



SMG Rapid-Edge 18G-R Auto Feed Gear Type Plate Beveling Machine Operation Manual



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Disclaimer

- ✧ We'll not responsible for any loss cause by working on the others out of its design performance.
- ✧ Must read the manual operation before operating, we'll not bear the loss if any Unreasonable operation.
- ✧ Don't let the machine work morn than 2 hours continuously in full load, its working time is 8 hours one day (reduce the time to 4 hours one day at 30 °C.)
- ✧ Please use the accessories supplied by our company, Without the consent of our company, all the loss cause by unauthorized demolition and replace the accessories not belong to ours , we will not responsible for it

Preface

Dear customer, we are appreciate that your support for our products. The SMG Rapid-Edge 18G- Series beveling machine mainly for bevel work before welding, aim to Improve the welding strength.

For your own benefit, you must read this manual carefully and the marks on machine before operating, we will not responsible for Equipment damage and personal injury caused by any illegal operations. Please inform us of your objection to the products and files within 3 days after receiving the machine, Otherwise, we think you are fully recognized with our product details.

- The final interpretation and modify right is reserved by Steel Machinery Group
- any changes without prior notice.
- Our company own the copyright, copy, modify are not allowed for any unit or person without permission
- The picture, text and data in the file is just for reference, cause the product is
- constantly updated, please take the actual product' parameters as standard

Thank you!

1. Summary

1.1 Introduction

SMG Rapid-Edge 18G-R Plate beveling machine speed 1.5~2 m/min, clamping plate thickness less than 30mm and tensile strength of the material is 40kg/mm, single feed beveling width 12mm, bevel width can be 18mm at second or as you need Bevel angle $25^{\circ} \sim 45^{\circ}$.

1.2 Application fields

The types of products used in aerospace, petrochemical industry, pressure vessel, shipbuilding, metallurgy and unloading processing factory welding manufacturing field, can process low carbon steel, stainless steel, aluminum alloy and other materials

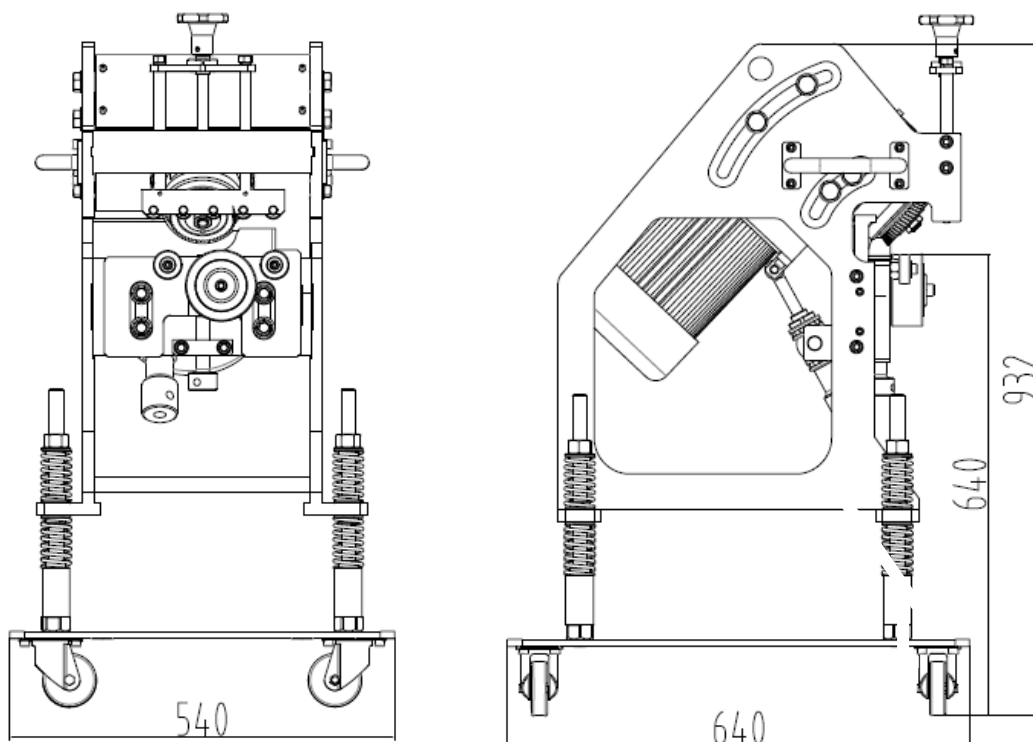
1.3 Technical parameters

1) Technical parameters

Power supply: 380V 50HZ	Motor power: 750 W
Motor speed: 1450 r/min	Bevel speed: 1.5-2.5 m/min
Single bevel width: 12mm	Bevel angle: 25- 15 deg (choose aggle wheel)
Plate thick: 6-30 mm	Min. Clamping width: ≥ 75 mm
Process tube dia.: $>\Phi 110$ mm	Machine N.w : 155 kgs

