

GBM-12C Type Operation Manual



Read the Manual carefully before use!

Shanghai GIRET Machinery and Equipment Co., Ltd.

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Disclaimer

- ✧ Read this manual carefully before operation, we are not liable for the loss caused by illegal operation.
- ✧ Advise using the machine parts we provide, we don not take any responsibility in the case of changing original accessories or dismantling the machine.
- ✧ Can not continuously work over 4 hours in the full loaded. Not liable for any loss in operations, which transcend the design capability.

1. Summary

1.1 Instruction

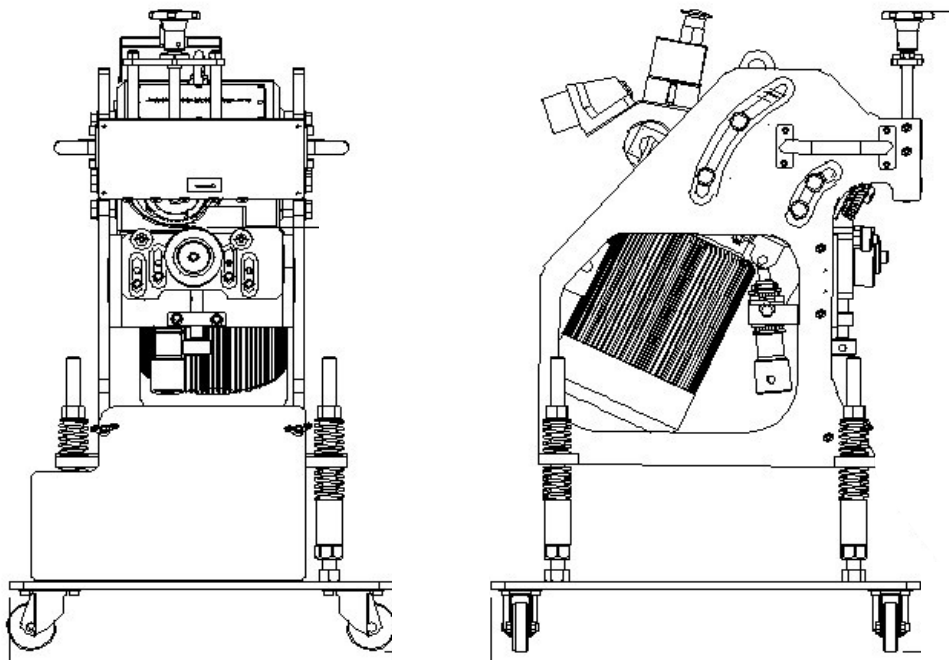
GBM-12C-type Beveling Machine can bevel 12mm groove one time on a less than 45mm thickness plate, which tensile strength is 40kg/mm² in 1.5~2m/min speed. Also can get 18mm groove by several times. The Bevel Angle can be adjusted arbitrarily in the range of 25°~45°.

1.2 Technical Parameters:

Power Supply: AC 380V 50Hz	Motor Power:1500W
Motor Speed:1450r/min	Bevel Speed:1.5~2.5m/min
Single Bevel Width:12mm	Bevel Angle:25° to 45° (Adjustable)
Plate Thickness:6-30mm	Min. Width:75mm
Min. Pipe Dia. :Ø150mm	Net Weight:175Kg

1.3 Machine diagram

Machine outline



2. Safety and Warning

2.1 Safety instruction

Read the operation instruction carefully before installation, use and maintenance, especially the parts of electrical and rotation exist potential dangerous for life injury and property damages.

The machine use 380v power supply. Please make the manual as a guide before installation, wiring, start, run and adjustment; the operator should know every part of the machine. The electrical wiring installation and maintenance personnel must possess the qualifications to ensure life and property safety.

