

METAL CUTTING BAND SAW

MODEL:TGK-4220

TGK-4235

TGK-4240



Operation manual

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1. SAFETY

Warning !

This manual provides critical safety instruction on the proper setup, operation, maintenance and service of this machine.

Failure to read, understand and follow the instruction given in this manual may result in serious personal injury, including amputation, electrocution or death.

The owner of this machine is solely responsible for its safe use. This responsibility includes buy is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, blade/cutter integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

Your machine might not come with a power socket or plug before using this machine, please Do install the socket or plug on the power cable end.

1. Read through the entire manual before starting machinery. Machinery presents serious injury hazards to untrained users.
2. In order to avoid the machinery topple and fall to cause any dangerous, please pay attention to the barycenter during delivery.
3. Nobody is allowed to stand or move under the machine during lift.
4. You are not allowed to start machine until all adjustment have done.
5. In order to ensure the safety of operator and machinery, please don't move out any warning or instruction label on the machinery.
6. Don't operate the machine in overload condition.
7. Only allow trained and properly supervised person to operate machinery. Make sure operation instructions are safe and clearly understood.
8. Always use ansi approved safety glasses when operating machinery. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.
9. Always wear an noise approved respirator when operating machinery that products dust. Wood dust is a carcinogen and can cause cancer and severe respiratory illnesses.
10. Always use hearing protection when operating machinery. Machinery noise can cause

permanent hearing damage.

11. Wear proper apparel. Don't wear loose clothing, gloves, neckties, rings, or jewelry which may get caught in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.
12. Never operate machinery when tired, or under the influence of drugs or alcohol. Be mentally alert at all times when running machinery.
13. Keep children and visitors away. Keep all children and visitors a safe distance from the work area.
14. Make workshop child proof. Use padlocks, master switches, and remove start switch keys.
15. Never leave when machine is running. Turn power off and allow all moving parts to come to a complete stop before leaving machine unattended.
16. Don't use in dangerous environments. Don't use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.
17. Keep work area clean and well lit. clutter and dark shadows may cause accidents.
18. You must connect your machine to a grounded circuit, or serious electrocution or fire could result.
19. Make sure that the machine is connect to the right power source, to avoid damage the machine.
20. Use a grounded extension cord rated for the machine amperage. Undersized cords overheat and lose power. Replace extension cords if they become damage.
21. Always disconnect from power source before servicing machinery. Make sure switch is in OFF position before reconnecting.
22. Don't change or replace the circuit and wiring in safety equipment, it may cause the machine lock, overload, interrupt. These parts is used to protect the operator and machinery, any adjustment may change the function of it.
23. Maintain machinery with care. Keep blades sharp and clean for best and safest performance. Follow instruction for lubricating and changing accessories.
24. Make sure guards are in place and work correctly before using machinery.
25. Remove adjusting keys and wrenches. Make a habit of checking for keys and adjusting wrenches before turning machinery ON.
26. Check for damaged parts before using machinery. Check for binding and alignment of parts, broken parts, part mounting, loose bolts, and any other condition that may affect machine operation. Repair or replace damaged parts.
27. Use recommended accessories refer to the instruction manual for recommended accessories. The use of improper accessories may cause risk of injury.
28. Don't force machinery. Work at the speed for which the machine or accessory was

designed.

29. Secure workpiece. Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.
30. Don't overreach. Keep proper footing and balance at all times.
31. Many machines will eject the workpiece toward the operator. Know and avoid conditions that cause the workpiece to "kickback".
32. Always lock mobile bases (is used) before operating machinery.
33. Be aware that certain dust may be hazardous to the respiratory systems of people and animals, especially fine dust. Make sure you know the hazards associated with the type of dust you will be exposed to and always wear a respirator approved for that type of dust.
34. This band saw is used to cutting common metal material, please don't used to cut agricultural / fishery products, wood, food, combustible material, radioactivity metal.
35. Please lock all the covers, the blade guard should be close to the workpiece.
36. Don't open the cover when machine is running.
37. Blade condition, don't operate with dull, cracked or badly worn blade. Inspect blades for cracks and missing teeth before each use.
38. Hand placement, never position fingers or thumbs in line with the cut. Hands could be crushed in vise or by falling machine components or cut by the blade.
39. Entanglement hazards, don't operate this band saw without blade guard in place. Otherwise, loose clothing, jewelry, long hair and work gloves can be drawn into working parts.
40. Blade replacement. When replacing blades, make sure teeth face toward the workpiece. Wear gloves to protect hands and safety glasses to protect eyes.
41. Workpiece handling, always support the workpiece with table, vise or other support fixture. Flag long pieces to avoid a tripping hazard. Never hold the workpiece with your hands during a cut.
42. Loss of stability, unsupported workpieces may jeopardize machine stability and cause the machine to tip and fall, which could cause serious injury.
43. Power interruption, unplug machine after power interruption. Machines without magnetic switch can start up after power is restored.
44. Fire hazard, use extreme caution if cutting magnesium. Using the wrong cutting fluid will lead to chip fire and possible explosion.
45. Cutting fluid safety, always follow manufacturer's cutting safety instructions. Pay particular attention to contact, contamination, inhalation, storage and disposal warning. Spilled cutting fluid is a slipping hazard and a toxicity hazard.
46. Maintenance/service, all inspections, adjustments, and maintenance are to be done

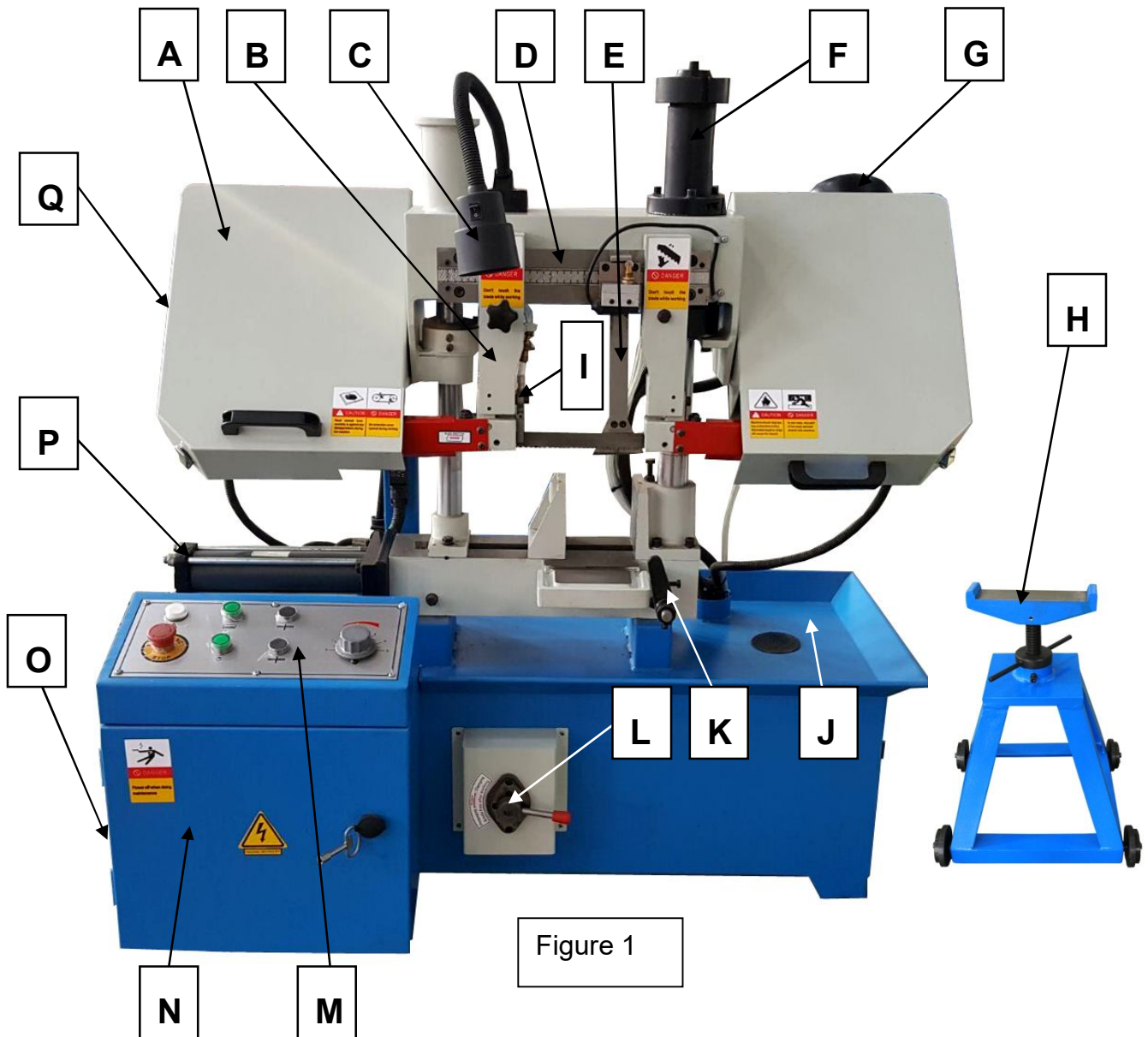
with the machine OFF and the power disconnected to the machine. Wait for all moving parts to come to a complete stop.

47. Hot surfaces, due to friction, the workpiece, chips and some machine components can be hot enough to burn you.

2. SPECIFICATION

Item	271201	271202	271203
Model	TGK4220	TGK-4235	TGK-4240
Max. cutting capacity (mm)	● 200	● 350	● 400
	■ 200x200	■ 350x350	■ 400x400
Cutting speed (m/min)	28 / 45	45 / 69	36 / 56
Blade size (mm)	2650 x 27 x 0.9	4115 x 34 x 1.1	5000 x 41 x 1.3
Feed speed	Hydraulic variable speed	Hydraulic variable speed	Hydraulic variable speed
Clamping system	Mechanical (optional: hydraulic clamping system)	Mechanical (optional: hydraulic clamping system)	Hydraulic
Blade tensioning	Mechanical	Mechanical	Hydraulic
Main motor (kw)	1.3 / 1.8 (optional: servo motor for variable speed)	2.2 / 2.8 (optional: servo motor for variable speed)	3.0 / 4.0 (optional: servo motor for variable speed)
Oil pump motor (kw)	0.55	0.55	0.75
Coolant pump motor (kw)	0.04	0.04	0.90
Drive system	Gear	Gear	Gear
N.W/G.W (kg)	320 / 425	775 / 940	1330 / 1555
Packing size (cm)	163 x 90 x 130	214 x 115 x 173	269 x 134 x 215

3. IDENTIFICATION



- A. Saw frame
- B. Arm
- C. Light
- D. Blade guide scale
- E. Quick feeder
- F. Column
- G. Motor
- H. Material support
- I. Coolant valve controls
- J. Coolant pan
- K. Work stop
- L. Vise clamping (optional)
- M. Control panel
- N. Electric box
- O. Speed switch
- P. Cylinder for vise clamping (optional)
- Q. Blade tension (optional: hydraulic)

Control panel

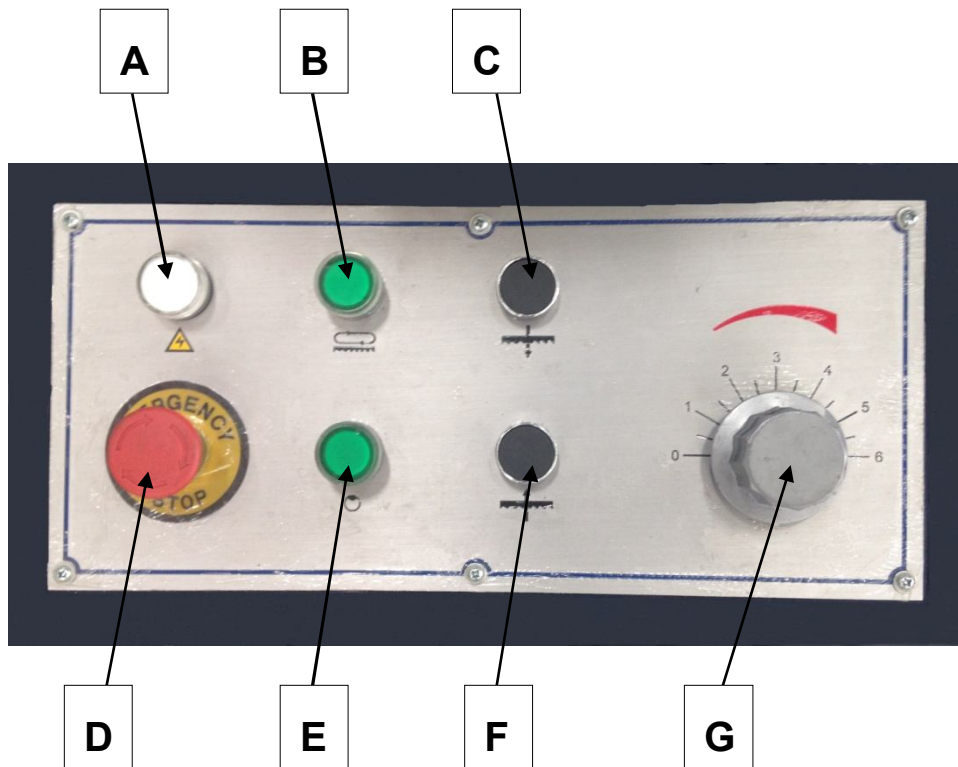
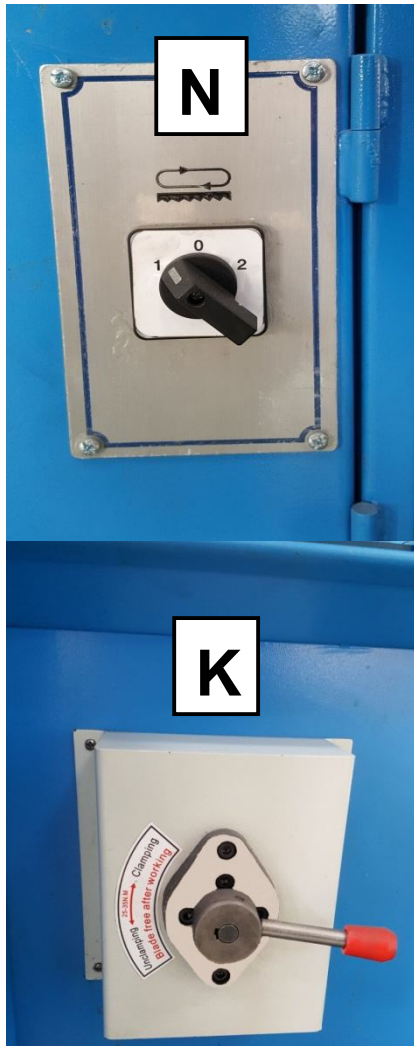


