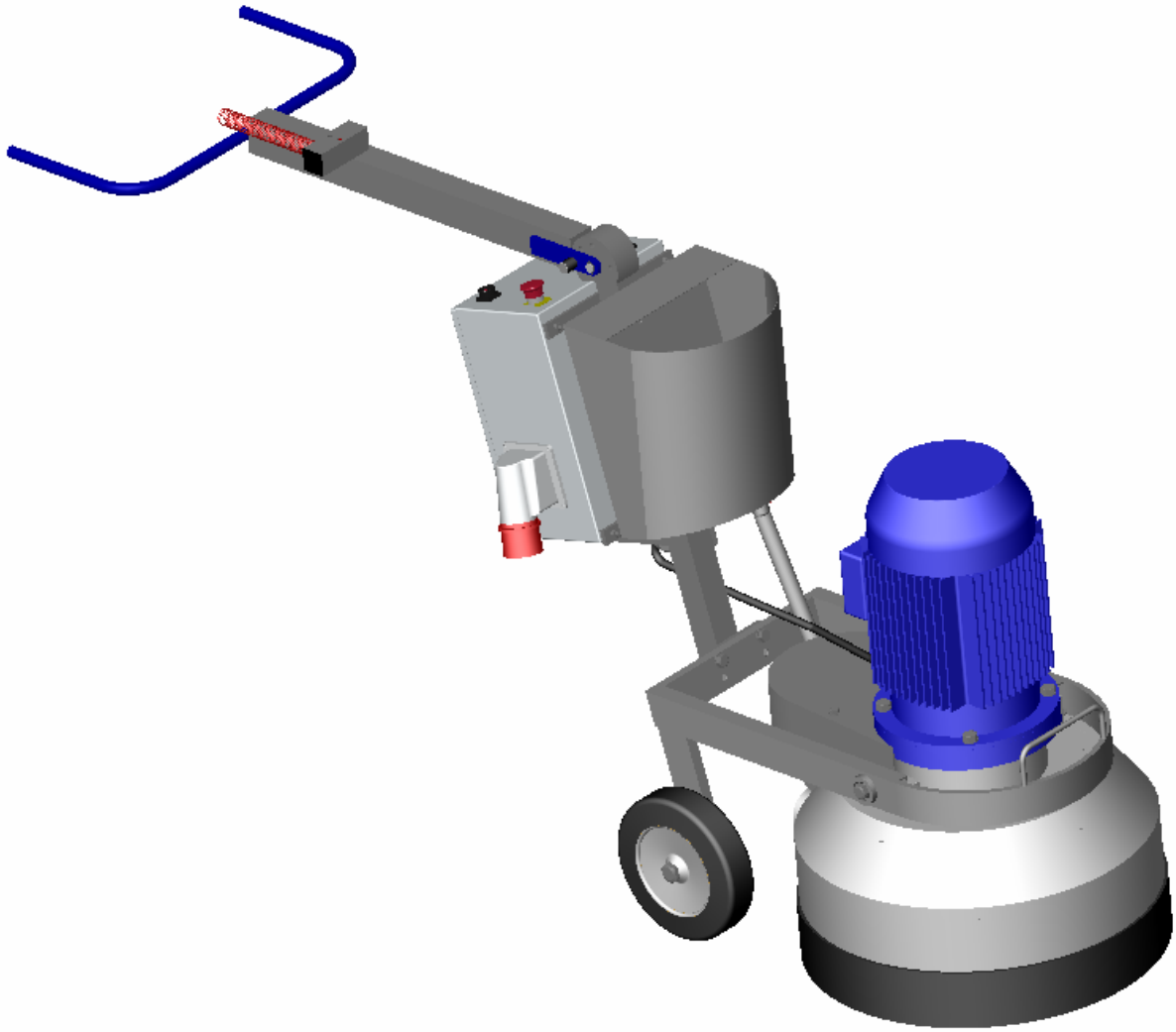
Operating Manual
BMG580



BLASTRAC

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BLASTRAC

Contents Chapter 1

1.1 Rating

1

Unit / Designation: **Blastrac** Grinding machine

Machine type: **BMG 580**

Manufacturer:

Blastrac BV

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1.2 Unit specifications

Technical data:

Grinding machine	**BMG-580**
Power consumption	7,5 kW
Connected loads	220V three phase, 25.2A
Connected loads	400V or 440V three phase, 14.4A

Dimensions:

	BMG-580
Length	950 mm
Width	580 mm
Height	1250 mm
Weight	280 kg

1.3 Operative range and correct usage

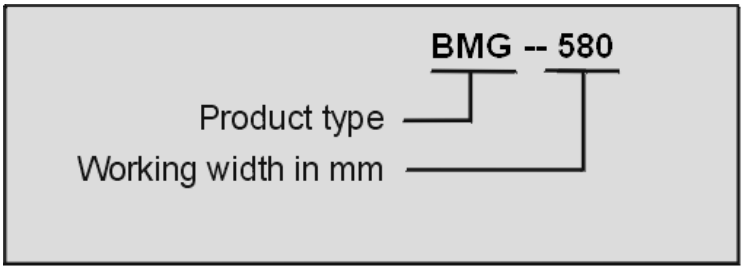
The grinding machine BMG-580 is exclusively designed to process horizontal surfaces. The machine must not be used for other purposes. The manufacturer will not be liable for damage resulting from incorrect usage. In these cases the user takes responsibility for all risks.

1.4 Stand-by power supply (Generator)

If the grinding machine BMG-580 is to be operated using power from a generator, the generator must be operated in accordance with the current EN-VDE directives (this applies to the protective earth conductor in particular) in order to ensure that all safety devices are functioning and to eliminate possible damage to electrical components.

1.5 Machine type designation

1



Contents Chapter 2

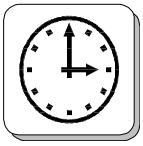
2.1 Warnings and symbols

The following denominations and symbols are used in the Operating Instructions to highlight areas of particular importance:

Symbol of operational safety.
In these Operating Instructions this symbol will be shown next to all safety precautions that are to be taken in order to ensure prevention to life and injury. Follow these instructions and take special care in these circumstances. In addition to these instructions, the general safety precautions and accident prevention guidelines are also to be followed.

Particular details regarding the economical use of the equipment.

Information, instructions and restrictions with regard to possible risks to persons or to extensive material damages.

Warning against dangerous voltages.	
Indications relating to protective devices in electrical appliances.	
Indications where consultation with the manufacturer is required.	
Instructions relating to periodical checks.	
Reference to important instructions contained in the Operating Instructions.	

2.2 Organisational measures

2

The **Operating Instructions** are to be kept **near the location where the machine** is being operated, and must be **within reach at all times**!

In addition to these Operating Instructions general and legal regulations regarding accident prevention and environmental protection must be complied with as per local regulations.

Such duties may, for example relate to the handling of hazardous substances, or to the provision and wearing of personal protection equipment, as well as compliance with traffic regulations.

The Operating Instructions must be **supplemented** by other **instructions,** including the duty to **supervise** and **report** incidents relating to **particular working practices**, for example work organisation, work procedures and personnel safety.

Personnel entrusted with working with the machine must read the **Operating Instructions** before starting work, in particular the **Safety Instructions** chapter. To read these instructions after work as commenced is too late. This particularly applies to incidental activities such as setting up the equipment, carrying out maintenance work or training staff to work with the machine.

From time to time the working practices of the operators are to be checked by a supervisor especially to the items regarding awareness of **safety, and hazards**.

Operators must tie back long hair, and not wear loose clothing or jewellery including rings. There is a risk of injury through items getting caught, or being drawn into moving machinery.

Use **personnel protection equipment** if necessary or required by local regulations! Take notice of **all** safety and hazard notices on the machine!

All **safety and hazard notices** at or on the machine must be kept complete and **legible**!

If **safety-critical changes** occur to the machine or its working method, the machine must be **shut down immediately**! The cause of the fault must be established, and rectified.

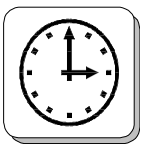
Changes, add-ons or conversions to the machine which might impair safety must not be made, **without the manufacturer's permission!**

2

This applies in particular to the fitting and adjustment of safety devices.

Spare parts must comply with the technical requirements specified by the manufacturer. This is always guaranteed if original spare parts are used.

Intervals for recurring **checks and inspections** specified in these Operating Instructions must be complied with!



To perform maintenance work correctly it is imperative to be equipped with the proper tools for the task in question.

The **location** and the operation of **fire extinguishers** must be made known on each work site!

Take note of the facilities for reporting of, and fighting fires!

2.3 Personnel selection and qualification

Fundamental duties:

Work on the machine may only be undertaken by **trained personnel**.

Only trained personnel may be employed. **Note the statutory minimum age!** Specify clearly the responsibilities of personnel for operation, setting up, servicing and maintenance work!

Make sure that only **authorised** personnel operate or work on the machine!

Define responsibilities of the machine operator, with regard to traffic **safety regulations,** and inform him not to take instructions from third parties who may not be complying with the local safety requirements!

Personnel who are being trained to operate equipment, may only use the machine **under constant supervision of an experienced person**!

2

Work on **electrical** equipment, may only be undertaken by a **skilled electrician** or by **trained** persons under the **supervision** of a **skilled electrician,** as well as in accordance with the local **electrical engineering regulations**.

2.4 Safety precautions applicable to some operating sequences

Do not allow any method of working that **impairs safety**!

Recognised official procedures have to be used, to ensure the machine is operated in a safe, and best conditions.

Only operate the machine when all **safety devices,** and related **safety equipment,** are present and **operational**!

Check the machine visually for any **damage** and **defects** at least once a day!

In the event of **operational malfunctions** the machine must be **shut down immediately** and secured!

Secure the **work area** around the machine in **public areas** providing a **safety distance** of at least 2 m from the machine.

Faults must be immediately rectified!

Carry out the switch on, and switch off, operations in accordance with the operation manual!

Before switching on the machine make sure that no-one can be endangered when the machine starts up!

Do not switch off, or remove the exhaust, and or the ventilation devices whilst the machine is running!

All persons in the proximity of the machine, must wear ear protectors and safety shoes. In addition the machine operator, must wear close-fitting protective clothing.

Use only extension cables, that are used for extending the main cable, that are sized and marked in accordance with the overall power consumption of the machine and the valid VDE guidelines.

2.5 Special work within the scope of use of the equipment and maintenance activities as well as repairs during operation

Mechanical servicing work:

Put the machine in the **Safety off position** as described in chapter 2.6 before carrying out any servicing work on the machine.

Follow any special **safety instructions** in the chapters on servicing the machine. **See chapter 7.1 - 7.9.**

Adjustment, servicing and inspection work on the period of time limits, specified in these Operating Instructions as well as any information on the replacement of parts and equipment must be **undertaken and/or complied with**!

These activities may only be undertaken by **qualified personnel**.

The **operator must to be given information** about **maintenance and work procedures,** before starting the cleaning process!

Procedures that are related to normal operation. Methods of tools adjustment on the machine, and its safety devices, all **"ON and OFF"** functions that have to be carried out according to the operation manual, and methods for maintenance and repair.

2

If the equipment is switched off in order to carry out maintenance, repair, or adjustment it must be secured against unintended restart.

Switch OFF and disconnect it from the power supply.

See **Chapter 2.6 Safety off position** for specific details.

Always dispose the contends of the **dust bin** or of a connected dust collector before **loading** the machine onto a vehicle.
Observe the **local waste disposal regulations,** in uncertain situations ask the next higher authority.
Do not use any **aggressive** cleaning materials!
Use lint-free **cleaning cloths**!
Always make sure to tighten any screw connections that are loosened during servicing and maintenance work!

If **safety devices** need to be taken off or **dismantled** during service and repair, these **safety devices** must be **reinstalled,** and inspected immediately after completion of the servicing and repair work.

Make sure that process materials and replaced parts are disposed of safely and in an environmentally-friendly manner!

Work on **electrical** equipment, may only be undertaken by a **skilled electrician** or by **trained** persons under the **supervision** of a **skilled electrician,** as well as in accordance with the local **electrical engineering regulations**.

Make sure that electrical components used for replacement purposes comply with the original parts and are correctly adjusted if necessary.

2.6 Definition of the Safety off position

Definition:

The machine is in a safe condition where it cannot be of any hazard.

Putting the equipment in the Safety off position involves:

- ☑ **Switch off the machine.**
- ☑ **Switch off the dust collector (if being used).**
- ☑ **Wait for all drives to stop.**
- ☑ **Pull out mains plug.**
- ☑ **Secure against unintended restart.**

2.7 Particular dangerous aspects of the equipment

Any machine, if it is **not used according the regulations**, may be **hazardous** for operating, setting-up, and service personnel. The **operating authority** is responsible for **compliance with the safety regulations** during operation and maintenance, and for the use of safety **devices** supplied with the machine, as well as the provision of appropriate additional safety devices!

2.8 Electrical engineering regulations

2

Work on **electrical** equipment, may only be undertaken by a **skilled electrician** or by **trained** persons under the **supervision** of a **skilled electrician,** as well as in accordance with the local **electrical engineering regulations**.

Use only extension cables, that are used for extending the main cable, that are sized and marked in accordance with the overall power consumption of the machine and the valid VDE guidelines.

The electrical equipment for the plant must be **inspected regularly**. Defects such as **loose** connections or **scorched** cables must be rectified **immediately**. **Call a skilled electrician or our Customer Services.**

A **second** person must be in attendance whilst the electrical engineer is working on the equipment.

The work area must be secured against any third party entering the work area, by means of a red and white **safety chain** and a danger sign. Use only tools that are insulated against electricity.

Only start work after you are familiar with the **electrical engineering regulations** that apply to the local area.

Only use voltage seekers that **comply with the regulations** when troubleshooting. From time to time check voltage seekers to ensure that they are operationally efficient.

Contents Chapter 3

3.1 Range of application

Typical range of application of the BMG-580 are for example:

- To remove undulated concrete surfaces
- To prepare the surface for coatings
- To polish the surface
- To remove coating defects
- To remove residual mineral adhesives

3.2 Scope of supply

Scope of supply of the machine:

- ☑ Grinding machine (BMG 580)
- ☑ Dust hose (Option)
- ☑ Operating manual 1 x

3.3 Description of the machine

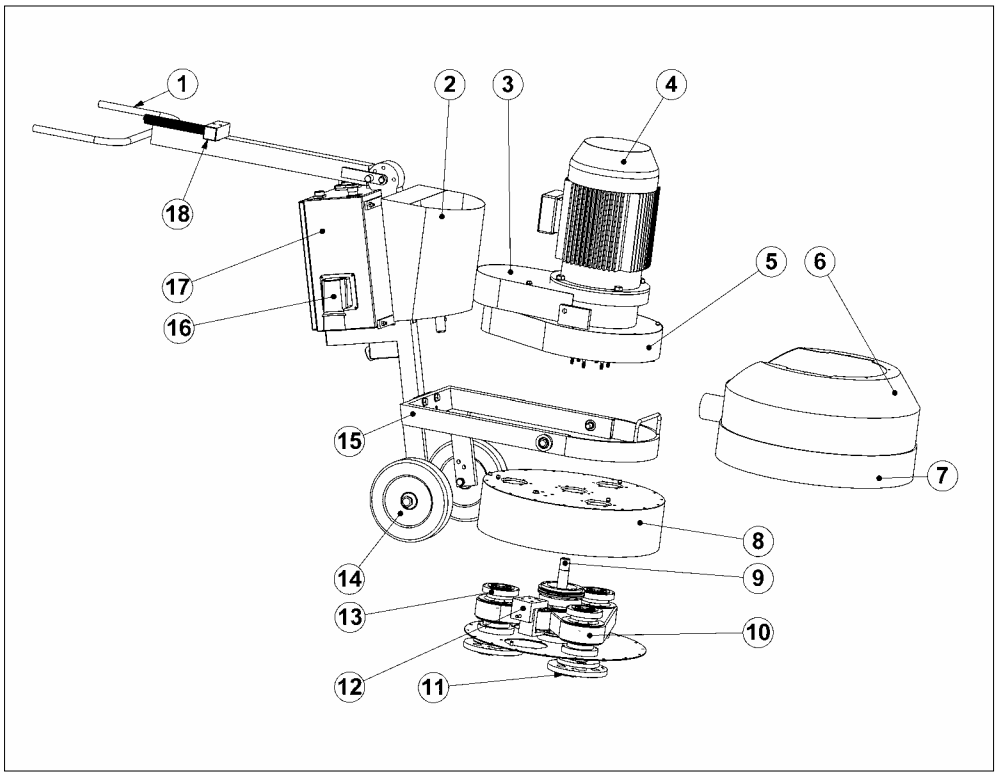


Fig. 3.1

1	Steering handle	7	Dust control seal	13	Pulley
2	Water tank	8	Housing under part	14	Wheel
3	Cover, upper part	9	Centre pulley	15	Lower frame
4	Motor 7,5 kW	10	Lower belt	16	Electric inlet socket
5	Motor mount plate	11	Diamond tool holders	17	Electrical power box
6	Cover housing	12	Tensioner, lower belt	18	Safety switch

The Blastrac-Grinding machine BMG 580 can process an output width of 580 mm, and gives excellent performance due to its high economic efficiency and easy handling.
The machine is capable to levelling uneven and undulating floors, this process is suitable for an optimisation of surfaces prior to blast cleaning.
Alternatively the machine can be used to smooth floor surfaces as a preparation operation for coatings to be applied.
Depending on the application the diamond disc holder can be fitted with several different types of diamond-grinding discs.
The number of revolutions the tools run at are 1500 revs/min.