2.2 Safety Caution

- 1) Only be used in the scope of designed purpose;
- 2) The electrical wiring installation personnel must possess Electrician Certificate; power wiring must have a good ground protection;
- 3) Not allowed to process the materials which beyond the provision.
- 4) Operator stays when the machine is working.
- 5) Turn off the power supply when stop beveling.
- 6) Turn off the power supply when replace, maintain and clear the tools.
- 7) Using tools, protective gloves to clean welding slag to avoid hurt from high temperatures and sharp cutting. Do not clean the machine when it is still working.
- 8) When the machine is working, the operator must stand behind the machine; Can not stand left or right side. Otherwise the machine will twist the clothing and gloves.

3. Equipment Confirmation

3.1 Inspection

Please check carefully as received the machine, and any signs caused by carrier. And one thing must remember: Obtain signature of the delivery person, so you can claim for insurance for damage.

Responsibility of lost and damage

- ❖ Do not sign once found any packing damaged, and timely contact the Express Company to claim and replace a new one.
- ❖ If articles do not match with the packing list, please contact us.
- ❖ Our company will try our best to help you to get the compensation of the loss or damaged articles. But it not means we act for your claims. You should fill the form and claim procedure by yourself.

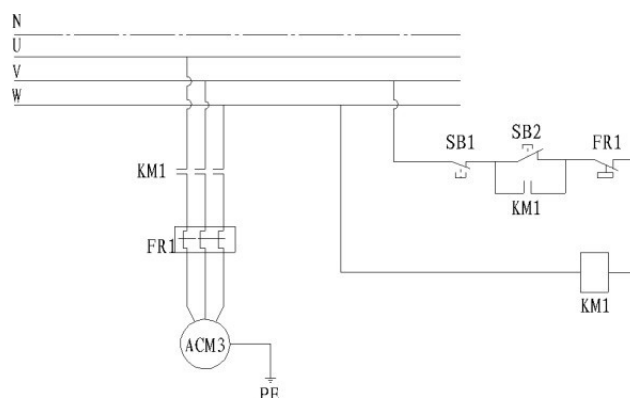
3.2 Unpacking and Carry

Under normal circumstances, the machine use the wooden box carried and specify the lifting and forklift loading and unloading position. Incorrect lifting and shoveling fork may cause a rollover, injury to people and goods loss, for the weight center of the machine rely more on the top.

4. Installation

4.1 Electrical installation

Circuit Diagram



- 1) Electrical connection and protection should follow the local regulations;
- 2) Please verify power supply equipment, the machine is 380v.
- 3) Connect the electrical switch box of the machine and the power, which specification greater than 2.5mm² three-phase cable.
- 4) The set of electrical switch box
 - The button of start and stop
 - Low-voltage protection
 - Overload protection
- 5) Check the cutter rotation direction: The red mark indicates the correct direction; otherwise you should rotate the reversing button on the left hand of the machine. "0" means stop, "1" and "2" were reversible (It depends on the wiring connection).

4.2 Cutter installation and dismantlement

- 1) Turn off the power supply;
- 2) Promote the upper pinch roller to the highest position;
- 3) Loosen the fixed the nuts (4-M12) under regulation board, and the screws of the under regulation board to the lowest position;
- 4) Loosen the nuts of the cutter, use the dismantlement device, and pull the cutter out.
- 5) Install the components in turn after fitting the new cutter (Keep all nuts tight);
- 6) Regulate the position of the under skateboard based on the steel thickness.

Note!!!

Advise putting on gloves to against scratch and burn from cutter and high temperature, when install and detach the cutters.

5. Preparation

5.1 The plate and route of the trolley

- 1). The plate, which is light and be able to move, can be directly beveled.
- 2). For the heavy plate, you need to make two or more auxiliary support. The height better in the 700mm, and then fix the plate on the support.

