METAL CUTTING BAND SAW

MODEL BS-2114T

BS-2114TH

Assembly & Operating Instruction

Table of contents

1.0 Safety Warnings

1. Read and understand the entire instruction manual before attempting assembly or operation.

2. This machine is designed and intended for use by properly trained and experienced personnel only. If you are not thoroughly familiar with the proper and safe operation of horizontal bandsaw, obtain advice from your supervisor, instruction or other qualified person, do not use until proper training and knowledge have been obtained.

3. Do not use this machine for other than its intended use.

4. Always wear safety glasses/face shields while using this saw.

5. Do not wear loose clothing, gloves, neckties, rings, bracelets, watch, or other jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair. Non-slip footwear or anti-skid floor strips are recommended.

6. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.

7. Provide for adequate space surrounding work area and non-glare, overhead lighting.

8. Keep the floor around the machine clean and free of scrap material, oil and grease.

9. Keep visitors a safe distance from the work area. **KEEP**

CHILDREN AWAY.

10. Make your workshop child proof with padlocks, master switches or by removing starter keys.

11. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.

12. Maintain a balanced stance at all times so that you do not fall or lean against moving parts. Do not overreach or use excessive force to perform any machine operation.

13. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do job better and more safety.

14. Use recommended accessories; improper accessories may be hazardous.

15. Maintain tools with care. Keep tools sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.

16. Do not stand on the machine. Serious injury could occur if the machine tips over.

17. Make sure wiring cords and recommended electrical connections instructions are followed and that machine is properly grounded.

18.Always have stock firmly clamped in vise, before starting cut.

19.Adjust and position the blade guide before starting cut.

20.Make sure that blade tension is properly adjusted before starting cut.

21.Stop the band saw before putting a work piece in the vise.

22.Always keep hands and fingers away from the blade when the machine is running.

23.Make all adjustments with the power off.

24.Stop the machine before removing chips.

25.Disconnect machine form power source when making repairs.

26. Unplug or lock out power to the machine when not in use.

27.Before leaving the machines, make sure the work area is clean.

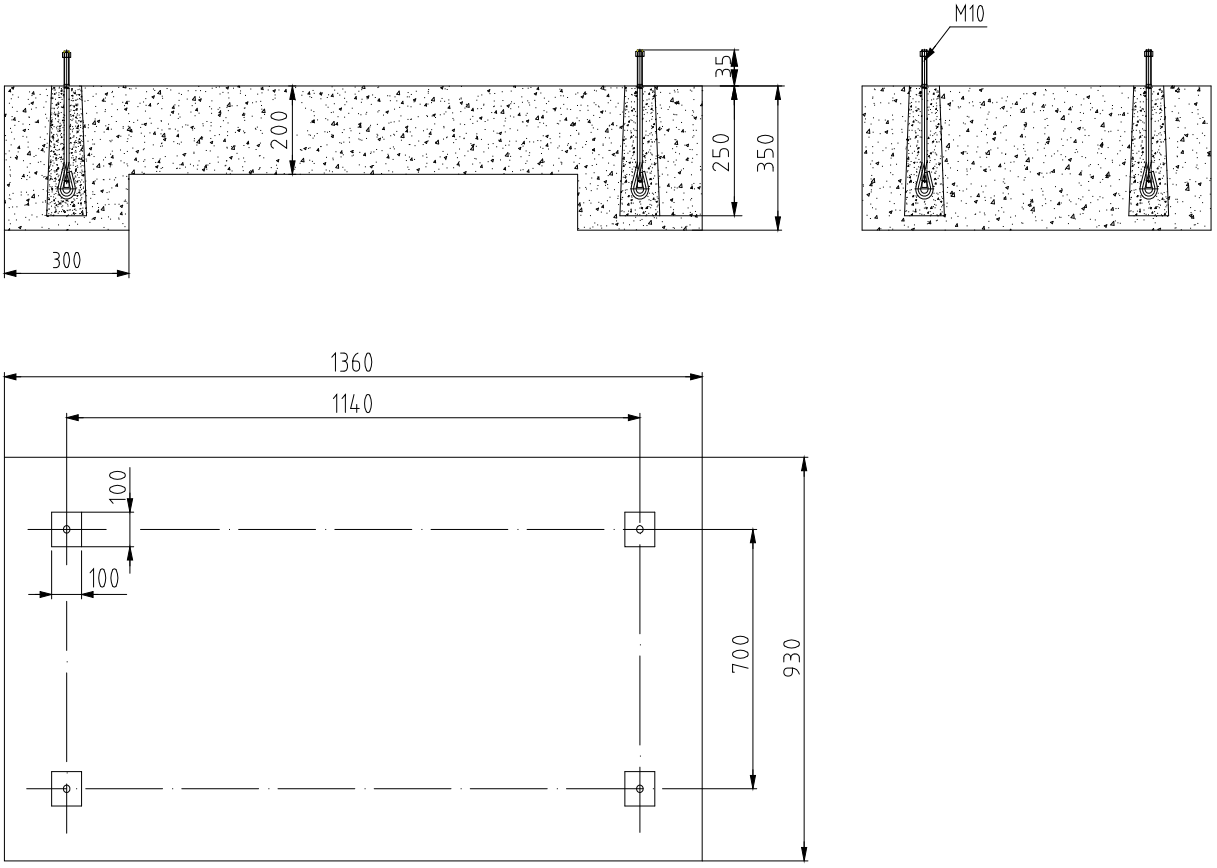
2.0 Transport and Assembly

Transportation methods :

1.Always keep balance while the machine is in transportation

2.Drive forklift slowly and carefully.

ASSEMBLY: Before start the machine, make sure the machine is anchored to level ground firmly, to avoid the machine turn on one’s side. Foundation drawing as below:



INFORMATION: After the machine is installed on the foundation floor, adjust the level of the working table to make sure both 0.1/1000mm longitudinally and crosswise.

3.0 Daily Check List

1.CHECK COOLANT: Low coolant level can cause foaming and high blade temperatures. Dirty or weak coolant can clog pump, cause crooked cuts, low cutting rate and permanent.

2.KEEP VISE SLIDES CLEAN AND OILED.

3.CLEAN CHIPS FROM BLADE WHEELS AND AREAS AROUND WHEELS.

4.SAW GUIDE: Keep saw guide tight. Loose guide will affect

sawing accuracy.

5.SAW BLADE: Is saw blade sharp?

6.BLADE SPEED: Is blade speed set correctly for workpiece material and shape?

7.CHECK BLADE TENSION: Particularly after initial cuts with a new blade.

4.0 Saw Blade Selection

1.Never use a blade so coarse that less than 3 consecutive teeth are engaged in the workpiece at any one time. (Too few teeth will cause teeth to strip out.)

2.Never use a blade finer than required to obtain a satisfactory surface finish or satisfactory flatness. (Too many teeth engaged in the workpiece will prevent attainment of a satisfactory sawing rate; frequently cause premature blade wear; frequently produce “dished” cuts or cuts which are neither square nor parallel.)