3.4 Operating elements

Handgrip and Operating lever

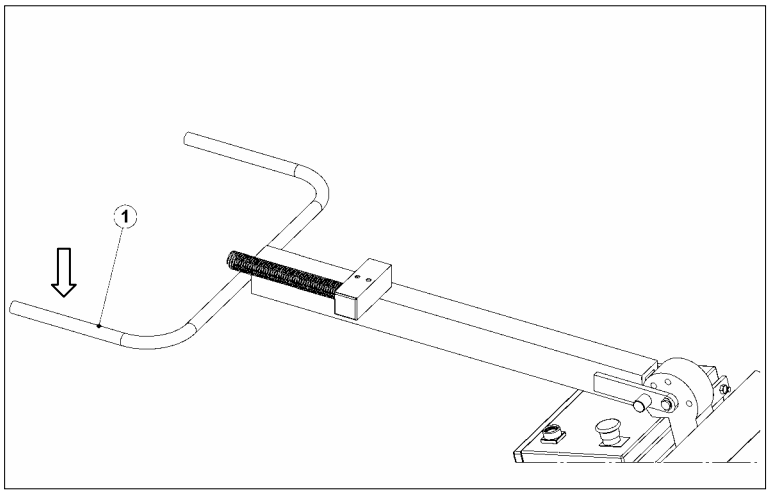


Fig. 3.2

Before Switching on the BMG-580, the front part of the grindingmachine must be lifted by pushing the handgrip (1) down to floor level till the machine is approximately 10cm from the ground.

3.5 Electric components

The control box is equipped with all control elements and instruments to monitor the grindingmachine.

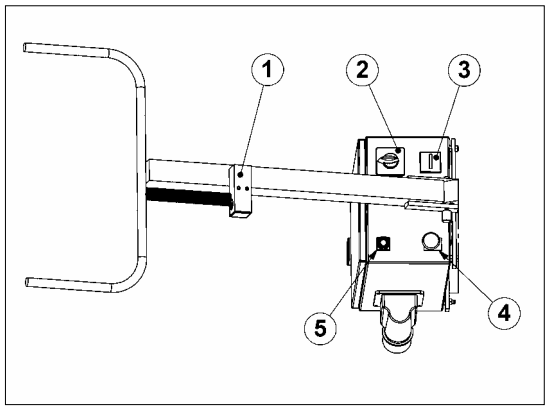


Fig. 3.3

1	Safety switch	3	Hour counter	5	Stop button
2	ON switch	4	Emergency shutdown switch		

ON Switch

Switching the "ON" button to the left or right the driving motor will turn. Ensure that the machine work head is lifted before switching on.

Emergency shutdown switch

Red mushroom-shaped press switch onto a yellow background. Pressing this switch immediately stops the power supply to all units of the machine, shut down switch requires re-setting after it has been used.

Stop button

The stop button will shutdown the power supply, but it can be switched back on by means of the “on-switch” at any time.

Safety switch

This switch is spring loaded; it will turn off the power supply if the operator looses his grip on the switch, by falling or loosing control of the machine.

Hour counter

The hour counter on the power box shows the sum of the actual working hours performed by the machine.

3.6 Upper part

The upper part of the BMG 580 is where the drive system for the machine is located, rotational drive is given through a speed reduction drive belt, and pulley system, which also gives contra rotation to the workhead, and drive to the centre pulley.

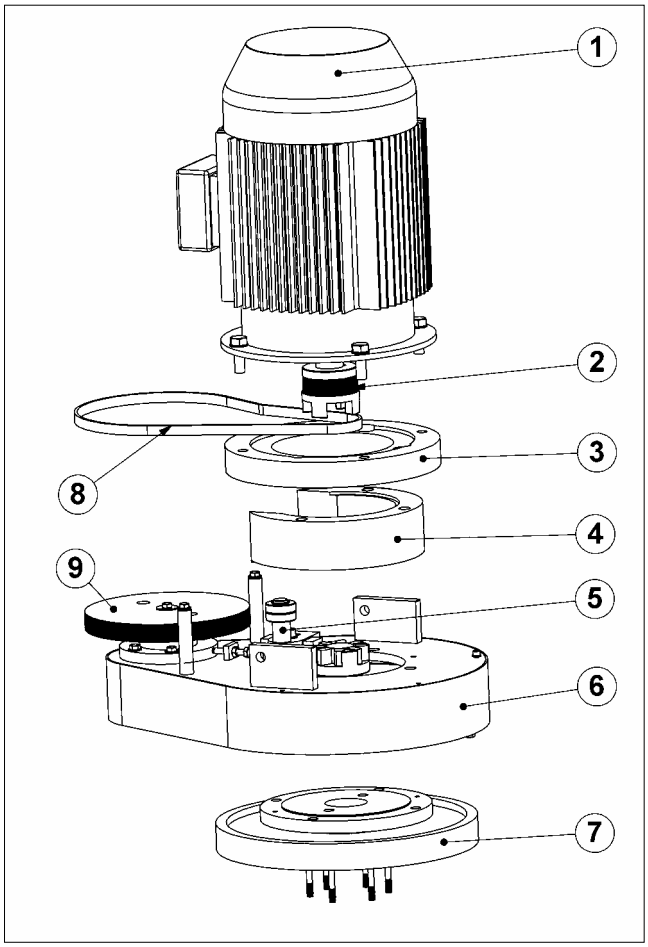


Fig. 3.4

1	Motor 7,5 kW	4	Motor mount plate	7	Centre pulley
2	Coupling	5	Upper belt tensioner	8	Belt upper
3	Flange motor adapter	6	Drive system mount	9	Contra rotation pulley

3.7 Lower part

The lower part of the BMG 580 is where the drive pulleys and the diamond tool holders are fitted. On the driving pulley there is a coupling which is driven by the electric motor. Between the driving pulley, and the driven pulley there is the main drive belt, this belt is maintained at optimum drive tension by means of a sprung loaded tensioner which maintains a pressure on the drive belt keeping it in tension.
Under the pulleys there are the tool holders on which the diamond discs can be fitted.
The pulleys are covered by a protective housing which also turns.

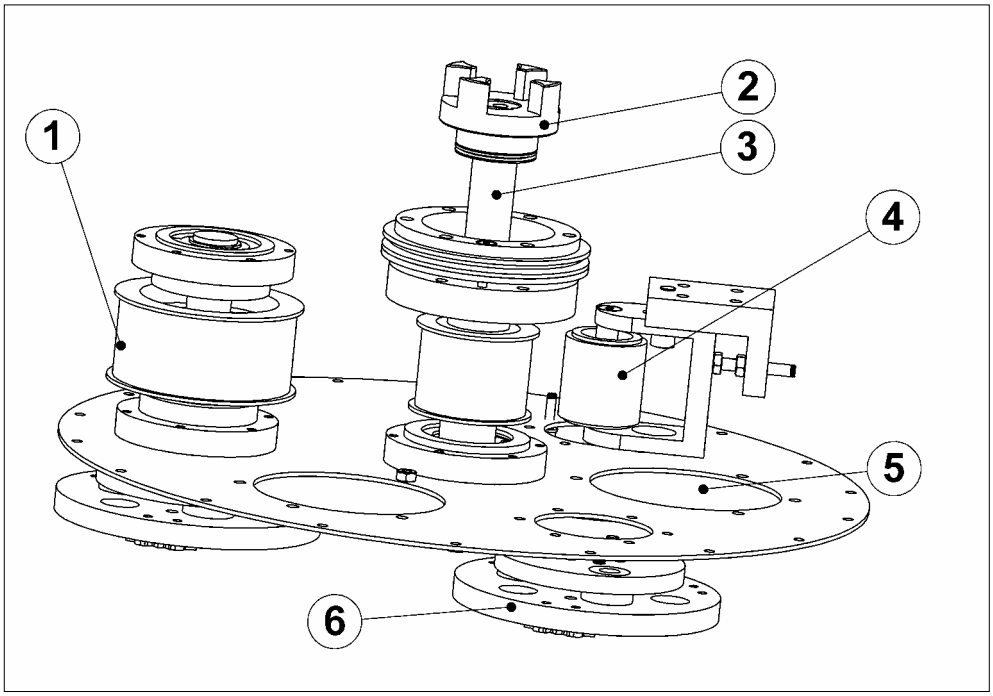


Fig. 3.5

1	Pulley	4	Tensioner, lower belt
2	Coupling	5	Inspection hole
3	Driving pulley	6	Diamond tool holder

3.8 Tensioner upper belt

The upper belt tensioner keeps the upper belt tight. By taking off, the cover of the upper part, the tensioner can be accessed.

3

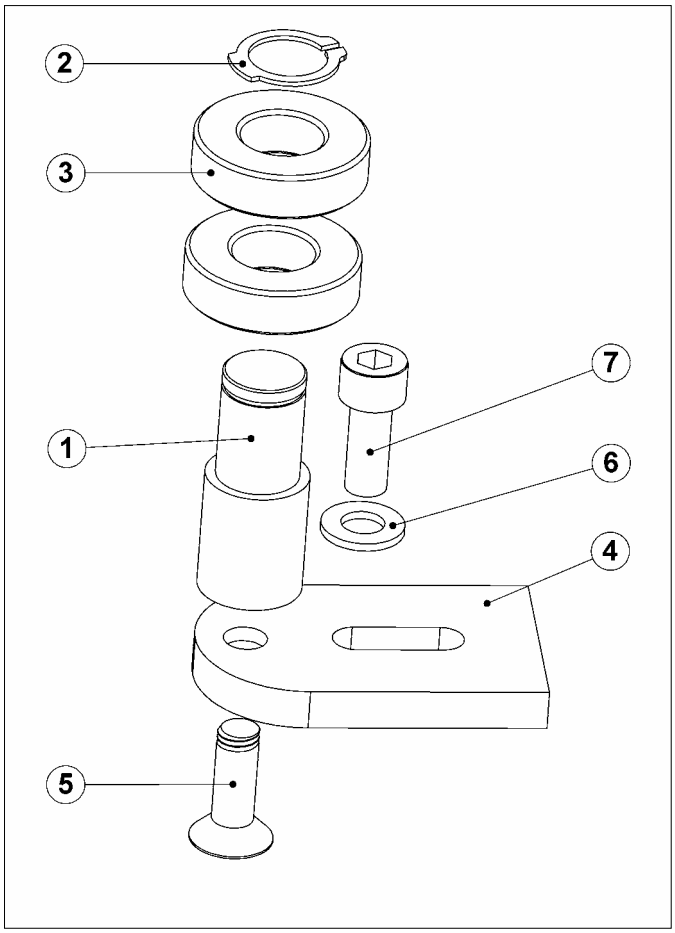


Fig. 3.6

1	Axle	5	Countersunk head screw
2	Retaining ring	6	Washer
3	Bearing	7	Cap head screw
4	Tensioner plate		

3.9 Tensioner lower belt

The lower belt tensioner keeps the lower belt tight. By taking off one of the two inspection hole covers at the bottom of the lower plate the tensioner can be accessed.

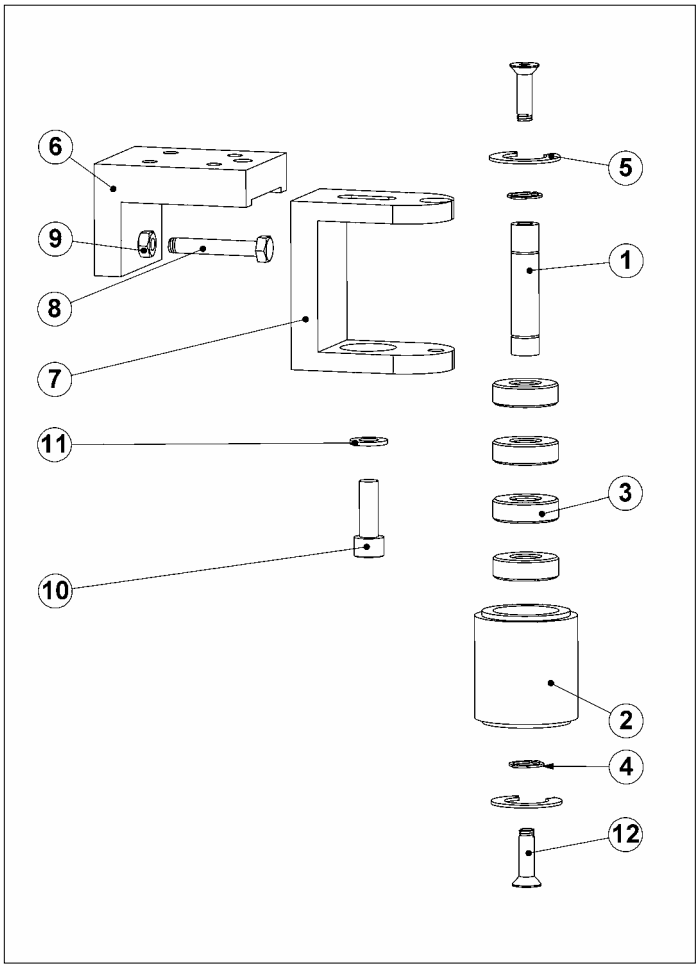


Fig. 3.7

1	Tensioner axle	5	Retaining ring	9	Hexagon nut
2	Pulley	6	Tensioner holder	10	Cap head screw
3	Bearing	7	Tensioner	11	Washer
4	Retaining ring	8	Hexagon bolt	12	Countersunk head screw

3.10 Pulley

There are three pulleys in the machine. Under these pulleys the diamond discs are fixed. The pulley is driven by the driving pulley through a belt. The pulley is fixed on the lower housing with screws.

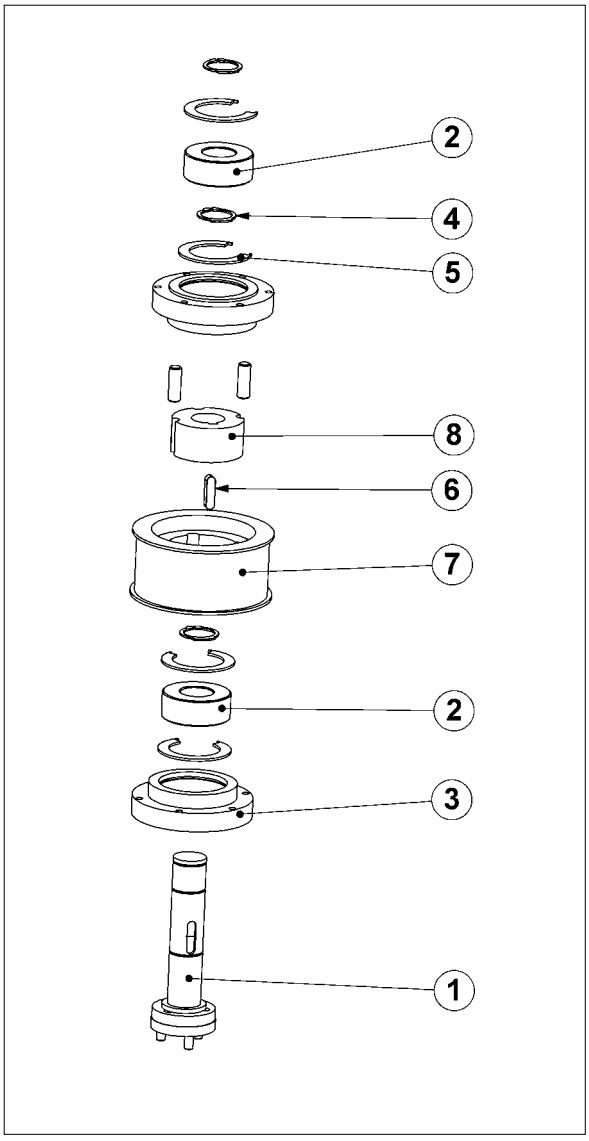


Fig. 3.8

1	Pulley axle	4	Retaining ring	7	Pulley
2	Bearing	5	Retaining ring	8	Taper bush
3	Bearing house	6	Key		

3.11 Centre pulley

The centre pulley will slow down the speed of the lower housing. The six head cap screws connect the pulley with the lower housing.

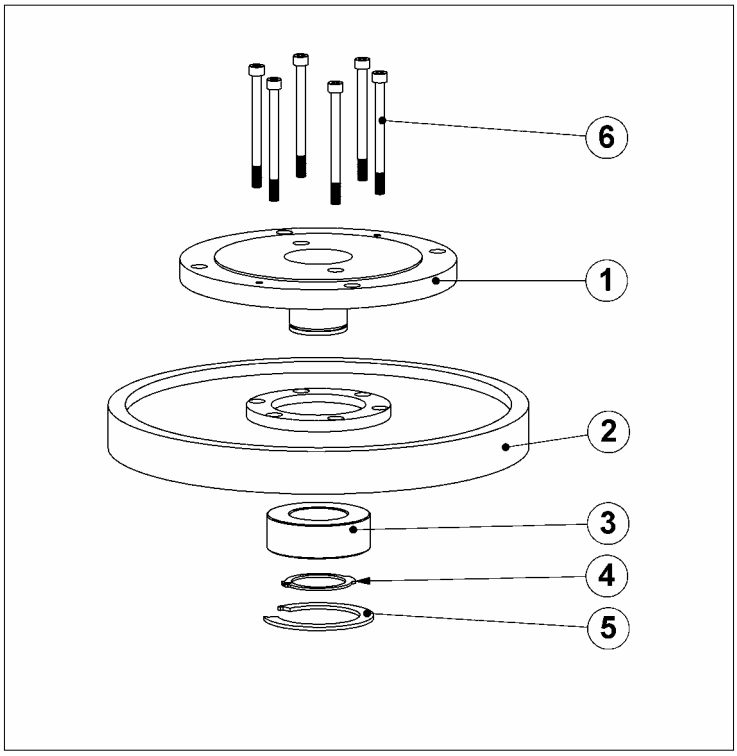


Fig. 3.9

1	Sprocket	4	Retaining ring
2	Pulley	5	Retaining ring
3	Bearing	6	Cap head screw

3.12 Contra pulley

The contra pulley gives a reduction of speed to the lower housing. The belt pulley is driven by a belt from the motor pulley.