1.4 Machine figure

1) Picture



2. Safety & Warning

Working safety is the most basic and important requirement for any worker, so Please take care for safety, for the safety of the factory, please pay attention for each tips

2.1 Safety Instructions



Read operation instruction carefully before installation, use and maintenance, especially the part of electrical and rotation exist potential dangerous.
The machine use 380V power supply, Please make the manual as a guide before installation, wiring, start, run or any adjustment; The electrical wiring installation and maintenance personnel must possess the qualifications

2.2 Safety Caution

- 1) The machine can only be used for the purpose of its design.
- 2) The wiring must have the electrical operation certificate, the power supply must have good grounding protection
- 3) This machine must not be used to processing the other material which not included in the manual, Otherwise, it will damage the equipment and tool or reduce its service life
- 4) Operator shall not leave the site while working
- 5) Cut off the power when the machine stopped
- 6) When replacing tool, maintenance, cleaning, the power must cut off , and using special tool, wearing protective gloves and cleaning of chip, for avoid any damage on the workers by the high temperature and sharp chips, and cleaning activities is not allowed while the machine is in the operation
- 7) When replacing tool, maintenance, cleaning, the power must cut off , and using special tool, wearing protective gloves and cleaning of chip, for avoid any damage on the workers by the high temperature and sharp chips, and cleaning activities is not allowed while the machine is in the operation



Warning scald

Do not touch the processed plate, iron and cutter.

2.3 Safety notes



Mind you hand

please maintains a distance of 1cm between the rotating member and your hand.

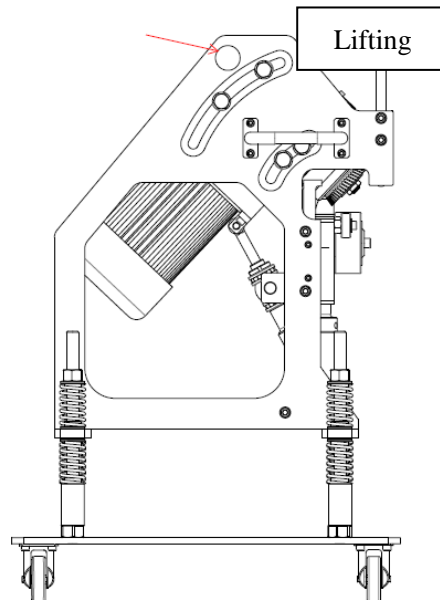


Caution prick the hand
represent the presence of prickly risk, processed plate, an iron pin may prick your hand, not directly touch

3. Equipment Acceptance



Reject the machine when you find packing broken and obtain deliveryman signature for insurance claim. Our factory will help you to get missing and broken parts when the machines broken.



hoist hole.

4. Installation

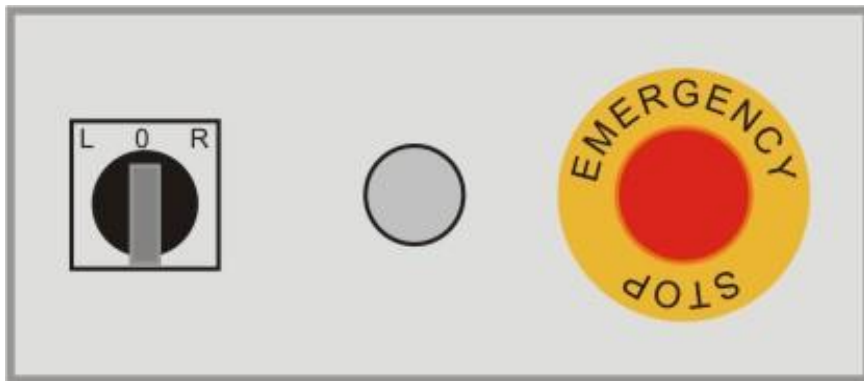


CE Mark for Ground Wire

External ground wire diameter size should follow regulations t (Copper wire)	
S (mm ²) Phase wire diameter S(mm2)	Sd (mm ²) Ground wire diameter Sd (mm2)
$S \leq 16$	S
$16 < S \leq 35$	16
$S > 35$	S/2

4.1 Electrical installation

- 1). Electrical connection and protection should Consistent with local regulations.
- 2). The main power cable for electrical switch box and the workplace of the machine is connected to the power line specifications for larger than 2.5mm² - 3 ph Cable
- 3). Check the tool rotation direction, if the rotation is not correct, please turn the button on the left of the machine



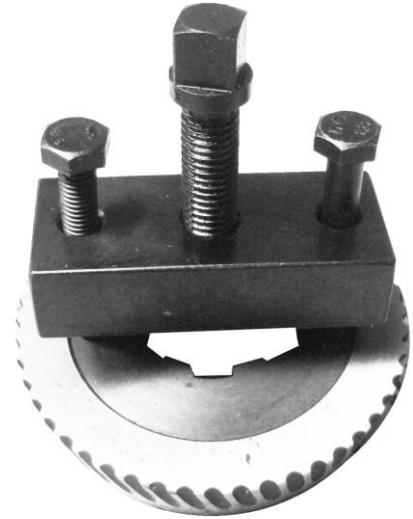
The L type beveling machine has control unit with 3 control buttons positive inversion, start, emergency stop as the following picture showing. And the wire is connected, please don't change it.

