

Operation Manual

GK4235

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1. Main Technical Parameters

Parameter	GK4235
Max. cutting range (in)	○13-3/4□13-3/4x13-3/4
Cutting speed (in/min)	Three grade: 1-1/16", 1-3/4", 2-11/16"
Feeding speed adjustment	Hydraulic and stepless
Blade model (inch)	162x1.34x0.04"
Clamping type	Hydraulic
Main motor power (kw)	2.2/2.8
Hydraulic pump power(kw)	0.55
Type of main transmission	Worm bar
Machine layout (inch)	78.7x45.28x57.09"

2. Main components of sawing machine

Saw frame	base	Clamping device	Saw wheel	Electrical cabinet	Coolant tank	Operation station
Sub-column	Leading device	Oil pump	motor	reducer	Coolant pump	Main oil cylinder
Clamping cylinder	Working light	Driving wheel	Driven wheel			

3. Selection of teeth number of saw blade for variable stocks

Cutting length (inch)	Less 0.59	0.59-0.98	0.98-2.95	2.95-5.91	5.91-9.84
Teeth number	12-10	10-8	8-6	6-4	4-3

4. Attention for usage of new saw blade selected

- 4.1 Before loading the new saw blade, keeping the cleaning of the saw blade wheel and checking the coolant and hydraulic system
- 4.2 Fine and coarse teeth saw blade should be applied according to size of stocks, please check the above item 3 to choose the suitable saw blade for your stock so that no any teeth of saw blade broken;
- 4.3 Cutting speed should be lower while cutting the material with quite high hardness
- 4.4 The saw blade selected also was considered as per the shape of the stock, teeth-change blade should be used for the profile stock, keep at least two tooth inside the stock constantly
- 4.5 Reasonable to choose coolant liquid for variable stock, oil and water ratio can be 1:5 for high alloy steel and 1:10 for low alloy steel and carbon steel

5. Installation methods for the saw blade

- 5.1 checking the saw blade and welding coupling before installation
- 5.2 up rise the saw frame and open the front cover, follow the marks instruction and rotating up the lead screw 5-7cm, and open the adjustment crews on the left and right
- 5.3 keep the new blade into the leading box and adjusting the nuts and clamping the blade gently as per the instruction, the clamping force of

blade was normally about 25N.M

5.4 power on and off and make the blade rotating gradually till the saw blade into normal working

5.5 keeping the machine into free working for 2 minutes for checking without any abnormal happened

6. Fixture stock

See the figure 1 for the clamping of variable stocks

7. Hydraulic system

The hydraulic system was used for:

- (1) up and down of saw frame
- (2) clamping and unclamping of stock
- (3) blade feeding speed, system pressure:1.8-2Mpa,see below

Figure 2

No.	Model	Name	qty	Remark
1	WU25-100	Filter	1	
2	CB-B6	Gear pump	1	6 liter
3	YS712-4	Motor	1	0.55kw/1400rpm
4	P-B10B	Overflow valve	1	
5	DSG-02-3C2-24v	Electrical-magnetic valve(3 positions;4-way)	1	
6	HDJ-10Y	Throttle Valves	1	
7	22C-10	Stroke valve (2 positions,2 way)	1	
8	340-10	Selector valve (3 positions,4 ways)	1	

8. Electrical principle chart (see Figure 3)

9. Operation and maintenance

- 9.1 checking the power source with correct wire connecting and keep the suitable coolant liquid and hydraulic oil
- 9.2 Idle running machine and assure the machine with right rotating direction and fluent coolant and moving of up and down
- 9.3 adjusting the stock stopper with right position of cutting length, and stock is in clamping status
- 9.4 keeping the stock bracket at suitable height
- 9.5 adjusting the up-valve and down-valve and make the saw blade 2cm higher than the stock, and changing the stroke quill and make sure that the stroke switch can be touched properly during up rising and cutting off of saw blade, cutting speed should be increased slowly while cutting into the stock
- 9.6 lubrication oil No.32 was applicable for the sliding parts, such as clamping vise, main column, sub-column
- 9.7 Lubrication oil should be changed periodically
- 9.8 Any parts of the personal body should be away from the running blade
- 9.9 Overload operation will cause a hard damage to the machine
- 9.10 Blade changing should be operated after power off
- 9.11 Keep clean environment around the machine

9.12 Power off the main switch while stopping the machine and rise-up the bracing, opening the vise and saw blade

10. Usual major faults and solution

10.1 mechanical parts:

Faults	Main reason caused	solution
Teeth broken	1.high feeding rate	Decrease the feeding rate
	2.oversize teeth selected	Change blade with smaller teeth
	3.wrong fixture of irregular stock	Revise the fixture
	4.no match up of blade	Test blade firstly
Teeth tip wear off	High speed rotating of saw blade	Lower speed
	Higher hardness of material	Change the saw blade into high hardness
	Cutting coolant liquid density	Increase the density
	Wrong coolant liquid chosen	Change the coolant liquid number
	Higher feeding rate	Lower the feeding speed
Harsh Section of saw blade	Higher feeding rate	
	Wrong coolant chosen	Choose the suitable coolant
	Unqualified saw blade	Change the blade
Sharp sound while cutting	1.over speed of saw blade	Decrease the speed
	2. irregular surface of welding joint	Grind the welding joint
	3. Wrong coolant chosen	Change the coolant

