



# W-1318S

## Semi-Auto Miter Cutting Band Saw *Operation Manual*



### Specifications

#### Capacity:

- |           |                 |                               |
|-----------|-----------------|-------------------------------|
| 90°       | ● 330 mm (13")  | ■ 330 x 460 mm (13" x 18.1")  |
| 45° (R/L) | ● 305 mm (12")  | ■ 330 x 270 mm (13" x 10.6")  |
| 60° (R)   | ● 215 mm (8.5") | ■ 315 x 195 mm (12.4" x 7.7") |

#### Blade Size

34 x 1.1 x 4130 mm (1.33" x 0.043" x 162.6")

#### Blade Speed

21-93 MP/M (69-306 FPM)

#### Motor

3 HP (2.3 kW)

#### Packing Size (L x W x H)

2270 x 900 x 1670 mm (89.4" x 35.5" x 65.8")

NW: 990 kg GW: 1090 kg

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# 1 ACCIDENT PREVENTION AND SAFETY REGULATION

This machine has been designed to comply with national and community accident-prevention regulations. Improper use and/or tampering with the safety devices will relieve the manufacturer of all responsibility.

## 1.1 Advise for the Operator

- Check, the line voltage is the same as the voltage required by the machine's motor.
- Check the efficiency of your electric supply and grounding system; connect the power cable of the machine to the socket and the ground lead (yellow- green in color) to the grounding system.
- When the machine is in suspended mode (or stopped) the blade must not move.
- Only the blade section used for cutting must be kept unprotected. To remove guards to expose more of the cutting blade adjust the blade guides.
- It is forbidden to use the machine without its shields.
- Always disconnect the machine from the power socket before blade change or carrying out any maintenance job, even in the case of abnormal machine operation.
- Always wear suitable eye protection.
- Never put your hands or arms into the cutting area while the machine is operating.
- Do not shift the machine while it is cutting.
- Do not wear loose clothing like : shirts with sleeves that are too long, gloves that are too big, bracelets, chains or any other object that could get caught in the machine during operation. Tie back long hair.
- Keep the area free of miscellaneous object; i.e. equipment, tools, etc...
- Perform only one operation at a time. Never have several objects in your hands at the same time. Keep your hands as clean as possible.
- All internal operations, maintenance or repairs, must be performed in a well-lit area or where there is sufficient light from extra sources to avoid the risk of accidents.
- Keep hands and other body parts away from a running blade.
- Do not open the blade cover while machine is running.
- Do not store combustible materials near or around machine.
- Always wear approved safety glasses/face shields while using this machine.
- Keep machine guards in place at all times.
- Do not wear gloves.
- Remove loose clothing and confine long hair.
- Keep the work area clean and free miscellaneous objects.

## 1.2 The electrical equipment

- The electrical equipment ensures protection against electric shock as a result of direct or indirect contact. The active parts of this equipment are housed in a box to which access is limited by screws that can only be removed with a special tool; the parts are fed with alternating current as low voltage (24V). The equipment is protected against splashes of water and dust.
- Protection of the system against short circuits is ensured by means of rapid fuses and grounding; in the event of a motor overload, protection is provided by a thermal probe.
- In the event of a power cut, the specific start-up button must be reset.

## 1.3 Warning labels



- Keep hands and other body parts away from a running blade.
- Do not open the blade cover while machine is running.
- Do not store combustible materials near or around machine.
- Always wear approved safety glasses/face shields while using this machine.
- Keep machine guards in place at all times.
- Do not wear gloves.
- Remove loose clothing and confine long hair.
- Keep the work area clean and free miscellaneous objects.

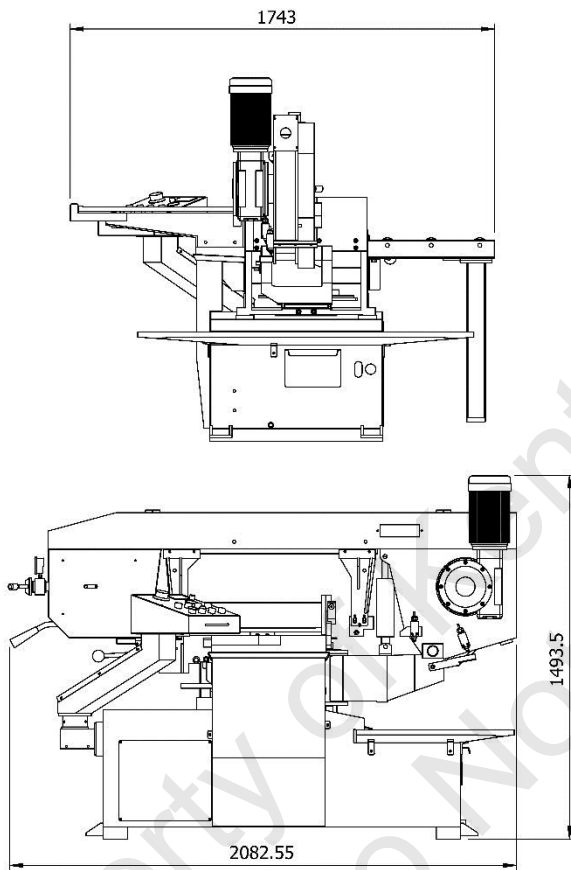
### 1.4 Emergent and dangerous situation

- In the event of incorrect operation or a danger condition, the machine may be stopped immediately by pressing the red mushroom shaped button.

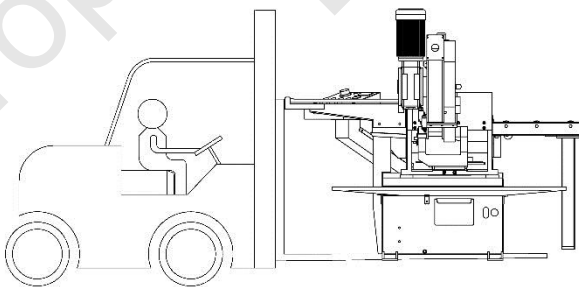
NOTE: Resetting of machine operation after each emergency stop requires resetting the emergency stop button.

## 2 MACHINE TRANSPORTATION AND INSTALLATION

### 2.1 Machine dimensions



### 2.2 Transporting the machine



Unpack your machine carefully, and use a crane or forklift to set it in position. If a crane is used to lift the machine, attach the lifting cable carefully to the machine. Sufficient space should be left around the machine to allow safe handling of

materials, inspection, and maintenance operations. Take precautions to choose a location that will keep the machine free of vibration and dust caused by other machinery.

### 2.3 Minimum requirements for housing the machine

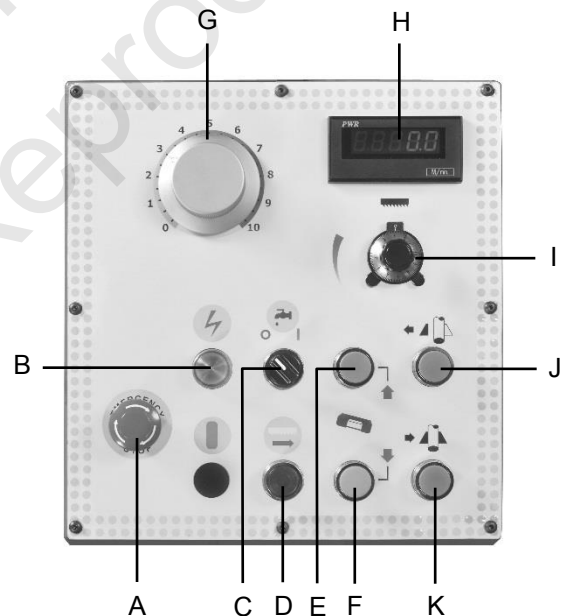
- Main voltage and frequency must comply with the machine's motor requirements.
- Environment temperature should fall within (-10°C to +50 °C).
- Relative humidity cannot be over 90%.

### 2.4 Securing to foundation

Position the machine on a flat and level foundation of reinforced concrete. Level machine and anchor it to the foundation with anchor bolts. Maintain a minimum distance of 800mm from the rear of the machine to the wall. Position the anchors using screws and expansion plugs or tie rods sunk in cement.

## 3 DESCRIPTION OF MACHINE PARTS

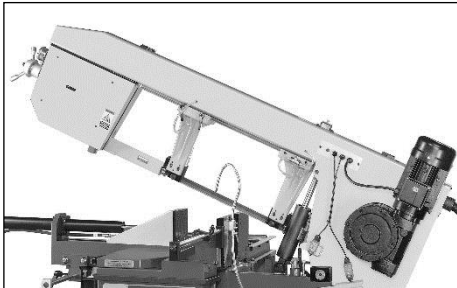
### 3.1 The Machine control panels



- A. Emergency Stop Button – Press to stop all machine functions, Turn it clockwise to release the switch and turn on the main power.
- B. Main power indicator light – indicates that main power is active.
- C. Coolant start switch – turn to activate or stop coolant flow.
- D. Cycle cutting start button
- E. Bow up switch – press to raise the saw bow.
- F. Bow down switch – press to lower the saw bow.
- G. Cutting rate adjusting knob – adjusts the speed saw bow drop.

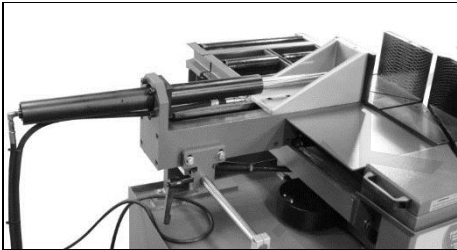
- H. Blade speed readout- indicates the speed of blade. This works in conjunction with speed control knob to give you precise control of blade speed.
- I. Variable blade speed control knob-Adjust the blade running speed when cutting different material.
- J. Vise open to take material on the table.
- K. Vise close to clamping material.

