



**STREAMER**  
Premium Shotblasters

---

*Operating Manual*  
**S210E**

---



***Your Partner for Mobile Surface Preparation***  
***IMPACTSamericas.com***

---

## Table of Contents

---

1.0	Technical Data. . . . .	1
2.0	Safety Instructions . . . . .	3
3.0	General Information . . . . .	9
4.0	Transportation. . . . .	16
5.0	Start Up . . . . .	18
6.0	Operation. . . . .	21
7.0	Maintenance . . . . .	25
8.0	Electrical System . . . . .	32
9.0	Error Diagnostics . . . . .	34
10.0	Spare Parts . . . . .	37



***Please note: The following safety instructions must be followed as shown in this operating manual. Failure to do so may result in hazard to health or possible death.***

---

---



IMPACTS Americas  
1384 Bungalow Rd.  
Morris, IL 60450 USA  
(815) 941-4800  
(815) 941-4600 Fax  
[www.IMPACTSAmericas.com](http://www.IMPACTSAmericas.com)

[April 2018]

## Chapter 1.0 Technical Data

- 1.1 Rating
- 1.2 Unit Specifications
- 1.3 Operative Range and Correct Usage
- 1.4 Stand-by Power Supply (Generator)
- 1.5 Advice for Operator of the Blast Machine
- 1.6 Machine Type Designation

### 1.1 Rating

Machine: IMPACTS Blast Machine  
 Machine-Type: S210E  
 Manufacturer: IMPACTS Americas  
 1384 Bungalow Rd.  
 Morris, IL 60450 U.S.A.

### 1.2 Unit Specifications

	<b>Machine S210E</b>	<b>Dust Collector (optional) PM3003AR</b>
<b>Length</b>	34 in.-41 in. (875 mm-1045 mm)	32 in. (80 cm)
<b>Width</b>	11.6 in. (295 mm)	24 in. (60 cm)
<b>Height</b>	31 in.-40.5 in. (795 mm-1030 mm)	46 in. (118 cm)
<b>Weight</b>	99 lb. (45 kg)	186 lbs. (84 kg)

#### **Connected loads of the electrical system:**

<b>Power</b>	3.0 HP (2.3 kW)	3 x 1.3HP (2.4 kW)
<b>Electrical Connection</b>	110 V, 60 Hz Plug Fuse 20 AMP	120V/60Hz, 20A

### 1.3 Operative Range and Correct Usage



*The blast machine is designed to be used on clean, dry, horizontal surfaces without any obstacles. The machine cannot be used for any other purpose. The manufacturer will not be held liable for damages resulting from incorrect usage. In cases of wrong usage, the user will assume all risks and damages.*

---

## 1.4 Stand-by Power Supply (Generator)

---



*If the blast machine is connected to a generator, the generator must be operated in accordance with the current VDE directives (this applies especially to the protective earth conductor) in order to ensure that all safety devices are functioning and are able to eliminate possible damage to electrical components.*

---

---

## 1.5 Advice for Operators of the Blast Machine

---



*During the operation of the machine, it may be possible to exceed the acceptable noise levels of 85 dB(A). This is dependent on various locations and circumstances. When the noise level is 85 dB(A) or more, the machine operator and the persons working near the machine must wear sound-insulating devices.*

---

---

## 1.6 Machine Type Designation

---

Machine Type:	S210E
Unit / Designation:	IMPACTS Blast Machine
Working Width:	8.26 in. (210mm)
Drive:	Progressively adjustable 1-59 ft/min / 0-18 m/min
Blasting Capacity:	Up to 400 SF/hr / 40 m <sup>2</sup> /h
Abrasive Consumption:	~100 g/m <sup>2</sup>
Dust Hose Connection:	2 in. (50mm)
Recommended Dust Collector:	PM3003AR

---

## Chapter 2.0 Safety Instructions

---

- 2.1 Explanation of Warnings and Symbols
- 2.2 Organizational Measures
- 2.3 Personnel Selection and Qualification
- 2.4 Safety Precautions Applicable to Different Operating Conditions
- 2.5 Repair Work, Maintenance Activities, and Default Repair on the Job Side
- 2.6 Definition of the Safety Off Position
- 2.7 Dangerous Aspects of the Machine
- 2.8 Electrical Engineering Regulations
- 2.9 For Special Attention

---

### 2.1 Explanation of Warnings and Symbols

---

***The following symbols are used in the operating instructions to highlight areas of particular importance:***



#### **Operational Safety**

This symbol will be shown in these Operating Instructions next to all safety precautions that are to be taken in order to ensure prevention of injury. Follow these instructions and take special care in these circumstances. In addition to these instructions, the general safety precautions and the local accident prevention guidelines also should be followed. Please check if there are special regulations for the particular job site.



#### **Safety Goggles/ Ear Protection**

Information, instructions, and restrictions with regards to possible risks of personal injury or extensive damage to materials.



#### **Electrical Warning**

Warning against dangerous voltages.

---

### 2.2 Organizational Measures

---



*The Operating Instructions are to be kept near the machine and must be reachable all the times!*

---

In addition to the Operating Instructions, general and legal regulations regarding accident prevention and environmental protection must be indicated every time.

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 local traffic regulations.

The Operating Instructions must be supplemented by instructions including the duty to supervise and report relating to particular local working practices; for example, work organization, work procedures, and personnel allocation.

Personnel working with the machine must read the Operating Instructions before starting the work, in particular. Chapter 2 "Safety Instructions." This must be done before starting any work with the machine. This applies to certain activities such as setting up the machine, carrying out maintenance work, or training staff to work with the machine.

From time to time, the working practices of the staff should be checked regarding awareness of safety and hazards.



*Personnel must tie back long hair and not wear loose clothing or any jewelry. There is risk of injury in getting stuck or being drawn into moving machinery. Use personal protection equipment whenever necessary and required by regulations!*

Take notice of all safety and hazard notices on the machine. They must be kept complete and legible.



*If safety-critical changes occur to the machine or its performance, the machine must be shut down immediately! The cause of the fault must be determined immediately and be repaired before starting work again.*

Changes, add-ons, or conversions which might have an influence to the safety of the machine must not be undertaken without the permission of the manufacturer. This applies in particular to the fitting and adjustment of safety devices and to welding on major and load bearing parts.

Spare parts must always comply with the technical requirements and the specification of the manufacturer. Original spare parts by the manufacturer are guaranteed compliant.

Inspection intervals and intervals for recurring checks specified in these Operating Instructions must be followed. At the same time, it is necessary to meet all legal requirements. To perform maintenance work correctly, it is important to be equipped with proper tools for the task in question.

The location and the operation of fire extinguishers must be made known at each job site. Take note of the facilities for fire reporting and fighting fires!

## 2.3 Personnel Selection and Qualification

### **Fundamental Duties**



*Only trained personnel can operate and perform work on the machine. **Note the statutory minimum age!** Clearly specify the responsibilities of personnel for operation, setup, service, and maintenance work.*

Clearly define the machine operator's responsibilities regarding traffic safety regulations and empower him/her to decline instructions from third parties who are not complying with the safety requirements.

Personnel being trained or individuals testing the equipment must always be supervised by an experienced operator.



*Work on the electrical parts of the equipment may only be undertaken by a skilled electrician or by a trained person under the guidance and supervision of a skilled electrician in accordance with the electrical engineering regulations.*

## 2.4 Safety Precautions Applicable to Different Operating Conditions

Avoid any method of working that impairs safety! All precautions have to be taken. The machine must only be used in a safe and functional condition.



*Only operate the machine when all safety devices and related safety equipment, e.g. detachable safety devices, emergency stops, and suction devices, are present and operational!*

The machine has to be checked visually at least once a day for any damage and defects.

In the event of operational malfunctions the machine must be shut down immediately and secured. The error must be rectified before starting the machine again.



*Secure the work area around the machine in public areas providing a safety distance of at least 7 ft./ 2m around the machine.*

### **Default must be rectified immediately!**

Start up / switch off operations and control devices have to be handled in accordance with the Operating Instructions.



*All persons in the proximity of the machine must wear safety glasses with lateral protection as well as safety shoes. Ear protection may be required. The operator is required to wear close fitting protective clothing.*

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

Before starting the machine ensure that no person in the job site can be endangered when the machine starts running.



*Do not switch off or remove the exhaust and ventilation devices when the machine is running!*

## 2.5 Repair Work, Maintenance Activities, and Default Repair on the Job Site

### **Mechanical Service Work**



*These activities can only be undertaken by qualified personnel. Please follow any special safety instructions in the various chapters on servicing the machine (see Chapter 7).*

Before starting any servicing work on the machine, put the machine in the Safety off position (as described in Chapter 2.6) in order to prevent the machine from being switched on accidentally.

Adjustments, servicing, and inspection work and inspection intervals specified in these Operating Instructions as well as any information on the replacement on parts and systems of the machine must be undertaken and/or complied with.

The operator must be informed of any maintenance or repair work done to the machine.

Startup and shut off procedures must be done in accordance with the Operating Instructions during all work related to the use, repair, and adjustment of the machine. The repair personnel must also be aware of the safety devices during inspection, maintenance, and repair.



*The machine must be shut off completely for repair or maintenance work. Please disconnect the main plug in order to prevent the machine from being switched on accidentally.*

The dust collector bin must be emptied before transportation. Please handle in accordance with the regulation how to dispose the dust and make sure that you meet the local regulations. Do not use any aggressive cleaning materials! Use only lint-free cleaning cloths.

Always remember to tighten any screw connections that are undone during servicing and maintenance work!

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

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



*Work on the electrical parts of the equipment may only be undertaken by a skilled electrician or by a trained person under the guidance and supervision of a skilled electrician in accordance with the electrical engineering regulations.*

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



## 2.6 Definition of the Safety Off Position

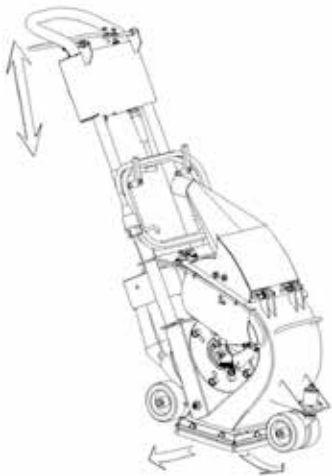
The safety off position is the position of the machine when it cannot generate any hazard. Setting the machine in the safety off position means:

1. Switch off the blast machine.
2. Switch off the dust collector.
3. Wait for standstill of all drives.
4. Pull out main plugs.
5. Secure the machine against accidental start up.

## 2.7 Particular Dangerous Aspects of the Machine



*Every machine not used according to the regulations may be hazardous for personnel during operating, setting-up, and service. 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.*



### ***Danger of Injury!***

Abrasive leaves the blast housing at high speed!

### ***Moving Parts!***

Lift and tip the machine only when it is in the Safety Off position!

It is not allowed to stay within the working radius of the machine!

## 2.8 Electrical Engineering Regulations



*Work on the electrical parts of the equipment may only be undertaken by a skilled electrician or by a trained person under the guidance and supervision of a skilled electrician in accordance with the electrical engineering regulations.*



*Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine following valid VDE and local guidelines. In case there is any question, ask the manufacturer or a skilled electrician.*



*The electrical parts of the machine must be inspected regularly. Please note in particular the specified recurring inspections according to BGV A3 or local regulations. Defects such as loose connections or scorched cables must be rectified immediately. Call a skilled electrician or the IMPACTS customer service.*



If work on live parts is necessary, a second person must be deployed who can pull out the main plug in an emergency. The working area must be sealed with a red and white safety chain and a danger sign. Use tools that are insulated against voltages.

Only start work once you are familiar with the electrical engineering regulations that apply to your 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.

---

## 2.9 For Special Attention

---

Use only proper and default free tools for your work. Damaged tools have to be repaired immediately or be replaced.

Use safety equipment and clothing (e.g. safety glasses, safety shoes, safety gloves) during operation of the machine at all times for your safety.

***Please instruct your operators and the repair personnel about the following points:***

- Greasing, cleaning, and all repair work is only allowed if the machine is in the safety off position (see Section 2.6).
- No one is allowed to open or remove safety covers while the machine is running.
- Replace all safety covers and safety devices after cleaning, repair, and maintenance work.
- Do not touch moving parts or walk into the working path of the machine.
- Before start up of the machine after any cleaning, repair, or maintenance work, ensure that no person in the working area could be endangered by the machine.

---

## Chapter 3.0 General Information

---

- 3.1 Operative Range
- 3.2 Scope of Supply
- 3.3 Description of the Machine
- 3.4 Dead Man Switch
- 3.5 Blast Wheel
- 3.6 Separator
- 3.7 Abrasive Feed
- 3.8 Blast Head Sealing
- 3.9 Suction System
- 3.10 Abrasive Media
- 3.11 Selecting Abrasive Media
- 3.12 Care and Maintenance

---

### 3.1 Operative Range

---

The IMPACTS blast machine S210E is a downward blasting machine with a closed abrasive circuit designed for the pre-treatment of horizontal surfaces. The bouncing impact of metallic abrasive onto the surface thoroughly removes surface contaminants, coats of paint, sealants, and thin coatings.

A suitable filter unit must be connected to the machine in order to separate the dust from the abrasive. A specially designed dust collection system ensures dust-free operation of the machine and clean air at the workspace. IMPACTS recommends the PM3003AR to work in conjunction with the S210E.

---

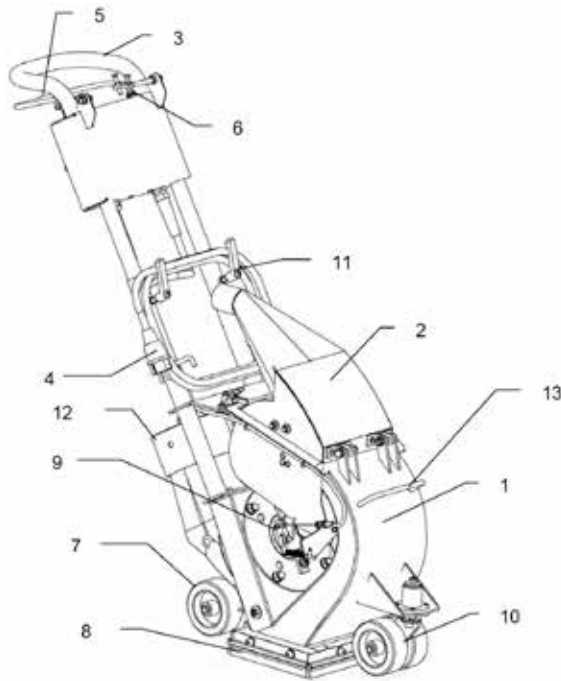
### 3.2 Scope of Supply

---

- Blast Machine (S210E)
- Manual (1)
- Dust Collector PM3003AR (optional)
- Magnetic Cart (optional)

### 3.3 Description of the Machine

1	Wheel housing
2	Separator
3	Handle
4	Electrical cable
5	Dead Man Switch
6	Cut off switch
7	Wheels
8	Sealing system
9	Feeding system
10	Swivel wheels
11	Handle adjustment screws
12	Blast wheel motor
13	Lifting handle



***The blast wheel method is a revolutionary invention based on a simple principle:***

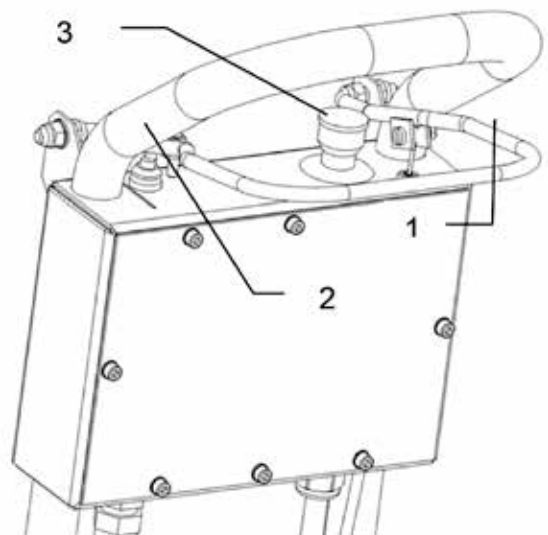
After mechanical pre-acceleration, the abrasive is thrown onto the surface at high speed by the blast wheel. Once the abrasive has impacted the surface it rebounds into a rebound plenum. The rebound plenum deflects the abrasive into an air current separator. In this location, dust and other contaminants are removed from the abrasive so that only abrasive containing a very small amount of dust is falling back into the abrasive storage hopper to reflow to the blast wheel.

### 3.4 Dead Man Switch

The dead man switch (1), at the handle opens the magnetic valve and switches via the incorporated micro switch (2) the wheel motor ON and OFF.

If the dead man switch (1) is released it goes down through a feather mechanism, the motor is cut off and at the same time the magnetic valve is closed and the abrasive feed is stopped.

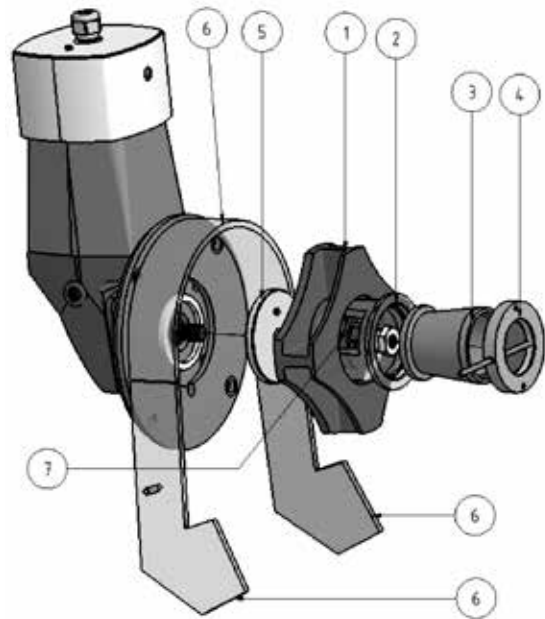
In case of an emergency, the wheel motor can be stopped through the emergency stop switch (3).



### 3.5 Blast Wheel

The heart of the blast machine is the blast wheel (1), which throws abrasive onto the surface. The blast wheel is placed in a protective housing with replaceable wear plates (6). The blast wheel is driven by an electrical motor via an wheel hub (5).

- |   |                      |
|---|----------------------|
| 1 | Blast Wheel          |
| 2 | Control Cage         |
| 3 | Feed Spout           |
| 4 | Magnetic Valve       |
| 5 | Wheel Hub            |
| 6 | Lining System        |
| 7 | Blast Wheel Impeller |

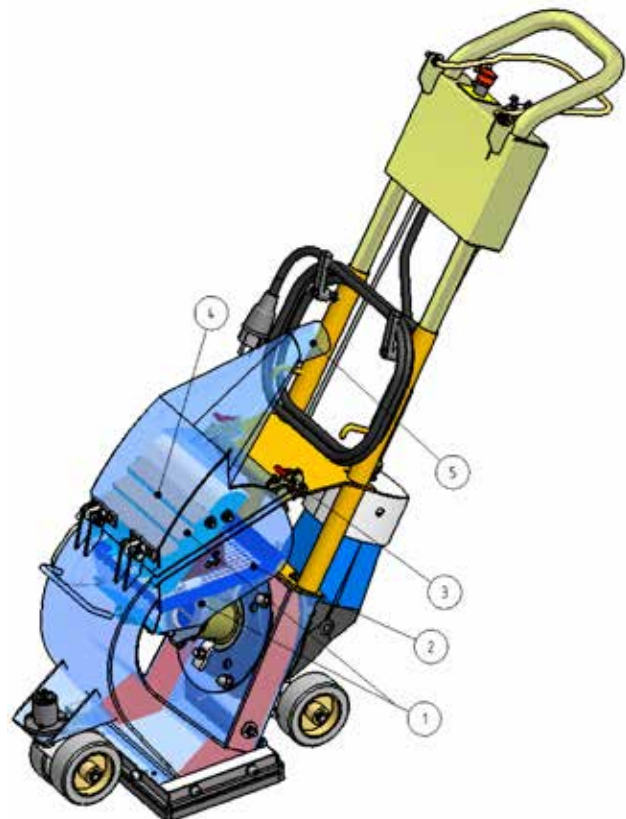


Around the centre of the blast wheel there are 4 notches, the impeller (7). It is feeding dosed quantities of abrasives onto the blades of the turning blast wheel. On top of this is the control cage (2) which, once it is carefully set, regulates the flow of abrasive.

### 3.6 Separator

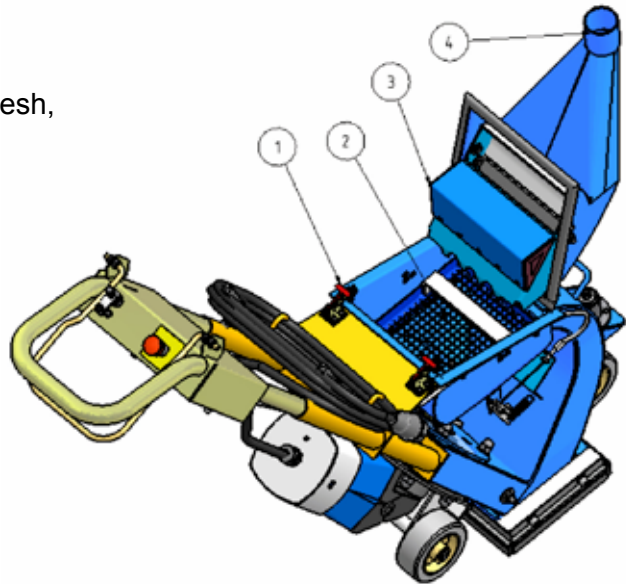
The separator is mounted to the end of the rebound plenum. The separator separates the abrasive from contaminants and feeds the cleaned abrasive back to the abrasive circuit.

- |   |                      |
|---|----------------------|
| 1 | Separator            |
| 2 | Wire mesh            |
| 3 | Clamp                |
| 4 | Deflector            |
| 5 | Dust Hose Connection |



A wire mesh is fitted on the bottom of the abrasive hopper to prevent any coarse contaminants from getting into the blast wheel. For cleaning the wire mesh, open the separator only if the motor is shut off (See Safety off position in Chap. 2).

- |   |                      |
|---|----------------------|
| 1 | Closing Clamp        |
| 2 | Wire Mesh            |
| 3 | Deflector            |
| 4 | Dust Hose Connection |



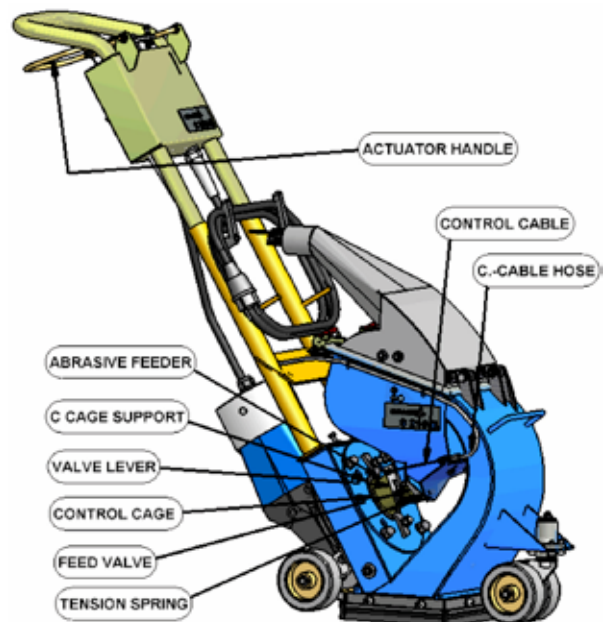
### 3.7 Abrasive feed

In order to control the abrasive flow toward the blast wheel, there is a magnetic valve incorporated between the abrasive storage hopper and the feed spout.

Any change in the opening of the magnetic valve causes a change of the amount of abrasive fed to the blast wheel.

The valve is hand operated via a control cable and can be set to each amount of abrasive throughput.

The maximum blast efficiency is reached, if the handle (dead man's handle) is totally pulled up and therefore the magnetic valve is open in a right angle.





### 3.8 Blast Head Sealing

There are seals in the front, in the rear and on the two sides of the blast head. The sealing system on the sides and in the front are magnetic seals with brush seals on the outside.

The rear seal is a brush only. These sealing together form the blast head sealing. The blast head sealing is designed to seal the blasting area in a way to avoid leakage of abrasive.

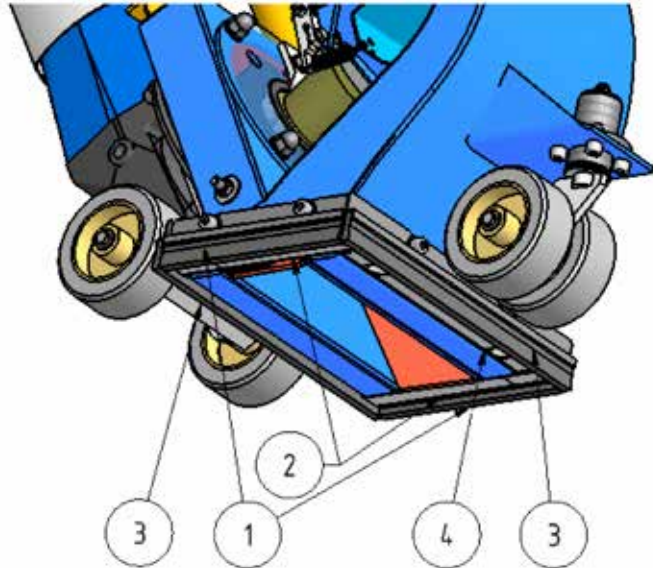
The correct height adjustment of the magnetic seals (6-8mm) is very important for an optimum performance of the machine. The adjustment can be carried out by setting screws of back wheel fixing and adding distance rings to the front wheel fixing.

1 Side brush seals

2 Side magnets

3 Brush seals front and rear

4 Front magnet



### 3.9 Suction System

During the operation of the machine and the dust collector the airflow (air suction) has the following effects:

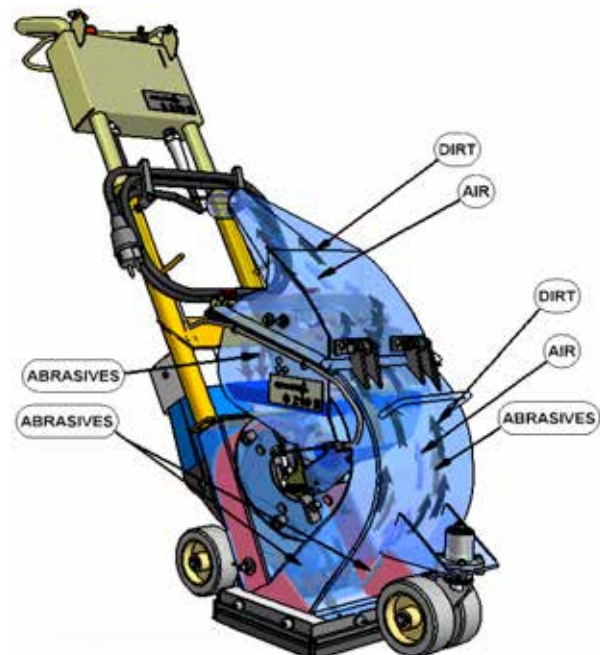
- Coaling of blast wheel, abrasive and of the blast housing
- Transportation of the abrasive and the dust through the system
- Separation of the dust from the abrasive
- Transportation of the dust to the dust collector

***The airflow takes the following way through the machine:***

The blast head sealings are responsible for the regulation of the air on the inside of the machine.

The airflow enters the machine through the rear and goes through the rebound channel. It transports abrasive and dust upward.

At the same time, the airflow gives cooling to the abrasive and the rebound channel.



The airflow enters the separator, separating fine dust from the abrasive, and transports the dust through the exit opening to the dust collector. The separator head is completely sealed by a special sealing.



*Make sure that there are no holes (unsealed areas) in the blast housing, the feed spout and the separator.*

Then the airflow goes through the flexible dust hose and takes dust and fine particles to the dust collector. All connecting points have to be sealed carefully. The dust hose has to be fixed with special clamps.

Then the airflow comes into the filter chamber of the dust collector. Here dust and fine particles are separated and the clean air goes back to the environment.



*The Dust collector housing must be sealed carefully. All sealings have to be in good condition.*

If dust comes out of the dust collector, either the dust collector is damaged or it is not correctly sealed. Please make sure, that only correct material will be used. The use of damaged filter cartridges or damaged filter bags can badly damage the function of the machine.

### **Required dust collector:**

- Suction power min.: 300 CFM
- Electrical power: 2,000W
- Length of electrical cable: 25 ft. (7.6m)

### **Dust hose:**

- Length: 30 ft. (9m)
- Diameter: 2 in. (51mm)

---

## **3.10 Abrasive Media**

---

In order to operate the IMPACTS blast machine S210E you need hardened, round abrasive.

The IMPACTS abrasives IMPACTOR S330 and S390 are standard abrasives, which can be used for most of the applications. The machine has been specially designed to use these abrasives.

The IMPACTS abrasive IMPACTOR is a very high quality blast media. It has the right rebound power to use the S210E blast machine very efficiently. The selection of the blast media is very important consideration for proper treatment to the floor surface.



---

### 3.11 Selecting Abrasive Media

---

#### **Media IMPACTOR S 330 (preferred)**

##### **Applications:**

- Creates a fine to medium texture on concrete
- Removes glazing from tiles prior to subsequent coating with anti-skid floor sealing
- Removes old impregnations and coatings about 1 mm thick

#### **Media IMPACTOR S 390 (preferred)**

##### **Applications:**

Standard abrasive, suitable for about 50-60% of all applications. Creates a medium profile on concrete. Fulfills the same purpose as Media No. 3 when a higher speed of the machine is required, i.e. on asphalt, in order to keep the thermal load low.

- Removes laitance from new concrete
- Roughening of smooth concrete or natural stone
- Removes coatings with a thickness of 1-3 mm
- Cleaning of steel surfaces



*Please take into account that the use of incorrect abrasive increases wear. Our service engineers have the experience to select the appropriate abrasive for the individual cases of application.*

---

Please consult your IMPACTS customer service department if you have any questions about the selection of the best abrasive for your blast cleaning work.

---

### 3.12 Care and Maintenance

---

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

In order to prevent unnecessary downtimes it is recommended to keep original spare and wear parts on stock as listed in the maintenance box.

A list of contents of the maintenance box is provided in Chapter 10 to enable the above mentioned work to be carried out quickly.



*All persons in the proximity of the machine in operation must wear safety glasses with lateral protection and safety shoes. The machine operator must wear close-fitting protective clothing.*

---

## Chapter 4.0 Transportation

- 4.1 General Notes
- 4.2 Manual Transportation of Machine
- 4.3 Transport of the Machine with Hoisting Equipment
- 4.4 Transport of the Machine by Vehicle
- 4.5 Moving the Machine during Blasting Work

### 4.1 General Notes



*Before the machine is used for the first time, IMPACTS authorized dealers offer a course to familiarize maintenance and operating personnel with all elements of the machine. We are not liable for damage caused by incorrect use of the machine by personnel not trained by IMPACTS.*

### 4.2 Manual Transportation of Machine

In order to transport the machine onto a building site, you have to push the handle down so the front of the machine will lift up and is around 10-20 cm above the floor.

Keep the handle pushed down and move the machine into the new position by using the rear wheels.

Make sure that you do not draw the lever (Dead Man Switch) otherwise you will open the magnetic valve and abrasive will drop on the floor.



*Remove all abrasives from the machine before transport. The machine may only be lifted as shown. Weight and dimensions are shown in Chapter 1 "Technical Data."*



**The machine transportation is divided into:**

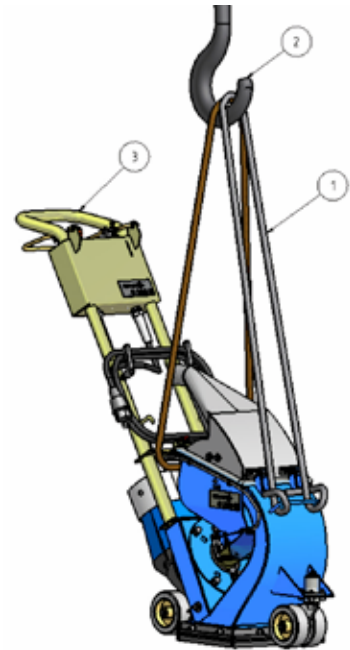
- Blast Machine S210E
- Dust Collector PM3003AR
- General Accessories

### 4.3 Transportation of the Machine with Hoisting Equipment

When transporting the machine with hoisting equipment like a crane or a lift, check the total weight permitted (Chapter 1.2 dimensions).

Please use only appropriate, allowed and qualified hoisting equipment (2) as well as ropes and chains (1). You will find the weight of the equipment in chapter 1.2 or on the serial plate on the machine.

Do not fix any rope or chain (1) to the handle (3), The handle is only fixed with two fixing screws and cannot at all been used for transport or to fix ropes or hoisting equipment!

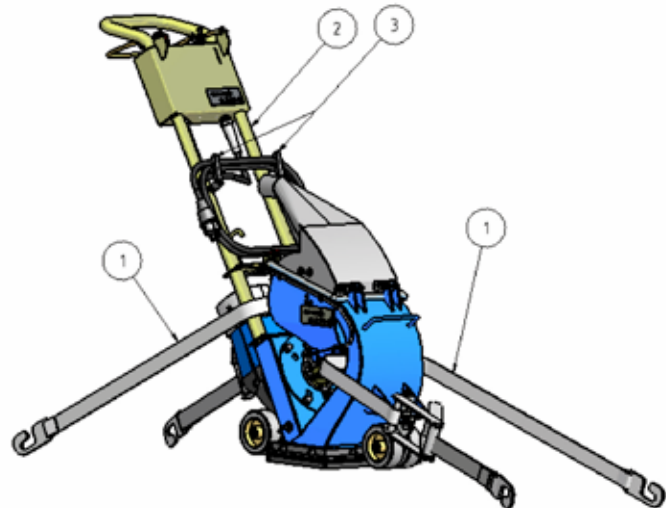


### 4.4 Transportation of the Machine by Vehicles

When transporting the machine with vehicles, proceed in such a manner that damage due to the effects of use of force or incorrect loading and unloading is avoided. Use straps (1) to tighten the machine to the cabin of the vehicle.

Use at least two straps, or tighten the machine with one straps to the cabin wall of the vehicle. Make sure, that all parts of the machine are fixed.

To reduce the height of the machine, you can slide the handle (2) down. In order to achieve this, you have to loosen the two fixing screws (3) and to slide the handle down. Do not forget to fix the fixing screws again, otherwise you will lose them.



### 4.5 Moving the Machine during Blasting Work

Please refer to Chapter 5 - Start Up.

---

## Chapter 5.0 Start Up

---

- 5.1 Preparing for Start Up
- 5.2 Filling the Abrasive Hopper
- 5.2 Start Up

---

### 5.1 Preparing for Start Up

---

Move the blast machine and the dust collector to the working site.

Check the blast wheel, control cage, feed spout, all liners, and the separator for damages and wear. Worn and damaged parts have to be changed before starting the work.

Before switching on make sure that all existing protective housings are mounted and that a sufficient dust collector is connected correctly.



*All persons in the proximity of the machine must wear safety glasses with lateral protection as well as safety shoes. The operator is obliged to wear close fitting protective clothing.*

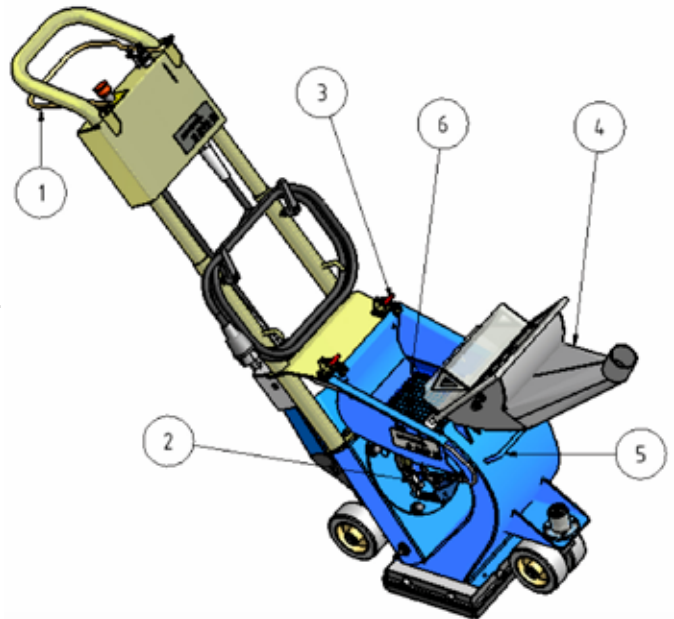


*Before start-up, operators and other personnel must be familiar with the safety regulations given in this manual.*

1. Handle all plugs, cables, hoses and operating devices with care. Avoid any contact with live wires. Work on the electrical system must only be carried out by a qualified electrician.
2. Check the surface to be treated for loose parts (stones, screws, etc.). The surface must be swept if necessary. Make sure that the machine can travel over all inequalities on the surface. Small inequalities like welding seams or floor joints are no barriers for the machine.
3. Check the height adjustment of the blast machine (approx. 6-8 mm). See Chapter 7 of the operating instructions.
4. Check the main electrical cable and the dust hose for damages. Exchange or repair all damaged parts before starting the machine.
5. Connect the blast machine and the dust collector unit with the dust hose. Use hose clamps at the connections.
6. Connect the supply cable of the dust collector with the site supply.
7. Connect the supply cable of the blast machine with the site supply. Make sure, that the right connection (110 V, 60 Hz, 20A) is available.

## 5.2 Filling the Abrasive Hopper

1. After you have checked the blast machine for safety, make sure that the lever (Dead Man Switch) (1) is in the lower position and the magnetic valve (2) is closed.
2. Open the clamps (3) and move the cover (4) upwards.
3. Put the cover on the transportation handle (5).
4. Fill the right IMPACTOR abrasive in the hopper until you have reached a level just below the wire mesh (6).
5. Close the cover and fix it with the clamps (3).
6. Check that the dust container of the dust collector has been emptied.

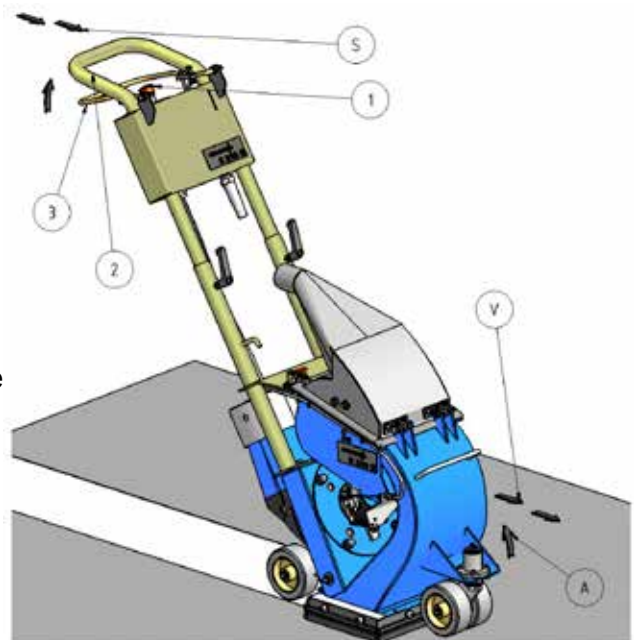


*All persons near the machine must wear safety glasses with lateral protection, ear protection as well as safety shoes. The operator is obliged to wear close fitted protective clothing.*

## 5.3 Start Up

The working and moving direction of the blast machine is in the direction of the arrow (V) shown on the picture. The blast machine and the dust collector must be started in the following sequence:

1. Switch on the dust collector.
2. After the dust collector is running, start up the blast machine as described below.
3. Make sure that the emergency switch (1) is in the upper position and not pushed down.
4. Push the machine by using the handle (2) slowly in the direction of the arrow (S) forward (V) and at the same time pull the lever (3) slowly up as much as you can. This action starts the wheel motor and at the same time the magnetic valve opens and abrasive flows into the blast wheel.
5. Continue to push the machine slowly in direction of the arrow (V) and carefully watch the blasted area. If necessary, change the moving speed to achieve the blasting profile you require.





*Do not push the machine down or move it up on the handle (2) during the blast pro cleaning process*

---

Alter the travel direction (V) only after closing the magnetic valve. The dust bin of the dust collector must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.



*BEWARE: When blasting concrete the abrasive feed valve should only be opened when the blast-machine is in forward motion! If the machine is at a standstill and the valve is opened deep grooves are blasted into the concrete surface within seconds.*

---



*WARNING: when the blast head is lifted from the floor, abrasive will spurt out of the sides of the blast head at high speed. If the machine is moved with the blast head raised, the abrasive feed valve must be fully closed.*

---

The dust bin of the dust collector must be emptied regularly. Comply with the local waste treatment regulations considering the removed material.

---

## Chapter 6.0 Operation

---

- 6.1 Daily operation
- 6.2 Information about Traveling Speed and Abrasive Feeding
- 6.3 Turning Off the Machine
- 6.4 If Failure Occurs
- 6.5 Restarting after a Fault
- 6.6 Proceedings Prior and After Longer Stoppage

---

### 6.1 Daily Operation

---

***This operating manual has to always be with the machine at the working site!***



*Only trained personnel can operate and perform work on the machine. **Note the statutory minimum age!** Clearly specify the responsibilities of personnel for operation, setup, service, and maintenance work.*

#### ***Instructions for daily operation of the blast machine:***

- Before starting the operation, check daily whether all machine parts are assembled safely and correctly.
- Before switching on the machine, check that all safety covers are in the right position and that the dust collector is connected correctly.
- Use only a dust collector which has the right suction power and offers an optimal dust separation.
- Treat all plugs, cables, hoses, and operating devices with special care. Avoid any contact with live wires.
- Check the surface to be treated for loose parts (Stones, screws, etc.) The surface must be swept if necessary. Remove all objects from the surface in order to avoid damage to the machine seals or serious damage to blast wheel and wheel-drive.
- Make sure that no vehicles, such as forklift trucks and other equipment run over the electric cable and the dust hose.
- When using the dust collector, make sure to comply with the health and safety regulations and the local waste treatment regulations considering the removed material.
- Perform regular inspections in order to avoid downtimes of your blast machine (see Chapter 7 "Maintenance").



*All persons in the proximity of the machine must wear safety glasses with lateral protection as well as safety shoes. The operator of the machine is obliged to wear close-fitting protective clothing.*



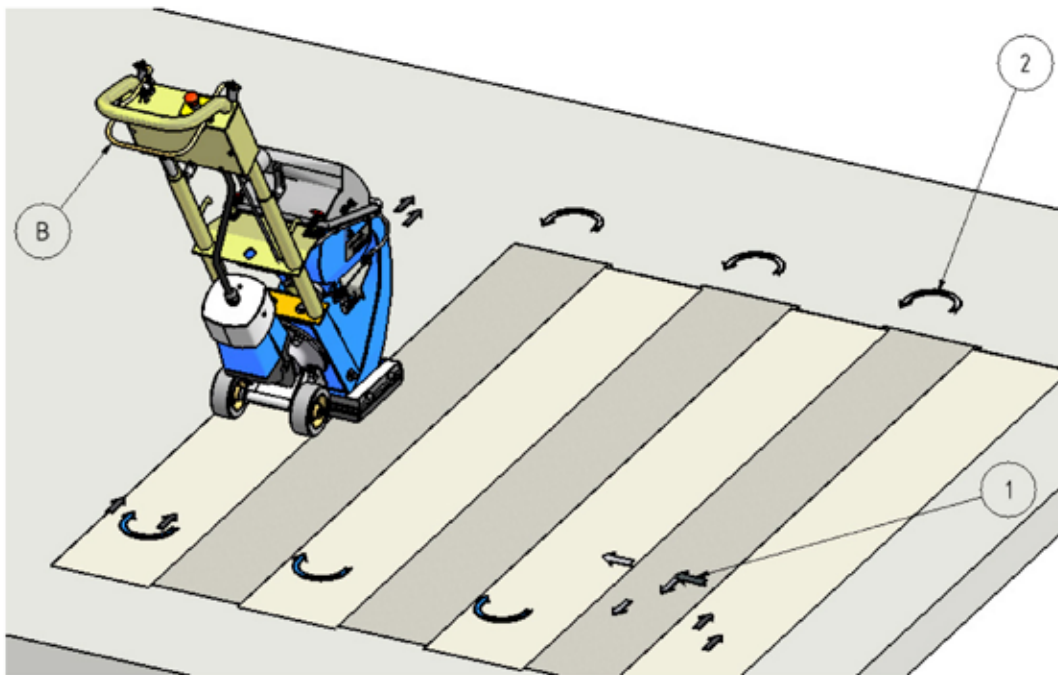
## 6.2 Information about Travel Speed and Abrasive Feeding

The working direction (1) should always be away from the dust collector, in such a way that the electrical cable and the dust hose will not become damaged.

Carry out blasting in parallel tracks in such a way that the dust hose and the electrical cable do not become twisted. At the end of each track release the lever (B) and turn the machine around. Start the new track in the opposite direction of the last one with some overlapping.

The travel speed of the blast machine depends on the material of the surface and the desired profiling. The correct travel speed can be found out by observing the blasted surface and varying the speed during the blasting process. If a very fine and homogeneous blasting result is required, it can be, depending on the surface, necessary to blast in the same direction.

Slight profiling on concrete requires a higher speed than coarse profiling. Blasting on steel requires a very low travel speed of the machine.



The selected abrasive will as well influence the profiling of the surface. The selection of a fine or coarse abrasive in relation to the blasted surface can give an advantage in connection with the profiling as well as for the blasting capacity.

The selection of the right travel speed of the blast machine is important for the blasting result. If the surface shows different characteristics (hardness or different thickness of the overlayment), a uniform blast result can be achieved by varying the travel speed of the blast machine during blasting.

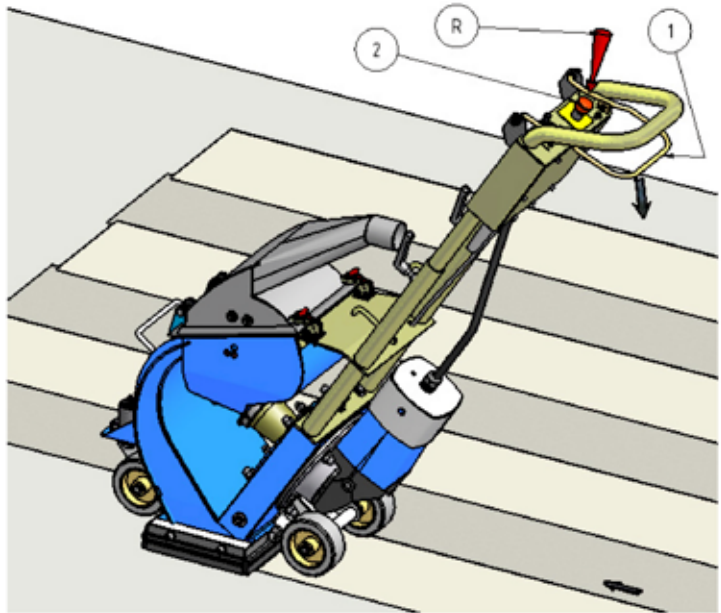
Make sure that no vehicles, such as forklift trucks and other equipment, run over the electrical cable or the dust hose.



## 6.3 Turning Off the Machine

**To switch-off the machine, please follow the described procedure:**

1. Release slowly the lever (1) so that it goes back into the starting position. After 5-10 seconds, the magnetic valve closes and the blast wheel motor stops.
2. Continue to push the machine forward until you are sure that no more abrasive is flowing through the magnetic valve into the blast wheel. By doing this, you avoid blasting holes in the floor during the switching-off procedure.
3. Make sure that all turning parts of the machine have come to a complete stand still before you start with the inspection or maintenance work.
4. To avoid unexpected restart of the machine, push the emergency switch (2) in the direction of the arrow(R). It is now fixed and can be released by turning and lifting.



*In case of emergency and or other faults like vibration or very strong noises, stop the machine immediately by pushing the emergency switch.*



*If the machine will not be used for an extended period of time, pull out the main plug. Store the machine and cover by a tarp in a dry area.*

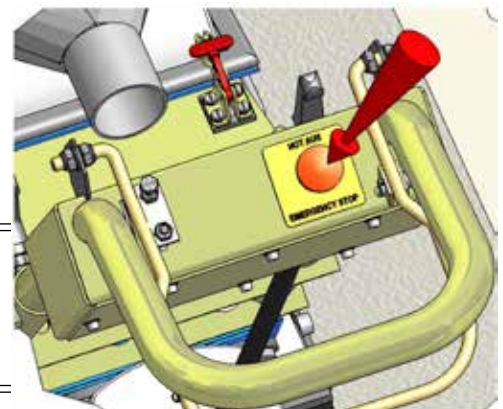
## 6.4 If Failure Occurs

In a case of emergency, you can stop the machine immediately by pushing the emergency switch.

To release the emergency switch, turn the red button and move it upward.



*For repair work, inspection, and all maintenance work, make sure all turning parts are at a standstill and secure the machine in the safety-off position (Chapter 2).*



Regardless of the following information in Chapter 7, the local safety regulations are valid in any case for the operation of the machine.

---

## 6.5 Restarting after a Fault

---

After a fault make sure that you find the reason of the fault before you restart the machine. Leave the emergency switch pushed down and bring the machine in the safety-off position before you start to find out the fault.

If you do not find the fault or if you are unsure about the reason for the fault, please contact your IMPACTS contact person and ask for help.



---

*Please consider special regulations in VBG 4 and VDE-0701. These regulations describe the necessary considerations and actions after repairing and changing electrical Equipment. For start up of the machine, see chapter 5.*

---

---

## 6.5 Proceedings Prior and After Longer Stoppage

---

### ***Stoppage Longer Than 3 Months:***

- Switch off the machine (see Chapter 6).
- Remove all abrasive out of the machine.
- Remove all abrasive from magnets.
- Clean the machine and cover with a tarp in a dry area.
- Ensure that motors, cables, and plugs are protected against moisture, dust, heat, and shock.
- Protect bright parts of the machine and power pack with a preservative oil or grease.

### ***After Longer Stoppage:***

- See Chapter 5 "Initial Operation."

---

## Chapter 7.0 Maintenance

---

- 7.1 Recommendations
- 7.2 Maintenance and Inspection
- 7.3 Repairing
- 7.4 Adjusting the Blast Pattern
- 7.5 Setting the Magnetic Seals
- 7.6 Change of the Blast Wheel
- 7.7 Changing the Liners
- 7.8 Maintenance Intervals
- 7.9 General Maintenance
- 7.10 Recommended Spare Parts List

---

### 7.1 Recommendations

---

Prior to any repair work on the machine and its drives, secure the machine against unintentional switch-on. Put the machine in its Safety Off Position as described in Chapter 2.



*Failures due to inadequate or incorrect maintenance may generate very high repair costs and longer stoppage periods of the machine. Regular maintenance is essential.*

- Safety and service life of the machine depend, among other things, on proper maintenance.
- 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 yearly.
- Due to different working conditions it cannot be foreseen how frequently inspections need to occur for wear checks, inspection, maintenance and repair works. Prepare a suitable inspection schedule considering your own working conditions. Our specialists will be pleased to assist you with any issues you may encounter.



*Sub-supplier's operating and maintenance instructions should be followed during service and maintenance. Highest attention should be paid when replacing electric parts and components.*

## 7.2 Maintenance and Inspection

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

<b><i>Operating Hours / Time Period</i></b>	<b><i>Inspection Points &amp; Maintenance Instructions</i></b>
<b>12 hours — after repairing</b>	Check function of all safety devices. Check all accessible screw connections for tight seat.
<b>Every 3 hours</b>	Check whether there is any foreign matter in the hopper, the feed spout, or in the blast wheel unit. Check the amount of abrasive in the hopper. Refill if necessary.
<b>Daily — prior to operation</b>	Check the hose connections for tightness and fixed seat. Check the hose to the filter for damages. Make sure that the dust bin of the filter has been dumped. Check blast wheel, feed spout, liners and fasteners for wear and damage. Check the separator parts for wear and defects. Remove foreign bodies and dust deposits. Check the level of abrasive in the storage hopper. Refill to bottom of wire mesh if necessary. Check the magnetic and seals for wear and replace if necessary. Check the electric connections for sediments of dirt or foreign bodies. Check the electric motor for dirt and other contaminants.
<b>Yearly</b>	Fully overhaul and clean the entire machine.

## 7.3 Maintenance

As already mentioned in Chapter 5 “Initial operation,” we recommend you make your first repair work on the machine with the help of an IMPACTS personnel. Using this recommendation, your maintenance personnel will have the opportunity to get an extensive training.

Only those repair works are described which occur within the context of maintenance or which are required to replace wear parts.



*If you replace parts yourself for specific reasons, the following instructions and work sequence have to be observed:*

- You should also stock all spare or wear parts that cannot be supplied 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 work on the machine and its drives, secure the machine against unintentional switching-on. Pull out the main plug in order to do this. Store the plug near the machine to avoid accidents.*

## 7.4 Adjusting the Blast Pattern



*Never slacken cage clamps or try to adjust the control cage when the machine is in operation.*

During blasting of the surface, material should be removed within the whole width of the internal dimension of the blast housing and the machine should achieve an equal blast pattern. (S)

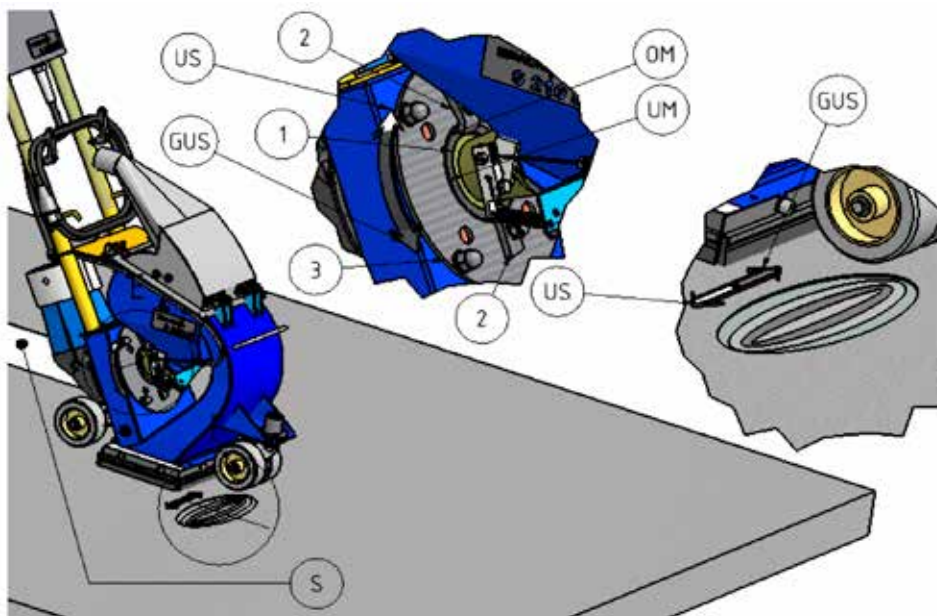
The abrasive leaving the blast wheel blades is not thrown uncontrolled in all directions. The width of the blast pattern is achieved through the opening of the control cage (1). Responsible for the direction in which the abrasive is thrown is the position of the control cage.

If the machine produces a one-sided, uneven blast pattern, it is in most cases caused by wrong position of the control cage.

The adjustment is effected by loosening the cage clamps (2). The control cage can now be turned in the front plate (3). To set the blast pattern correctly, you have to loosen the cage clamps (2) and to turn the control cage as shown in the picture. This should be done step by step.

Each control cage has two grooves which show the position of the control cage opening. The grooves should be in the following position: UM at 9 o'clock A.M. and OM at 11 o'clock A.M.

The position of the control cage has been pre-adjusted by IMPACTS to work with the IMPACTOR abrasive S330 and S390. Using a different abrasive can result in changing the blast pattern.



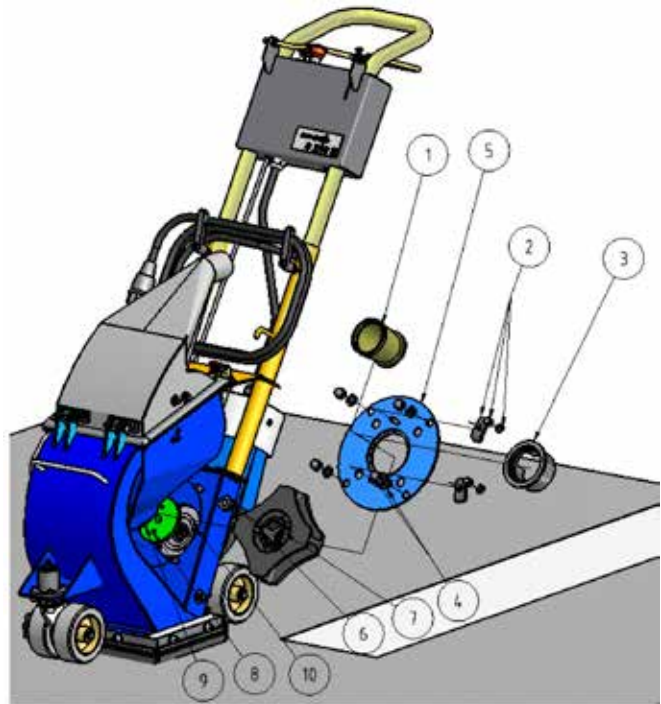


## 7.5 Changing the Blast Wheel

The blast wheel set consists of the blast wheel and the control cage.

### Demounting:

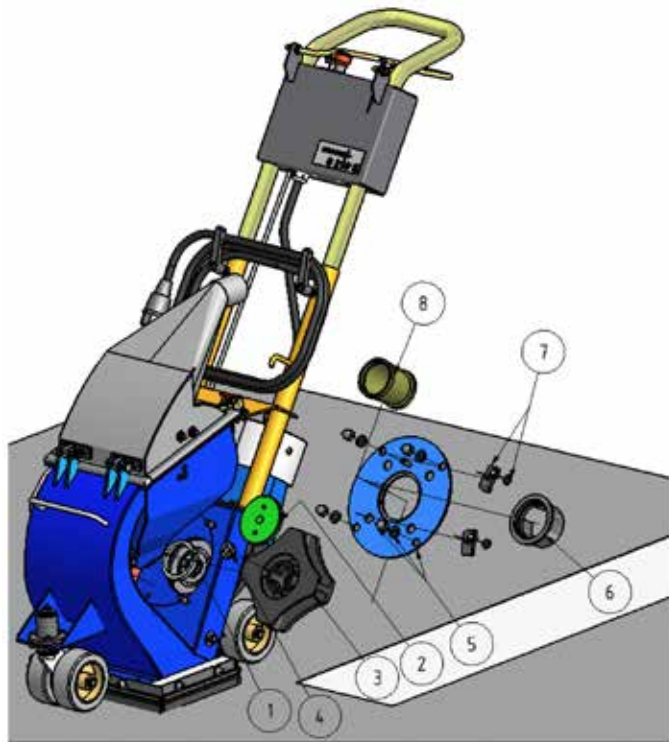
1. Remove the feed spout (1) by pulling it out of the housing.
2. Loosen the cage clamps (2).
3. Remove the control cage (3).
4. Unscrew the screws (4) of the front plate (5) and set aside.
5. Fix the wheel (7) with a piece of wood.
6. Loosen the fixing screw of blast wheel (6).
7. Remove the blast wheel (7).
8. Check the wheel hub (8) for wear.
9. Check the sealing (10) for wear.



### Mounting:

Before you start mounting clean all threads and use a new blast wheel fixing screw, replace the sealing (1) if it fit is worn.

1. Put the wheel hub (2) on the shaft of the wheel motor. Make sure that it is in the right position on both sides. In order to control it, turn the wheel hub. It must turn the wheel motor as well.
2. Put the blast wheel (3) through the opening of housing on the pins of the wheel hub (2).
3. Fix the wheel (3) with the blast wheel fixing screw (4).
4. Fix the front plate (5) with the four fixing screws.
5. Put in the control cage (6).
6. Clamp the control cage with the cage clamps (7). Check the distance to the impeller of the wheel and make sure that the wheel can rotate freely. Fix the cage clamps correctly & securely.
7. Replace the feed spout.



## 7.6 Adjusting the Magnetic Seals

The correct height of the magnetic seals is important for the sealing of the machine and vital for the airflow through the machine.

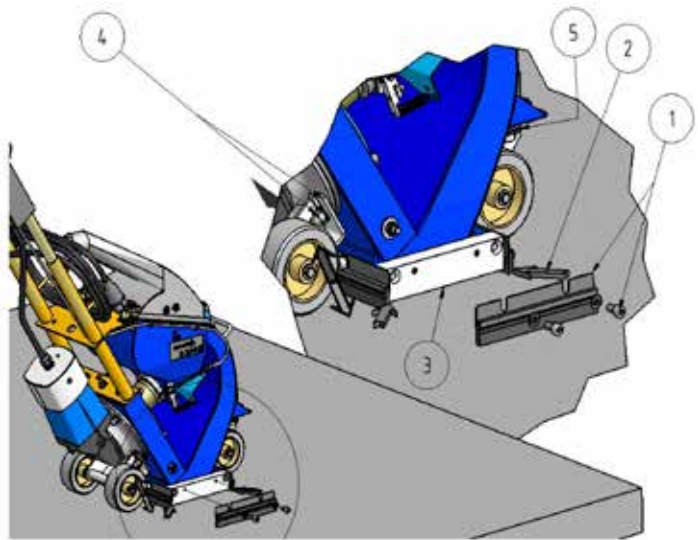
The adjustment height of the magnetic seals should be set about 6-8mm on all sides and parallel to the surface of the floor.

If the blast machine has to be used on very rough surfaces, it may be necessary to set the machine at the maximum height of 8 mm.

For the height adjustment you can use four steel strips (2) of 8mm as shown in the picture.

Remove the brush seals (1) and put the strips (2) under the magnetic seals (3). Now loosen the fixing screws of wheel bracket (4) and move the wheel bracket until the wheels touch the surface.

Then fix the wheel bracket again. If necessary you can lower the wheel bracket in the front (5) by using additional distance rings. Then adjust the height of the brushes – that way the brushes (1) slightly touch the surface.

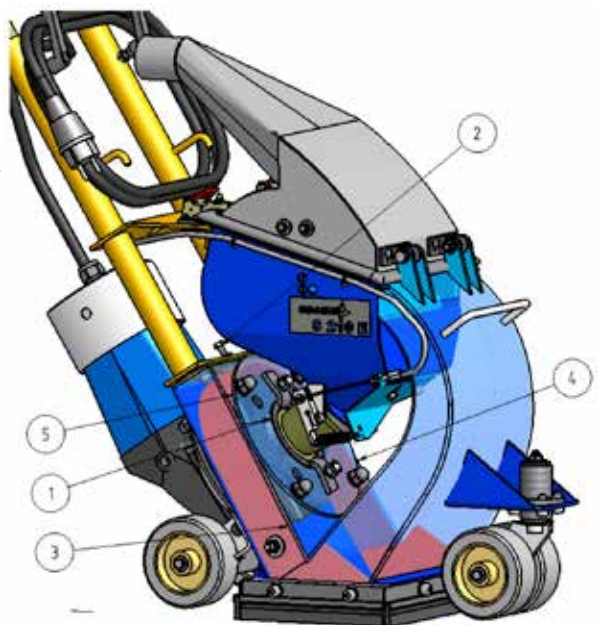


## 7.7 Changing the Liners

### Demounting:

The removing of the liners is only possible when the blast wheel is removed. Before you remove the liners, remove the blast wheel and the wheel hub as described in Chapter 7.

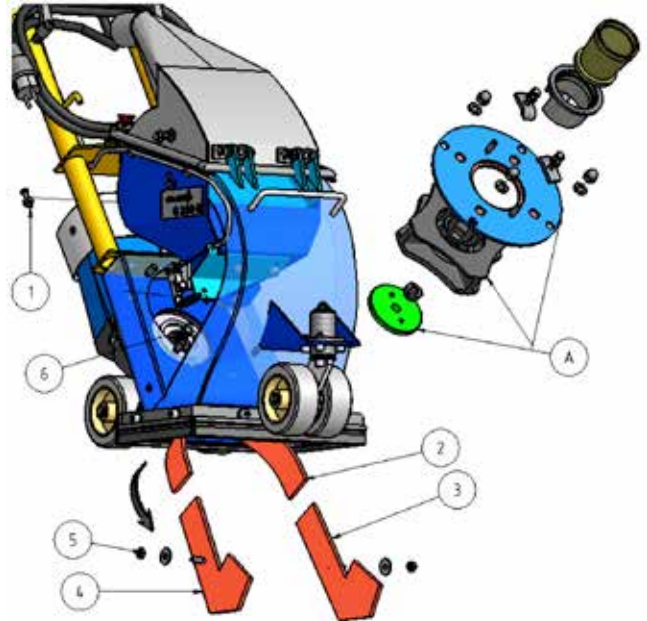
1. Loosen the fastening screw of the left hand (3) and right hand (4) liner, turning the liners toward the inside of the blast housing and removing them out the bottom of the housing.
2. Loosen the counter screw (2) of the pressure screw of the top liner (5) and turn it completely up.
3. Loosen the pressure screw (2) of the top liner (5) to the end and turn it back until you can remove it.
4. Put a small nail through the thread opening and hit it down onto the top liner (5) until it slides downward.
5. Turn the top liner around the motor shaft and take it out through the bottom of the housing.
6. Take the top liner out through the bottom opening of the housing.



**Mounting:**

Prior to mounting new liners, you should check the wheel housing and corners for wear.

1. Put the pressure screw (1) of the top liner in place.
2. Move the top liner (2) through the opening of the wheel housing and turn it around the motor shaft (6) into the upper part of the housing.
3. Place the side liners (3 & 4) inside the housing in the same manner where the bolts can be pushed through the holes in the side of the housing.
4. Put the screws (5) on the bolts and tighten them slightly.
5. Slide the side liners (3 & 4) inside the housing in a way that the liner sticks out approximately 2mm at the bottom of the housing. Fasten the side liners with the screws.
6. Fix the pressure screw (1) where the edges of the top liner is sitting on the upper edges of the side liners.
7. Now mount the remaining components (A), as described in Chapter 7.5 - Mounting of the Blast Wheel.
8. Finally, position the control cage as described in Chapter 7.4 - Adjusting the Blast Pattern.





## 7.8 Maintenance Intervals

The motor is designed for long life. Damages of the motor can be realized through unusual noises and faults of the function.

Keep the motor always free of dirt (overheating).

Keep the cover of the motor fan always free and do not put anything on it.

If the motor does not perform normally anymore, please contact an electrical specialist.

If the fault of the motor can not be repaired, please contact the IMPACTS – customer service.

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

<b><i>Inspection / Time Period</i></b>	<b><i>Part</i></b>	<b><i>Sign of Wear</i></b>	<b><i>Repairing Action</i></b>
<b>Daily</b>	Brush sealings	Wear at the lower end	Replace brush seals
	Fixing screws of the liners	Wear on the fixing screws	Replace screws
<b>10-20 hours</b>	Blast wheel control cage	Blades of the blast wheel are worn 1/3; deep groves	Replace the blast wheel kit
<b>50 hours</b>	Liners in the wheel housing	Partly worn up to 1/3 of the original thickness	Replace liners
<b>100 hours</b>	Rebound plate in the separator	Wear of the rebound plate	Replace rebound plate
<b>150 hours</b>	Abrasive hopper separator	Wear mainly on the welding seams	Rewelding through IMPACTS service
<b>200 hours</b>	Feed Spout	Worn out	Replace with a new one
	Rebound chamber	Worn weldings	Rewelding through IMPACTS service

## 7.9 Other Maintenance

- Pay attention to the wear of the brush seals and change them when the sealing is no longer sufficient. Doing this step will prevent dust from coming to the environment and saves additional costs.
- From time to time, you should put oil on the Dead Man Switch and other moving parts to keep them lubricated.

## 7.10 Recommended Spare Parts List

To avoid long standstills of the machine, IMPACTS recommends to keep the following spare parts in stock.

Part Number	Description	Amount
201000145	Wheel kit	2
201000201	Top liner	1
201000199	Liner R.H.	1
201000200	Liner L.H.	1
201000202	Brush seals, side	2
201000203	Brush seals, front	2
201000186	Felt seal ring	1
201000210	Blast wheel nut	1
201000204	Abrasive control cable	1

As a special service to customers, IMPACTS offers a tool kit which contains all the above listed parts and in addition to that the most important tools for maintenance work.



*After the change of any spare parts, you should always adjust the blast pattern. Only this will guarantee your machine will work most efficiently and save unnecessary wear and repair costs.*

## Chapter 8.0 Electrical System

### 8.1 Tips for the Electronics

#### 8.2 Circuit Diagram

### 8.1 Tips for the Electronics



*Completely shut off the machine for repair or maintenance work. All plugs have to be disconnected. Keep all cables and plugs near the machine in order to prevent the machine from being switched on accidentally.*

Electric spares need to be ordered with reference to the electrical circuit diagram within this chapter. If there is any doubt, you need to call your local IMPACTS service technician.

The electrical parts must be inspected regularly. Please note in particular the specified recurring inspections according to VBG 4 or other local regulations. Defects such as loose connections or scorched cables must be rectified immediately. Call a skilled electrician or the IMPACTS customer service.



*Work on the electrical parts of the equipment have to be undertaken by a skilled electrician or by a trained person under the guidance and supervision of a skilled electrician in accordance with the electrical engineering regulations.*



## Chapter 9.0 Error Diagnostics

### 9.1 Diagnosis of Errors

### 9.2 Diagnosis of Electrical Failures

### 9.1 Diagnosis of Errors



*Prior to any repair work on the machine or its drives, the machine has to be secured against unintentional switching on. Put the machine to its Safety off position as described in Chapter 2.*

<b>Failure</b>	<b>Possible Reasons for Failure</b>	<b>Failure Corrective Actions</b>
<b>Unusual Vibrations</b>	Uneven wear of the blast wheel	Replace blast wheel set
	Unbalance due to broken parts or blades.	Check separator and all other sections of the machine. Remove all broken parts.
	Wheel hub worn out	Replace wheel hub
	Drive shaft bent	Replace shaft or complete bearing unit
<b>Unusual Noise</b>	Low clearances or bad adjustments of turning parts	Check parts adjustments (Blast wheel and Control Cage).
	Loose or lost screws.	Check screws and bolts to be fitted correctly. Tighten where necessary.
	Shrieking wheels	Apply oil or grease. Replace if worn.
	Motor bearings worn	Replace bearings
<b>Reduced performance or no performance</b>	Insufficient flow of abrasive in front of the blast wheel	Clean wire mesh and check feed spout for cleaning
	Not enough abrasive in storage	Fill up abrasive
	Loose valve lever	Tighten up set screw
	Valve adjustment	Adjust valve lever and valve disk.
	Too much dust and sand in the circuit	Check all seals and dust hose / Check filtration unit to be sealed properly (dust bin)

<b>Failure</b>	<b>Possible Reasons for Failure</b>	<b>Failure Corrective Actions</b>
<b>Reduced performance or no performance</b>	Blast wheel or control cage	Blast wheel or control cage worn out. Replace worn items.
	Belt tension	Check and adjust
	Valve does not close properly and abrasive is blocking the blast wheel when switch is on.	Close valve, stop motor, and readjust valve.
	Too much abrasive emitted when switched on.	Ensure motor has max speed before opening the valve,
	Feed motion too fast.	Reduce speed.
<b>Losing Abrasive</b>	Bad seals	Check base seals readjust and replace when worn.
	Elevation adjustment of magnets	Check elevation to be no higher than 8mm.
	Magnets lost field	Replace magnets
	Filter unit	Adjust reducing damper
<b>Dumping or Losing Abrasive</b>	Poor Abrasive quality	Use Quality abrasives
	Blast Wheel worn	Replace Blast Wheel
	Worn Seals	Replace Seals
	Elevation adjustment of magnets	Readjust elevation of magnets and adjust seals
	Too much dust and sand in system	Check filter
<b>Too much dust and other particles in storage</b>	Insufficient air flow toward filtration unit	<p>Check rated performance of the filter unit connected.</p> <p>Check all seals</p> <p>Check dust hose</p> <p>Check differential pressure and replace filter elements if pressure is too high.</p>

## 9.2 Diagnosis of Electrical Failures



*Prior to any repair work on the machine or its drives, the machine has to be secured against unintentional switching on. Put the machine to its Safety off position as described in Chapter 2.*



*Work on the electrical parts of the equipment have to be undertaken by a skilled electrician or by a trained person under the guidance and supervision of a skilled electrician in accordance with the electrical engineering regulations.*

<b>Failure</b>	<b>Possible Reasons for Failure</b>	<b>Failure Corrective Actions</b>
<b>Motor does not start up</b>	Missing Phase	Check power supply
	Faulty Switch or relays	Diagnosis and replacement by electrician
	Emergency Stop	Unlock Emergency Stop Button
<b>Motor stops during operation</b>	Current too high	Disconnect plug
	Power supply circuit breaker disengaged	Reset circuit breaker or replace fuse. Adjust maximum abrasive feeding (use Amp meter)
	Motor is damaged	Check motor

## Chapter 10.0 Spare Parts

### 10.1 Machine Overview

#### 10.2 Blast Wheel & Front Section

#### 10.3 Handle Section

#### 10.4 Separator - Top Section

#### 10.5 Abrasive Feeder

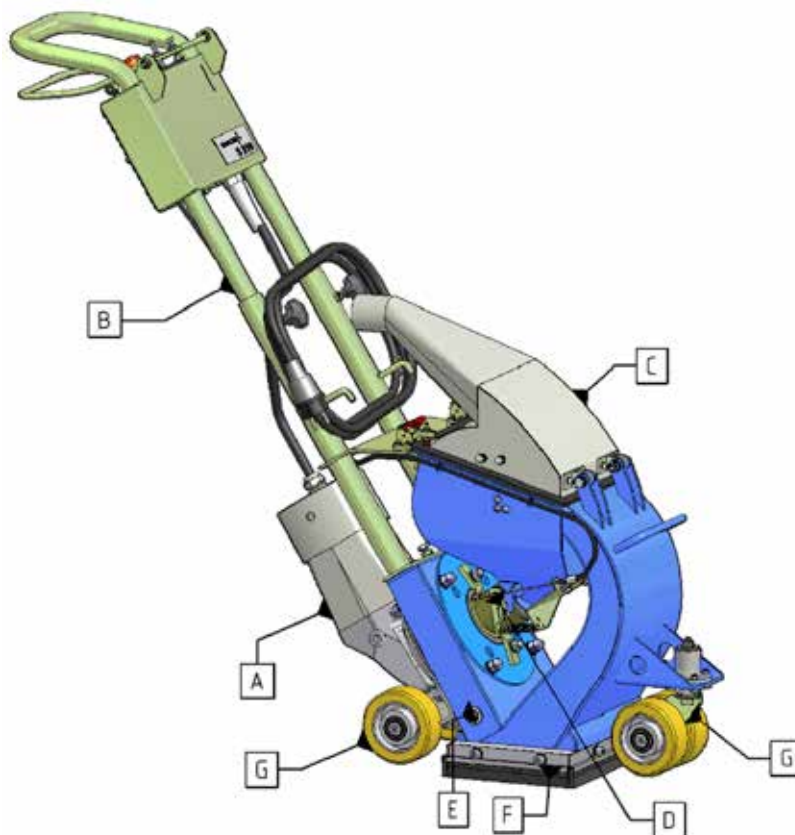
#### 10.6 Liner & Wheel Housing

#### 10.7 Seals

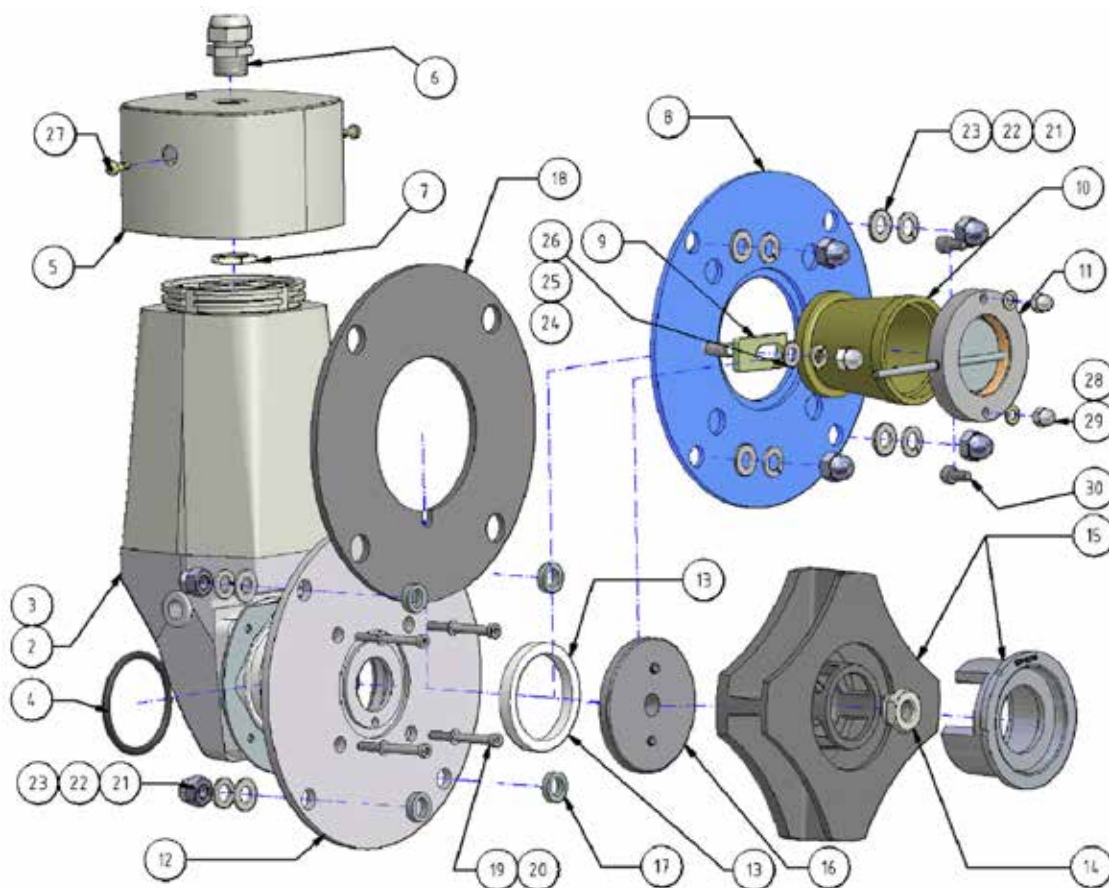
#### 10.8 Undercarriage

### 10.1 Machine Overview

#	DESCRIPTION
A	BLASTWHEEL DRIVE & FRONT
B	HANDLE SECTION
C	SEPARATOR - TOP SECTION
D	ABRASIVE FEEDER
E	LINERS & WHEEL HOUSING
F	SEALS
G	UNDERCARRIAGE



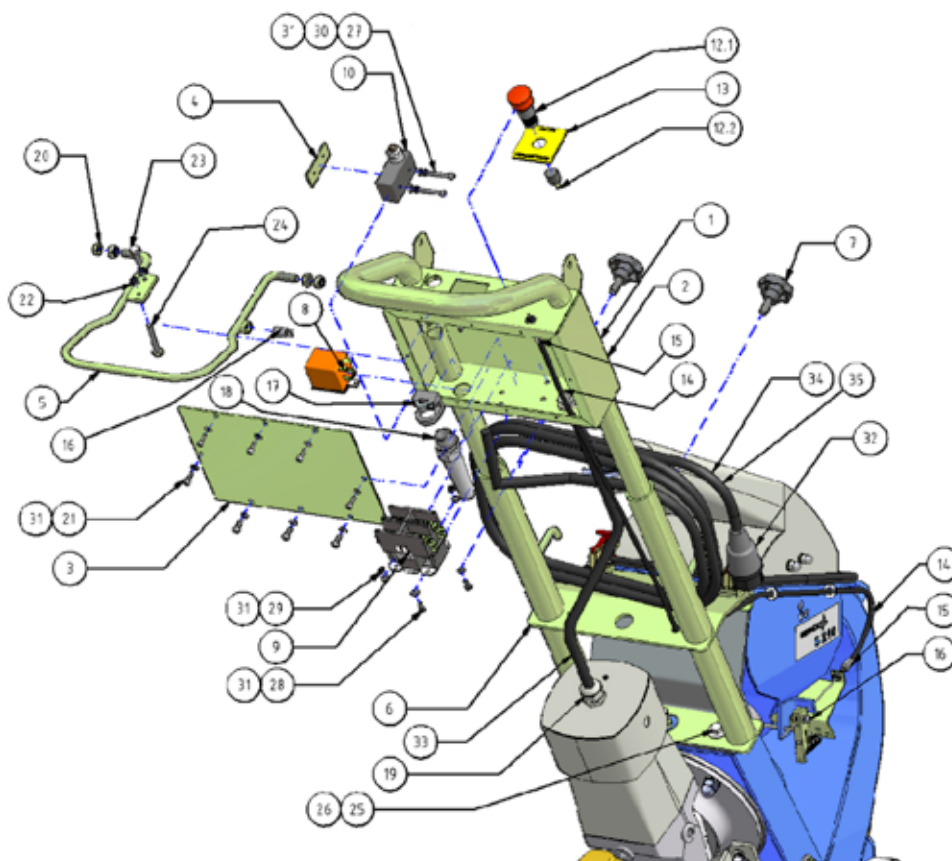
## 10.2 Blast Wheel Drive & Front



POS	QTY.	DESCRIPTION	PART No.
1	1	WHEELHOUSING S210E	201 000 217
2	1	MOTOR 230V	601 000 009
3	1	MOTOR 110V	601 000 016
4	1	O-RING	403 771 005
5	1	WHEELMOTOR GUARD	201 000 205
6	1	CABLE GLAND	612 000 008
7	1	NUT FLAT M20x1,5	612 000 009
8	1	C CAGE SUPPORT	201 000 216
9	2	CLAMP CONTROLCAGE	201 000 192
10	1	ABRASIVE FEEDER	201 000 224
11	1	FEED VALVE S210	201 000 218
12	1	MOTOR SUPPORTPLATE	201 000 142
13	1	FELT SEAL	201 000 186
14	1	WHEEL NUT	201 000 210
15	1	DD TYPE BLASTWHEEL	201 000 145
16	1	WHEEL ADAPTER S210E	201 000 209
17	4	SPACER 5mm	201 000 585
18	1	SPACER RING 5mm	201 000 584
19	4	HEX.HD.SOCK.LOW HEAD.SC.	DIN 6912 M5x50 Zn
20	4	SPRING LOCK WASHER	DIN 128 A5 Zn
21	8	CAP NUT M10	DIN 1587 M10
22	8	LOCK WASHER 10mm	DIN 128 A10 Zn
23	8	WASHER	DIN 125 B 10,5 Zn
24	2	CAP NUT	DIN 1597 M8 Zn
25	2	LOCK WASHER	DIN 128 A8 Zn
26	2	WASHER	DIN 125-1 B 8,4 Zn
27	2	SELF DRILLING SCREW	0206 42 16
28	2	LOCK WASHER	DIN 128 A6 Zn
29	2	CAP NUT	DIN 1587 M6 Zn
30	2	HEX. SOCK.Hd. CAP SCREW	DIN 912 M6x12 Zn

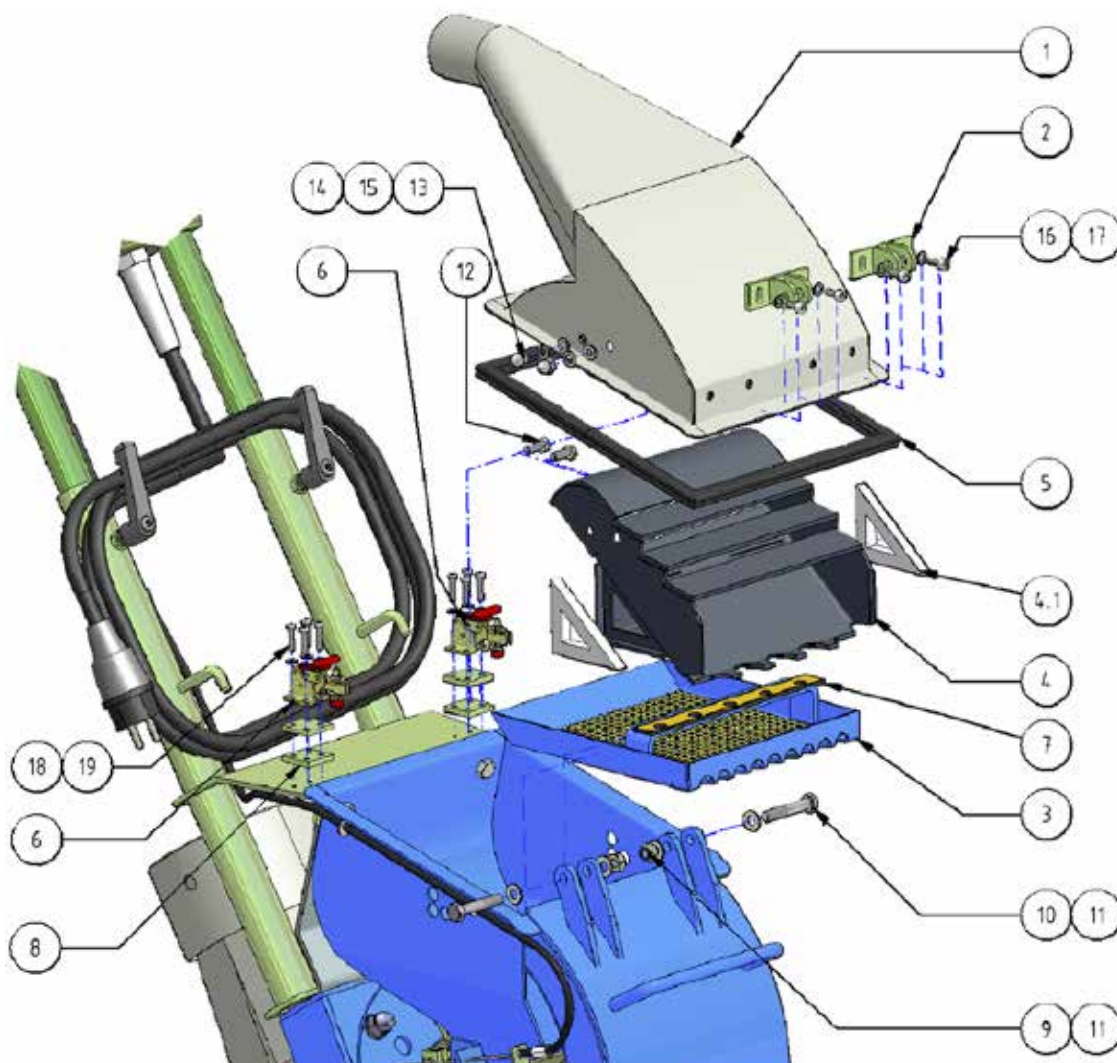


## 10.3 Handle Section



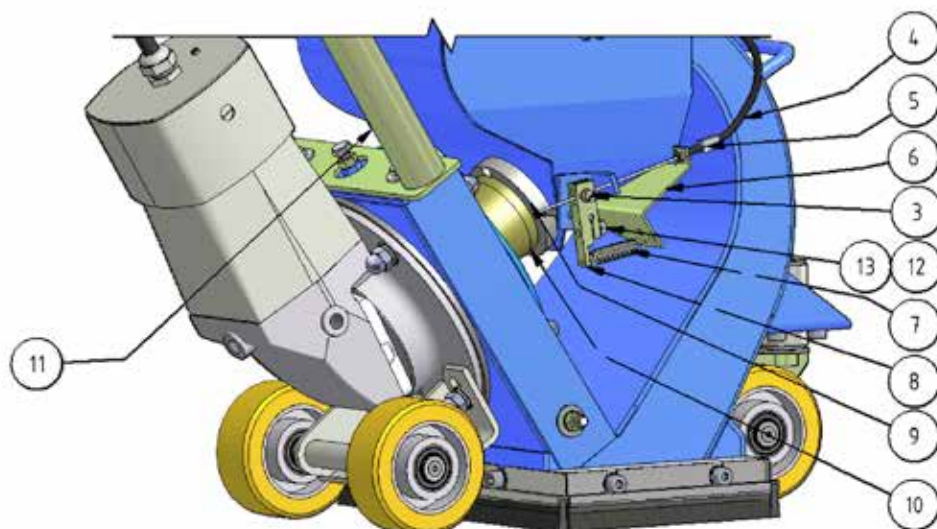
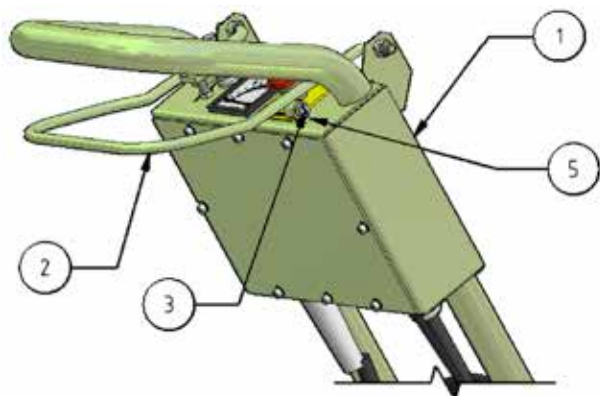
POS	QTY.	DESCRIPTION	PART No.
1	1	TOP HANDLE S210E	201 000 221
2	1	HANDLE FOR AMP.-METER	201 001 710
3	1	REAR COVER	201 001 732
4	1	CLAMPING PLATE	201 001 442
5	1	ACTUATOR HANDLE	201 000 223
6	1	BOTTOM HANDLE	201 000 222
7	2	STAR GRIP M8	310 000 007
8	1	RELAY	612 000 019
9	1	2 POLE CONTACTOR	606 000 002
10	1	MICRO SWITCH	605 000 005
12.1	1	CONTROL BUTTON	612 000 029
12.2	1	CONTACT ELEMENT	605 000 013
13	1	LABEL EMERG.STOP	612 000 030
14	1	ABR. CONTROL CABLE	201 000 204
15	2	ADJUSTER NIPPLE	201 000 231
16	2	NIPPLE	201 000 230
17	1	CABLE CLAMP M20	612 000 018
18	1	CABLE GUIDE	612 000 017
19	2	CABLE GLAND	612 000 008
20	4	LOCK NUT M8	ISO 7040 M8 Zn
21	8	CYL. HEAD CAP SCREW	DIN 912 M4x12 Zn
22	2	HEX NUT M6	DIN 934 M6 Zn
23	1	HEX HEAD BOLT	DIN EN 24018 M6x20 Zn
24	1	HEX HEAD BOLT	DIN EN 24018 M6x40 Zn
25	2	HEX HEAD SCREW	DIN EN 24018 M8x20 Zn
26	2	WASHER	DIN 9021 8,4 Zn
27	2	CYL. HEAD CAP SCREW	DIN 912 M4x30 Zn
28	2	CYL SLOT SCREW	DIN 84 M4x10
29	2	NUT	DIN EN 24032 M4 Zn
30	2	SPR LOCK WASHER	DIN 128 A4
31	14	WASHER	DIN 125-1 B4,3
32	1	PLUG 230V ONLY	603 000 001
33	1	MOTOR CABLE	602 000 008
34	10m	MAIN CABLE 110 VOLT	602 000 020
35	10m	MAIN CABLE 230 VOLT	602 000 008

## 10.4 Separator - Top Section



POS	QTY.	DESCRIPTION	PART No.
1	1	SEP COVER	201 000 228
2	2	HINGE TOP SECTION	201 000 215
3	1	TRAY INSERT	201 000 220
4	1	VENTILATION INSERT	201 000 219
4.1	2	FELT SEAL	201 000 319
5	1	U SHAPE RUBBER SEAL	314 000 056
6	2	CLAMP	311 000 012
7	1	SEAL SEP INSERT	201 001 557
8	4	SPACER PLATE	201 000 229
9	7	LOCK NUT M8	ISO 7040 M8 Zn
10	2	HEX HEAD BOLT	DIN EN 24014 M8x45 Zn
11	4	WASHER	DIN 125-1 B 8,4 Zn
12	4	HEX HEAD BOLT	DIN EN 24018 M6x16 Zn
13	4	CAP NUT	DIN 1587 M6 Zn
14	4	WASHER	DIN 125-1 B6 Zn
15	4	LOCK WASHER	DIN 128 A6 Zn
16	4	HEX SOCK. HD. CAP	DIN 912 M5x12 Zn
17	4	WASHER 5,3MM	DIN 125-1 B5,3 Zn
18	8	WASHER	DIN 125-1 B4,3
19	8	HEX.SOCK.HD.CAP SCREW	DIN 7984 M4x18 Zn

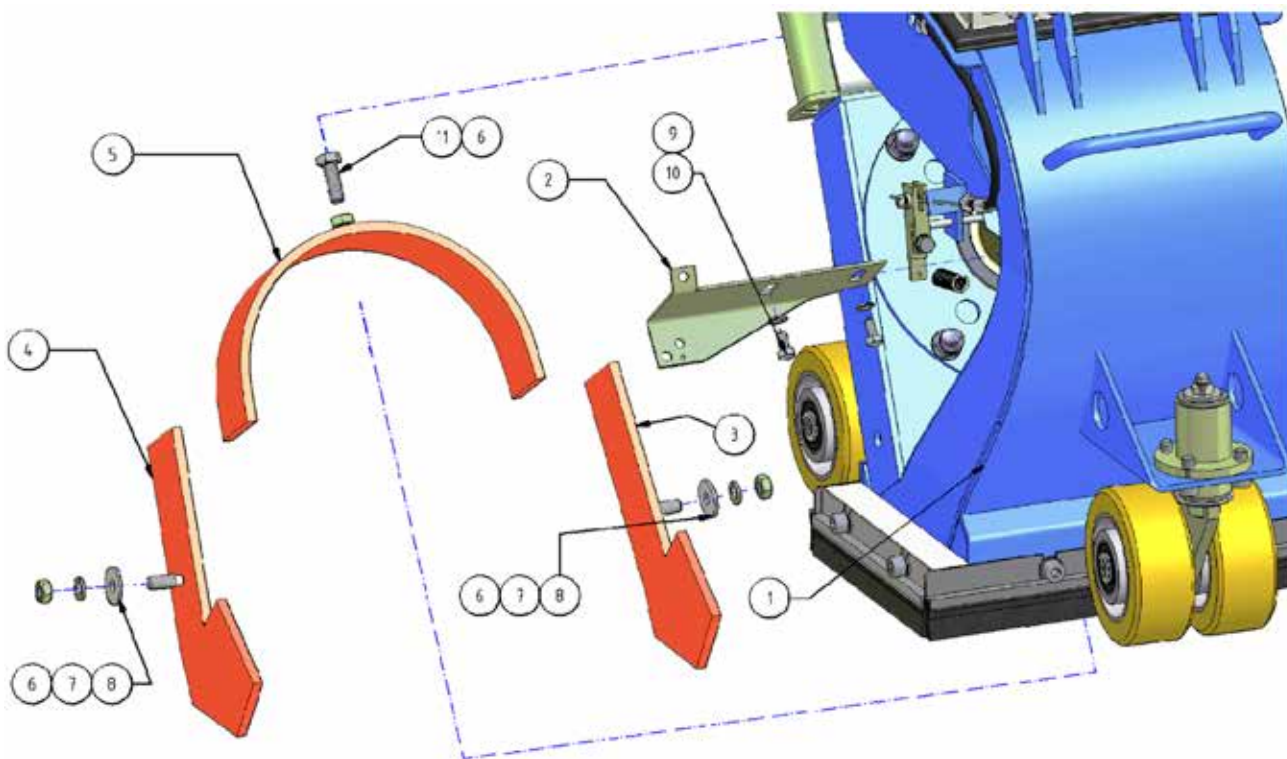
## 10.5 Abrasive Feeder



POS	QTY.	DESCRIPTION	PART No.
1	1	HANDLE F. AMP.-METER	201 001 710
2	1	ACTUATOR HANDLE	201 000 223
3	2	NIPPLE	201 000 230
4	1	ABR. CONTROL CABLE	201 000 204
5	2	ADJUSTER NIPPLE	201 000 231
6	1	C CABLE BRKT.	201 000 226
7	1	TENSION SPRING	201 000 131
8	1	VALVE LEVER	201 000 225
9	1	FEED VALVE S210	201 000 218
10	1	ABRASIVE FEEDER	201 000 224
11	1	BOTTOM HANDLE	201 000 222
12	5	WASHER	DIN 125-1 B6,4 Zn
13	3	HEX HEAD BOLT	DIN EN 24018 M6x12 Zn

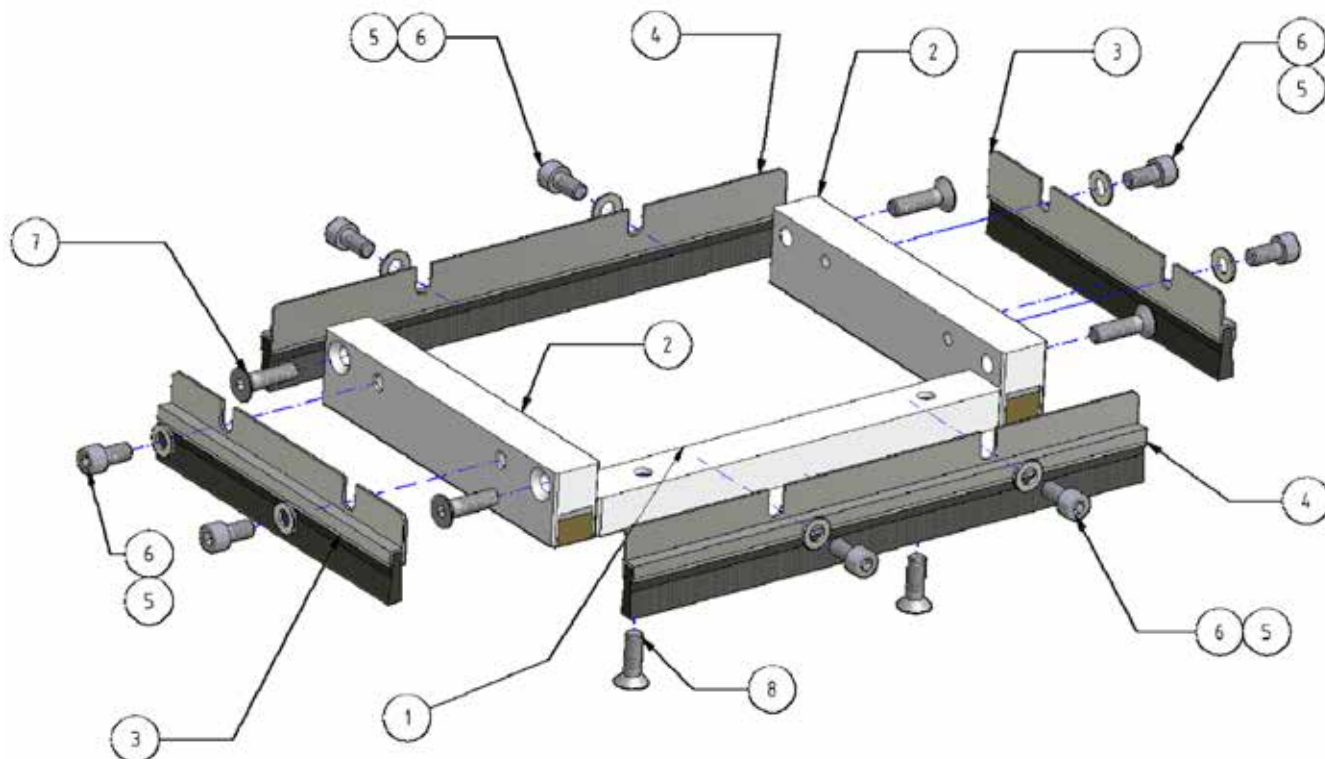


## 10.6 Liner & Wheel Housing



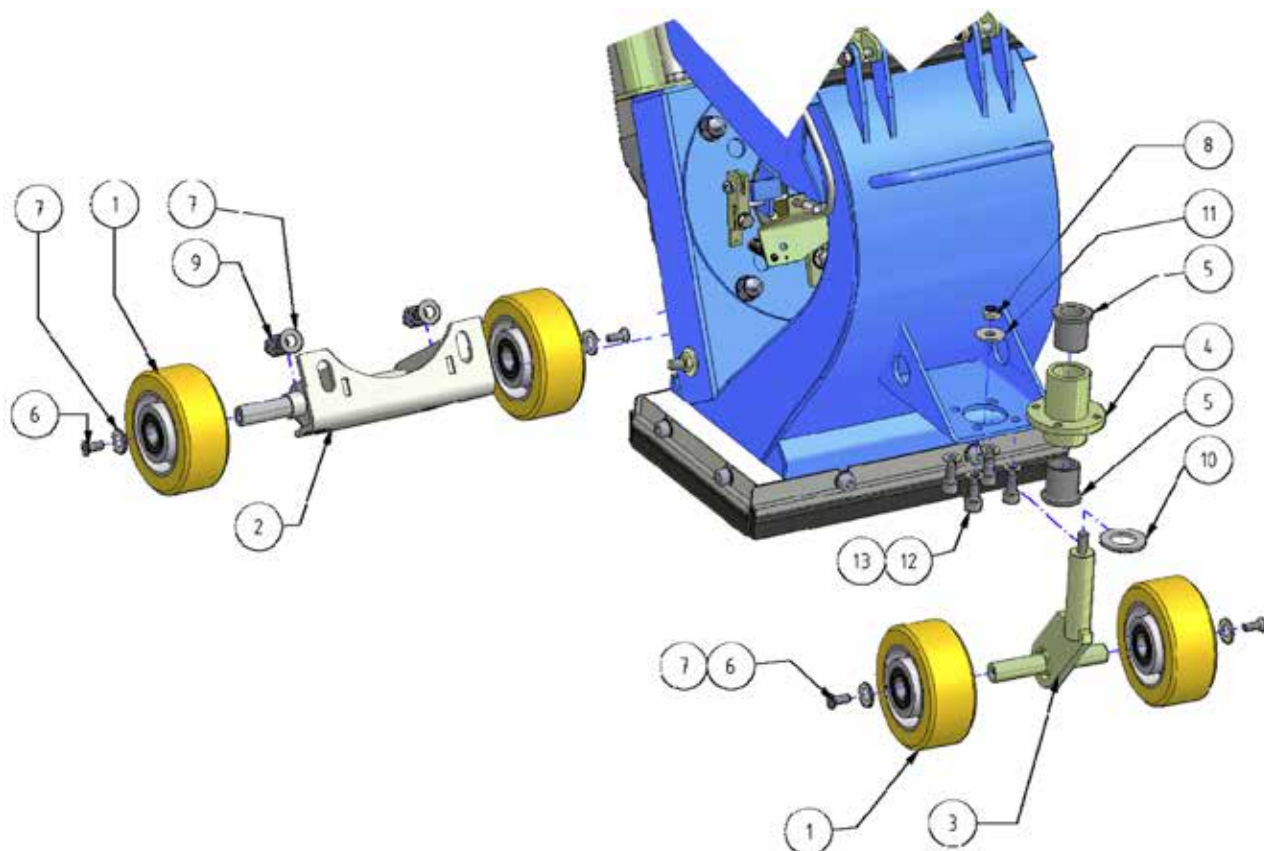
POS	QTY.	DESCRIPTION	PART No.
1	1	WHEELHOUSING S210E	201 000 217
2	1	C CABLE BRKT.	201 000 226
3	1	RH SIDE LINER S210	201 000 200
4	1	LH SIDE LINER S210	201 000 199
5	1	TOP LINER	201 000 201
6	3	HEX NUT M8	DIN 934 M8 Zn
7	2	LOCK WASHER	DIN 128 A8 Zn
8	2	WASHER	DIN 9021 8,4 Zn
9	2	WASHER	DIN 125-1 B6,4 Zn
10	2	HEX HEAD BOLT	DIN EN 24018 M6x12 Zn
11	1	HEX HEAD BOLT	DIN EN 24018 M8x25 Zn

## 10.7 Base Seal Assembly



POS	QTY.	DESCRIPTION	PART No.
1	1	FRONTMAGNET S210	201 000 213
2	2	SIDE MAGNET	201 000 214
3	2	SIDE BRUSH	201 000 202
4	2	FRONT BRUSH	201 000 203
5	8	WASHER	DIN 125-1 B 8,4 Zn
6	8	HEX SOCK HEAD CAP SCREW	DIN 912 M8x16 Zn
7	4	HEX.SOCK.COUNT.HD.SCREW	DIN 7991 M8x30 Zn
8	2	HEX.SOCK.COUNT.HD.SCREW	DIN 7991 M8x25 Zn

## 10.8 Undercarriage



POS	QTY.	DESCRIPTION	PART No.
1	4	WHEEL 100	304 000 013
2	1	REAR BRACKET	201 000 227
3	1	SWIVEL BRACKET	201 000 211
4	1	SWIVEL BUSH	201 000 212
5	2	BUSHING	314 000 002
6	4	HEX.SOCK.COUNT.HD.SCREW	DIN 7991 M6x16 Zn
7	6	WASHER	DIN 125 B 10,5 Zn
8	1	LOCK NUT M8	ISO 7040 M8 Zn
9	2	CAP NUT M10	DIN 1587 M10 Zn
10	1	WASHER	DIN 125 B21 Zn
11	1	WASHER	DIN 9021 8,4 Zn
12	4	HEX SOCK HEAD CAP SCREW	DIN 912 M8x16 Zn
13	4	LOCK WASHER	DIN 128 A8 Zn







**IMPACTS Americas**  
1384 Bungalow Rd.  
Morris, IL 60450 USA  
(815) 941-4800  
(815) 941-4600 Fax  
[www.IMPACTSAmericas.com](http://www.IMPACTSAmericas.com)