

Operator's Manual



BS-300R **DiaKat**®

Universal Grinder

Read the operator's manual carefully and understand the contents before you use this equipment. Always use the machine in accordance with all the instructions contained in this manual, in order to ensure safe and efficient operation as well as longevity of the machine.

The manufacturer can not be held responsible for any damages or injury arising from the use of the machine not in accordance with the instructions contained in this manual.

CONTENTS

1. SAFETY INSTRUCTION	2
1.1. General safety instructions	2
1.1.1. Qualification requirements	2
1.1.2. Duties of the entrepreneur:	2
1.1.3. Duties of the operator:	2
1.1.4. Using the machine	3
1.1.5. Checkups, maintenance, service and repair	3
1.2. Transporting the machine	3
1.3. Prohibited activities	4
1.4. Hygienic instructions	4
1.5. Ecological instructions	4
1.6. Liquidating the machine at the end of its useful lifetime	4
1.7. Safety instruction for work with B-300R Universal Grinder	4
1.8. Hygienic information	5
1.9. List of safety labels used on the machine	5
2. TECHNICAL DATA AND DESCRIPTION OF THE MACHINE.....	6
2.1. Description of the machine.....	6
2.2. Technical specifications	6
2.3. Primary operative parts of the machine	7
2.4. Description and designation of tools	7
2.5. Mounting and dismounting of tool	8
2.5.1. Mounting of tool.....	9
2.5.2. Dismounting of tool	9
3. BEFORE STARTING	9
3.1. Visual check up of the machine state	9
4. WORKING WITH THE MACHINE	10
4.1. Setting of the machine , start	10
4.2. Working with the machine	10
4.3. Switching off the machine.....	10
5. MAINTENANCE.....	11
5.1. Cleaning of the machine.....	11
5.2. Checking screw joints	11
5.3. Engine maintenance	11
5.4. Tool maintenance	11
5.5. Inspection of tautness of V belts.	11
6. CONDITIONS OF GUARANTEE	12

1. SAFETY INSTRUCTION

1.1. General safety instructions

1.1.1. Qualification requirements

Persons operating this machine must fulfil the following requirements:

1. The machine may be operated independently only by workers who are:
 - older than 18- teen years (or as the law in the country of use prescribes)
 - physically and mentally competent
 - trained, who proved their ability to operate the machine safely
2. All workers who will operate this machine must make themselves familiar with all the instructions contained in this manual and must adhere to them.
3. The operator must make himself familiar with all the safety instructions pertinent for use of this machine (including those specific to the country of use) and must adhere to them. The familiarisation must be documented and signet by the operator.

1.1.2. Duties of the entrepreneur:

Entrepreneur is a physical or legal entity who undertakes the work with this machine. The entrepreneur is the guarantor of the safe use of the machine.

The entrepreneur must:

- appoint the operator and provide his training
- insure safe conditions for the use of the machine by the operator
- provide regular checks and maintenance of the machine
- ensure adherence to legal requirements for the safety of the work
- regularly check observance of safety regulations
- regularly check if the operator is using the machine in conformity with the operator's manual

1.1.3. Duties of the operator:

Operator is a person which actually uses the machine to do the work for which the machine is designed. The operator must fulfil the requirements as set in 1.1.1.

Operator must:

- thoroughly familiarise himself with the Operator's manual and all safety instruction required for the work
- comply with all instructions and requirements set in this manual
- comply with all safety regulations set for work with machinery
- acquaint himself with the work environment including safety instructions
- pay full attention to operating the machine whilst working
- demand regular checks and maintenance of the machine as prescribed by this manual
- demand from his employer securing of conditions conducive to upkeep of safety regulations
- secure the machine against accidental movement and out of reach of unauthorised persons when not working

1.1.4. Using the machine

When using the machine the operator must comply with the following instructions:

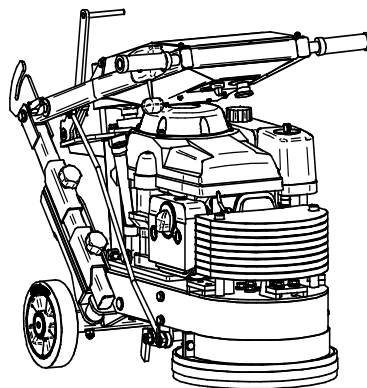
1. Check the machine before use.
2. Before commencing work check if it is safe to start the machine with out endangering the operator or other persons.
3. Use prescribed personal safety aids while working. (Helmet, earmuffs, safety shoes, goggles, respirator, gloves...).
4. Do not start the machine in enclosed area.
5. While working monitor the machine for unusual sounds or smoke which may indicate defect. When defect is indicated immediately stop the machine and call for expert repair.
6. Always switch off the engine when refuelling. Take care that the fuel does not come into contact with hot parts of the engine. Wipe out immediately any spillage.
7. !ATTENTION! It is important to immediately repair or change improperly sealed or leaky fuel tank and lines. Improperly sealed or leaky fuel tank and lines may cause an explosion.
8. It is necessary to provide an adequate supply of fresh air for the operator, when using the machine in enclosed areas (tunnels etc.).
9. When finish working, switch off the engine and move the machine the secure place and insure against unauthorized use.

1.1.5. Checkups, maintenance, service and repair.

- regularly check the technical state of the machine.
- if fault or damage is discovered ensure expert repair.
- repair or service may be carried out only by qualified personnel from a manufacturer's service organisation.
- it is prohibited to carry repairs or service at places where the safety of work is not ensured and can be affected by outside impingement, such as falling objects, collision with other machinery etc.
- changes and alteration to the machine can be carried out only with the explicit agreement of the manufacturer!

1.2. Transporting the machine

1. Transporting or lifting the machine must be carried out only by equipment of appropriate bearing or lifting capacity.
2. Always transport the machine in a secured position on its transport wheels.
3. When transporting secure the machine against overturning, moving or falling off.
4. Never transport the machine with the engine running!
5. It is advantageous to fold the handlebars to Compact transport mode whilst transporting see pic. 1.



Pic.1 Compact transport mode

1.3. Prohibited activities

When using the machine it is forbidden:

1. Using the machine for work other than for which it is designed.
2. Operating the machine in other manners than those described in this manual.
3. Using the machine under influence of alcohol, narcotics or drugs and medicaments.
4. Using the machine whilst its running may endanger the safety of persons, property or traffic.
5. Bring in to operation and work with the machine if any of the safety features is dismantled or damaged. (Tool cover, rubber cover etc.)
6. Leave running or unsecured machine without safeguarding it against unauthorised use.
7. Use the machine if fuel, oil or any operating liquid is leaking.
8. Cleaning the machine while it is running.
9. Cleaning the machine with high pressure water.
10. To smoke or manipulate with naked flame while checking fuel or refuelling.

1.4. Hygienic instructions

Fuel and lubricants are health dangerous. Persons who come in to contact with those while operating or maintaining the machine must observe the basic health preservation rules as well as the safety and health instructions provided by the manufacturer of such a substance.

1.5. Ecological instructions

Fuel, lubricants and operating media of various components of the machine (engine, gearbox etc.) are substances hazardous to environment. At the end of its useful lifetime they become hazardous waste. It is necessary to store, dispose or liquidate them in accordance with appropriate rules or legislation pertinent to the country where the machine is used.

1.6. Liquidating the machine at the end of its useful lifetime

When liquidating or disposing of the machine it is absolutely necessary to adhere to all rules or legislation pertinent to the country where the machine has been used.

The manufacturer can not be held responsible for damages to health or environment in cases where all the above mentioned principles were not adhered to.

When working with the machine the following instructions must be complied with:

1. It is prohibited to work with the machine with out the tool cover (including the rubber collar).
2. No person except the operator is permitted within the danger perimeter of the machine.
3. Start the machine only in the safety mode, standing on the feet of the Quick-lift Ensure that the tool is a safe distance off the ground.
4. When changing the tool always comply with instructions as per 2.5.
5. Observe all general rules of safe work.

