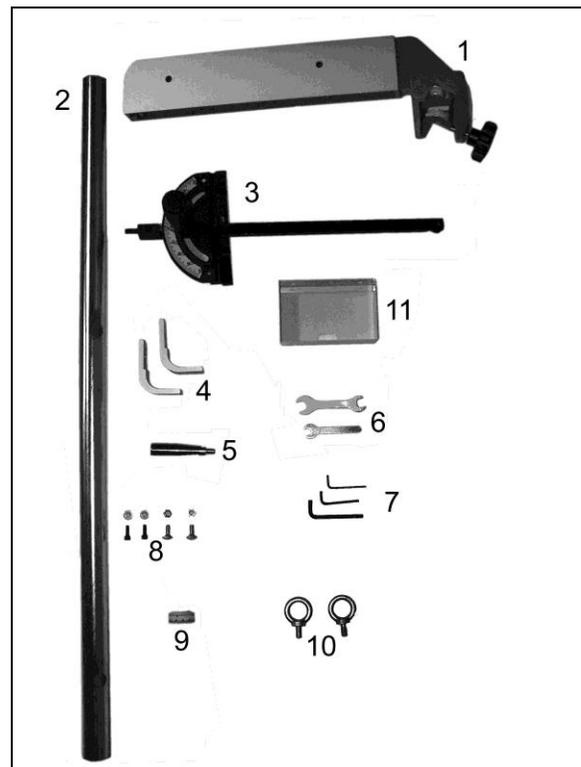
The bandsaw is bolted to the skid with four bolts. Remove the bolts. Screw the eyebolts (#10, Picture 2) into the top of the machine and use a forklift or similar to lift the bandsaw off the skid and into position. The bandsaw must be positioned on a smooth, level surface. The area must be well lit and have plenty of room to maneuver with large pieces of wood.

Level the saw front to back and side to side using a level placed on the table. Use shims under the corners, if necessary, but make sure the saw is stable before being placed into service.

Clean all rust protected surfaces with a commercial solvent. Do not use acetone, gasoline, lacquer thinner or any type of flammable solvent, or a cleaner that may damage paint. Cover cleaned surfaces with WD-40 or a 20W machine oil.



Picture 1



Picture 2

Fence Assembly

1. **Disconnect machine from power source.**
2. Install rail brackets (A, Figure 1) to the table as shown using the supplied hardware. See inset B and notice the elongated hole of the bracket mates with the edge of the table. *Do not fully tighten at this time.*

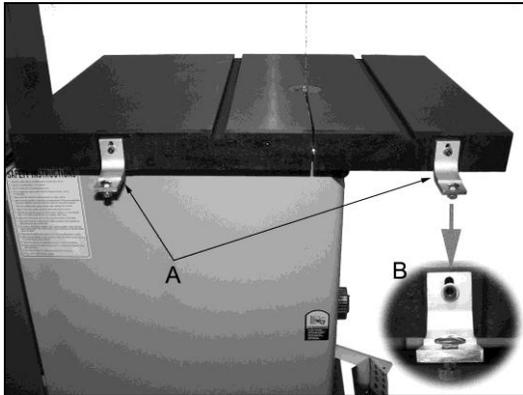


Figure 1

3. Loosely install the supplied carriage bolts and nuts onto the rail brackets as shown in inset B of Figure 2. Line up the two large holes in the rail with the two carriage bolts, as shown in Figure 2. Slide the rail to the right and tighten into place.

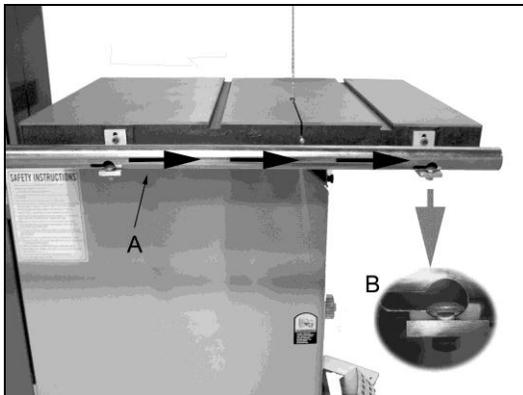


Figure 2

4. Place the fence on the rail as shown in Figure 3. Use the slotted holes in the rail brackets to raise or lower the front end of the fence so it closely matches the height of the rear end of the fence. Tighten into place.

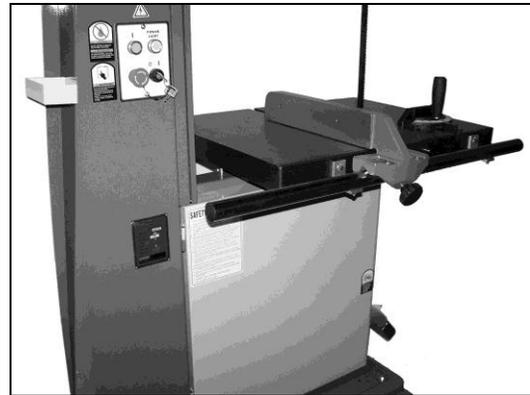


Figure 3

5. To fix the measuring tape to the rail, move the fence into position so that it is just touching the blade as seen in Figure 3. Note that the fence has two position indicators. Cut the tape in the middle between the two zero's.
6. The measuring tape is peel and stick but at this time just slide the left tape under the fence bracket on the rail so the zero mark on the tape lines up with the left indicator on the fence as shown in Figure 4.

