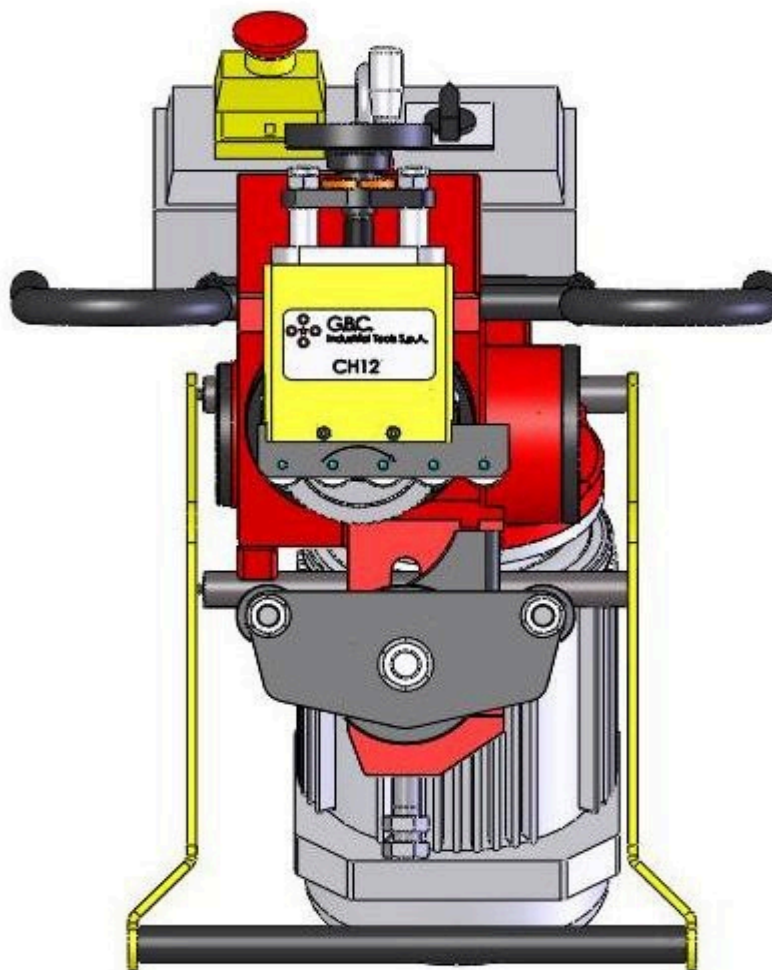




## INSTRUCTION MANUAL



# CHALLENGE 12

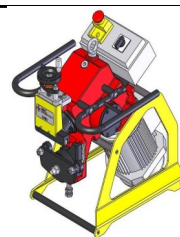
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# CHALLENGE 12

Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



## INDEX

Presentation of the Company and Introduction to the Instruction Manual	3
Warranty General Clauses	4
General Safety Regulations	5
Safety Prescriptions	7
Transport Recommendations	8
Intended Use Of The Machine	9
Technical Data	10
Machine Standard Equipment	12
Machine Stability	13
Workplace	13
Emergency Stop	13
Machine Setup	14
Plate Beveling	18
Short Plate Beveling	19
Milling Tools Replacement	21
Roller Kit for Optional Angles	22
Pipe Beveling With Challenge 12	23
Ordinary Maintenance	24
Periodical Checks	24
Troubleshooting And Acoustic Emissions	50

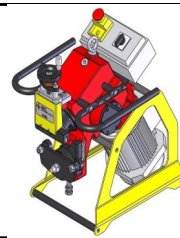
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# CHALLENGE 12

Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



## **PRESENTATION OF THE COMPANY AND** **INTRODUCTION TO THE INSTRUCTION MANUAL**

G.B.C. Industrial Tools S.p.A. is known worldwide for the quality of its machines and accessories for pipe cutting and beveling procedures of any sort and plate beveling machines..

The Headquarters are located in Torbiato di Adro (BS) where are currently operating the General Management, the sales de-department, as well as the main workshop and the shipping department.

**QUALITY STANDARD**—All our machines are assembled according to the highest quality standard. Since 1996 G.B.C. Industrial Tool S.p.a. has implemented management procedures in compliance with the quality system regulations UNI EN ISO 9001 (SGS ITALIA S.R.L. N° IT 96.088 / 1996).

This Manual is supplied together with the machine it makes reference to. The customer may apply for further copies to G.B.C. Industrial Tools S.p.a. Our company owns the copyright of this document and any partial or complete copy or distribution to natural persons or to corporate bodies is strictly forbidden unless our prior approval to do so is obtained. G.B.C. Industrial Tools S.p.a. informs its customers that any operation carried out on the machines which is not prescribed in this manual entails the automatic invalidation of the warranty. G.B.C. Industrial Tools S.p.a. recommends to contact the Maintenance Service in Torbiato di Adro – Italy prior to proceed with any modification on the machine.

You are invited to scrupulously adhere to the information written on the identification tag. For any further information you are invited to contact us at these numbers:

**Tel. +39 - 030 -7451154**  
**Fax +39 - 030 – 7356629**

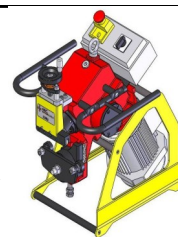
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# CHALLENGE 12

Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



## **WARRANTY GENERAL CLAUSES**

G.B.C. Industrial Tools S.p.a. guarantees the reliability of the machine and its con-formity to the specifications herewith reported. The warranty covers the machine in its whole for a time period of one year from the shipment date (ref. Delivery Note) for any flaw not imput-able to the user.