4.2 Cutter installation and dismantlement



Advise to clean the crap by air gun, and then wear the gloves to operate the cutter.

- 1) cut off the source;
- 2) lift the up pressing wheel to the highest position;
- 3) Loosen the below support adjusting plate to fix the nut and remove the below support plate;
- 4) lock nut screw tool;
- 5) remove the knife Lamar using random distribution, pull the roll cutter;
- 6) after loading the new tool, remove and loosen the parts in turn (must tighten all the nuts);



Note: see the sketch map of the Lamar installed on a cutter head, the cutter can be removed and then slowly.

Removing a cutting tool should be a very easy process, if it is found that the very laborious, may because the groove angle, pressure wheel, supporting wheel problems blocking removing, exclude rows removing, never use brute force to disassemble the cutter

5. Preparation



Note: see the sketch map of the Lamar installed on a cutter head, the cutter can be removed and then slowly.

Removing a cutting tool should be a very easy process, if it is found that the very laborious, may because the groove angle, pressure wheel, supporting wheel problems blocking removing, exclude rows removing, never use brute force to disassemble the cutter

5.1 Steel plate placement and route

- 1) lighter and movable material can be placed on beveling machine directly ;
- 2) for heavy material plates

The first step: make two or more auxiliary stand, the height can be determined according to actual condition.

The second step: placing the plate on the auxiliary stand and fixed.

The third step: start working

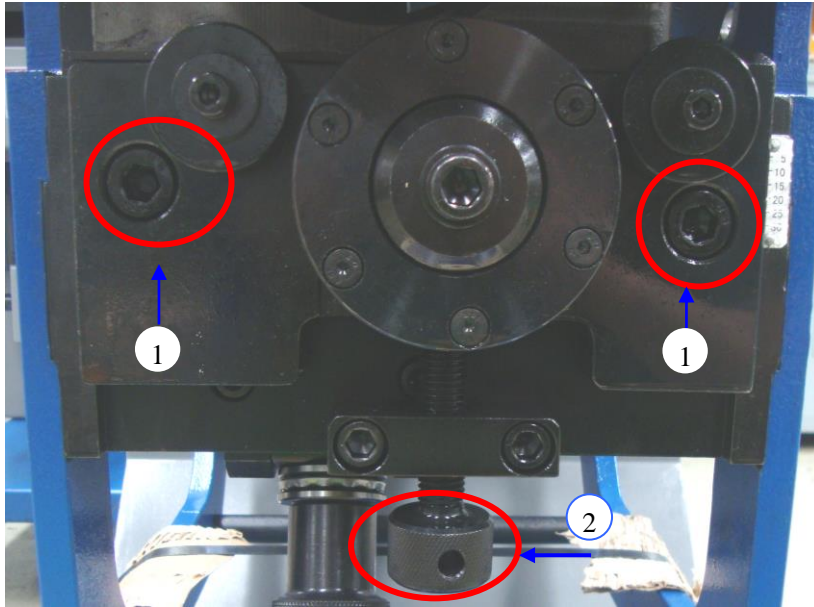
Note: the beveling machine with walking frame according to the height of the auxiliary wheel production support.

Refer to the 6 parts about the basic operation schematic diagram and operating.

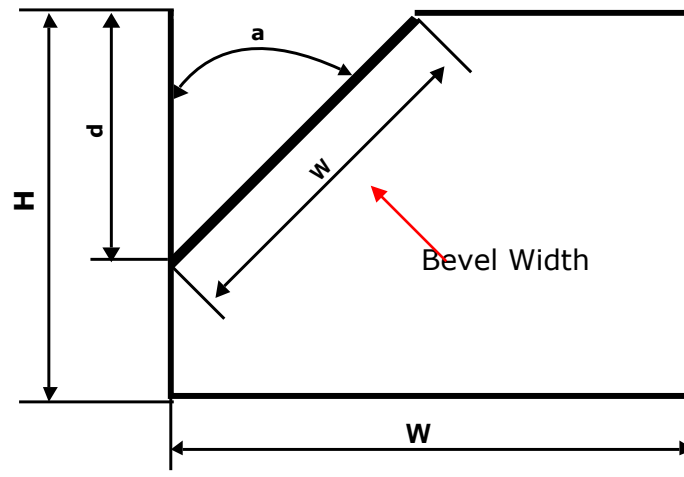
5.2 Plate cleaning

- 1) No welding slag on the bevel surface.
- 2) Welding slag and bur will affect the cutter tools and reduce machine service life.