Warning

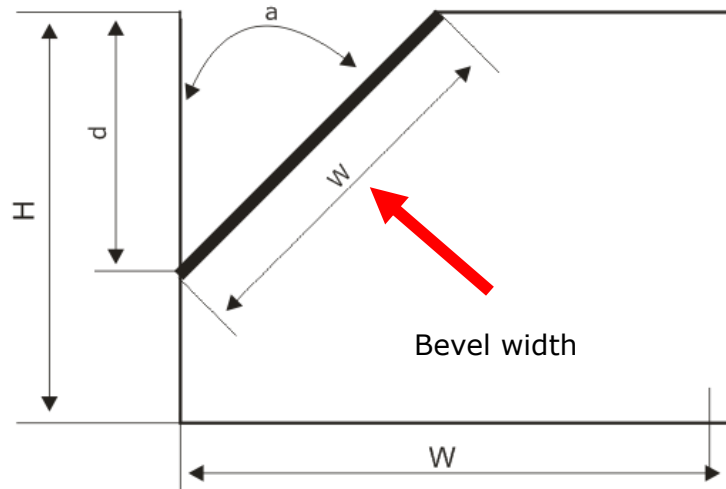
The plate support is made by yourself, so need to pay attention to the stability in order to avoid the loose and shake, which turns out to the steel sliding, tilting, rolling and other accidents likely to cause personal injury and equipment damage.

- 3). Clean the welding slag on the ground, and keep neat. One special plate on the ground is better. The uneven road would cause the unstable of the trolley, and in turn affect the cutters service life.

5.2 Plate cleaning

- 1) No welding slag on the groove surface.
- 2) Clean the welding slag before bevelling. The uneven surface and broken bits will cause uneven size of the surface, and the bottom broken bits of the steel will affect the cutter and machine using life

5.3 Adjustment of plate thickness and set of the bevel depth



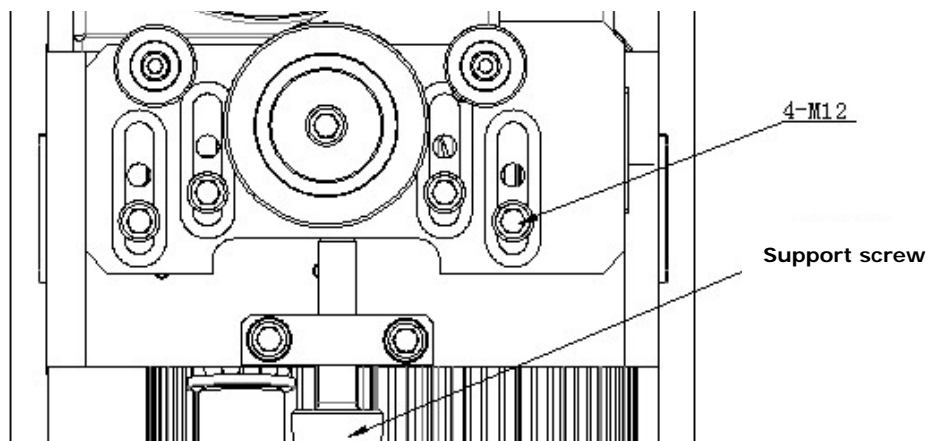
a: Bevel angle d: Bevel depth H: Plate thickness

GBM-12C type Bevel diagram

Tensile strength	CARBON STEEL Kg/m ²						Tensile strength	STAINLESS STEEL Kg/m ²					
	40		50		60			50		60		70	
a	W	D	W	D	W	D	a	W	D	W	D	W	D
25°	12	11	10	9	8	7.5	25°	6	5.5	5	4.5	4	3.7
30°	12	10	10	8.5	8	7	30°	6	5.2	5	4.2	4	3.5
35°	12	9.5	10	8	8	6.5	35°	6	5	5	4	4	3
40°	12	9	10	7.5	8	6	40°	6	4.5	5	3.8	4	3
45°	12	8.5	10	7	8	5.5	45°	6	4	5	3.5	4	3

1).First make sure the tensile strength of the material, and choose the bevel height(d) according to single beveling parameters; You can make reference to the figure or the machine nameplate.

2).Loosen the above 4-M12 bolts, rotate support screw. Check the corresponding number based on the groove depth, adjust the under regulation board marks and the scale escutcheon to corresponding position.