The parts subject to wear are excluded from the warranty at sole discretion of G.B.C. Indus-trial Tools S.p.a.

In case of any operational malfunction arising during the warranty period, G.B.C. Industrial Tools S.p.a.

And its Maintenance Service, hereinafter called MSS, will remedy this inconvenient free of charge , both for handwork and for eventual replaced parts, except when the malfunction is di-rectly or indirectly imputable to misuse or alteration. In any case the machine must not be disas-sembled or altered before the shipment. The warranty is valid only when the warranty document is duly signed by G.B.C. Industrial Tools S.p.a. and by a G.B.C. official distributor con-nected with the MSS maintenance service.

The shipment of the defective material must be performed within 8 (eight) days from the notifica-tion of the defect and/or the claim and/or the request of technical assistance. On the contrary the warranty will be void. G.B.C. Industrial Tools S.p.A. and MSS obligations will cover the defect resolution, the general maintenance and the inspection of the parts subject of the claim only. The component replacement is at G.B.C. Industrial Tools S.p.A. discretion only. The shipmen to costs from and to the MSS as well as the direct and indirect costs rising from repair of the prod-uct are at user's charge. Any warranty repair or extraordinary repair must be executed by G.B.C. Indus-trial Tools S.p.A. and MSS, otherwise the warranty will be void.

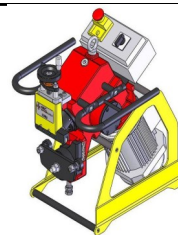
Any ordinary maintenance performed by the customer/user or by any service centre non recog-nized or approved by G.B.C. Industrial Tools S.p.A. will not be refunded and will make the war-ranty void. The warranty is not valid for cases not listed in this certificate or for damage caused by a misuse of materials, power supply, negligence, unauthorized modifications, atmos-pheric events, acts of vandalism, incautious handling and/or transport, use of non original G.B.C. Indus-trial Tools S.p.A. parts and damage for causes not specified by G.B.C. Industrial Tools S.p.A. and for which G.B.C. Industrial Tools S.p.A. declines any responsibility. G.B.C. Indus-trial Tools S.p.A. reserves the right to modify and to improve its products without any obligation to modify equipment and components already supplied. Nobody is authorized to modify the con-ditions he-rewith contained or to issue any on behalf of G.B.C. Industrial Tools S.p.A. The claim terms for defects and/or damages in the material or of the ordered quantities, are those pre-scribed by the Civil Code; the goods acceptance entails the buyer to automatically accept the above mentioned warranty clauses.

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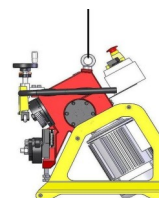
## **GENERAL SAFETY REGULATIONS**

The following list of safety regulations is a complementary attachment of the instruction manual of all the plate beveling machines manufactured by G.B.C. Industrial Tools S.p.a. and it is its integral part.

G.B.C. Industrial Tools S.p.A. designs and manufactures its machines according with the safety regulations provided by the EC (89/392 and additional) and the Italian law in force.

G.B.C. Industrial Tools S.p.A. is not liable for an eventual improper use of the machines and for their use when not in conformity with the regulations listed below and of the instructions attached hereto.

- 1) Accurately read all the following regulations and the attached instructions before starting any operation. Ensure that the operator and the foreman using the machine have full knowledge of all the regulations and instructions.
- 2) All the setting and maintenance operations shall always be performed with the machine unplugged from any power source.
- 3) Do not get you hands close to the moving milling tool.
- 4) In case of replacement of the milling tool, the afore said milling tool should be handled carefully in order to avoid to hurt yourself with the edges.
- 5) Any intervention on the control box shall be performed by qualified personnel and only when the machine is unplugged from any power source.
- 6) Especially when working on short plates, be careful where you put your hands.
- 7) When the machine is working off the ground ensure it to be always attached to a security cable.

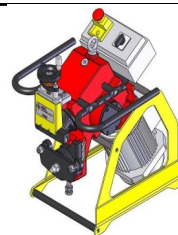


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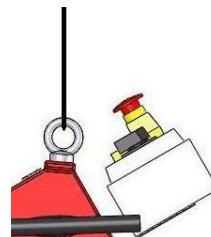
# CHALLENGE 12

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8) Do not try to remove chips or burr with your hands. Always help yourself with a tool

9) The machine should always be lifted by the lifting hoop and never by the side handles.



10) Do not exceed the single passes figures shown in the chart.

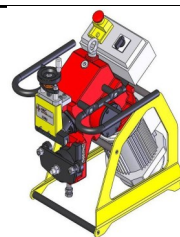


11) In case of flame cut or burred plates, we suggest to clean the edge with grinder before starting the beveling procedure.



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## **SAFETY PRESCRIPTIONS**

G.B.C. Industrial Tools S.p.A. designs and assembles its machines in strict compliance with the safety regulations provided by the applicable EC directives and by the Italian laws regulating this matter.