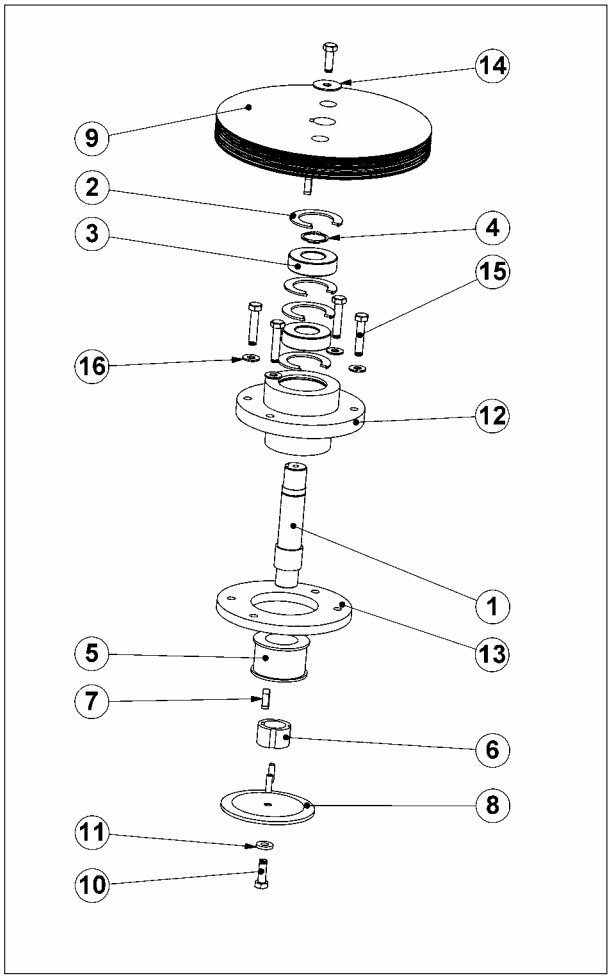


Fig. 3.10

1	Contra axle	7	Key	13	Ring
2	Retaining ring	8	Flange	14	Washer
3	Bearing	9	Belt pulley	15	Hexagon bolt
4	Retaining ring	10	Hexagon bolt	16	Washer
5	Pulley	11	Washer		
6	Taper bush	12	Bearing house		

3.13 Driving pulley

On the driving pulley shaft there is a coupling which is driven by the electric motor. The driving pulley drives the three pulleys with a belt. The pulley I fixed on the lower housing with screws.

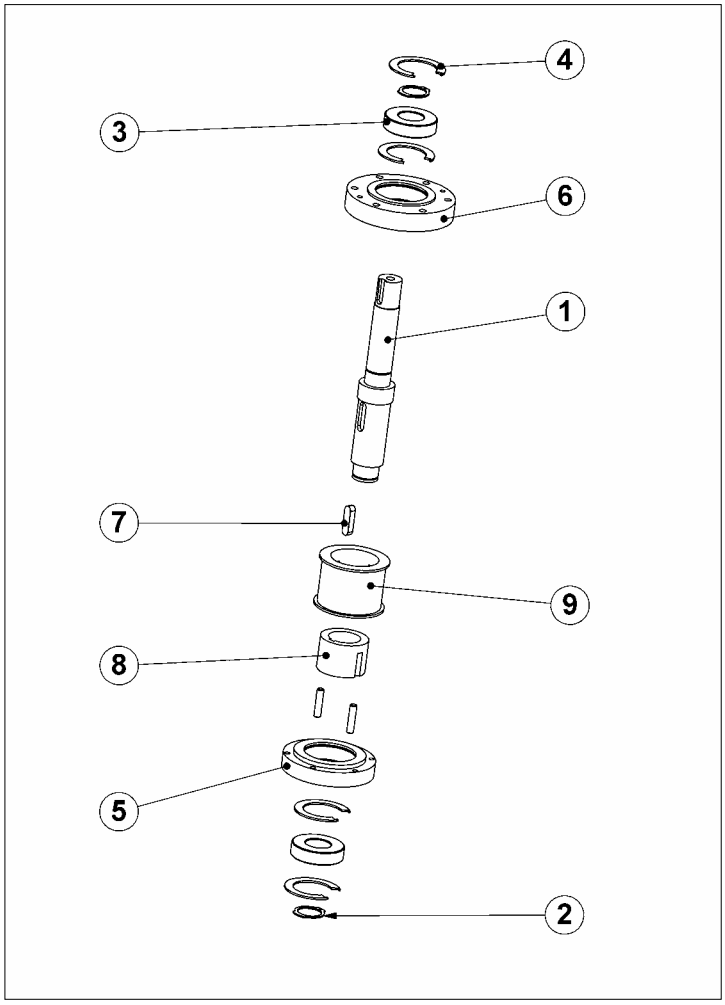


Fig. 3.11

1	Driving axle	4	Retaining ring	7	Key
2	Retaining ring	5	Bearing house	8	Taper bush
3	Bearing	6	Bearing house	9	Pulley

3.14 Diamond tipped cutting tool holder

The diamond tool holder is connected under the pulley by three bolts. There are 3 soft buffers so the energy from the diamond disc will be softened. There are three magnets to attract any iron particles. The centering stars are in place to ensure that the diamond disc cutting tools will pass each other with working clearance. The cutting tools must be locked with the three screws on each plate.

3

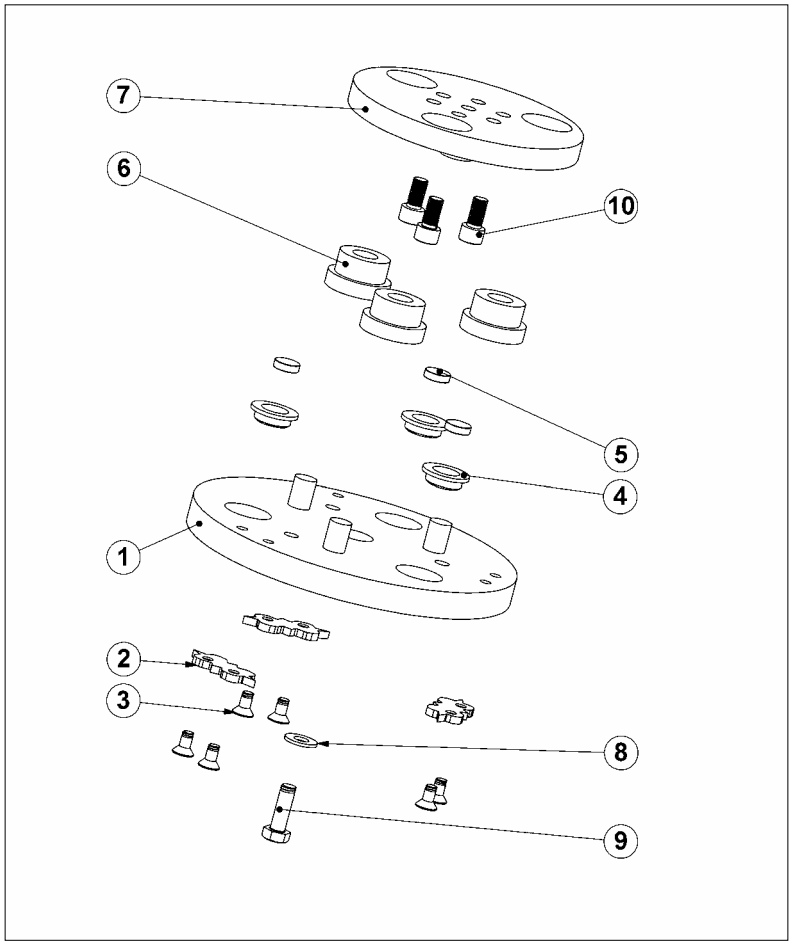


Fig. 3.12

1	Holder for tools	5	Magnet	9	Hexagon nut
2	Centering star	6	Soft buffer	10	Cap head screw
3	Countersunk head screw	7	Buffer plate		
4	Magnet holder	8	Washer		

3.15 Diamond discs

There are three types of discs that can be put under the diamond holders.
The three types are: Diamond tools
Scrapers
Holders

Diamond tools

The diamond tools are designed for use on concrete floors. With these tools in use, the floor can be processed to achieve a smooth, and or polished surface finish.

Scrapers

Scrapers can be used for removing epoxy, coating, and other floor coatings.

Holders

Holders will also be used for removing epoxy, coating, and other floor coatings. Holders can be supplied with cutters.

For questions about the right set for the right treatment / floor, use the tool scheme or contact your distributor.

Wheel position

For every tool, the wheels have a different position.


Diamond tools
(upper hole)


Scrapers
(middle hole)


Holders
(lower hole)

General

Tool scheme

COLOR	BOND	GRIT SIZE	APPLICATIONS
Orange	Very hard	16/20 , 30/40	Concrete, quartz floors
Green	Very hard	16/20 , 20/25 , 30/40 , 80/100 , 180/200	Concrete, bitumen-terrazzo pump screed
Black	Hard	16/20 , 20/25 , 30/40 , 80/100 , 180/200	Concrete, bitumen-terrazzo pump screed, poured terrazzo
Red	Medium	6/8 , 16/20 , 20/25 , 30/40 , 80/100 , 180/200	Concrete, terrazzo, epoxy terrazzo, coating/paint/glue removal
Yellow	Medium	30/40 , 60	Terrazzo tiles, epoxy terrazzo, granite
Blue	Soft	20/25	Preparing concrete for coating, magnetite terrazzo
Silver	Soft	16/20	Preparing concrete for coating,
Epox +	Soft	Special	Coating/paint/glue removal
Brown	Very soft	16/20 , 20/25 , 30/40 , 80/100 , 180/200	Preparing concrete for coating,
White	Soft	80/100	Smoothening/scratch removal for concrete, terrazzo, granite
Gold	Soft	180/200	Smoothening/polishing for concrete, terrazzo, granite
Light-blue	Soft	325/400	Smoothening/polishing for concrete, terrazzo, granite

3

For part no. of the different kind of discs see chapter 10 “Spare parts”.

3.16 Care and maintenance

Special attendance and regular maintenance of the machine are imperative for functioning and safety.

Pay attention to unusual noises or strong vibrations. Check for the cause of every big change. Call a technician if you have doubts about the cause or when a repair without a technician seems not possible without damages.

Generally the grindingmachine BMG-580 requires very little special attention regarding its maintenance.
See to it that any wastes or fibre residues do not remain in the area of the grinding disc.

Dependent on the use of the machine the pulley should be checked about every 200 hours.

Before using the machine you should always check for the correct seat of all screws and connection points.

General

Notes

Contents Chapter 4

4.1 Unit specifications

Model variant	BMG 580
Dimensions in mm	950 x 580 x 1250
Weight	280 kg

4.2 Manual mode of moving the machine

4

To move the machine press down the handgrips (1) see fig.4.1 of the machine until the front part rises approximately 10 cm from the ground.
It can now be pushed around on its wheels.

The machine can only be moved around after attachments are disconnected, such as.

- Generator, (if being employed)
- Dust collection unit, (optional extra)

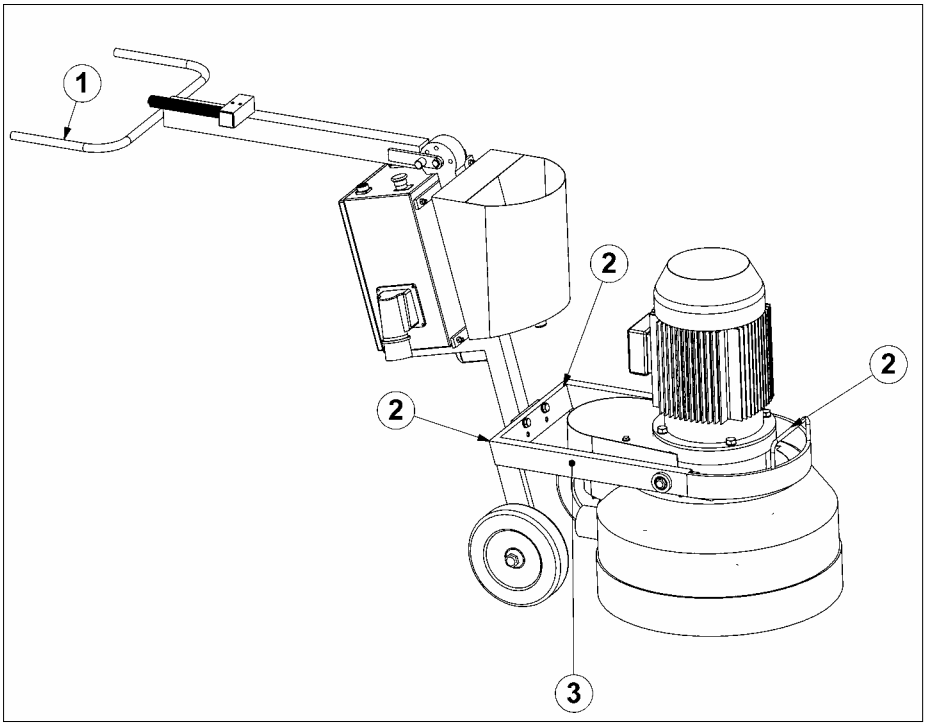


Fig. 4.1

4.3 Transport with cranes or lifts

If the machine is to be transported by the means of a crane or a fork lift truck, make sure that the lifting means is of sufficient capacity to lift the weight of the machine, this gross weight is shown in **chapter 4.1 "Unit specifications"**, and also shown on the shield-type bolted to the machine.

Fasten any lifting slings to the points (2) on the machine frame, these points are also suitable as a fixing point for fastenings, during transportation of the machine on a vehicle.

4.4 Transport of the machine with vehicle

When transporting the machine in a vehicle drive in such a manner that damage due to the effects of the use of force or incorrect loading and unloading is avoided. Secure the machine with a tightening load strap over the lower frame (3). Use at least two straps, and tighten down with the load straps to the bodywork of the vehicle.

4.5 Operation of the machine while grinding

The machine will be operated while grinding in accordance with the instructions given in Chapter 5.2”Initial operation“.

Contents Chapter 5

Initial operation

5.1 Preparation for initial operation

Before start-up the operating personnel must be familiar with the safety regulations given in this manual.

- ☑ Put the grinding machine and the filter unit on to the surface to be processed.
- ☑ Fit the appropriate diamond grinding disc that is required for this particular process. Please read **chapter 7 "Maintenance"** of this manual.
- ☑ By using the correct cables, connect the machine and the dust collector to the electricity supply point, these electric supply points should be protected and equipped with a FI-switch. (Residual current operated device). In case of doubt ask the local safety officer.
- ☑ Check the extension cable for external damages.
- ☑ Check the dust hose for damages
- ☑ Connect the grindingmachine and the dust collector unit with the flexible dust hose. Use hose clamps at the connections.
- ☑ Make sure the dust bin of the dust collector unit is empty.

5

If problems with the current supply arise during the assembly or the start up, call a qualified person for help. Work on electrical equipment may only be undertaken by qualified personnel.

Any machine, if it is **not used according the regulations**, may be **hazardous** to the operating, setting-up and service personnel. The **operating authority** is responsible for **compliance with the safety regulations** during operation and maintenance of safety **devices** supplied with the machine as well as the provision of appropriate additional safety devices!

5.2 Initial operation

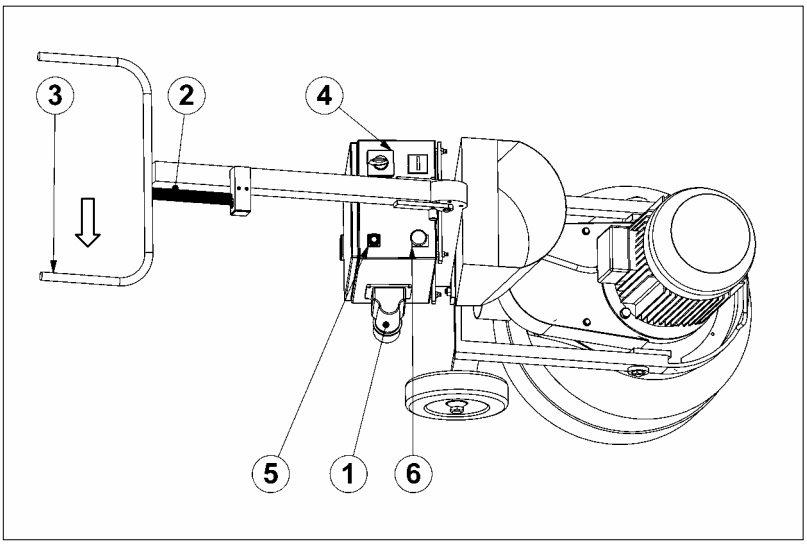


Fig. 5.1

The start up the machine by taking actions in the following sequence:

1 Switching on the grinding machine

- ☑ Connect the machine to the electrical inlet with an extension cable (CEE 16 Amp) (1).
- ☑ Put the safety cord on to your wrist (2).
- ☑ Press down both handgrips (3) until the front part rises approximately 10 cm from the ground :
- ☑ Turn the on-switch to the left or right (4).
- ☑ Now let down the grinding disc on the surface and begin the grinding work. Move the machine slowly forwards or reverse dependent on the grinding work. (See chapter 6).

2 Switching off the grinding machine

- ☑ Press down the handgrips (3).
- ☑ Push the off button on the power box (5).
- ☑ In case of emergency, push the emergency switch (6).

Notes

5

Contents Chapter 6

6.1 Operation

The **Operating Instructions** are to be kept **near the location where the machine** is located and must be **within reach at all times**!