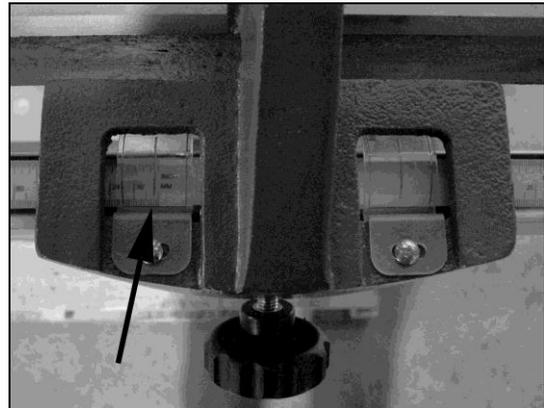


Figure 4

7. Mark the position of the tape on the rail. As well, make sure the tape is centered between the V's of the fence to prevent the fence rubbing on the tape.
8. Remove the backing and fix the tape to the rail.
9. Repeat for the right side.

Installing Blade

!WARNING

Bandsaw blades are sharp so be very careful while handling. Failure to comply may cause serious injury!

1. **Disconnect machine from power source.**
2. Open upper and lower doors.
3. Remove fence and fence rail.
4. Remove table pin (A, Figure 5).
5. Put on leather gloves to protect your hands from the sharp teeth of blade.
6. Slide blade through table slot, ensuring that the teeth are pointing down toward the table.
7. Center the blade (B, Figure 5) on both the upper and lower wheels. Carefully thread the blade through the upper and lower blade guides (C & D) as shown in Figure 5. **Note:** It may help to move the upper wheel down. This can be accomplished by rotating the handwheel (E, Figure 5).

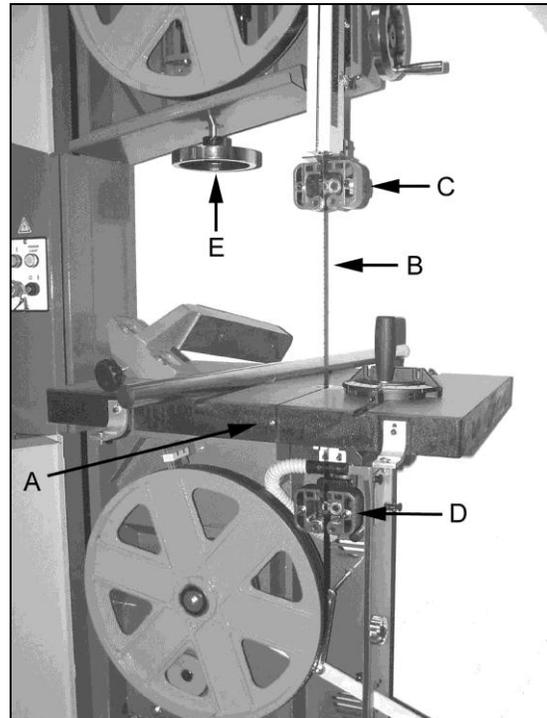


Figure 5

Tensioning Blade

Proper blade tension is essential to any cutting operation on a bandsaw. Too little, or too much blade tension can cause blade breakage and/or poor cutting performance. Tension will vary depending on the blade being used and the type of material being cut.

1. **Disconnect machine from power source.**
2. At this point the blade should be properly positioned, but slack. Increase tension on the blade by rotating tensioning handwheel (E, Figure 5).
3. Move the upper guide assembly (C, Figure 5) and lower guide assembly (D, Figure 5) if they interfere with the blade during tensioning.
4. A reference gauge (Figure 6) indicates the approximate tension setting for the width of blade being used. Turn the tensioning handwheel until the indicator falls on the appropriate mark. Keep in mind that blades will last longer if you release tension when not in use. Also, new blades will often stretch with use, and not all blades will be exactly the same length.
5. When not using the saw, release the blade tension to minimize over-stretching.

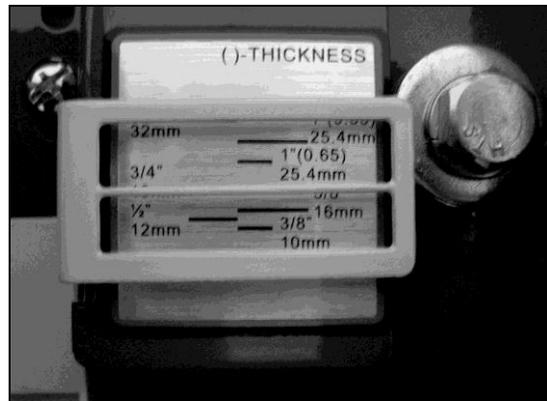


Figure 6

Blade Tracking

Blade tracking has been adjusted at the factory and shouldn't need any adjustment. If you are experiencing a problem follow the below listed steps.

Disconnect machine from power source.

1. Blade must be properly tensioned before adjusting blade tracking, see "Tensioning Blade" page 8. Move the upper guide assembly and lower guide assembly if they interfere with the blade.
2. Open upper wheel door and rotate the wheel forward by hand. Observe position of the blade on the wheel. The blade should rest in approximately the center of the wheel.
3. If adjustment is necessary, loosen the hex nut (A, Figure 7) on the rear of the machine near the tension indicator.
4. Adjust tracking by turning the knob (B, Figure 7) in 1/4 turn increments. Rotate wheel forward, and observe the position of blade on the wheel. Rotating the knob counter-clockwise will move the blade towards the front of the wheel. Rotating the knob clockwise will move the blade towards the back of the wheel.
5. Continue with adjustments until the blade is tracking properly.
6. Tighten the hex nut (A, Figure 7) while holding knob (B, Figure 7).

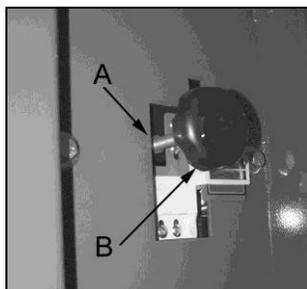


Figure 7

Adjusting The Upper Blade Guide

Disconnect machine from power source.