G.B.C. Industrial Tools S.p.A. declines any responsibility for misuse of its machines and their use when in contrast with the regulation listed hereinafter and with the use and maintenance instructions hereto.

- Carefully read ALL the following regulations and the instructions herewith attached before starting any operation.
- Carefully ensure that the operator and the foreman using the machine are fully aware of all the regulations and all the instructions and that they are qualified to operate the unit.
- Strictly attain to the indications given by the international symbols applies on the machine and/or on its case.
- Do not perform any maintenance operation when the machine is plugged to the power supply.
- Before every use, ensure the power supply connections to be conform to the specs given by our manual.

The authorized operator in any case will not have to disregard the basic safety rules such as:

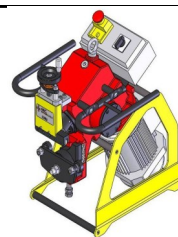
- Using gloves and goggles (safety gear supplied by the company responsible for the site or for the building)
- To properly illuminate the working area
- Ensure you are operating in an area which grants free movements (at least 1,5 metres around the operator)
- Do not replace the control system and do not replace parts with non original spare parts, and do not project violent water squirts on the machine
- Keep the hands away from hot and sharpened parts.
- 
- G.B.C. Industrial Tools S.p.A. remarks that for any non specified circumstances it is necessary to obtain the authorization of the manufacturer.

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Using properly the safety gear entails the only risks to be generated by the user's system and not by inborn defects of our machines.

1. Always wear gloves and goggles during every operation
2. Any adjustment or inspection of the machine shall be done with the unit unplugged from the power source.
3. During the operations the hands shall be kept on the security valve and on the hand wheel.
4. The Use and Maintenance Manual as well as the drawings will always supply quick and adequate explanations.



## ***TRANSPORT RECOMMENDATIONS***

Weight of the Machine	kg	<b>95</b>
Shipping Dimensions	mm	<b>95x65x75</b>
Shipping Weight	kg	<b>100</b>

No lifting devices are required under 25 Kgs.

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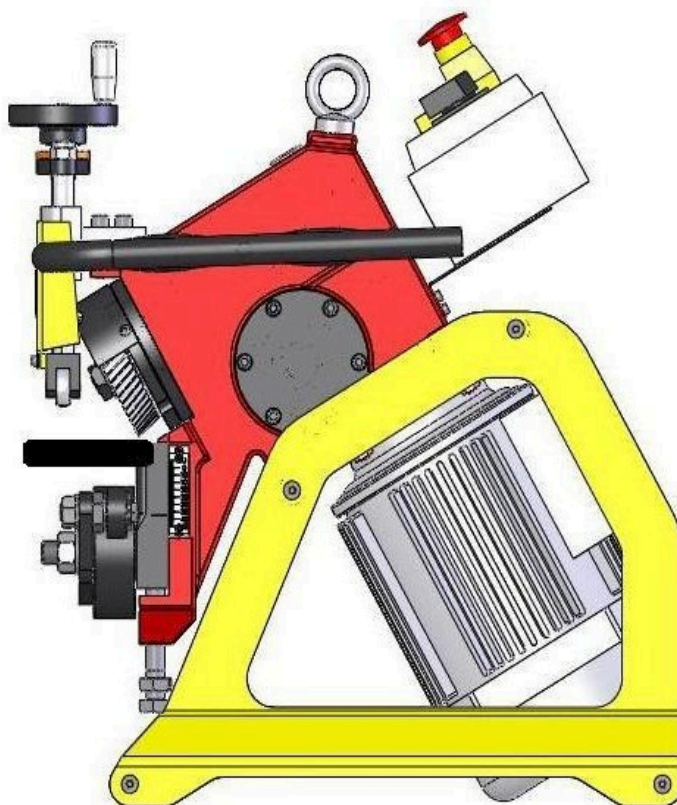


## **INTENDED USE OF THE MACHINE**

The machine shown in the drawing is intended to be used for prepping plates for the welding.

It works while applied and locked on both sides of the plate.

The bevel is obtained by a low speed moving toothed grinding wheel which engages the plate and bevels it while rotating



THE MACHINE SHOULD BE OPERATED ONLY BY SPECIALIZED OPERATORS WHO HAVE BEEN DULY TRAINED ON THE UNIT.

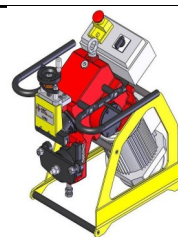
FOLLOWING TO A SPECIFIC FORMATION WE DO NOT ENVISAGE ANY REASONABLY PREDICTALBE MISUSE OF THE UNIT

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# CHALLENGE 12

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TECHNICAL DATA		
Electrical Power System	Volt/Hz/Phase	380 / 50 / 3
Bevelling Speed	m/min	2,6
Electric Motor Power	Kw	2,2
Plate Thickness	mm (inches)	6-40 (0,23-1,57)
Std Bevelling Angle	-	30°
Plate Minimum Length	Mm (inches)	60 (2,36)
Machine Weight	Kg.	65

## OPTIONALS AVAILABLE ON REQUEST

- ◆ Different Voltage
- ◆ Roller Kit for bevelling angles 35° - 37°30' - 45°
- ◆ Milling Tools For Stainless Steel



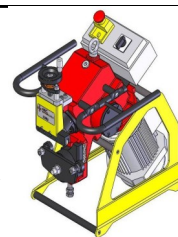
MACHINE DIMENSION		
A	mm	416
B	mm	426
C	mm	530

