

OPERATION MANUAL

FOR

WC67Y-70/1800 HYDRAULIC PRESS BRAKE

Serial No:

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I .Usages and suitable scope for the machine

This machine tool is used to bend the metal plates, It has the high efficiency and bending precisions. When bending the different thickness of materials, You should select the different V-shapes to bend every kinds of working pieces.

The machine has a welding construction. It has enough strength and good rigidity. Hydraulic transmission can avoid the over load accidents which bending the different thickness or the wrong selections of V-shapes. Also, the machine has the characteristics of stability and handle convenience .It has the actions of point, single and continuous strokes, and can keep the pressure. Also install the compensating construction to ensure the higher bending precisions. The users can order the different kinds of dies and thus can bend different kinds of shapes of working piece. If it equipes the corresponding equipments, The machine can work as a puncher.

The machine is widely used in the fields of aero plane, automobile, trains, shipyard, switch plant, communicating equipment lifting equipment, electrical, meter and other light industries fields, and it has the high efficiency.

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II .Main technical data for the machine

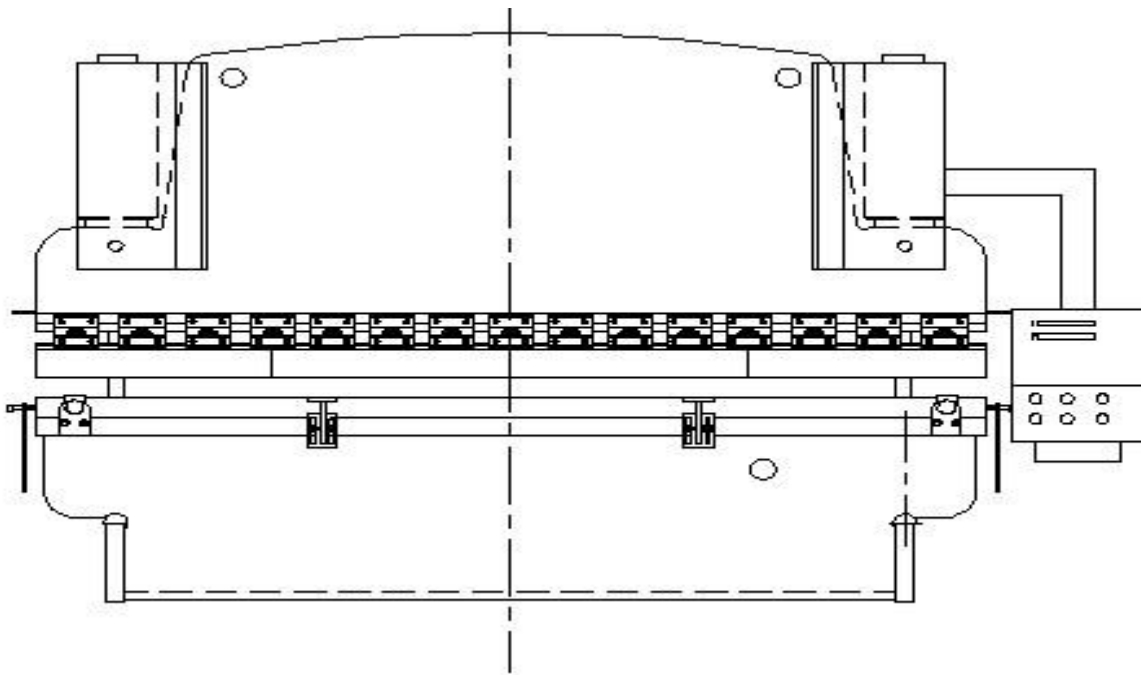
No.	Name		Value	Unit
1	Nominal Force		700	KN
2	Length of worktable		1800	mm
3	Distance between columns		1440	mm
4	Distance of back gauge		0-600	mm
5	Ram stroke		120	mm
6	Opening height		360	mm
7	Amount of ram adjustment		110	mm
8	Stroke		12	times/m
9	Main motor	Model	Y132M-4	
		Power	7.5	KW
10	Power for back guage		0.55	KW
11	Power for ram adjust		0.18	KW
12	Dimension	Length	1800	mm
		Width	1360	mm
		Height	2250	mm
13	N. weight		4300	kg

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III.Main construction and machine principles

1.Main construction

Most of machine parts are plate-welded parts, they has the high strength, good rigidity, light weight, And transmitted by hydraulic. It mainly consists of machine body, ram, adjusting construction of the mechanical stopper, synchrony-twist shaft, front-support or dies, electrical, etc.