Figure 2

- A. Power light:** when light, indicates that system is energized and machine is ready to operate.
- B. Start:** press this button, the machine can start working.
- C. Saw frame up:** press this button, the saw frame will go up until it touch the top limit point.
- D. Emergency stop/off button:** interrupts power to the system and turns the power **OFF**. Twist the button until it pops out to reenergize the system. Also works as a standard off button.
- E. Hydraulic system switch:** turn the hydraulic system on, if you don't start this button, the machine will not work.
- F. Saw frame down:** press this button, the saw frame will go down. If you don't hold this button, the saw frame will not go down. Please press and hold this button, until the saw blade arrive expect position.
- G. Feed rate dial:** fine turns the feed rate by controlling the hydraulic valve. Range is from 1 being slowest to 6 being fastest.



Blade speed switch: Usually we use two speeds motor, so TKG-4220 has two blade speeds. You can change blade speed by this switch.

For optional: we can supply servo motor, then you can change blade speed variable. You can change the blade speed by the **speed rate dial** on panel

A. Unclamping: turn the handle to this position, the vise will open, please turn the handle to Neutral position when vise arrive your expect

B. Neutral position: when the vise arrive the expect position, please turn handle to neutral position.

C. Clamping: turn the handle to this position, the vise will go close to the workpiece, please turn the handle to Neutral position when vise arrive your expect position.

4. SET UP

4.1 Moving & placing base unit

Use a forklift and straps rated for the machine weight to lift the machine off the pallet and onto a suitable location. Looking at the following drawing:

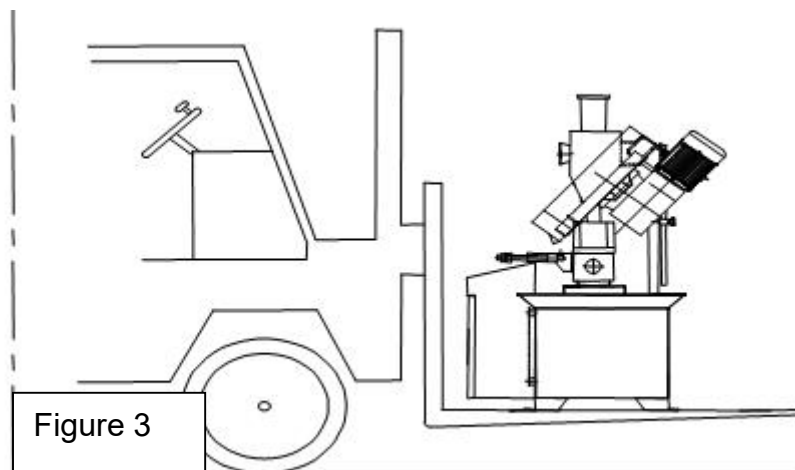


Figure 3

Please install the machine on the horizontal ground. Although not required, we recommend that you mount your new machine to the floor.

4.2 Clean up

The unpainted surface are coated with a waxy oil to protect them for corrosion during shipment. Remove this protective coating with a solvent cleaner or degreaser. To clean thoroughly, some parts may need to be removed. For optimum performance from your machine, make sure you clean all moving parts or sliding contact surfaces that are coated.

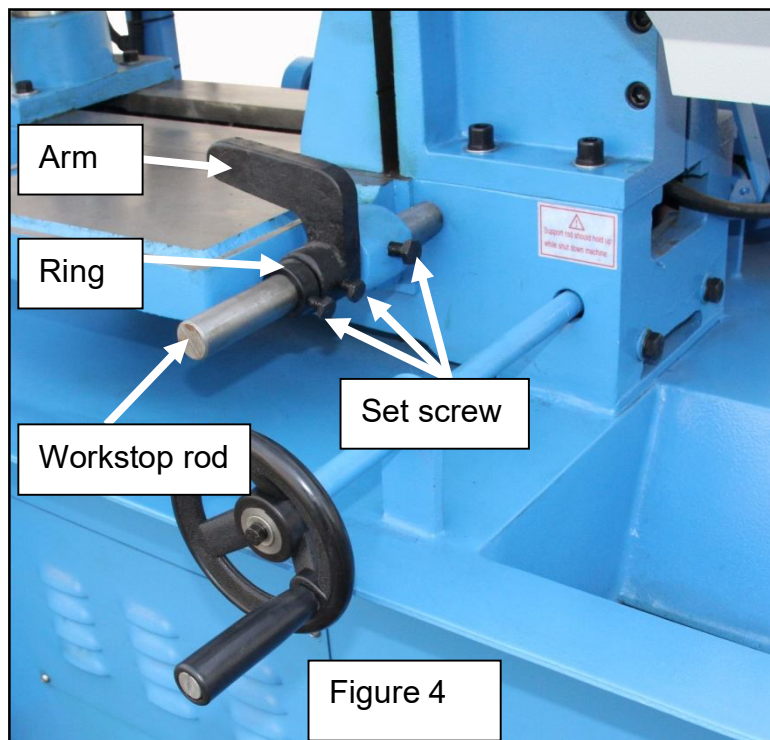
Note: Gasoline and petroleum products have low flash points and could cause an explosion or fire if used to clean machinery. Don't use gasoline or petroleum products to clean the machinery.

4.3 Work stop

The work stop is easy to adjust and can be set up on the vise, our work stop has three main parts including the workstop rod, arm and workstop ring.

To install the workstop:

- A. Slid the workstop rod in the hole in the base of the vise and tighten the set screw.
- B. Slid the arm onto the workstop rod and tighten the set screw.
- C. Insert the ring into the rod and tighten the set screw.



4.4 Test run

Starting the machine:

- (1) Read the entire instruction manual.
- (2) Make sure all tools and foreign objects have been removed from the machine.
- (3) Put on safety glasses and secure loose clothing or long hair.
- (4) Connect the band saw to power.
- (5) Raise the band saw and close the feed control knob to keep the saw in place.
- (6) Start the band saw while keeping your finger near the EMERGENCY STOP/OFF button (Figure 2) at all times during the test run. The band saw should run smoothly with little or no vibration.

Note: If the emergency stop/off button is pressed, it need to be twisted until it pops out or the band saw will not start.

if you suspect any problem, immediately stop the band saw and correct before continuing.

If you need any help with your band saw, call your supplier

5. Operations

After prepare all works before cutting, you can operate the machine according to below operation step

Put the workpiece on the worktable, make the workpiece close to the vise, then move the workpiece to the proper position.

Start the pump, tighten the workpiece by vise, press start button, then saw blade and pump will run, saw bow will down, you can adjust the feeding speed by handle, then you can start cutting. After cutting, saw blade will stop, saw bow go up, after saw bow reach setting position, the clamp will lose, in this case one cutting have been finished.

You can judge the speed and feeding is proper according to the shape and color of scrap iron. If the scrap iron is roll with white color, the feeding and speed is good. If the scrap iron is short with blue color, it means the feeding is too quick. If the scrap iron is powder with white, it means the feeding is too slow.

5.1 Vise:

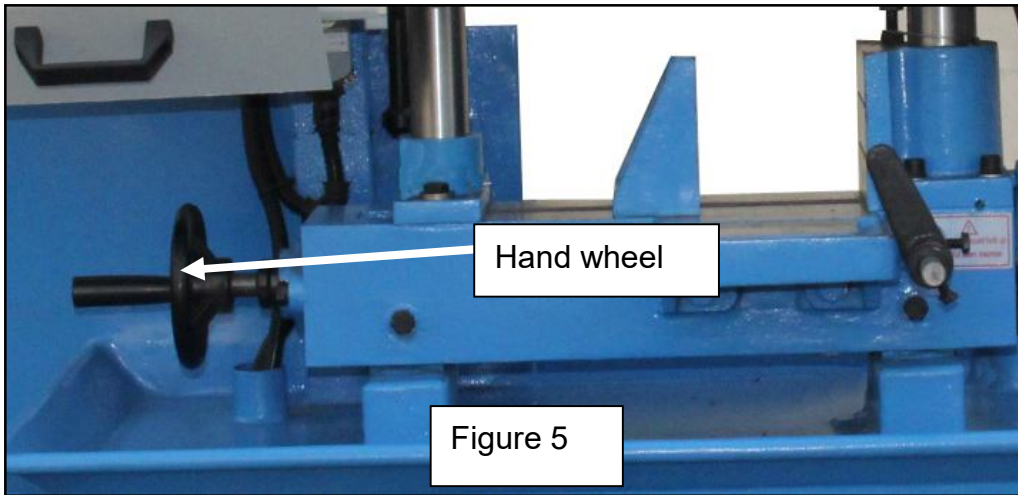
Note: Always turn the saw off and allow the blade to come to a complete stop before using the vice ! Failure to follow this caution may lead to injury.

Our band saw have 3 types clamping system, to ensure that you can hold the workpiece tightly.

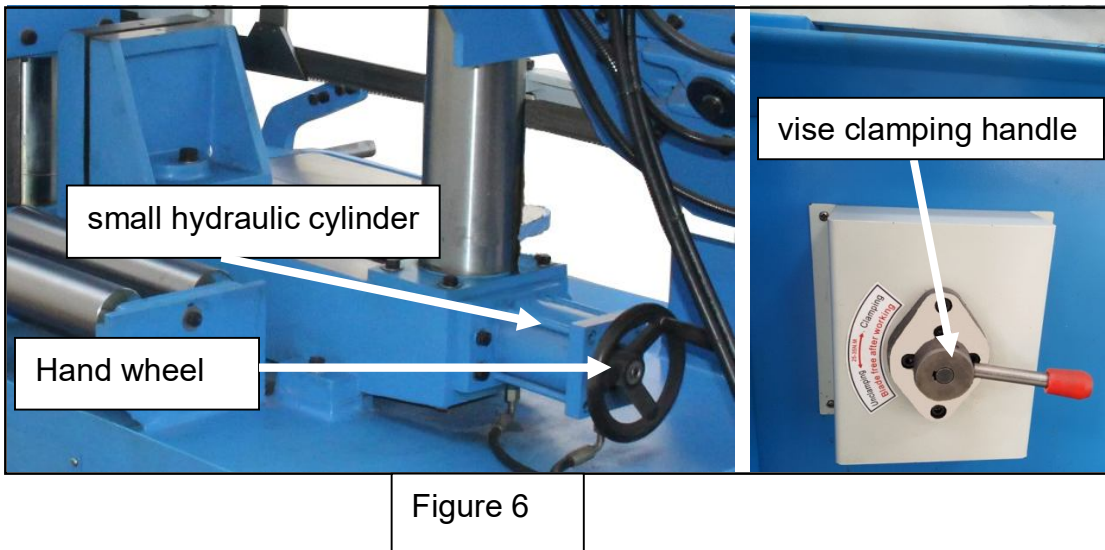
(1) Raise the bow to the maximum height and lock in place.