Only trained personnel may be employed. **Note the statutory minimum age!** Specify clearly the responsibilities of personnel for operation, setting up, servicing and maintenance work!

Make sure that only **authorised** personnel operate or work on the machine!

A regular inspection is necessary to prevent downtimes of your grindingmachine. **See chapter 7 "Maintenance".**

Pay attention to following aspects during operation of the **Blastrac Grinding machine BMG580**

Before beginning the grinding work, check daily for regular tightness of all fasteners, especially those of the driving and handling devices.

6

Before switching on, make sure that all protective housings are fitted and the dust collector unit is correctly connected.

Handle all plugs, cables, hoses and operating elements careful. Avoid the contact with live wire.

Before grinding, clean the surface to be treated with a broom. There should not be any trash like stones, cloths, or standing liquid on the surface.

Proud up stands, like concrete reinforcing steel or other objects, should be removed from the work surface to prevent damage to the machine seals, or to the diamond discs.

By using the dust collector unit observe the specially worker's protection rules, and also the local regulations regarding waste disposal.

The normal start up of the Blastrac grindingmachine BMG580 in the daily operation does not differ from the described process in chapter 5.2 "Initial operation".

If there are doubts how to start up the machine, read chapter 5.1 and 5.2 of this operating manual.

Make sure that no vehicles, such as forklift trucks and other equipment run over the electric cable and the dust hose.

6.2 Switching-off the machine

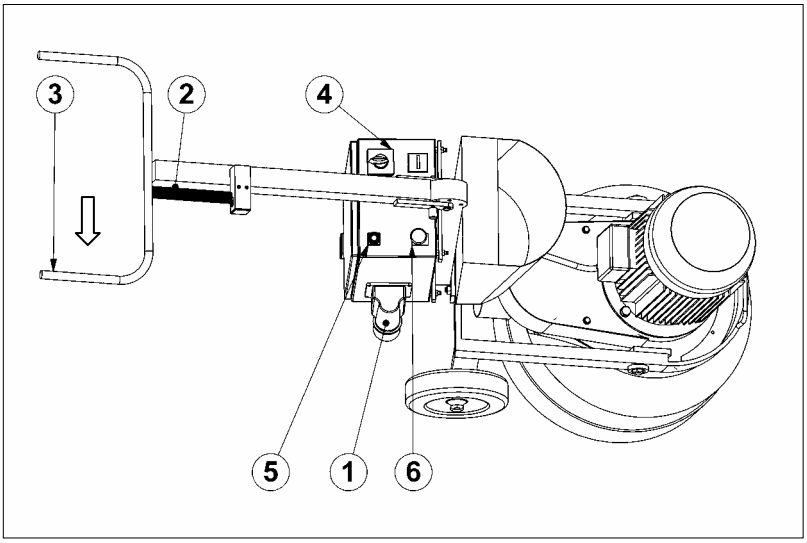


Fig. 6.1

☑ Push the off button on the power box (5).

6.3 Trouble shutdown

In case of emergency or operating trouble, like vibrations or strong noises, switch the machine off immediately by hitting on the OFF-Emergency switch (6).

6.4 Safety shutdown

The machine has to be into its **"Safety off position"** before starting repair works. See Chapter 2.6.

Before carrying out some inspection or maintenance works make sure that all turning machine parts are stopped. Observe the "Safety off position, chapter 2.6.

Irrespective of the information of chapter 7 about repair or maintenance works, the local safety regulations are valid in all cases regarding the operation of the machine.

6

6.5 Restarting after a fault

Especially observe the regulations of the VBG 4 and also VDE 0701 regarding the necessary measures and measurement to be taken after repair works to the electrical devices. See also chapter 5.2 "Initial operation".

6.6 Proceedings- prior and after stationary period

1 Before a long stand still period

If the **Blastrac** grindingmachine will be out of action during a long period observe following aspects:

☑ Clean the machine and cover it with a plastic foil.

☑ Protect the electric motors from moisture, heat, dust and shocks.

2 After a long stand still period

See Chapter 5 “Initial operation”.

Notes

Contents Chapter 7

7.1 Recommendations

Prior to any repair works on the machine and its drives, secure the machine against unintentional switching-on. Put the machine to its safety off position. Chapter 2.6

Failures, due to inadequate or incorrect maintenance may generate very **high repair costs** and long stand still periods of the machine. **Regular** maintenance therefore is imperative.

Operational safety and service life of the machine depend, among other things, on proper maintenance.

The following table shows recommendations about time, inspection and maintenance for the normal use of the machine.

The time indications are based on uninterrupted operation. When the indicated number of working hours is not achieved during the corresponding period, the period can be extended. However a full overhaul must be carried out at least once a year.

Due to different working conditions it cannot be foreseen how frequently inspections for wear check's, inspection, maintenance and repair work should be carried out. Prepare a suitable inspection schedule considering known working conditions and experience.

7

Our specialists will be happy to assist with more advice.

Follow additional operating and maintenance of OEM if included during your service and maintenance work.

Pay attention to special notice, given by instructions for electric-motors or combustion engines.

7.2 Maintenance and inspection list

Operating hours/ time period	Inspection points, and maintenance instructions
12 h after repairing	Check all accessible screw connections for tightness.
Daily and prior to starting work	Check all safety devices are working correctly Check the power supply cable for damages. Check the hose to the dust collector, and or water tank for damage. Check whether or not, there are any foreign matter in the coupling of the grinding disc. Check the grinding disc and the coupling for wear. Check the countersunk head screw of the grinding disc for tightness. Check the tension of the V-belt, adjust as is required. Check the brush dust seal
Quarterly	Clean the machine with a damp cloth.
Annually	Full overhaul and cleaning of the complete machine. Replacement of the pulley parts. (about 200hours)

7.3 Repairing

As previously mentioned in Chapter 5 “Initial operation” we recommend to execute the first repair works on the machine by having support of **Blastrac** personnel, by taking this advice, maintenance personnel gets the opportunity to be trained by an expert on the machine.

Only repair work that could occur within the bounds of regular operation of the machine, or work that is required to replace wear parts, will be described.

If parts are replaced by yourself for a specific reason, the following instructions and work sequence should be observed.

It would be advisable to stock all spare or wear parts that cannot be obtained quickly. As a rule, production standstill periods are more expensive than the cost for the corresponding spare part.

Screws that have been removed must be replaced with those of the same quality (strength, material) and design.

Prior to any repair works on the machine and its drives, secure the machine against unintentional switching-on. See chapter 2.6.

7

7.4 Grinding disc replacement / assembly

Prior to any repair works on the machine and its drives, secure the machine against unintentional switching-on. Put the machine to its safety off position. Chapter 2.6

Disassembly:

1 Make sure that the power supply is disconnect from the electrical inlet (1).
2 Tilt the machine to the back with the help of the handgrips (2) and lay it down on the chassis.
3 Unscrew the three countersunk head screws (3).
4 Remove the grinding disc downwards (4).

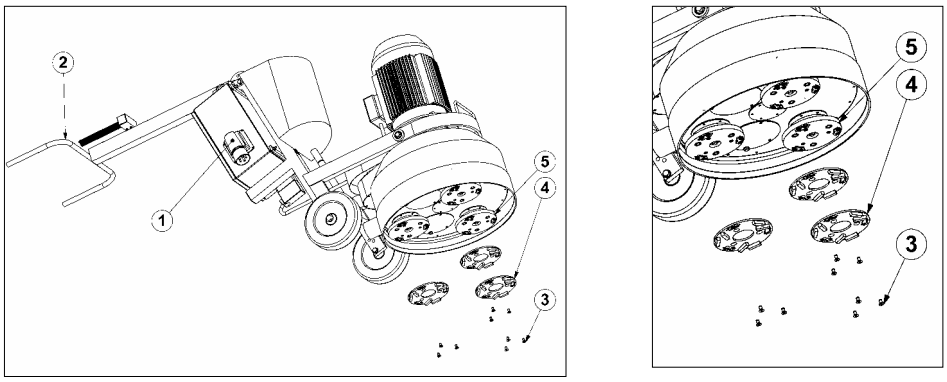


Fig. 7.1

Assembly:

5 Clean the diamond holder thorough (5).
6 Adjust the grinding disc in the centring (4).
7 Set in and tighten the countersunk head screw (3).
8 Tilt the machine forwards.

When replacing the grinding disc, also check the condition of the drive pulley and the diamond tool holders.
Always replace any worn screws.

7.5 Upper part

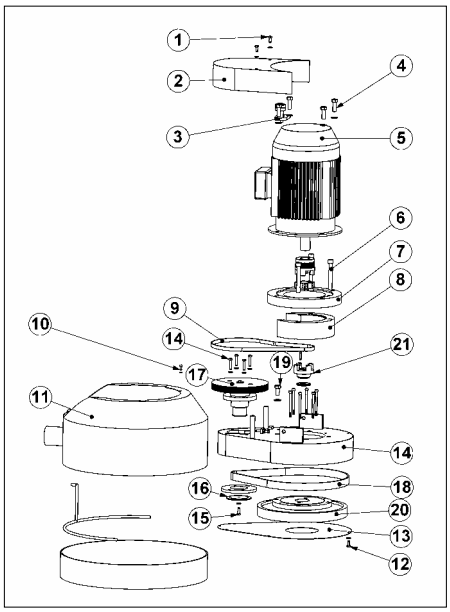


Fig. 7.2

Disassembly:

- Unscrew the bolts (1) on the topside, to enable the protection cover (2) to be removed.
- Disassemble the upper tensioner (3) and the bolts (4) to enable the motor (5) to be removed.
- Unscrew the long bolts (6) so the motor adapter flange (7) and the motor mount (8) can be removed.
- Now the belt (9) can be removed.
- The protection cover (11) can be removed by taking out the bolts (10)
- Unscrew the bolt (12) this will allow the under plate (13) to be removed.
- Unscrew the bolts (14) and the bolt (15) to enable the rings (16) and the contra pulley (17) to be taken out of the upper drive.
- Remove the belt (18.
- The centre pulley (20) can be removed by unscrewing bolt (19).
- The coupling (21) must be taken off before you can disassembled the lower part.

Assembly: Assemble the parts in the reverse order that they have been disassembled.

7.6 Lower part

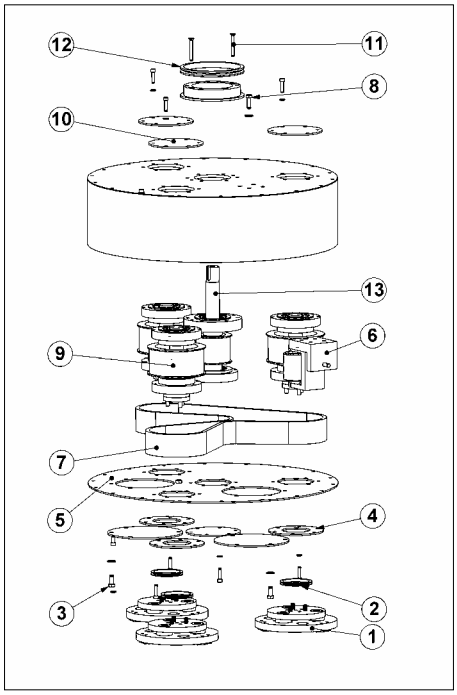


Fig. 7.3

Disassembly:

- Disassemble the diamond tool holders (1) and take off the v-seal (2)
- Unscrew the bolts (3) from the underside, remove the rings (4), and the lower plate (5)
- Release the force on the lower tensioner (6), to enable the belt (7) to be taken of
- Unscrew the bolts (8) on the upper side to enable the pulleys (9), the tensioner (6), the v-seal (12) and the rings (10) to be taken off.
- Unscrew the bolts (11) to enable the driving pulley (13) to be removed.

Assembly: Assemble the parts in the reverse order that they have been disassembled.

The pulley (9) is a very important component. Depending upon the application, the bearing is subject to a high thermal and dynamic load. Therefore the service life of the bearing depends on the surface to be treated. That means that the surface structure, the hardness and also the duration of the grinding process have a great influence on this pulley.

7.7 Pulley

Prior to any repair works being carried out on the machine or its drives, secure the machine against unintentional switching-on. See chapter 2.6.

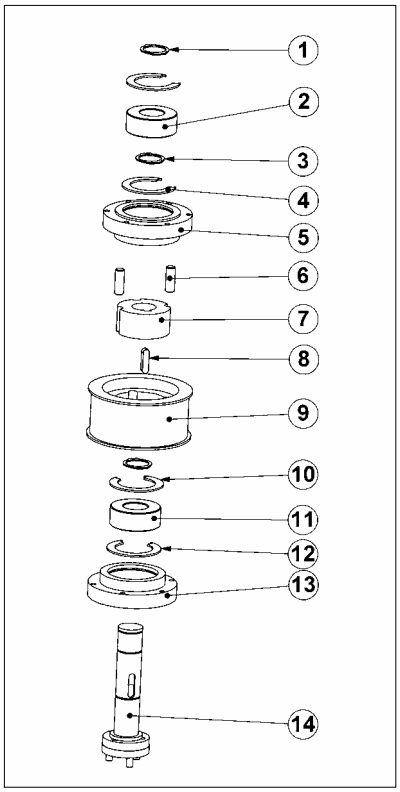


Fig. 7.4

Disassembly:

- Take off the retaining ring (1).
- Remove the bearing housing (5)
- Take off the retaining ring (4) and (3)
- Remove the bearing (2)
- Unscrew the bolts (6) of the taper bush
- Remove the taper bush (7), the key (8) and the pulley (9).
- Take off the retaining rings (10)
- Remove the bearing housing (13)
- Take off the retaining ring (12) and the bearing (11)

Assembly: Assemble the parts in the reverse order that they have been disassembled.

7.8 Other maintenance's

Check the brush seals for wear, and replace them at the time when they no longer provide a good seal against dust emissions from the machine, by this action damage to the surrounding workspace is avoided, and consequently saves additional charges from the job client.

Clean the machine with a damp cloth.

Do not use high pressure water or compressed air for cleaning the machine!

Apply Oil to the adjusting pin of the operating lever, and other moving parts with clean oil can at regular intervals.

7.9 Spare parts on stock

Blastrac recommend, that having the following spare parts on stock will avoid long down times, awaiting spare parts.

Part No.	Description	Qty.
BG11806	Buffer soft	9
BG11811	Centring star	9
BG11924	Driving belt upper	1
BG11904	Driving belt middle	1
BG11905	Driving belt lower	1
See chapter 10	Diamond disc	>1

7.10 Influences on the grinding pattern

The grinding pattern depends upon the surface being treated.

Depending on the required surface finish specified, the tools (Grinding discs), will have to be changed in order to produce the best result, compare the individual results of the tools.

7

Use the left-right switch of the machine every 100m^2, (by this means changing the rotation of the work head), to get a longer lifetime of the diamond tools. They will wear down more equally.

In the last 2mm of the diamond tools there is a loose buffer material (no diamond inside), changing rotation avoids the problem where on one side of the disc there is 1-2 mm of the diamond left and on the other side the material is completely gone.

A check on the grinding pattern should always be made after new or other types of diamond tools have been fitted.

These simple actions will produce efficient work, and save unnecessary wear and repair costs.

Contents Chapter 8

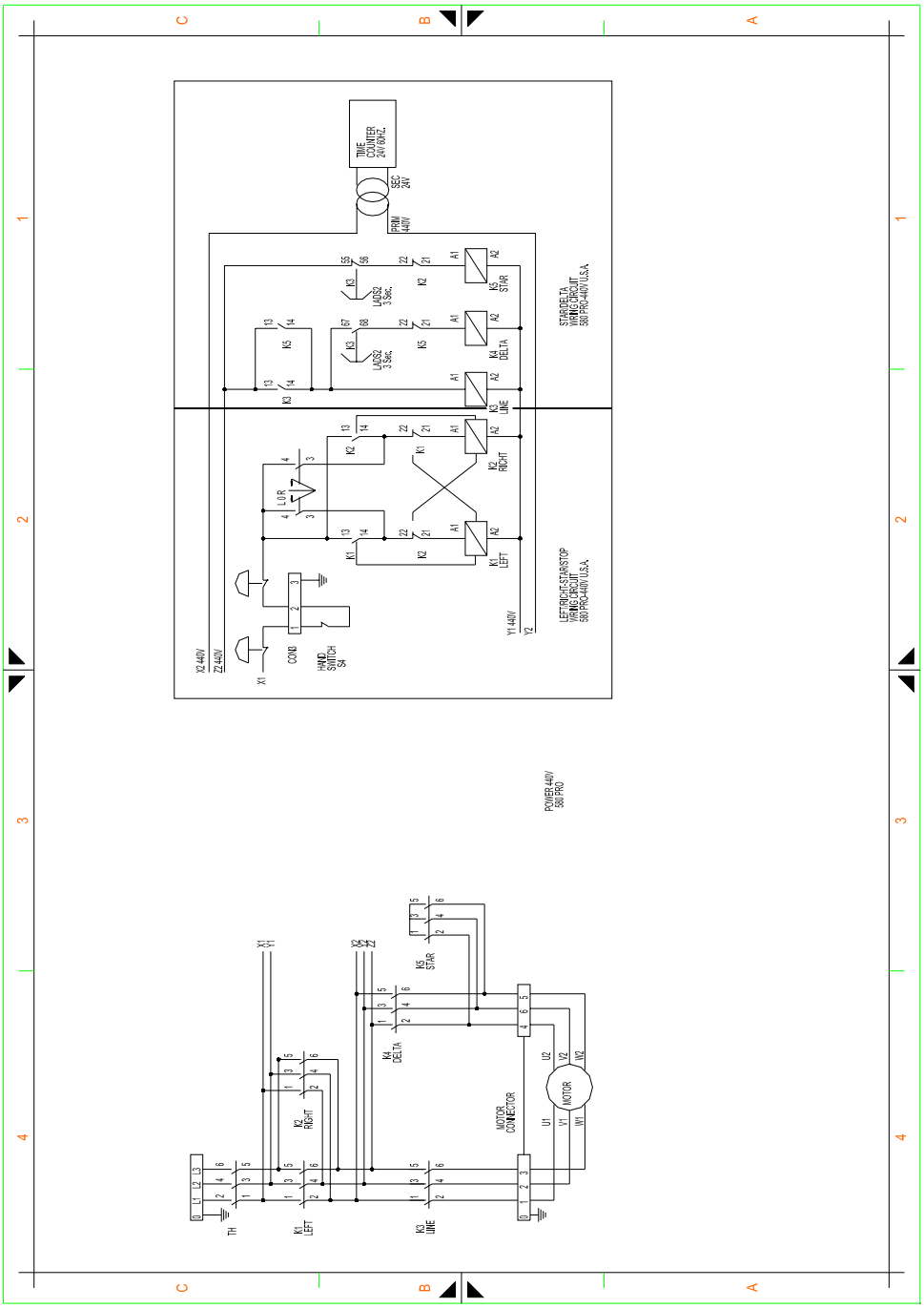
8.1 Directions for electrical engineering

Work on electrical equipment or operating materials may only be undertaken by a **skilled electrician** or by trained persons under the guidance and supervision of a skilled electrician as well as in accordance with the electrical engineering regulations.