Note: There are three adjustments necessary to correctly set the blade guides. Please completely read through the following three adjustments entirely before attempting to set the guides because the position of the blade may

require you to perform Adjustment 3 before Adjustment 2.

Adjustment 1

1. Blade tension and tracking must be properly adjusted prior to blade guide setup, see "Tensioning Blade" page 8 and "Blade Tracking" page 9.
2. To set the blades, fold a piece of paper around the back of the saw blade and slide it up between the blade guides as shown in Figure 8.
3. Loosen allen bolts (A, Figure 8) and position the guide bracket so that guides 'B' and 'C' are just touching the paper and not pushing the blade aside. If your hand is large enough, you could reach around the back of both bracket and squeeze them both together at the same time. Then lock into place with allen bolts 'A'.

Note: For best results the upper blade guide should be lowered so that it is just above the workpiece while cutting (see Figure 9). Loosen lock 'B' and use wheel 'A' to adjust the guide up or down. Lock into place once set.

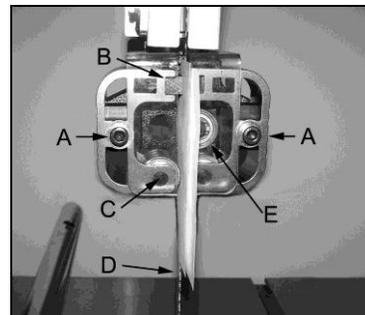


Figure 8

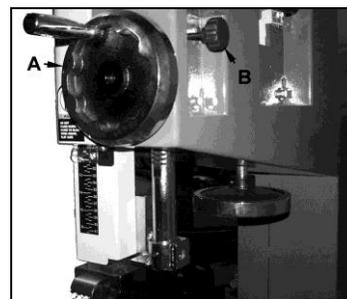


Figure 9

Adjusting the Blade Guides (cont.)

Adjustment 2

1. Blade guides 'B' and 'C' of Figure 8 need to be positioned to just behind the blade gullet as shown by 'D' of Figure 9.
2. To do this, loosen the allen bolt (B, Figure 9) then slide the entire bracket assembly to the correct position. Then tighten back the allen bolt 'B'.

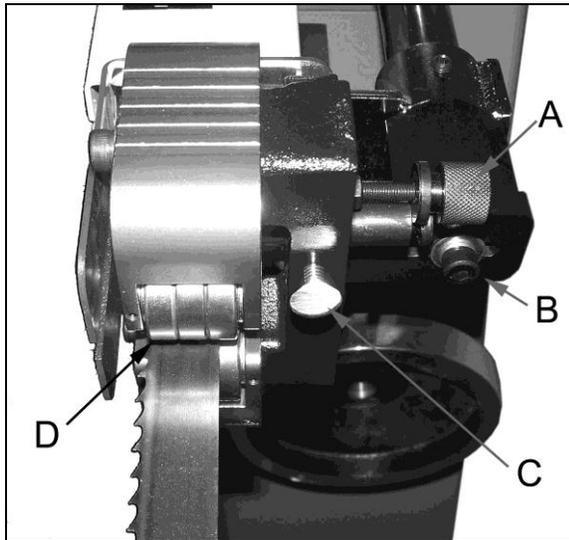


Figure 9

Adjustment 3

1. The rear blade support bearing (E, Figure 8) should be positioned so that it is just barely touching the back of the blade.
2. To do this, loosen the thumb screw (C, Figure 9) then turn the knurled knob (A, Figure 9) to adjust the rear blade support bearing.

Adjusting the Lower Blade Guide

The lower blade guide adjusts in the same way as the upper however Adjustment 2 is achieved by loosening the set screw (Figure 10).

The rear blade support bearing Adjustment 3 is accessed by removing the panel shown in Figure 10.

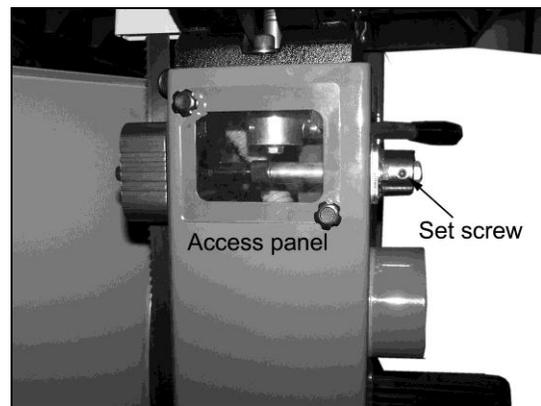


Figure 10

Squaring Table to the Blade

1. **Disconnect machine from power source.**
2. Blade tension, tracking and guide setup must be properly adjusted prior to squaring the table to the blade, see “Tensioning Blade” page 8, “Blade Tracking” page 9, “Adjusting Upper Blade Guides” page 9 and “Adjusting Lower Blade Guides” page 10.
3. Place a square (A, Figure 11) on the table against the blade to see if the table is 90 degrees to the blade.
4. If adjustment is necessary loosen lever (B, Figure 11) and tale stabilizing knob (B, Figure11) and tilt table until it is square to the blade. Re-tighten the lever and knob.
5. Adjust pointer (D, Figure 11) to read zero.
6. Check to see that the table is still square to blade and make any additional adjustments.
7. If necessary loosen screw (K, Figure 9) and adjust pointer to read zero.