(2) Clamping the workpiece by hand wheel or hydraulic cylinder

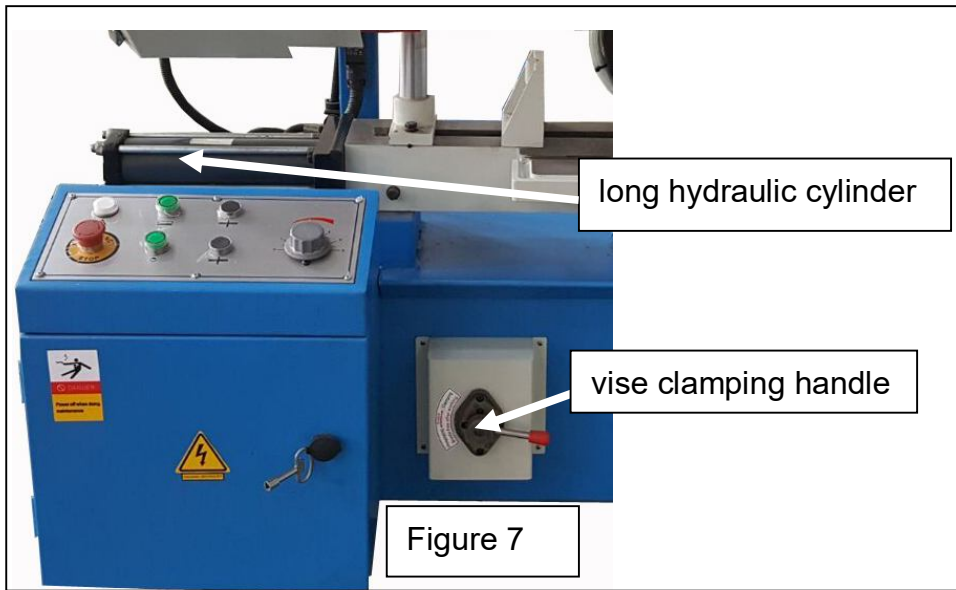
A: You clamp the workpiece by the hand wheel as picture 5.



B: It has a small hydraulic cylinder to tighten the vise, you need to clamp the workpiece by the hand wheel first, then tighten the vise by the vise clamping handle, as picture 5.



C: It has a long hydraulic cylinder for clamping, you can tighten the vise by the vise clamping handle, as picture 7.

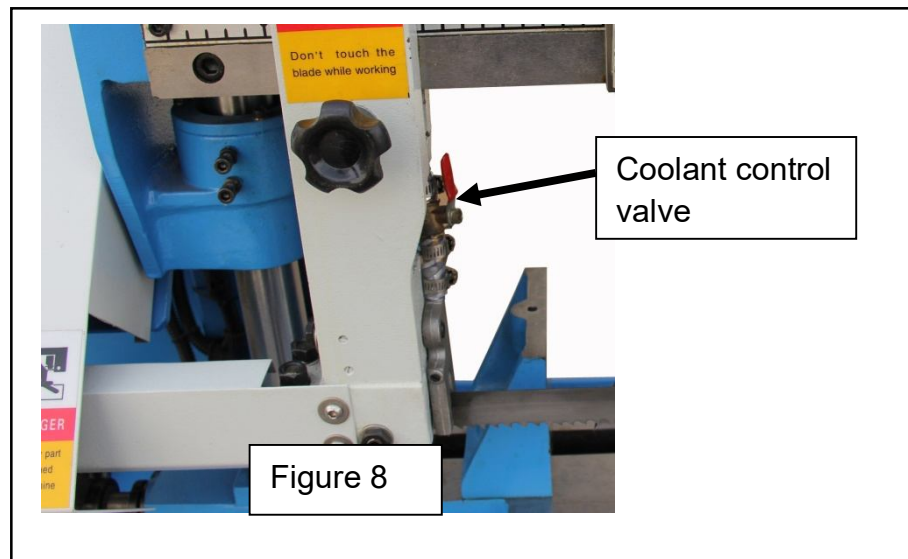


5.2 Coolant system

Our band saw has a built-in coolant system that extends the life of your band saw blades by lowering the temperature of the blade and workpiece.

- (1) Access the reservoir by removing the front panel.
- (2) Thoroughly clean and remove any foreign material that may have fallen inside the reservoir during shipping.
- (3) Fill the reservoir with your chosen cutting fluid solution and replace the front panel.
- (4) Adjust the valves on the coolant hoses to control the flow of coolant (see picture 8).

Make sure that the pressure is not so high that coolant spills on the floor and creates a slipping hazard.



- (5) Turn the coolant pump on before making your cut.
- (6) Monitor the coolant level frequently to keep the system working properly, to ensure the oil is above top water level, you had better is in 2/3 top water level. Note: Coolant pump can't working without coolant oil, or will damage the pump. If the coolant oil have been iced over, please don't work, you need to thaw the coolant oil before operation, or it will damage the pump.

5.3 Cutting fluid

While simple in concept and function, many issues must be taken into account to find and use the correct cutting fluid. Always follow all products warnings and contact the fluid manufacturer for unanswered question.

Use the selections below to choose the appropriate cutting fluids:

- A. For cutting low alloy, low carbon, and general-purpose category metals with a bi-metal blade-use a water soluble cutting fluid.
- B. For cutting stainless steels, high carbon, and high alloy metals, brass, copper and mild steels-use, "neat cutting oil" (commonly undiluted mineral oils) that have extreme pressure additives (EP additives).
- C. For cutting cast iron, cutting fluid is not recommended.

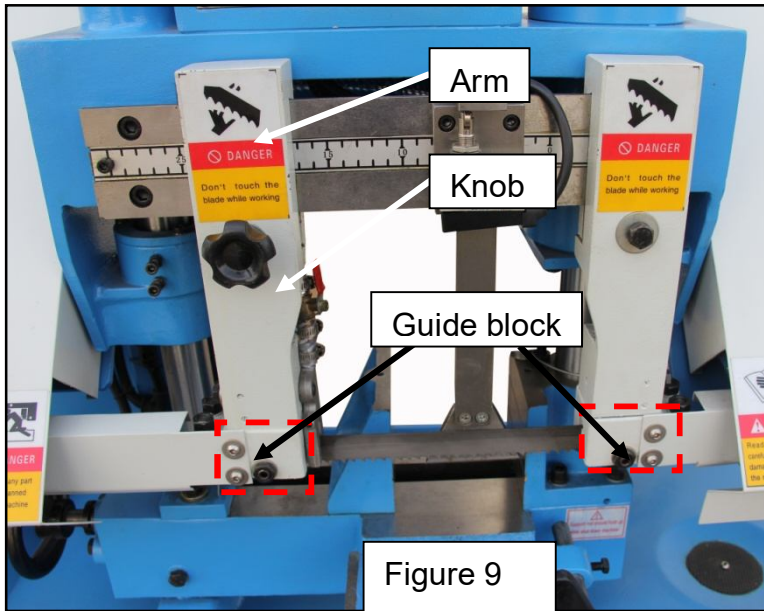
Note: Too much flow at the cutting fluid nozzle will make a mess and can make the work area unsafe; and not enough fluid at the cut will heat the blade, causing the blade teeth to load up and break.

5.4 Blade guide

The rear blade guide should be as close to the workpiece as possible. This will help ensure straight cuts by keeping the blade from twisting and drifting off the cut line.

To adjust the rear blade guide:

- (1) Loosen the knob shown in figure 8 and slide the rear blade guide as close to the workpiece as possible, then tighten the knob.
- (2) The front blade guide has 4 blocks that makes contact with the blade to help clear away chips and extend blade life (see figure 9)



5.5 Blade selection

Selecting the right blade for the job depends on a variety of factors, such as the type of material being cut, hardness of the material, material shape, machine capacity, and operator technique.

We suggest you do some research for your specific situation so you get the best blade to match your needs.

Here we offer a variety of selections for your reference as below chart:

Shape	Size	Suggestion tooth
	Less than 40mm	8 or 6/10T
	40-80mm	6T or 4/6T
	80-200mm	4T or 3/4T
	200-300mm	3T or 2/3T
	300-460mm	1.25T or 1.4/2.5T
Shape	Size	Suggestion tooth
	Less than 1.5mm	14T or 10/14T
	1.5-3mm	10T or 8/12T
	3-6mm	8T or 6/10T
	6-10mm	6T or 5/8T
	10-15mm	4T or 4/6T
	More than 15mm	3T or 3/4T

5.6 Blade speed

Please adjust proper feeding distance and speed according to material and shape.

Usually our T GK-4220/T GK-4235/T GK-4240 have two blade speeds, of course, we can use a servo motor, then you can change blade speed by speed adjustment knob.

Note: only change speeds while the motor is running. Changing speeds when machine is off may result in damage to your machine.

To change blade speeds:

1. Turn the band saw ON and allow it to come up to speed.
2. **A. For two saw blade speeds:** turn the blade speed switch to “1” position for low speed; turn the blade speed switch to “0” position, the saw will stop run; turn the blade speed switch to “2” position for high speed. (see figure 1)
B. For variable blade speeds: turn the speed adjustment knob (see figure 2), clockwise to decrease blade speed and counterclockwise to increase blade speed.



Figure 1



Figure 2

5.7 Feed rate

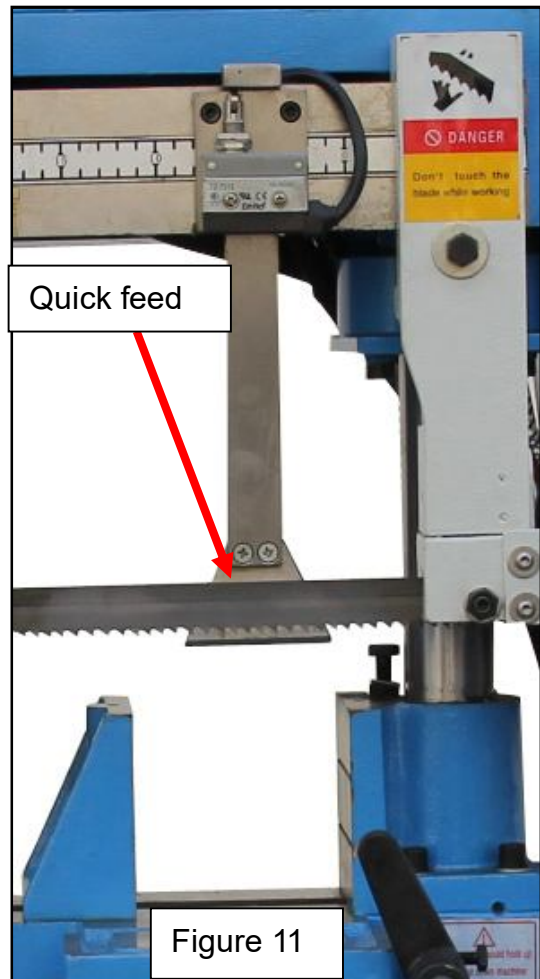
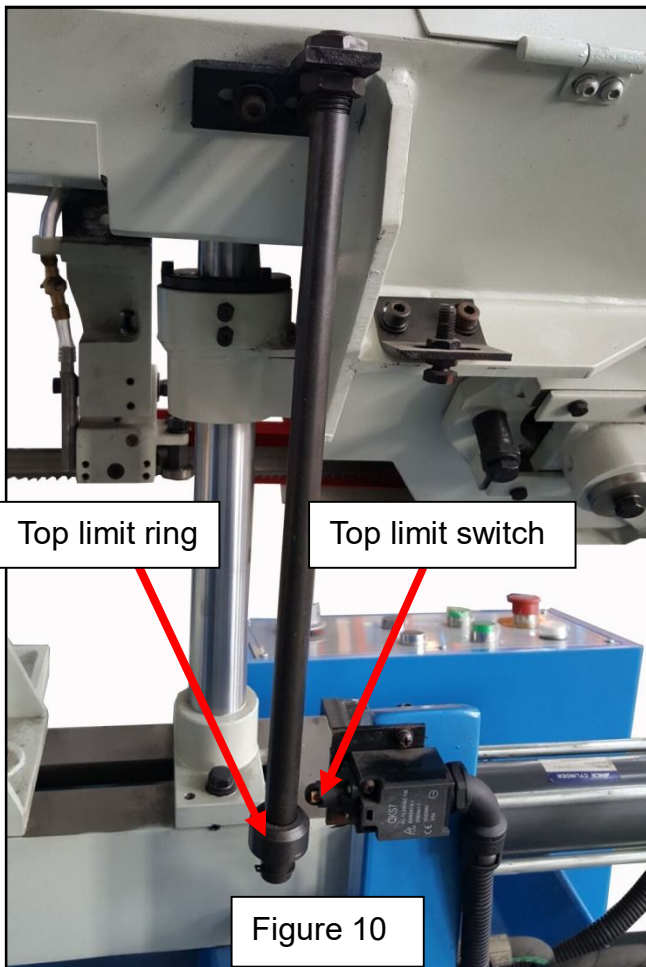
The speed at which the saw blade will cut through a workpiece is controlled by blade type, feed rate, and feed pressure. The feed rate is controlled by feed rate dial.

To set the feed rate:

1. Raise the bow to the highest position. You can set the highest position through adjust the position of top limit ring, when the bow raise, the top limit ring touch the top limit

switch, the bow will stop raising. (see figure 10)

2. Set the feed rate dial to the desired feed rate. Range is from 1 being slowest to 6 being fastest. We have an optional accessory: quick feed. The quick feed is a little lower than blade, the bow will feed down quickly with quick feed, when the quick feed touch the cutting material, the bow will feed down according to the feed rate which you set. The quick feed can save a lot of time for operator.