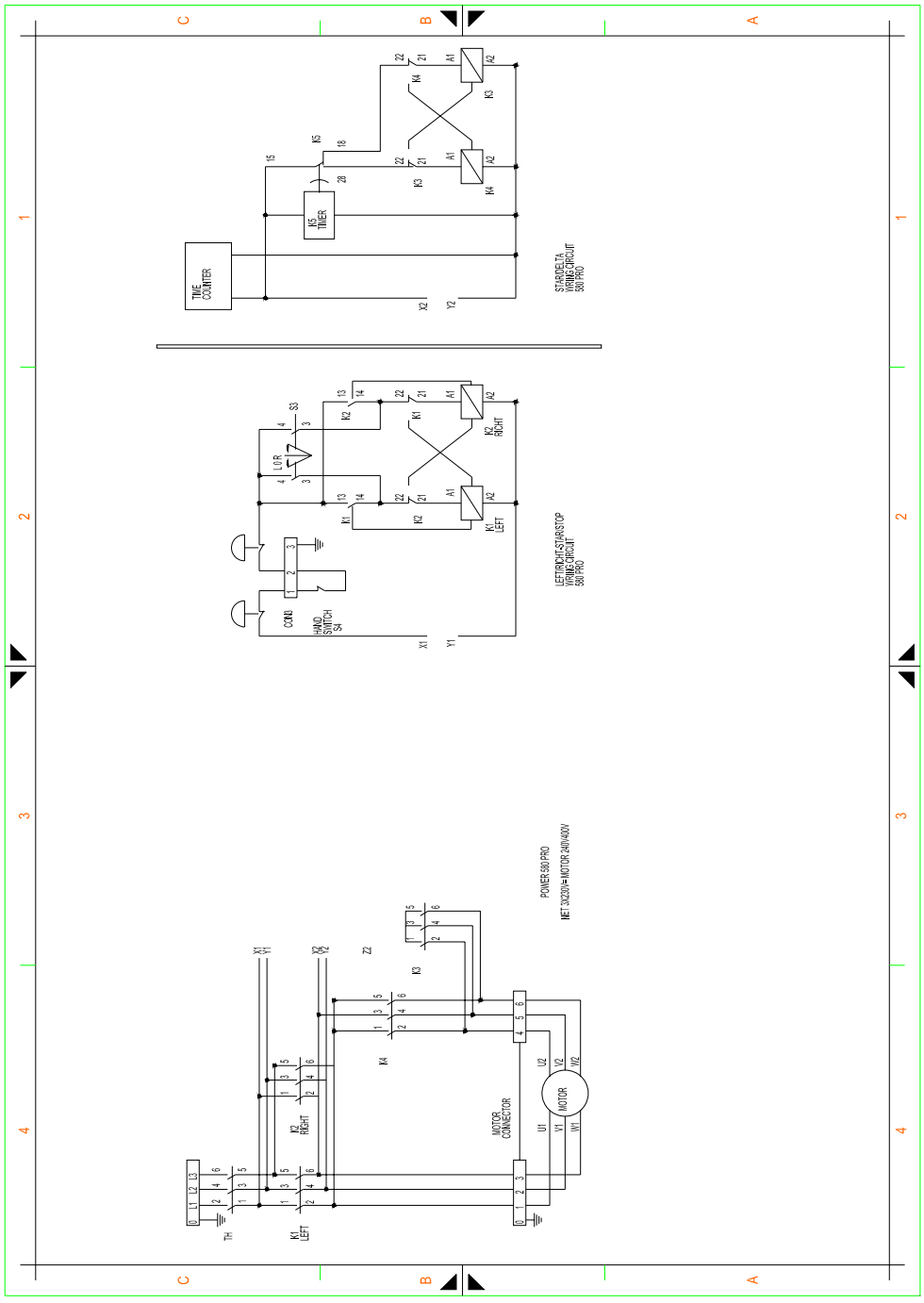
Order the electric items with reference to the circuit diagrams in chapter 8.1 or call a Blastrac service centre.

Observe the regulations of the VBG 4 and also of the VDE0701. (Measurement after maintenance and repair works).

8.2 Electric circuits diagram / wiring 440V



8.2 Electric circuits diagram / wiring 220V



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Contents Chapter 9

9.1 Fault diagnosis – grinding machine

Prior to any repair works on the machine or its drives the machine must be secured against unintentional switching-on. Put the machine to its Safety off position.

Fault	Possible cause	Remedy
Excessive vibration	Imbalance due to worn or broken grinding tools.	Replace all worn or broken parts
	Screws worked loose on the grinding disc	Tighten the counter-sunk head screws on the grinding disc.
Unusual noises	Defective bearing	Check the bearing on the axle drive shaft and replace if necessary.
	Wrong tension of the V-belt	Check the tension of the V-belt, replace the V-belt if necessary
	Defective motor bearing	Change the motor
	Debris deposit on the coupling	Clean the coupling
Reduced or no grinding performance	Grinding tools have reached the maximum permissible wear	Replace the worn parts
	Inappropriate grinding tool for the application	Replace the grinding tools with appropriate grinding tools for the surface to be treated
	Too low tension of the V-belt	Re-tension the V-belt

9.2 Fault diagnosis electrical-system

Work on electrical equipment or operating materials may only be undertaken by a **skilled electrician** or by trained persons under the guidance and supervision of a skilled electrician as well as in accordance with the electrical engineering regulations.

Prior to any repair works on the machine or its drives the machine must be secured against unintentional switching-on. Put the machine to its Safety off position.

Fault	Possible cause	Remedy
Motor does not switch on	Missed phase	Check the mains power supply and next switch on again
	Defective Component	Fault finding and replace defective component
Motor triggers while running	Motor protections switch triggered because of overload	Reduce additional load
	Motor have a defect	Check the motor

Notes

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Contents Chapter 10

Spare Parts

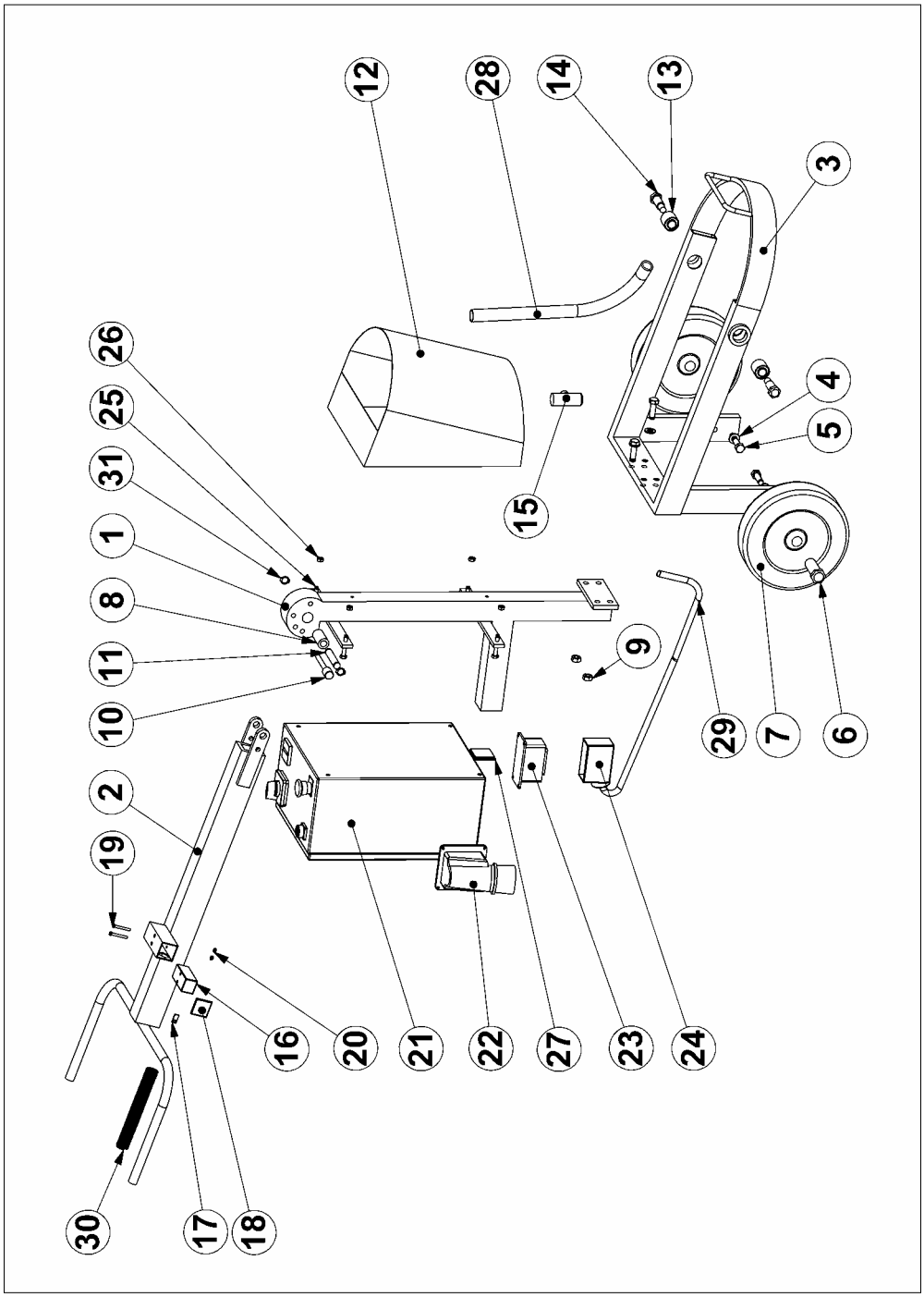

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Fig. 10.1

015 - FRAME			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005829	FRAME FOR POWERBOX	1
2	BG005841	STEER BMG-580	1
3	BG005828	LOWER FRAME	1
4		M12 WASHER	6
5		HEXAGON HEAD BOLT M12X40	6
6	BG11765	BOLT FOR WHEEL	2
7	BG11755	WHEEL	2
8	BG11843	BUSH	1
9		M12 HEXAGON NUT	4
10	BG11750	PIN	1
11	BG11757	PIN	1
12	BG11772	WATER TANK	1
13	BG11846	HINGE BUSH	2
14	BG11752	HINGE BOLT	2
15	BG11770	WATER TAP	1
16	BG11760	SWITCH	1
17	BG11759	KEY FOR SAFETY SWITCH	1
18	BG11844	CAP 40X40	1
19		SLOTTED CHEESE HEAD SCREW M5X35	2
20		M5 HEXAGON NUT	2
21	BG005842	POWERBOX 3X220V	1
	BG005843	POWERBOX 3X400V	1
	BG005848	POWERBOX 3X440V	1
22	BG11920	ELECTRICAL INLET 3X220V	1
	BG11921	ELECTRICAL INLET 3X400/440V	1
23	BG001507	CONNECTOR	1
24	BG001512	PLUG	1
25		HEXAGON HEAD BOLT M8X35	4
26		M8 HEXAGON NUT	8
27	BG11845	CAP 50X50	1
28	BG11861	WATER HOSE	1
29		POWER CABLE	1
30	BG11758	CORD FOR SAFETY SWITCH	1
31		RETAINING RING 15, DIN 471	2

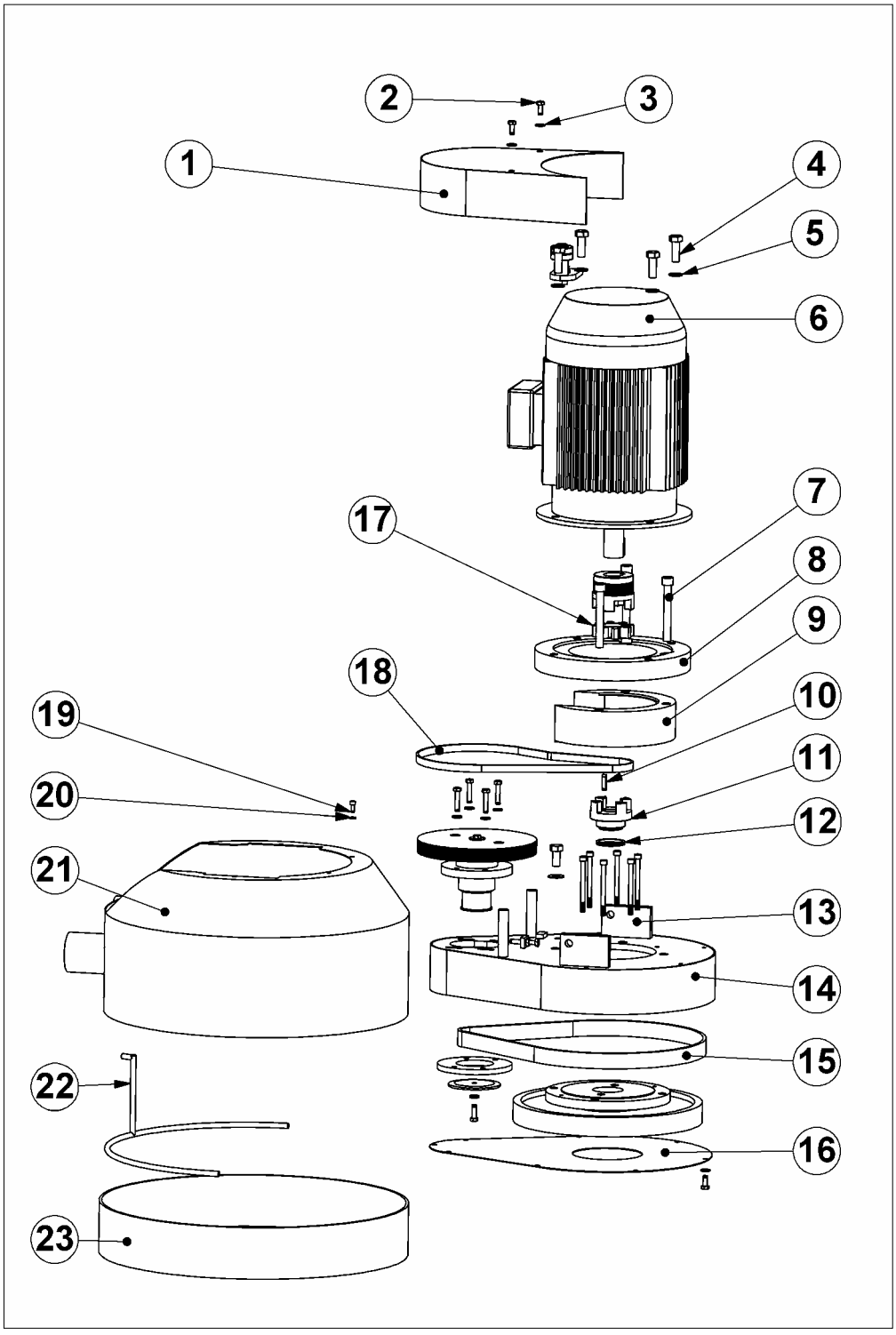

Fig. 10.2

020-1 - UPPER PART			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005847	PROTECTION CAP	1
2		HEXAGON HEAD BOLT M8X20	10
3		M8 WASHER	10
4		HEXAGON HEAD BOLT M14X40	4
5		M14 WASHER	4
6	BG11961	MOTOR 7,5 KW 3x220V	
	BG11960	MOTOR 7,5 KW 3X400V	1
7		HEXAGON SOCKET HEAD CAP SCREW M14X110	3
8	BG005810	FLANGE MOTOR SEAT	1
9	BG005811	MOTOR SEAT	1
10		KEY 8X30, DIN 6885A	1
11	BG005808	COUPLING	1
12	BG11980	V-SEAL	1
13	BG005813	HOLDER	2
14	BG005809	MOTOR PLATE	1
15	BG11904	HTD BELT	1
16	BG005834	LOWER PLATE UPPER DRIVE	1
17	BG005844	SPIDERBEARING	1
18	BG11924	DRIVE BELT	1
19		HEXAGON SOCKET HEAD CAP SCREW M6X15	4
20		M6 WASHER	4
21	BG005839	PROTECTION COVER	1
22	BG005850	WATER PIPE	1
23	BG11906	RUBBER DUST SEAL	1