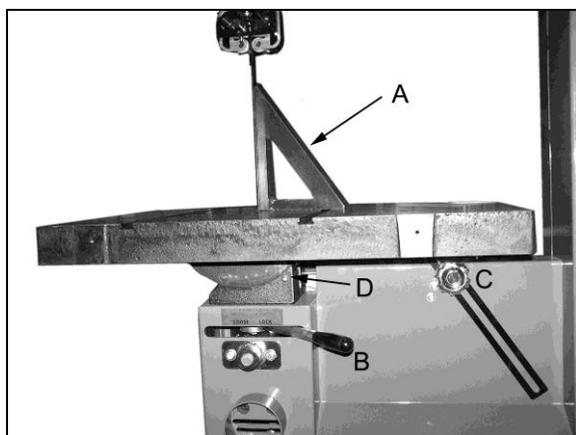


Figure 11

Electrical Connections

! WARNING

Electrical connections and wiring must be done by a qualified electrician. The machine must be properly grounded. Failure to comply may cause serious injury!

The bandsaw is available in both 1-Phase and 3-Phase versions.

- **Electrical Connections for a 3-Phase Unit**

This bandsaw is 3-Phase, 220V. Oliver Machinery recommends using a dedicated circuit.

Make sure the voltage of your power supply matches the specifications on the motor plate of the machine.

1. **Disconnect machine from power source!**
2. Remove nuts that secure the cover to the connection box.
3. Insert the power cable through strain relief, and attach the wires to the terminals.
4. Re-install the connection box cover. With 3Ph power verify the blade is turning in the proper direction. Turn the bandsaw on and make sure the blade travels in a clockwise direction when viewed from the front. If it does not, disconnect the machine from power source and reverse any two incoming power leads.
5. When wiring is completed, tape all power box joints to keep out dust.

- **Electrical Connections for a 1-Phase Unit**

This bandsaw is 1-Phase, 220V only. Oliver Machinery recommends using a dedicated circuit.

Make sure the voltage of your power supply matches the specifications on the motor plate of the machine.

1. **Disconnect machine from power source!**
2. Remove nuts that secure the cover to the connection box.
3. Insert the power cable through strain relief, and attach the wires to the terminals.
4. Re-install the connection box cover.
5. When wiring is completed, tape all power box joints to keep out dust.

Dust Collection

There are two 4" dust port located on the back of the machine cabinet. Make sure dust collection system has sufficient capacity and suction for your bandsaw. Always turn on dust collection system before starting the bandsaw.

Brake Pedal

Press the brake pedal while the saw is running to stop the saw. Re-start the saw by pressing the on switch.

Maintenance

! WARNING

**Disconnect the machine from power source before proceeding with any maintenance!
Failure to comply may cause serious injury!**

Periodically clean the inside of the machine for dust control. Use an air hose to blow out dust from motor fan and motor cover.

Keep the brake switch (A, Figure 15) clean and free of dust build up.

Adjust the lower wheel brush (B, Figure 15) to make contact with the tire as the brush wears.

Keep pulleys and belts free from dirt, dust, oil and grease.

Replace worn v-belt as needed.

Remove rust from the tabletop with WD-40 and a Scotch-Brite™ Hand Pad. Keep a light coat of WD-40 on the table top when not in use.

Keep the bandsaw blade sharp and clean.

Lubrication

! WARNING

**Disconnect the machine from power source before proceeding with any lubricating!
Failure to comply may cause serious injury!**

- Clean and grease upper guide raising and lowering rack (C, Figure 15) monthly, or as needed.
- Oil the components (D, Figure 15) that the upper wheel slides on for blade tension monthly, or as needed.
- Grease the tensioning screw (E, Figure 15) monthly, or as needed.
- The guides (F, Figure 15) require inspection daily or every 8 hours of use. Check that the bearings spin freely and that the bakelite guides are adjusted to the blade.

- If tilting the table frequently, clean off the table tilt trunions and apply a white lithium grease to the friction points.