3.The Chart which follows is not expected to be exactly correct for all cases. It is intended as a general guide to good sawing practice. Your blade supplier or factory application engineer should be your most reliable source of correct information for operational details of saw blade and their use.

WORK SIZE (Solid bars)	PROBABLE PITCH-TEETH PER INCH		
	BEST	SECOND BEST	THIRD BEST
Less Than 1” Dia. Or Sq.	10		
1” Dia. or 1” Sq.	8	10	6
1 ½” Dia. or 1 ½” Sq.	8	10	6
2” Dia. or 2” Sq.	8	6	4
2 ½” Dia. or 2 ½” Sq.	6	8	4
3” Dia. or 3” Sq.	6	4	3
3 ½” Dia. or 3 ½” Sq.	6	4	3
4” Dia. or 4” Sq.	4	3	6
4 ½” Dia. or 4 ½” Sq.	4	3	6
5” Dia. or 5” Sq.	4	3	6
6” Dia. or 6” Sq.	3	4	6
7” Dia. or 7” Sq.	3	4	6
8” Dia. or 8” Sq.	3	2	4
9” Dia. or 9” Sq.	3	2	4

Notice:

1.When standard wall pipe or tubing or thin wall tubing, channel iron, angles I beam are cut, a 10 pitch saw blade of “wave” set type is frequently used to good advantage. Fewer than 10 teeth per inch of saw will almost never be satisfactory.

2.Tubing or structural with wall thickness or web thickness of ½” or more can usually use an 8 or 6 pitch blade satisfactorily.

3.When rectangular, solid bar is to be sawed, then work should, whenever possible, be loaded with thinnest cross section exposed to the blade teeth. The pitch (or number of teeth per inch of blade)

selected must provide engagement of at lease 3 consecutive teeth in the work piece. Should application of this rule not be possible because the thinnest cross section is too thin, the piece must be loaded with the wider dimension exposed to the saw teeth and a coarser blade selected from the listing of recommendations for round and square solid bars.

5.0 Instruction

The Horizontal Band Saw is well suited for many user- job shops, tool rooms, maintenance departments, metal fabricators, building trade contractors, machine shops, vocational schools and teacher training colleges.

We suggest you read and understand this manual before setting up, making wiring connections and operating your machine and also that you save it for future reference.

6.0 Operating Controls and Adjustments

i. REMOVING AND INSTALLING THE BALDE

When your machine was shipped, a blade supplied and assembled to the saw. When selecting a new blade refer to section IV. SAW BLADE SELECTION for information. This machine requires a blade 34mm width x 4405mm length.

1.Disconnect the machine from the power source.

2.Raise the saw frame about 6” and close the feed rate lever by turning it clockwise as far as it will go.

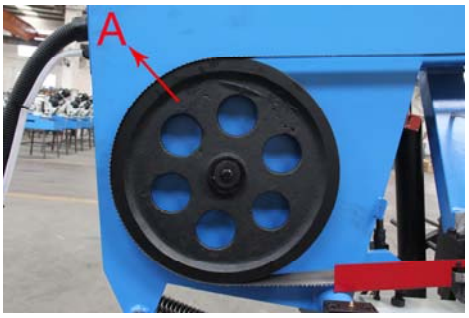
3.Open both wheel covers and clean the scrap out of the machine.

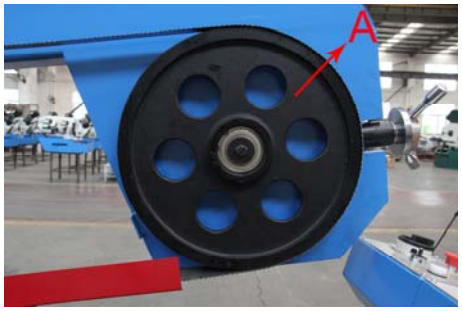
4.Release blade tension by turning the blade tension hand wheel (C) Fig.1 counterclockwise.

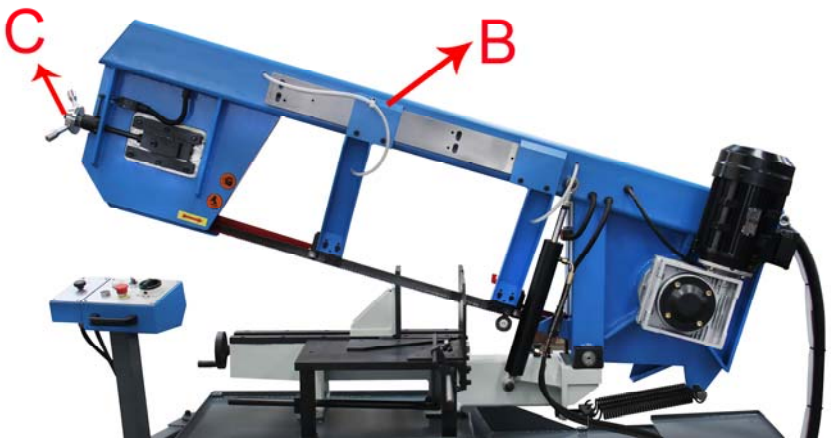
5.Remove the blade from both wheels and out of each blade guide.

6.Make sure the teeth of the new blade are pointing in the direction of travel. If necessary, turn the blade inside out.

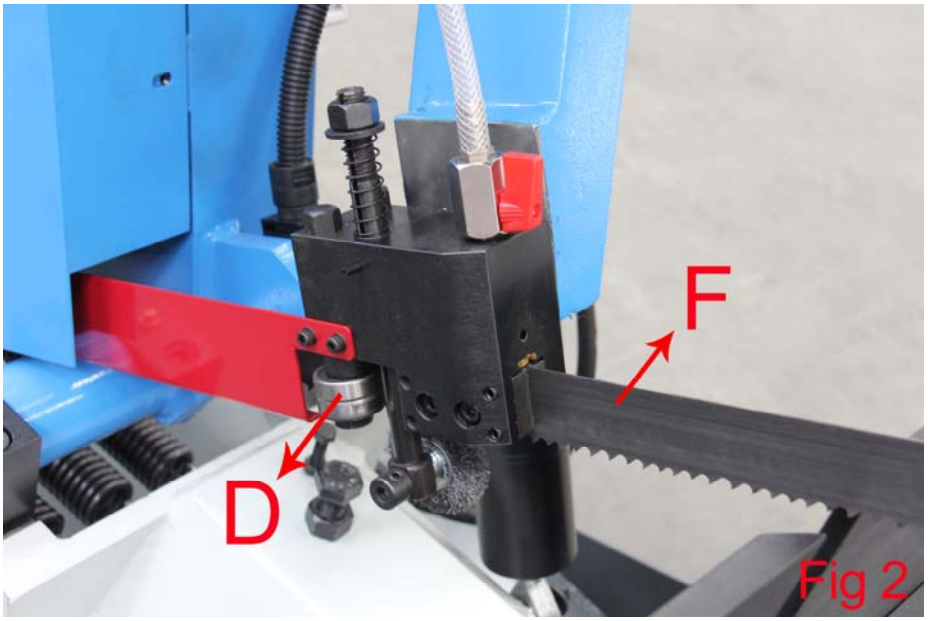
7.Place the blade in place on the wheel (A) and through the upper blade guard (B) Fig. 1. Fig.1 is shown with the wheel covers removed for clarity.





