

INSTRUCTION MANUAL



% **G.B.C**.

ELECTRONIC GRINDER G300 Original Insgtructions - Rev. 00 -.2018—In compliance with § 1.7.4 of the Machine Directive 2006/42/CE



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FOREWORD

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 forbid-den 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

G.B.C. Industrial Tools S.p.A.

Via Sandro Pertini 41/46 – 25046 Cazzago S.Martino (BS) – Italia – Tel. + 39 030 7451154 – Info: sales@gbcspa.com



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WARRANTY GENERAL CLAUSES

G.B.C. guarantees the reliability of the machine and its conformity 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 imputable to the user. The parts subject to wear are excluded from the warranty at sole discretion of G.B.C.

In case of any operational malfunction arising during the warranty period, G.B.C 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 directly or indirectly imputable to misuse or alteration. In any case the machine must not be disassembled or altered before the shipment. The warranty is valid only when the warranty document is duly signed by G.B.C. and by a G.B.C. official distributor connected with the MSS maintenance service.

The shipment of the defective material must be performed within 8 (eight) days from the notification 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. 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. discretion only. The shipmen to costs from and to the MSS as well as the direct and indirect costs rising from repair of the product are at user's charge. Any warranty repair or extraordinary repair must be executed by G.B.C. and MSS, otherwise the warranty will be void.

Any ordinary maintenance performed by the customer/user or by any service centre non recognized or approved by G.B.C. will not be refunded and will make the warranty 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, atmospheric events, acts of vandalism, incautious handling and/or transport, use of non original G.B.C. parts and damage for causes not specified by G.B.C. and for which G.B.C. declines any responsibility. G.B.C. 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 conditions herewith contained or to issue any on behalf of G.B.C. 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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INTENDED USE OF THE MACHINE

THE G300 CAN BE USED ONLY BY SPECIALIZED OPERA-TORS WHO HAVE ATTENDED THE NECESSARY FORMA-TION

UPON SPECIFIC FORMATION WE DO ARE NOT IN POSI-TION TO WARN ABOUT ANY EVENTUAL IMPROPER USE OF THE MACHINE

The grinder G300 represents a crucial evolution of the grinding processes in the field of metal metalworking and heavy industries as well as an evolution of the general grinding processes granting the following advantages:

- Significant reduction of the processing times in comparison to the normal grinders employment;
- Material removal high rate;
- No thermal alteration on the welding area;
- Working homogeneity;
- Elimination of vibrations;
- Improvement of the working conditions and safety;
- Significant reduction of injury risks (flying debris, tendinitis and sprains, stress fractures) related to the extended use of hand grinders.

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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 ma-chine 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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SPECIFIC SAFETY PRESTCRIPTIONS FOR THE G300

- WEAR ULTRAVIOLET PROTECTION GOGGLES

- WEAR EAR PROTECTION

- WEAR DUST MASK

- Apply a tag showing the grinding disc maximum speed (60 m/s). This speed must always be lower than the maximum speed sustainable by the disc which is declared by the manufacturer (80 m/s).



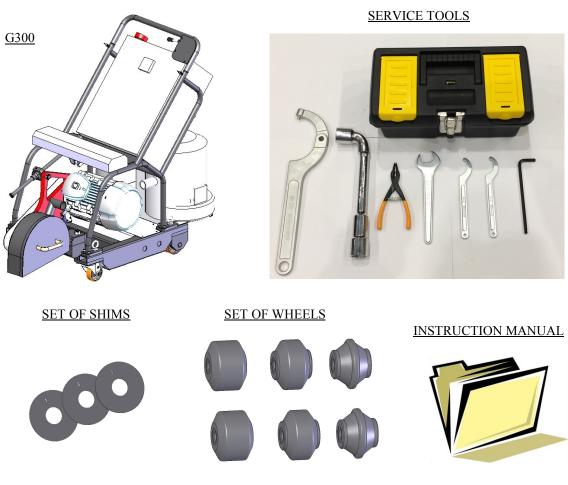


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STANDARD EQUIPMENT

La macchina viene fornita al cliente corredata di:

- N.1 24mm Double Ended Hexagon Wrench •
- N.1 80-120mm Hook Wrench •
- N.1 24mm Wrench •
- N.2 Hook Wrenches 40-42 •
- N.1 6mm Allen Key
- N.1 Pliers for Elastic Rings •
- N.1 Set of shims (for grinding discs with thickness 10-12-14) •
- Set of wheels for grooves from 10 a 42mm •
- Instruction manual •





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TECHNICAL SPECIFICATIONS			
FEATURES	UNIT MEASU- RE	VALUE	NOTES
Power supply	(V)	400	-
Main Motor Power	(KW)	5.50	-
Air Extractor Power	(KW)	0.85	-
Feeding Motor Power	(KW)	0.12	-
Disc Motor Power	(KW)	0.03	-
Total Power	(KW)	6.5	-
Grinding Disc Speed	(RPM)	4000	-
Grinding Disc Maximum Diameter	(mm)	300	-
Disc Fixing Hole Diameter	(mm)	40	-
Allowed Grinding Discs Thickness	(mm)	8÷10÷12÷14	-
Gringing Disc Peripheral Speed	(m/s)	60	Con disco mola non consumato
Cutting Depth	(mm)	0÷70	Con disco mola non consumato
Load Exertion	(Kg)	20÷40	Sforzo che dipende dalla profondità di taglio
Recommended Feeding Speed	(mm/min)	500÷2600	Velocità ideale tra 1000 e 2000
Constant noise at 2mt from the grinding disc Noise peak at 2mt from the disc	(dB A) (dB B)	80÷85 110÷120	Vedi nota nella pagina successiva
Machine weight	(Kg)	198	Completa di corredo





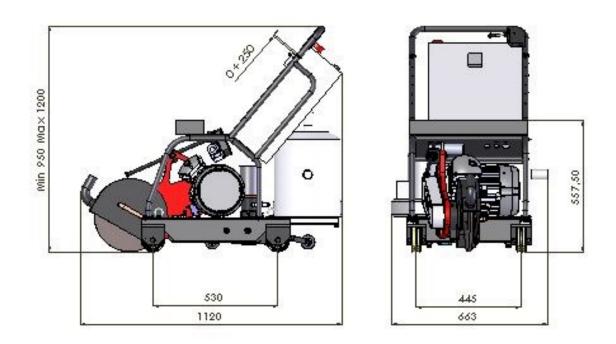
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NOTE:

G.B.C. Industrial Tools S.p.A. declares that every machine is tested on steels commonly used in mechanical and metal work fabrication with 30mm wall thickness. The figures listed in the above chart are detected by a phonometer certified by an acoustic calibrator model DELTA HOM HD 9102 certificato LAT (former SIT) N. SIT 03229/09 and we confirm the figures recorder are in compliance with the regulation EN 60745.

Therefore following the evaluation of the environmental risks on the workplace, regulated by the law decree 81/08 and following modifications, in compliance with the directive 2003/10/CE, and of the art.190 of such law decree, the personnel authorized to operate the G300 must be trained and educated in regards to the above directive and must be equipped with the personal protective equipment (PPE) and acoustic detection system on request of the operator himself or if deemed necessary by the medical staff.

MEASURES







GRINDING DISC SPECIFICATIONS

EXAMPLE OF MARKING OF THE GRINDING DISC

THE GRINDING DISC WILL HAVE TO HAVE THE FOLLOWING FEATURES:



Max. OD 300 mm Thickness: 08 ÷12 mm Mounting hole : Ø40mm RPM max.5090/min Max.80m/s Reference regulations: EN 12413 ÷ ANSI B7.1

Expiry date and binding agent are clearly stamped on the disc.