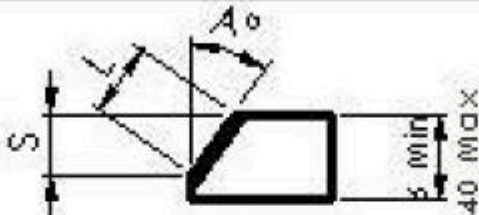
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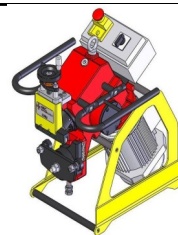
BEVEL CHART IN SINGLE OPERATION													
												CH12	
CARBON STEEL							STAINLESS STEEL						
R. →	40 Kg.		50 Kg.		60 Kg.		R. →	50 Kg.		60 Kg.		70 Kg.	
A	L	S	L	S	L	S	A	L	S	L	S	L	S
30°	12	10	10	8.5	8	7	30°	6	5	5	4.3	4.2	3.6
35°	12	9.5	10	8	8	6.5	35°	6	5	5	4	4.2	3.5
37.5°	12	9	10	7.5	8	6	37.5°	6	4.5	5	4	4.2	3.3
45°	12	8.5	10	7	8	5.5	45°	6	4	5	3.5	4.2	3

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# CHALLENGE 12

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## **MACHINE STANDARD EQUIPMENT**

The machine is supplied with:

- 22-24 mm wrench
- Allen Key
- Instruction Manual And Exploded Drawings

### **Plate Beveling Machine**



### **Service Tools**



### **Instruction Manual And Exploded Drawings**

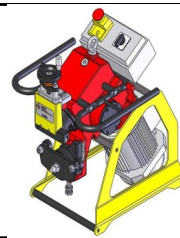


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## **MACHINE STABILITY**

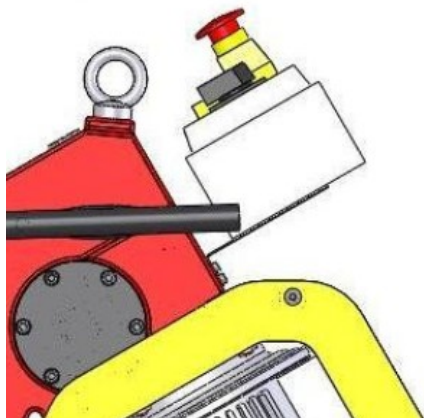
Considering the mass of the machine no particular problem has been detected in regard to the operator safety.

## **WORKPLACE**

By always using both hands for operating the machine, the operator is unable to reach the bevelling tools as the unit would suddenly stop – motor brake –

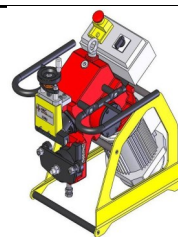
## **EMERGENCY STOP**

The Emergency Stop Button is located on the Control Panel of the machine as shown in the below picture.



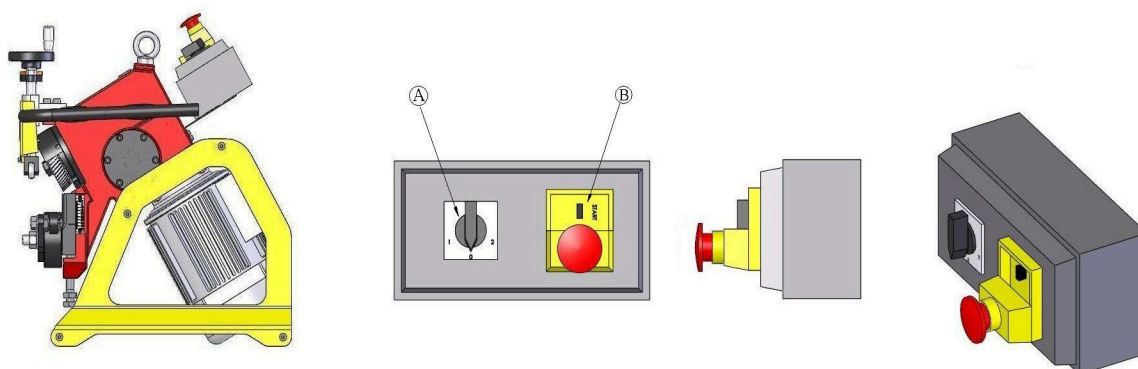
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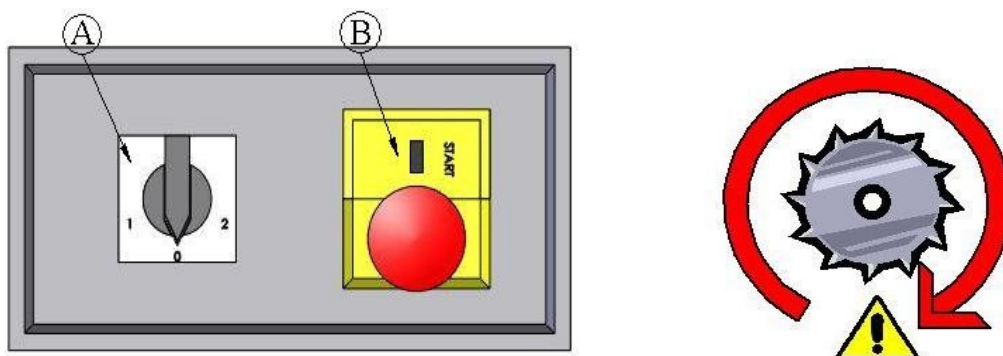


## **MACHINE SETUP**

### **CONTROL PANEL**



Ensure the knob “A” is positioned on “0” and that the button “B” is NOT engaged. Now plug the machine to the electric power supply.