5.2 Plate thickness and bevel depth adjustment



1. Loosen screw “1”
2. Turn screw “2” to the suitable size
(refer to the plate thick)
3. Lock screw ”1”.



a: Bevel Angel d: Depth H: Plate Thickness

Rapid-Edge 18G-R type automatic plate groove machine complete groove query table

Tensile Strengt h	Carbon Steel Kg/mm ²						Tensile Strengt h	Stainless Steel Kg/mm 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

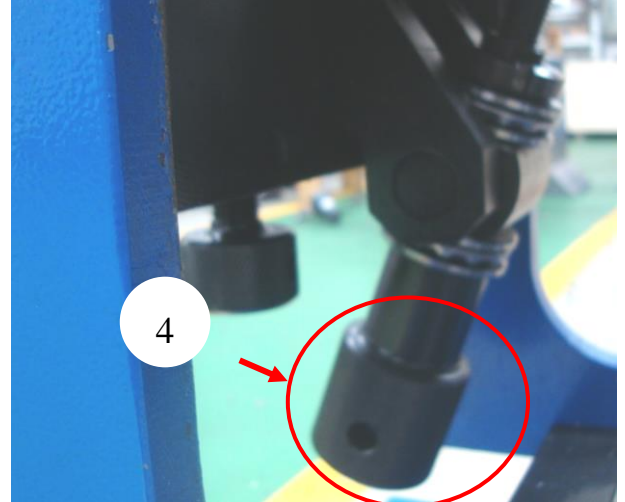
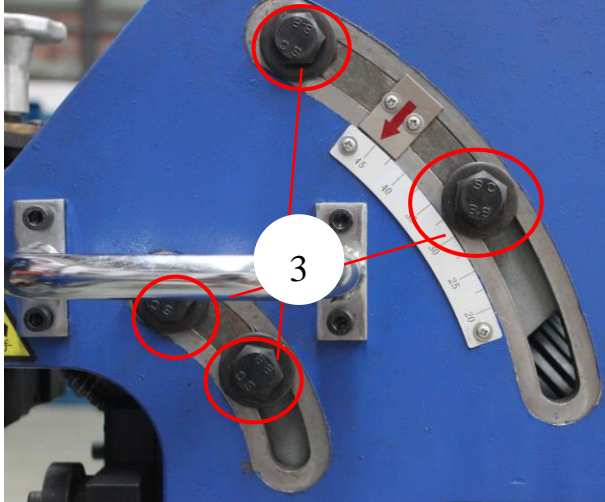
Determine the tensile strength of the work piece material, and selected material's bevel height (d)

according to single bevel parameters or reference equipment nameplate

Note: the above parameter is only for reference, the exact parameters needs the actual measured and adjusted.

5.3 Bevel Angel Adjustment

- 1) Loosen the 4 bolt "3" on both sides of the device.
- 2) Rotate the handle "4" and adjust it to the desired angle.
- 3) 4 bolts on both sides of the locking device "3" ("3" for the angle of the locking bolt on both sides of the
- 4, a total of 8, must be locked before work).



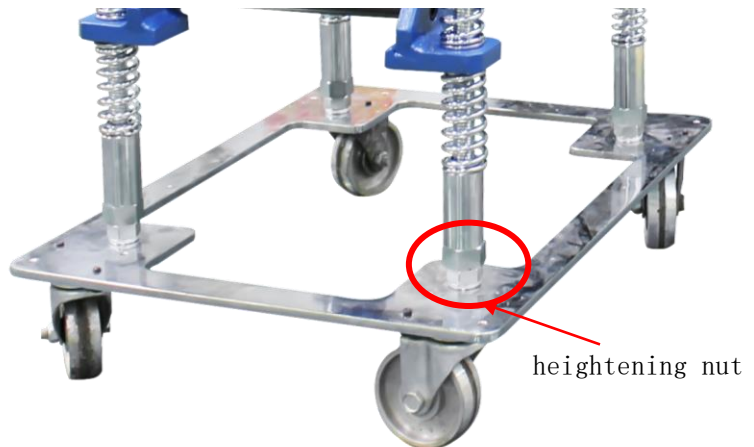
5.4 Height adjustment of traveling trolley

- 1) Height adjustment: just need adjust screw nut below, keep upper bus of the support wheel and the plate bottom have same height substantially
- 2) Keep the trolley spring below under the maximum state of relaxation

While Auxiliary stand higher than needs, can adjust the screw to change it.

Four screws all need adjusted.