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2.Ram and worktable

The ram and worktable are welded by steel plates.

The ram connect to the columns by guides which on the both sides of the ram. There install the stroke control switch on the right side to adjust the stop positions of the upper starting point. On both sides connect to piston bars of the oil cylinders and the synchrony-twist shaft. Thus the pressure from the cylinders can transmitted to the ram directly and can ensure the synchronism of the movements of the cylinders.

3.Adjusting construction for mechanical stopper.

To improve the working precision, we equip the mechanical stopper in both oil cylinders to ensure the lower dead point of the ram and repeat stationing precision.

Attention: To adjust the positions of ram lower dead points. you must stop the ram at the upper starting point, otherwise, you may damage the machine.

4.Dies

The upper die divides into several pieces, the lower die is a whole set, when selecting suitable V-shape slots, you can turn over the lower dies by hanging the rings and you can get the satisfy V-shape slots.

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IV.Hydraulic system

Principle drawings for hydraulic (see drawing)

[Remark]

1.The hydraulic oil must be clean. After a longer time of using. If the oil is not clean. You must change the oil, and washing the filler, oil tank etc.

2.Filling the 46# hydraulic oil into oil tank till to the center of the guage but be sure the oil level must cover the pump, Then you could operate the motor.

3.After a month of operating, you should change the oil, Also you must change the oil once time every half a year.

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V .Electrical system

Detailed please see the electrical diagram

WC67Y-70/1800

HYDRAULIC PRESS BRAKE

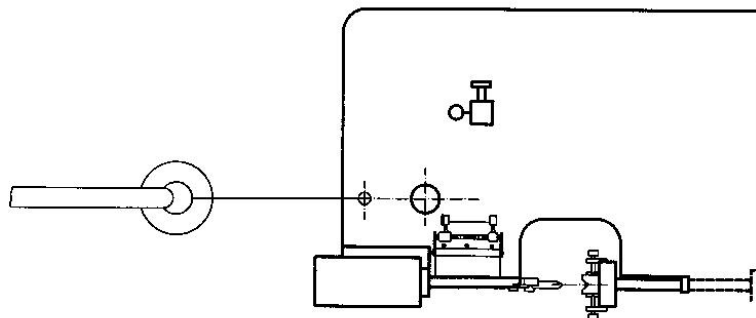
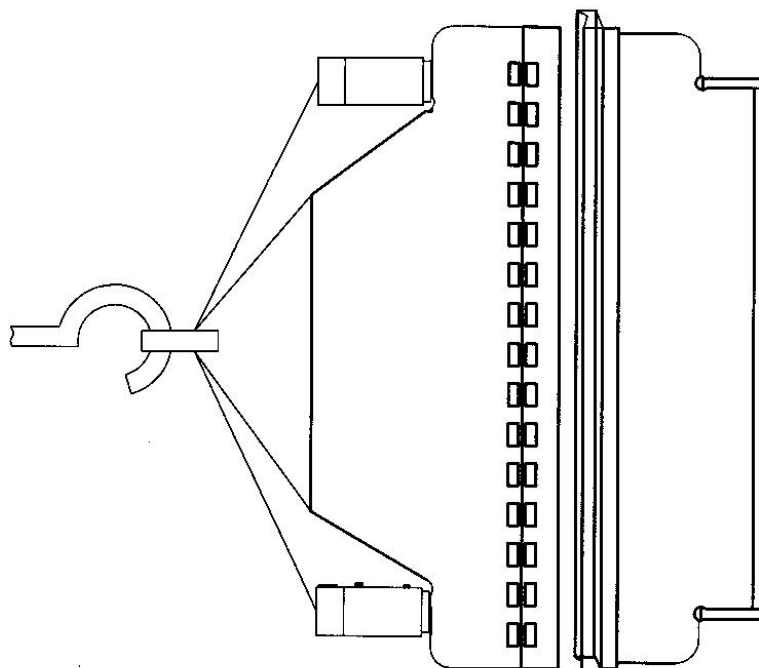
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If the machine does not pack in a box. The suspension must obey the following suspending.