5.8 Telltale chips

Usually, you can use high blade speed and feed rate for easy-cutting material; low blade speed and feed rate for hard material.

Chips are the best indicator of correct feed force. Monitor chip information and adjust feed accordingly.

Thin or powdered chips: increase feed rate or reduce blade speed.



Burned heavy chips: reduce feed rate and/or blade speed.



Curly silvery and warm chips: optimum feed rate and blade speed.



5.9 Blade tension

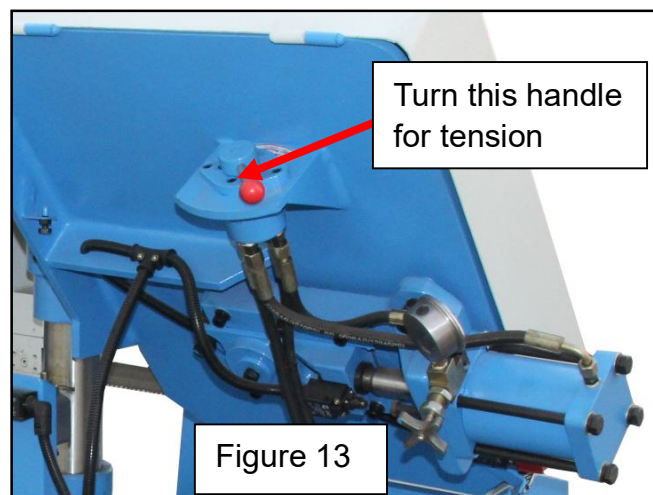
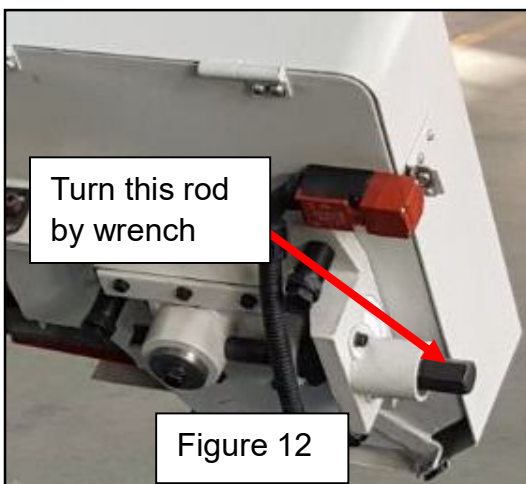
Proper blade tension is essential to long blade life, straight cuts, and efficient cutting. Our band saw feature a blade tension to assist you with blade tensioning.

Two major signs that you don't have proper blade tension are: (1) the blade stalls in cut and slips on the wheels; (2) the blade frequently breaks from being too tight.

Note: Loosen blade tension at the end of each day to prolong blade life.

A: Turn the blade tension handle clockwise to tension the blade. (See figure 12)

B: For optional accessory, you can use hydraulic cylinder to tension the blade, also there is a graduated scale on the blade tension indicator to determine blade tension in PSI

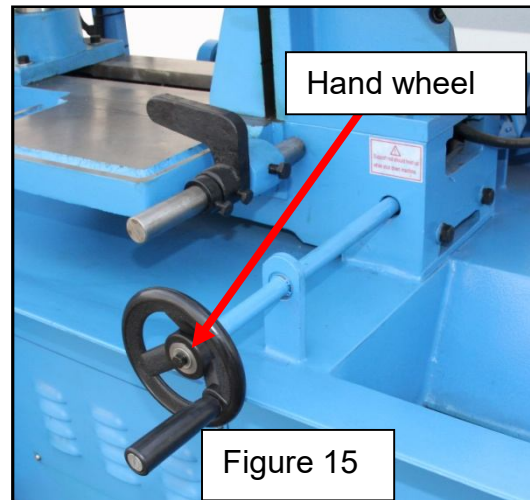
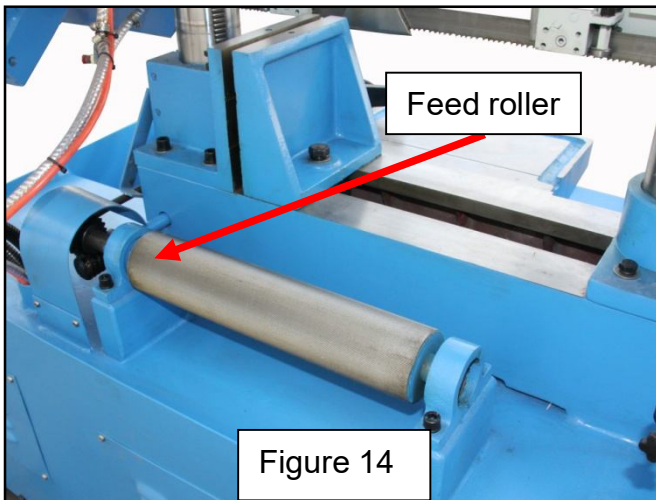


5.10 Manual workpiece feeder

Maybe some customers want to cut big & heavy material, it will be difficult to feed the material by hand, so our TKG-4235 has a manual workpiece feeder, you can feed the workpiece by the hand wheel easily.

The detail operation information as below:

- (1) Put the workpiece onto the roller (see figure 14).
- (2) Turn the hand wheel clockwise to drive the roller run, and move the workpiece forward, until the workpiece touch the workstop, then clamp the vise. Or turn the hand wheel counterclockwise to move the workpiece back.(see figure 15)



6. Maintenance

MAKE SURE THAT THE UNIT IS DISCONNECTED FROM THE POWER SOURCE BEFORE ATTEMPTING TO SERVICE OR REMOVE ANY COMPONENT!

Schedule:

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily check:

- A. Loose mounting bolts

- B. Damaged saw blade
- C. Worn or damaged wires
- D. Any other unsafe condition
- E. Clean after each use: Please clean the chip on time and carefully, otherwise it will block the blade tooth, influence cutting result and blade using life.
- F. Proper blade tension: Every day when cutting is finished, please loosen the blade to prolong the usage life.
- G. Coolant level: Please check if the cooling fluid is clean enough or not, check if oil is enough or not, ensure that the fluid and oil is always enough.

Monthly check:

Make lubricant is enough on guide surface and lubricating points, bearing in idle blade wheel should be add with lubricating grease half a year.

Check gear box fluid level, change the gear box oil if not enough (every four months, if being used daily)

Please wipe the anti-rust oil onto the guide and working area, to avoid rusting.

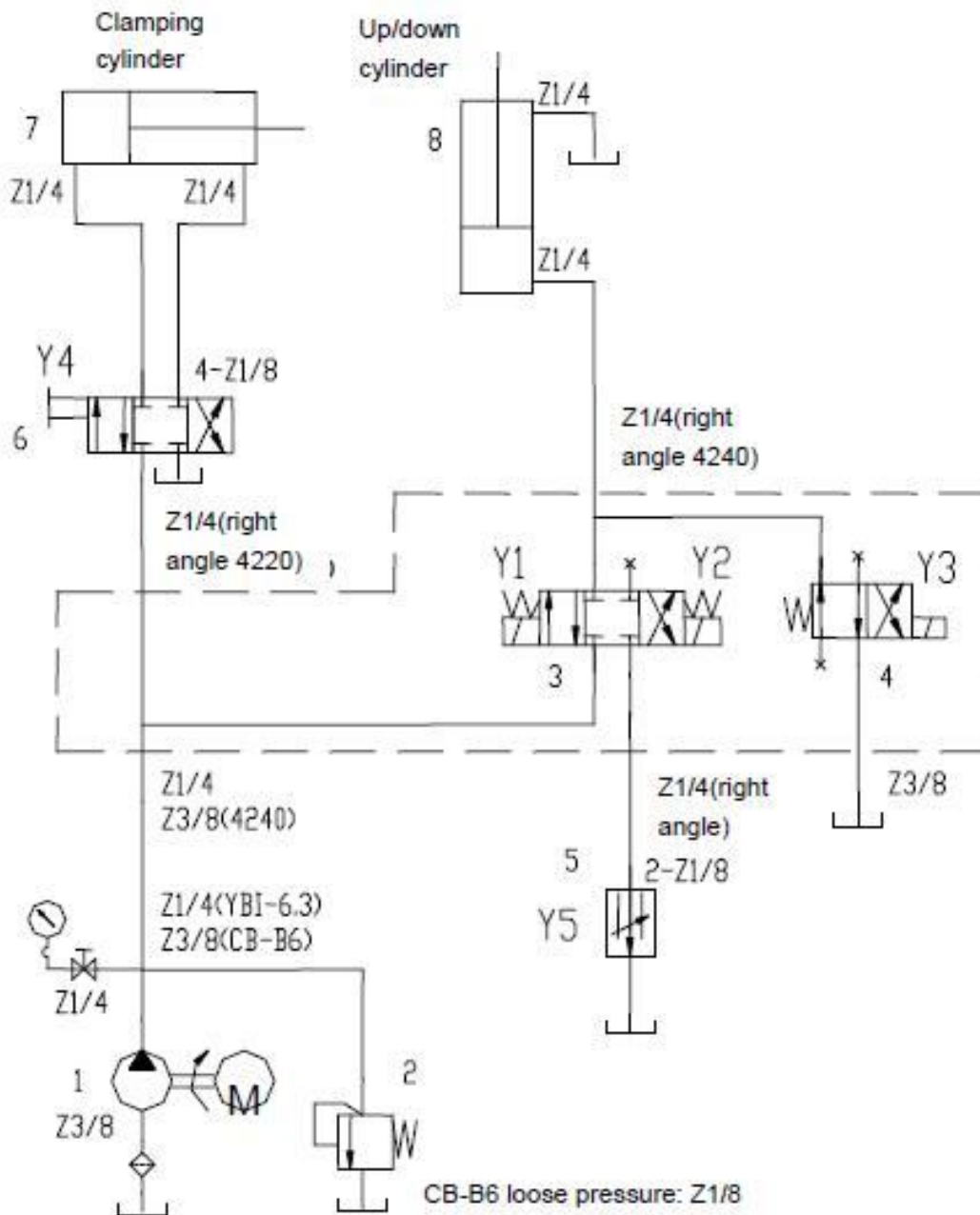
In order to prolong the life of saw blade, after changing new blade, please cutting with low speed and feed, ensure there is no burr in teeth, then you can cut with normal operation.

7. HYDRAULIC SYSTEM

Please check the oil is enough by fluid, if the oil is not enough, please inject the hydraulic oil.

For example, please use #46 hydraulic oil in summer and #32 hydraulic oil in winter.

Turn on the oil pump to make the clamping cylinder to the clamping position, system pressure to 2.5 Mpa.