Move the selector “A” on the position “1” or “2”. Press the button “B” and verify the direction of rotation of the milling tool.

Should the direction be counter-clockwise you will need to rotate the selector on the correct position. Turn off the machine with the emergency red button.

### **WARNING!**

In order to bevel the plate correctly, the milling tool shall always rotate **CLOCKWISE**.

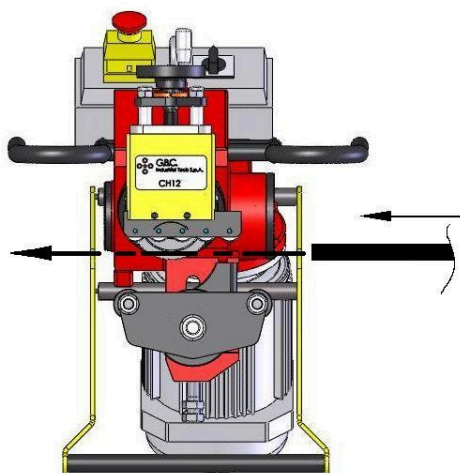
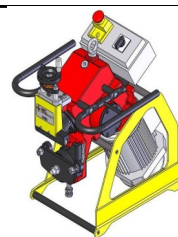
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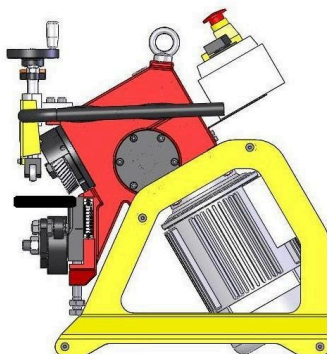
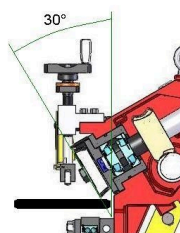


# CHALLENGE 12

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The plate shall always be fed into the machine from right to left.



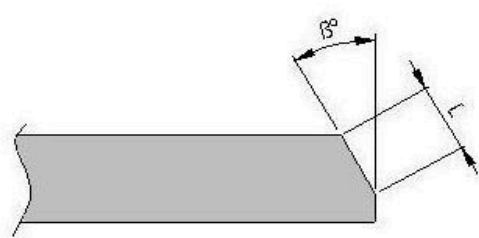
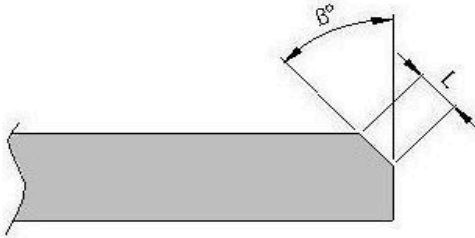
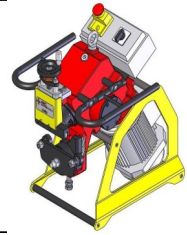
The machine is delivered with a standard bevelling angle of 30°

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# CHALLENGE 12

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Measure the exact thickness of the plate you need to bevel and the length of the diagonal bevel you want to obtain.

The formula written below will give you the number to set on the vernier of the machine

$$S - L = X$$

**S = WALL THICKNESS**

**L = BEVEL LENGTH**

**X = RESULT (To be set on the vernier)**

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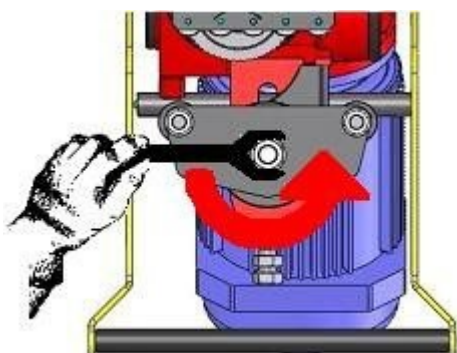
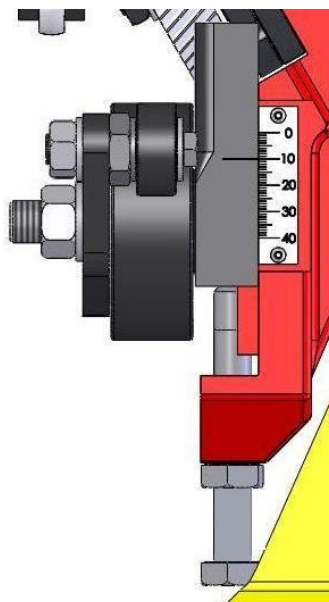
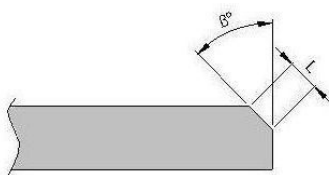
## Example