Faults	Main reason caused	solution
	4.tolerance between leading box and saw blade	Adjust the tolerance again

	5.over feeding rate and higher pressure	Lower the feeding speed
Geometrical accuracy out of tolerance	1.low tension of saw blade	Decrease the saw speed
	2.split teeth or lower symmetry	Change new saw blade
	3.far distance between leading bracket and stock	Adjust the distance less than 3cm
	4.teeth wear out	Change saw blade
	5. un-perpendicular between saw blade and vise	Adjust leading box
Saw blade drop off	Low tension of saw blade	Tension the saw blade
	Unbalance driven wheel and driving wheel	Adjust the tension nuts
Noise of reducer box	1.bearing broken inside	Change bearing
	2. abrasion inner hole with the shaft	Change the driving wheel
	3.Wheel abrasion and reducer damage	Change the wheel
	4. abrasion of worm bar and worm gear	Change the bar or gear
	5.out of oil in the reducer box	Oil charging
No manual up rising or auto-rising of saw frame and	1.low pressure	Adjust the relief valve
	2.oil route blocking or leaking	Clean or change the valve, filter, bracing the joint
	3.stroke switch out of service	Repair or change the switch

	4. wiring failure	Check the wire diagram
No descending or even descending of saw frame	1. speed-adjust valve blocking	Clean or change the valve
	2. descending valve out of work	Check the oil route
	3. High back-pressure	Adjust the pressure

	4. valve's core locking inside	Clean the core of valve
	5. un-vacuum oil cylinder	Discharge the air

10.2 electrical parts:

Faults	Main reason caused	solution
No power supply and oil pump does not work once turning on the main switch	1. power source no connecting	Connect the power QF1
	2. short cut electricity	Repair or change the breaker
	3. open the emergency stop button	Reset the stop button
Machine still work when pushing the stop button	Button broken	Change the button
	Wiring failure	Check the wire diagram
machine does not work when pushing the start button	Button for saw blade broken	Repair or change the button
	Wiring failure	Check the wire diagram
	Stroke switch out of work	Repair or Change the switch
Machine still work after cutting off stock	Limit switch out of work	Repair or change the switch
	Limit nut not in right position	Adjust the nut into right position
Indicator out of work	Transformer broken	Repair or change the transformer
	Indicator broken	change the indicator

10.3 hydraulic parts:

Faults	Main reason caused	solution
No Oil pumping	1. filter blocking	Clean or change the filter
	2. low oil level, should be 2-3cm higher	Charge hydraulic oil
	3. high oil viscosity	Change the oil into No.46
Oil foaming	1. Low air exhausting	Reciprocate moving up and down of saw frame and exhaust the air extremely
	2. Oil leaking	Brace the coupling
	3. seals leaking of oil pump shaft	Change the sealing ring
	4. oil return pipe above oil surface	Submerge the oil tube
	5. oil pump wear out or broken	Change the pump
Wrong rotating direction of oil pump	Incorrect wiring connecting	Check the wire diagram
High oil temperature	1. oil pump wear out or broken	Repair or change pump
	2. low oil viscosity	Change oil into No.46
	3. high oil pressure	Adjust the pressure
Saw frame auto descending at middle level	1. over tolerance between the core of selector valve and valve hole	Repair or change selector valve
	2. sealing ring broken of oil cylinder	Repair or change the sealing ring
	3. speed-adjusting valve open	Close the valve

11. Precautions

11.1 please read the manual books carefully and get to know this machine before operating

11.2 balancing the machine after installation

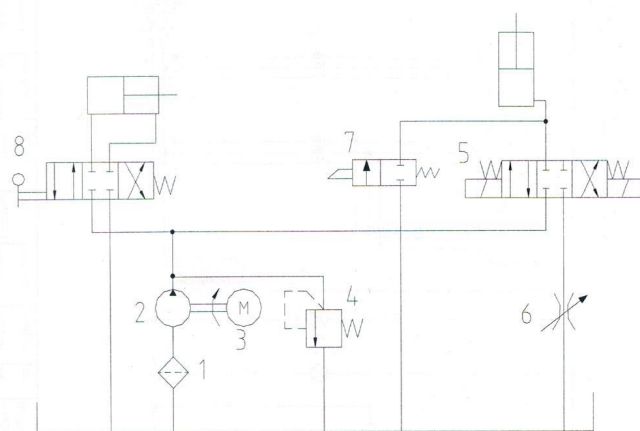
11.3 choosing the suitable oil according to the environment temperature

11.4 ground wiring should be wiring 50cm below the ground

11.5 voltages should be controlled at the range of $\pm 10\%$, in case damaging the electrical components

12. packing list

No.	Name	Qty	Remark
1	Saw blade	1 piece	
2	Manual book	1 copy	
3	Stock bracket	1 set	
4	Up-clamping device	1 set	Optional



Hydraulic