8. TROUBLE SHOOTING

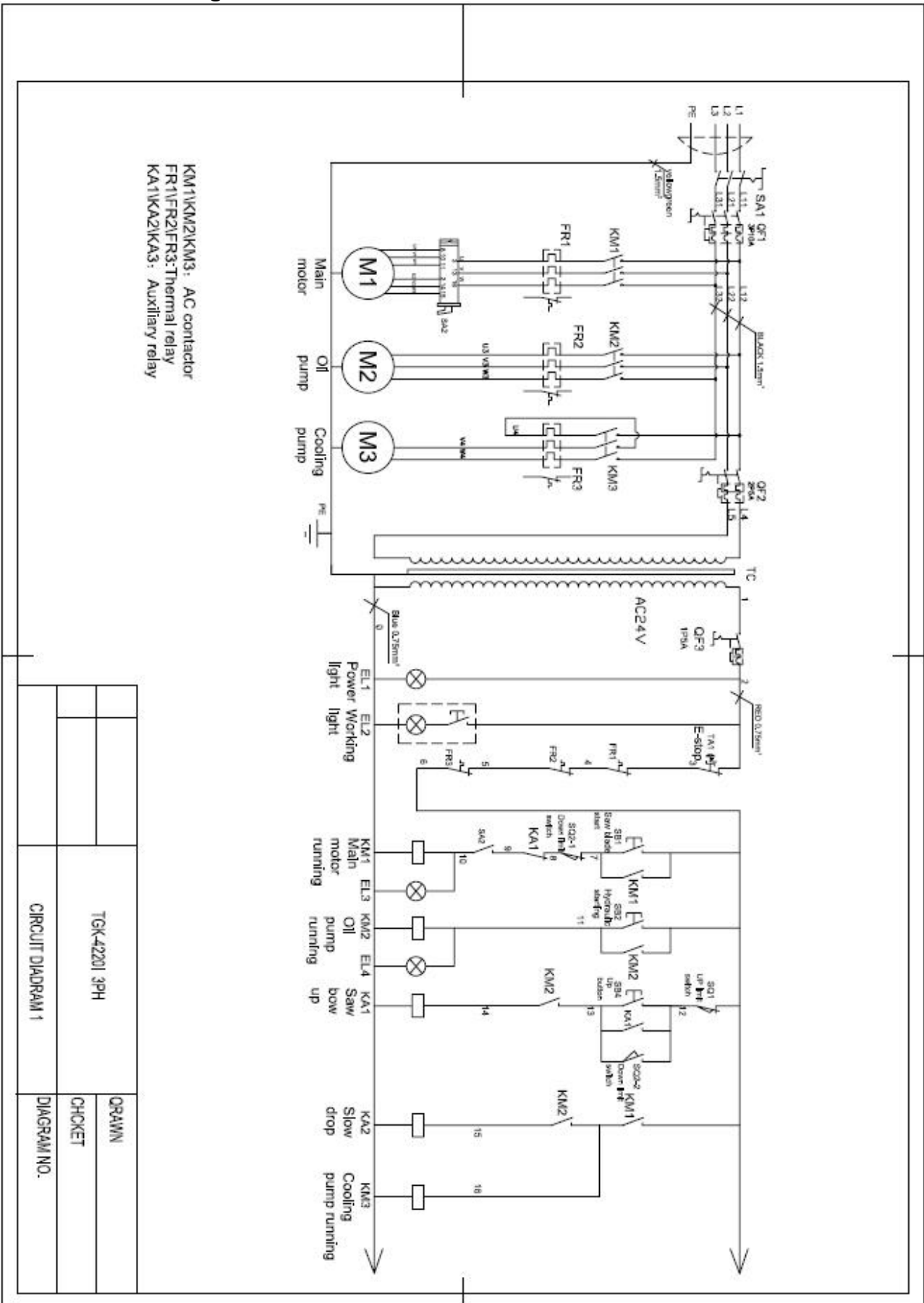
Symptom	Possible Cause (s)	Corrective Action
Excessive Blade Breakage	<ol style="list-style-type: none"> 1. Material loose in vise 2. Incorrect speed or feed 3. Blade teeth spacing too large 4. Material too coarse 5. Incorrect blade tension 6. Teeth in contact with material before saw is started 7. Blade rubs on wheel flange 8. Misaligned guide bearings 9. Cracking at weld 	<ol style="list-style-type: none"> 1. Clamp work securely 2. Adjust speed or feed 3. Replace with a small teeth spacing blade 4. Use a blade of slow speed and small teeth spacing 5. Adjust where blade just does not slip on wheel 6. Place blade in correct with work after motor is started 7. Adjust wheel alignment 8. Adjust guide bearings 9. Weld again, note the weld skill
Premature Blade Dulling	<ol style="list-style-type: none"> 1. Teeth too coarse 2. Too much speed 3. Inadequate feed pressure 4. Hard spots or scale on material 5. Work hardening of material 6. Blade twist 7. Insufficient blade 	<ol style="list-style-type: none"> 1. Use finer teeth 2. Decrease speed 3. Decrease spring tension on side of saw 4. Reduce speed, increase feed pressure 5. Increase feed pressure by reducing spring tension 6. Replace with a new blade, and adjust blade tension 7. Tighten blade tension adjustable knob

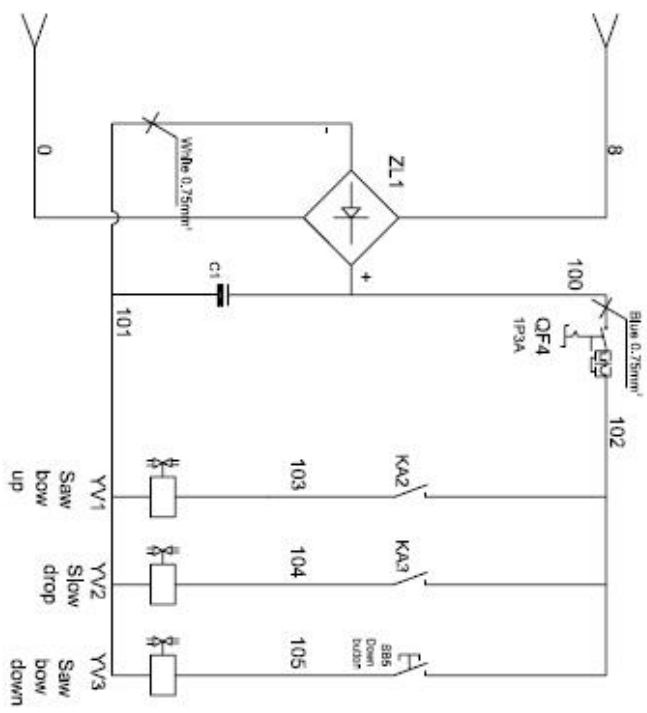
Symptom	Possible Cause (s)	Corrective Action
Unusual Wear on Side/Back of blade	<ol style="list-style-type: none"> 1. Blade guides worn 2. Blade guide bearings not adjusted properly 3. Blade guide bearing bracket is loose 	<ol style="list-style-type: none"> 1. Replace 2. Adjust as per operators manual 3. Tighten
Teeth Ripping from Blade	<ol style="list-style-type: none"> 1. Tooth too coarse for work 2. Too heavy pressure, too slow speed 3. Vibrating work piece 4. Gullets loading 	<ol style="list-style-type: none"> 1. Use finer tooth blade 2. Decrease pressure, increase speed 3. Clamp work piece securely 4. Use coarse tooth blade or brush to remove chips
Motor running too hot	<ol style="list-style-type: none"> 1. Blade tension too high 2. Drive belt tension too high 3. Gears need lubrication 4. Cut is binding blade 5. Gears aligned improperly 	<ol style="list-style-type: none"> 1. Reduce tension on blade 2. Reduce tension on drive belt 3. Check oil bath 4. Decrease feed and speed 5. Adjust gears so that worm is in center of gear
Bad Cuts	<ol style="list-style-type: none"> 1. Feed pressure too great 2. Guide bearing not adjusted properly 3. Inadequate blade tension 4. Dull blade 5. Speed incorrect 6. Blade guide spaced out too much 7. Blade guide assembly loose 8. Blade truck too far away from wheel flanges 	<ol style="list-style-type: none"> 1. Reduce pressure by increasing spring tension on side of saw 2. Adjust guide bearing, the clearance can not be greater than 0.001mm 3. Increase blade tension by adjust blade tension 4. Replace blade 5. Adjust speed 6. Adjust guides space 7. Tighten 8. Re-track blade according to operating instructions

Symptom	Possible Cause (s)	Corrective Action
Bad Cuts (Rough)	<ol style="list-style-type: none"> 1. Too much speed or feed 2. Blade is too coarse 3. Blade tension loose 	<ol style="list-style-type: none"> 1. Decrease speed or feed 2. Replace with finer blade 3. Adjust blade tension
Blade is twisting	<ol style="list-style-type: none"> 1. Cut is binding blade 2. Too much blade tension 	<ol style="list-style-type: none"> 1. Decrease feed pressure 2. Decrease blade tension

9. Electrical drawing & breakdown/part list

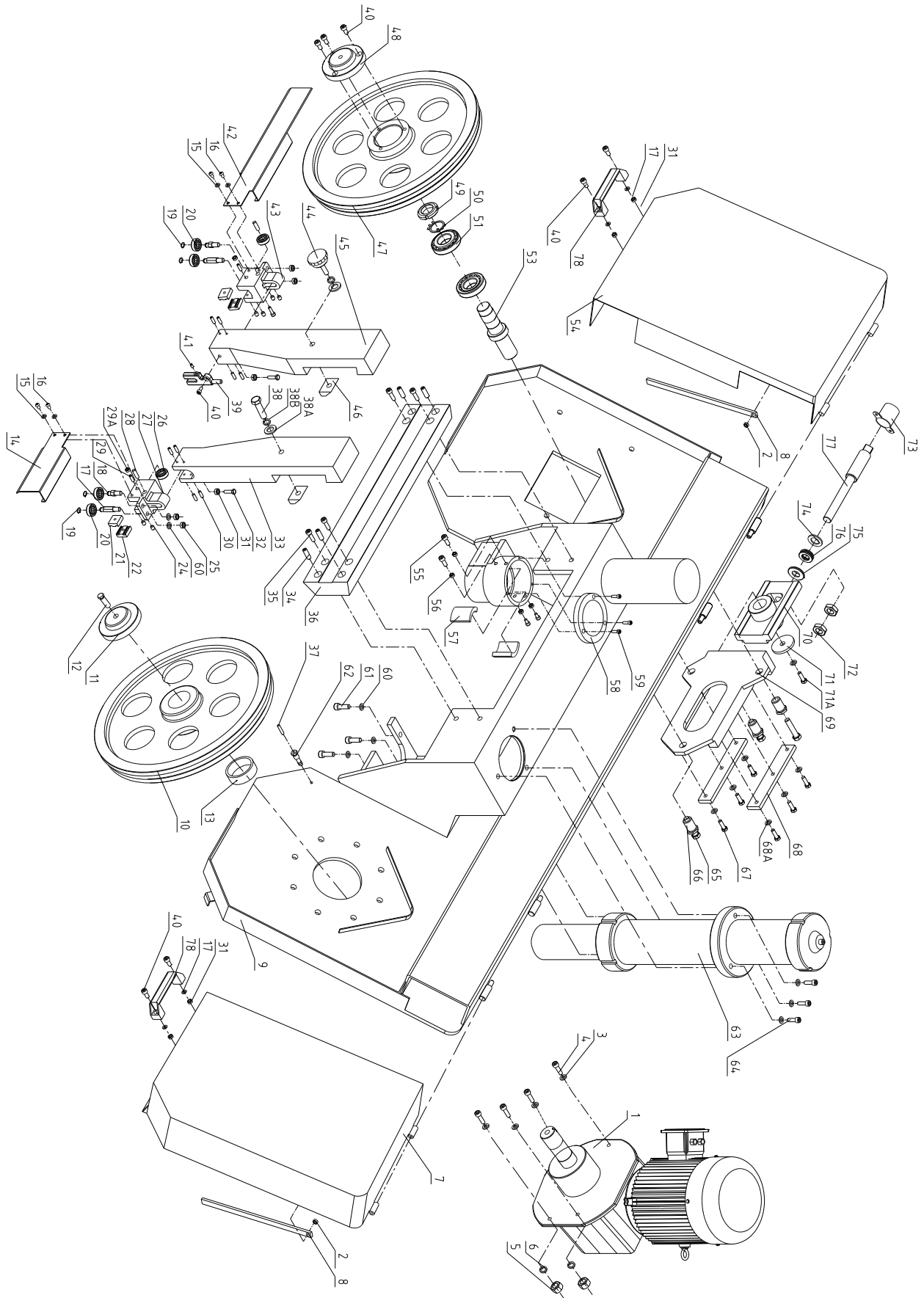
9.1 Electric drawing TGK4220

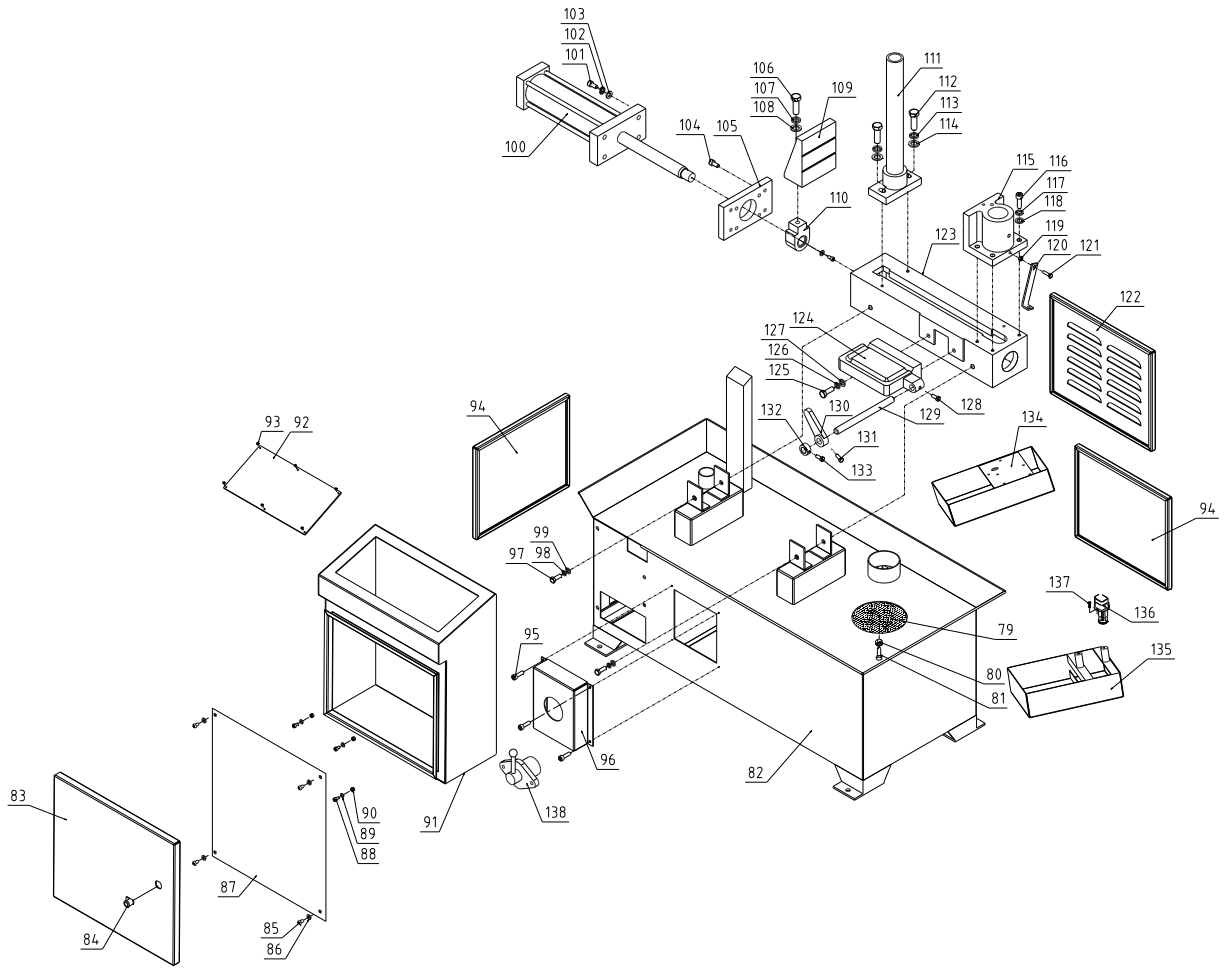




		TKK42201 3PH	DRAWN
CIRCUIT DIAGRAM 2			DIAGRAM NO.