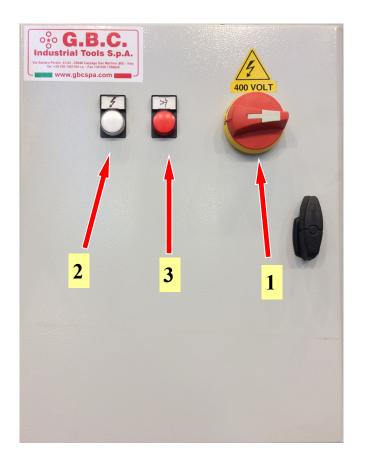




ELECTRIC CONTROLS

Electrical panel :

- 1 ON/OFF Master Switch
- 2 White light (Tension detection)
- 3 Red light (Error)



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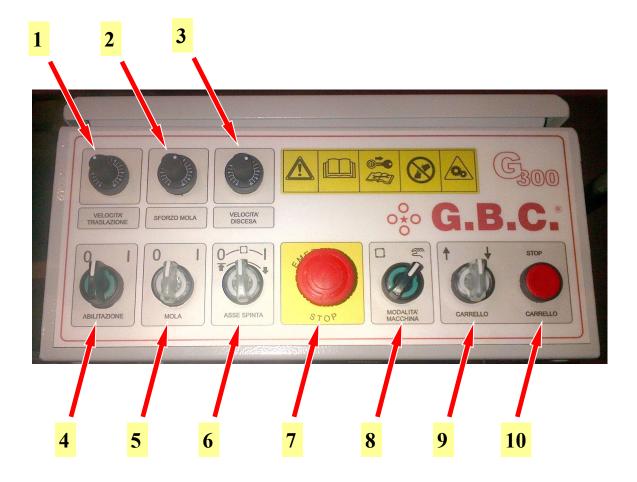
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CONTROL PANEL :

- 1 Trolley Speed Regulator
- 2 Grinding Disc Push Regulator
- 3 Grinding Disc Lowering Speed Regulator (Manual Mode)
- 4 Starter Switch
- 5 Grinding Disc Start/stop Switch
- 6 Grinding Disc lifting/lowering switch (manual / automatic)
- 7 Emergency Stop
- 8 Manuale / Automatic Mode Switch
- 9 Trolley Feeding Switch Manual / Auto
- 10 Trolley Feeding Stop Button



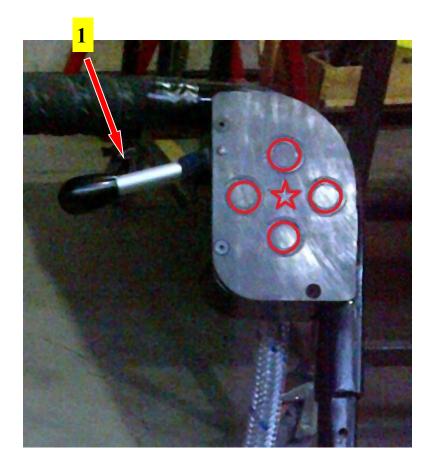




MACHINE STARTING PROCEDURE

ACCENSIONE MACCHINA

1 - Start Lever





LECTRONIC GRINDER G300 H) I



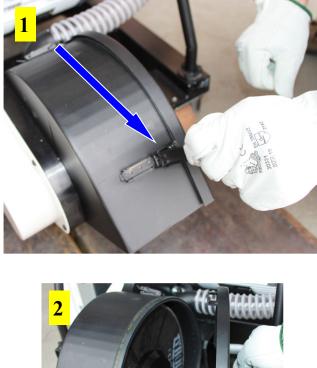
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GRINDING DISC INSTALLATION AND REMOVAL

The installation or the replacement of the grinding disc are operations to be executed with the very same procedure as described below:

1) Open the metal latches located on the perimeter of the protection as shown in the photo n.1

2) Remove the protection using the handle.







- 3) Remove the fixing screw using the specific wrench supplied with the machine.
- 4) Pull out the spindle guard.