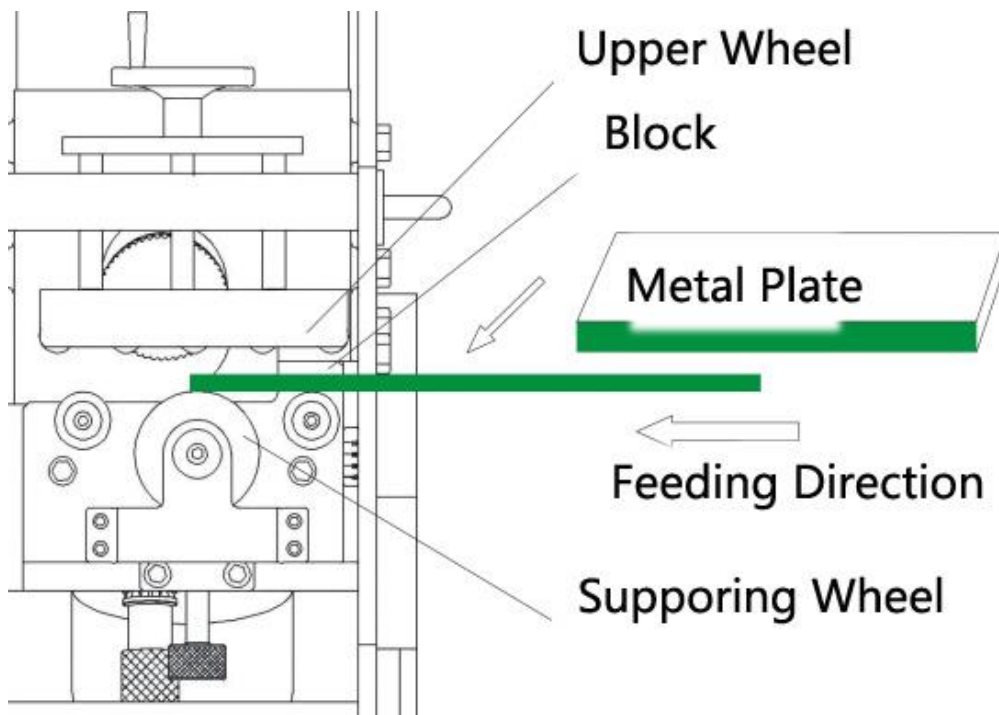
Note: Beveling machine R series and GMM series with manual hydraulic pump



6. Basic operation



- ✧ Do not work more than 4 hours continuously.
- ✧ Temperature of gear box grows fast after work for some time, but boiling grease benefit to abstract heat to a heat balance situation.
- ✧ If over loaded, the thermal element in electric box will start and cut off power supply. Reset thermal element when it cold enough, otherwise the machine will be stopped again.



As the picture showing, whether heavy work piece, small work piece should strictly abide by the feed direction and direction of the cutter head and the optional right before work. When feeding, the side edge is close to the block, the lower surface and the supporting wheel are contacted, and the pressing wheel is put down after entering

6.1 Process small plate

Small size of bevel plate, machine stable placement, hand-held plate from the right side of the gently into the push to undercut state, plate will automatically advance to complete the bevel

6.2 Processing large plates

in the groove large plate, the plate placed on the auxiliary stand, and fixed, according to the thickness of the plate and the groove depth and the angle of groove will adjust the machine, the machine to push on the right side of the plate and gently pushed to undercut state, the machine will automatically moving and complete groove;

The round plate and slight contact, can not be pressed too tight, otherwise it will affect the automatic moving equipment;

working process, if the machine occurred in the steel sheet stuck, stop spindle, cannot move, rotation reversing knob, the machine is disengaged from the plate.

the first time marching processing volume should be moderate in less than the provisions of the equipment of cutting parameters, secondary processing can come to the slightly larger size of groove through, at second processing the width can be widen 3mm, the maximum width can be up to 18mm.

please regularly the scrap between the block and the support wheel, and keep supporting wheel always flexible turn; (to be cleaned at a stop state);

After process the large plate, please clean up the the car travel route every time.

6.3 Auxiliary function

This machine can be processing outside the pipe at 25 degrees - 45 degrees,
The pipe inner diameter should not large than 100mm, and the inner diameter of the pipe must be larger than 100 mm; Dismantle the deputy support wheel before operating.

7. Lubrication

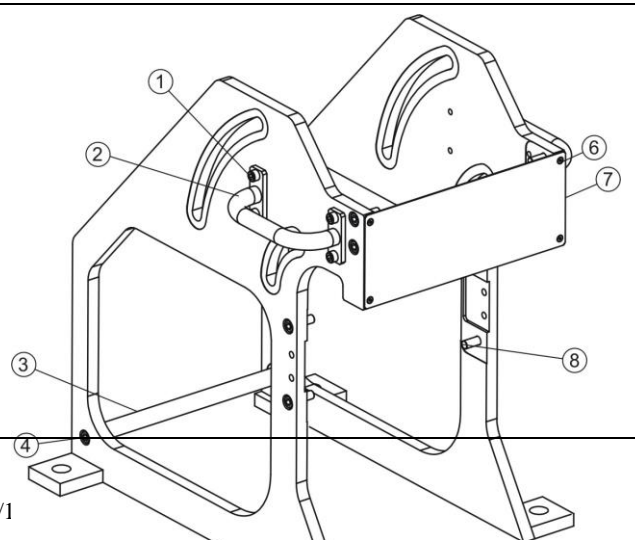
Gear box is maintenance-free, please do not disassemble it.