$$S - L = X$$

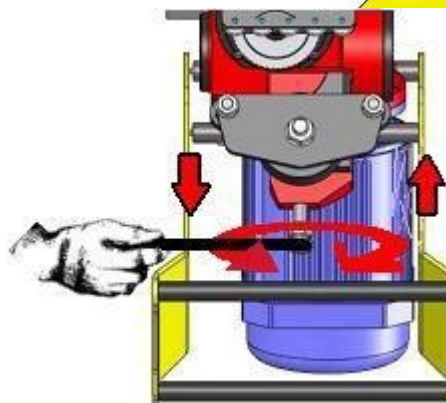
S = Wall Thickness = 20

L = Bevel Length = 10

$$X = 20 - 10 = 10$$



The vernier setting is achievable by loosening the nut on the roller kit



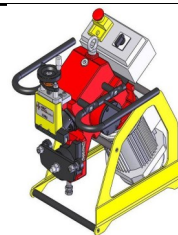
Now act on the regulation screw to move up or down the mobile part.

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# CHALLENGE 12

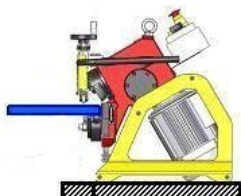
Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



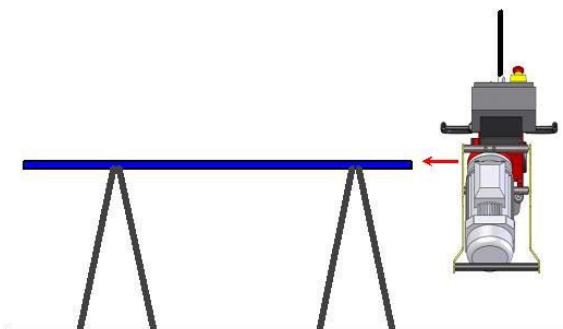
## **PLATE BEVELING**



Set the bevel angle only when the machine is turned off.



Adjust the roller plate using a small plate having the same thickness of the plate you are going to work on.



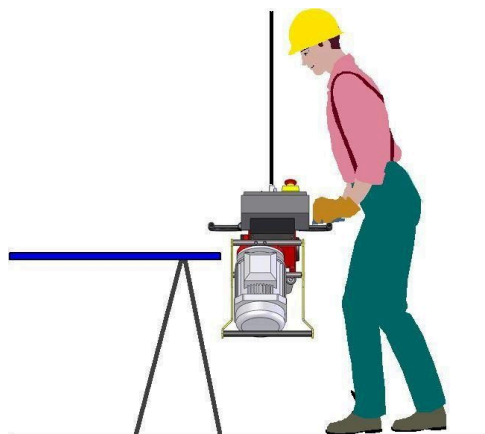
Hoist the machine with a security cable and position it at the same height of the plate.



Connect the plug.



Turn on the machine with the start button "B".



Push the machine towards the plate until the milling tools begin the bevel. Now let the machine run by itself along the plate.

Press the button lever upwards to actuate the machine.

### **WARNING!**

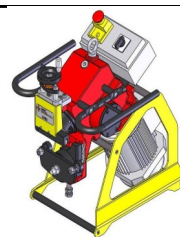
You will need to apply a constant pressure on the lever.

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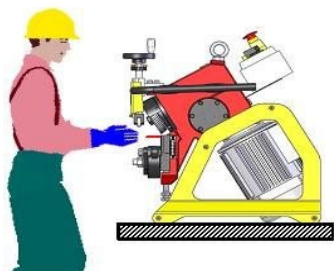
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# CHALLENGE 12

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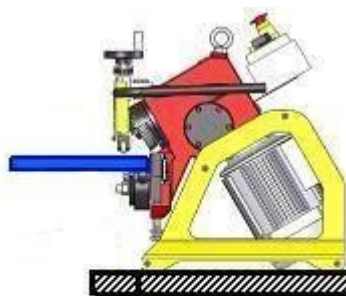
## **SHORT PLATE BEVELING**



Secure the machine over a steady base at head height.



Set the bevel angle only when the machine is turned off.



Adjust the roller plate using a small plate having the same thickness of the plate you are going to work on.



Connect the plug.

### **WARNING!**

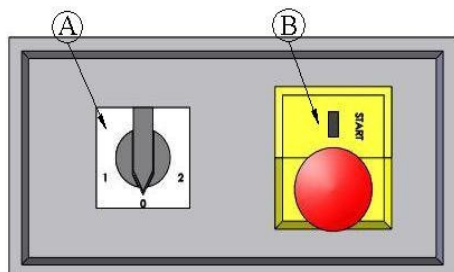
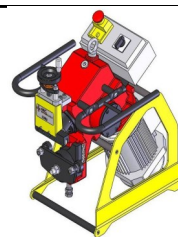
**The plate must be in straight line with the roller and the roller case must touch it as shown in the picture.**

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# CHALLENGE 12

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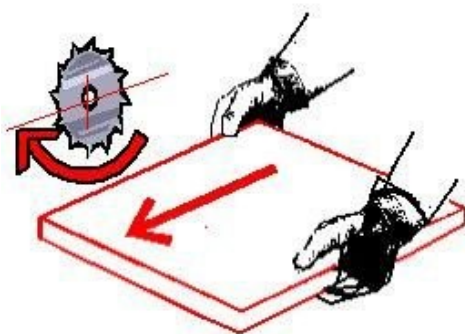


Move the selector “A” on the position “1” or “2”. Press the button “B” and verify the direction of rotation of the milling tool.  
Should the direction be counter-clockwise you will need to rotate the selector on the correct position.  
Turn off the machine with the emergency red button.