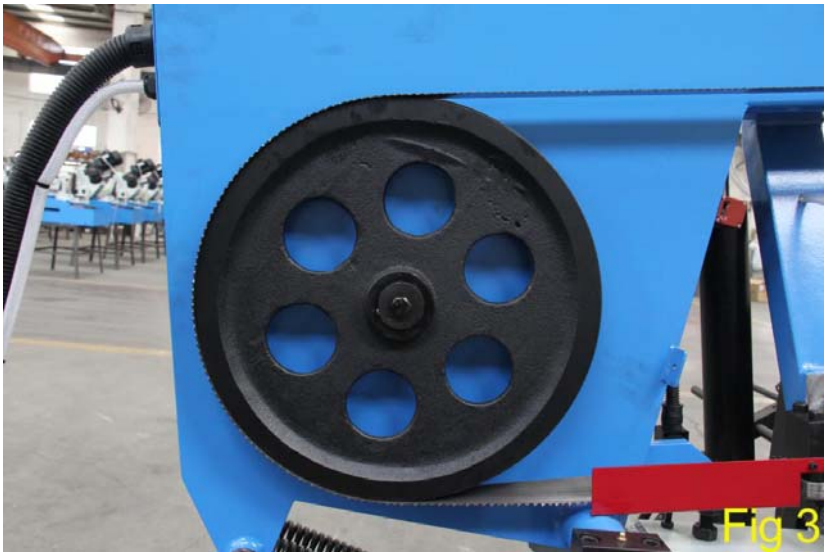


8. Work the blade (F) all the way up into the blade guide roller bearing (D) with the back of the blade against the guide bracket as shown in Fig. 2.



Note: If roller bearings need adjusted refer to the section ADJUSTING BLADE GUIDE ROLLING BEARINGS.

9.Put light tension on the blade and work it on both wheels, as shown in Fig. 3.



MAKE SURE THAT THE BACK OF THE BLADE IS AGAINST THE WHEEL FLANGES OF BOTH WHEELS. THIS IS VERY IMPORTANT.

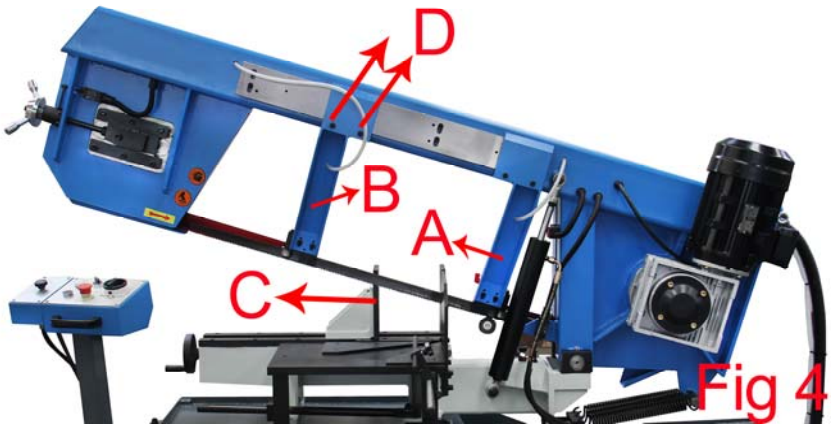
10.When you are sure the back of the blade is against the wheel flanges of both wheels and properly inserted into the guides, finish putting tension on the blade.

11.Jog the power “on” and “off” to be sure the blade is in place and rotating properly. If blade is not rotating properly refer to the section TRACKING THE BLADE.

ii. ADJUSTING BLADE GUIDE BRACKETS

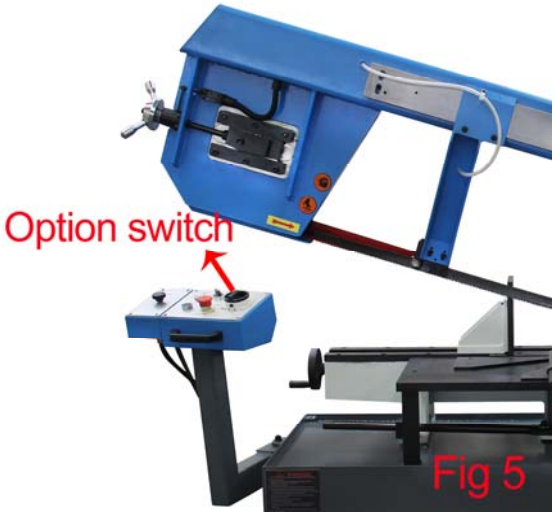
The blade guides should be set as close to the vise jaw as possible. The right blade guide bracket (A) Fig.4, is not adjustable and is set at the factory to clear the right hand vise jaw. The left blade guide bracket (B) can be moved to the left or right depending on the position of left hand vise jaw (C). To move the left blade guide bracket (B), loosen set screws (D), position blade guide bracket (B) and tighten set screws (D).

Note: When operating BS2114T/BS2114TH, the right blade guide bracket (A) can be moved as well especially when cutting in 90° to make sure the bracket be moved as close to the vise jaw as possible.



iii.CHANGING SPEEDS

This Saw is provided with two speeds. To change speeds, just select needed speed by the option switch on operation panel FIG 5.

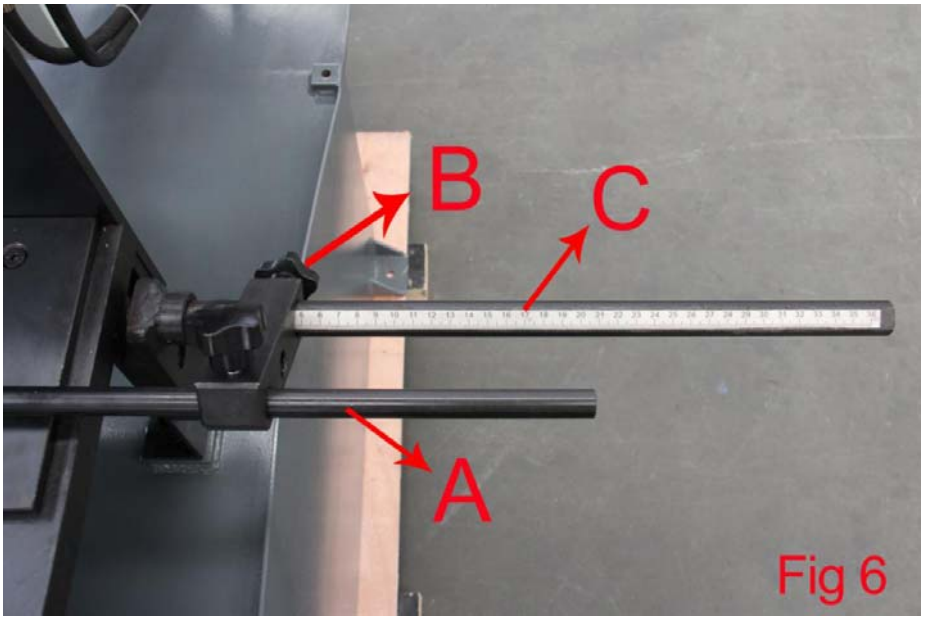


iv. ADJUST STOCK ADVANCE STOP

The Stock Advance Stop is used mainly when more than one piece is to be cut to the same length.