9.1 Breakdown TGK4220





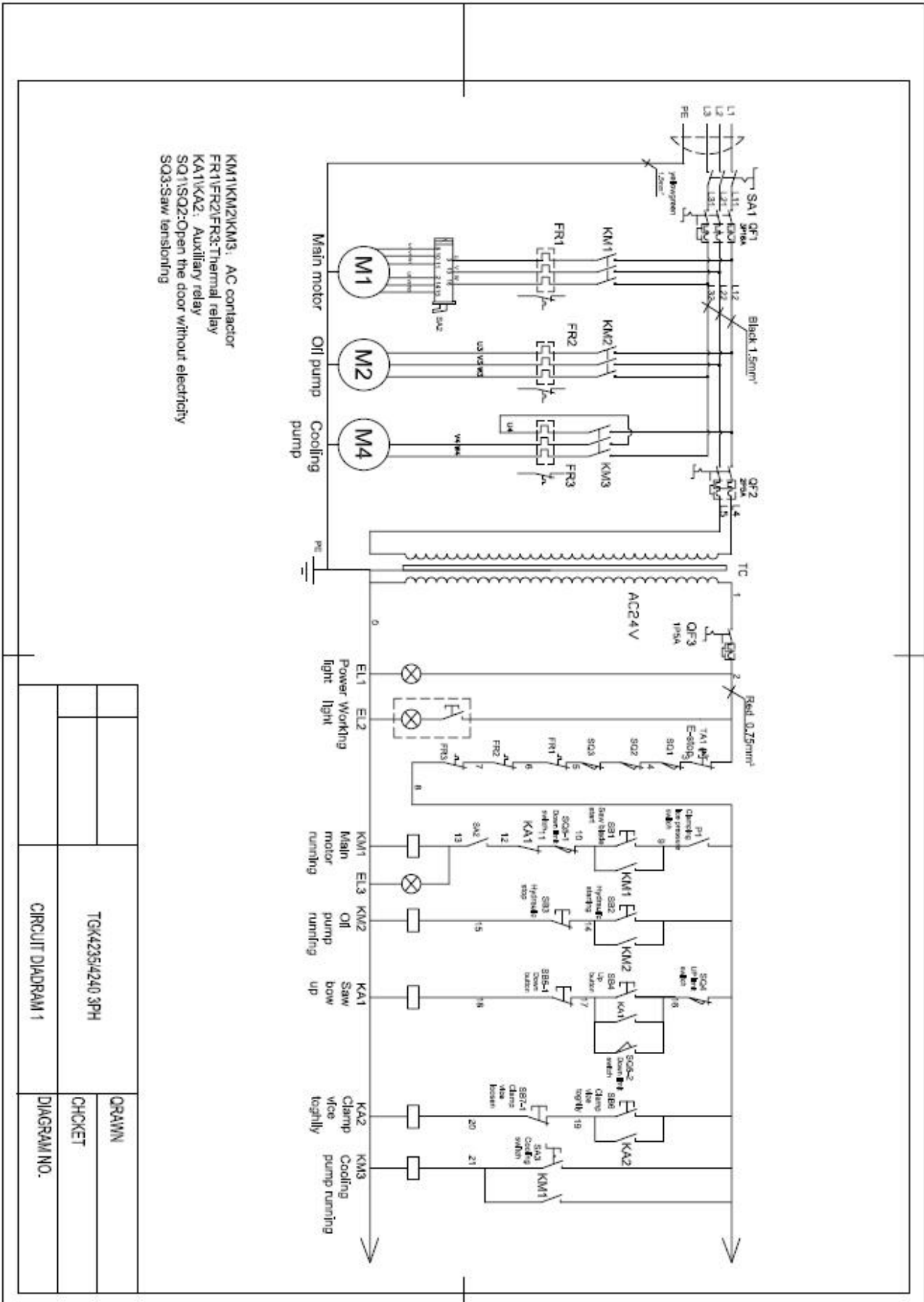
9.1 Part list TKG4220

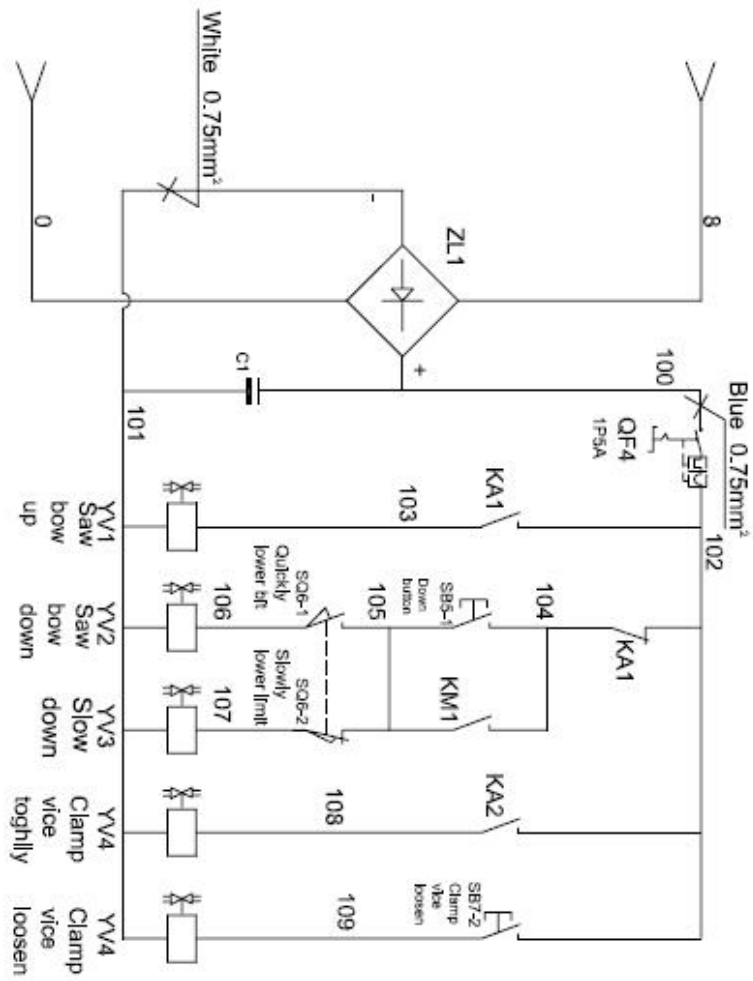
Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Reducer	1	29A	Nut M10	2
2	Nut M8	2	30	Slotted set screw with flat point M6X10	2
3	Washer 12	4	31	Nut M6	6
4	Hex bolt M12x40	4	32	Hex bolt M6x35	2
5	Hex bolt M12	4	33	Right arm	1
6	Lock washer 12	4	34	Slotted set screw with flat point M8X20	4
7	Right blade cover	1	35	Cap screw M10x30	4
8	Bracket for blade cover	2	36	Column	1
9	Bow frame	1	37	Copper pipe \varnothing 6x100	1
10	Drive wheel	1	38	Hex bolt M10x50	1
11	End cap for drive wheel	1	38A	Washer 10	2
12	Hex bolt M12x45	1	38B	Lock washer 10	2
13	Bush	1	39	Coolant valve	1
14	Left blade guard	1	40	Cap screw M6x16	8
15	Flat washer 6	4	41	Slotted set screw with flat point M6X5	3
16	Button head screw M6X10	4	42	Right blade guard	1
17	Shaft I	2	43	Left bearing bracket	1
18	Shaft II	2	44	Knob M10x60	1
19	External retaining ring 10	4	45	Left arm	1
20	Bearing 6000-2Z	4	46	Gib	2
21	Left blade guide block	2	47	Idler wheel	1
22	Right blade guide block	2	48	End cover for idler wheel	1
24	Slotted set screw with flat point M6X10	8	49	Nut M30x1.5	1
25	Nut M10	8	50	Ext retaining ring 30	1
26	Bearing 6000-2Z	2	51	Bearing 32006	2
27	Right bearing bracket	2	53	Shaft	1
28	Roll pin 10x55	2	54	Left blade cover	1
29	Cap screw M10x30	2	55	Bolt M6x20	4

Part No.	Description	Q'ty	Part No.	Description	Q'ty
56	Nut M6	4	83	Door	1
57	Left cover	2	84	Lock	1
58	Seat	1	85	Bolt M8x50	4
59	Cap screw M5x16	3	86	Washer 8	4
60	Washer 10	3	87	Panel	1
61	Cap screw M10x25	3	88	Bolt M8x50	4
62	Connector	1	89	Washer 8	4
63	Up/down cylinder	1	90	Nut M8	4
64	Cap screw M8x40	3	91	Electric box	1
65	Hex bolt M12x70	3	92	Control plate	1
66	Bolt	3	93	Bolt M4x8	4
67	Cap screw M6x16	6	94	Side plate	1
68	Plate	2	95	Cap screw M5x10	1
68A	Washer 6	6	96	Front panel	1
69	block	1	97	Hex bolt M10x30	4
70	Slid block	1	98	Lock washer 10	4
71	End cap for idler wheel	1	99	Washer 10	4
71A	Hex bolt M10x25	1	100	Cylinder for clamp	1
72	Nut M18	1	101	Bolt M10x50	4
73	Guard	1	102	Lock washer 10	4
74	Washer 18	1	103	Washer 10	4
75	Spring A35.5/2	8	104	Bolt M8x25	4
76	Bearing 51104	1	105	Plate	1
77	Shaft	1	106	Hex bolt M12x40	1
78	Handle	2	107	Lock washer 12	1
79	Filter screen	1	108	Washer 12	1
80	Nut M6	1	109	Vise jaw (front)	1
81	Hex bolt M6x20	1	110	Brush	1
82	Stand	1	111	Left column	1

Part No.	Description	Q'ty	Part No.	Description	Q'ty
112	Hex bolt M10x35	1	126	Lock washer 12	2
113	Lock washer 10	1	127	Washer 12	2
114	Washer 10	1	128	Hex bolt M8x20	1
115	Vise jaw bracket (rear)	1	129	Work stop rod	1
116	Bolt M10x50	4	130	Stop block	1
117	Lock washer 10	4	131	Hex bolt M6x16	1
118	Washer 10	4	132	Ring	1
119	Nut M8	1	133	Hex bolt M6x16	1
120	Bracket	1	134	Oil reservoir	1
121	Hex bolt M8x30	1	135	Coolant reservoir	1
122	Back cover	1	136	Pump	1
123	Vise base	1	137	Bolt M5x10	1
124	Extend bracket	1	138	Vise clamping handle	1
125	Hex bolt M12x35	2			