1.8. Hygienic information

With respect to guarantied level of acoustic pressure affecting the operator and the amount of vibration transferred to the his hands, the operator must use effective personal safety aids in accordance with the laws and regulations of the country where the machine is in use, taking into consideration the levels stated by the manufacturer.

Measurand	Level	Standard used
Level of acoustic pressure A affecting the operator L_{pAd}	87 + 4 dB	ČSN EN ISO 11201
Guarantied level of acoustic power A $L_{WA,G}$	101 dB	2000/14/EC ČSN ISO 3744
Level of accelerating vibrations transferred to the hands of operator a_{hvd}	7,1 + 2,8 m.s ⁻²	ČSN EN ISO 20643

1.9. List of safety labels used on the machine



**2. READ THE OPERATORS
MANUAL BEFORE USE!**

3. USE EARMUFFS!



4. ACOUSTIC LEVEL



5. SENSE OF ROTATION OF THE TOOL

2. TECHNICAL DATA AND DESCRIPTION OF THE MACHINE

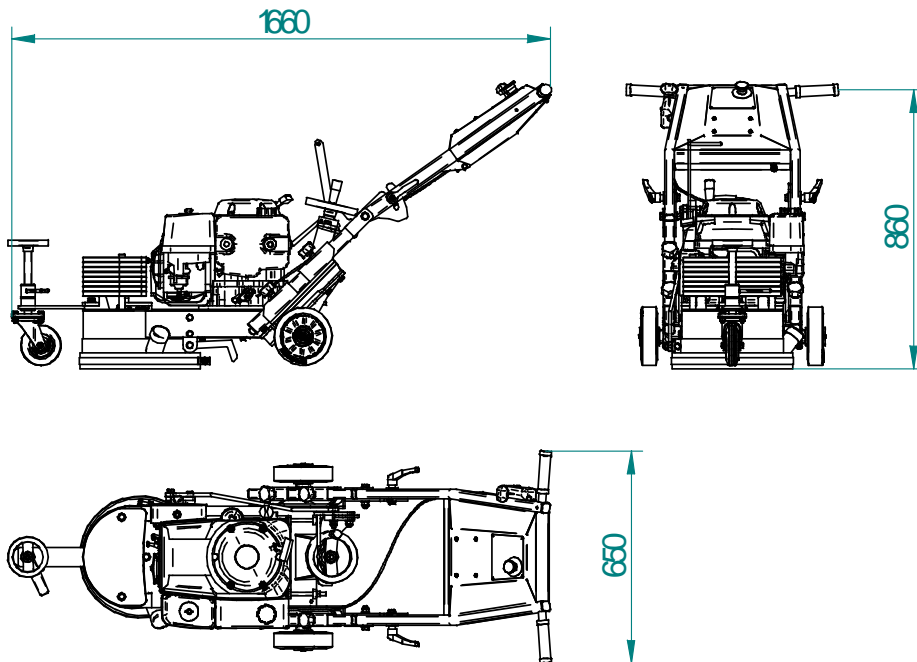
2.1. Description of the machine

The universal BS – 300R DiaKat grinder is designed for levelling of bumpy or uneven concrete and asphalt horizontal surfaces, removing of paint, concrete blooming, dirt deposits, glue, horizontal road markings and surface preparation prior to further treatment.

BS-300R is primarily intended for a “dry grinding” with the option of dust removing. However “wet” grinding is also possible with the use of an auxiliary water tank.

The main drive spindle with the grinding tool is solidly mounted in to a rigid frame, which is lowered in to the cut by means of hand operated setting wheels. In order to achieve deeper cut the machine can be weighted by the means of additional weights placed on a holder situated above the main spindle. The movement of the machine is achieved by the means of height adjustable cushioned handlebars.

The grinder is powered by single cylinder four stroke HONDA 8,1 kW petrol engine.