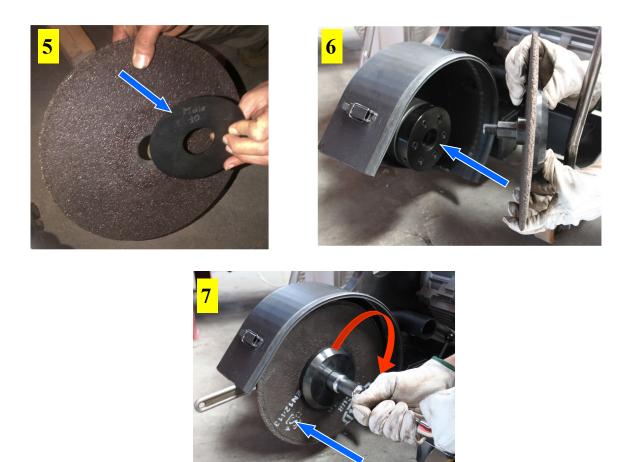


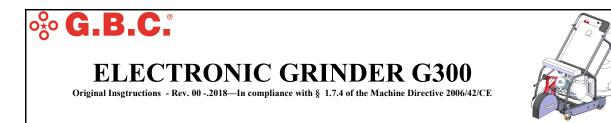




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- 5) Take a new grinding disc and the shim stamped with the details of the same disc thickness among those allowed by the technical specifications of the machine.
- 6) Insert the disc and the shim on the spindle guard as shown in the picture.
- 7) Insert the spindle guard coupled with the abrasive disc in place making sure to match the internal hexagon pattern of the screws. N.B. To achieve a fast and correct fixing of the grinding disc engage the other side of the spindle guard with the hook wrench and leave it laying against the protection so that you can easily fasten the fixing screw with one hand only.





8) Install back the protection removed at the beginning of the procedure.





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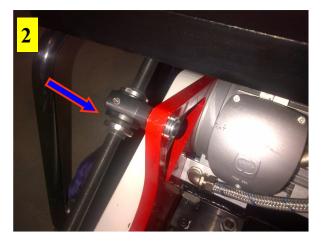


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ADJUSTMENT OF THE ANGLE OF INCIDENCE

- 1) Loose the threaded locking nut with the specific tool supplied with the machine.
- 2) Screw the locking nut back on the threaded rod for at least 5mm as shown in the picture.
- 3) loose the positioning nut with a counter-clockwise rotation using the specific wrench supplied with the machine service tool kit.





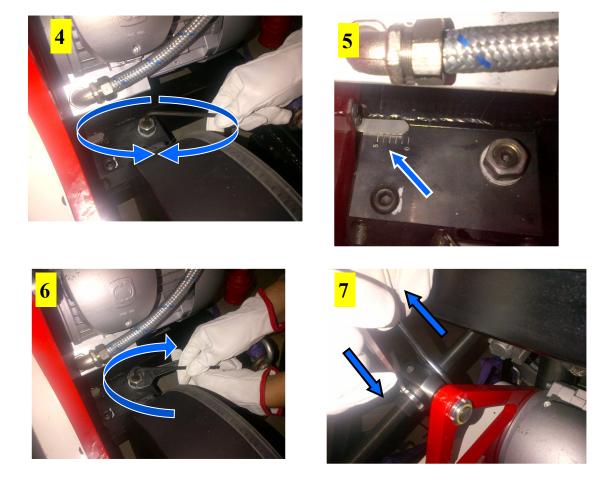






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- 4) Adjust the angle of incidence by rotating the central screw in one direction or the other with the specific Allen Key
- 5) N.B. The angle of incidence of the machine can be adjusted from 0° to maximum of 5° as shown in the picture.
- 6) Once the required angle of incidence is reached the operator will have to fasten the positioning nut while keeping in position the central screw as shown in the picture.
- 7) Screw back the locking nut making sure it is properly fastened by acting simultaneously on the threaded rod as well with two wrenches as shown in the picture.