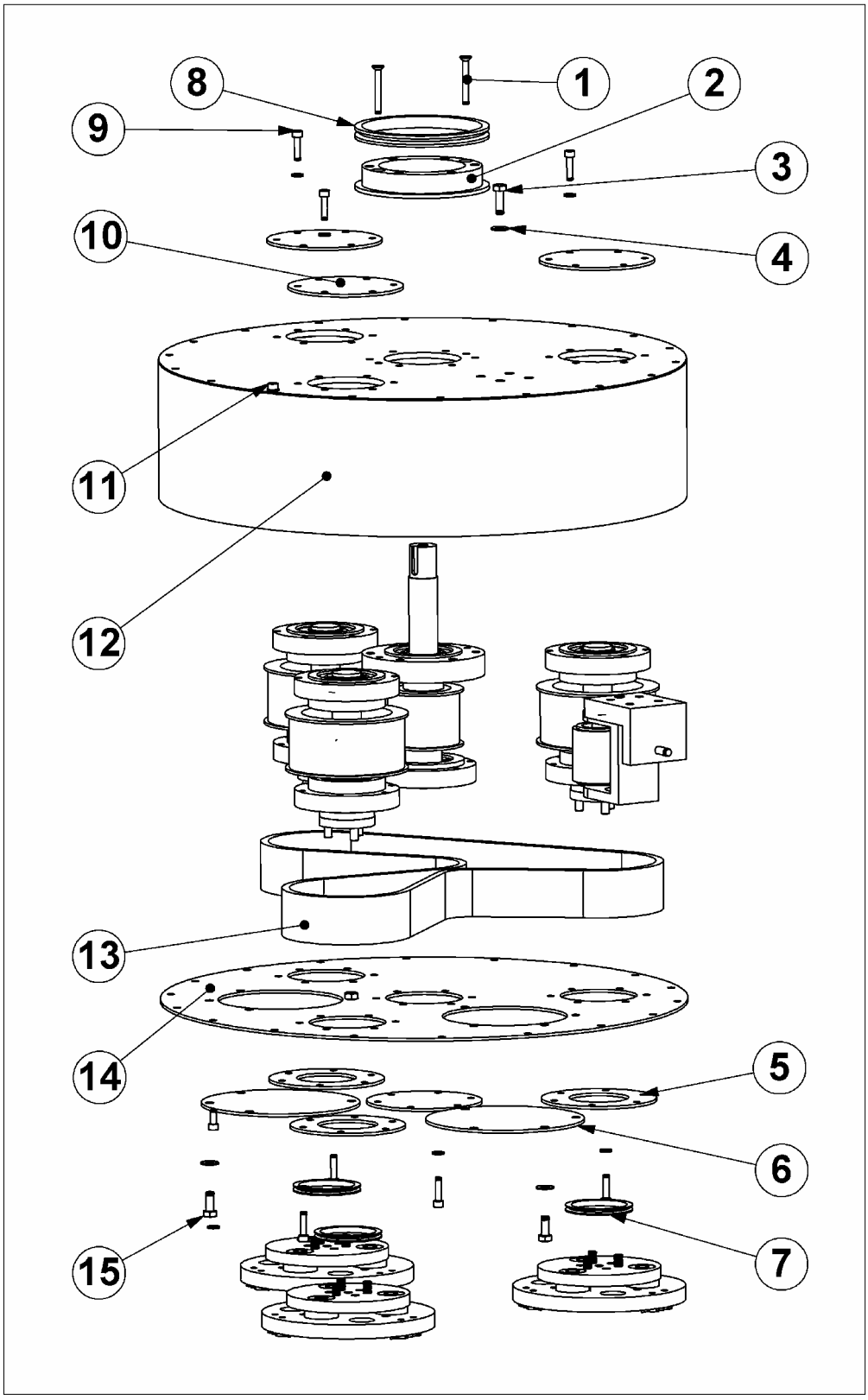

Fig. 10.3

020-2 - LOWER PART			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1		HEXAGON SOCKET COUNTER-SUNK HEAD SCREW M6X50	2
2	BG005814	RING	1
3		HEXAGON HEAD BOLT M8X25	4
4		M8 WASHER	12
5	BG005826	RING	3
6	BG005850	INSPECTION COVER	2
7	BG11797	V-SEAL	3
8	BG11849	V-SEAL	1
9		HEXAGON SOCKET HEAD CAP SCREW M6X25	42
10	BG005827	COVER	4
11		HEXAGON SOCKET HEAD CAP SCREW M6X15	36
12	BG005822	HOUSING	1
13	BG11905	HTD BELT	1
14	BG005824	LOWER PLATE	1
15		HEXAGON HEAD BOLT M8X20	8

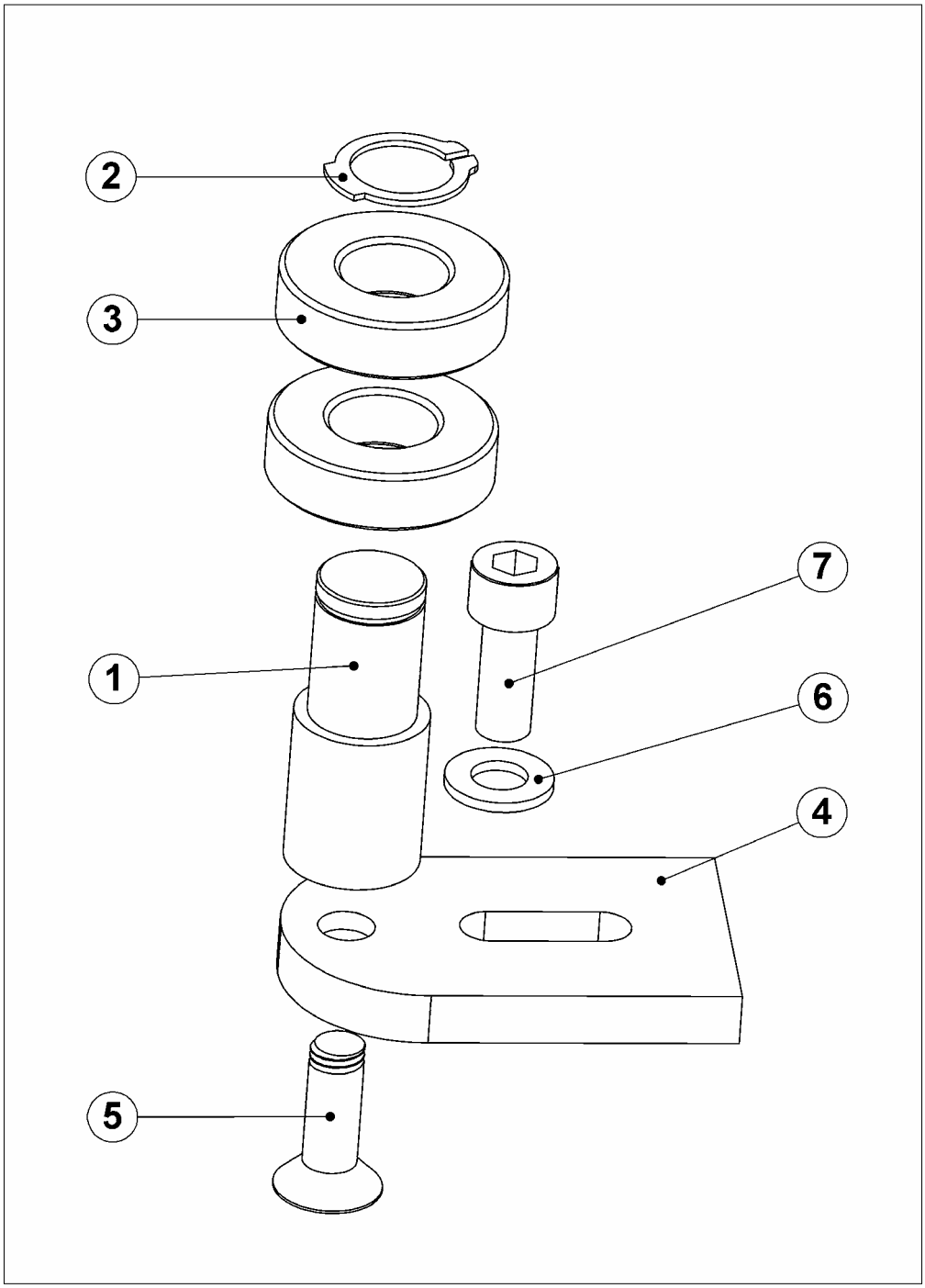

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Fig. 10.4

025 – TENSIONER UPPER BELT			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005830	AXLE	1
2		RETAINING RING 20, DIN 471	1
3	BG11911	BEARING	2
4	BG005831	TENSION PLATE	1
5		HEXAGON SOCKET COUNTER-SUNK HEAD SCREW M10X30	1
6		M10 WASHER	1
7		HEXAGON SOCKET HEAD CAP SCREW M10X25	1

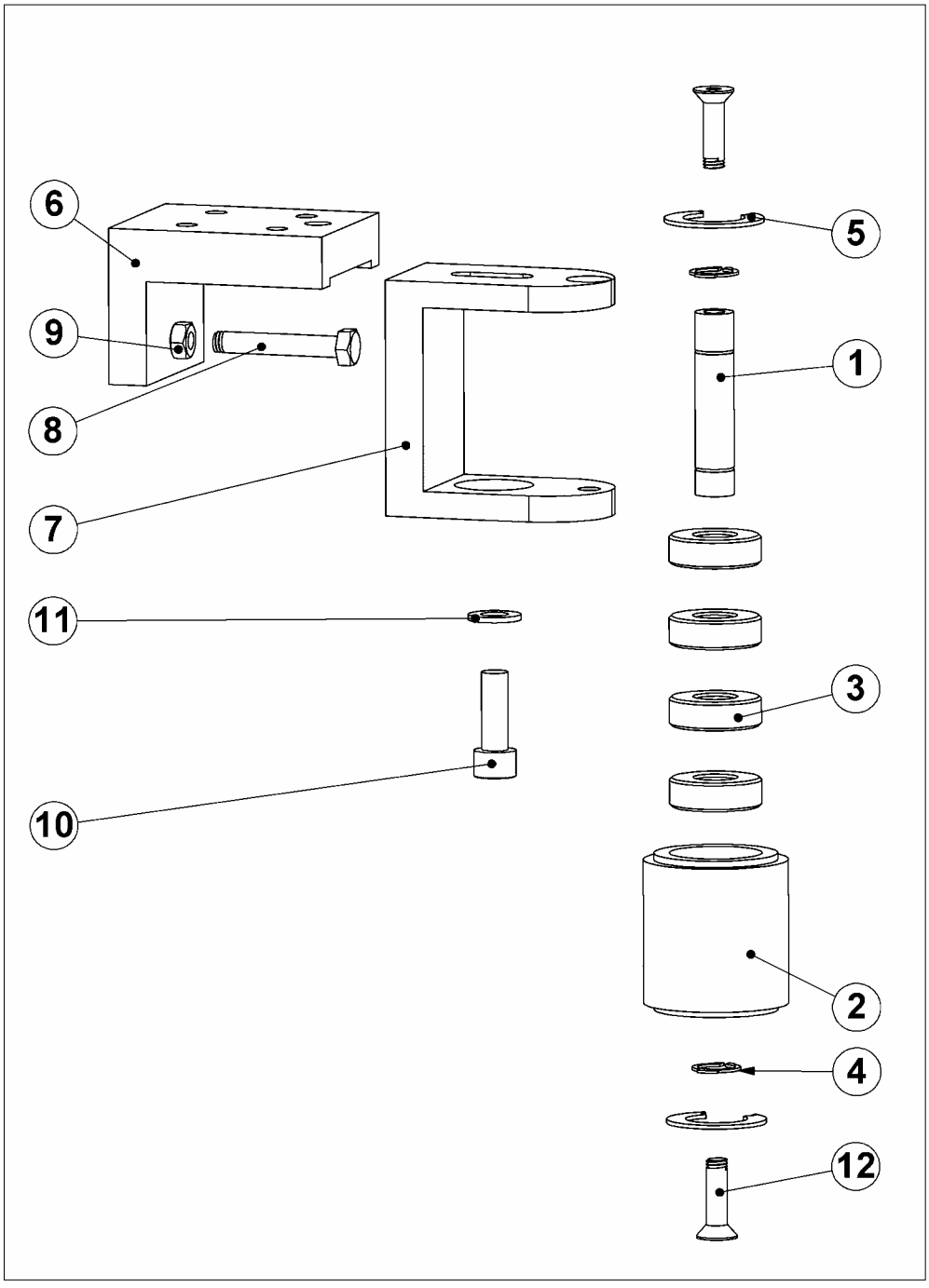

Fig. 10.5

030 – TENSIONER LOWER BELT			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005837	AXLE TENSIONER	1
2	BG005836	PULLEY	1
3	BG11792	BEARING	4
4		RETAINING RING 15, DIN 471	2
5		RETAINING RING 35, DIN 472	2
6	BG005832	HOLDER	1
7	BG005833	TENSIONER	1
8		HEXAGON HEAD BOLT M8X50	1
9		M8 HEXAGON NUT	1
10		HEXAGON SOCKET HEAD CAP SCREW M10X30	1
11		M10 WASHER	1
12		HEXAGON SOCKET COUNTER-SUNK HEAD SCREW M8X30	2

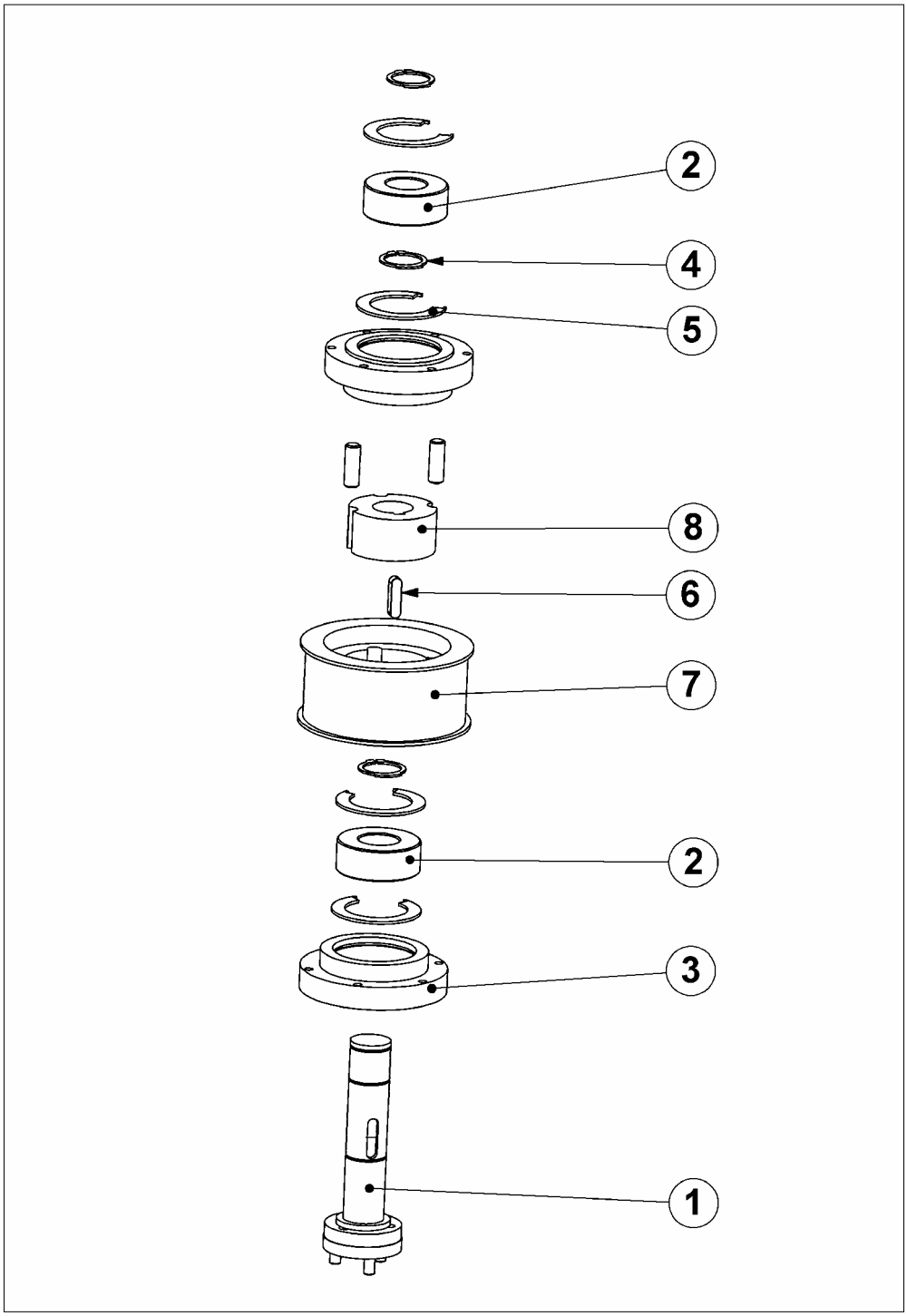

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Fig. 10.6

035 – PULLEY			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005816	AXLE PULLEY	1
2	BG11817	BEARING	2
3	BG005817	BEARING HOUSE	2
4		RETAINING RING 30, DIN 471	3
5		RETAINING RING 62, DIN 472	4
6		KEY 8X30, DIN 6885A	1
7	BG005819	PULLEY	1
8	BG11819	TAPER BUSH	1