### 3.2 The saw bow



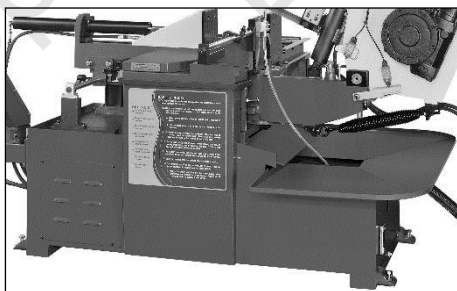
Machine parts are consisting of drive members (gear motor, variable speed motor, and flywheels), Tightening and guide (blade tightening slide, blade guide blocks) of tool.

### 3.3 The vise system



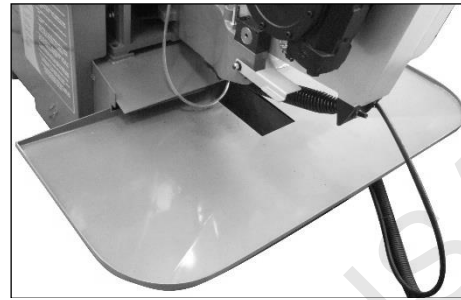
The vise has hydraulic system that allows it to clamp and feed pieces without binding. Fully stroke hydraulic vise can control on control box and clamp material stable. Additionally, the vise seat equipped linear guide to make movement easily.

### 3.4 The base



The base is the structure supporting the saw bow (the bow pivot point and respective blocking system), the vises, and containing chip tray and coolant system.

### 3.5 The tray outlet



Located above the coolant pump, the spill way is an outlet for the removal of excess chips and debris from the base's tray top. A spray nozzle and hose can be used to washed chips and debris out of the tray, through the tray outlet, and into a receptacle for waste removal.

### 3.6 Blade brush



An axle transfer is used to drive the blade brush. The blade brush is designed to clean and help prolonging the life of the blade.

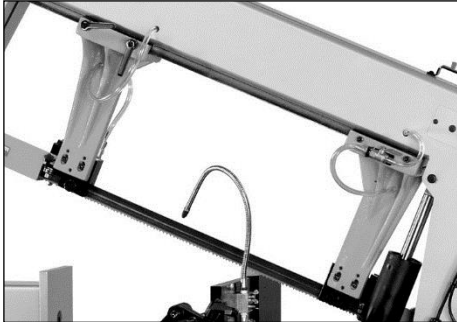
### 3.7 Miter angle lock lever



The pivot platform is the structure that holds the saw bow and rotates horizontally for miter cutting up to 60°. Push the lever (A) to right to release and turn bow to the desired angle. After that, push the lever (A) to middle location to lock.

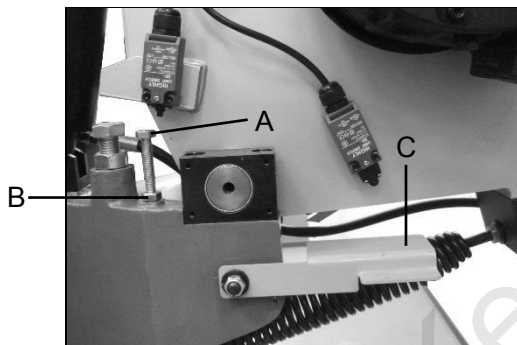


### 3.8 The guide post



The guide post are the two posts that suspend down from a rail (with width scale), and loosely clamps onto the blade. Their purpose is to keep a blade straight just beyond the dimensions of the material. These guide posts can be repositioned to allow for varying material sizes.

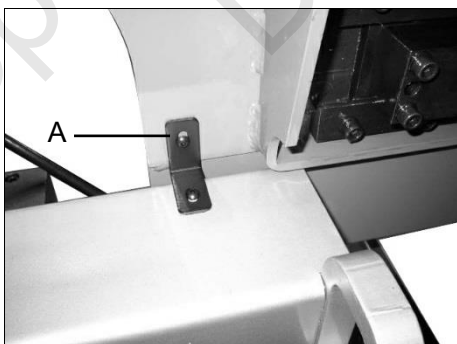
### 3.9 Saw bow upper / lower limit switch



The height, at which the saw bow end its drop, can be changed by adjusting the bolt that contacts the lower limit switch.

- Loosen the lock nut (A).
- Adjust the height of the contact bolt. Raise or lower the contact bolt (A).
- Set the contact bolt. Turn the lock nut (B).
- Set up the height of Bow raising to top, adjust metal plate (C) as desired height.

### 3.10 Unlock the saw bow



#### Attention

Unbolts the lock plate (A) by hex tool to release the saw bow before operating.

## 4 SET UP AND PRE-OPERATIONS

### 4.1 Adjusting the tungsten carbide guides

The carbide blade guides are at the base of the guide posts. Adjustments are needed when carbide pads become worn.



A

Adjust the carbide pads, as follows

- Adjust the screw (A). Turn the screw (a) clockwise until it is tight, then loosen it 1/8 of a turn. This should put just enough pressure on the blade to permit you to push the blade down approximate 1/8".

### 4.2 Blade brush adjustment

Due to wear of the blade brush, it is necessary to adjust its position. The blade brush should be held against the blade gullets with the minimum force as necessary. The brush must periodically move closer to the blade or in the case of a new brush, it must be installed further away from the blade.



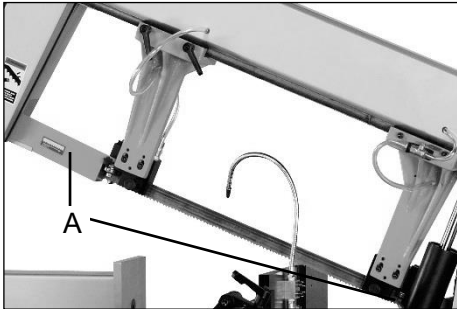
### 4.3 Changing the blade

Blade changes are periodically required when they become worn or to match the properties of varying materials.

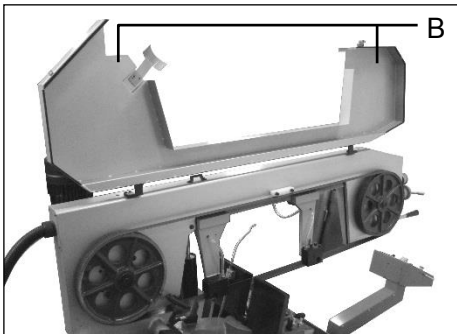
#### ⚠ WARNING

Disconnect the machine from the power source before making any adjustments or repairs! Failure to comply may result in serious injury!

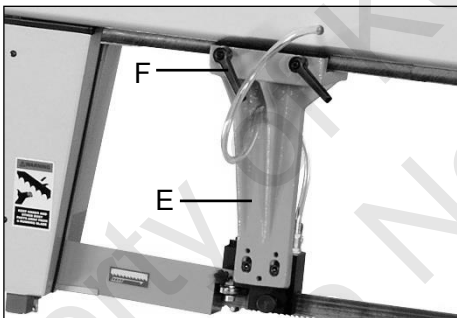
- Raise the saw bow approximately 6" in height.
- Disconnect the machine from the power source



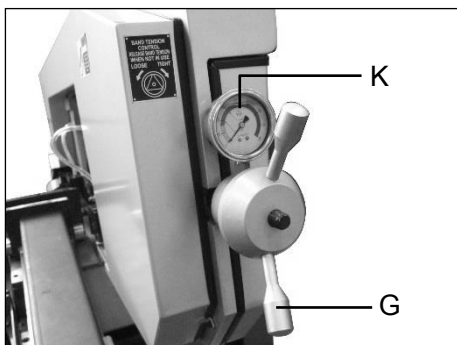
- Remove both blade guard (A) from the base of the guide post and saw bow cover.
- Rotate the head 45° as this will make it easier to grip the blade closer to both wheels.



- Loosen the cover's lock screws and open the saw bow covers (B).
- Release the tension on the carbide guides by turning the handles (4.1A) counter clockwise 1/4" turn.



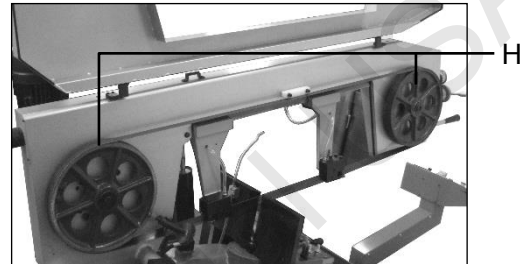
- Loosen left blade guide post (E) lock handles (F) and slides it to the right side as far as possible.



- Release the blade tension. Turn the blade tension handle (G) counter-clockwise until blade is free.

#### **Wear gloves for protection from the sharp blade!**

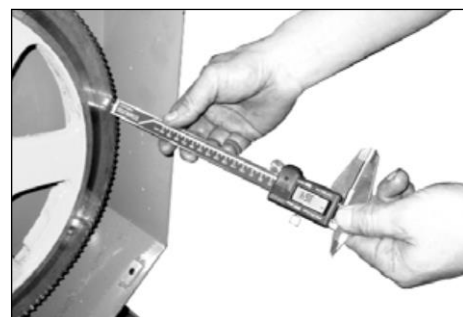
- Remove the old blade from both wheels (H) and out of each blade guide (4.3A.).