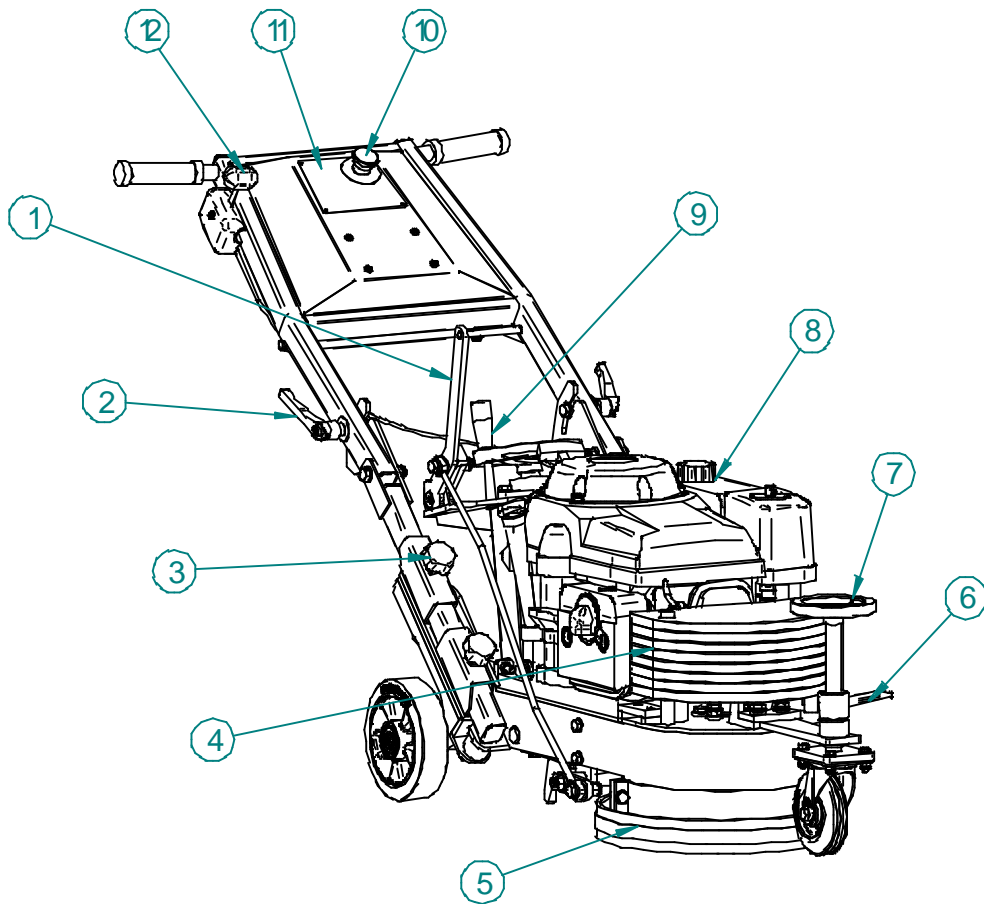


Pic. 2 Machine dimensions

2.2. Technical specifications

Dimensions (l x h x d)	1660 x 860 x 650 mm
Weight	150 kg
Tool diameter	300 mm
Max. depth of cut	1-3 mm
Main spindle rpm.	1370 rpm
Depth setting	by hand
Engine	HONDA 1 cyl. 4 stroke
Type	GXV 340
Nominal power	8.1 kW (at 3600 rpm.)
Engine revs.	3600 rpm.
Fuel	Natural 95


2.3. Primary operative parts of the machine





Pic. 3 Description of operative parts


- | | |
|-----------------------------|----------------------------|
| 1 – Quick-lift lever | 7 – Front setting wheel |
| 2 – Handlebar setting lever | 8 – Engine |
| 3 – Handlebar setting knob | 9 – Rear setting wheel |
| 4 – Auxiliary weights | 10 – Emergency stop button |
| 5 – Tool safety cover | 11 – Handle bars |
| 6 – Check nut | 12 – Fuel throttle |


2.4. Description and designation of tools

	Name	Tc grinding wheel Ø 300 mm
	Use	* grinding of surfaces to desired finish * removing of minor unevenness * removing of paint, glue
	Depth of cut	0,2 - 0,5 mm
	Material	* asphalt * concrete * concrete screeding * cement screeding * epoxy coating