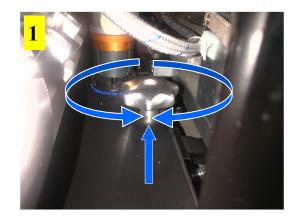


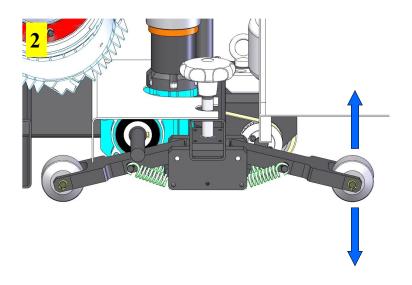




SETTING THE GUIDING ROLLERS

- N.B. The guiding wheels have to be used only when the machine is working without the tracks and when there is already a groove on the plate.
- 1) Rotate the knob left or right to lower to lift the wheels.
- 2) Rotate the knob until the wheels are inseted in the groove of the plate below.





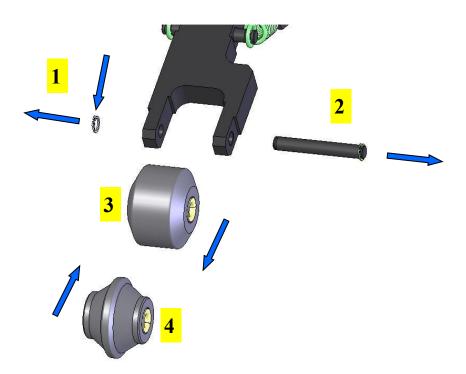




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GUIDING ROLLERS REPLACEMENT

- 1) By using the specific tools the operator will have to remove the elastic ring (1) and then remove the roller support pin(2).
- 2) Remove the roller support pin(2).
- 3) Remove the roller you want to replace (3). _
- 4) Insert the roller suitable to fit the groove to be gauged. _
 - N.B. The procedure has to be performed on both sides of the rollers support.

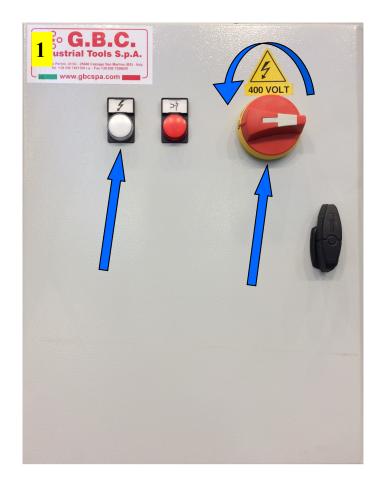






GRINDING DISC POSITIONING

1) Rotate the main switch to "ON". The white light will turn on indicating the presen-ce of the correct electric tension.







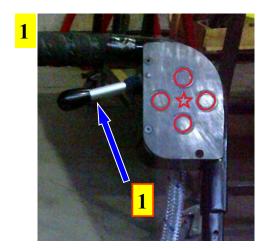
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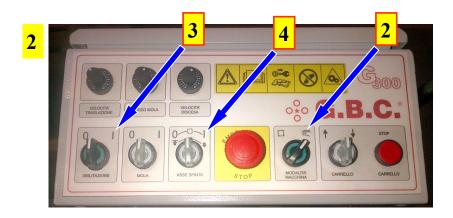
1) Pull the security lever and keep it pulled. N.B. If the security lever is released the machine will automatically stop and the settings will be reset. Pic. 1

2) Verify that the switch "MODALITA' MACCHINA" is in "manual" position Pic.2 3) Rotate the switch "ABILITAZIONE" on the position 1. N.B. If the switch is released it will return in central position, and with this procedure the electric panel is activated back again.

4) Rotate the switch "ASSE SPINTA" on position 1 and keep it pressed until the grinding disc has reached the deisred position in the proximity of the plate.

N.B. If released, the switch will return to the initial position.









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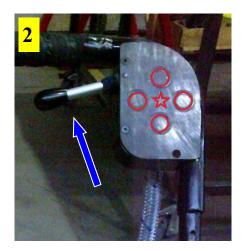
MACHINE STARTING PROCEDURE

N.B. The "Auto mode" can be used only after the machine general seting.

- Rotate the main switch to "ON". The white light will turn on indicating the ten-1) sion detection.
- 2) Pull the security lever and keep it pulled as long as you need the machine to work.