Simply position the stop block (A) FIG. 6, the desire distance away from the blade. The stop may be repositioned by loosening screw

(B) and moving the rod (C) accordingly. To move the stop block (A) out of the way simply push it to the down position.



v.SETTING UP THE MACHINE FOR OPERATION

1.Select the proper speed and blade for the type of material you are cutting.

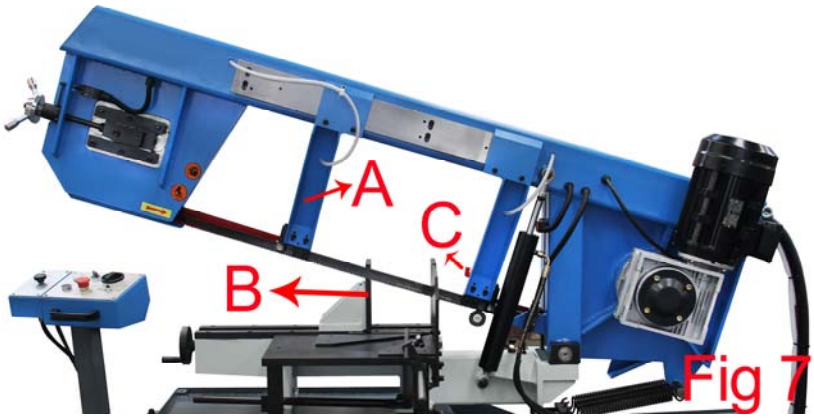
2.Make sure blade tension is adjusted properly.

3.Lift the saw frame up and close the feed rate lever.

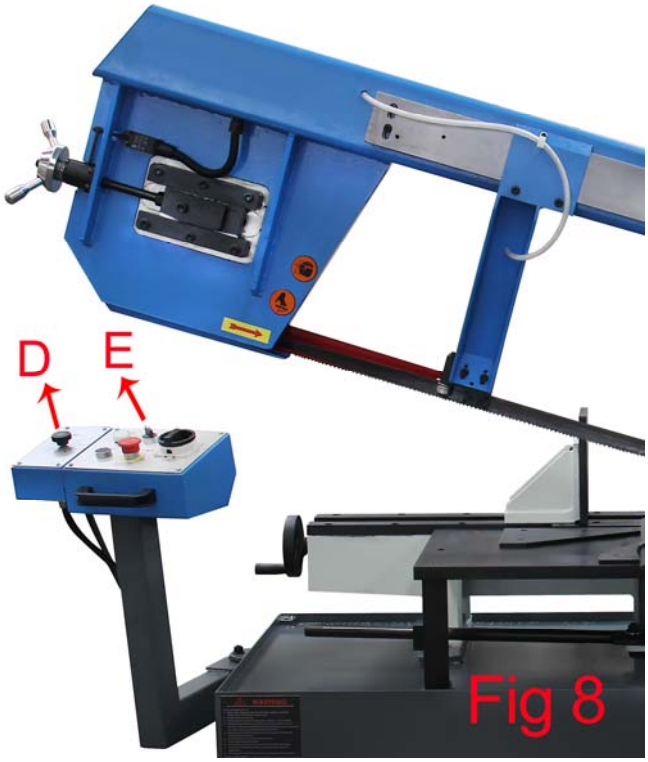
4.Place the stock between the vise jaws, set the stock for the desired width of cut and tighten the vise.

5.Make sure the left blade guide bracket (A) is adjusted as close as possible to the left vise jaw (B) Fig. 7

6. Turn the machine on, turn the coolant switch (E) Fig. 8 on and adjust coolant flow by turning lever (C) Fig. 7



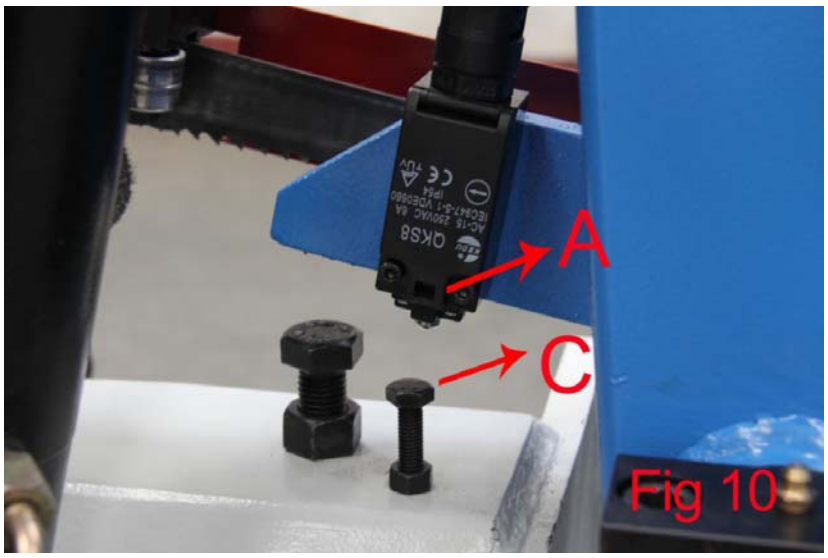
7.Turn the feed rate lever (D) Fig. 8, counterclockwise until the saw blade begins to lower the desired rate of speed.



8.Proceed to cut throughout the workpiece, as shown in Fig.9. The machine shut off upon completion of cut.

vi. AUTOMATIC SHUT-OFF

The machine and any accessories which are wired into the electrical system are controlled by the start-stop buttons. The machine will automatically shut off when the cut is completed. The switch (A) Fig. 10, for the automatic shut-off contact the top of the support (C) and shuts off the machine.



vii. ADJUST BLADE TENSION & BLADE TRACKING ADJUSTMENT

Blade tension has been preset in factory, therefore, by turning handwheel (A) in Fig. 11 clockwise till (B) portion slip then tension for the blade is reached.

Please kind note that one does not to press the handwheel, simply turn it will do. For blade tracking, if the back of the blade is not against the wheel flange properly, loosen the screw (C) in Fig.11, and adjust it, until the blade is tracking properly, then tighten screw (C) will do.