- Slide the blade away from the saw bow frame. Let the blade rest on the out table.
- Finally, lower blade the blade out of the carbide guides (I).
- Place the new blade in the carbide guides (I), and then slide the blade over the wheels (H).
- The teeth should be pointing towards the drive side as they pass through the carbide guides (I).
- The blade teeth should protrude from 4.5mm to 5mm from the face of the blade wheels.
- With the blade in place, turn the tension handle (G) clockwise until the needle of the tension gauge (K) reads two blocks into the green.
- Set the carbide guides. Turn the two carbide locking screws (4.1A) clockwise to the locked position. Jog the blade a few rotation to check that the blade is not moving in or out on the blade wheels.
- Close all covers and fasten all guards.

#### **4.4 Blade tracking adjustment**

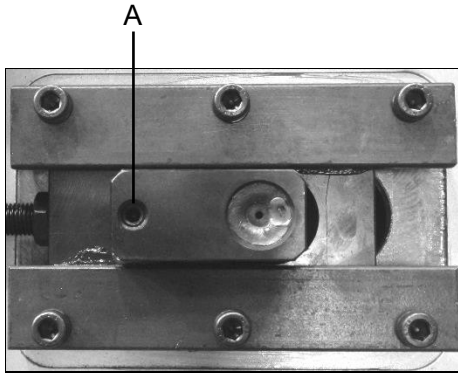
Blade tracking has been set at the factory and requires no adjustment. Generally, the blade tracking will stay fairly constant. The blade teeth should protrude from the edge of race of the blade wheels about 4.5mm to 5mm.



If a tracking problem occurs, adjust the machine as follows :

- Raise saw arm to an accessible height.
- Choose a wheel to adjust and proceed to the appropriate instruction

#### 4.5 Idle wheel adjustment



- Locate the axle mount for the idle wheel on the backside of the saw bow. It is a rectangular a block with setscrew (A) inset into holes.
- Set the tracking by adjusting setscrew (A). Turning setscrew (A) clockwise will pull the blade toward the saw bow frame; turning setscrew (A) counter clockwise will push the blade away from the saw bow frame. Make a 1/4 turn to push the blade to the desired direction.

#### 4.6 Drive wheel adjustment

Tracking is held in place by four hex head bolts located behind the drive wheel. The two on the left lock the tracking. The two on the right lock the tracking, but also adjust tracking with the large hollow bolt.



- Loosen all four of the smaller hex head bolt (A, B).
- Turn the large hollow hex head bolts (B) 1/4 turn. Turning the large hex head bolts(B) clockwise will pull the blade toward the saw bow frame and turning it counter clockwise will push the blade away from the saw bow frame.
- Then tighten the two head bolts in the hollow bolts (B).
- Next, tighten the other two hex head bolts (A) at the left.

### 5 OPERATION PREPARATIONS

#### 5.1 Moving the guide posts

The guide posts are adjustable to accommodate varying size materials. Proper setting can produce a straighter cut, and prolong the life of the blade.

- Unlock the left guide post. Turn the lock handle (4.3F) counter clockwise.
- Position the left guide post. Grip the guide post (4.3E) and slide just beyond the width of the work piece. It is better to be very close to the work piece without any obstruction.
- Lock the position of the left guide post. Turn the lock handle (4.3F) clockwise.

#### 5.2 Changing the blade speed

\*Blade speed must be set while blade is moving.

- Check that the machine is running and blade is moving.
- Turn the speed change knob and check the speed indicator for desired speed. Turn the knob clockwise to raise blade speed, and turn the knob counter clockwise to reduce blade speed. The speeds available are 21~93 MPM (69~306FPM).

#### 5.3 Clamping the material

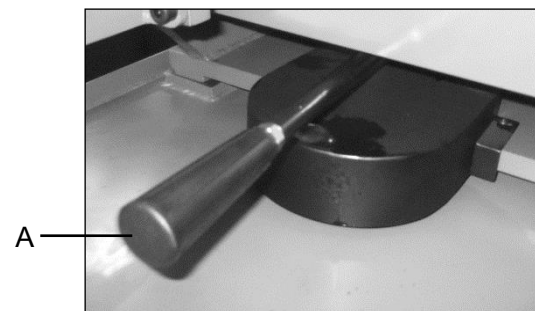
Use the vise to clamp material before cutting.



- Open the left guide post. Press vise open button (3.1 J) Make space for the work-piece. *Refer to moving the guide posts 5.1.*
- Load the work-piece. Place the work-piece in between the vise jaws
- Set the cut off length. Slide the work-piece forward to the desired length.
- Lock the vise. Press vise clamp button (3.1K).

#### 5.4 Setting the miter angle

This machine can make miter cuts up to 60°. There is an angle scale with indicator for quick and accurate miter angle setting.



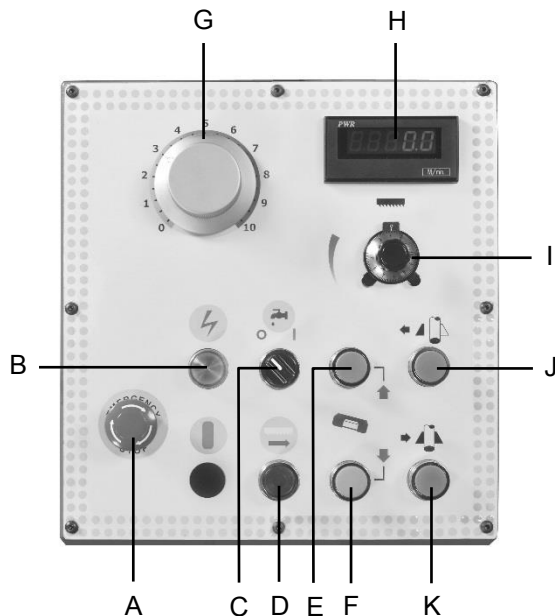
Always lock the horizontal rotation before performing any cutting operation.

- Unlock the saw bow. Raise the lock lever (A).
- Rotate the saw bow. Check the angle scale for the desired angle.
- Set the miter angle. Lower the lock lever (A).



## 6 OPERATION CYCLE

### 6.1 Typical operation cycle



- The indicator light (B) should be light on.
- Set the drop rate to zero, use knob (G).
- Press bow up button (E) to raise the saw bow to an appropriate height,
- Load the working material. Refer to *Clamping the material* 5.3.
- Set the miter angle if a change in angle is required. Refer to *Setting the miter angle* 5.4.
- Start blade by pressing the start switch (D).
- Set the blade speed. Refer to *Changing the blade speed* 5.2
- Set the coolant pump to AUTO mode, use pump switch (C).
- Adjust the drop speed (G) to the type of material.

### 6.2 Stopping the machine

To provide safety, the emergency stop button has function that prevents machine starting even when the start button is pressed. It will require the Emergency stop button (6.1 A) to reset before machine operation.

- Stop the machine. Use the emergency stop button (6.1 A) to stop the machine for normal or improper operations, where the machine is in error.
- Perform any maintenance or setup operation.
- Reset Emergency stop button. Turn the emergency stop button (6.1 A) clockwise to release the switch from the pressed position.
- Machine may now be operated as normal.

## 7 ROUTINE AND SPECIAL MAINTENANCE

The maintenance jobs are listed below, divided into daily, weekly, monthly and six-month intervals. If the following operations are neglected, the result will be premature wear of the machine and poor performance.

### 7.1 Daily maintenance

- Give general cleaning to the machine to remove accumulated shavings.
- Clean the lubricating coolant drain hole to avoid excess fluid.
- Top off the level of lubricating coolant.
- Check blade for wear.
- Rise of saw frame to top position and partial slackening of the blade to avoid useless yield stress.
- Check functionality of the shields and emergency stops.

### 7.2 Weekly maintenance

- Thoroughly clean the machine to remove shavings, especially from the coolant tank.
- Removal of pump from its housing, cleaning of the suction filter and suction zone.
- Clean the filter of the pump suction head and the suction area.
- Use compressed air to clean the blade guides (guide bearings and drain hole of the lubricating cooling).
- Clean flywheel housings and blade sliding surfaces on flywheels.

### 7.3 Monthly maintenance

- Check the tightening of the drive wheel screws.
- Check that the blade guide bearings on the heads are perfect running condition.
- Check the tightening of the screws of the motor, pump, and accident protection guarding.

### 7.4 Six-monthly maintenance

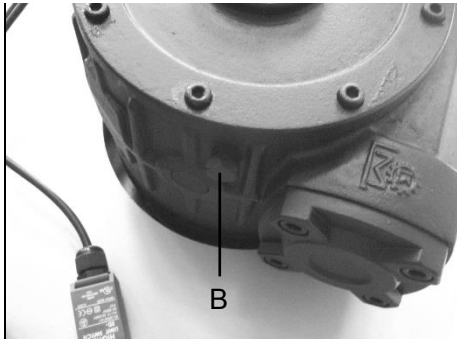
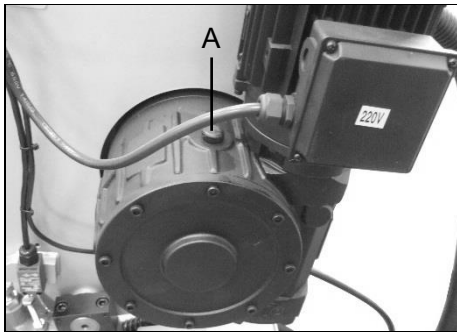
Test the continuity of the equip potential protection circuit.

### 7.5 Oils for lubricating coolant

Considering the vast range of products on the market, the user can choose the one most suited to their own requirements, using as reference the type SHELL LUTEM OIL ECO. THE MINIMUM PERCENTAGE OF OIL DILUTED IN WATER IS 8 ~10 %.

### 7.6 Changing gear oil

The gear box requires periodic changing of oil. The oil must be changed by the first 6 months of a new machine and every year thereafter.