Attention: When suspending the machines, The ropes which pass through the hanging holes should line the liner such as rubber or soft objects to avoid to damage the points.



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VII. Adjustment for the machine

1. Adjustment for the bending angle.

In this machine, You can bending different angles of kinds of working pieces, the Adjusting method as following.

(1) By using the mechanical stopper to adjust the lower limited stroke, pressing the button to make the mechanical stopper shift up-word or down-word. The bending angle will increase or decrease.

(2) Up-stroke adjusting. To reduce the empty stroke time and improve the productive efficiency, You can adjust the up-stroke

(3) Adjustment for working time

The satisfaction working time is that the upper dies are higher 3~5mm to the lower die, when the length need to be adjusted, You should loose the adjusting bolts of limited switch, and make it goes up or down, And tightening the bolts, the length will increase or decrease.

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VIII. Trial and operation for the machine

1. Preparation before trial.

Before operating the machine, the operators must familiar to the machine characteristics and its using methods.

(1) Adding 46# hydraulic oil to oil tank until to the oil mark.

(2) Checking and connecting to the power source (Do not start machine.)to examine whether the actions of electrical elements and the electromagnetic valve are correct.

2. Trial and Operation.

(1) Empty-running, after finishing the above procedures, you may operate the motor for empty-running.(PLS. Paying attention to the directions of the motor)

a. Depressing pedal switch "down", the ram goes down rapidly. At the moment of before contacting to upper and lower dies .To release the pedal switch, the ram stops at any positions.

b. Depressing pedal switch "UP" ,the ram goes up rapidly. After releasing the pedal switch, the ram stops, when the ram goes up to the top limited positions, the ram stops.

c. Adjusting the upper and lower dies to a suitable position and fixes it.

d. Adjusting the mechanical stopper to set the bottom limited and you can get the different bending requirements.

e. Adjusting the stopper to make the upper die to contact to the working piece and enter into working situation.

(2) Load-running: You must add the pressure gradually and try to bend several working pieces until you obtain the satisfaction results.

3. Several items should be checked during trials.

(1) Whether every moving parts are smoothly, such as :Ram up and down, bending, return back quickly, mid-stopping, etc and other operation actions.

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(2) The pump, valves should in good conditions and no heavy noisy, The sealing rings should not link, the suitable temperature is 30 ~50° C, the Max temperature should not exceed 60°C.

(3) After removing all the problems which occurred in trial, you could operate the machine.

IX.Safety technology and maintenance for the machine

1. Before operating the machine, the operator must read the "Operation manual", And the operator must familiar to the construct, Characteristics and adjustment methods of the machine.

2. For several operators, it must be confirmed that no any other dangerous factors exist, you may depress the pedal switch.

3.The machine has high ability on loading, In normal case, the working pieces should put on the middle of the die. If bending the working pieces on the one end of the die, also should bend the pieces on both die sides.

4.To select the V-shapes mouth according to the materials thickness, the sizes of the mouth should bigger than the eight times of the thickness of materials.

5.When bending plates at Max. pressure, to avoid to damaged the dies, the bent length should not less than 1000mm.

6.The bending pressure should not larger than the nominal pressure 18MPa.

7.The clearance between the upper and lower dies must be evenness, And no any tools allowing on the worktable, And no welding scars, Rusty, etc on any tools allow on the worktable, And no welding scars, Rusty, etc on the surface of the working pieces.

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8.The electrical must connect to the ground.

9.Keep the machine cleaning, Attentions should paid to the machine that any unusual phenomenon occur, You must stop the machine and overcoming the troubles.

10.Checking and repairing the machine periodically.

11.The machine uses 46# mechanical hydraulic oil, with the change of the temperatures, you should select the oil brand. The first used oil brand, the first used oil should be replaced after a mouth of using, Then, the oils should be replaced after half of a year, Remember, when filling the new oils, the oil should be filtered.

