



PDG 9500+ Manual



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Congratulations on your decision to get the Power of SASE behind you! SASE is committed to excellence, excellence in the quality of products we sell and excellence in service and support after the sale. It is important to us that your business continues to succeed and grow, and we know that the right products, service and support can have a great impact on your bottom line.

SASE has made great strides in the concrete preparation and polishing industry over the years. With a 40,000 square foot distribution and service facility in Seattle, a 22,000 square foot distribution and service facility in Knoxville, and local sales and technical support representatives throughout the United States, SASE is able to provide unsurpassed service and technical support for the contractor.

At SASE we engineer and manufacture our own equipment, which allows us to be in control of the quality of the equipment we sell. SASE offers a complete line of concrete preparation and polishing equipment, our newest introduction being our new line of PDG planetary diamond grinders, which is setting a new standard for the concrete grinding and polishing industry. SASE is also the leader in diamond tooling technology.

We look forward to a long and prosperous partnership with you! Thank you again for choosing SASE. You won't regret having the Power of SASE behind your company!

Sincerely,

SASE Company, Inc.

A handwritten signature in black ink, appearing to read "J. Weder".

Jim Weder

President

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Safety Instructions



Please read the operator's manual carefully and make sure you understand the instructions before using the machine.



WARNING! Dust forms when grinding which can cause injuries if inhaled. Use an approved breathing mask. Always provide for good ventilation while machine is in use.



Always wear:

- ❖ Approved protective helmet.
- ❖ Approved hearing protection.
- ❖ Protective goggles or a visor.
- ❖ Dust Mask
- ❖ Dust forms when grinding, which can cause injuries if inhaled.



Always wear approved protective gloves.



Always wear sturdy non-slip boots with steel toe-caps.



WARNING

Under no circumstances may the machine be started without observing the safety instructions.

Should the user fail to comply with these, SASE Company Inc or its representatives are free from all liability both directly and indirectly.

Read through these operating instructions and make sure that you understand the contents before starting to use the machine.

Should you, after reading these safety instructions, still feel uncertain about the safety risks involved you must not use the machine, please contact your SASE representative for more information.

- ❖ Only qualified personnel should be allowed to operate machinery.
- ❖ Never use a machine that is faulty. Carry out the checks, maintenance and service instructions described in this manual. All repairs not covered in this manual must be performed by a repairer nominated by either the manufacturer or distributor.
- ❖ Always wear personal safety equipment such as sturdy non-slip boots, ear protection, dust mask and approved eye protection.
- ❖ The machine should not be used in areas where potential for fire or explosions exist.
- ❖ Machinery should only be started when grinding heads are resting on the ground.
- ❖ The machine should not be started without the rubber dust skirt attached. It is essential a good seal between floor and machine be established for safety, especially when operating in dry grinding applications.
- ❖ When changing the grinding discs ensure power supply to the unit is OFF by engaging the Emergency Stop button and the power-plug disconnected.
- ❖ The machine should not be lifted by handles, motor, chassis or other parts. Transportation of the machine is best done on a pallet / skid to which the machine must be firmly secured.
- ❖ Extreme caution must be used when moving machinery by hand on an inclined plane. Even the slightest slope can cause forces/ momentum making the machinery impossible to brake manually.
- ❖ Never use the machine if you are tired, if you have consumed any alcohol, or if you are taking medication that could affect your vision, your judgment or your coordination.
- ❖ Never use a machine that has been modified in any way from its original specification.
- ❖ Be on your guard for electrical shocks. Avoid having body contact with lightning conductors/metal in the ground.
- ❖ Never drag the machine by means of the cord and never pull out the plug by pulling the cord. Keep all cords and extension cords away from water, oil and sharp edges.

Safety Instructions

- ❖ Check that the cord and extension cord are intact and in good condition. Never use the machine if the cord is damaged, hand it in to an authorized service workshop for repair.
- ❖ Does not use a rolled up extension cord.
- ❖ Electrical cords must not exceed 200ft in length.
- ❖ The machine should be connected to an earthed outlet socket.
- ❖ Check that the mains voltage corresponds with that stated on the rating plate on the machine.
- ❖ Ensure the cord is behind you when you start to use the machine so that the cord will not be damaged.



WARNING HIGH VOLTAGE!



Inspection and/or maintenance should be carried out with the motor switched off and the plug disconnected.



This product is in accordance with applicable EU directives



WARNING

At no time should lifting of machinery be attempted without mechanical means such as a hoist or a forklift.

Introduction

The SASE PDG 8000 planetary diamond grinders are designed for wet or dry grinding of marble, terrazzo, granite and concrete. Their applications range from rough grinding through to a polished finish.



IMPORTANT!

It is extremely important all users be familiar with the contents of this manual before commencing operation of either machine. Failure to do so may result in damage to machinery or expose operator to unnecessary dangers.

It is recommended that machinery be transported with a set of diamonds attached at all times to ensure protection of locking mechanism for diamond plates.



IMPORTANT!

Only staff that has received the necessary training, both practically and theoretically concerning their usage should operate the machinery.

Storage

The machine should always be stored in a dry place when not in use.

Transportation

The machine comes equipped with an electronic system called a variable speed drive or a frequency converter. The drive enables the variable speed and direction component of the motor.

The drive is located in the steel cabinet mounted on the machine chassis.

As with all electronic equipment, the drives are sensitive to excessive vibration, rough treatment and high levels of dust. Much care and attention has been given by SASE to ensure maximal protection is given to the drive. Note the shock absorbing mounting system used to mount the steel cabinet on the machine chassis/frame.

When transporting, it is important to ensure the machinery is properly secured at all times to eliminate “bouncing” of the variable speed drive. Ensure the chassis or frame section of the machine is secured down at all times when in transit.

The machine should always be transported under cover limiting the exposed to natural elements – in particular rain and snow.



WARNING

The machine should not be lifted by handle, motor, chassis or other parts. Transportation of the machine is best done on a pallet/skid to which the machine must be firmly secured.

Do not attempt to slide the tines/forks from a fork lift under grinding heads unless on a pallet/skid.

Failure to do so can cause irreparable damage to grinding heads of machine and internal parts.

Setup and Operation

The machine can be divided into two main parts.

1. Chassis/Frame section – this comprises the handle bars, body panels, electrical cabinet, steel frame and wheels.
2. Head – this comprises the motor, cover, grinding/satellite/planetary heads and internal components.

The machine has been manufactured to allow movement between the chassis and head via the connection point at the lifting lugs and chassis pins. This movement is important during the grinding process as it creates a "floating" effect for the head.

The floating gives the head a self-leveling effect, negating the need to adjust the height of the head as the machine passes over floor areas with different slopes or undulations

Control panel

The control panel consists of a number of buttons, giving 6 separate controls (see picture).

Power - Power is turned on as soon as the machine is plugged in to a power source

Emergency Stop - When pushed will immediately shut down machine by totally stopping power supply to drives/ frequency converters in electrical cabinet.

Speed Control - Controls the speed of the planetary head and grinding heads.

Fwd/Rev (Green) - Direction control for both planetary head and grinding heads rotation.

Stop (Red) - To stop machine during normal Operation.

Reset (yellow) - Resets the VFD after a fault has occurred.



IMPORTANT!

It is important to use the STOP/RUN switch to control the running of the machine, not the EMERGENCY STOP button. Each time the EMERGENCY STOP button is pressed it shuts down the drive/ frequency converter. Frequently powering up and down of the drive/ frequency converter will reduce the life span of the drive/ frequency converter



IMPORTANT!

Planetary head and grinding heads are set to turn in opposite directions of each other. (Planetary head turns clockwise while grinding heads turn counter clockwise or planetary heads turn counter clockwise while the grinding heads turn clockwise.)



Setup and Operation



Position grinder on the working area. Make sure the are diamonds underneath machine and that the head locks are tight



IMPORTANT!

When using the machine, each grinding head must always have the same diamond type and number of diamonds as the other grinding heads. Each grinding head must have diamonds the same height as the other grinding heads.

The rubber skirt must be adjusted so that a good seal is established between the floor and head of machine (see picture below). Ensure join in skirt is at the front of the machine.

Setting of the skirt is essential to obtain good dust extraction and eliminate the possibility of airborne dust when dry grinding.

For the most comfortable working height set the handle using adjustment lever.



IMPORTANT!

It is recommended that this height be set as close as possible to the height of the operator's hip bone. When the machine is running, there will be a grinding force/pull to one side that can be felt through the handlebars. Use the hip to resist this force instead of trying to control this through the arms (such positioning will be much easier for the operator using the machine over prolonged periods of time.)



Machine power up

- ❖ Engage Emergency Stop button.
- ❖ Plug power supply to the machine



IMPORTANT!

Before plugging in machine double check supply voltage to ensure that the correct voltage is going to the machine.

- ❖ Disengage Emergency Stop button (twist clockwise).
- ❖ Press the desired rotation button to start machine (FWD/REV).

Setting Speed and direction

On the control panel there are FORWARD/REVERSE buttons for motor direction and Fast/Slow buttons for motor speed (Speed dial knob for 480V models). Generally, when starting the machine for the first time on any given application, it is advised the speed setting should not exceed 680 rpms initially.

When the operator feels comfortable with the application then speed may be increased.

Speed and direction setting is often depends on the application and personal choice.

Operators are encouraged to experiment to find which settings best suit the given applications. The following table lists some suggested set-ups for different applications.

1-10 Potentiometer Conversion

1. 300 RPM
2. 420 RPM
3. 540 RPM
4. 660 RPM
5. 780 RPM
6. 900 RPM
7. 1,020 RPM
8. 1,140 RPM
9. 1,260 RPM
10. 1,380 RPM

Setup and Operation

Planetary rotation direction

The correlation between FWD/REV & Clockwise/Counter clockwise rotation can be said as follows if looking at the grinding discs from underneath the machine:

❖ REV-Clockwise.

❖ FWD-Reverse.

As mentioned earlier, when the machine is in operation it will pull to one side. The direction of pull is determined by the planetary head direction of rotation. The head of the machine will pull to the right (and therefore, will be felt on the right hip of the operator) when the planetary head is set in the REVERSE direction.

This sideways pull can be very useful when grinding, particularly along a wall. Set the machine so that it pulls towards the wall, and then control the machine so it can just touch the wall. This will ensure a grind close to the wall or object.

Direction is also a matter of personal preference, however to improve the cutting efficiency of diamonds, change directions on a regular basis. This will work both sides of the diamond crystals, keeping the abrasives as sharp as possible by creating maximal exposure of the diamond crystal.

Once both a speed and direction have been nominated, switch on dust extraction or vacuum device.



IMPORTANT!

It is highly recommended to use a SASE BULL 1250 Industrial Vacuum system for complete dust control.

Changing of Diamonds

Different applications often require different selections of diamond tooling. There will be many occasions when the grinding discs need to be changed.

Following is a guide for this procedure.

Preparation

Press the Stop button and engage the Emergency Stop button.



As an extra precaution, unplug power cord to prevent unintentional starting of the machine while changing disc, which could result in serious injury.



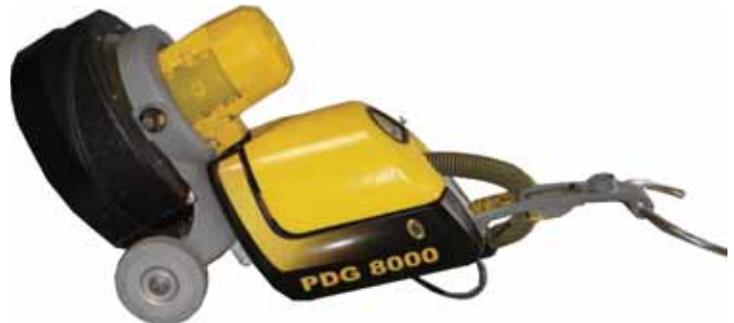
WARNING



It is highly recommended to have a set of gloves ready, as diamonds can get very hot, especially during dry grinding applications.

Changing

1. Set handle in upright position (Illustrated upper right).
2. Pull back on handle to lift grinding head off the ground (Illustrated middle right).
3. Lay machine back on the ground (Illustrated bottom right)
4. Put on gloves.
5. Remove grinding disc from flex plate.
6. Check to ensure that all discs are secure.
7. Once new diamonds have been attached, reverse procedure to lower machine to ground.
8. As new diamonds may be a different height than the set being previously used, re-adjust skirt to ensure good seal is established with the floor.



Determining Diamond Selection

Diamond Background

Diamond abrasives usually consist of 2 components:

- ❖ Diamond powder (also known as diamond crystals or grit). By changing the size of the diamond powder or grit, we can change how coarse or fine the scratches will be that are left behind from the grinding process.
- ❖ A binding agent (metal or resin). Diamond powder is mixed and suspended in either a metal or resin binding agent. When suspended in a metal bond matrix, the finished product is referred to as a Metal Bond or Sintered diamond segment. When suspended in a resin bond matrix, the finished product is referred to as a Resin Bond diamond segment or pad

General Diamond Principles

Diamond Grit Size:

Changing the size of the diamond grit to a smaller particle/ grit size will affect the performance of the diamond tool in the following ways:

- ❖ Create a finer scratch pattern.
- ❖ Increase the life of the diamond tool.

The opposite will occur when changing to a larger particle/grit size.

The Binding Agent/Metal Bond or Resin Bond:

Increasing hardness of bond will:

- ❖ Increase life of diamond tool.
- ❖ Decrease production rate.
- ❖ Cause diamond tool to leave finer scratches in dry - grinding applications (when compared to a softer bond diamond tool with the same diamond grit size).
- ❖ A hard bond matrix should be used on a soft floor and a soft bond matrix should be used on a hard floor.

Grinding disc set-up

The set-up of diamond segments on the grinding heads of the machine will influence the performance of the machine, the productivity levels and also the finished floor quality.

There are basically two types of diamond configurations that can be used when grinding:

1. Half set of diamonds – when there are diamonds placed at three alternating positions on the diamond holder discs. (See pictures on upper right).
2. Full set of diamonds – when there are diamonds placed at each of the six positions on the diamond holder discs. (See pictures on middle right).

HALF-SET OF DIAMONDS

When the diamonds are set-up as a half-set, they tend to follow the surface of the floor.

The half-set diamond configuration should only be used when an extremely flat floor finish is not required.



FULL-SET OF DIAMONDS

Diamonds that are set-up as a full-set tend not to follow the surface of the floor. If the floor is wavy the machine will grind the high areas yet miss the low spots (unless the high areas are ground down first).

The full-set diamond configuration should be used when a very flat floor finish is desired.



Metal Bond Diamond Tooling Quick Reference Guide



Yellow Series

Extremely Hard Concrete

Very soft bonded diamonds for grinding extremely hard concrete floors.



Gold Series

Very Hard to Hard Concrete

Very soft bonded diamonds for grinding very hard to hard concrete floors.



Blue Series

Hard to Medium Concrete

Soft bonded diamonds for grinding hard to medium concrete floors.



Red Series

Medium to Soft Concrete

Medium bonded diamonds for grinding medium concrete floors.



Black Series

Soft Concrete

Hard bonded diamonds for grinding medium to soft concrete floors.

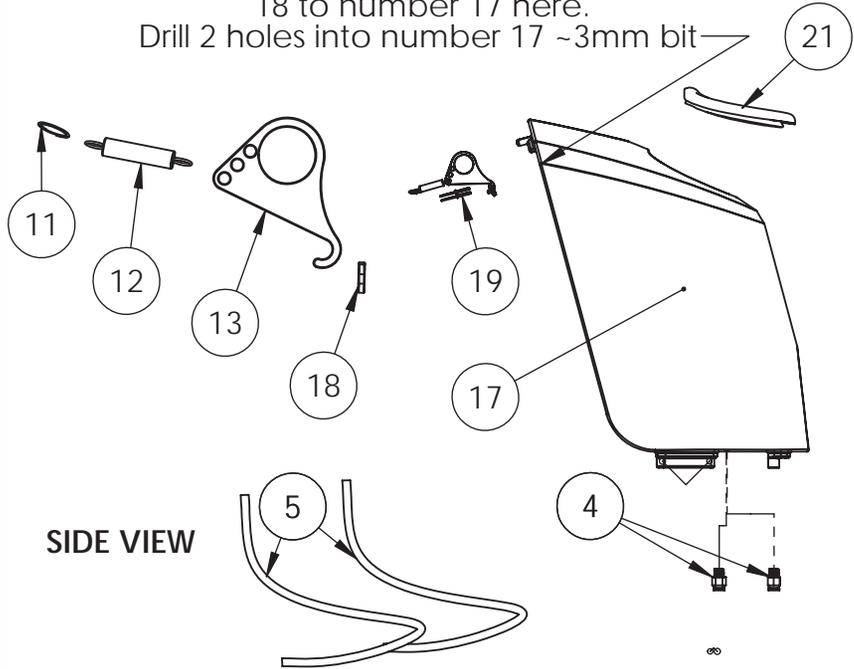


Orange Series

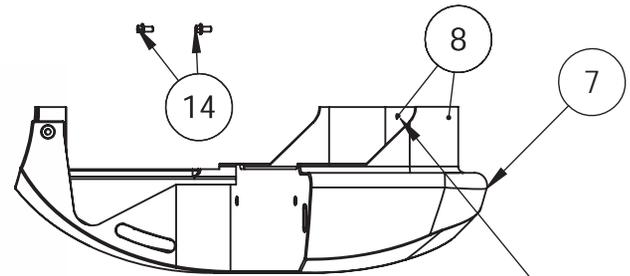
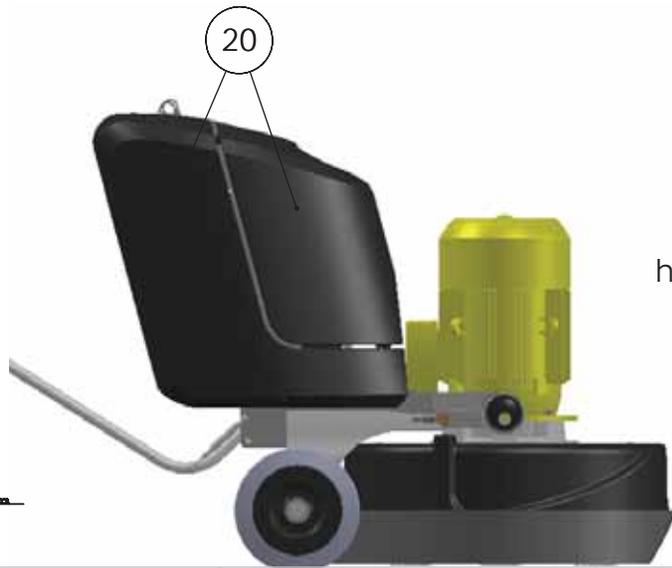
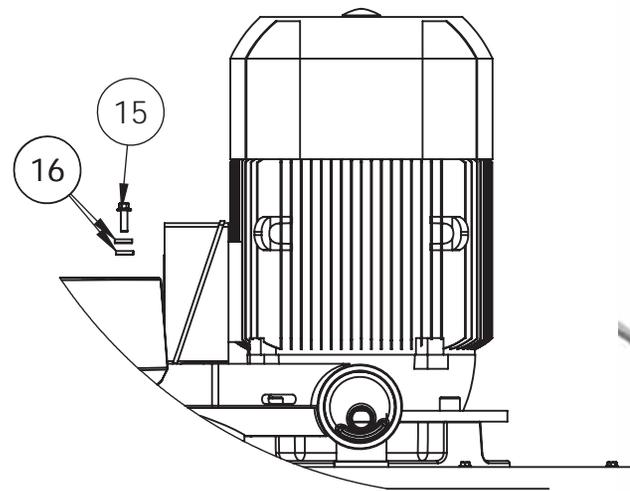
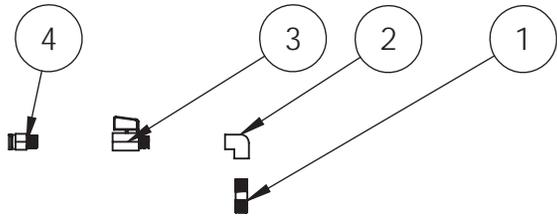
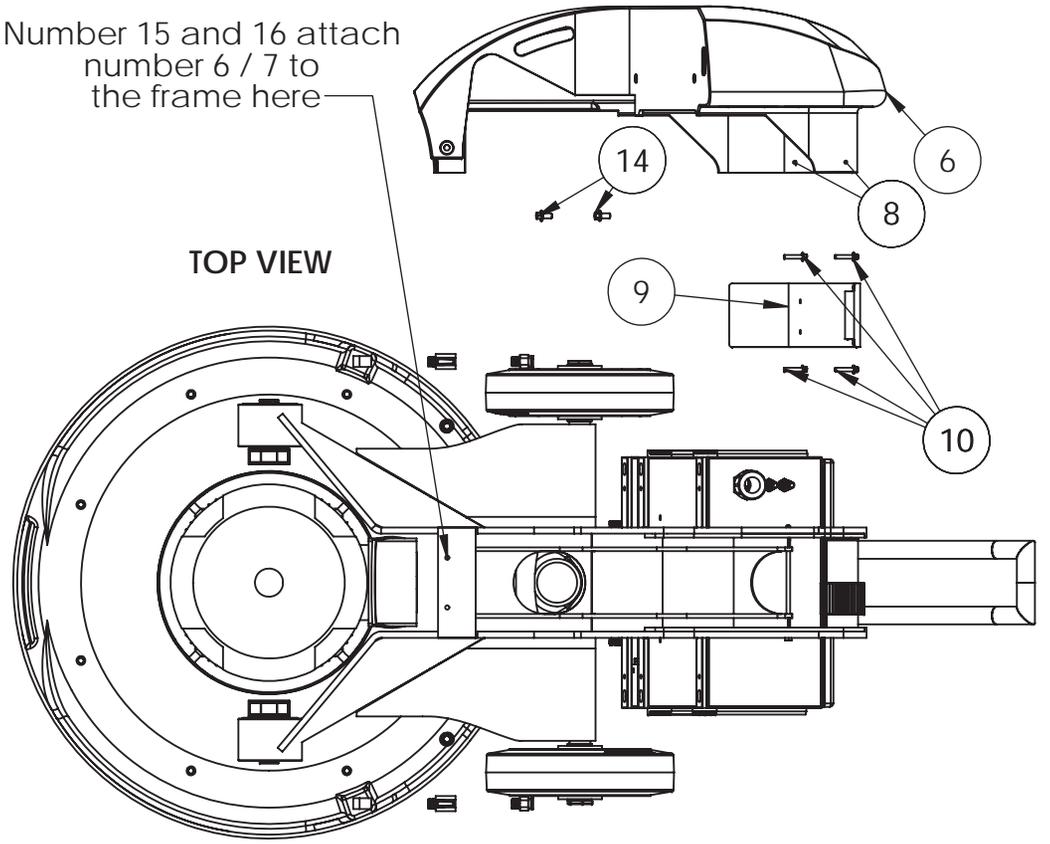
Soft to Very Soft Concrete

Very hard bonded diamonds for grinding soft to very soft concrete floors.

Number 19 attaches number 18 to number 17 here.
Drill 2 holes into number 17 ~3mm bit



Number 15 and 16 attach number 6 / 7 to the frame here



Number 8 is inserted into the plastic half shells, creating threaded holes to attach numbers 9 and 10

PDG 8000

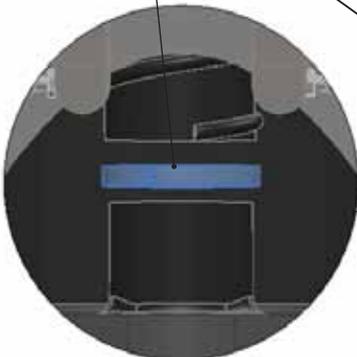
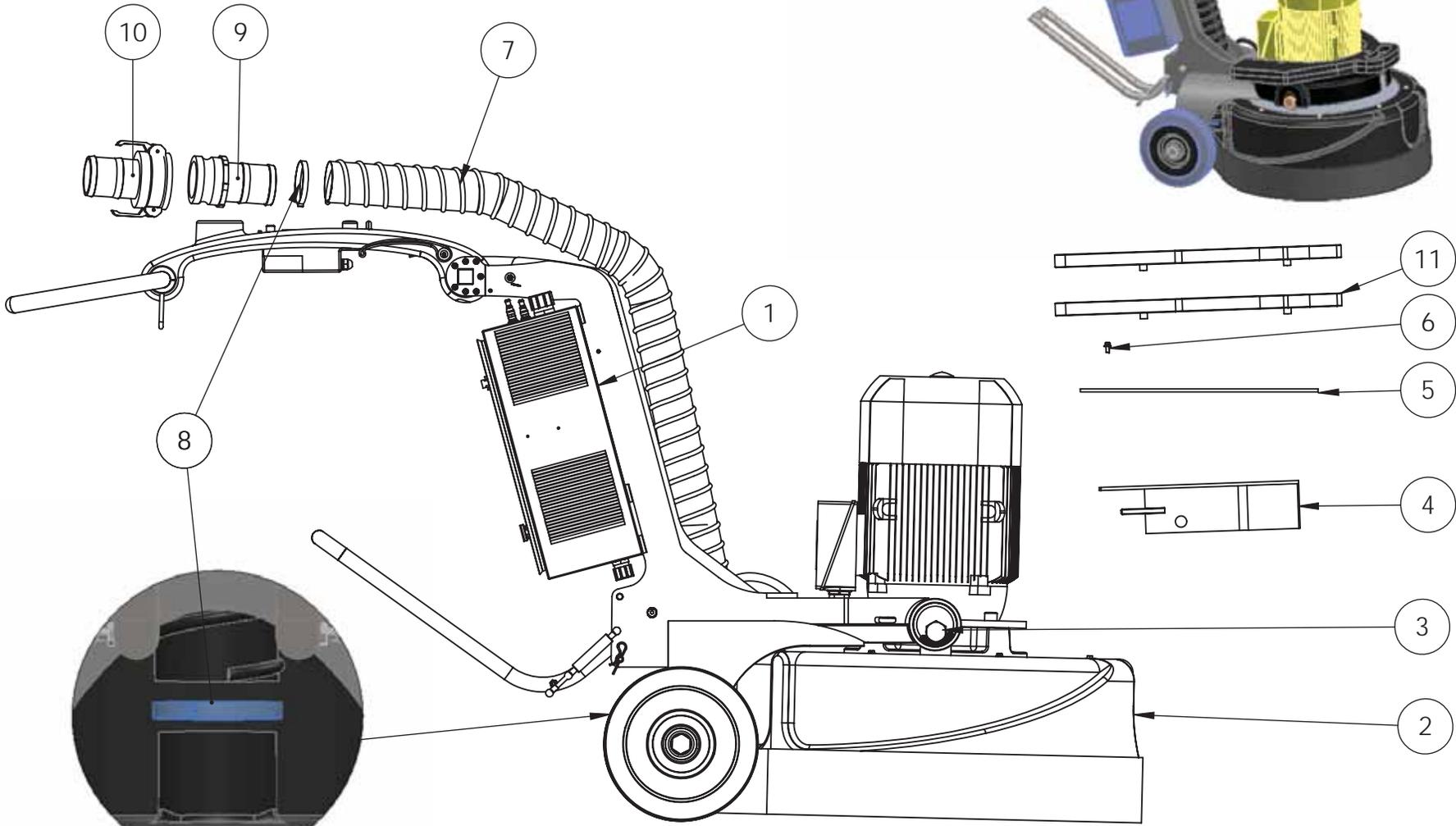
Plastics & Water System

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

Plastics & Water System			
Item No.	Part No.	Description	Quantity
1	PDG.20267.00	NIPPLE, 1/4" X CLOSE GALV	2
2	PDG.20268.00	ELBOW, BRASS FEMALE 1/4 NPT X 1/4 NPT	2
3	PDG.20247.00	VALVE, 1/4 BALL	2
4	PDG.20246.00	FITTING, PUSH TO CONNECT 3/8 X 1/4	4
5	PDG.20262.00	TUBING, WATER	6 ft
6	PDG.80056.00	SHELL, RIGHT HAND	1
7	PDG.80057.00	SHELL, LEFT HAND	1
8	NB.20.140	NUT, SLOTTED-BODY RIVET M6	4
9	PDG.80086.00	COVER, HALF SHELL	1
10	NB.11.112	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 30 ZINC	4
11	NB.40.116	RING, EXTERNAL RETAINING 5/8" 18-8 SS SPIRAL	2
12	NB.91.101	SPRING, EXTENTION 0.375 X 0.0475 X 2.25	2
13	PDG.20282.00	HOOK, SPRING	2
14	NB.11.121	SCREW, FLANGED HEX HEAD CAP M8-1.25 X 16 NON-SERRATED ZINC	4
15	NB.11.900	SCREW, FLANGED SOCKET HEAD CAP M8-1.25 X 25 10.9 ZINC	2
16	NB.30.116	WASHER, FLAT M8 X 20 X 4 ZINC	6
17	PDG.80055.00	TANK, WATER	1
18	PDG.20283.00	HOOK, RING	2
19	NB.47.123	RIVET, BLIND 1/8 DIA 0.313 L	4
20	PDG.80081.00	DECAL SET, PDG 8000	1
21	PDG.20270.00	TRIM, FLEXIBLE 3/16" X 5/8"	3 ft
22	PDG.20395.00	ADAPTER, USB CHARGER (NOT DISPLAYED)(Arrow 6 is nearly pointing where it goes)	1

Plastics & Water System			
6/7	PDG.80056.00	Holes drilled for each nutcert, bolt, USB port used. Silicone around USB docks	1
10	NB.11.112	Holds on the back cover.	4
14	NB.11.121	Holds the front to the frame.	4
15	NB.11.900	Holds shape for tank spacing.	2
16	NB.30.116	Spacers to keep tank holes up where they need to be.	6

Machines after serial number MMY0350 incorporate "Roto-Molded" Plastic shells, previous versions used Fiber-Glass "Plastic" shells. If you are upgrading to Roto-Molded You will need every part on this page except #14 and only 1 #10
Machines after 05/20/2015 get USB charging docks; starting with serial number : 05150994



Back View

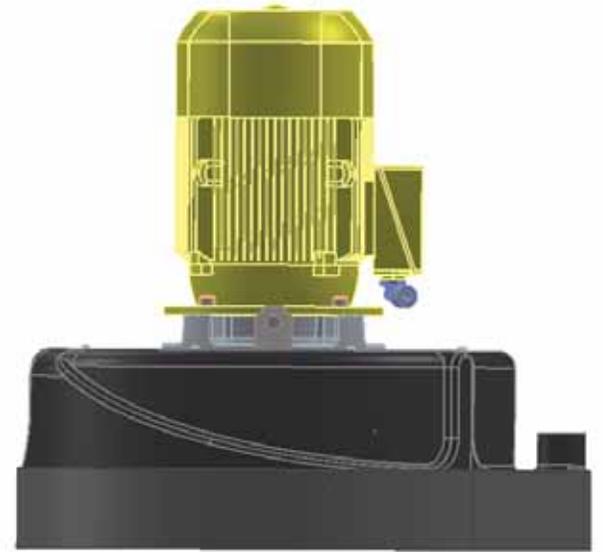
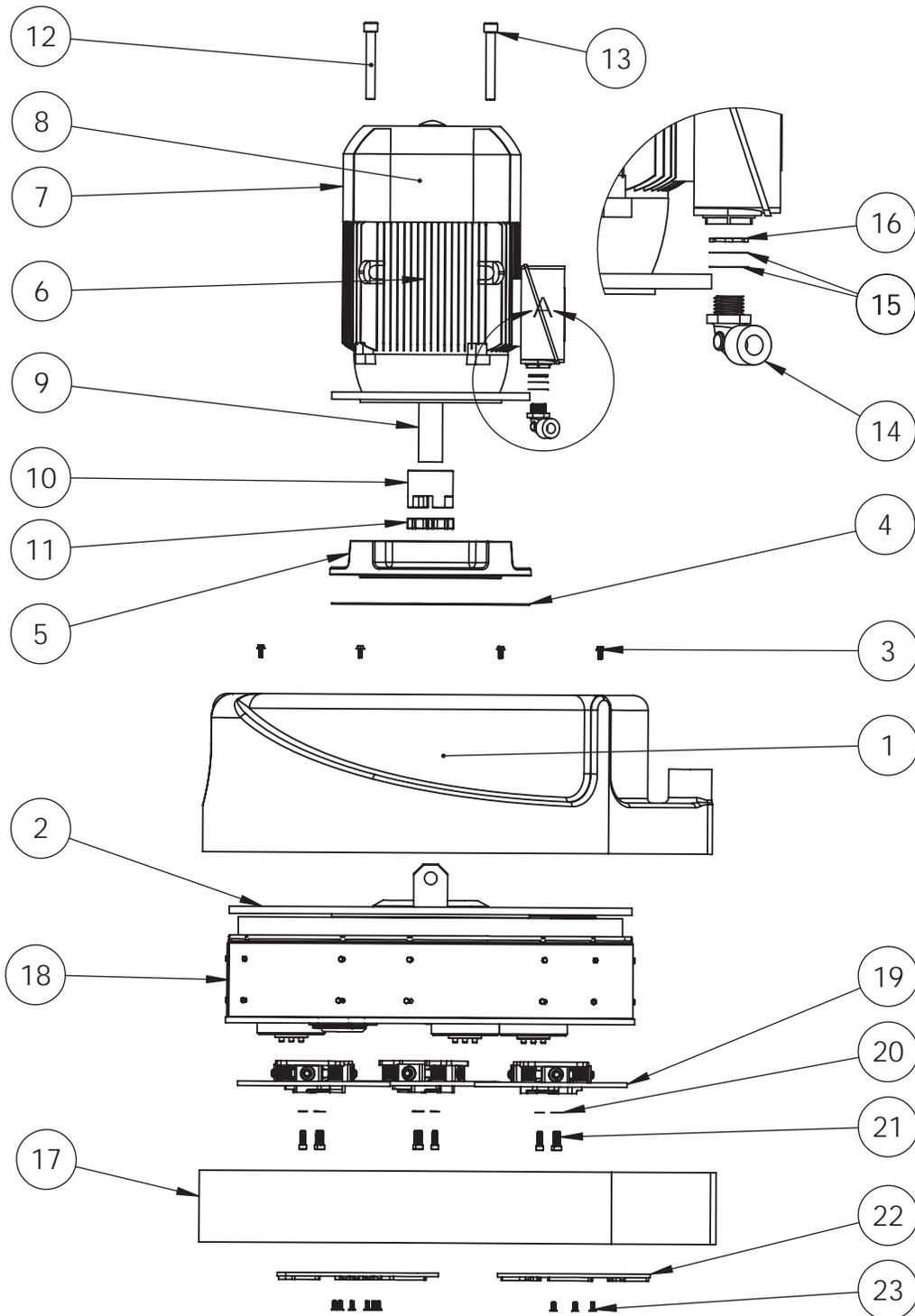
PDG 8000

Testing Stage

SCALE: 1:1	WEIGHT:	SHEET 1 OF 1
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Testing Stage			
Item No.	Part No.	Description	Quantity
1	See Page 23	Frame with-out Drum Assembled	1
2	See Page 21	Motor On Drum Assembled	1
3	NB.10.121	SCREW, HEX METAXENTRIC 1"-8 X 4" MODIFIED	2
4	PDG.80085.00	RACK, WEIGHT	1
5	PDG.83377.00	COVER, STEEL FRAME(NOW FLAT)	1
6	NB.16.117	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 12 NON-SERRATED ZINCED	2
7	VAC.HS3.00050	HOSE, BLACK PDG VACUUM 3.0" ID BY THE FOOT	6 ft
8	VAC.10095	CLAMP, 3" BLACK PDG VACUUM HOSE	2
9	VAC.10111	COUPLER, PLASTIC MALE FOR 3" VAC HOSE PART E	1
10	WVAC.10113	COUPLER, PLASTIC FEMALE FOR 3" VAC HOSE PART C	1
11	PDG.80065.00	WEIGHT, BALLAST	2

Testing Stage Supplement			
3	NB.10.121	Red LocTite 263, Torque 100 Ft-Lb	2
6	NB.16.117	Red LocTite 263	2



PDG 8000

Motor On Drum

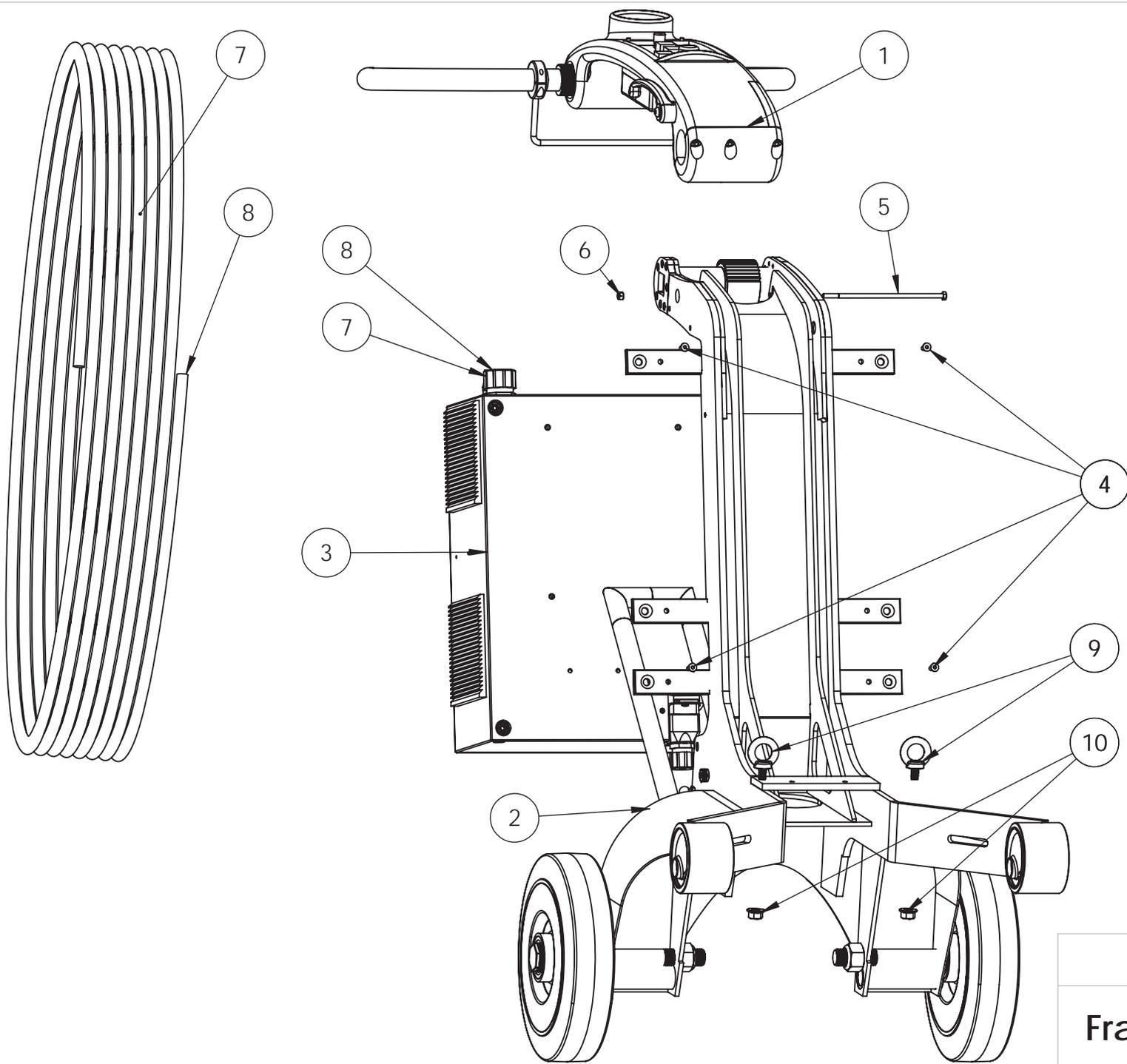
SCALE: 1:6

WEIGHT:

SHEET 1 OF 1

Motor on Drum			
Item No.	Part No.	Description	Quantity
1	PDG.80066.00	SHROUD, MOLDED VACUUM	1
2	PDG.20249.00	RUBBER, EPDM GASKET	8ft
3	NB.11.108	SCREW, FLANGED HEX HEAD CAP M6 -1.0 X 16	8
4	PDG.80071.40	GASKET, MOTOR	2
5	PDG.80107.00	SPACER, MOTOR FOR COUPLING DESIGN PDG8K	1
6	HOL.U11899	MOTOR, 780 230-460V 15KW 50-60HZ SIEMENS(7/8/9 included)	1
7	HOL.U11970	Fan-Cover, MOTOR, 780 230-460V 15KW 50-60HZ SIEMENS(Part of #6)	0
8	HOL.900016	Fan-Blade, MOTOR, 780 230-460V 15KW 50-60HZ SIEMENS(Part of #6)	0
9	NB.70.109	KEY, PARALLEL M5 X 20(Part of #6)	0
10	PDG.80100.50	COUPLER, CJ38/45 LOVEJOY	1
11	PDG.80099.00	BUSHING, SPYDER RED	1
12	NB.12.259	SCREW, SOCKET HEAD M16 -2 X 120 ZINC	4
13	NB.30.133	WASHER, LOCK M16 ZINC	4
14	PDG.20289.00	CABLE, GRIP 90	1
15	NB.32.103	WASHER, 1-1/4" X 1"	2
16	NB.20.149	3/4 inch Toothed nut	1
17	PDG.80067.00	SKIRT, RUBBER DUST	1
18	SEE PAGE 26	DRUM, COMPLETE	1
19	PDG.8A010.00	FLEX HEAD, COMPLETE WITH REDSPRING	3
20	NB.30.212	WASHER, LOCK M8 ZINC	9
21	NB.10.218	SCREW, SOCKET HEAD CAP M8-1.25 X 20	9
22	PDG.80183.10	PLATE, TOOLING MAGNETIC	3
23	NB.13.216	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 16	9

Motor on Drum Supplement			
3	NB.11.108	Butyl Flex used instead of LocTite to exclude moisture.	8
10	PDG.80100.50	Blue LocTite 242, used in set screw	1
12	NB.12.259	Blue LocTite 242, Torque 50 ft-lbf	4
21	NB.10.218	Blue LocTite 242	9



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Frame without Drum

SCALE: 1:1	WEIGHT:	SHEET 1 OF 1
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5 4 3 2 1

Frame W/O Drum			
Item No.	Part No.	Description	Qty.
1	See Page 25	Handle Assembly	1
2	See Page 27	Basic Frame Assembly	1
3	PDG.80199.00	DRIVE, WITH ENCLOSURE E-SC SERIES 20HP 380-460V W/LEAD	1
4	NB.13.116	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 20	4
5	NB.10.150	SCREW, HEX M6 X 180 STAINLESS	1
6	NB.20.132	NUT, NYLOC M6	1
7	AIW.8X4.CORD	CORD, POWER 8/4	60ft
8	SAS.CS8164	TWISTLOCK 50A 480V 3P FEMALE(Not Shown)	1
9	PDG.20244.50	EYE, LIFTING M12	2
10	NB.20.118	NUT, HEX M12-1.75 NYLOC	2

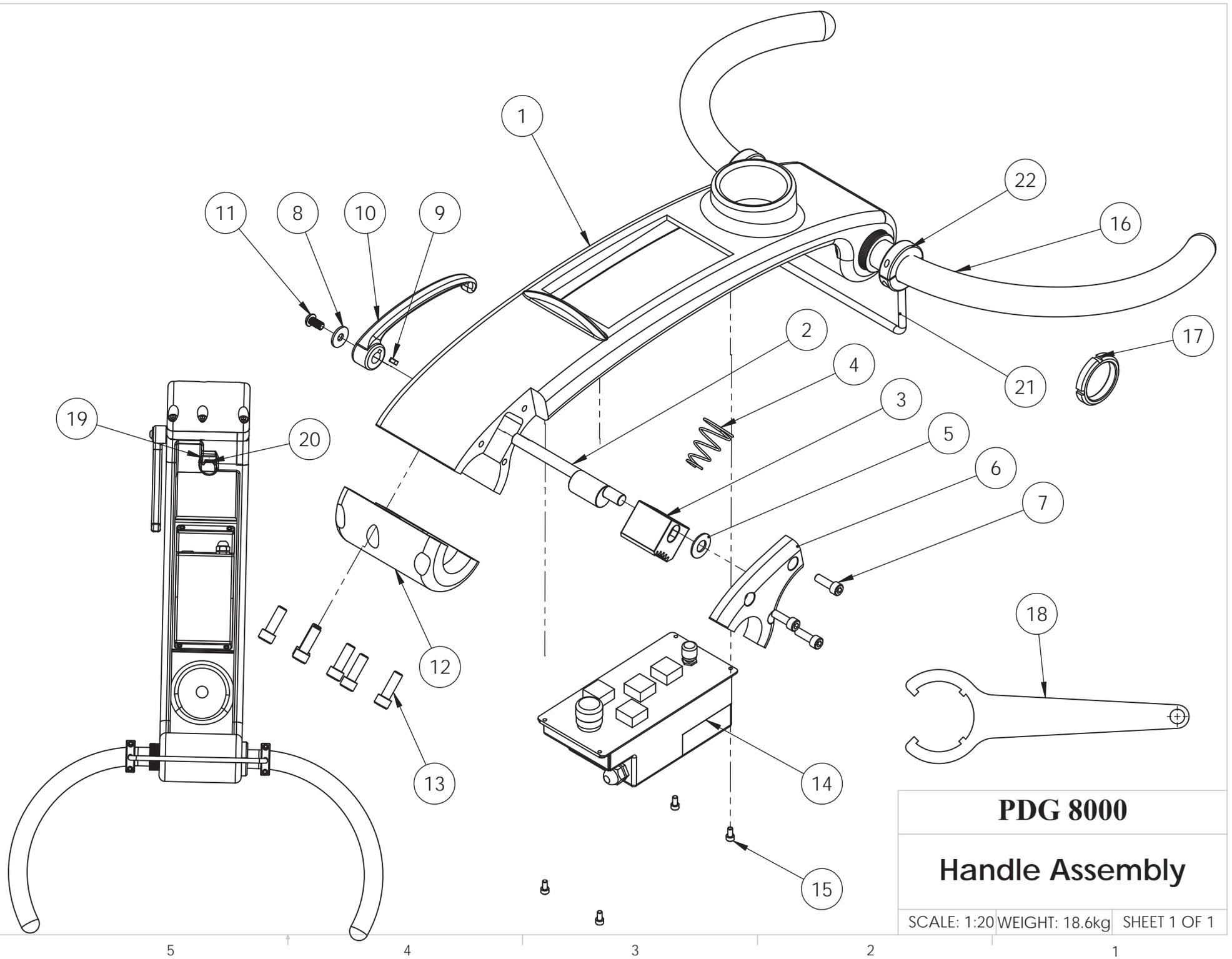
Low Voltage Option			
3	PDG.80194.00	DRIVE, WITH ENCLOSURE E-SC SERIES 20HP 230V W/LEAD	1
7	AIW.6X4.CORD	CORD, POWER 6/4(Not Shown)	60ft
8	SAS.CS8364	TWISTLOCK 50A 250V 3P MALE(Not Shown)	1

European Option			
7	AIW.6X4.CORD	CORD, POWER 6/4(Not Shown)	0
8	SAS.CS8364	TWISTLOCK 50A 250V 3P MALE(Not Shown)	0

Inverter Box, Fan Filters: Need to be washed or replaced every 100 operation hours.			
11	PDG.20239.00	FILTER, INLET FINE ELECTRICAL BOX (Part of Inverter)	0
12	PDG.20239.01	FILTER, OUTLET COARSE ELECTRICAL BOX (Part of Inverter)	0

Frame W/O Drum Supplement

Machines with serial number from 0384 to 0456 intermittently, and 0457 and above, should use these components. Before 0384 the frame was 2 parts. Components for the 2 part version can be found in previous manuals.



PDG 8000

Handle Assembly

SCALE: 1:20 WEIGHT: 18.6kg SHEET 1 OF 1

5

4

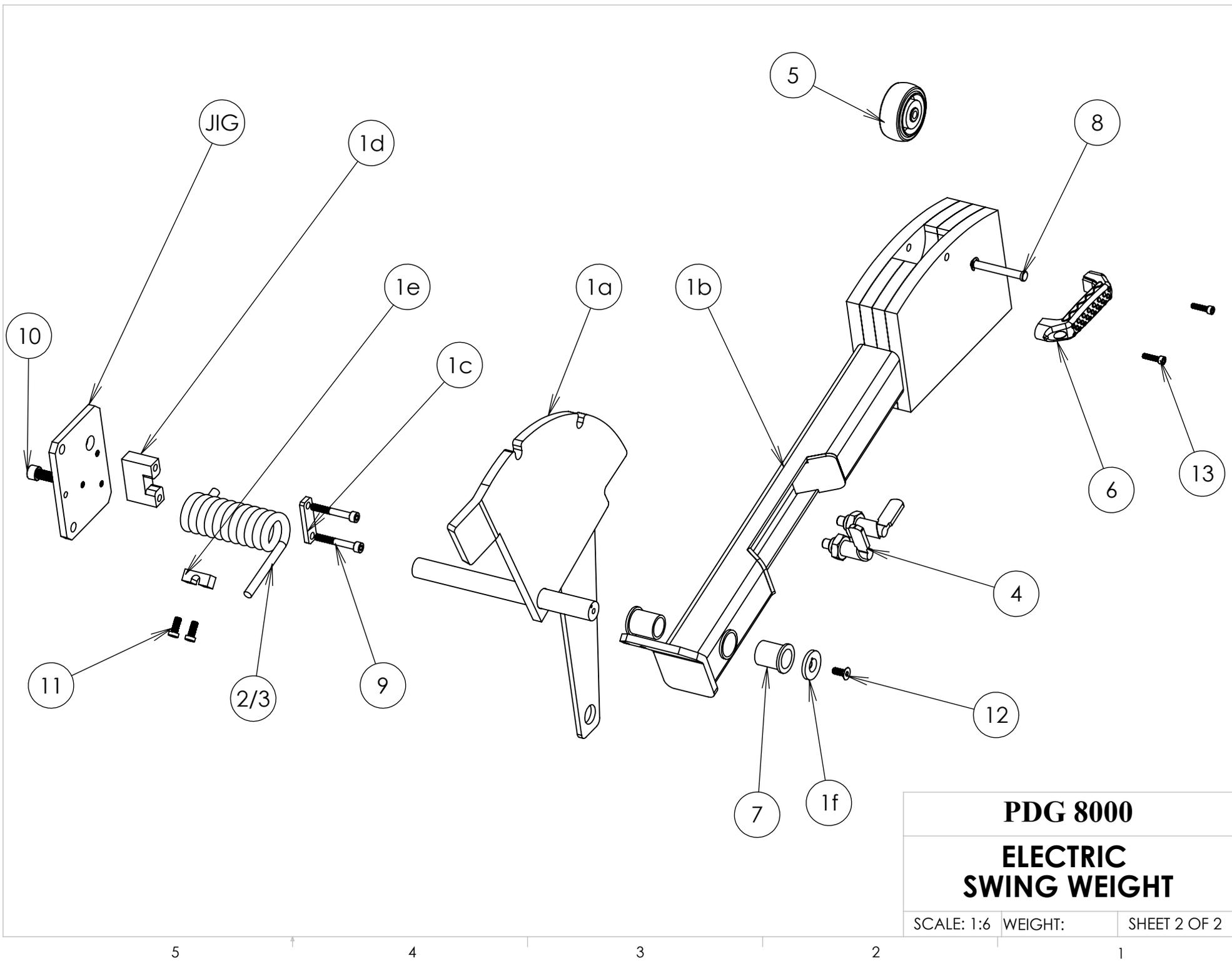
3

2

1

Handle Assembly			
Item No.	Part No.	Description	Qty.
1	PDG.20225.00	STEM, HANDLE	1
2	PDG.20229.00	ACTUATOR, STEM LOCK	1
3	PDG.20228.00	LOCK, HANDLE STEM	1
4	PDG.20296.00	SPRING, COMPRESSION	1
5	NB.30.129	WASHER, TRIPLE WAVE 1/2" X 1.01" OD X .02"	1
6	PDG.20230.00	COVER, HANDLE STEM	1
7	NB.12.219	SCREW, SOCKET HEAD CAP M8-1.25 X 25 12.9 ZINC	3
8	NB.30.111	WASHER, FLAT M8 ZINC	1
9	NB.70.110	KEY, PARALLEL M5 X 20	1
10	PDG.20227.00	HANDLE, STEM LOCK LEVER	1
11	NB.16.119	SCREW, BUTTON HEAD SOCKET CAP M8-1.25 X 12	1
12	PDG.20226.00	CAP, HANDLE STEM	1
13	NB.12.235	SCREW, SOCKET HEAD CAP M10-1.5 X 20 12.9 ZINC	6
14	PDG.20026.00	PANEL, COMPLETE INTERFACE NO DISPLAY V2	1
15	NB.11.107	SCREW, FLANGED SOCKET HEAD CAP M4-0.70 X 8 ZINCED	4
16	PDG.20232.00	BAR, HANDLE	1
17	NB.20.135	NUT, SHAFT KM8 M40-1.5 ZINC	1
18	PDG.20238.00	WRENCH, HANDLE BAR SPANNER	1
19	NB.16.117	SCREW, BUTTON HEAD SOCKET M6 X 8	1
20	NB.52.201	CLAMP, ADEL 3/8"	1
21	PDG.20110.00	STRAP, VAC	1
22	NB.12.108	SCREW, SOCKET HEAD CAP M6 -1.0 X 12 ZINC	4

Handle Assembly Supplemental			
4	PDG.20228.00	P.T.F.E. "Dry Lube" is used along contact points.	1
6	NB.12.219	Red Loctite 262	3
10	NB.16.119	Red Loctite 262	1
12	NB.12.235	Blue Loctite 243	6
17	NB.20.135	Using the provided spanner wrench, turn the nut counter-clockwise to remove completely. Place nut on opposite of handle stem, draw the handle taper out by turning the nut clockwise against the handle stem. To tighten the handle, put the nut on the original side of the handle and draw the taper back into the stem by turning the nut clockwise against the handle stem.	1
18	PDG.20238.00		1



PDG 8000		
ELECTRIC SWING WEIGHT		
SCALE: 1:6	WEIGHT:	SHEET 2 OF 2

5

4

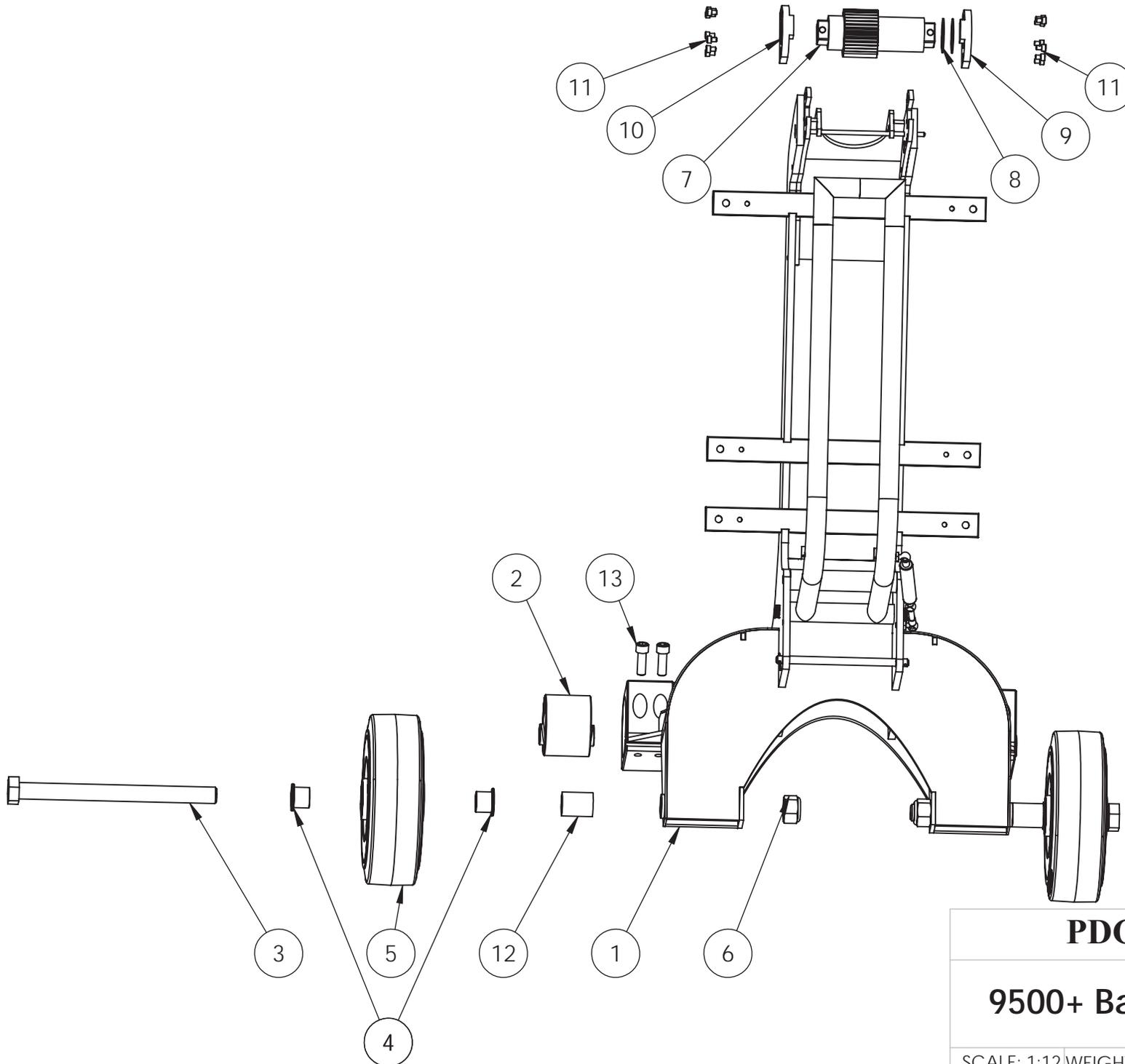
3

2

1

ELECTRIC SWING WEIGHT			
Item No.	Part No.	Description	Quantity
1	PDG.8A220.00	WEIGHT, SWING WELDMENT	1
2	PDG.80130.00	SPRING,	1
3	PDG.80140.00	SPRING,	1
4	PDG.80150.00	PLUNGER, CAM	4
5	PDG.80133.00	WHEEL, RUBBER	2
6	PDG.80134.00	HANDLE, PULL	2
7	PDG.80135.00	BEARING, FLANGED SLEAVE	4
8	NB.50.163	PIN, CLEVIS	2
9	NB.12.223	SCREW, SOCKET M8 X 60	4
10	NB.12.253	SCREW, SOCKET M12 X 35	2
11	NB.10.219	SCREW, LOW HEAD M8 X 20	4
12	NB.13.218	SCREW, FLAT M8 X 20	2
13	NB.12.117	SCREW, SOCKET M6 X 25	4
14	PDG20424.01	EYE, LIFTING W/ SWING	2

ELECTRIC SWING WEIGHT WELDMENT KIT			
1a	1 LEFT AND 1 RIGHT	SPRING ARM	2
1b	1 LEFT AND 1 RIGHT	WEIGHT ARM	2
1c	EITHER	BRACKET PLATE	2
1d	EITHER	U BRACKET	2
1e	EITHER	SPRING RETAINER	2
1f	EITHER	WEIGHT RETAINER	2



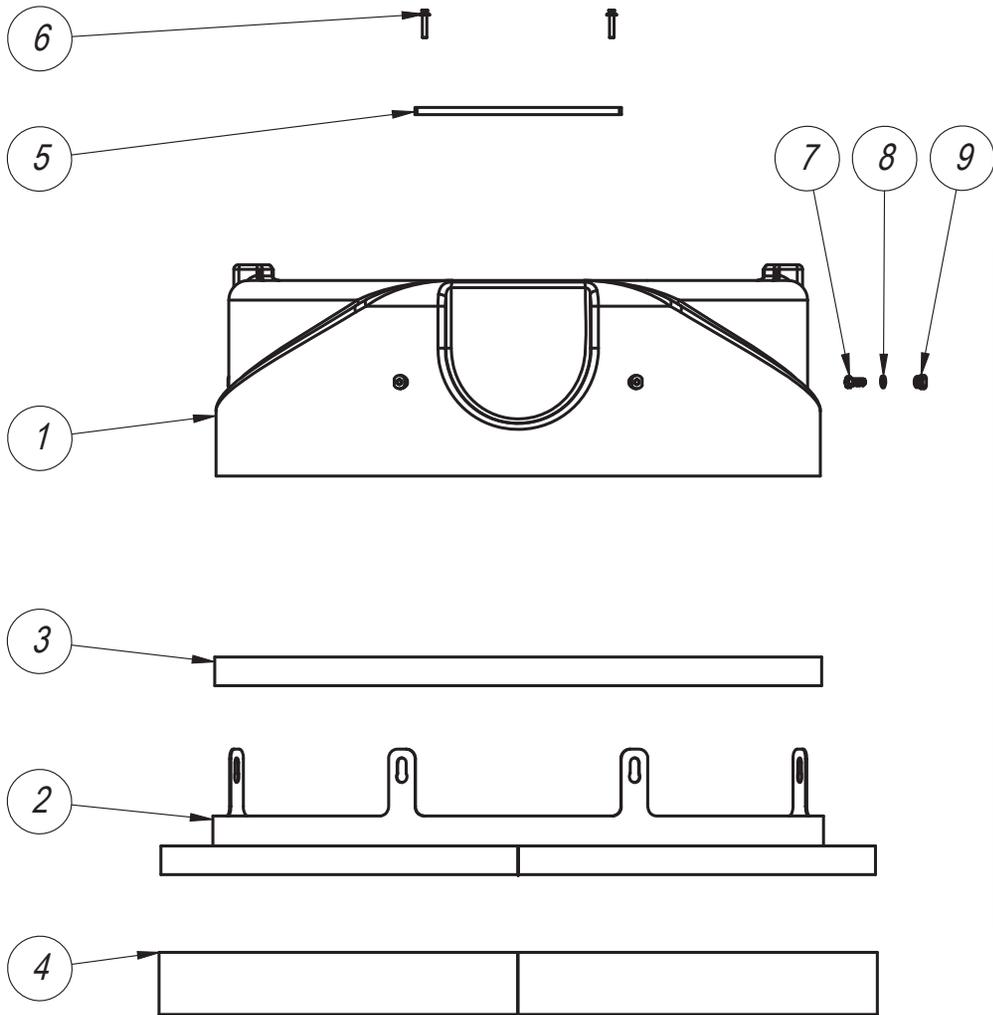
PDG 9500

9500+ Basic Frame

SCALE: 1:12 | WEIGHT: 95.37 | SHEET 1 OF 1

9500 Plus Basic Frame

Item No.	Part No.	Description	Qty.
1	PDG.80084.00	FRAME, SKELETAL	1
2	PDG.80062.00	BUSHING, METAXENTRIC	2
3	NB.10.256	SCREW, MOD HEX HEAD CAP M24 X 290	2
4	PDG.20255.01	BUSHING, WHEEL AXLE METRIC	4
5	PDG.60052.00	WHEEL, REAR	2
6	NB.20.151	NUT, HEX M24	2
7	PDG.80090.00	PIVOT, HANDLE STEM	1
8	PDG.80106.00	SHIM, HANDLE STEM PIVOT	2
9	PDG.80088.00	RETAINER, VFM RIGHT	1
10	PDG.80089.00	RETAINER, VFM LEFT	1
11	NB.12.106	SCREW, SOCKET HEAD CAP M6 -1.0 X 8 ZINC	14
12	PDG.80113.00	SPACER, AXLE 9500 WHEEL	2
13	NB.12.253	SCREW, SOCKET HEAD CAP M12-1.75 X 35	4



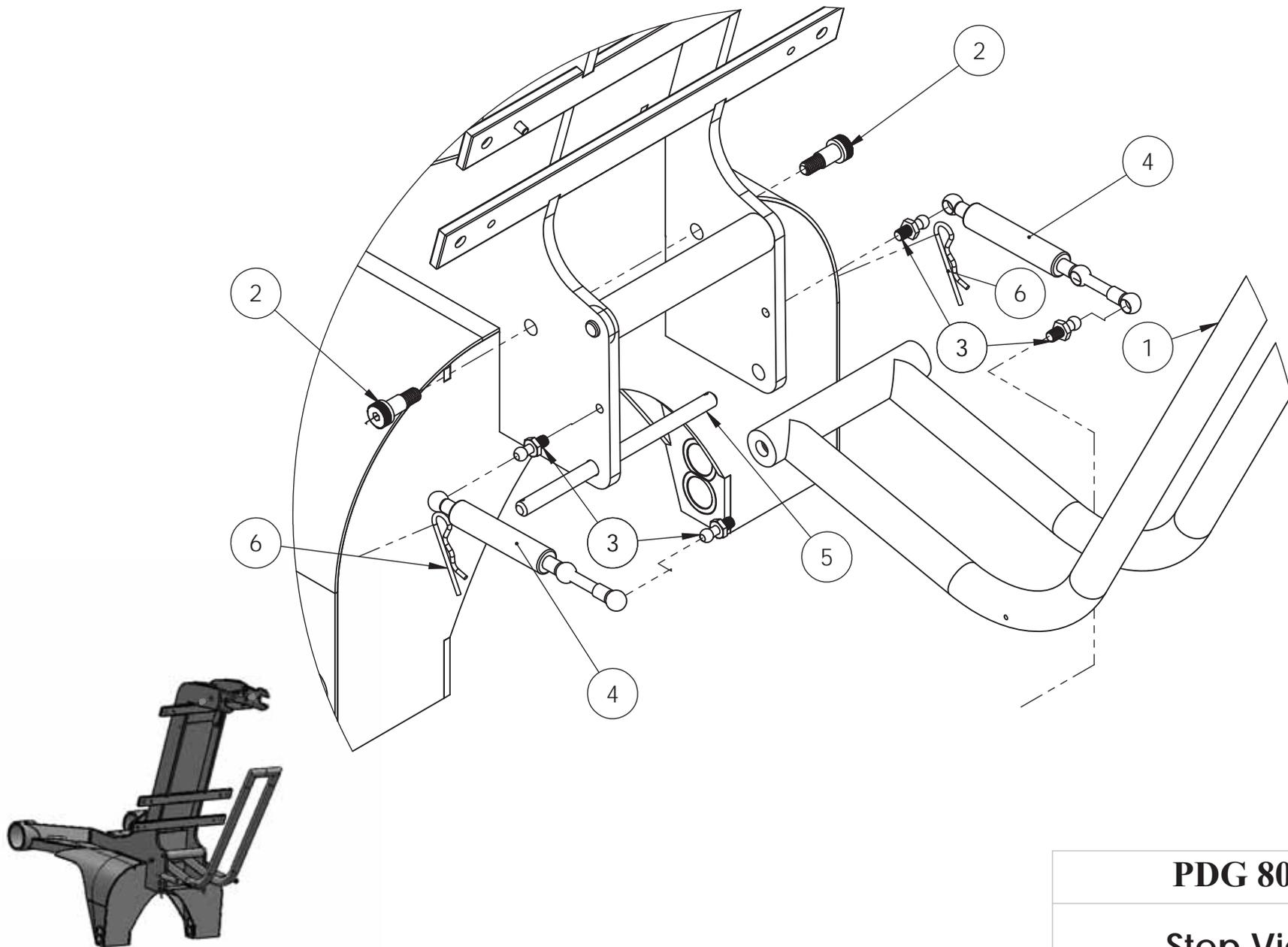
PDG 9500 +

**PDG9500 PLUS
SHROUD**

SCALE: 1:10 | WEIGHT: 10.85 | SHEET 1 OF 1

9500 + Shroud Assembly

Item No.	Part No.	Description	Qty.
1	PDG.80066.00	SHROUD, MOLDED VACUUM (MODIFIED - DRILL 4 HOLES)	1
2	PDG.80285.00	SHROUD, DUST STEEL	1
3	PDG.80288.00	FELT, ADHESIVE BACKED	10
4	PDG.80286.00	SKIRT, RUBBER VELCRO BACKED	1
5	PDG.80287.00	BUMPER, PLASTIC	1
6	NB.11.112	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 30 ZINC	2
7	NB.10.114	SCREW, HEX M8 X 20 ZINC	4
8	NB.30.212	WASHER, LOCK M8 ZINC	4
9	PDG.80112.00	NUT, TOE KICK SHROUD	4



PDG 8000

Step View

SCALE: 1:20 WEIGHT:

SHEET 1 OF 1

5

4

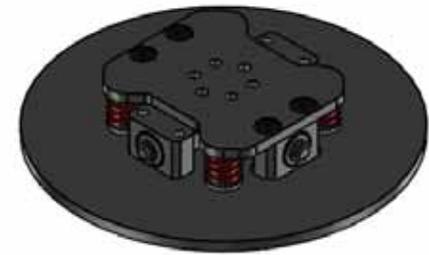
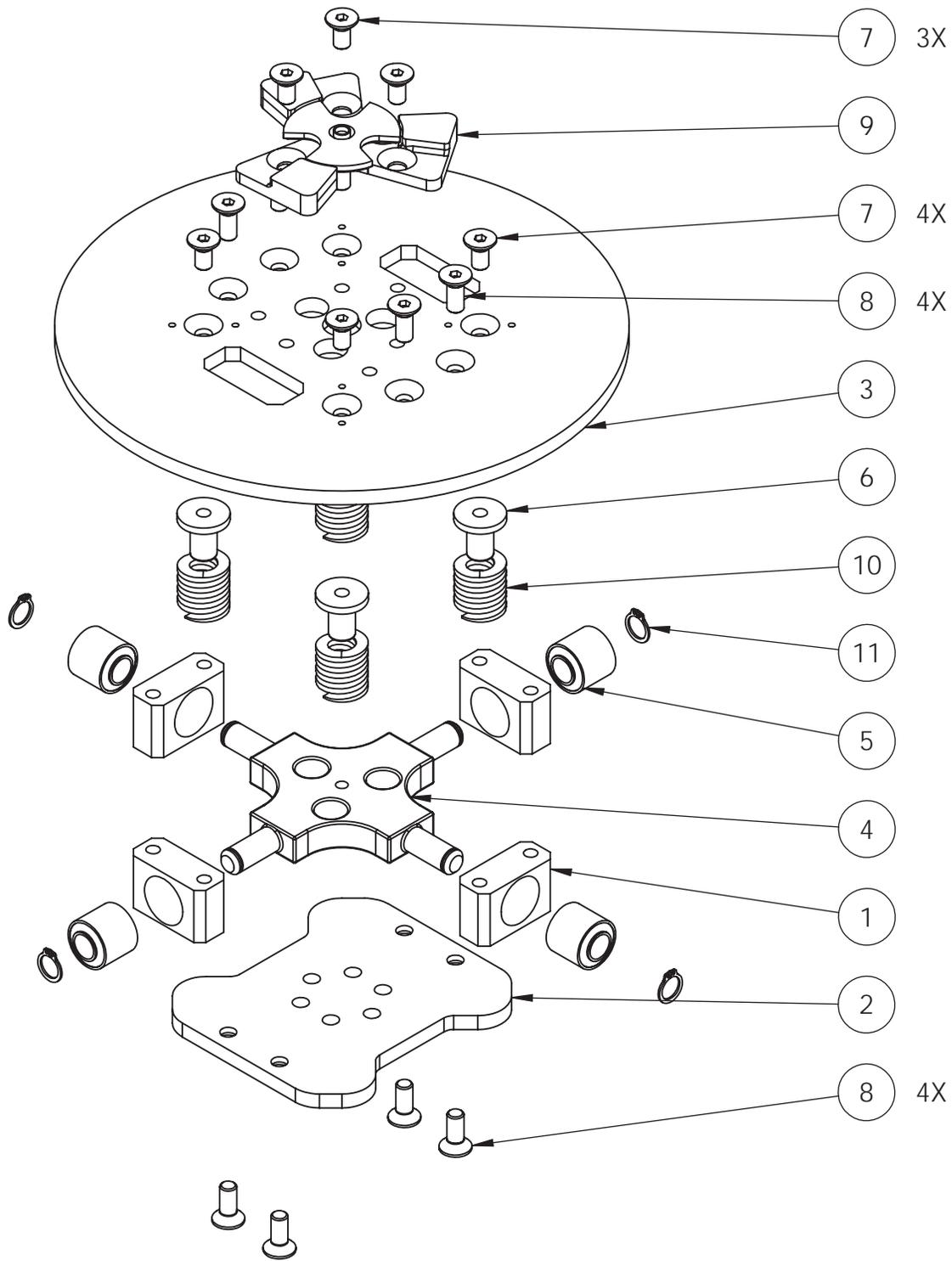
3

2

1

Step View			
Item No.	Part No.	Description	Qty.
1	PDG.80058.00	STEP, TILT ASSIST	1
2	NB.15.250	SCREW, SOCKET HEAD SHOULDER M12 X 16 ZINCED	2
3	PDG.20237.00	STUD, BALL GAS STRUT	4
4	PDG.20236.00	STRUT, GAS	2
5	PDG.20235.25	ROD,TILT STEP STOP V2	1
6	NB.50.127	PIN, COTTER 0.093" WIRE	2
7	PDG.20235.20	TUBE, TILT STEP STOP (Covers # 5)	1

Step View Supplement			
2	NB.15.250	Red LocTite 263	2
3	PDG.20237.00	Red LocTite 263	4



PDG 8000

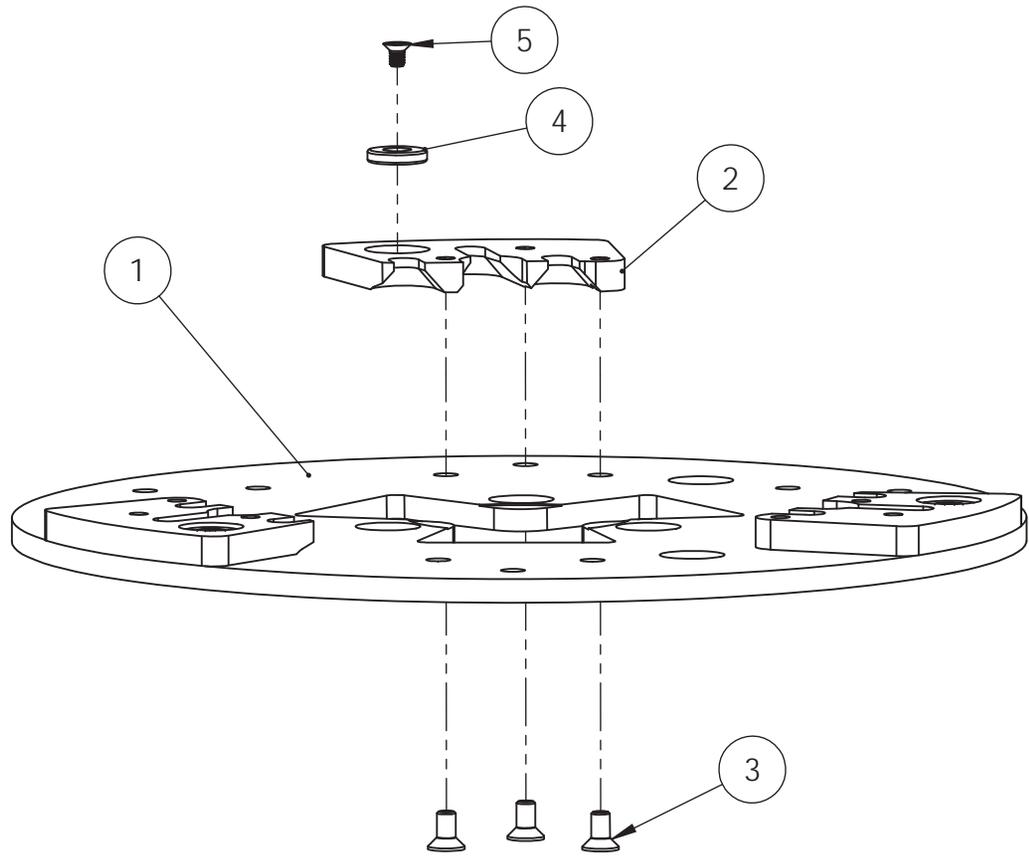
Flex Head

SCALE: 1:5 | WEIGHT: 3.81 | SHEET 1 OF 1

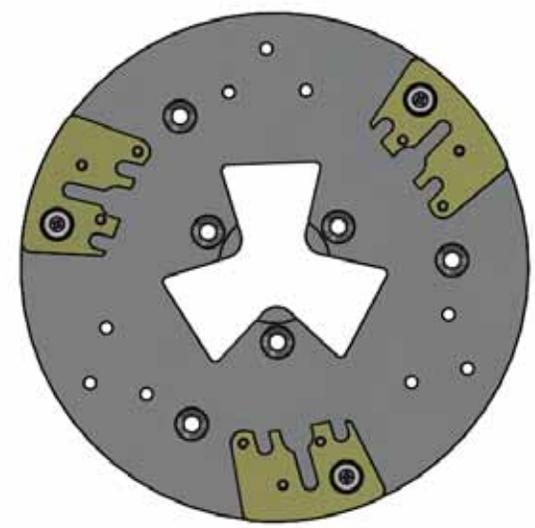
Flex Head			
Item No.	Part No.	Description	Qty.
1	PDG.20103.00	YOKE, SUSPENSION	4
2	PDG.20100.50	PLATE, DRIVING (Rev)	1
3	PDG.20101.25	PLATE, DRIVEN (QM)	1
4	PDG.20102.01	ELEMENT, CENTER STUDED	1
5	PDG.20109.00	BUSHING, YOKE	4
6	PDG.20106.25	POST, SPRING	4
7	NB.13.216	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 16	7
8	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	8
9	PDG.20104.25	LOCK, SHAMROCK PLATE ASSEM	1
10	PDG.20106.51	SPRING, DIE RED MEDIUM HARD	4
11	NB.40.113	RING, EXTERNAL 1/2"	4

	PDG.8A010.00	FLEX HEAD, COMPLETE WITH REDSPRING	1
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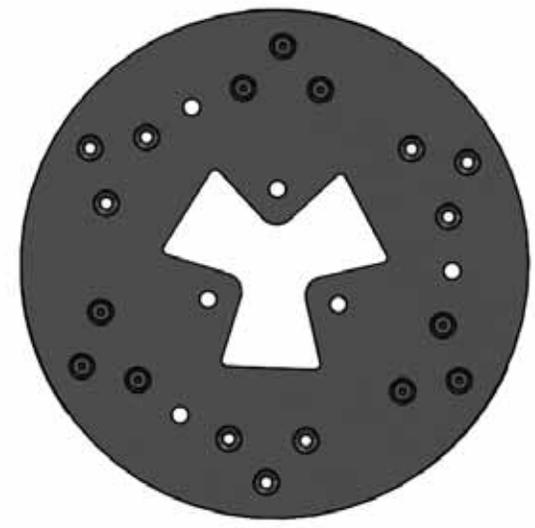
Flex Head Supplement			
7	NB.13.216	Red LocTite 263	7
8	NB.13.218	Red LocTite 263	8



Top View



Bottom View



PDG 8000

Magnetic Tooling Plate

SCALE: 1:5 | WEIGHT: | SHEET 1 OF 1

Tooling Plate			
Item No.	Part No.	Description	Qty.
1	PDG.80076.00	PLATE, TOOLING 8000	1
2	WHOL.904134	QCS METAL BOND ADAPTERS FOR MAGNETS	3
3	NB.13.118	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 14 ZINC	9
4	PDG.20295.00	MAGNET, 5/8" OD X 1/8" THICK WITH CS HOLE NORTH	3
5	NB.13.110	SCREW, M4 X 6 FLAT HEAD PHILLIPS S/S	3

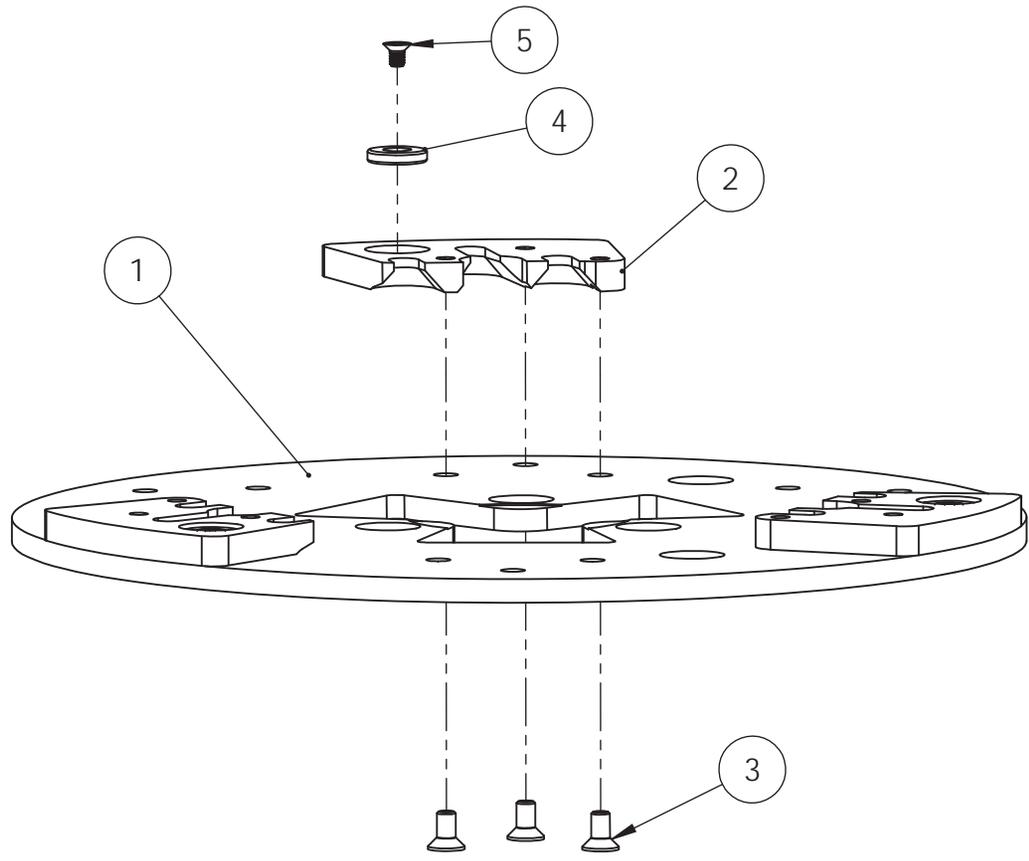
PDG.80183.10	PLATE, MAGNETIC QCS DIAMOND CARRIER	1
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Tooling Plate Supplement			
3	NB.13.118	Red LocTite 263	9
5	NB.13.110	Green LocTite 609	3

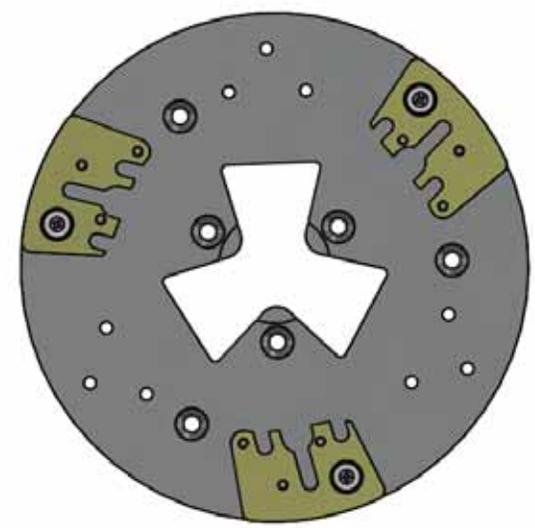
QCS Adapter			
2	WHOL.904134	QCS METAL BOND ADAPTERS FOR MAGNETS	1
4	PDG.20295.00	MAGNET, 5/8" OD X 1/8" THICK WITH CS HOLE NORTH	1
5	NB.13.110	SCREW, M4 X 6 FLAT HEAD PHILLIPS S/S	1

SAS.904175	ADAPTER, QCS WITH MAGNET	1
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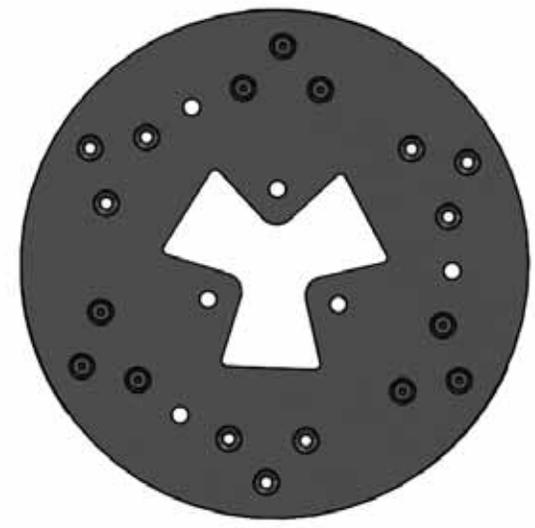
QCS Adapter Supplement			
5	NB.13.110	Green LocTite 609	3



Top View



Bottom View



PDG 8000

Magnetic Tooling Plate

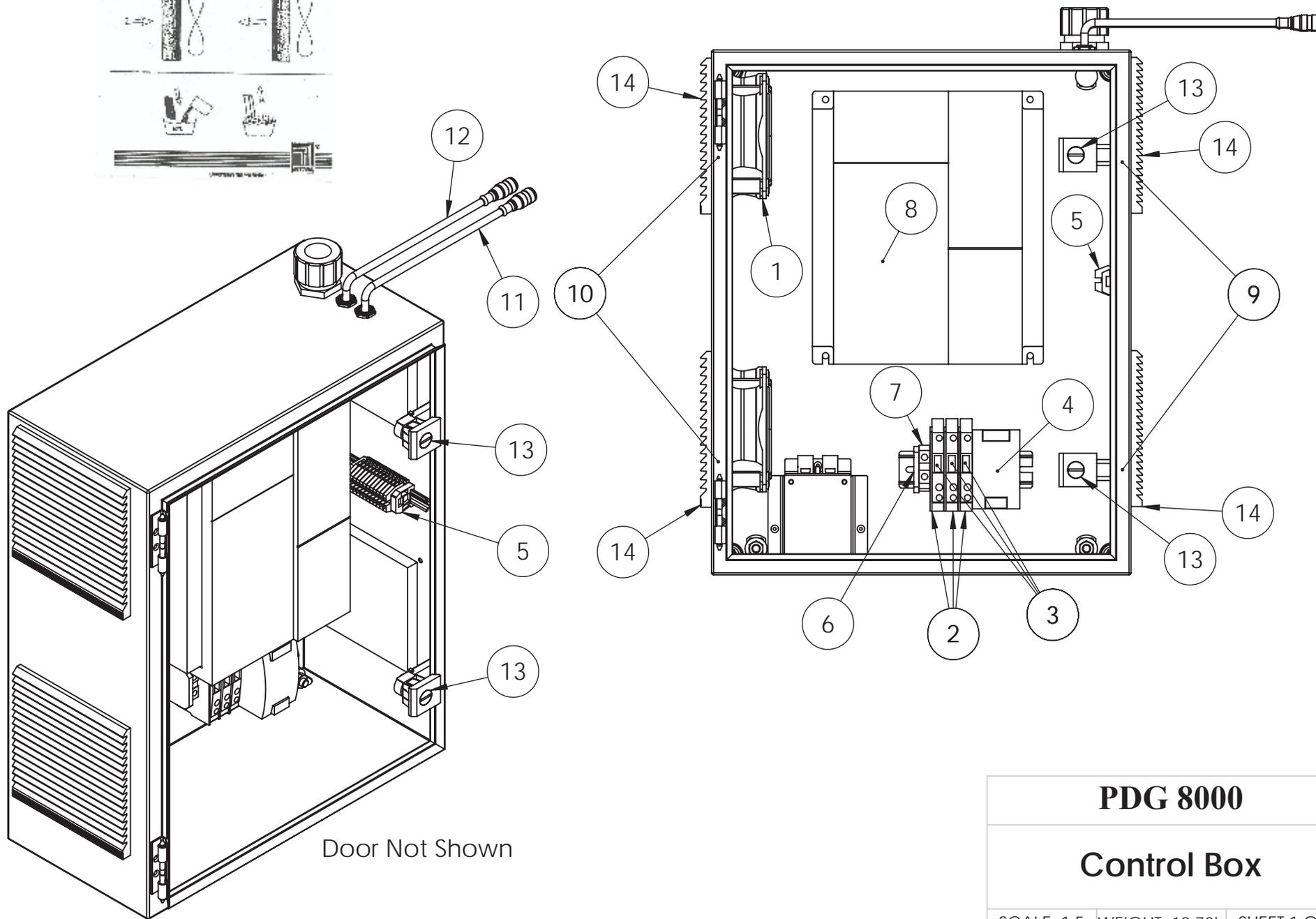
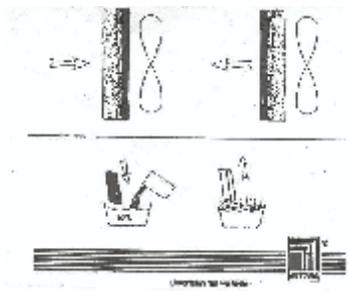
SCALE: 1:5 | WEIGHT: | SHEET 1 OF 1

9500 + Tooling Plate

Item No.	Part No.	Description	Qty.
1	PDG.80077.00	PLATE, EDGING TOOLING	1
2	WHOL.904134	QCS METAL BOND ADAPTERS FOR MAGNETS	3
3	WNB.13.500	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 14 ZINC	9
4	PDG.20295.00	MAGNET, 5/8" OD X 1/8" THICK WITH CS HOLE NORTH	3
5	NB.13.110	SCREW, M4 X 6 FLAT HEAD PHILLIPS S/S	3

PDG.8A160.00	PLATE, EDGING TOOLING WITH MAGNETIC QCS ADATER	3
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Filter Maintenance: 100 Hours

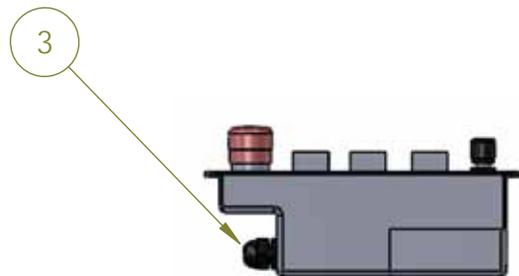
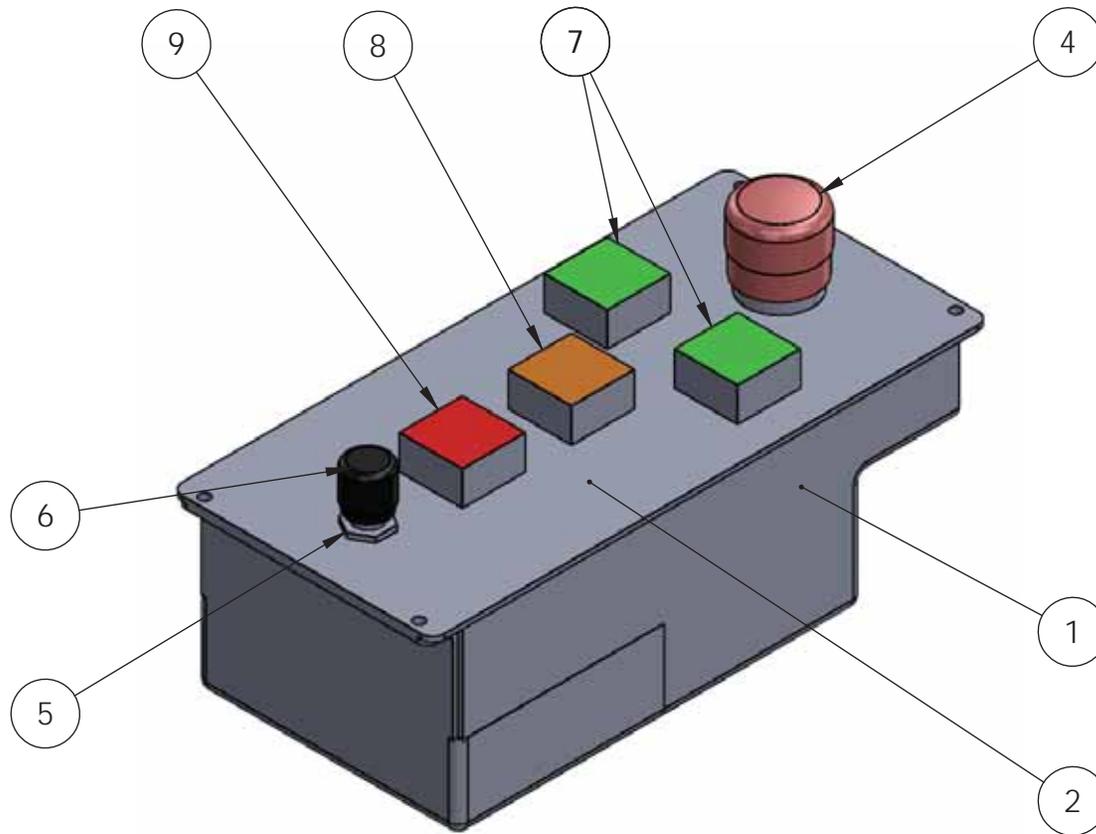


Door Not Shown

PDG 8000	
Control Box	
SCALE: 1:5	WEIGHT: 19.72kg SHEET 1 OF 1

Inverter

Item No.	Part No.	Description	Quantity
1	PDG.20341.00	Fan	2
2	PDG.20342.00	Holder, Fuse	3
3	PDG.20342.01	Fuse	3
4	PDG.20343.00	Low Volt Power Supply	1
4	PDG.20343.01	High Volt Power Supply	1
5	PDG.20344.00	Terminal, Connection DR1.5/4	1
6	PDG.20345.00	Terminal, Block M10/10P	1
7	PDG.20346.00	Terminal, M35/16P	1
8	PDG.80202.00	Drive Only, Mitsubishi Inverter/ 230V	1
8	PDG.80202.50	Drive Only, Mitsubishi Inverter/ 380V or 460V	1
9	PDG.20239.00	Filter, Fine Electrical Box	2
10	PDG.20239.01	Filter, Coarse Electrical Box	2
11	PDG.20315.00	Cable, 6 Pin Right Angle(Not on New Machines)	1
11	PDG.20315.01	Cable, 6 Pin Straight(Not on New Machines)	1
12	PDG.20316.00	Cable, 12 Pin Right Angle(Not on New Machines)	1
12	PDG.20316.01	Cable, 12 Pin Straight(Not on New Machines)	1
13	PDG.20327.00	Latch, Enclosure	2
14	PDG.20328.00	Filter Housing	4



PDG 8000

Operator Interface

SCALE: 1:2 | WEIGHT: 1.22kg | SHEET 1 OF 1

Operator Control Panel

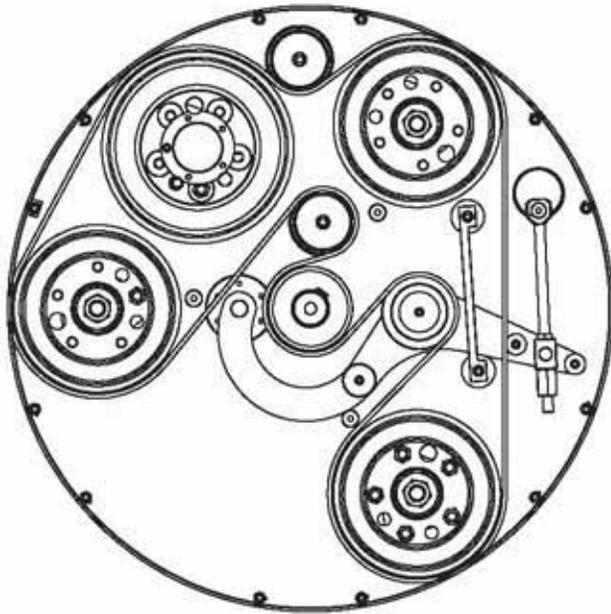
Item No.	Part No.	Description	Quantity
1	PDG.20318.00	Enclosure, Box	1
2	PDG.20320.50	Panel, No GOTT Face (No part number)	1
3	PDG.20317.00	12-Pin Male Connector	1
4	PDG.20326.00	Emergency Stop	1
5	PDG.20321.00	Potentiometer, Base	1
6	PDG.20321.50	Potentiometer, Knob	1
7	PDG.20323.00	Green Push, Button	2
8	PDG.20322.00	Orange Push, Button	1
9	PDG.20324.00	Red Push, Button	1

BELT TENSIONS

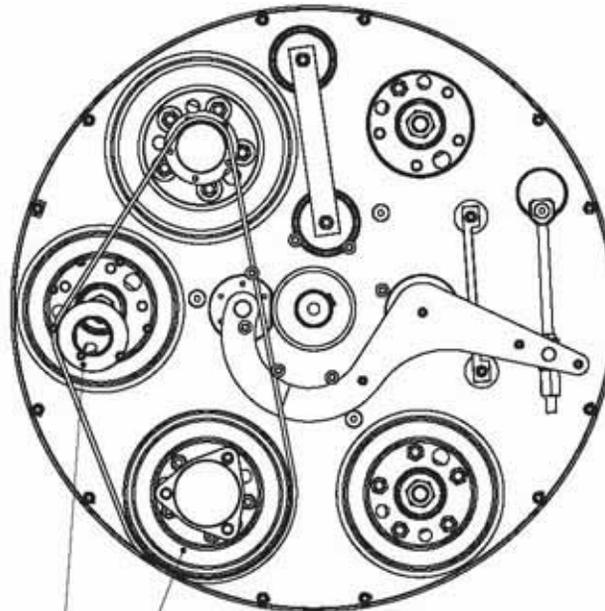
80 ±5

85 ±5

150 ±5

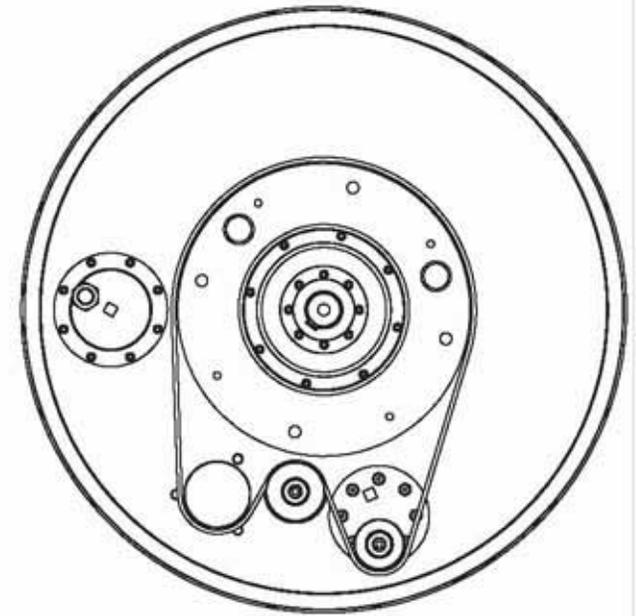


MAIN BELT
PDG.80039.00



PTO BELT
PDG.80040.00

THESE SHEAVES
LOCATED ON
TOP ASSEMBLY



TOP BELT
PDG.80041.00

PDG 8000

BELT PATHS

SCALE: 1:9 WEIGHT: 191kg SHEET 1 OF 1



Technical Specifications

PDG 8000

Item Number	PDG.8000.01 230 Volt PDG.8000.02 380 Volt PDG.8000.03 460 Volt
RPM	Variable Speed 0 – 1750
Motor Output	15 kW, 20HP
Required Circuit	Three Phase, 60Hz, 230V, 60Amp Three Phase, 60Hz, 460V, 40Amp * Three Phase, 50Hz, 380V, 50Amp * (European Machines Only)
Grinding Width	30" (762mm) Grinding Path
Grinding Pressure	660 to 860 lbs (299 to 390 kgs)
Weight	1250 lbs (567 kgs) * 1050 lbs (476 kgs) * (Without 2 removable weights)

7.2 List of fault or alarm indications

Operation Panel Indication		Name	
Error message	E---	E--	Faults history
	HOLD	HOLD	Operation panel lock
	Er1 to Er4	Er1 to 4	Parameter write error
	Err.	Err.	Inverter reset
Warnings	OL	OL	Stall prevention (overcurrent)
	oL	oL	Stall prevention (overvoltage)
	rb	RB	Regenerative brake prealarm
	TH	TH	Electronic thermal relay function prealarm
	PS	PS	PU stop
	MT	MT	Maintenance signal output
	UV	UV	Undervoltage
Alarm	Fn	FN	Fan fault
Fault	E.OC1	E.OC1	Overcurrent trip during acceleration
	E.OC2	E.OC2	Overcurrent trip during constant speed
	E.OC3	E.OC3	Overcurrent trip during deceleration or stop
	E.OV1	E.OV1	Regenerative overvoltage trip during acceleration
	E.OV2	E.OV2	Regenerative overvoltage trip during constant speed
	E.OV3	E.OV3	Regenerative overvoltage trip during deceleration or stop
	E.THT	E.THT	Inverter overload trip (electronic thermal relay function)
	E.THM	E.THM	Motor overload trip (electronic thermal relay function)
	E.FIN	E.FIN	Fin overheat

Operation Panel Indication		Name
E.I LF	E.I LF *	Input phase loss
E.OLT	E.OLT	Stall prevention
E. bE	E. BE	Brake transistor alarm detection
E. GF	E.GF	Output side earth(ground) fault overcurrent protection at start
E. LF	E.LF	Output phase loss
E.OHT	E.OHT	External thermal relay operation
E.OP1	E.OP1	Communication option fault
E. 1	E. 1	Option fault
E. PE	E.PE	Parameter storage device fault
E.PE2	E.PE2 *	Parameter storage device fault
E.PUE	E.PUE	PU disconnection
E.RET	E.RET	Retry count excess
E. 6 / E. 7 / E.CPU	E. 6 / E. 7 / E.CPU	CPU fault
E.I OH	E.IOH *	Inrush current limit circuit fault
E.AIE	E.AIE *	Analog input fault
E.USB	E.USB *	USB communication fault
E.MB4 to E.MB7	E.MB4 to E.MB7	Brake sequence fault
E. 13	E.13	Internal circuit fault

* If a fault occurs when using with the FR-PU04, "Fault 14" is displayed on the FR-PU04.

Display Screen Error Code Index

FAULT CODE	DRIVE DISPLAY	DESCRIPTION
0	-	No fault
16	E.OC1	Overcurrent trip during acceleration
17	E.OC2	Overcurrent trip during constant speed
18	E.OC3	Overcurrent trip during deceleration or stop
32	E.OV1	Regenerative overvoltage trip during acceleration
33	E.OV2	Regenerative overvoltage trip during constant speed
34	E.OV3	Regenerative overvoltage trip during deceleration or stop
48	E.THT	Inverter overload trip (electronic thermal relay function)
49	E.THM	Motor overload trip (electronic thermal relay function)
64	E.FIN	Fin overheat
82	E.ILF	Input phase loss
96	E.OLT	Stall prevention
112	E.BE	Brake transistor alarm detection
128	E.GF	Output side earth (ground) fault overcurrent at start
129	E.LF	Output phase loss
144	E.OHT	External thermal relay operation
145	E.PTC	PTC thermistor operation
176	E.PE	Parameter storage device fault (control circuit board)
177	E.PUE	PU disconnection
178	E.RET	Retry count excess
192	E.CPU	CPU fault
196	E.CDO	Output current detection value exceeded
197	E.IOH	Inrush current limit circuit fault
199	E.AIE	Analog input fault
201	E.SAF	Safety circuit fault



Prior to any repair work on the machine and its drives, secure the machine against unintentional powering on.

Problem	Possible cause	Remedy
Excessive Vibration	Imbalance due to worn or broken grinding tools. Screws worked loose on the grinding disc.	Replace all worn or broken parts. Tighten the countersunk head screws on the grinding disc.
Unusual noises	Defective bearing. Wrong tension of the V- belt. Defective motor bearing. Debris deposit on the coupling.	Check the bearing on the axle drive shaft and replace if necessary. Check the tension of the V-belt; replace the V-belt if necessary. Change the motor. Clean the coupling.
Reduced or no grinding performance	Grinding tools have reached the maximum permissible wear. Inappropriate grinding tool for the application. Not enough tension on the V-belt.	Replace the worn parts. Replace the grinding tools with appropriate tools for the surface to be treated. Re-tension the V-belt.

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



Prior to any repair work on the machine and its drives, secure the machine against unintentional powering on.



Problem	Possible cause	Remedy
Motor does not switch on	Missed phase Defective component	Check the main power supply and switch on again Replace defective component
Motor triggers while running	Motor protections switch triggered because of overload Motor has defect	Reduce additional load Check the motor
Screen Goes Blank	Lost Phase	Check for 3 legs power
No voltage reading on Dis-	Loose connection	Check pin connectors on interface



Corporate Office
26423 79th Ave South
Kent, WA 98032-7321
1.800.522.2606 (P)
1.877.762.0748 (F)
www.SASECompany.com
sales@SASECompany.com

CERTIFICATE & DECLARATION OF CONFORMITY FOR CE MARKING

Company contact details:

SASE Company, Inc.
26423 79th Ave. South, Kent, Washington 98032, USA
Phone #: 800-522-2606 Fax #: 877-762-0748

SASE Company, Inc. declares that their:

SASE Planetary Diamond Grinders

PDG.8000.01 PDG 8000 3 phase 230 volt 60 amp circuit
PDG.8000.02 PDG 8000 3 phase 380 volt 40 amp circuit
PDG.8000.03 PDG 8000 3 phase 460 volt 40 amp circuit
PDG.6000.01 PDG 6000 3 phase 230 volt 40 amp circuit
PDG.6000.02 PDG 6000 3 phase 380 volt 30 amp circuit
PDG.6000.03 PDG 6000 3 phase 460 volt 20 amp circuit
PDG4500.01 PDG 5000 1 phase 230 volt 20 Amp circuit US version
PDG4500.02 PDG 5000 1 phase 230 volt 20 amp circuit Europe version
PDG.8100.02 PDG.R8 3 phase 380 volt 40 amp circuit
PDG.8100.03 PDG.R8 3 phase 460 volt 40 amp circuit

are classified within the following EU Directives:

EU Machinery Directive 2006/42/EC
EU Low Voltage Directive 2014/35/EU
EU EMC Directive 2014/30/EU

and further conform with the following EU Harmonized Standards:

EN 60745-2-3:2011+A13:2015
EN 60204-1:2006 + A1:2009
EN 61000-6-3:2007+A1:2011
EN 61000-6-1:2007

Dated: 20 May 2016

Position of signatory: Vice President of Operations

Name of Signatory: John Abrahamson

Signed:

p.p. SASE Company, Inc.



MANUFACTURER'S WARRANTY POLICY

Included in this warranty are the following pieces of equipment:

Planetary Diamond Grinders: PDG 8000, PDG 6000, PDG 5000, Edge Pro 180

Dust Extractors: Bull 1250, Bull 300, Bull 45

Scarifiers: SC12E, SC10E, SC8E

Our Commitment to our customer:

SASE Company ("SASE") equipment is warranted to be free of defects in workmanship and materials for a period of one (1) year from original date of purchase. In the event that you should have a claim SASE shall repair, replace or remedy the defective parts resulting from the faulty design, materials or workmanship. Note: This warranty is only valid for equipment either sold by SASE or by an authorized wholesaler or distributor.

Limitations:

- Warranty does not apply to cosmetic damage, damage due to lightning, electrical surges, fire, flood, or other acts of God, accident, misuse, abuse, repair or alteration by other than factory service (unless service center was approved in writing by SASE), negligence, or improper or neglected maintenance as recommended by SASE.
- Common wear parts, such as belts, bearings, seals, filters, dust skirts, wheels, etc., are exempt from warranty.
- SASE is not responsible for loss of income or down time as a result faulty design, materials or workmanship.
- Warranty coverage is valid once a warranty registration card is filled out and returned to SASE.
- A \$100 labor charge may be assessed on the items returned for warranty repair in which no fault is found. Freight charges and associated fees will then become the responsibility of the customer in such an instance.
- Damages which are caused during transportation are not covered under warranty. Such damage claims should be filed with the freight carrier.

Claims:

In the unlikely event that you should experience a defect please contact your SASE representative or a SASE service technician by calling 1.800.522.2606. Please have all pertinent information readily available such as, invoice with date of purchase, model and serial number, and an explanation of the issue. SASE will respond immediately with a corrective action.

Freight responsibility for approved warranty claims:

If the piece of equipment was purchased within 90 days of warranty claim, SASE will arrange for ground freight and will assume all ground freight charges to send the customer the parts required or to send the equipment to an authorized SASE repair center. This includes inbound and outbound ground freight and all fees (duties, fuel surcharges) associated with the shipment.

If the piece of equipment was purchased beyond 90 days and prior to one (1) year of warranty claim, SASE will cover 50% of all ground freight charges, including inbound and outbound freight and all fees (duties, fuel surcharges) associated with the shipment.



PRODUCT & WARRANTY REGISTRATION

WARRANTY IS VOID IF NOT RETURNED AND REGISTERED WITH SASE WITHIN 30 DAYS OF PURCHASE

COMPANY _____

NAME AND TITLE _____

STREET ADDRESS _____

CITY _____ STATE _____ ZIP _____ COUNTRY _____

PHONE _____ EMAIL _____

DATE OF PURCHASE _____ SERIAL NUMBER _____

INVOICE NUMBER OF PURCHASE _____

PDG 8000 PDG 6000 PDG 5000 EDGE PRO 180 SC8E

SC10E SC12E BULL 1250 BULL 300 BULL 45

PLEASE FILL OUT IN FULL AND SUBMIT TO: SASE COMPANY 2475 STOCK CREEK BLVD
ROCKFORD TN, 37853 FAX: 865.745.4110 EMAIL: JohnA@SASECompany.com

QUESTIONS? CALL 800.522.2606