- To change the gear box oil
- Disconnect the machine from the power source.
- Lower the saw arm to the horizontal position.
- Remove the oil. Open the drain hole (B) by loosening the hex socket screw (B).
- Open fill hole (A) by releasing hex socket screw (A)
- Replace the hex socket screw (B) after oil completely flows off.
- Replace hole using the fill hole (A).
- Replace hex socket screw (A).

### 7.7 Special maintenance

Special maintenance must be conducted by skilled personnel. We advise contacting your nearest dealer and/or importer. Other protective and safety equipment, devices (of the reducer), the motor, the motor pump, and other electrical components also require special maintenance.

## 8 TECHNICAL CHARACTERISTICS

### 8.1 Selecting the proper blade speed

Use the following chart for reference

CUTTING SPEEDS FOR VARIOUS MATERIALS		
MATERIALS	BLADE SPEED (FPM)	COOLANT REQUIRED
Free Cutting Steel 1100 & 1200 Series Low & Medium Carbon 1008 - 1045	256	YES
1046 - 1095 Alloy Steels Tool Steels Pipe & Structures Nickel Base Alloys Cooper Base Alloys	137, 198 137, 198 92, 137 137, 198 92, 137 92, 137	YES
Stainless Steels 430F, 416, 420F, 303	137, 198 137, 198	YES
Cast Iron	137, 198	NO OIL BLADE

- Blade speeds higher than recommended will quickly dull the blade. Blue chips are evidence of excessive blade speed.
- Lower than recommended speeds will not prolong blade life, and will require a reduced feed rate – reduced speeds may be helpful in reducing vibration, and will increase blade life in that case.

### 8.2 Selecting the Blade

This machine uses 34x1.1x 4130mm blade.  
Refer to the section on selecting the blade.

Cutting material						
	<3mm	>5mm	>50mm	>100mm	<150mm	<300mm
Sawblade	<0.12"	>0.2"	>2"	>4"	<6"	<8"
(HSS) 14T	●					
(HSS) 6/10T		●				
(HSS) 5/8T			●			
(HSS) 4/6T			●	●		
(HSS) 3/4T				●		
(HSS) 2/3T					●	●
(HSS) 1/2T						●
(HCS) 10T	●					
(HCS) 8T		●				
(HCS) 6T			●			
(HCS) 4T				●		
(HCS) 2T					●	●

HSS = HIGH SPEED STEEL  
HCS = HIGH CARBON STEEL

- Never use a blade so coarse that less than 3 teeth are engaged in the work-piece at anytime. (Too few teeth will cause teeth to strip out.)
- Never use a blade finer than required to obtain a satisfactory surface finish or satisfactory


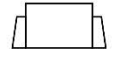
flatness. (Too many teeth engaged in the work piece will prevent attainment of a satisfactory sawing rate; frequently cause premature blade wear; frequently produce "dished" cuts or the cuts are neither square nor parallel.)

- The chart is not expected to be correct for all cases. It is intended as a general guide to good sawing practices. Your blade supplier or qualified engineers should be your most reliable source for correct information on operational details of saw blades and their use.

**Note :**

- When cutting a thin walled pipe, angle steel, and I-beam steel use a blade with 10T/in.
- When cutting pipe with a wall 1/2" or more in thickness, use a blade with 8-12 T/in or 6-10T/in
- When cutting angle steel, I-beam, or solid bar; cut the thinnest cross section of the material first. There must be at least 3 teeth cutting the material at all times.

**8.3 Table of cutting capacity and technical details**

Cutting Capacity		
90°	330mm (13")	330x460mm (13"x18.1")
45° (R/L)	305mm (12")	330x270mm (13"x10.6")
60° (R)	215mm (8.5")	315x195mm (12.4"x7.7")

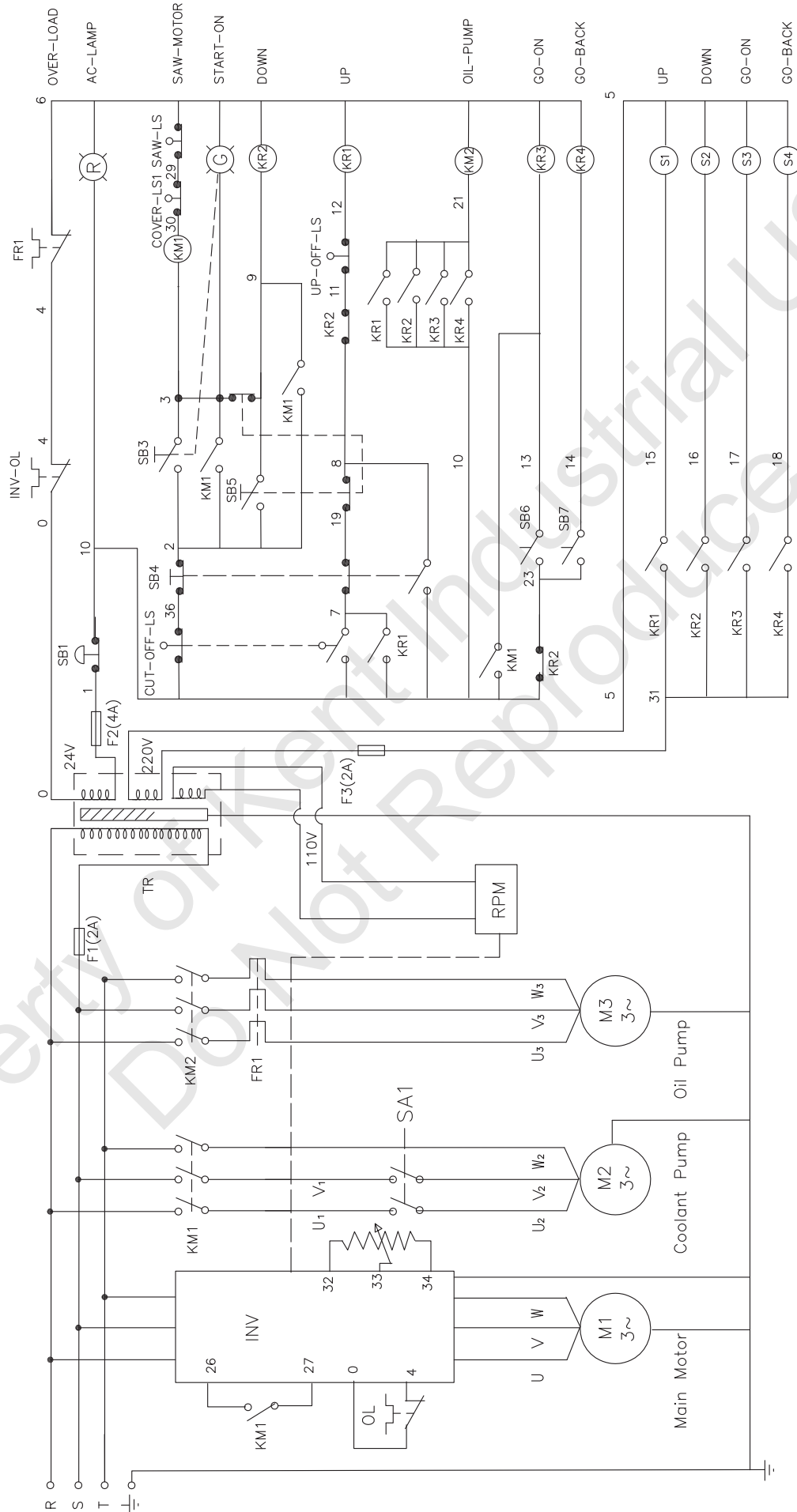
Blade motor	3HP (2.3kW)
Reduction unit in oil bath	40:1L
Blade size	34x1.1x4130mm (1.33"x0.043"x162.6")
Blade speed	21~93MPM (69~306FPM)
Hydraulic tank	23L
Coolant tank	50L
Table height	835mm
Packing size (LxWxH)	2270x900x1670mm (89.4"x35.5"x65.8")

TYPES OF STEEL						CHARACTERISTICS		
USE	I UNI	D DIN	F AF NOR	GB SB	USA AISI-SAE	Hardness BRINELL HB	Hardness ROCKWELL HRB	R=N/mm <sup>2</sup>
Construction steels	Fe360	St37	E24	----	----	116	67	360÷480
	Fe430	St44	E28	43	----	148	80	430÷560
	Fe510	St52	E36	50	----	180	88	510÷660
Carbon steels	C20	CK20	XC20	060 A 20	1020	198	93	540÷690
	C40	CK40	XC42H1	060 A 40	1040	198	93	700÷840
	C50	CK50	----	----	1050	202	94	760÷900
	C60	CK60	XC55	060 A 62	1060	202	94	830÷980
Spring steels	50CrV4	50CrV4	50CV4	735 A 50	6150	207	95	1140÷1330
	60SiCr8	60SiCr7	----	----	9262	224	98	1220÷1400
Alloyed steels for hardening and tempering and for nitriding	35CrMo4	34CrMo4	35CD4	708 A 37	4135	220	98	780÷930
	39NiCrMo4	36CrNiMo4	39NCD4	----	9840	228	99	880÷1080
	41CrAlMo7	41CrAlMo7	40CADG12	905 M 39	----	232	100	930÷1130
Alloyed casehardening steels	18NiCrMo7	----	20NCD7	En 325	4320	232	100	760÷1030
	20NiCrMo2	21NiCrMo2	20NCD2	805 H 20	4315	224	98	690÷980
Alloyed for bearings	100Cr6	100Cr6	100C6	534 A 99	52100	207	95	690÷980
Tool steel	52NiCrMoKU	56NiCrMoV7C100K	----	----	----	244	102	800÷1030
	C100KU	C100W1	----	BS 1	S-1	212	96	710÷980
	X210Cr13KU	X210Cr12	Z200C12	BD2-BD3	D6-D3	252	103	820÷1060
	58SiMo8KU	----	Y60SC7	----	S5	244	102	800÷1030
Stainless steels	X12Cr13	4001	----	----	410	202	94	670÷885
	X5CrNi1810	4301	Z5CN18.09	304 C 12	304	202	94	590÷685
	X8CrNi1910	----	----	----	----	202	94	540÷685
	X8CrNiMo1713	4401	Z6CDN17.12	316 S 16	316	202	94	490÷685
Copper alloys Special brass Bronze	Aluminium copper alloy G-CuAl11Fe4Ni4 UNI 5275					220	98	620÷685
	Special manganese/silicon brass G-CuZn36Si1Pb1 UNI5038					140	77	375÷440
	Manganese bronze SAE43 - SAE430					120	69	320÷410
	Phosphor bronze G-CuSn12 UNI 7013/2a					100	56.5	265÷314
Cast iron	Gray pig iron G25					212	96	245
	Spheroidal graphite cast iron GS600					232	100	600
	Malleable cast iron W40-05					222	98	420