	Name	Diamond grinding wheel Ø 300 mm (coarse, medium, fine)
	Use	* grinding of surfaces to desired finish * grinding to desired depth * removing of medium unevenness * levelling of uneven surfaces * removing of old coating
	Depth of cut	0,5 - 1,5 mm
	Material	* asphalt * concrete * concrete screeding * cement screeding

	Name	Diamond grinding wheel Ø 300 mm - exchangeable pads
	Use	* grinding of surfaces to desired finish * grinding to desired depth * removing of medium unevenness * levelling of uneven surfaces * removing of old coating
	Depth of cut	0,5 - 1,5 mm
	Material	* asphalt * concrete * concrete screeding * cement screeding

	Name	TCT cutters carrier 46 / 6 Ø 300 mm
	Use	* rough grinding to desired depth * removing bumps and coarse unevenness * levelling of uneven surfaces * roughing of surfaces * removing of tile adhesives
	Depth of cut	1 - 3 mm
	Material	* asphalt * concrete * cement screeding

	Name	TCT cutters carrier 57 / 3 Ø 300 mm
	Use	* rough grinding to desired depth * removing bumps and coarse unevenness * levelling of uneven surfaces * roughing of surfaces * removing of tile adhesives * removing of horizontal road marking
	Depth of cut	1 - 3 mm
	Material	* asphalt * concrete * cement screeding

2.5. Mounting and dismounting of tool

***!ATTENTION!** Always follow the instructions below when mounting or dismounting tool! (Only then you can set up the machine with tool correctly and safely.) The machine must be always secured against movement and the engine switched off when changing tool!*

2.5.1. Mounting of tool

1. Bring the machine to standstill and secure it by rising the Quick-lift.
2. Remove all additional weights and water tank.
3. Use the rear setting wheel to rise the machine to the maximum height. (The restrictor chain is taut.)
4. Lift the machine by its front wheel and tilt it over the rear wheels until it rests on the handlebars.
5. Secure the machine against toppling.
6. Do not leave the machine in this position longer than necessary for changing the tool!
7. Set the tool with its collar in to the hole of the tool carrier; align the screw holes in the tool with the threaded holes in the carrier.
8. Hold the tool on the carrier and secure it with three high tensile screws with CSK head.
9. Tighten the screws on rota basis.
10. Make sure that the tool collar fit fully in to the hole of the carrier.

2.5.2. Dismounting of tool

Similarly dismount the tool.

3. BEFORE STARTING

3.1. Visual check up of the machine state

Regularly (before commencing work) check:

- all covers and safety features
- all screwed joints
- sealing of fuel and lubrication system
- oil level (see engine manual)
- cleanness of air filter (see engine manual)
- fuel level (HONDA– **Natural 95**)
- state of tool's wear

4. WORKING WITH THE MACHINE

4.1. Setting of the machine , start

!ATTENTION! never start the engine if the tool is touching the floor.

1. With the aid of front and rear setting wheels set the machine that the tool (machine frame) is parallel to the working surface and the tool is lightly touching the floor.
2. Set the depth of cut by the front setting wheel and tighten the check nut. By using the rear setting wheel again level the machine. Lock the rear setting wheel.
3. Rise the machine by means of the Quick-lift.
4. If necessary put on the additional weights.
5. Start the engine (see engine manual).
6. When max. revs are reached slowly lower the machine using the Quick-lift lever.

4.2. Working with the machine

If all settings are correct the machine is moving over the surface easily. If the engine is choking it will be necessary to readjust the depth of cut or discard some of the additional weights.

In order to achieve the best flatness of the grounded surface move the machine evenly from side to side and at the same time move slowly forward.

Regularly check the state of wear of the grinding tool and clogging by dirt of the TCT cutters! Clogged tool can not work properly, it wears unevenly and clogging can eventually lead to damage or destruction of carrier and cutters.