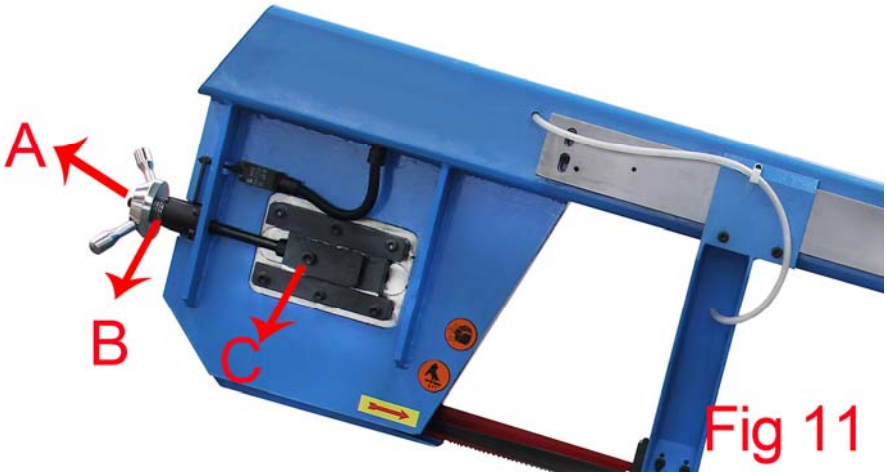
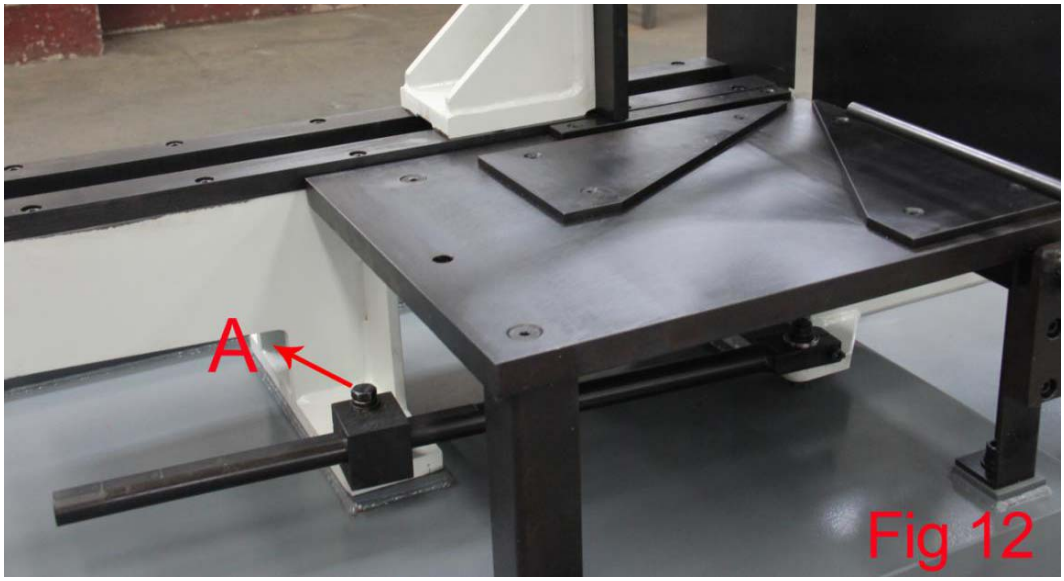


Fig 11

viii. FRAME SWIVELING

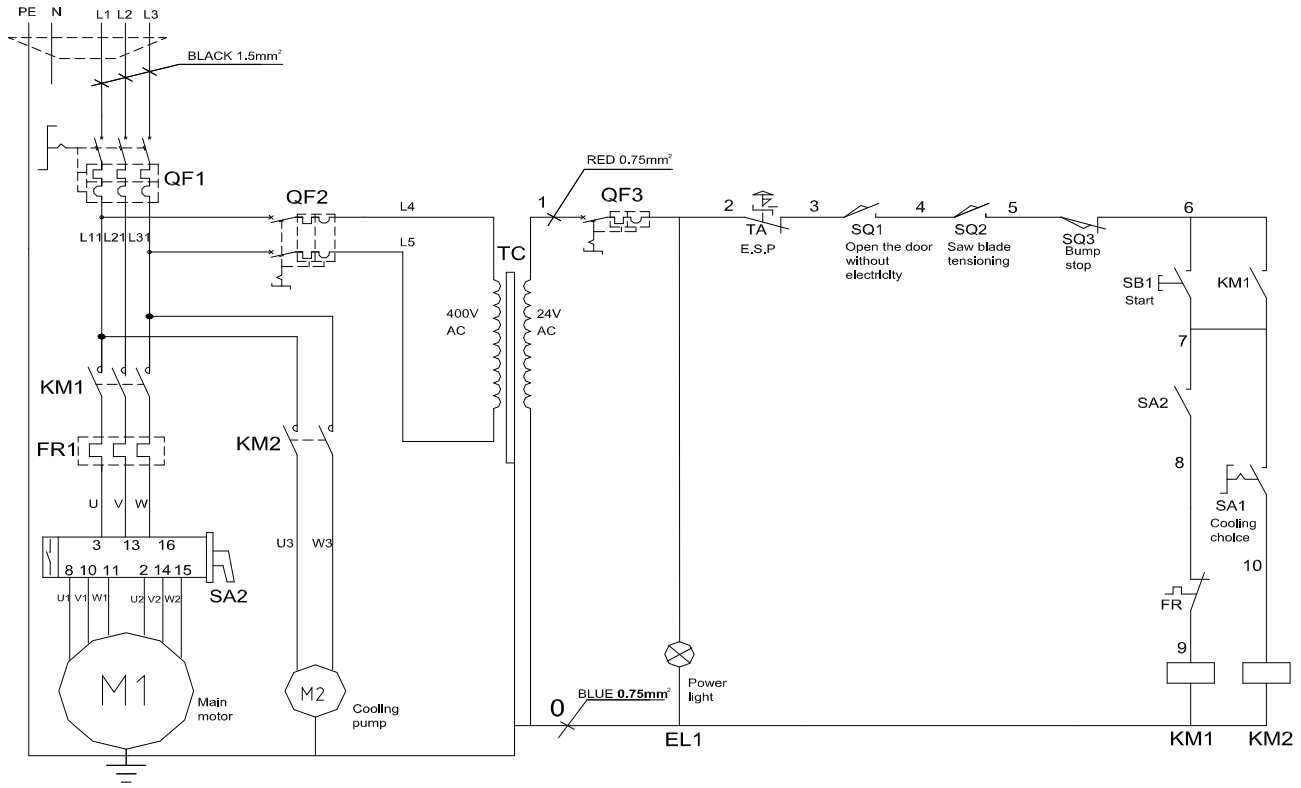
This saw frame can swivel up to 60°, Loosen the bolt (A) in Fig. 12 via a wrench, swivel the saw frame to the angle desired (can refer to the scale value on scale axis #134), then tighten the bolt (A) to fix the saw frame in position very tight.



ix. SAFETY DEVICE FOR WHEEL COVER (CE)

In any case, open the wheel cover during operation will activate the limit switch related to it which will shut-off the machine automatically for safety reason. (see Fig. 13)