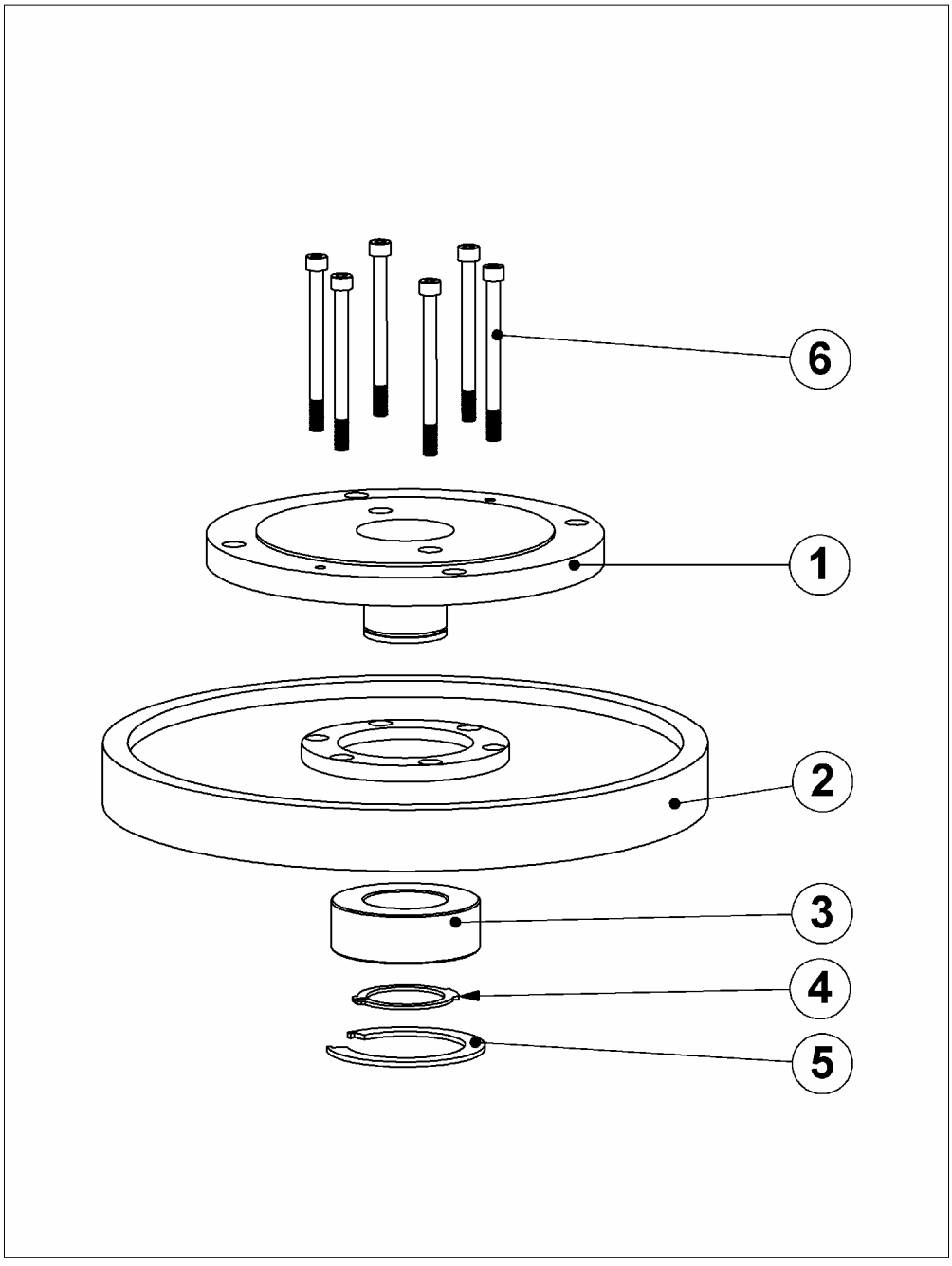

Fig. 10.7

040 – CENTRE PULLEY			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005812	SPROCKET	1
2	BG005806	PULLEY	1
3	BG11823	BEARING	1
4		RETAINING RING 50, DIN 471	1
5		RETAINING RING 90, DIN 472	1
6		HEXAGON SOCKET HEAD CAP SCREW M8X100	6

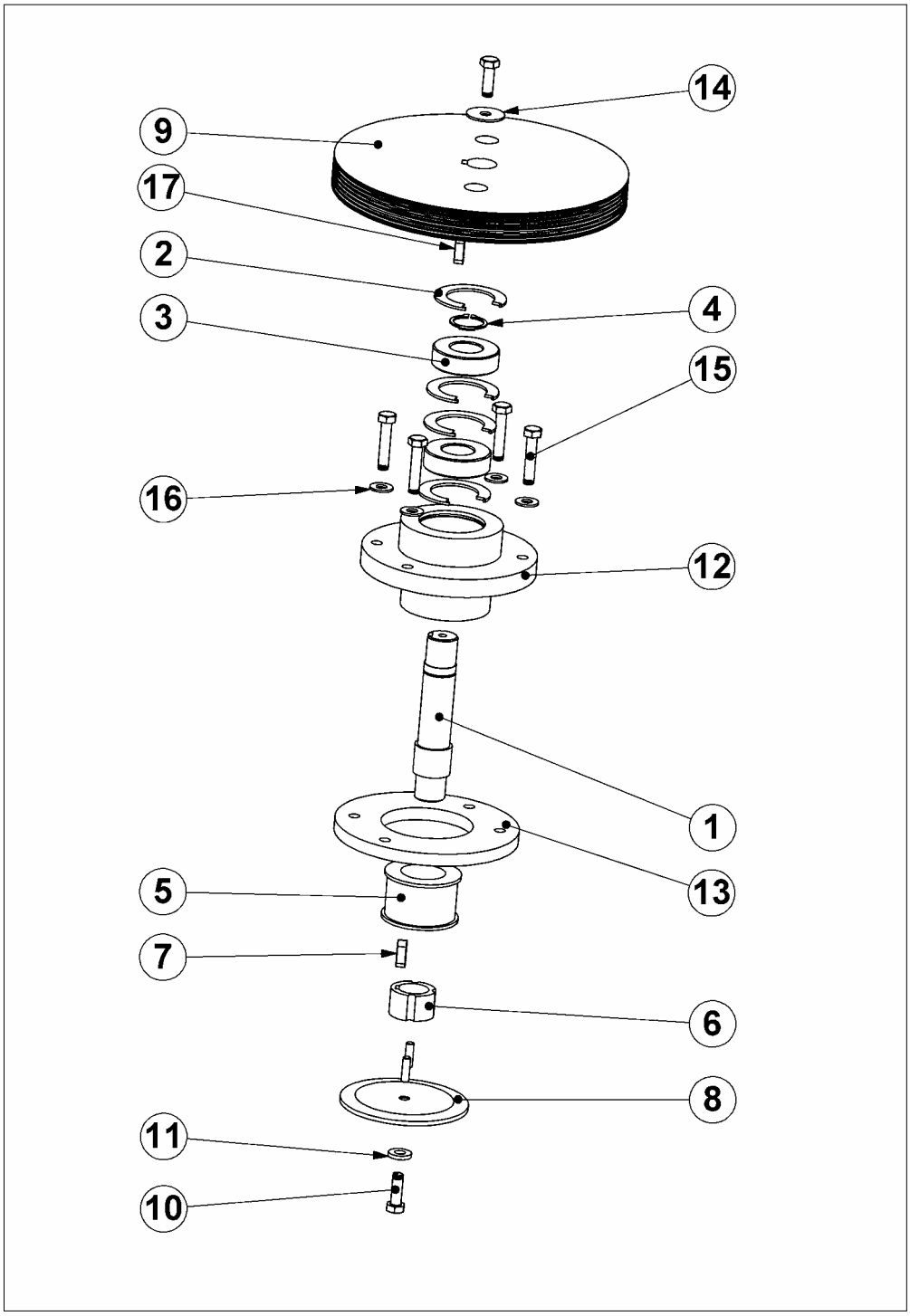

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Fig. 10.8

045 – CONTRA PULLEY			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005801	AXLE	1
2		RETAINING RING 52, DIN 472	4
3	BG11881	BEARING	2
4		RETAINING RING 25, DIN 471	1
5	BG005805	PULLEY	1
6	BG11927	TAPER BUSH	1
7		KEY 8X20, DIN 6885A	1
8	BG005804	FLANGE	1
9	BG005803	BELT PULLEY	1
10		HEXAGON HEAD BOLT M8X25	2
11		M8 WASHER	1
12	BG005802	BEARING HOUSE	1
13	BG005807	RING	1
14		M8 WASHER	1
15		HEXAGON HEAD BOLT M8X40	4
16		M8 WASHER	4
17		KEY 8X20, DIN 6885A	1

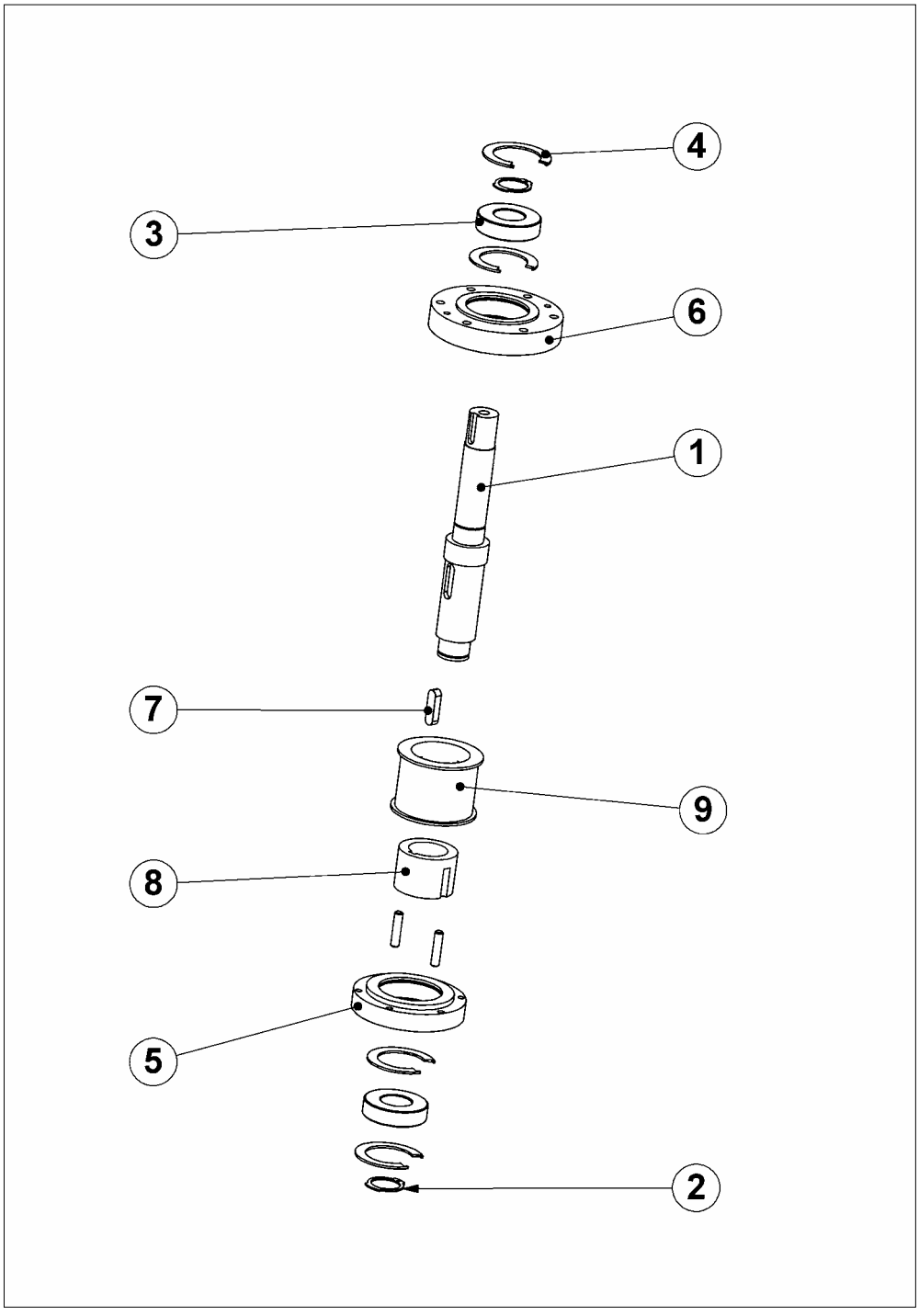

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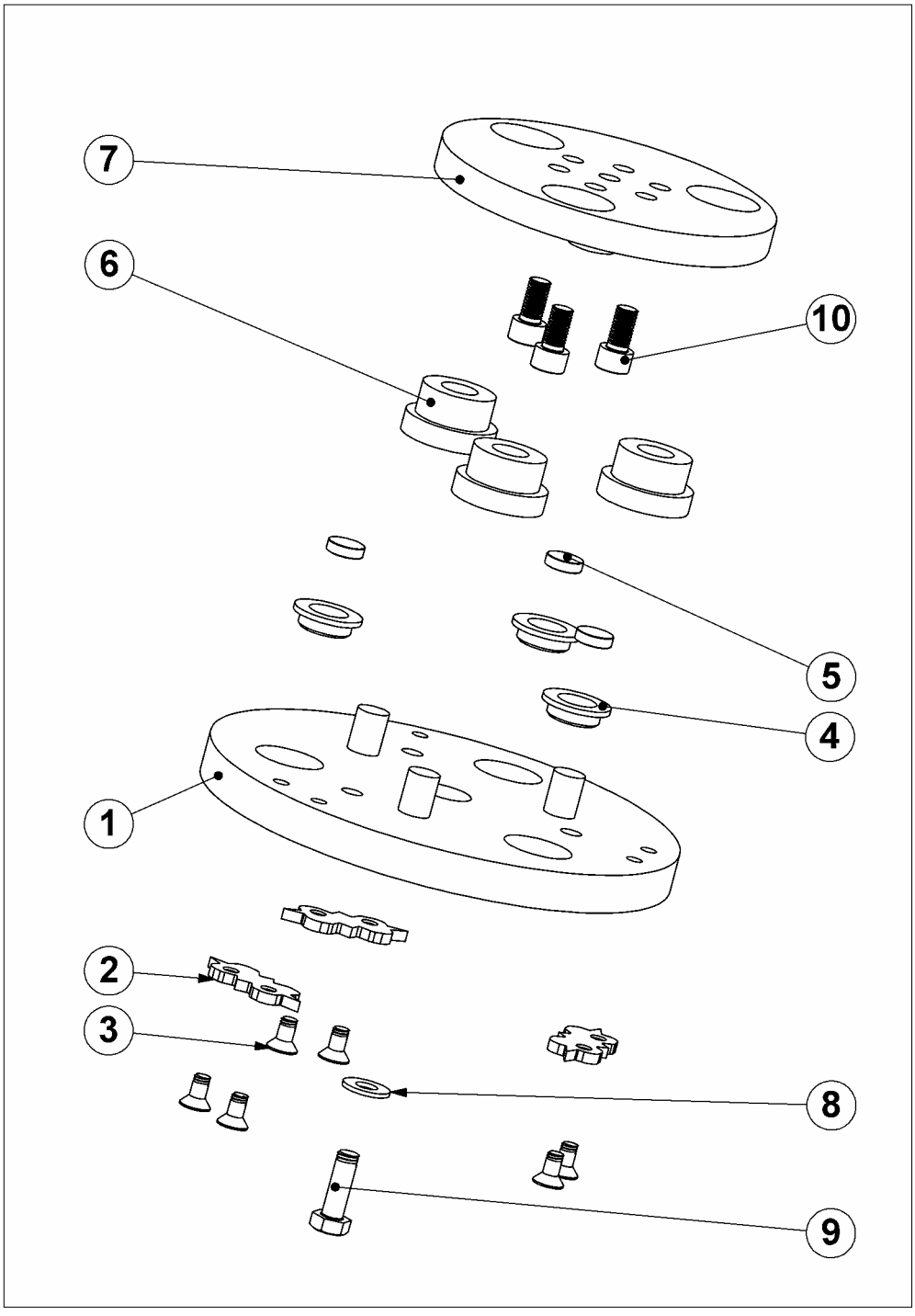
Fig. 10.9

050 – DRIVING PULLEY			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG005818	AXLE	1
2		RETAINING RING 30, DIN 471	2
3	BG11800	BEARING	2
4		RETAINING RIN 63, DIN 472	4
5	BG005821	BEARING HOUSE	1
6	BG005815	BEARING HOUSE	1
7		KEY 8X35, DIN 6885A	1
8	BG11815	TAPER BUSH	1
9	BG005820	PULLEY	1