4.3. Switching off the machine

1. Rise the machine by means of the Quick-lift lever.
2. Pull the throttle lever to "0" position.
3. Switch of the machine by the red Emergency stop button.
4. Close the fuel line!

5. MAINTENANCE

The basic steps of preventive maintenance described in this manual can be carried out by the operator appointed by the entrepreneur. We recommend that all repairs and adjustments beyond the scope of this manual are carried out by authorised service centre.

!ATTENTION! In the guarantee period it is prohibited to interfere with the engine and power transmitting components in any manner whatsoever!

!ATTENTION ! It is prohibited to change the rev setting in any way!

5.1. Cleaning of the machine

Regular cleaning prolong the life of the machine its components and tools. After finishing work clean the machine from dust and dirt by wet cloth or air before storing. Never use pressurised water for cleaning.

5.2. Checking screw joints

Check the tightness of screw joints before every start of the machine. Regularly check the tightness of the tool securing screws.

5.3. Engine maintenance

See engine manual.

5.4. Tool maintenance

Regularly check the wear and soiling of tools. If the diamond segments are almost worn off, change the tool. If the TCT cutters are clogged with dust and dirt and can not rotate freely loosen them by light tapping of the hammer and pressurised air.

5.5. Inspection of tautness of V belts.

Regularly check the tautness of the V belts. The deflection of the V belt under the pressure of an index finger should be approximately 20 mm.

If the v belts needed to be drawn tauter proceed as follows:

1. Dismount the bottom V belts cover.
2. Loosen the 4 M12 nuts holding the engine base.
2. Draw the V belts tauter by means of the tensioning bolts that the deflection is circa 20 mm.
3. Retighten all joints and remount the cover

6. CONDITIONS OF GUARANTEE

Diakat machines are designed and manufactured to withstand the toughest working conditions and still remain safe, defect free and long-lasting. The following conditions are the same for the whole Diakat range of products.

If not otherwise agreed the manufacturer guarantees all his products for **24 months** from the date of the delivery to the end user, under the condition that the first year paid service inspection is carried out. This guarantee service inspection must take place in between 10 to 12 month from date of sale. If this condition is not fulfilled the guarantee is **12 months**.

If within the period of the guarantee a defect caused by faulty design, material or manufacturing process occurs, the manufacturer will at his discretion remedy it by repair or replacing the faulty part.

The guarantee do not cover consumer and fast wearing parts such as air filters, spark plugs, V belts, cable wires, rubber covers etc.

The guarantee also do not cover faults or damages caused by not abiding to the instructions contained in the Operators manual, unskilled use, use of the machine for other work than for which it is designed, unauthorised service interference, faulty or inadequate maintenance, use of improper fuel or lubricants, accident or act of God.

Furthermore the manufacturer can not be held responsible for damages occurring during transport or storage.

1. The guarantee applies only to the end purchaser stated on the guarantee certificate.
2. The guarantee applies only to those parts of the equipment which demonstrates faulty material or manufacturing process and only for the period of 12 months from the date of sale shown on the guarantee certificate.
3. The Guarantee do not apply to wear parts such as rubber wheels, carbon brushes etc.
4. The Guarantee covers expenses incurred in order to repair or replace parts of the equipment that demonstrates faulty material or manufacturing process within the period of 12 months from the date of sale. Other expenses linked to the repair such as travelling, down time etc. are not covered.
5. The Guarantee period is extended by the eventual period of guarantee repair.
6. The Guarantee do not apply to the following:
 - faults or damages caused by not abiding to the instructions contained in the Operators manual
 - faults or damages caused by faulty or inadequate maintenance
 - faults or damages caused by unauthorised interference with the equipment structure
 - faults or damages caused by the use of other then recommended spare parts
 - faults or damages caused by the use of the equipment for purpose other than for which it was designed
7. The supplier is reserving the right to asses the fault of a part or whole of the equipment. If necessary the supplier can request the part for assessment.
8. For eventual Guarantee claim it is necessary to produce the Guarantee certificate or relevant invoice.

Any other guarantees except those mentioned above do not apply to the equipment.