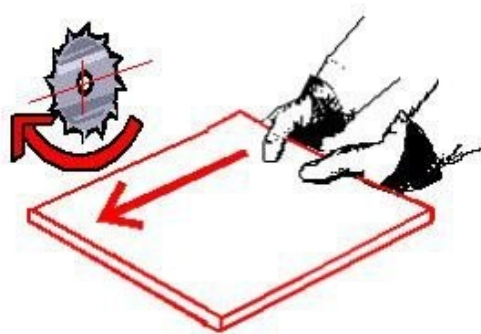
## WARNING!



BE VERY CAREFUL WHERE YOU HOLD YOUR HANDS.



**NO!**



**YES !**

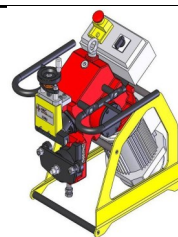
Now place the plate in correspondence of the milling tool and push it into the machine.

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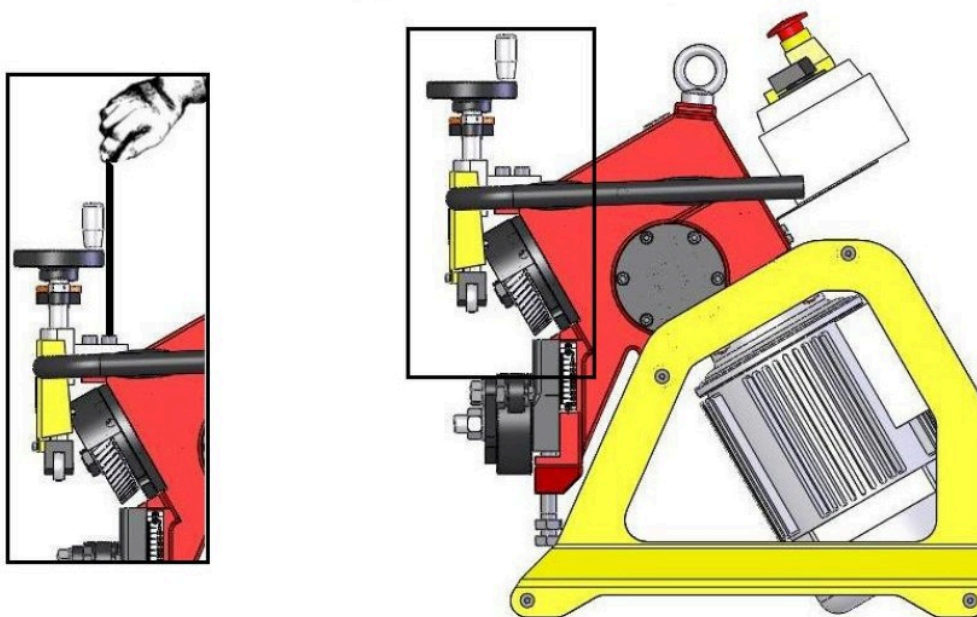
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# CHALLENGE 12

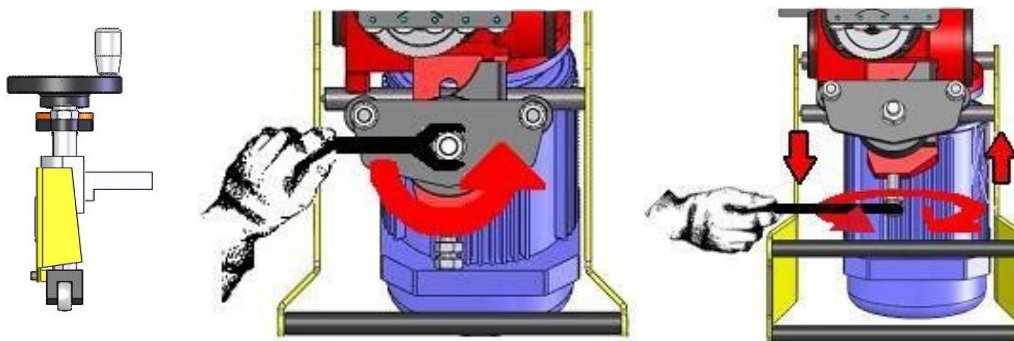
Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



## **MILLING TOOL REPLACEMENT**



Ensure the machine is unplugged from the power supply. Now remove the fixing screws of the roller case support.



Remove the roller case assembly.

Loose the screw of the roller kit and helping yourself with the adjusting screw lower the roller kit in order to increase the space to remove the milling tool.