7.0 Electrical Drawing



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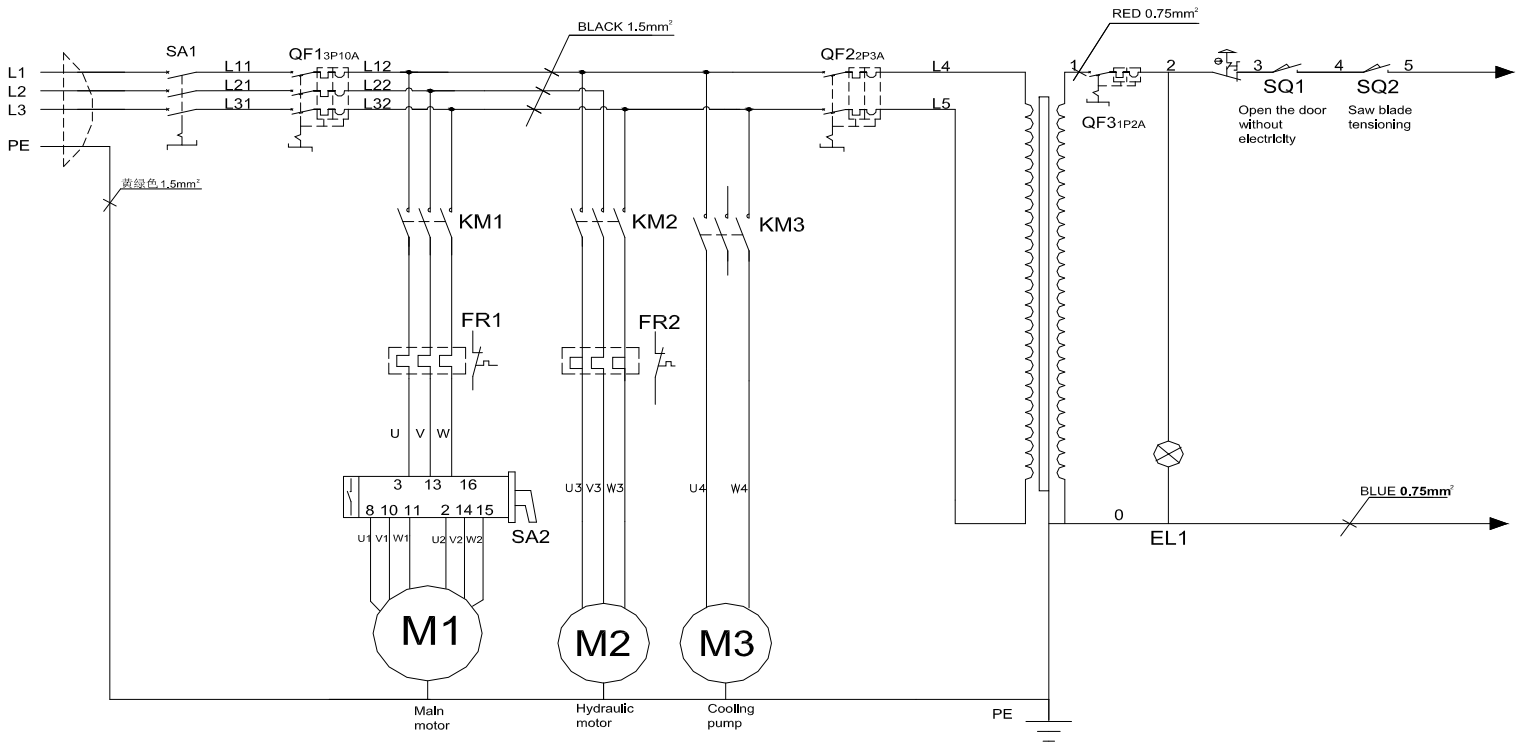
			CHCKET
		CIRCUIT DIADRAM	DIAGRAM NO.