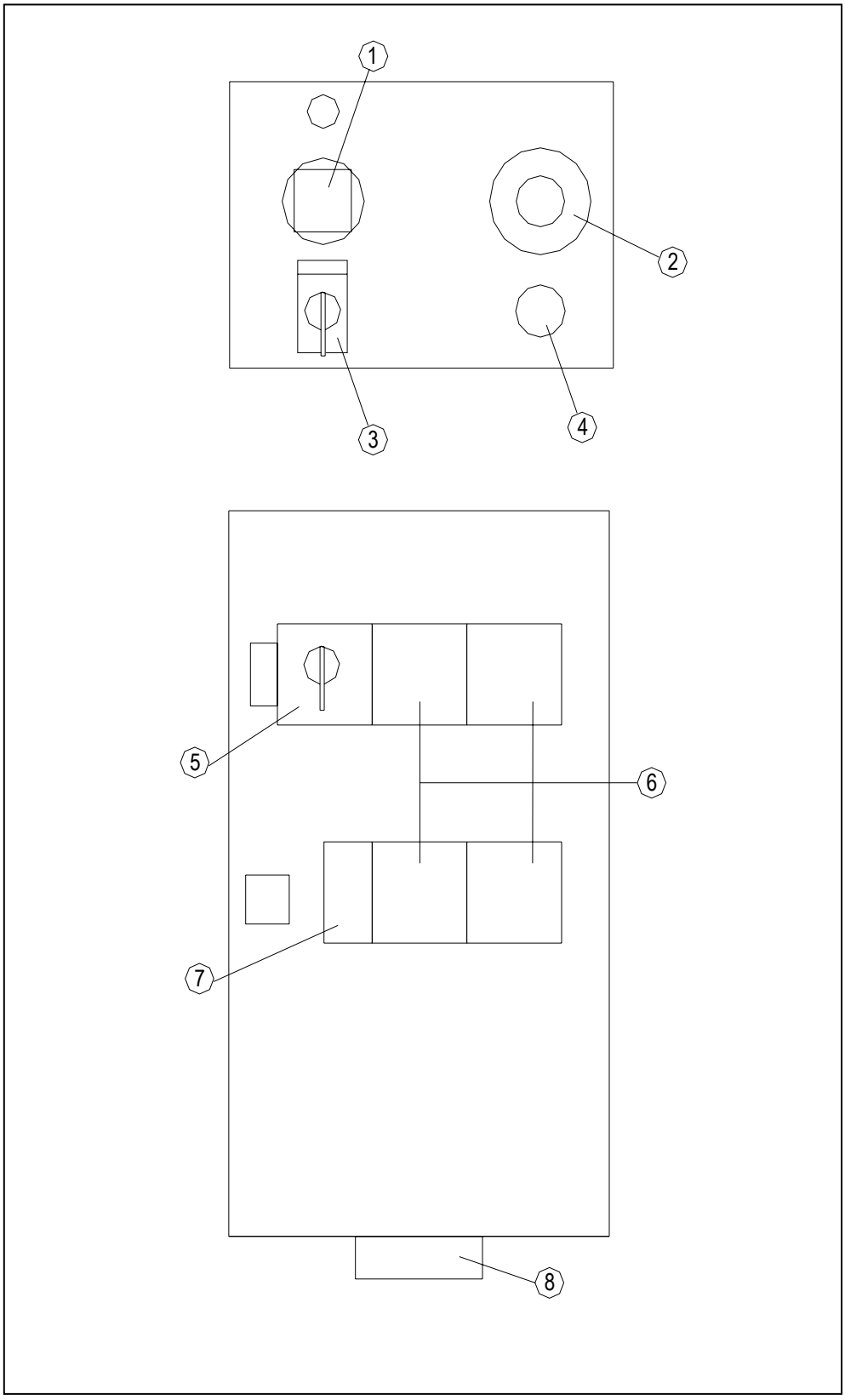


10

Fig. 10.10

055 – DIAMOND HOLDER			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG11809	TOOL HOLDER (COMPLETE)	1
2	BG11811	CENTRING STAR	3
3		HEXAGON SOCKET COUNTER-SUNK SCREW M6X10	6
4	BG11808	MAGNET HOLDER	3
5	BG11807	MAGNET	3
6	BG11806	BUFFER SOFT	3
7	BG11805	BUFFER PLATE	1
8		M8 WASHER	1
9		HEXAGON HEAD BOLT M8X25	1
10		HEXAGON SOCKET HEAD CAP SCREW M8X16	3

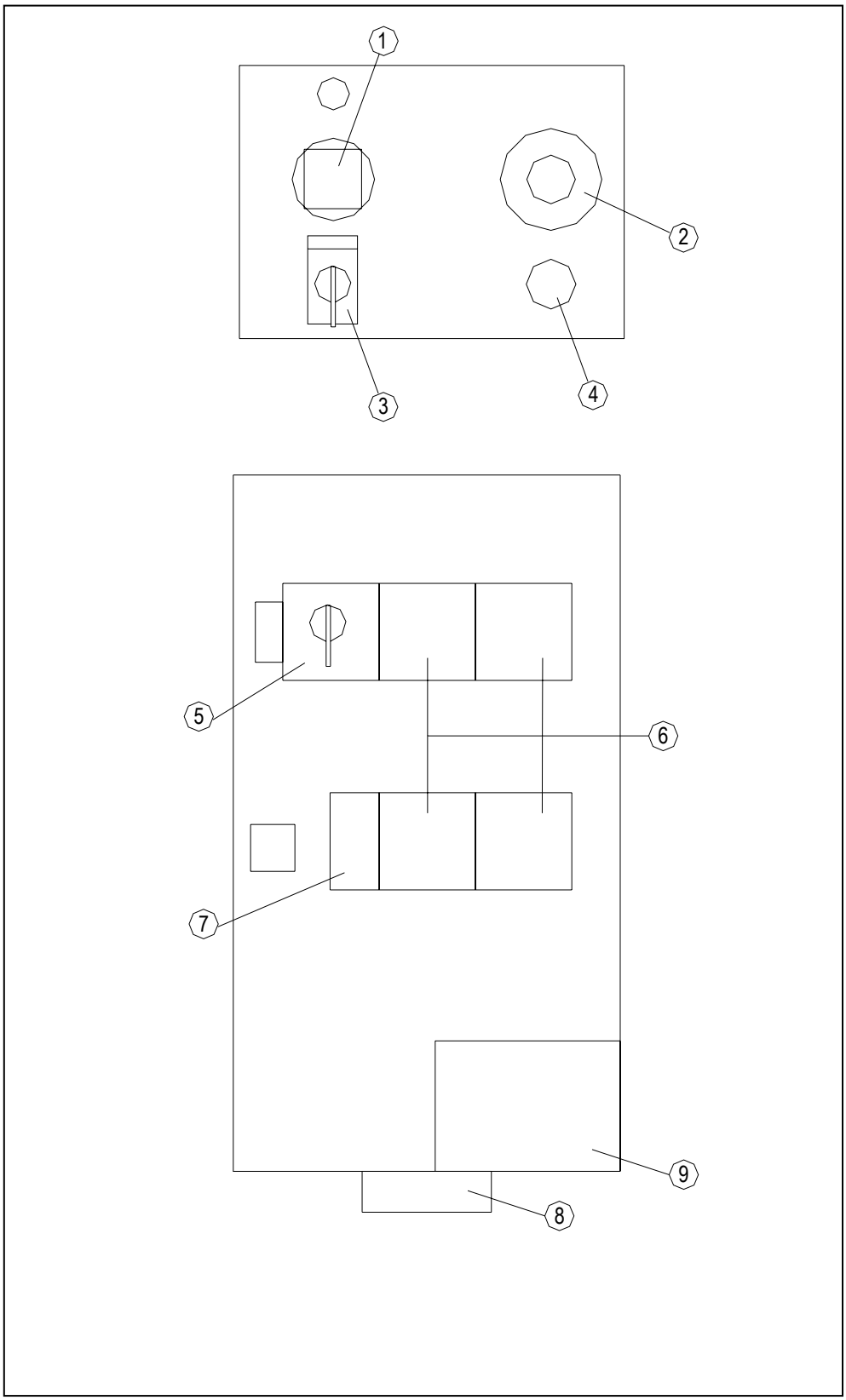
Spare Parts



10

ELECTRO BOX - 230V			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG001508	HOUR COUNTER	1
2	BG001500	EMERGENCY STOP	1
3	BG001506	L/R SWITCH	1
4	BG001504	START BUTTON	1
5	BG006091	MOTOR PROTECTION SWITCH	1
6	BG006055	CONTACTOR	4
7	BG006056	TIMER SWITCH	1
8	BG001507	POWER OUTLET MOTOR	1

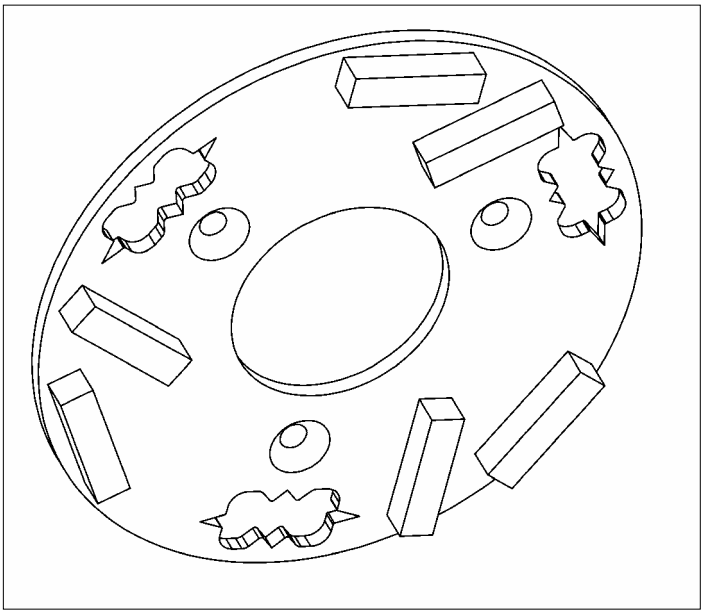
Spare Parts



10

ELECTRO BOX - 440V			
ITEM	**PART-NO.**	**DESCRIPTION**	**QTY.**
1	BG001505	HOUR COUNTER	1
2	BG001500	EMERGENCY STOP	1
3	BG001506	L/R SWITCH	1
4	BG001504	START BUTTON	1
5	BG006087	MOTOR PROTECTION SWITCH	1
6	BG006054	CONTACTOR	4
7	BG006086	TIMER SWITCH	1
8	BG001507	POWER OUTLET MOTOR	1
9	BG006085	TRANSFORMER	1

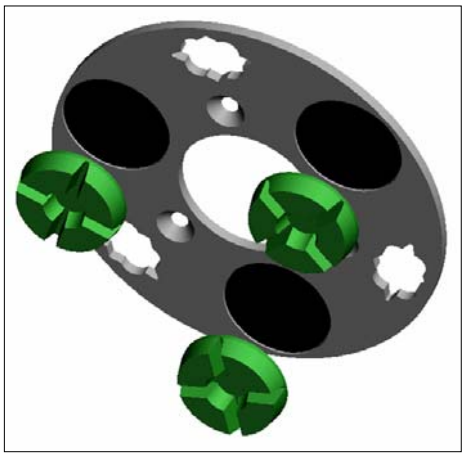
10.2 Diamond discs



PART-NO.	DESCRIPTION
BG200111	Diamond disc orange C7
BG200112	Diamond disc black C4 Ø185
BG200113	Diamond disc red C1 Ø185
BG200114	Diamond disc silver Ø185
BG200115	Diamond disc yellow Ø185
BG200116	Diamond disc blue
BG200117	Diamond disc green
BG200135	Disc resin plastic black
BG200136	Ø185mm Resin concrete black 120
BG200141	Ø185mm Concrete white 80/100
BG200160	Ø185mm diam.disc gold 180/200
BG200161	Ø185mm Concrete brown F50
BG200211	Disc green MB1 Ø185mm
BG200212	Disc black MB2 Ø185mm
BG200213	Disc red MB3 Ø185mm
BG200214	Disc yellow MB4 Ø185mm
BG200312	Ø185mm GB1 purple
BG200313	Ø185mm GB2 orange
BG200314	Grinding disc for regrind fine
BG200501	Ø185mm Res.marble green hard 60
BG200502	Ø185mm Res.marble black hard 120
BG200503	Ø185mm Res.marble black soft 120
BG200504	Ø185mm Res.marble brown soft 220
BG200505	Ø185mm Res.marble red hard 400
BG200506	Ø185mm Res.marble red soft 400
BG200507	Ø185mm Res.marble yell.soft 800

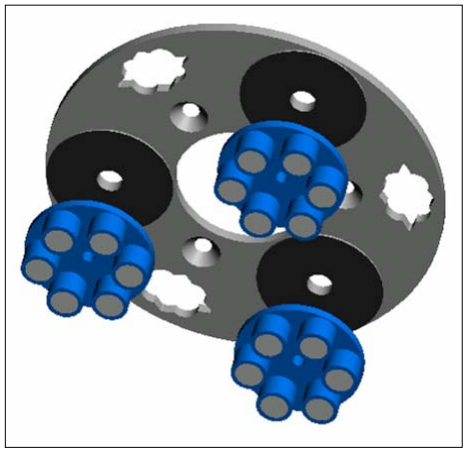
BG200508	Ø185mm Res.marble wht.soft1500
BG200509	Ø185mm Res.marble blue soft3000
BG200700	Ø185mm Resin granite green 60
BG200701	Ø185mm Resin granite black 120
BG200702	Ø185mm Resin granite red 220
BG200703	Ø185mm Resin granite yell.400
BG200704	Ø185mm Resin granite orange 600
BG200705	Ø185mm Resin granite white 800
BG200706	Ø185mm Resin granite blue 1500
BG200707	Ø185mm Resin granite grey 3500
BG200950	185mm Plast.disc Resin granite
BG200961	Ø185mm Plast.disc resin marble
BG200963	Ø185mm Alum. disc Resin marble
BG200964	Ø185mm Alum. Disc Resin granite
BG200966	Alu. Backplate Ø185mm Resin granite
BG201100	Dry polish wheel green 185
BG201102	Dry polish wheel yellow 185
BG201104	Dry polish wheel orange 185
BG201105	Dry polish wheel blue 185
BG300118	Holder Ø185mm, 50mm.TCstarwhl.
BG300137	Ø185mm Glueremovalheels TC+holders+axle TC
BG300138	Ø185mm Widiapointedflails TC+holders+axle TC
BG300505	Ø185mm Holders single axle
BG400201	Ø185mm.Holder plate
BG400211	Slicer for BMG-580 Ø185mm
BG400301	Flexible head disc Ø185
BG600121	Ø185mm Concrete E lightblue C71 6W
BG600122	Ø185mm Concrete E lightblue C71 6S
BG600123	Ø185mm Concrete E lightblue
BG600128	Diamond disc orange #16/18
BG600129	Ø185mm C7 Concrete orange #20/25
BG600130	Ø185mm C1 Concrete red #16/18
BG600131	Ø185mm C1 Concrete red #20/25
BG600132	Ø185mm C4 Concrete black # 16/18
BG600133	Ø185mm C4 Concrete black # 20/25
BG600134	Ø185mm C5 Concrete green # 16/20
BG600135	Ø185mm C5 Concrete green # 20/25
BG600136	Ø185mm C4 Concrete black # 80/100
BG600137	Ø185mm C4 Concrete black # 180/200
BG600138	Ø185mm C5 Concr.green#80/100
BG600139	Ø185mm C5 Concrete green # 180/200
BG600140	Set concrete red #80/100
BG600141	Set concrete red # 180/200
BG600180	Diamond disc red #6/8 Ø185

10.3 Marbles



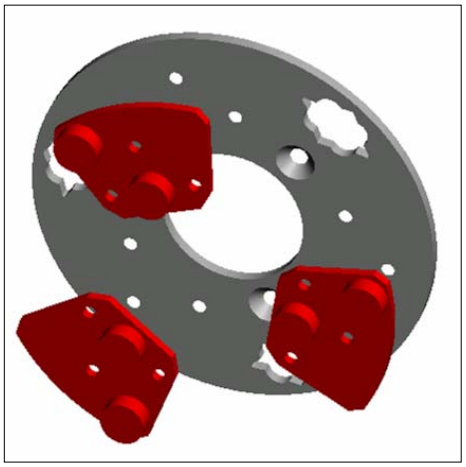
PART-NO.	DESCRIPTION
BG200900	RESINDOT GRANITE GREEN 60
BG200901	RESINDOT GRANITE BLACK #120
BG200902	RESINDOT GRANITE RED #200
BG200903	RESINDOT GRANITE YELLOW 400
BG200904	RESINDOT GRANITE ORANGE 600
BG200905	RESINDOT GRANITE WHITE 800
BG200906	RESINDOT GRANITE BLUE 1500
BG200907	RESINDOT GRANITE GREY 3500
BG200908	RESINDOT 60H
BG200909	RESINDOT GRANITE GREEN #60
BG200964	ALU BACKPLATE Ø185 MM GRANITE

10.4 Dots

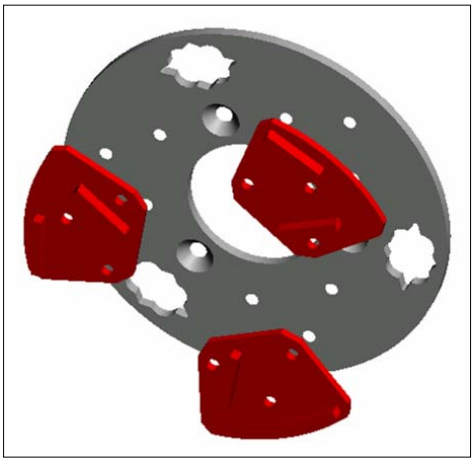


PART-NO.	DESCRIPTION
BG200982	DRY POLISH DOT BLACK # 120
BG200983	DRY POLISH DOT BLUE #220
BG200984	DRY POLISH DOT RED # 400
BG200985	DRY POLISH DOT WHITE # 800
BG200986	DRY POLISH DOT YELLOW # 1500
BG200987	DRY POLISH DOT GREEN # 3000
BG200989	DRY POLISH DOT HOLDER 185MM

10.5 Wings

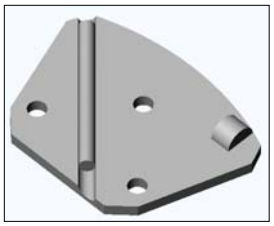


CP WINGS



HF WINGS
(CA WINGS)

PART-NO.	DESCRIPTION
BG500500	WING CA1
BG500502	HTC WINGS C1 GREY
BG500503	HTC WINGS C2 ORANGE
BG500507	WING CP2
BG500508	WING CP3
BG500509	WING CP4
BG500512	WING CP0
BG500513	WING CP1
BG500550	HF WING #1
BG500551	HF WING #2
BG500552	HF WING #3
BG500554	WING EHF2
BG200994	PLATE FOR WINGS 185MM



PCD WINGS

BG200998	PCD WING ½
BG200999	PCD WING 2x ¼