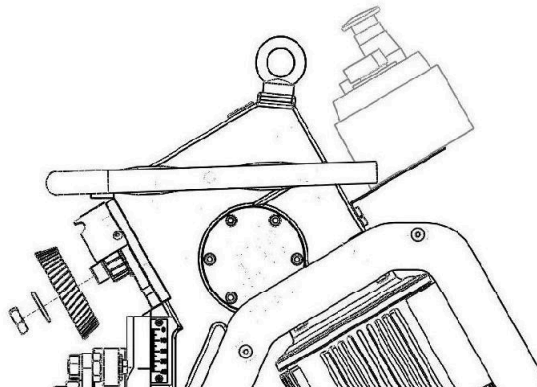
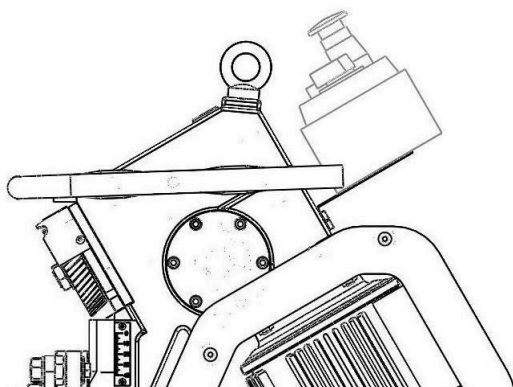
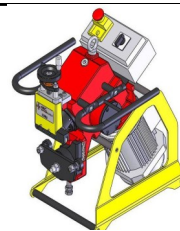
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# CHALLENGE 12

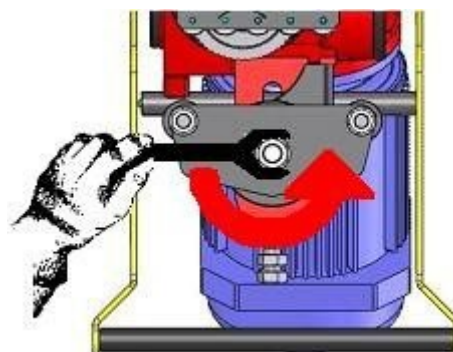
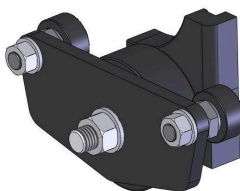
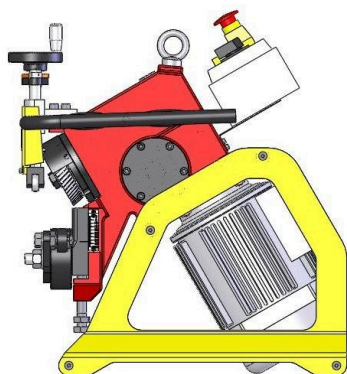
Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



Loose and remove the nut and the washer from the milling tool holder shaft and replace it with a new one paying attention to the direction of rotation.

## **OPTIONAL**

### **ROLLER KIT FOR OPTIONAL ANGLES**



The CHALLENGE 12 is equipped with a roller kit for 30° bevel. Upon request, are also available roller kit for 35°, 37°30', 45° and 55°.

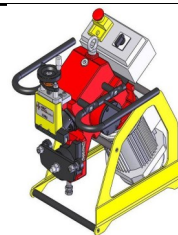
The replacement process for these roller kit is the same above describe.

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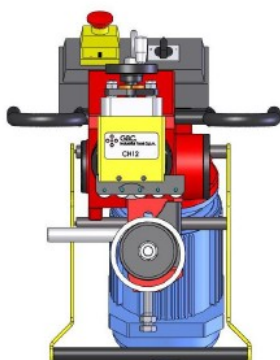
# CHALLENGE 12

Original Instructions—rev.2011—in compliance with the paragraph 1.7.4 of the Machinery Directive 2006/42/CE



## **PIPE BEVELING WITH CHALLENGE 12**

The CHALLENGE 12, if equipped with the specific optional can also be used as pipe beveler.



The optional is a flange and a pin for the correct positioning of the pipe, which replace the ROLLER SUPPORT.

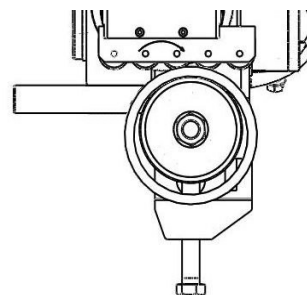
The replacement of the parts must be done with the machine turned off and unplugged from the power supply.



Set the bevel angle only when the machine is turned off.



Connect the plug and start the machine



When the setting is done, place the pipe in position.

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## **ORDINARY MAINTENANCE**

We suggest to perform a service c/o G.B.C. Industrial Tools S.p.A. premises every 400 hours working cycles.

## **PERIODICAL CHECKS**

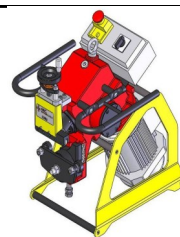
- Verify the general conditions of the machine;
- Perform a compressed air periodical cleaning on the threaded part of the guiding shaft and in the rear part of the machine.
- Always use well sharpened tools to obtain the maximum result.

G.B.C. Industrial Tools is at your disposal for any information you may require about the above mentioned procedures and for any general clarification you may need.

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## **TROUBLESHOOTING AND ACOUSTIC EMISSION**

**The machine does not run :** Check the power supply is connected and suitable in regard to the motor power consumption.

**The machine does not run properly :** Check the condition of the shaft and verify it to perfectly spins around its axis of rotation.

**The machine does not bevel :** Check the milling tools conditions and ensure that the plate you are working does not require special bevelling tools due to its composition.

Always ask suggestions to your referent in G.B.C. as we are at your complete disposal.

The acoustic emissions are within the maximum limits provided by the current Machinery Directive.

The tests are performed on every single machine and the results are stored in our archives.