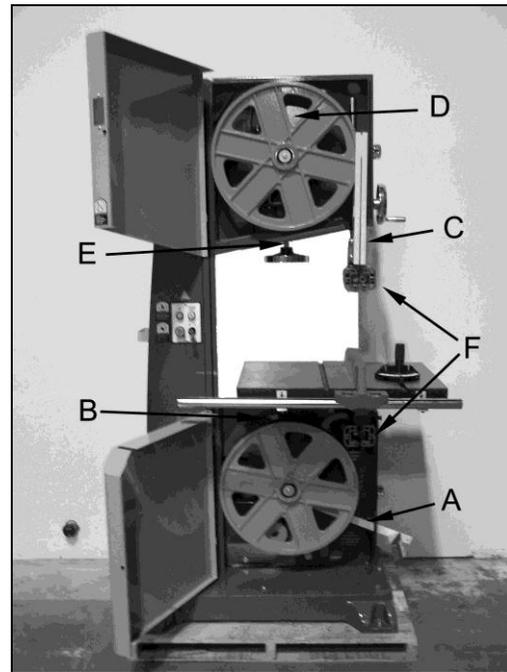


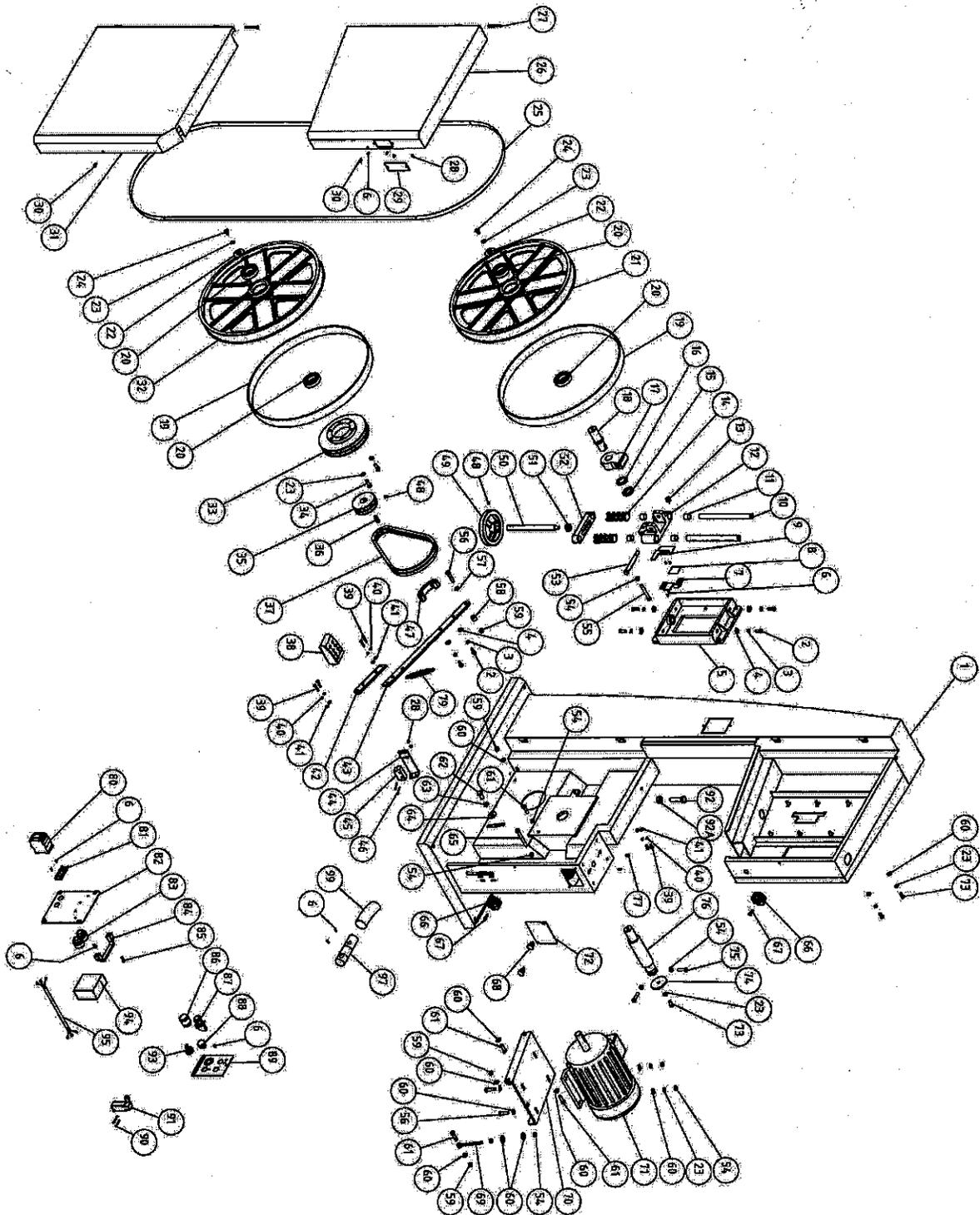
Figure 15

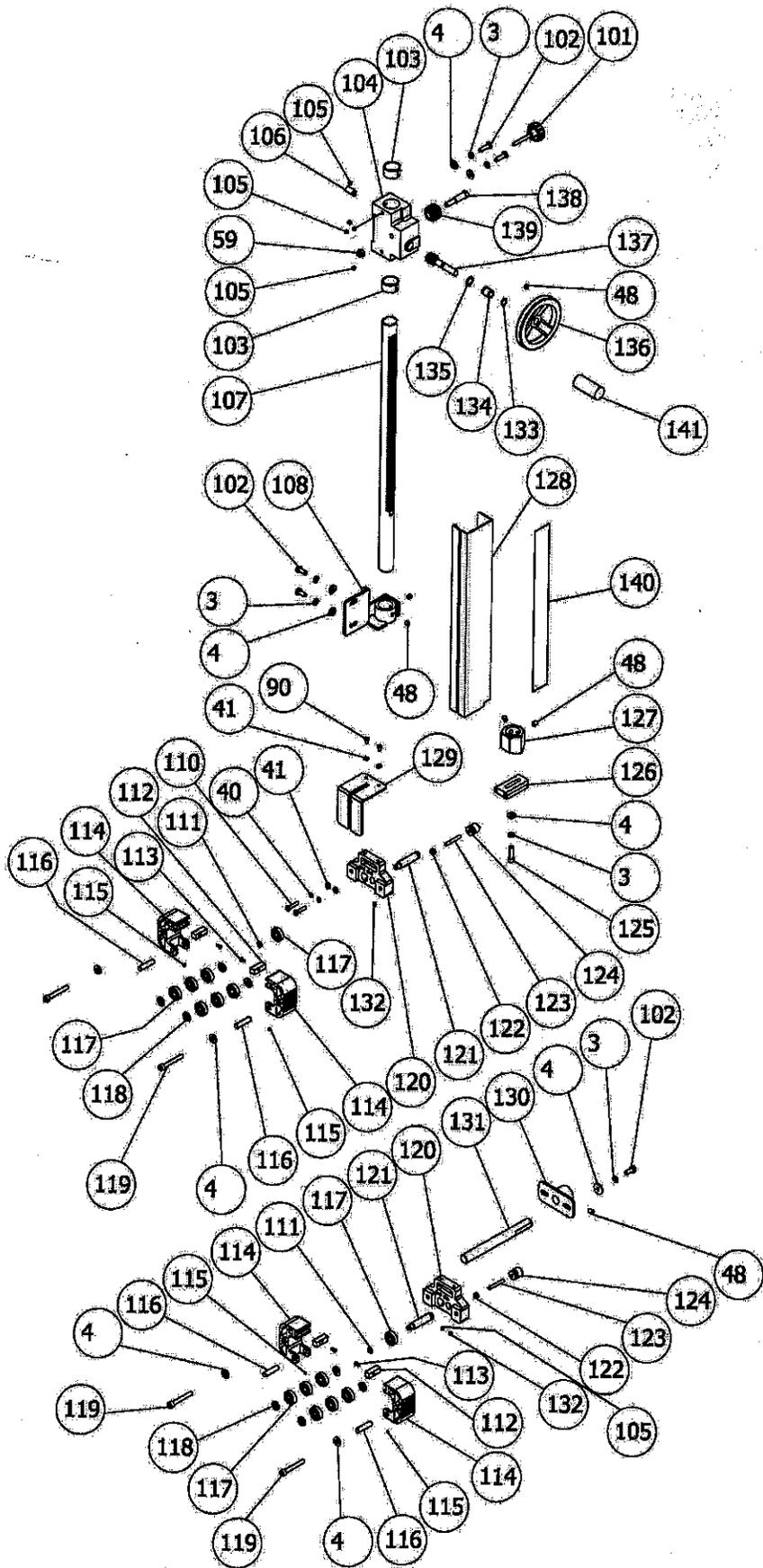
Troubleshooting

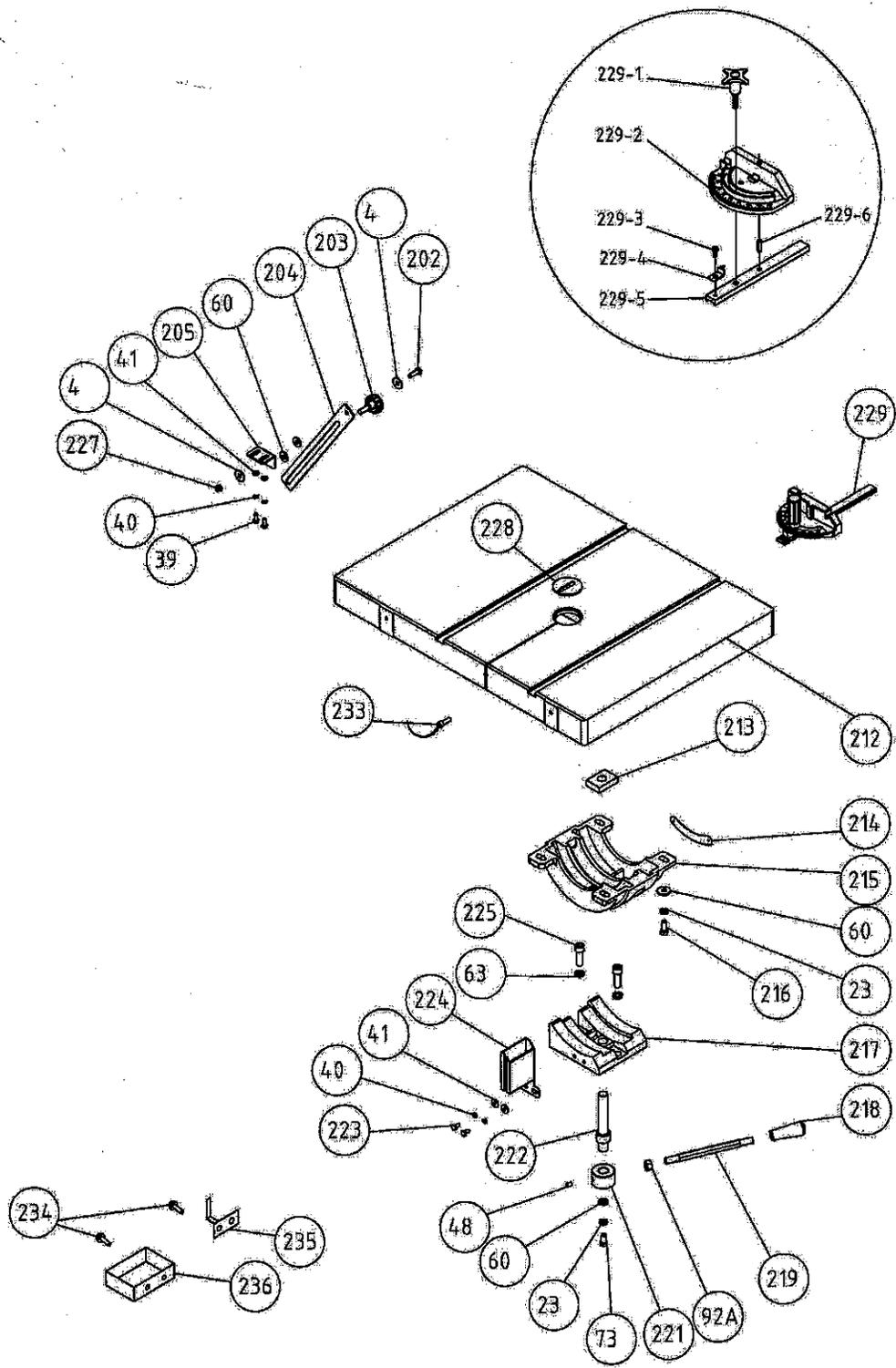
! WARNING

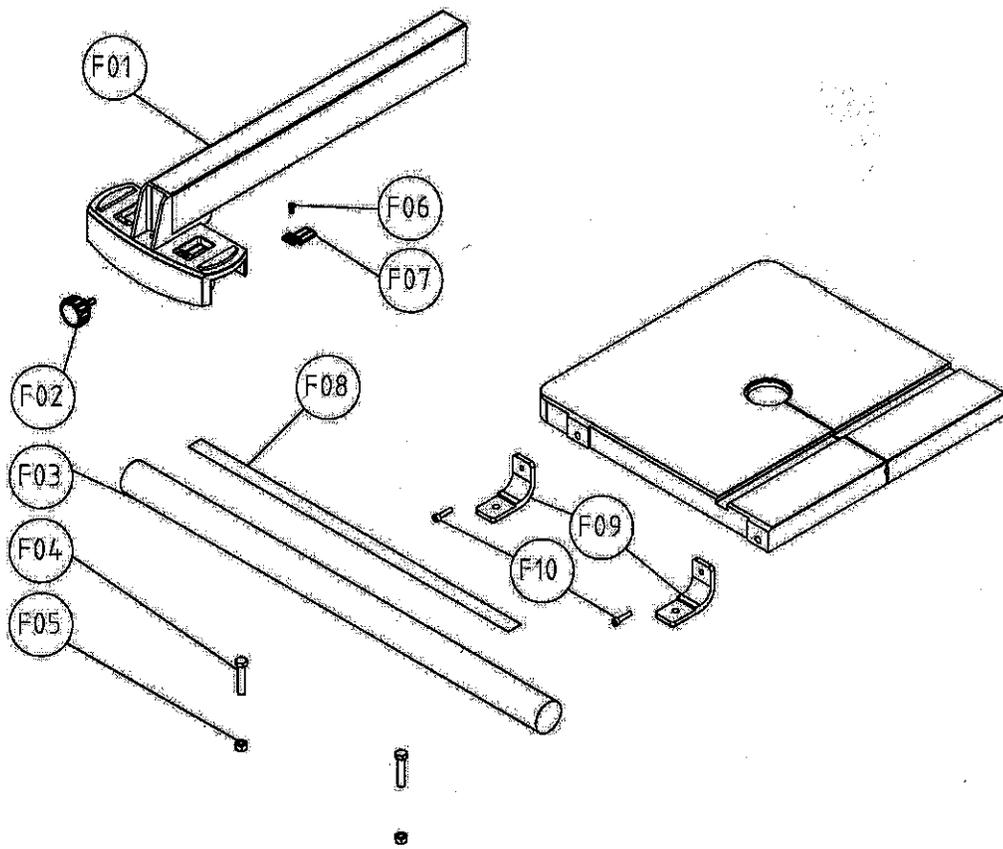
Disconnect the machine from power source before proceeding with any troubleshooting! Failure to comply may cause serious injury!

Description of Symptoms	Possible Cause	Corrective Action
Machine will not start	<ol style="list-style-type: none"> 1. Fuse blown or circuit breaker tripped 2. Cord Damaged 3. Faulty switch 4. Not connected to power source 5. Connected to wrong voltage 6. Emergency stop button pressed 	<ol style="list-style-type: none"> 1. Replace fuse or reset circuit breaker 2. Have cord replaced 3. Replace switch 4. Check connection 5. Check voltage 6. Rotate emergency stop button clockwise until it pops out
Blade does not come up to speed	<ol style="list-style-type: none"> 1. Cable too light or too long 2. Low current 3. Circuit shared with other equipment 4. Motor not wired for correct voltage 	<ol style="list-style-type: none"> 1. Replace with adequate size cable 2. Contact local electric company 3. Provide a dedicated circuit 4. Refer to motor nameplate for correct voltage