8. Common trouble repair and maintenance

Serial no	fault	Maintenance and repair
1	energized equipment, no reaction	check whether there is electricity line
2	Line has electricity, machine without response	Check whether the "emergency stop" button is pressed, or the control box break trip
3	feed gear has abnormal sound	fill the gear oil, the general gear will not be broken.
4	press wheel can't be compressed	check whether an iron pin is attached to the press wheel or steel plate
5	plate is ejected	look at the feed direction is consistent with the provisions of the equipment
6	processing plate, blade break	check if the tool is touched with the machined parts without rotation
7	blade is broken while begin milling the steel plate	reduce the engagement
8	electrical control part of failure or other reasons	contact with manufacture in time

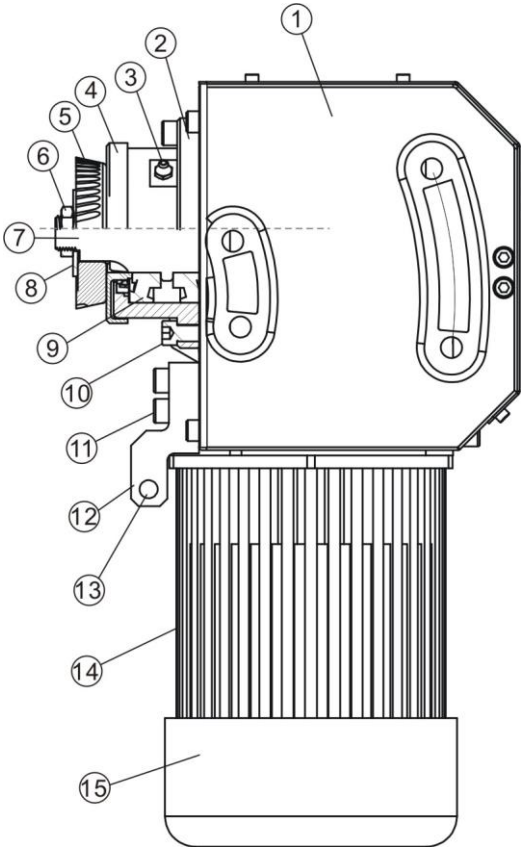
9. Component diagrams

Part 1:

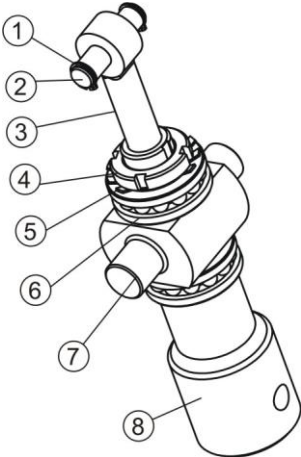
No.	name	order no.	quantity	Chart
1	screw	12D01-001	8	
2	pull handle	12D01-002	2	
3	connect pole	12D01-003	1	
4	screw	12D01-004	2	
5	fixed plate	12D01-005	2	
6	straight pin	12D01-006	4	
7	screw	12D01-007	4	

8	nameplate	12D01-008	1

Part 2.:

序号	Name	Order No.	QTY	Chart
1	Fixed seat	12D02-001	1	
2	bearing block	12D02-002	1	
3	oil filler hole	12D02-003	1	
4	distance sleeves	12D02-004	1	
5	bevel cutter	12D02-005	1	
6	nut	12D02-006	1	
7	spindle	12D02-007	1	
8	spacer	12D02-008	1	
9	bearing	12D02-009	1	
10	screw	12D02-010	4	
11	screw	12D02-011	4	
12	adapting piece	12D02-012	1	
13	straight pin	12D02-013	1	
14	reduction machine	12D02-014	1	
15	fan cover	12D02-015	1	

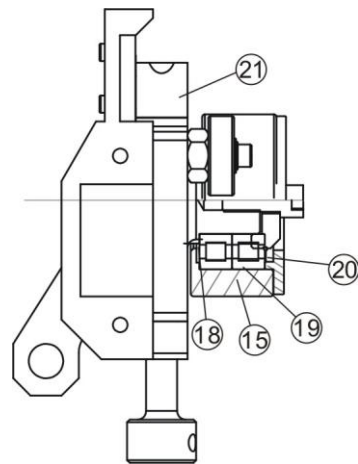
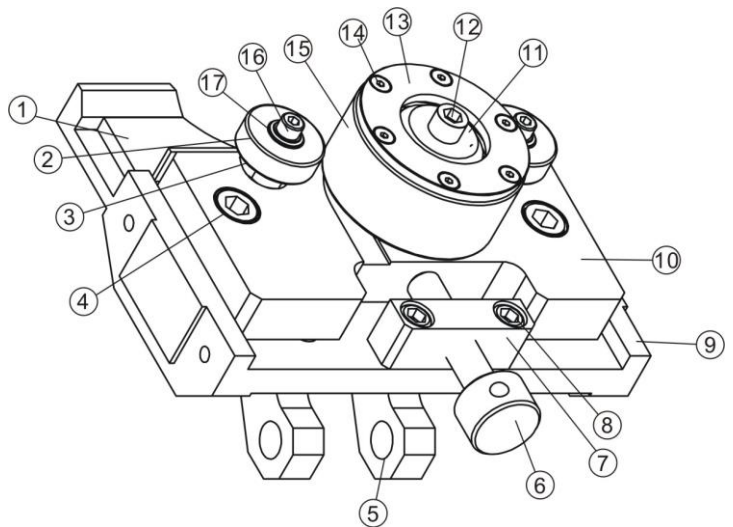
Part 3:

No.	Name	Order No.	QTY	Chart
1	straight pin	12D03-001	1	
2	shaft jam	12D03-002	2	
3	screw	12D03-003	1	
4	nut	12D03-004	1	
5	lock washer	12D03-005	1	
6	thrust ball bearing	12D03-006	2	
7	rotator	12D03-007	1	
8	adjust hand spike	12D03-008	1	

Part 4:

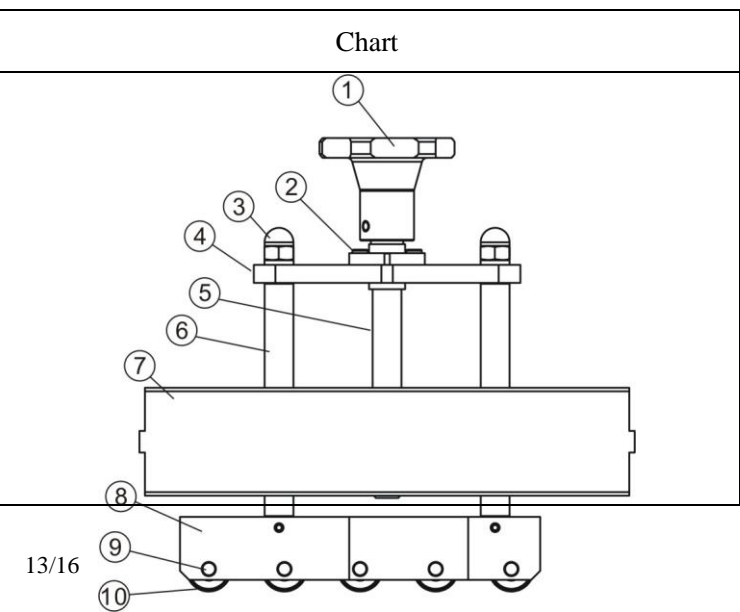
No.	Name	Order No.	QTY	Chart
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1	wear block	12D04-001	1
2	deputy supporting wheel	12D04-002	2
3	deputy supporting wheel axle	12D04-003	2
4	Screw	12D04-004	2
5	adapting piece	12D04-005	2
6	adjust handle wheel	12D04-006	1
7	square nut	12D04-007	1
8	Screw	12D04-008	2
9	fixed plate	12D04-009	1
10	support plate	12D04-010	1
11	press ring	12D04-011	1
12	screw	12D04-012	1
13	flange plate	12D04-013	1
14	screw	12D04-014	6
15	support wheel	12D04-015	1
16	screw	12D04-016	2
17	copper bush	12D04-017	2
18	seal ring	12D04-018	1
19	thrust bearing	12D04-019	1
20	catch hole	12D04-020	1
21	wear block	12D04-021	1



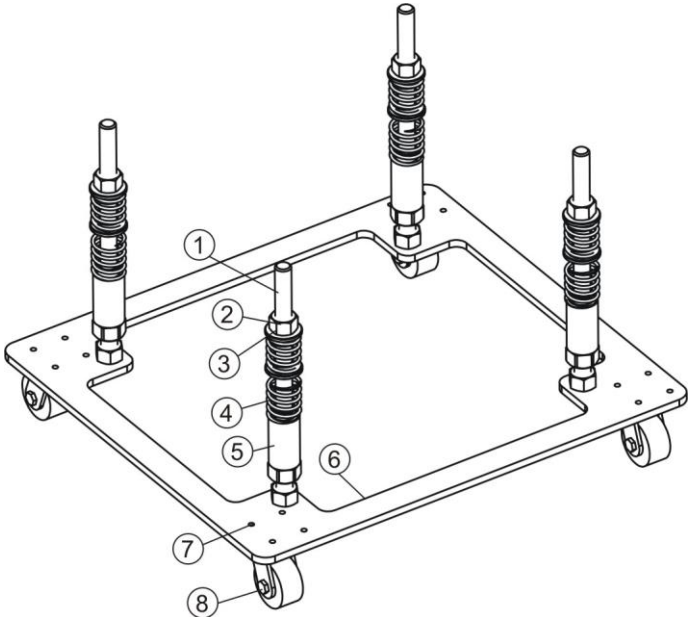
Part 5:

NO.	Name	Order no.	QTY
1	handle wheel	12D05-001	1
2	Hough set	12D05-002	1
3	screw	12D05-003	2
4	fixed plate	12D05-004	1
5	screw	12D05-005	1
6	guide-bar	12D05-006	2
7	connect plate	12D05-007	1

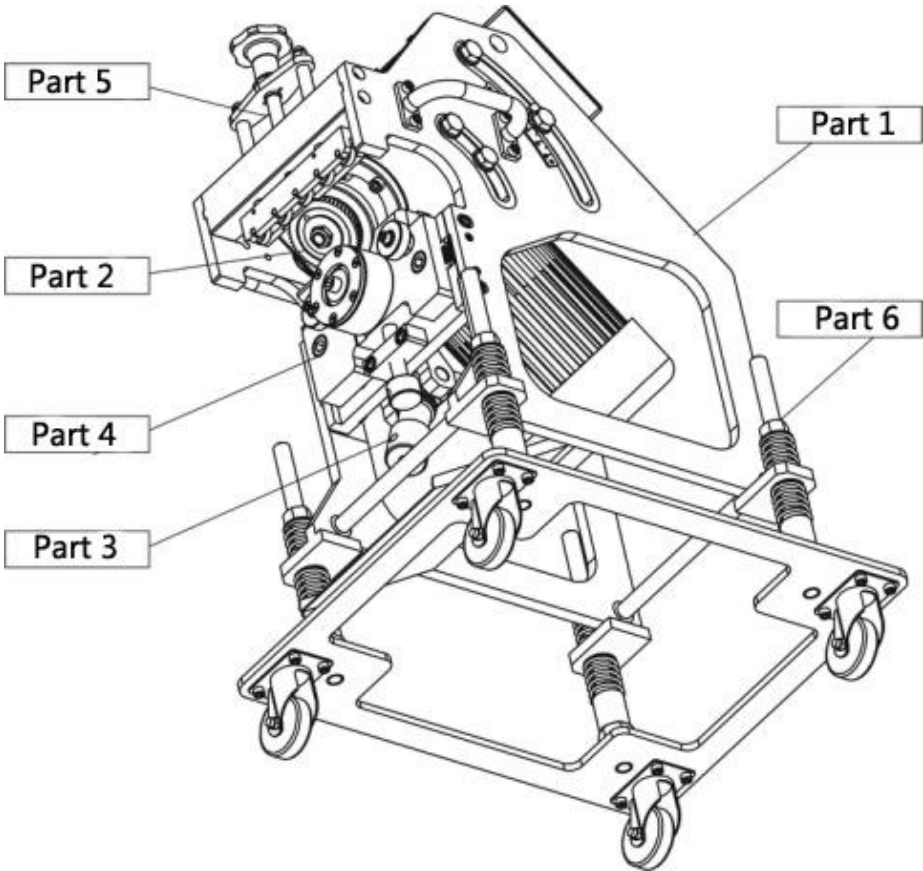


8	fixed plate	12D05-008	1
9	straight pin	12D05-009	5
10	press wheel	12D05-010	5

Part 6:

No.	Name	Order No.	QTY	Chart
1	lead screw	12D06-001	4	
2	screw	12D06-002	4	
3	spacer	12D06-003	8	
4	spring	12D06-004	8	
5	adjust nut	12D06-005	4	
6	baseplate	12D06-006	1	
7	screw	12D06-007	16	
8	walking wheel	12D06-008	4	

Assembly Drawing



10. Packing list

No.	Name	Spec/Model	QTY	Unit	Note
-----	------	------------	-----	------	------



1	beveling machine	Rapid-Edge 18G-R	1	set	
2	cutter	12 Type	3	pcs	Including QTY on machine
3	Special toos	12 Type	1	set	
4	six angle wrench	V6	1	pcs	
5	six angle wrench	V12	1	set	
6	open end wrench	24#	1	pcs	
7	open wrench	12~13	1	pcs	
8	industrial socket	18G-R Type	1	pcs	
9	walking wheel		4	pcs	
10	operation manual		1	pcs	
11	qualification certificate		1	pcs	

11. Grinding cutter

<p>1) the large end face of the grinding roller cutter is directly adsorbed on the working table by the common plane grinder, and the whole tool is worn thin;</p> <p>2) the grinding amount is 1-1.5 mm each time, the installation, match with suitable spacer, ensure that the new and old tools have same size or thickness; (see figure below)</p> <p>3) the thickness of the heat treatment layer is about 2-3 mm, and the grinding times usually about two times;</p>	
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12. Vulnerable parts list

no.	order no.	name	picture	mark
1	12D02-005	bevel cutter		2 two
2	12D04-021	limited block		4 four

3	12D04-017	copper bush		4 four
4	12D04-019	thrust bearing		4 four