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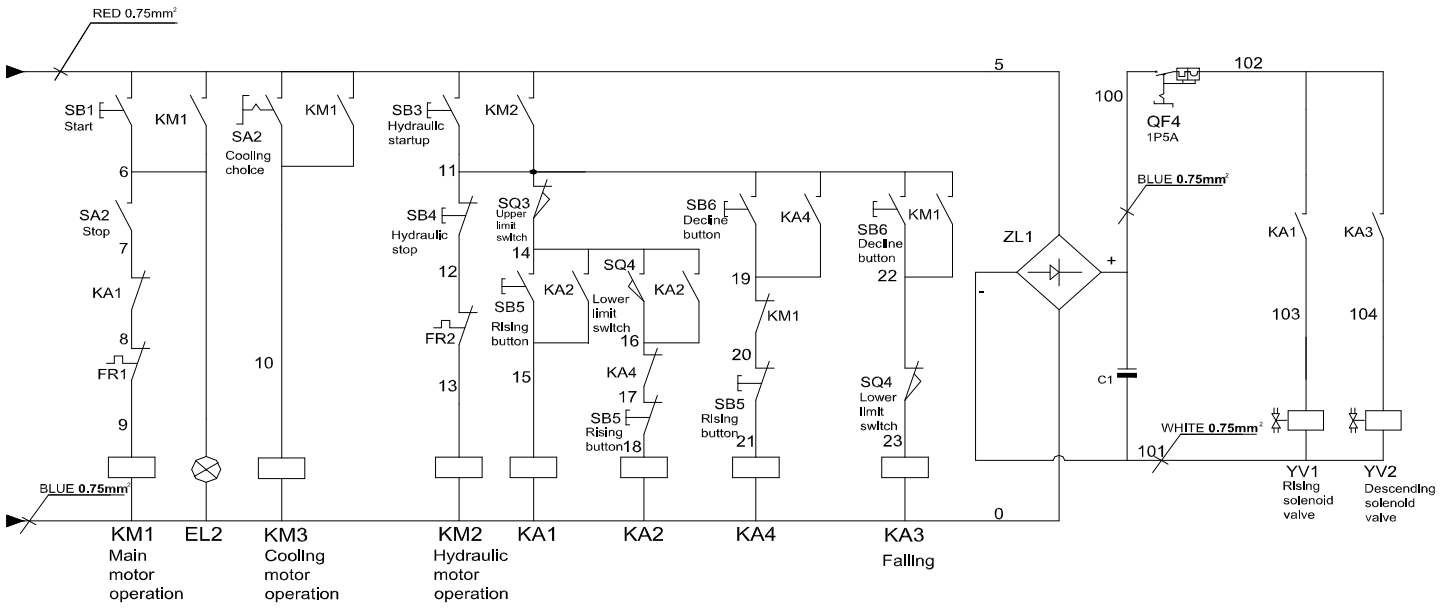
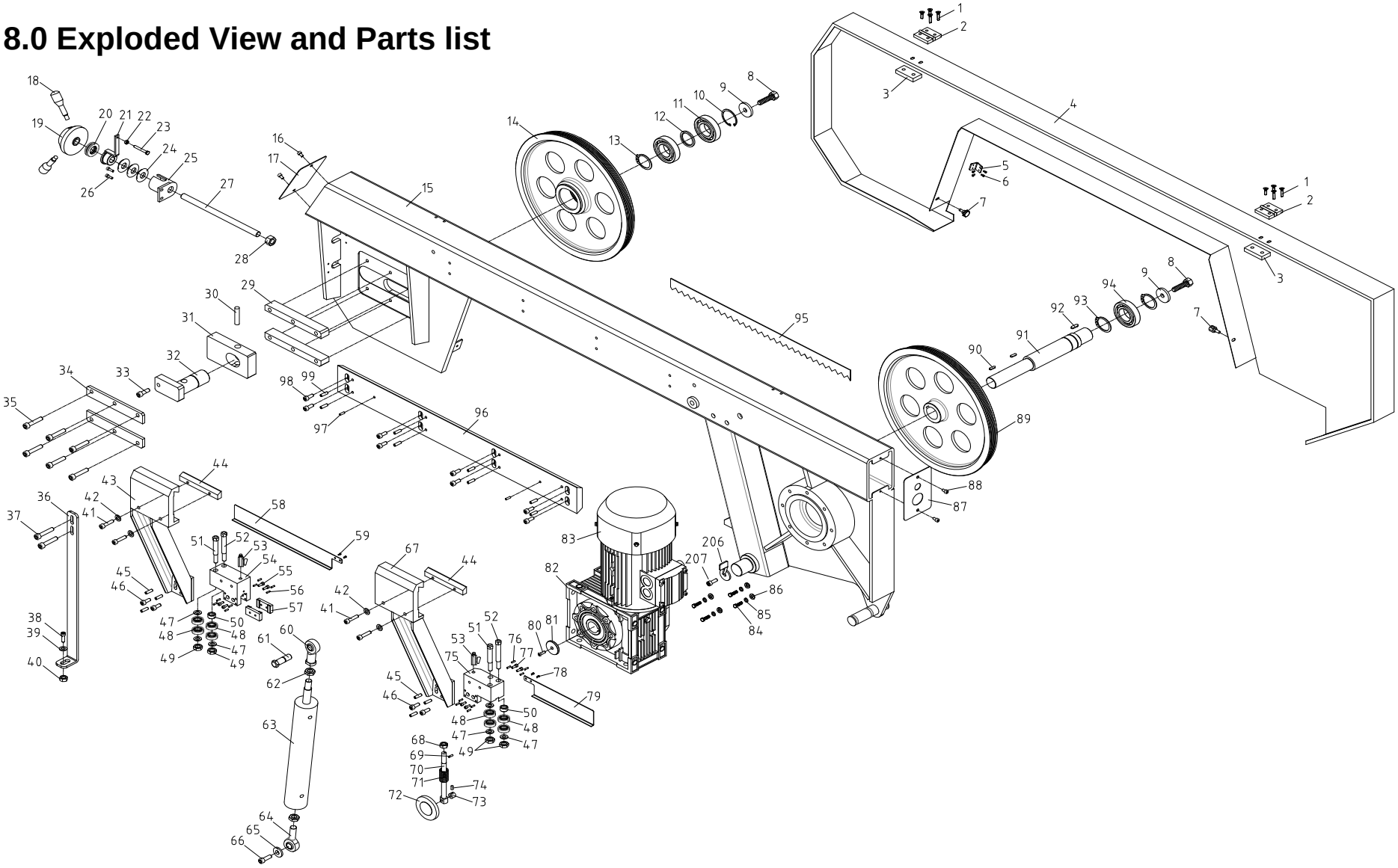
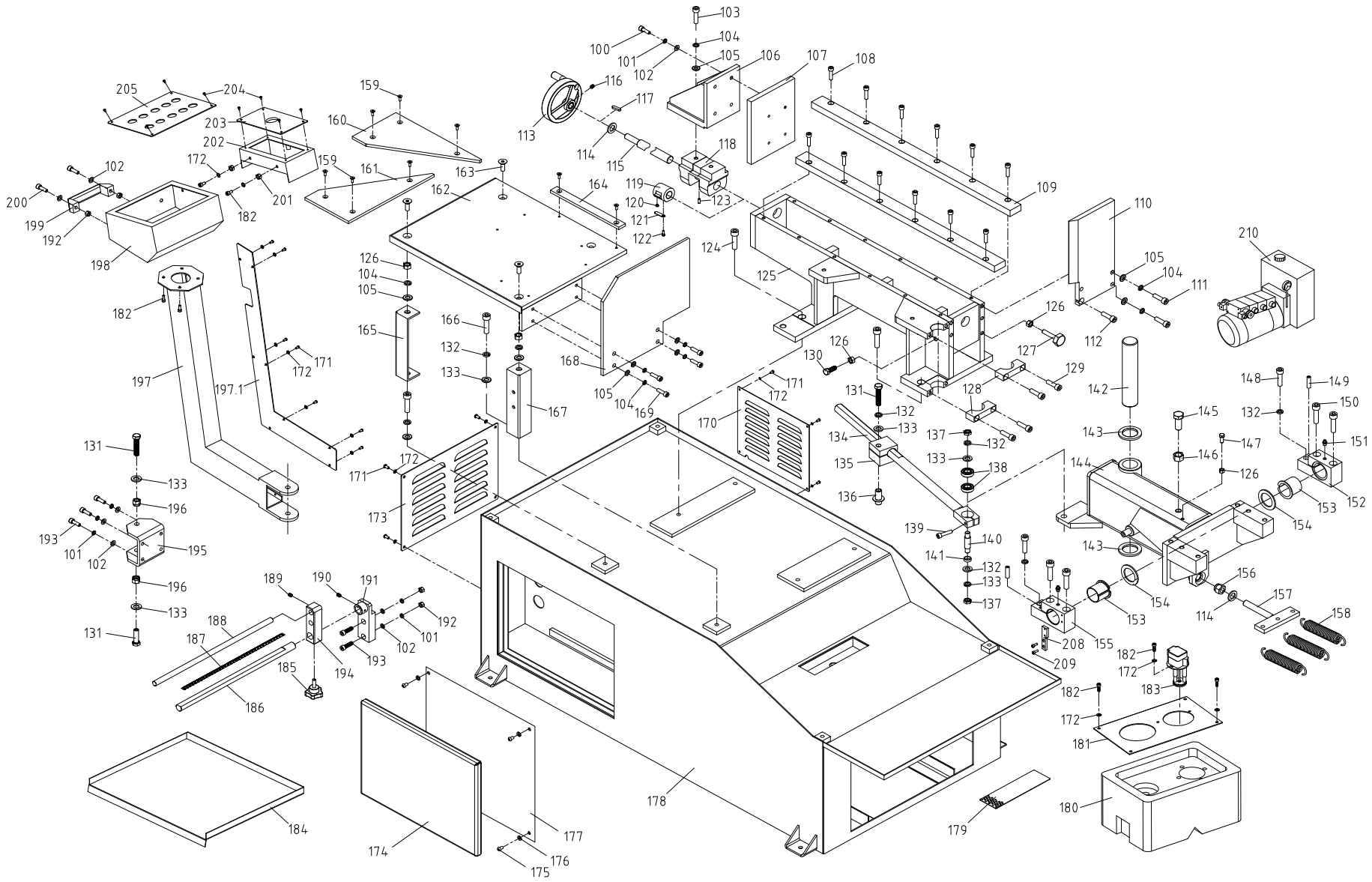


		BS2114TH 3PH CE	QRAWN
			CHCKET
		CIRCUIT DIADRAM	DIAGRAM NO.