Motor overheats	<ol style="list-style-type: none"> 1. Motor overloaded 2. Air circulation through the motor restricted 	<ol style="list-style-type: none"> 1. Reduce load on motor 2. Clean out fan and fan cover
Machine slows when operating	<ol style="list-style-type: none"> 1. Feeding workpiece too fast 	<ol style="list-style-type: none"> 1. Slow the feed speed
Does not make accurate 45° or 90° cuts	<ol style="list-style-type: none"> 1. Stops not adjusted correctly 2. Angle pointer not set accurately 3. Miter gauge out of adjustment 	<ol style="list-style-type: none"> 1. Check blade with combination square and adjust stops 2. Check blade with combination square and adjust pointer 3. Adjust miter gauge
Saw makes unsatisfactory cuts	<ol style="list-style-type: none"> 1. Dull blade 2. Blade mounted backwards 3. Gum or pitch on blade 4. Incorrect blade for cut 	<ol style="list-style-type: none"> 1. Sharpen or replace blade 2. Turn blade around 3. Remove blade and clean 4. Change blade to correct type
Saw vibrates excessively	<ol style="list-style-type: none"> 1. Stand on uneven floor 2. Damaged saw blade 3. Bad V-belt 4. V-belt tension incorrect 5. Loose hardware 	<ol style="list-style-type: none"> 1. Reposition on flat, level surface 2. Replace saw blade 3. Replace V-belt 4. Check and adjust v-belt tension 5. Tighten hardware









REF	DESCRIPTION
F01	FENCE BODY
F02	KNOB
F03	Fence Rail
F04	HEX BOLT
F05	HEX NUT
F06	SCREW
F07	Fence Pointer
F08	Scale
F09	L TYPE HOLDER
F10	HEX BOLT

REF	DESCRIPTION	Q'TY
1	BODY	1
2	HEX BOLT 5/16"*1 1/4"	6
3	LOCK WAWHER 5/16"	15
4	FLAT WASHER 5/16"	21
5	SLIDEING HOUSING	1
6	PHILLIPS HEAD SCREW 3/16"*1/2"	14
7	BLADE TENSION POINTER	1
8	TENSION LABEL	1
9	POINTER COVER	1
10	SLIDEING SHAFT	2
11	SLEEVE BEARING	4
12	SLIDEING BASE	1
13	RETAINER NUT	1
14	SPRING	2
15	SPINDLE NUT	1
16	STAR WASHER 30MM	1
17	UPPER WHEEL SHAFT BASE	1
18	UPPER WHEEL SHAFT	1
19	RUBBER TIRE	2
20	BEARING	4
21	UPPER WHEEL	1
22	WHEEL WASHER	2
23	LOCK WASHER 3/8"	24
24	HEX BOLT 3/8"*3/4"	2
25	BLADE	1
26	UPPER GUARD	1
27	HINGE PIN	4
28	HEX NUT 3/16"	4
29	TRANSLUCENT PIECE	1
30	CAP SCREW 1/4"*3/8"	2
31	LOWER GUARD	1
32	LOWER WHEEL	1
33	LOWER WHEEL PULLEY	1
34	CAP SCREW 3/8"*1 1/4"	6
35	MOTOR PULLEY	1