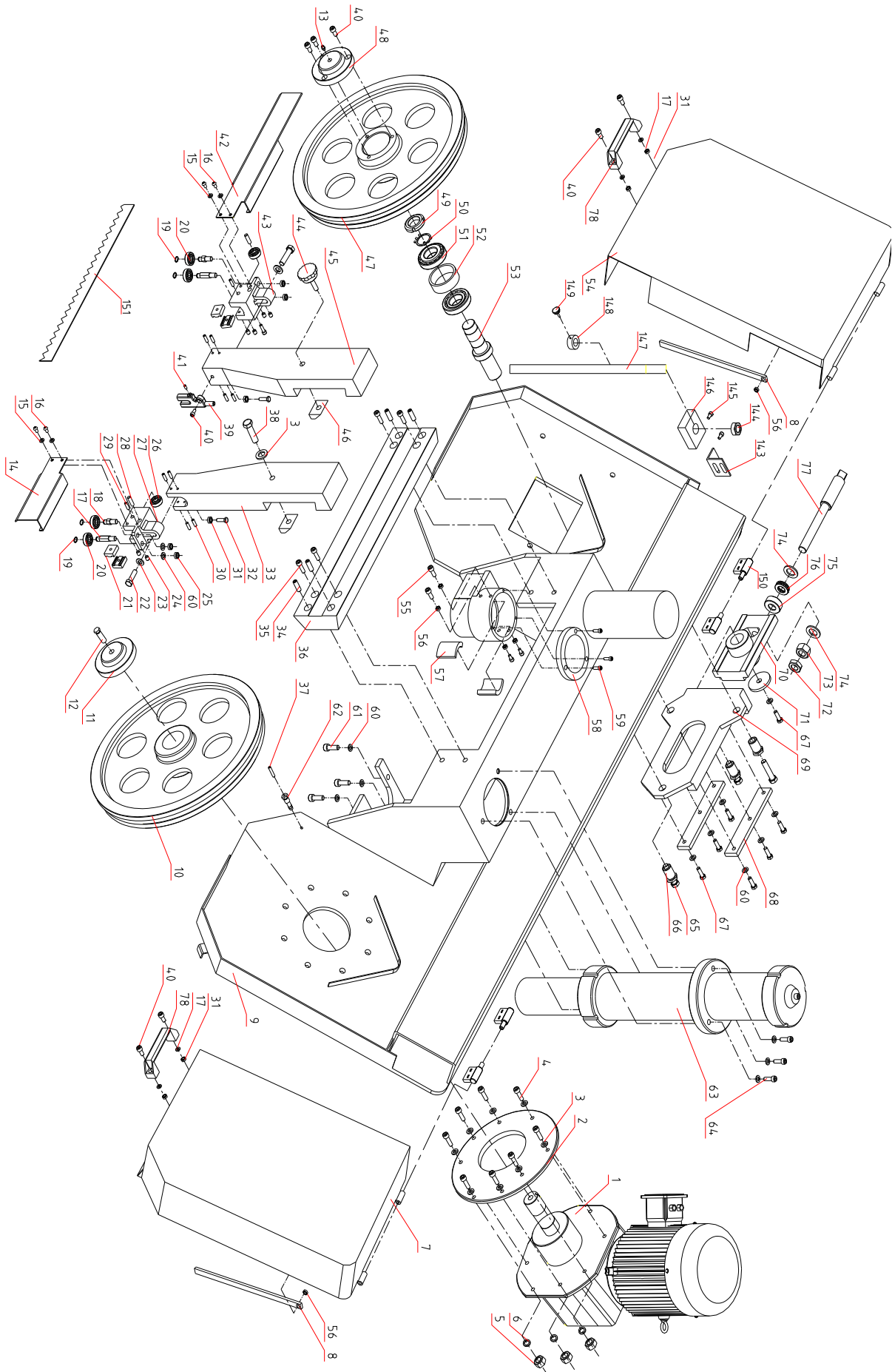
9.2 Electric drawing TGK-4235/TGK-4240

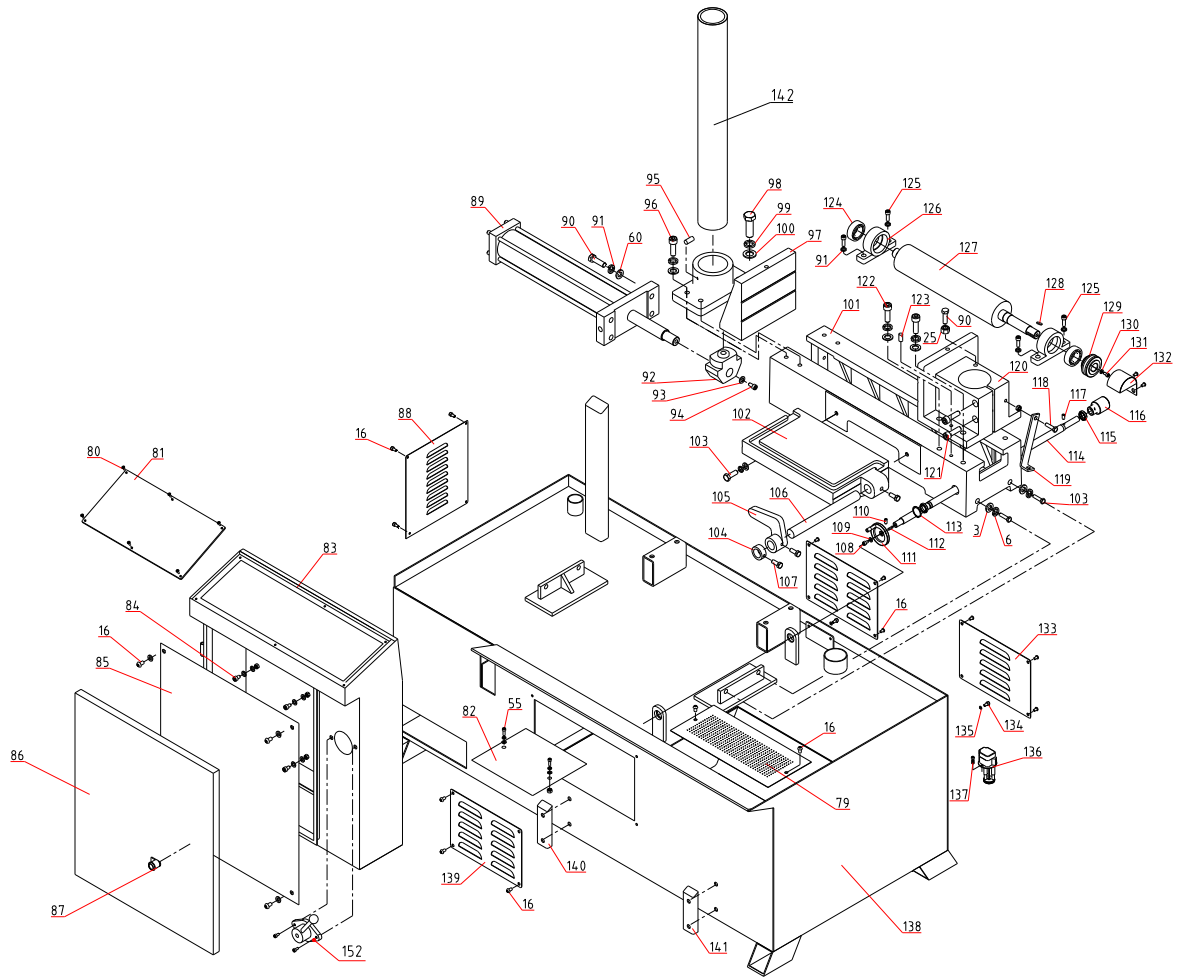




		TGK42354240 3PH	DRAWN
			CHECKET
		CIRCUIT DIAGRAM 2	DIAGRAM NO.