## 9 TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
1. Cut is not square vertically.	<ul style="list-style-type: none"> <li>- Carbide guide adjustment incorrect</li> <li>- Feed rate excessive</li> <li>- Blade worn</li> <li>- Guide arms too far apart</li> <li>- Blade pitch incorrect</li> </ul>	Adjust the carbide guide Reduce the feed rate Replace blade Adjust guide arms Change blade
2. Cut is not square horizontally.	<ul style="list-style-type: none"> <li>- Angle is not set correctly</li> <li>- Material is not square in vise</li> <li>- Angle pointer is out of adjustment</li> <li>- Material is not secure in the vise</li> </ul>	Adjust angle again Reset material Readjust it Reset vise
3. Head cylinder creeps : A) in hold  B) in feed position	<ul style="list-style-type: none"> <li>- Cylinder cup seal defective</li> <li>- 3 position valve defective</li> <li>- Hydraulic hose leaking</li> </ul>	Replace cup seal Replace Change it Loosen jam nut and read just Pointer with feed rate at zero
4. Blade tracking incorrect	<ul style="list-style-type: none"> <li>- Improper tension</li> <li>- Tracking needs adjustment</li> <li>- Wheel is worn or in poor condition</li> </ul>	Adjust it  Replace it
5. Blade stalls in cut	<ul style="list-style-type: none"> <li>- More tension needed</li> <li>- Excessive feed rate</li> <li>- Blade pitch incorrectly</li> </ul>	Reduce feed rate Change blade
6. Blade vibrating excessively	<ul style="list-style-type: none"> <li>- Blade speed too fast</li> <li>- More blade tension needed</li> <li>- Guide arms too far apart.</li> <li>- Feed rate too slowly</li> <li>- Carbide guides worn or loose</li> </ul>	Slow blade speed  Adjust it Increase feed rate Adjust or replace it
7. Excessive blade breakage	<ul style="list-style-type: none"> <li>- Excessive blade tension</li> <li>- Excessive feed rate</li> <li>- Top guides damaged</li> </ul>	Reduce blade tension Reduce feed rate Replace top guide
8. No coolant flow.	<ul style="list-style-type: none"> <li>- No coolant</li> <li>- Check coolant ports for blockage</li> <li>- Line blockage</li> <li>- Coolant pump inoperable</li> </ul>	Add the coolant  Blow out lines with compressed air Replace it
9. Blade will not start	<ul style="list-style-type: none"> <li>- Lift head off limit switch</li> <li>- Control fuse blown</li> <li>- Push reset button</li> </ul>	Adjust it Replace fuse
10. Machine stops before cut is completed		Adjust saw bow down limit switch bolt or runs on after cut is completed