REF	DESCRIPTION	QTY
36	KEY 8*8*45	1
37	BELT A36	2
38	BRAKE STEP PLATE	1
39	HEX BOLT 1/4"*3/4"	8
40	LOCK WASHER 1/4"	12
41	FLAT WASHER 1/4"	14
42	BRAKE LEVER(S)	1
43	BRAKE LEVER(L)	1
44	BRUSH PLANE	1
45	BRUSH	1
46	PHILLIPS HEAD SCREW 3/16"*1 1/2"	2
47	BRAKE PAD	1
48	SET SCREW 5/16"	10
49	HANDLE WHEEL	1
50	SCREW	1
51	THRUST BEARING	1
52	SPRING BASE	1
53	WIDTHWAYS SHAFT	1
54	HEX NUT 3/8"	13
55	HANDLE WHEEL	2
56	HEX BOLT 3/8"*2"	6
57	FLAT WASHER 3/8"	2
58	BUSHING	1
59	LOCKNUT 3/8"	5
60	FLAT WASHER 3/8"	27
61	HEX BOLT 3/8"*1 1/2"	4
62	HEX BOLT 1/2"*1 1/2"	1
63	LOCK WASHER 1/2"	3
64	FLAT WASHER 1/2"	1
65	HEX BOLT 3/8"*5"	1
66	GUARD LOCKING KNOB	2
67	SCREW	2
68	knob 1/4"*3/8"	2
69	SCREW	1
70	MOTOR PLANE	1
71	5HP MOTOR	1

REF	DESCRIPTION	Q'TY
72	TRANSLUCENT PIECE	1
73	HEX BOLT 3/8"*1"	8
74	SHAFT COVER	1
75	CAP SCREW 3/8"*2"	4
76	LOWER WHEEL SHAFT	1
77	PIN 6*18MM	2
78		
79	SPRING	1
80	ELECTRIC CONTACTOR	1
81	ELECTRIC CONTACTOR PLANE	1
82	PLANE	1
83	STRAIN RELIEF	2
84	HANDLE	1
85	PHILLIPS HEAD SCREW 1/4"*3/4"	2
86	STOP BUTTON	1
87	ON BUTTON	1
88	POWER LIGHT	1
89	SWITCH TABLE	1
90	BUTTON HEAD SCREW 5*10MM	6
91	LIMIT SWITCH	1
92	HEX BOLT 1/2"*4"	1
92A	HEX NUT 1/2"	2
93	DEY SWITCH	1
94	TERMINAL BOX	1
95	CORD	1
96		
97	TUBE	1
98		
99	PLASTIC TUBE	1
101		1
102	HEX BOLT 5/16"*3/4"	8
103	SLEEVE BEARING	2
104	GUIDE BRACKET	1
105	SET SCREW 1/4"*1/4"	6
106	PIN	1

REF	DESCRIPTION	Q'TY
107	UPPER GUIDE SUPPORT SHAFT	1
108	UPPER BLADE GUARD PLANE	1
109		
110	BUTTON HEAD SCREW 6*30MM	2
111	EXTERNAL RETAINING RING S10	2
112	BAKELITE	4
113	BUTTON HEAD SCREW 4*12MM	4
114	C TYPE HOLDER	4
115	SET SCREW 4mm*4mm	4
116	BEARING SHAFT	4
117	BEARING	14
118	FLAT WASHER 3/8"	8
119	CAP SCREW 8*55MM	4
120	HOLDER BASE	2
121	HLODER BASE SHAFT	2
122	HEX NUT M6	2
123	SET SCREW 6*50MM	2
124	ADJUSTMENT NUT	2
125	CAP SCREW 5/16"*1 1/4"	1
126	SLIDEING BLOCK	1
127	HEX BLOCK	1
128	UPPER BLADE COVER	1
129	BLADE GUIDE WINDOW	1
130	SUPPORT BASE(L)	1
131	SUPPORT SHAFT (L)	1
132	THUMBSCREW	2
133	EXTERNAL RETAINING RING S13	1
134	WORM BUSHING	1
135	EXTERNAL RETAINING RING S17	1
136	HAND WHEEL	1
137	WORM	1
138	GEAR SHAFT	1
139	GEAR	1
140	GUIDE POST SCALE	1
141	HANDLE	1

REF	DESCRIPTION	Q'TY
201		
202	HEX BOLT 5/16"*1"	1
203	KNOB	1
204	ANGLE ADJUSTMENT PLANE	1
205	ADJUSTMENT BAR BRACKET	1
206		
207		
208		
209		
210		
211		
212	TABLE	1
213	LOCK BLOCK	1
214	SCALE	1
215	TRUNNION	1
216	HEX BOLT 3/8"*1 1/4"	4
217	TRUNNION BASE	1
218	1/2" KNOB	1
219	LOCK SHAFT	1
220		
221	ADJUSTING RING	1
222	PRESS SHAFT	1
223	HEX BOLT 1/4-20*3/8"	2
224	LOWER BLADE COVER	1
225	CAP SCREW 1/2"*1 1/2"	2
226		
227	LOCK NUT 5/16"	1
228	TABLE INSERT	1
229	MITER GAUGE	1
230		
231		
232		
233	TAPERED PIN	1
234	SCREW	4
235		1
236		1