9.2 Breakdown TGK4235





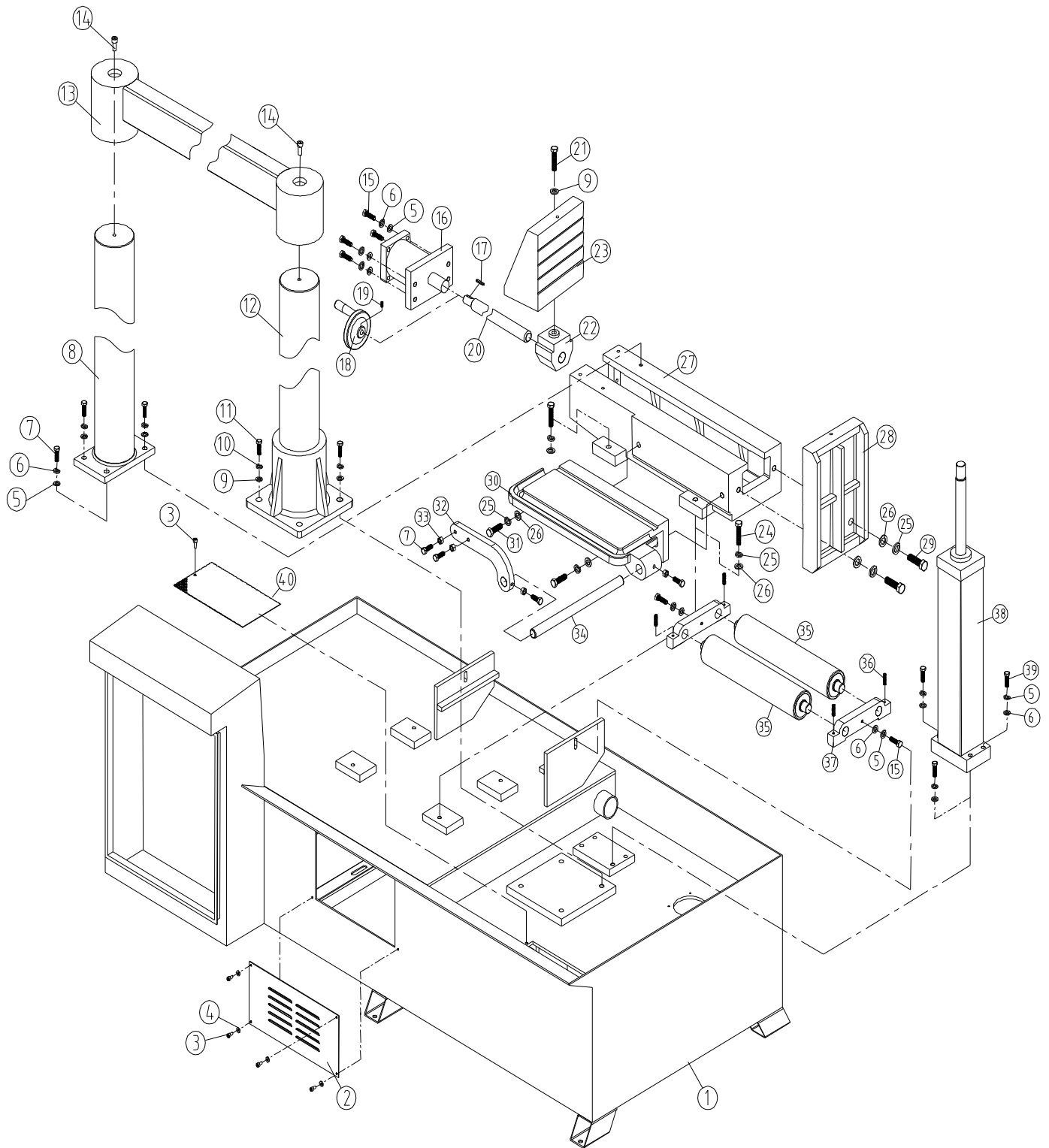
9.2 Part list TKG4235

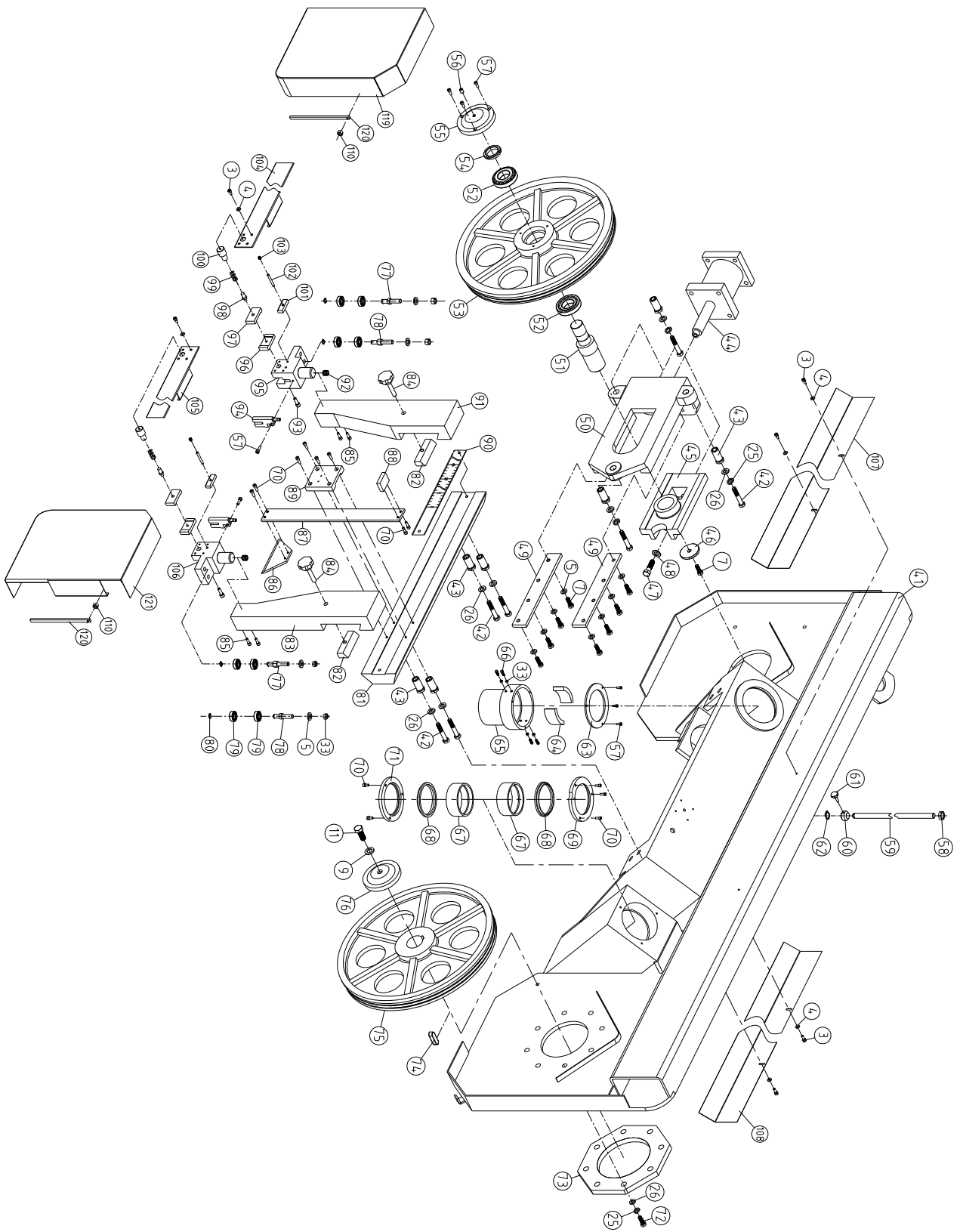
Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Reducer	1	27	Right bearing bracket	1
2	Flange plate	1	28	Roll pin 10x55	2
3	Washer	23	29	Cap screw M10x30	2
4	Hex bolt M12x45	8	30	Slotted set screw with flat point M6X12	8
5	Nut M12	8	31	Nut M6	6
6	Lock washer 12	21	32	Hex bolt M6x35	2
7	Right blade cover	1	33	Right arm	1
8	Bracket for blade cover	2	34	Slotted set screw with flat point M8X20	4
9	Bow frame	1	35	Cap screw M10x30	4
10	Drive wheel	1	36	Column	1
11	End cap for drive wheel	1	37	Copper pipe ϕ 6x10	1
12	Hex bolt M16x40	2	38	Hex bolt M10x50	1
13	Oil filler	1	39	Coolant valve	1
14	Blade guide front (right)	1	40	Cap screw M6x16	8
15	Washer 6	30	41	Slotted set screw with flat point M6X5	3
16	Button head screw M6X10	28	42	Blade guide front (left)	1
17	Long bush	2	43	Left bearing bracket	1
18	Short bush	2	44	Knob M10x60	1
19	External retaining ring 10	4	45	Left arm	1
20	Bearing 6000-2Z	4	46	Gib	2
21	Blade guide block	2	47	Idler wheel	1
22	Hex bolt M8x40	2	48	End cover for idler wheel	1
23	Washer 8	18	49	Nut M30x1.5	1
24	Slotted set screw with flat point M6X20	8	50	Ext retaining ring 35	1
25	Nut M10	9	51	Bearing 32007	2
26	Bearing 6000-2Z	2	52	Bush	1

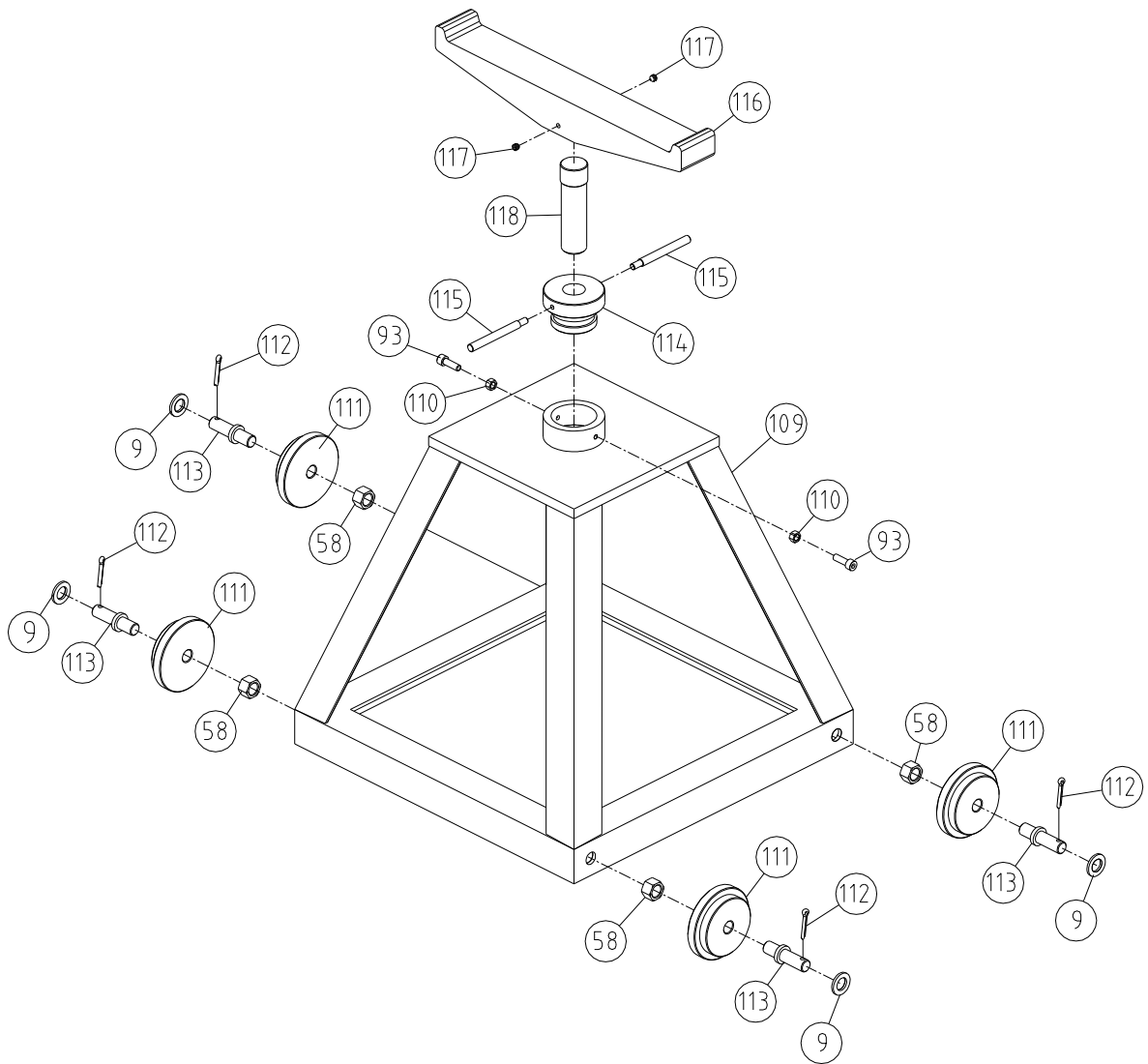
Part No.	Description	Q'ty	Part No.	Description	Q'ty
53	Shaft	1	81	Control plate	1
54	Left cover	1	82	Plate	1
55	Cap screw M8x25	10	83	Electric box	1
56	Nut M8	11	84	Cap screw M6x20	4
57	Left cover	2	85	Panel	1
58	Seat	1	86	Door	1
59	Cap screw M5x12	5	87	Lock	1
60	Washer 10	18	88	Side plate	1
61	Cap screw M10x25	1	89	Cylinder for clamp	1
62	Connector	1	90	Hex bolt M10x45	5
63	Up/down cylinder	1	91	Lock washer 10	12
64	Cap screw M10x45	7	92	Bush	1
65	Hex bolt M12x65	3	93	Big washer 10	1
66	Bolt	3	94	Bolt M10x20	1
67	Cap screw M6x16	7	95	Lock washer 6x22	2
68	Plate	2	96	Screw M10x45	4
69	block		97	Vise jaw (front)	1
70	Slid block	2	98	Bolt M16x40	2
71	End cap for idler wheel	1	99	Lock washer 16	1
72	Nut M20	8	100	Washer 16	1
73	Nut M20	1	101	Table	1
74	Washer 20	1	102	Extend bracket	1
75	Bush	1	103	Bolt M12x40	7
76	Bearing 51104	4	104	Bush	1
77	Shaft	1	105	Stop block	1
78	Handle	1	106	Work stop rod	1
79	Filter screen	1	107	Bolt M8x16	2
80	Bolt M5x10		108	Button head screw M6X12	1

Part No.	Description	Q'ty	Part No.	Description	Q'ty
109	Big washer 6	1	131	Cap screw M8x16	1
110	Screw M6x8	1	132	Cover	1
111	Hand wheel ϕ 125x ϕ 15	1	133	Back cover	1
112	Key 5x15	1	134	Bolt M10x1	2
113	External retaining ring 17	1	135	O Ring ϕ 1.8x ϕ 9.5	2
114	Shaft	1	136	Pump	1
115	Bearing 61803-2Z	2	137	Bolt M5x10	1
116	Worm shaft	1	138	Stand	1
117	Pin 4x22	1	139	Front plate	2
118	Bolt M8x22	1	140	Slight glass for hydraulic oil	1
119	Bracket	1	141	Slight glass for coolant fluid	1
120	Vise jaw bracket (rear)	1	142	Column	1
121	Cap screw M12x80	2	143	Bracket for bottom limit	1
122	Cap screw M12x45	4	144	Hex bolt M16	1
123	Pin 8x30	2	145	Cap screw M5x8	1
124	Bearing 6205-2Z	2	146	Block for up limit	1
125	Cap screw M10x30	4	147	bracket	1
126	Base	2	148	Bush	1
127	Roller	1	149	Knob M6x15	1
128	Key 6x22	1	150	Pin	4
129	Worm	1	151	Blade	1
130	Big washer 8	1	152	Vise clamping handle	1

9.3 Breakdown TGK4240







9.3 Part list TKG4240

Part No.	Description	Q'ty	Part No.	Description	Q'ty
1	Stand	1	30	Extend bracket	1
2	Front plate	2	31	Hex bolt M16x45	2
3	Bolt M6x12	26	32	Stop block	1
4	Washer 6	20	33	Nut M10	11
5	Washer 10	24	34	Work stop rod	1
6	Lock washer 10	12	35	Roller	2
7	Hex bolt M10x30	16	36	Slotted set screw with flat point M8X30	4
8	Left column	1	37	Base	2
9	Washer 16	14	38	Up/down cylinder	1
10	Lock washer 16	8	39	Hex bolt M10x50	4
11	Hex bolt M16x40	5	40	Filter screen	1
12	Right column	1	41	Bow	1
13	Top balance bracket	1	42	Hex bolt M12x70	7
14	Screw M10x35	2	43	Screw	7
15	Hex bolt M10x35	4	44	Cylinder for blade tension	1
16	Cylinder for clamp	1	45	Base	1
17	Key 5x18	1	46	Washer	1
18	Hand wheel \varnothing 15	1	47	Hex bolt M14x50	1
19	Bolt M5x10	1	48	Washer 14	1
20	Screw rod	1	49	Plate	2
21	Hex bolt M16x70	1	50	Block	1
22	Bush	1	51	Shaft	1
23	Vise jaw (front)	1	52	Bearing 30208	2
24	Hex bolt M12x50	4	53	Idler wheel	1
25	Lock washer 12	15	54	Nut M40x1.5	1
26	Washer 12	20	55	End cover for idler wheel	1
27	Vise base	1	56	Oil filler	1
28	Vise jaw bracket (rear)	1	57	Screw M6x16	8
29	Hex bolt M16x55	2	58	Nut M16	5

Part No.	Description	Q'ty	Part No.	Description	Q'ty
59	Limit rod	1	88	Block	1
60	Limit bush	1	89	Guide	1
61	Handle M6x15	1	90	scale	1
62	External retaining ring 16		91	Left arm	1
63	Seat	1	92	Bolt M6x30	2
64	Left cover	2	93	Screw M8x25	1
65	Left bush	1	94	Coolant valve	2
66	Hex bolt M10x25	4	95	Left guide bracket	2
67	Right bush	2	96	Blade guide block	2
68	Ring	2	97	Blade guide block	2
69	Seat	1	98	Shaft	2
70	Screw M6x20	14	99	Spring	2
71	Seat	1	100	Screw	2
72	Hex bolt M12x45	8	101	Block	2
73	Flange plate	1	102	Pin 6x50	2
74	Key 16x60	1	103	Bolt M6x10	2
75	Drive wheel	1	104	Blade guide front (left)	1
76	End cap for drive wheel	1	105	Blade guide front (right)	1
77	Shaft	2	106	Right guide bracket	1
78	Shaft	2	107	Top gap cover	1
79	Bearing 6201Z	8	108	Bottom gap cover	1
80	External retaining ring 12	4	109	Roller stand	1
81	Column	1	110	Nut M8	4
82	Gib	2	111	Wheel	4
83	Right arm	1	112	Pin 5x28	4
84	Handle M12x60	2	113	Shaft	4
85	Screw M10x60	4	114	Block	1
86	Touch plate	1	115	Shaft	2
87	Plate	1	116	Bracket	1

Part No.	Description	Q'ty	Part No.	Description	Q'ty
117	Bolt M8x8	2	120	Bracket for blade cover	2
118	Screw rod	1	121	Right cover	1
119	Left blade cover	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. Please note the local voltage for operating this machine.