N.B. The release of the security lever will bring the machine to a complete stop resetting all the commands set before.









3) Check the switch "MODALITA' MACCHINA" to be in position " Automatic" (Square symbol).

4) Turn the switch "ABILITAZIONE" on the position 1

N.B. If released, the switch will return to the central position. This procedure enables the switchboard.









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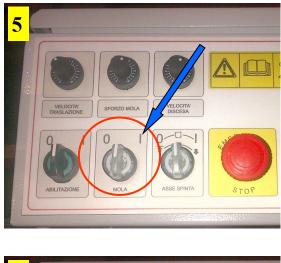
5) Turn the switch "MOLA" on the position 1

N.B. When released, the switch will return to the central position.

This operation will start the grinding disc rotation.

6) Turn the switch "ASSE SPINTA" on the position 1 to approach it to the plate. The approach speed is slow and cannot be set to a different speed rate.

N.B. When released, the switch will return to the central position.









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7) Turn the switch "CARRELLO" on the desired direction of movement.

N.B. When released, the switch will return to the initial position. This operation will start the machine feeding in either one verse or the other.

N.B. The machine can work in any direction.

8) Pressing the red button "STOP CARRELLO", will stop the machine feeding but not the grinding disc rotation.

9) Rotate the switch in the opposite direction to invert the machine direction of movement without stopping the back gouging process.











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MACHINE STOPPING PROCEDURE

 Press the button "STOP CARRELLO",
Rotate the switch "MOLA" in position"0" from the plate and will stop. <u>The machine feeding will stop.</u> <u>The grinding disc will move away</u>

3) <u>N.B. In case of emergency, release the security lever to immediately stop the machine. To restart the machine you will have to repeat the operations listed in the previous paragraph "Machine Star</u>











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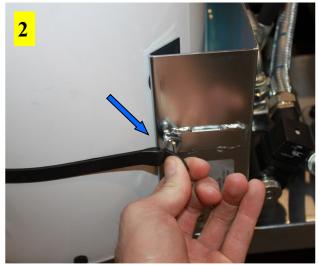
MAINTENANCE

FUMES EXTRACTOR CLEANING

Check the fumes extractor tank every 50 hours working cycles and if necessary clean the filter as described below:

- 1) Open the metallic latches located on the outside of the tank.
- 2) After you have removed the vacuum hoses you can remove the security belt and remove the tank from its seat.





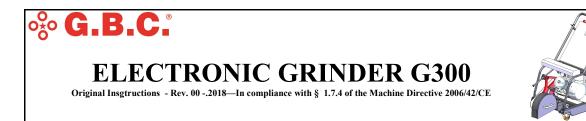




3) Open the container and remove the fabric filter, remove the dust collected during the grinding and blow compressed air on it for a thorough cleaning. If necessary blow compressed air also inside the tank.

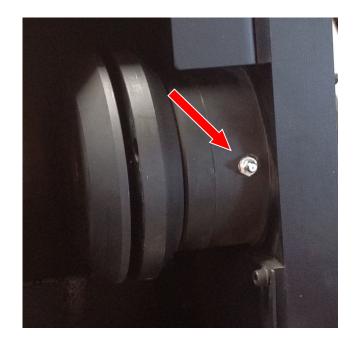
N.B. For additional information about the fumes extractor read the user's manual issued by the manufacturer attached hereto.





LUBRICATION OF THE MOVING PARTS

If there is no visible grease leaking you can lubricate the grinding disc spindle through the specific valve highlighted in the below picture every 500 working hours.







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TROUBLESHOOTING

THE MACHINE DOES NOT RUN:

- 1) Check the machine is correctly plugger to the power source an that there is electric tension in the general electric system.
- 2) Check the correct connection of the phases.
- 3) Check the correct starting procedure described in the previous paragraphs
- Check if the red light on the control panel is on. In this case disconnect the machine 4) from the power source, oper the control panel and check the relays are in their seat as shown in the below picture.

N.B. Any anomaly different from the above troubleshooting tips should be communicated to GBC's technical service for further investigation.