## 10 CIRCUIT DIAGRAM



## 11 PART LIST & EXPLOSION DRAWINGS

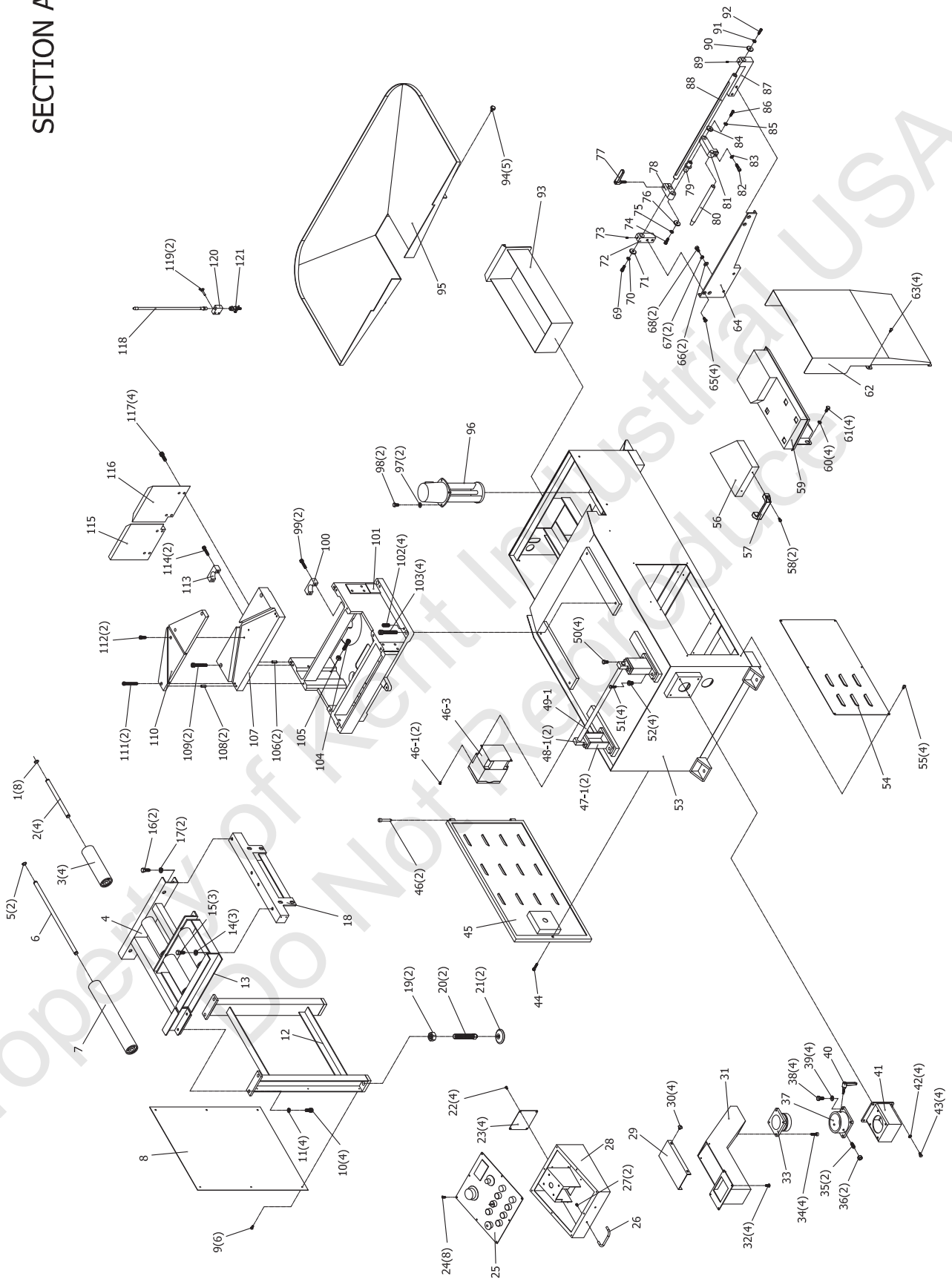
### SECTION A - PARTS LIST

Part No.	Description	Size / Stock No.	Q'ty	Part No.	Description	Size / Stock No.	Q'ty
A1	C Ring	S17	8	A46-3	Inverter 3HP (220V)	L25A4-66	1
A2	Short Roller Shaft	S20A2-04-A	4	A46-3	Inverter 3HP (380V)	W002B001	1
A3	Short Roller	S20A2-04	4	A47-1	Shaft Bracket	S20A3-18-A	2
A4	Roller Stand	S20A3-17	1	A48-1	Shaft Position Bracket SH-25A	S20A4-11	2
A5	C Ring	S17	2	A49-1	Long Shaft SCF-25-600L	S20A4-12	1
A6	Long Roller Shaft	S20A2-04-B	1	A50	Hex. Cap Bolt	M6x20L	4
A7	Roller	S1380207-1	1	A51	Hex. Cap Bolt	M8x45L	4
A8	Roller Stand Cover	S20A3-17-D	1	A52	Adjusting Screw M16	530D2-09	4
A9	Button Head Socket Screw	M5x8L	6	A53	Machine Base	S20A3-01-C	1
A10	Hex. Cap Bolt	M12x25L	4	A54	Hydraulic Unit Cover	S20A3-01-E	1
A11	Spring Washer	M12	4	A55	Button Head Socket Screw	M5x8L	4
A12	Stand	S20A3-17-C	1	A56	Outlet Mobile Case	S20A3-04-B	1
A13	Roller Adjusting Plate	S20A3-17-B	1	A57	Handle	9160502	1
A14	Spring Washer	M12	3	A58	Big Round Head Screw	M6x12L	2
A15	Hex. Cap Bolt	M12x25L	3	A59	Outlet Case	S20A3-04	1
A16	Hex. Cap Bolt	M12x25L	2	A60	Spring Washer	M12	4
A17	Spring Washer	M12	2	A61	Hex. Cap Bolt	M12x20L	4
A18	Position Bracket	S20A3-17-A	1	A62	Outlet Cover	S20A3-16	1
A19	Nut	M22	1	A63	Button Head Socket Screw	M5x8L	4
A20	Bolt	L25A2-31	2	A64	Outlet Side Plate	S20A3-04-A	1
A21	Cushion		2	A65	Flat Head Screw	5/16"x3/4"L	4
A22	Button Head Socket Screw	M5x8L	4	A66	Washer	M10	2
A23	Control Panel Rear Cover	S20A3-06-A	1	A67	Spring Washer	M10	2
A24	Button Head Socket Screw	M5x8L	8	A68	Hex. Cap Bolt	M10x25L	2
A25	Control Panel	NPB-017	1	A69	Hex. Socket Cap Screw	3/8"x1"L	1
A26	Handle A-42-C	330S0418	1	A70	Spring Washer	3/8"	1
A27	Button Head Socket Screw	M6x8L	2	A71	Washer	S1380221-3	1
A28	Control Panel Box	S20A3-06	1	A72	Position Block (Left)	S1380110	1
A29	Control Box Bracket	S20A3-07-C	1	A73	Set Screw	5/16"x5/16"L	1
A30	Button Head Socket Screw	M6x8L	4	A74	Hex. Socket Cap Screw	3/8"x1"L	1
A31	Bracket Cover	S20A3-07-B	1	A75	Spring Washer	3/8"	1
A32	Hex. Cap Bolt	M5x8L	4	A76	Washer	S1380221-3	1
A33	Bracket Swiveling Shaft	331D1-18	1	A77	Handle 3/8x30L	S1380416	1
A34	Hex. Cap Bolt	M6x16L	4	A78	Adjusting Block	S1380110-B	1
A35	Set Screw	M8x20L	2	A79	Position Bracket Shaft	S1380221-2	1
A36	Nut	M8	2	A80	Stopper Rod	460D2-64	1
A37	Shaft Bush	331D1-18-A	1	A81	Position Bracket	S1380110-C	1
A38	Hex. Cap Bolt	M8x16L	4	A82	Hex. Socket Cap Screw	3/8"x1"L	1
A39	Spring Washer	M8	4	A83	Spring Washer	3/8"	1
A40	Handle M8x35L	331D4-38	1	A84	Washer	S1380221-3	1
A41	Position Bracket	331D3-37	1	A85	Spring Washer	3/8"	1
A42	Spring Washer	M8	4	A86	Hex. Socket Cap Screw	3/8"x1"L	1
A43	Hex. Cap Bolt	M8x16L	4	A87	Position Block (Right)	S1380110-A	1
A44	Hex. Socket Cap Screw	M8x25L	1	A88	Length Scale Rod	S1380221	1
A45	Electrical Cabinet Cover	S20A3-01-D	1	A89	Set Screw	5/16"x5/16"L	1
A46	Dowel Pin		2	A90	Washer	S1380221-3	1
A46-1	Button Head Socket Screw	M4x8L	2	A91	Spring Washer	3/8"	1



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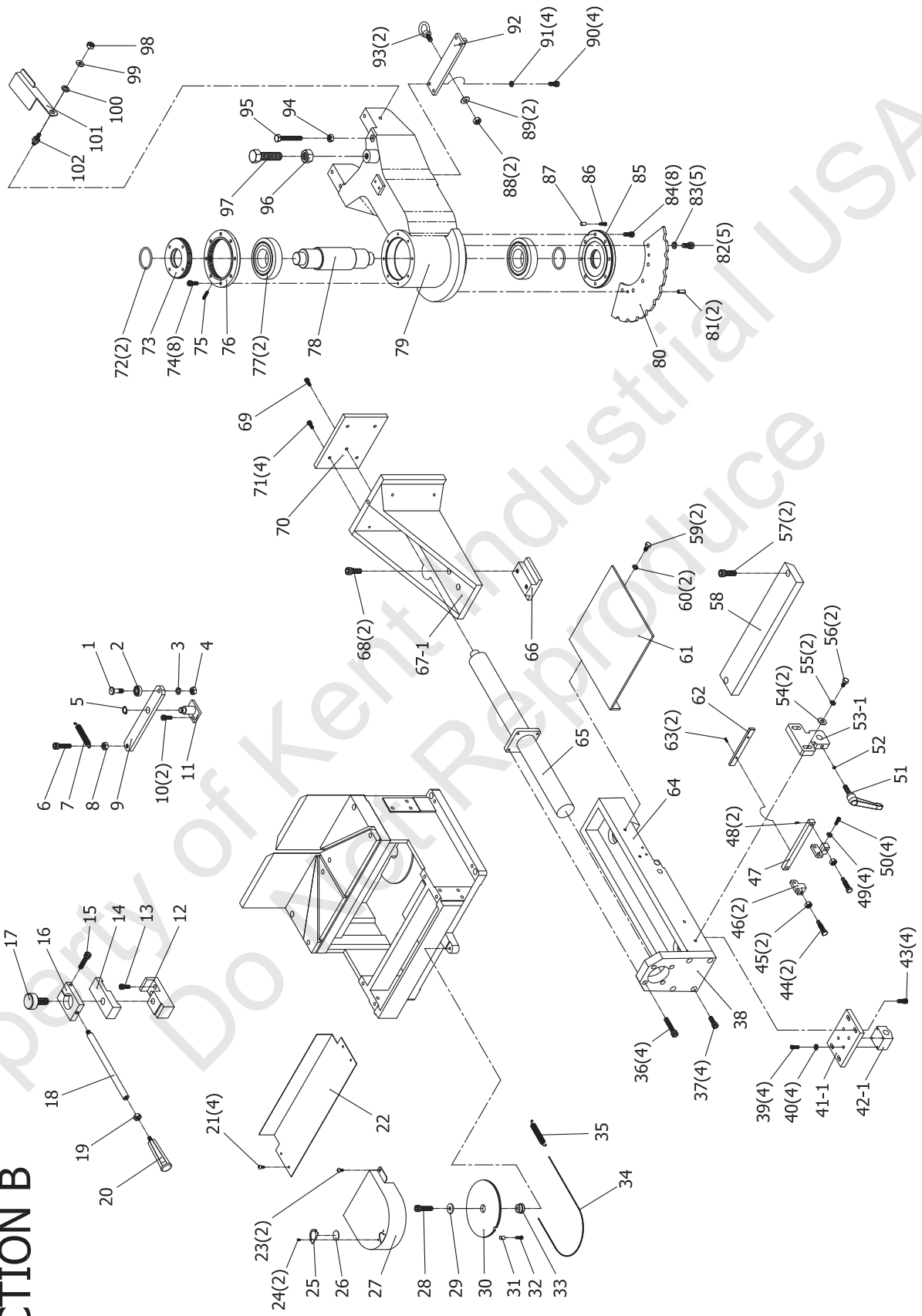
# SECTION A



## SECTION B - PARTS LIST

Part No.	Description	Size / Stock No.	Q'ty	Part No.	Description	Size / Stock No.	Q'ty
B1	Cam Shaft	331D2-31	1	B52	Lock Brass	H46D2-25	1
B2	Bearing 6000	BB2136	1	B53-1	Position Block	S20A2-08-C	1
B3	Spring Washer	M10	1	B54	Washer	M10	2
B4	Nut	M10	1	B55	Spring Washer	M10	2
B5	C Ring	S16	1	B56	Hex. Cap Bolt	M10x35L	2
B6	Hex. Socket Cap Screw	M10x40L	1	B57	Hex. Socket Cap Screw	M12x35L	4
B7	Cam Spring	331D4-02	1	B58	Guide Plate	S20A2-09	1
B8	Nut	M10	1	B59	Hex. Cap Bolt	M8x20L	2
B9	Connecting Plate	331D2-32	1	B60	Spring Washer	M8	2
B10	Hex. Socket Cap Screw	M8x25L	2	B61	Cover	331D3-26	1
B11	Cam Bracket	331D2-30	1	B62	Copper Plate	H46D2-19	1
B12	Position Bracket	331D1-11	1	B63	Flat Head Screw	M5x8L	2
B13	Hex. Socket Cap Screw	M8x20L	1	B64	Vise Table	331D1-04-A	1
B14	Angle Setting Block	331D2-26	1	B65	Hydraulic Cylinder		1
B15	Hex. Socket Cap Screw	M10x50L	1	B66	Vise Position Block	331D2-18-A	1
B16	Connecting Block	331D2-28	1	B67-1	Movable Vise	331D1-05-A	1
B17	Set Bolt	331D2-27	1	B68	Hex. Socket Cap Screw	M12x25L	2
B18	Handle Shaft	331D2-29	1	B69	Hex. Socket Cap Screw	M8x20L	1
B19	Nut	M12	1	B70	Attached Plate	331D2-22	1
B20	Handle	9160501	1	B71	Hex. Socket Cap Screw	M8x20L	4
B21	Button Head Socket Screw	M5x8L	4	B72	O Ring P60	L25A5-47	2
B22	Cover	331D3-26-A	1	B73	Upper Cover	331D2-06-A	1
B23	Button Head Socket Screw	M6x8L	2	B74	Hex. Socket Cap Screw	M8x20L	8
B24	Hex. Socket Cap Screw	M4x6L	2	B75	Set Screw	M6x25L	1
B25	Magnifier Holder	331D3-43	1	B76	Upper Cover	331D2-06	1
B26	Angle Magnifier	331D4-09	1	B77	Bearing 30312	BB2188	2
B27	Cover	331D3-25	1	B78	Center Shaft	331D2-03	1
B28	Hex. Socket Cap Screw	M10x40L	1	B79	Swiveling Base	331D1-06	1
B29	Washer	M10	1	B80	Angle Plate	331D2-25	1
B30	Center Wheel	331D2-33	1	B81	Spring Pin	8x20L	2
B31	Wire Fastener	331D2-35	1	B82	Hex. Socket Cap Screw	M10x25L	5
B32	Hex. Cap Bolt	M5x15L	1	B83	Spring Washer	M10	5
B33	Bush	331D2-34	1	B84	Hex. Socket Cap Screw	M8x20L	8
B34	Steel Rope		1	B85	Lower Cover	331D2-05	1
B35	Extend Spring	331D4-03	1	B86	Hex. Cap Bolt	M5x15L	1
B36	Hex. Socket Cap Screw	M10x40L	4	B87	Wire Fastener	331D2-35	1
B37	Hex. Socket Cap Screw	M12x25L	4	B88	Nut	1/2"	2
B38	Cylinder Plate	331D2-61	1	B89	Spring Washer	1/2"	2
B39	Hex. Socket Cap Screw	M6x25L	4	B90	Hex. Socket Cap Screw	M8x25L	4
B40	Spring Washer	M6	4	B91	Spring Washer	M8	4
B41-1	Plate	S20A2-08-B	1	B92	Lower Bracket	331D1-17	1
B42-1	Linear Bearing LMA-25UU	S20A4-10	1	B93	Ring Screw	1/2"	2
B43	Hex. Socket Cap Screw	M8x20L	4	B94	Nut	M10	1
B44	Adjusting Screw	H46D2-19-B	2	B95	Hex. Cap Bolt	M10x60L	1
B45	Nut	M12	2	B96	Nut	M20	1
B46	Position Block	S20A2-10	2	B97	Hex. Cap Bolt	M20x65L	1
B47	Vise Position Block	S20A2-10-A	1	B98	Nylon Nut	M10	1
B48	Hex. Socket Cap Screw	M5x6L	2	B99	POM Washer	S138F2-26-B	1
B49	Spring Washer	M8	4	B100	Washer	S138F2-26-A	1
B50	Hex. Cap Bolt	M8x16L	4	B101	Upper Contact Plate	S20A3-09	1
B51	Lock Handle TRT80 M10x45L	H46D4-08	1	B102	Position Screw	S20A2-01	1

# SECTION B



## SECTION C - PARTS LIST

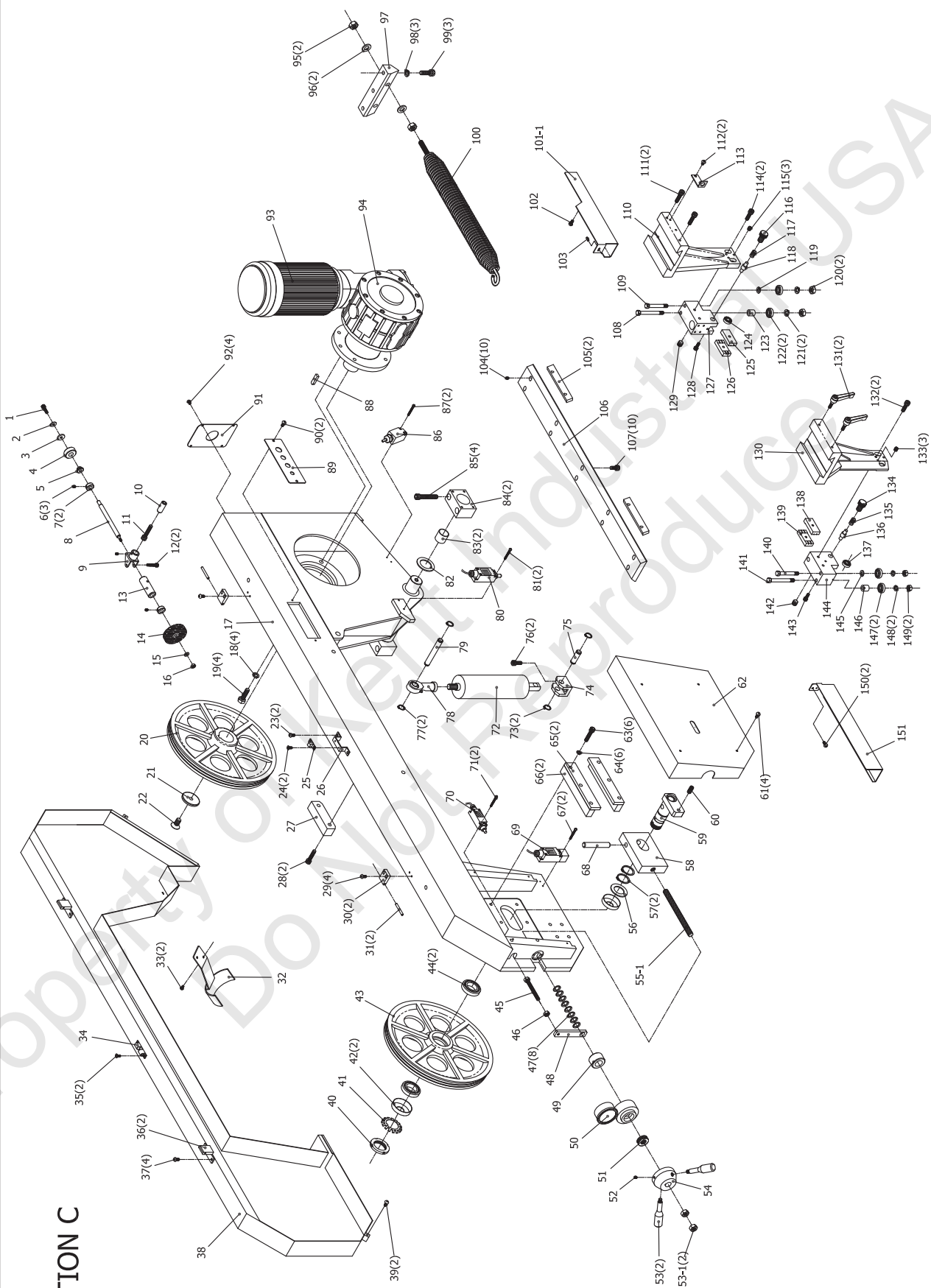
Part No.	Description	Size / Stock No.	Q'ty	Part No.	Description	Size / Stock No.	Q'ty
C1	Hex. Socket Cap Screw	M6x16L	1	C48	Contact Plate	331D2-48	1
C2	Spring Washer	M6	1	C49	Tension Gauge Spacer	331D2-16-A	1
C3	Shaft Bush	331D2-42-A	1	C50	Tension Gauge	331D5-00B	1
C4	Brush Wheel	331D2-42	1	C51	Thrust Bearing 51203	BB2010	1
C5	Shaft Bush	331D2-42-A	1	C52	Set Screw	M8x10L	1
C6	Set Screw	M6x6L	3	C53	Handle	331D2-63	2
C7	Position Bush	331D2-41	2	C53-1	Nut	M16	2
C8	Brush Shaft	331D2-40	1	C54	Handle Wheel	331D2-63-A	1
C9	Position Bracket	331D3-17	1	C55-1	Slider Bolt	M16	1
C10	Shaft	331D2-43	1	C56	Washer	331D2-12-C	1
C11	Hex. Socket Cap Screw	M8x45L	1	C57	C Ring	S35	2
C12	Hex. Socket Cap Screw	M6x8L	2	C58	Slide	331D2-13	1
C13	Shaft Tube	331D2-39	1	C59	Idle Wheel Shaft Set	331D2-12	1
C14	Brush 3"x6.35mm	331D4-08	1	C60	Set Screw	M12x25L	1
C15	Spring Washer	M6	1	C61	Button Head Socket Screw	M5x8L	4
C16	Nut	M6	1	C62	Wheel Cover	S20A3-12	1
C17	Saw Bow	S20A3-02	1	C63	Hex. Socket Cap Screw	M10x55L	6
C18	Spring Washer	M10	4	C64	Spring Washer	M10	6
C19	Hex. Cap Bolt	M10x40L	4	C65	Slide Plate	331D2-15	2
C20	Drive Wheel	331D1-13	1	C66	Slide Guide	331D2-14	2
C21	Washer	331D2-49	1	C67	Hex. Socket Cap Screw	M4x35L	2
C22	Flat Head Screw	M12x25L	1	C68	Steel Pin	14x70L	1
C23	Button Head Socket Screw	M6x12L	2	C69	Limit Switch EK-1-15-R	S138F4-10	1
C24	Flat Head Screw	M4x10L	2	C70	Limit Switch AZD-1001T	331D5-06	1
C25	Brass Button	330S0419	1	C71	Hex. Socket Cap Screw	M4x35L	2
C26	Lock Bracket	331D3-27	1	C72	Hydraulic Cylinder		1
C27	Blade Guide Block	331D2-55	1	C73	C Ring	S16	2
C28	Hex. Socket Cap Screw	M8x40L	2	C74	Lower Bracket	331D2-36	1
C29	Button Head Socket Screw	M6x20L	4	C75	Cylinder Support Rod	331D2-37	1
C30	Fixing Block	331D2-44	2	C76	Hex. Socket Cap Screw	M8x20L	2
C31	Pin	14x70L	2	C77	C Ring	S16	2
C32	Protective Bracket	331D3-14	1	C78	Eye Bearing		1
C33	Button Head Socket Screw	M5x8L	2	C79	Cylinder Support Rod	331D2-38	1
C34	Brass Button	330S0419	1	C80	Limit Switch AZD-1001T	331D5-06	1
C35	Flat Head Screw	M4x10L	2	C81	Hex. Socket Cap Screw	M4x35L	2
C36	Cover Lock	331D2-45	2	C82	Washer	331D2-01-A	1
C37	Button Head Socket Screw	M6x12L	4	C83	Oilless Bearing 4040	BB2062	2
C38	Wheel Cover	S20A3-05	1	C84	Bush Seat	331D2-02-A	2
C39	Button Head Socket Screw	M5x8L	2	C85	Hex. Socket Cap Screw	M12x65L	4
C40	Nut	AN07(M35)	1	C86	Limit Switch ED1-3-32	H33D4-11	1
C41	Teeth Washer	AW07(M35)	1	C87	Hex. Socket Cap Screw	M4x35L	2
C42	Cover	331D4-51	1	C88	Key	14x8x50	1
C43	Idle Wheel	331D1-12	1	C89	Wire Plate	S20A3-02-C	1
C44	Bearing 32007	BB2190	2	C90	Button Head Socket Screw	M6x8L	2
C45	Hex. Cap Bolt	M8x60L	1	C91	Wire Plate	S20A3-02-B	1
C46	Nut	M8	1	C92	Button Head Socket Screw	M5x8L	2
C47	Disc Washer 502225	460D4-09	8	C93	Motor 3HP	MLS20A01	1