Only for reference, the parameters should be gotten by processing thin plate and actual test.

Warning

The single bevel depth must base on the material feature during the operation. Any operating beyond the scope of the machine performance will cause the damage of turbo, cutter and spindle.

During the oxygen cutting, one thing should take account in the setting of parameters: The hardness of the plate edge will be improved after high temperature.

5.4 Angle adjustment

- 1) The bevel angle can be adjusted arbitrarily in the range of 25-45 degree.
- 2) Loosen the eight M16 bolts both the left and right sides of the machine, then twist the side adjustment screw under the box, you can freely adjust the cutter angle. Tighten the bolt after the adjustment is completed.

5.5 Height and angle adjustment of the trolley

- 1) Only adjust the under side nuts of the bolt, and keep the upper bus bar under support wheels basically the same height with the underside height of the plate.
- 2) Four lower springs of the trolley must be in a maximum relaxation state.

6. Basic operation**6.1 Use method**

- 1) Fix the machine when bevel the thin steel, put the steel into the machine from the right side to a undercut state, the steel will be automatically completed the groove;
- 2) Place the steel on the support as the above form 5.1-2 when beveling the large steel, and fix it. Depending on the thickness, depth and angle to adjust the machine, push the machine to the right side of the steel to an undercut state, the machine will automatically complete the groove;
- 3) The upper pinch roller slightly contact with the steel, not too tight, otherwise it will affect the machine running automatically;
- 4) If the steel stuck, spindle stop and can not move forward, rotate reverse button to detach the plate from machine.
- 5) The first processing amount should be less than the cutting parameters, larger size groove can be obtained by the second times, finally, you can get 18mm groove by third times, every time could widen 3mm groove on the basis of last time.
- 6) Pay attention to clean the welding slag between baffle and the under support wheels to keep the flexible rotation (in the power turn off state);
- 7) Clean the welding slag left on the ground after large plate beveling each time.
- 8) The machine can bevel t external pipe, which bevel angle is in the range of 25°~45°, the internal diameter must be greater than 100mm; Detach the assistant support wheel before beveling.

Note!!!

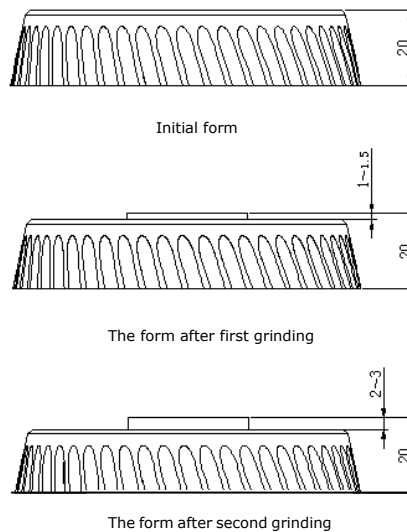
After a period processing time, the temperature of the reduction gear box greatly improved, for boiling grease state is good for abstract heat, the reduction gear box end in a heat balance state. If overload, the thermal element of the electrical switch box will start for the increase of electric current, and cause the automatic power off. Restart the power supply after totally cooling, otherwise it will stop again.

7. Lubrication

- 1) Use the lubrication, the machine has 2.5 liter liquid grease itself. In principle, replace once grease per 2000 hours.
- 2) The gearbox uses the Great Well 7412 grease. Consistency grade No. 000, suitable temperature: $-40\sim 150^{\circ}\text{C}$
- 3) Prohibit convention oil or any other type of lubricant.

8. Recycle cutter method and note

- 1) Use the plane-grinder absorbs on the cutter surface, and grinds the cutter thinner;
- 2) Each grinding capacity of 1-1.5mm, when install the cutter, increase the same thickness spacer in the back side in order to ensure the consistency of the scale computing (See below);
- 3) The thickness of the heat treatment is about 2-3mm, so generally about two times grinding;

**9. After-sales service**

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