8.0 Exploded View and Parts list

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Parts list

ITEM NO.	DESC.	QTY		ITEM NO.	DESC.	QTY
1	Screw M6X16	8		29	Lining Plate	2
2	Hinge	2		30	Cylindrical Pin Φ16m 6X80	1
3	Nut Block	2		31	Sliding Block	1
4	Saw bow cover	1		32	Seat for Idle wheel	1
5	Seat for limit switch	1		33	Screw M12X35	1
6	Screw M4X8	4		34	Press Plate	2
7	Handle M6X10	2		35	Screw M10X50	6
8	Bolt M12X25	2		36	Dead Plate	1
9	Cushion	2		37	Screw M8X35	2
10	Check Ring 80	1		38	Screw M12X40	1
11	Bearing 6208-2Z	2		39	Flat Gasket 12	1
12	Spacer Bush	1		40	Nut M12	1
13	Shaft Ring 40	1		41	Screw M8X35	4
14	Idle Wheel	1		42	Flat Gasket 8	4
15	Saw Bow	1		43	Rear tilted Bracket	1
16	Screw M6X10	2		44	Lock Block	2
17	Left Cover	1		45	Screw M8X10	6
18	Hand Shank	2		46	Screw M8X20	4
19	Adjusting Hand Wheel	1		47	Flat Gasket 10	6
20	Bearing 51103	1		48	Bearing 6200-2RZ	8
21	Tension Bush	1		49	Thin Nut M10	4
22	Nut M6	1		50	Spacer Bush	2
23	Bolt M6X45	1		51	Eccentric Shaft Ⅱ	2
24	Disc Spring Φ36XΦ17X2	12		52	Eccentric Shaft Ⅰ	2
25	Fixing sleeve	1		53	Switch Valve G1/8″	2
26	Screw M5X16	2		54	Guide seat (Rear)	1
27	Adjustment lever	1		55	Screw M6X16	6
28	Nut M16	1		56	Screw M6X10	14

ITEM NO.	DESC.	QTY		ITEM NO.	DESC.	QTY
57	Clamping Block	4		87	Right Cover	1
58	Guard Board	1		88	Screw M6X10	2
59	Screw M4X8	2		89	Drive Wheel	1
60	Knuckle Bearing SIJK16C	1		90	Flat Key 10X40	2
61	Upper Shaft	1		91	Driving Shaft	1
62	Thin Nut M16	2		92	Flat Key 12X40	1
63	Hydraulic Cylinder	1		93	Shaft Ring 45	2
64	Knuckle Bearing SAJK16C	1		94	Bearing 6209-2Z	1
65	Big Flat Gasket 8	1		95	Blade 4405X34X1.1X3/4	1
66	Screw M8X12	1		96	Slide Rail	1
67	Front tilted Bracket	1		97	Spring Pin 6X30	2
68	Nut M12	1		98	Screw M8X25	8
69	Spring Pin 3X8	1		99	Screw M8X16	8
70	Fixed Shaft	1		100	Screw M8X25	4
71	Pressure Spring	1		101	Spring Washer 8	10
72	Brush Φ50	1		102	Flat Gasket 8	12
73	Spacer Sleeve	1		103	Screw M10X25	2
74	Screw M6X8	1		104	Spring Washer 10	11
75	Guide Seat (front)	1		105	Flat Gasket 10	11
76	Screw M6X6	2		106	Seat for Moving Vise	1
77	Screw M6X12	2		107	Moving Vise	1
78	Screw M4X8	2		108	Screw M8X25	12
79	Guard Board	1		109	Guide Rail	2
80	Screw M12X25	1		110	Fixed Vise	1
81	Pressure Pad	1		111	Screw M10X35	3
82	Gear Box	1		112	Screw M10X20	1
83	Motor	1		113	Hand Wheel Φ125XΦ15	1
84	Bolt M12X30	4		114	Flat Gasket 16	2
85	Spring Washer 12	4		115	Lead Screw	1
86	Flat Gasket 12	4		116	Screw M6X8	1

ITEM NO.	DESC.	QTY		ITEM NO.	DESC.	QTY
117	Flat Key 5X16	1		147	Bolt M10X30	1
118	Connecting Base	1		148	Screw M12X50	2
119	Abnormity Nut	1		149	Cylindrical Pin 8X50	2
120	Pin	1		150	Screw M12X70	4
121	Spring Strip	1		151	Oil Cup M8X1	2
122	Screw M5X8	1		152	Supporting Seat	1
123	Screw M6X16	1		153	Bush	2
124	Screw M12X25	4		154	Cushion	2
125	Vise	1		155	Supporting Seat	1
126	Nut M10	5		156	Locknut M16	1
127	Stop Screw	1		157	Spring Support	1
128	Snap Ring	2		158	Extension Spring	3
129	Screw M10X35	4		159	Sunk Screw M6X20	8
130	Bolt M10X65	1		160	Lining Plate	1
131	Bolt M12X40	3		161	Lining Plate	1
132	Spring Washer 12	7		162	Work Table	1
133	Flat Gasket 12	7		163	Sunk Screw M10X30	4
134	Scale axis	1		164	Lining Plate	1
135	Connection Block	1		165	Support Frame	1
136	Axis Pin	1		166	Screw M12X30	2
137	Thin Nut M12	2		167	Support Frame	1
138	Bearing 6002-2Z	2		168	Dam Board	1
139	Screw M8X40	1		169	Screw M10X25	4
140	Small Shaft	1		170	Cover	1
141	Cushion	1		171	Screw M6X12	16
142	Rotating Shaft	1		172	Flat Gasket 6	24
143	Cushion	2		173	Cover	1
144	Swivel Arm	1		174	Cover for elec.box	1
145	Bolt M16X40	1		175	Screw M5X10	4
146	Nut M16	1		176	Flat Gasket 5	4

ITEM NO.	DESC.	QTY		ITEM NO.	DESC.	QTY
177	Circuit board	1		195	Fixed Seat	1
178	Base	1		196	Locknut M12	2
179	Filter Mesh Plate	1		197	Swinging Arm	1
180	Cooling Tank	1		197.1	Cover	1
181	Tank Cover	1		198	Electric Box	1
182	Screw M6X12	12		199	Square Handle A120	1
183	Cooling Pump	1		200	Screw M8X20	2
184	Water Tray	1		201	Nut M6	2
185	Star Grip Knob M8X25	1		202	Hydraulic Box	1
186	Scale Bar	1		203	Control Panel for speed	1
187	Scale	1		204	Screw M4X6	8
188	Barrier Rod	1		205	Control Panel	1
189	Screw M8X10	1		206	Check Plate for limit switch (for BS-2114TH only)	1
190	Screw M6X6	2		207	Screw M8X16 (for BS-2114TH only)	1
191	Connection Block	1		208	Check Plate for limit switch (for BS-2114TH only)	1
192	Nut M8	4		209	Screw M5X16 (for BS-2114TH only)	2
193	Screw M8X30	6		210	Hydraulic Station (for BS-2114TH only)	1
194	Sliding Block	1				

Note: This manual is only for your reference. Owing to the continuous improvement of the machine, changes may be made at any time without obligation on notice. And please note the local voltage while operating this electric machine.