## SECTION C - PARTS LIST

Part No.	Description	Size / Stock No.	Q'ty	Part No.	Description	Size / Stock No.	Q'ty
C94	Reducer 100#1/40	S20A4-01	1	C141	Bearing Shaft (Long)	331D2-10	1
C95	Nut	1/2"	2	C142	Set Screw	M12x10L	1
C96	Spring Washer	1/2"	2	C143	Hex. Socket Cap Screw	M6x16L	1
C97	Spring Holder	S20A1-03	1	C144	Bearing Set (Front)	331D1-09	1
C98	Spring Washer	M10	3	C145	Washer	331D2-10-C	1
C99	Hex. Socket Cap Screw	M10x25L	3	C146	Shaft Bush	331D2-10-B	1
C100	Spring	331D4-01-A	1	C147	Bearing 6200	BB2149	2
C101-1	Blade Guard (Rear)	331D3-48A	1	C148	Spring Washer	M10	2
C102	Button Head Socket Screw	M5x8L	1	C149	Nut	M10	2
C103	Spring Pin	4x12L	1	C150	Button Head Socket Screw	M5x8L	2
C104	Set Screw	M10x16L	10	C151	Blade Guard (Front)	331D3-12-A	1
C105	Plate	331D2-07-A	2				
C106	Bracket Guide	331D2-07	1				
C107	Hex. Socket Cap Screw	M10x20L	10				
C108	Bearing Shaft (Long)	331D2-10	1				
C109	Bearing Shaft (Short)	331D2-10-A	1				
C110	Guide Post (Rear)	331D1-08	1				
C111	Hex. Socket Cap Screw	M8x30L	2				
C112	Button Head Socket Screw	M6x8L	2				
C113	Fixing Bracket	331D3-22	1				
C114	Hex. Socket Cap Screw	M8x25L	2				
C115	Set Screw	M8x16L	3				
C116	Adjusting Screw	3300209	1				
C117	Adjusting Spring	3300405	1				
C118	Pin	331D2-59	1				
C119	Washer	331D2-10-C	1				
C120	Nut	M10	2				
C121	Spring Washer	M10	2				
C122	Bearing 6200	BB2149	2				
C123	Shaft Bush	331D2-10-B	1				
C124	Bearing 6000	BB2136	1				
C125	Adjusting Carbide (No Grooved)	331D2-09-A	1				
C126	Fixed Carbide (No Grooved)	331D2-08-A	1				
C127	Bearing Set (Rear)	331D1-10	1				
C128	Hex. Socket Cap Screw	M6x16L	1				
C129	Set Screw	M12x10L	1				
C130	Guide Post (Front)	331D1-07	1				
C131	Lock Handle M8x30L	331D4-38	2				
C132	Hex. Socket Cap Screw	M8x25L	2				
C133	Set Screw	M8x16L	3				
C134	Adjusting Screw	3300209	1				
C135	Adjusting Spring	3300405	1				
C136	Pin	331D2-59	1				
C137	Bearing 6000	BB2136	1				
C138	Adjusting Carbide (Grooved)	331D2-09	1				
C139	Fixed Carbide (Grooved)	331D2-08	1				
C140	Bearing Shaft (Short)	331D2-10-A	1				



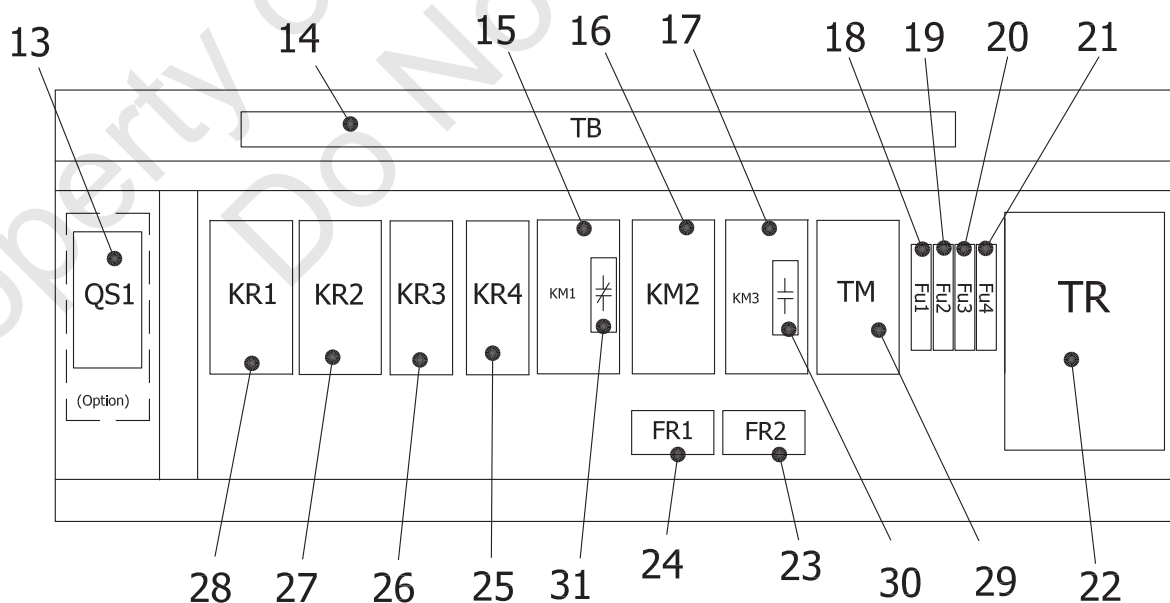
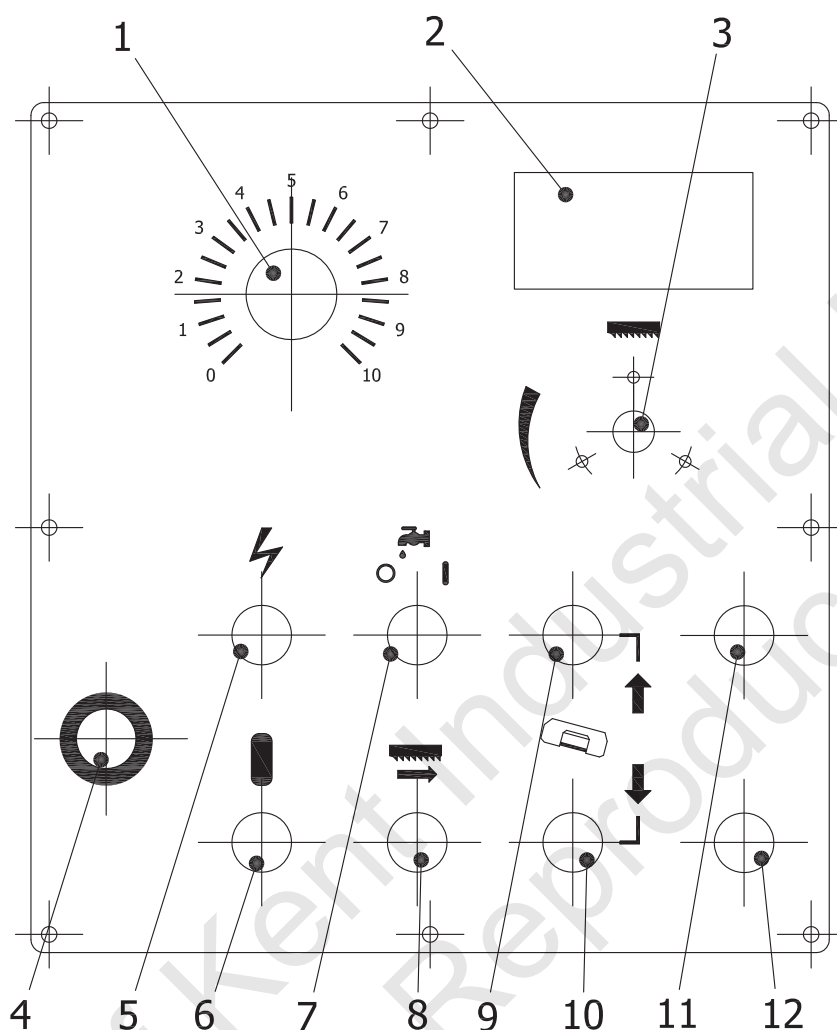
# SECTION C



## SECTION D - PARTS LIST

[illegible]

# SECTION D



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## SECTION E - PARTS LIST

[illegible]

## SECTION E