X .Bending pressure chart

1.The values in the chart are based on the length of 1 meter.

For example : S=2.5mm (thickness)

L=1 meter (length)

V=22mm (V-shape open)

The value of pressure is P=20t.

2.The tensile strength of plates are based on the $\sigma_b=45N/mm^2$,while bending the other plates, the pressure should multiply the following coefficient:

Green copper (soft)— 0.5

Stainless steel—2.0

Aluminum—0.5

Crmo steel— 2.0

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Attachment: troubles overcoming

Trouble phenomenon	reason	Overcoming methods
No oil from pump and the ram does not act	The moving direction is not right	Exchanging phase-connecting
Linking from elements, pipes connecting or oil cylinders	Sealing rings damaged or old	Replace sealing rings
Vibration from pipes and machine tool	The amount of oil in tank is not enough or the filter is blocked	Cleaning the filter or adding the oil into tank to mark
No pressure in system	The electric-magnetic does not exchange the directions or the cores of electromagnetic valves are blocked.	Repairing the plug of the electric-magnetic valves to avoid loosing or cleaning the cores of valves.
The ram goes down too slow	The open of the valve core is too small or the oil temperature is be low 15°C	Adjusting the valve core, and checking the open amount, Improving the oil temperature by empty running.
The ram can not stop at any positions and three are advised drops down	The cores of valves are blocked	Cleaning the valve
The ram goes down too fast or too slow	The open of the taper valve is too large or small.	To check the open amount by adjusting taper valve
Large sound occurs when ram goes back	Mid-relay KA3 does not working or the core of the exchanging valve blocked	To check the time-relay.

CERTIFICATE OF QUALITY
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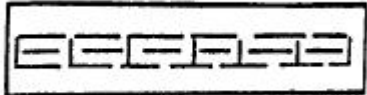

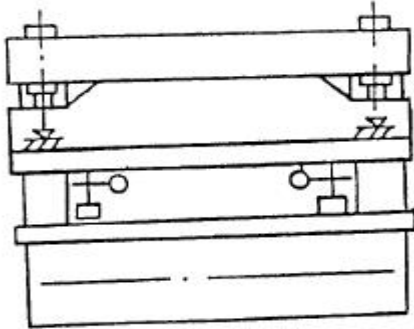
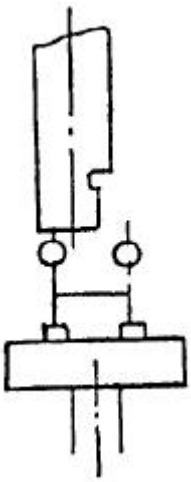
This is to certify that the quality of this machine is well qualified after inspection and delivery of it is permitted.

Head of Inspection Department:

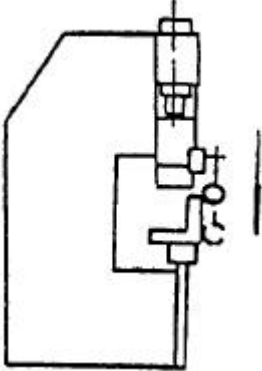
Director of the Plant:

Date:

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No.	Inspection Item	Drawing	Precision		
			Allowable	Errors	
1	Evenness of the worktable surface		2500	0.08	
			3200	0.10	
			4000	0.12	
			2500	0.02	
			3200	0.04	
			4000	0.04	
2	The parallelism of water level support surface which sticking to upper die to worktable surface		2500	0.18	
			3200	0.18	
			4000	0.20	
			0.04		

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No.	Inspection Item	Drawing	Precision	
			Allowable	Errors
3	Evenness of the worktable surface		0.25	

PACKING LIST

FOR

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Packing List

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WC67Y-70/1800 hydraulic press brake

Dimension(LXWXH): mm
G.W: kg
N.W: kg

No.	Name	Specification	Quantity
1	Main body		1
2	Operation manual		1
3	Packing list		1
4	Certificate of quality		1
5	Pedal switch		1
6	Front support		2
7	Oil gun		1
8	Foundation bolts	M16×400	4
9	rings		2
10	Combination ring		
11	O-shape Sealing ring		
12	Key		
13	Coach Screw	M20×90	4

Inspector:

Date: