PDG 5000 Manual

SASE Company, Inc.
Phone 800.522.2606 or Fax 877.762.0748
www.SASECompany.com

Version 7.5
Ser. #: 3000 to 3500
Date: 08/01/2020

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

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.

Jim Weder

President

Table of Contents

Introduction

The SASE PDG 5000 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.

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.

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

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.

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.

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.

Storage

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

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.

CE

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.

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 fi ne 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.

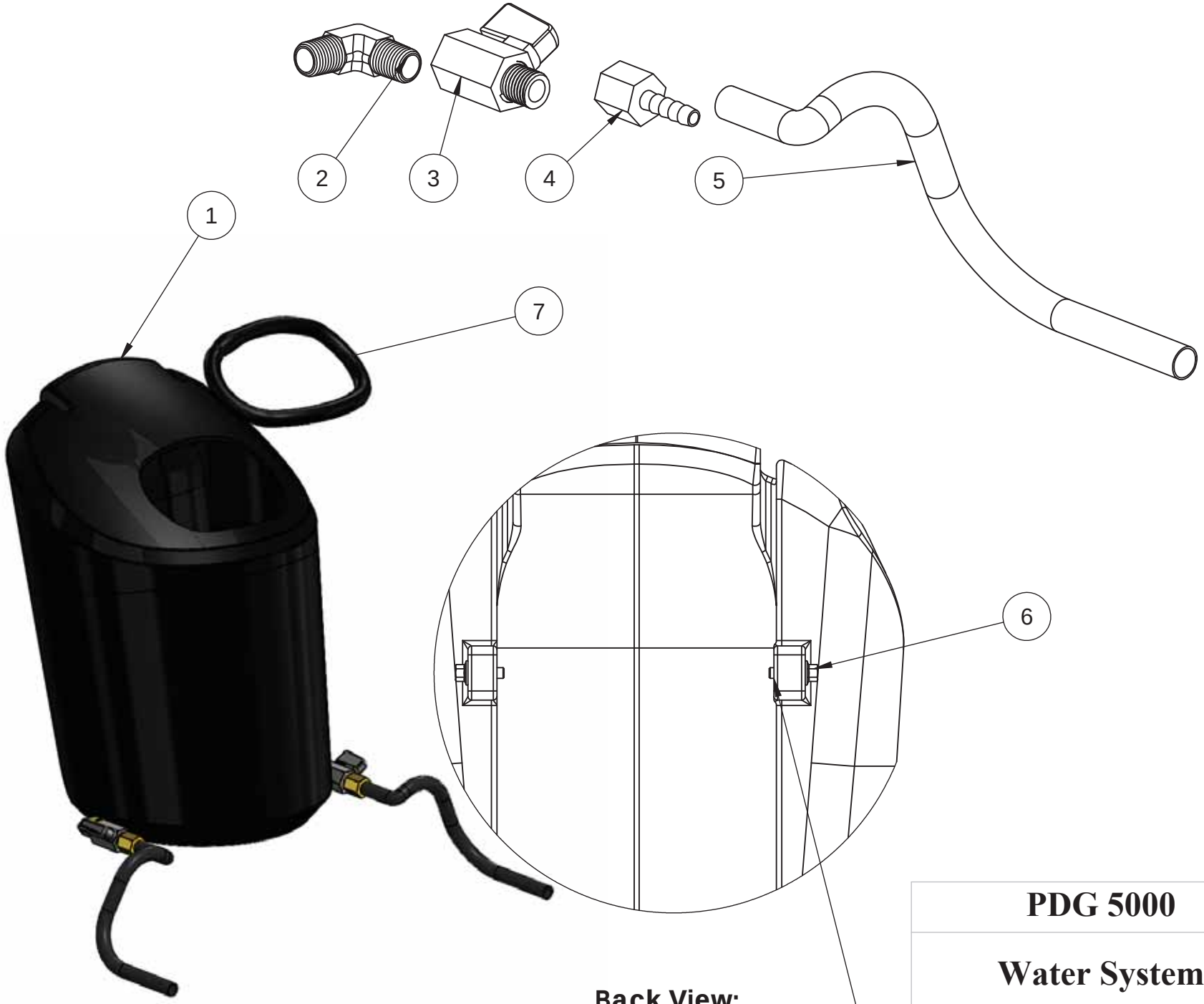
Gold Series
Very Hard to Hard Concrete
Very soft bonded diamonds for grinding very hard to hard concrete floors.

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.



Back View:
Tank attaches to Frame.

PDG 5000

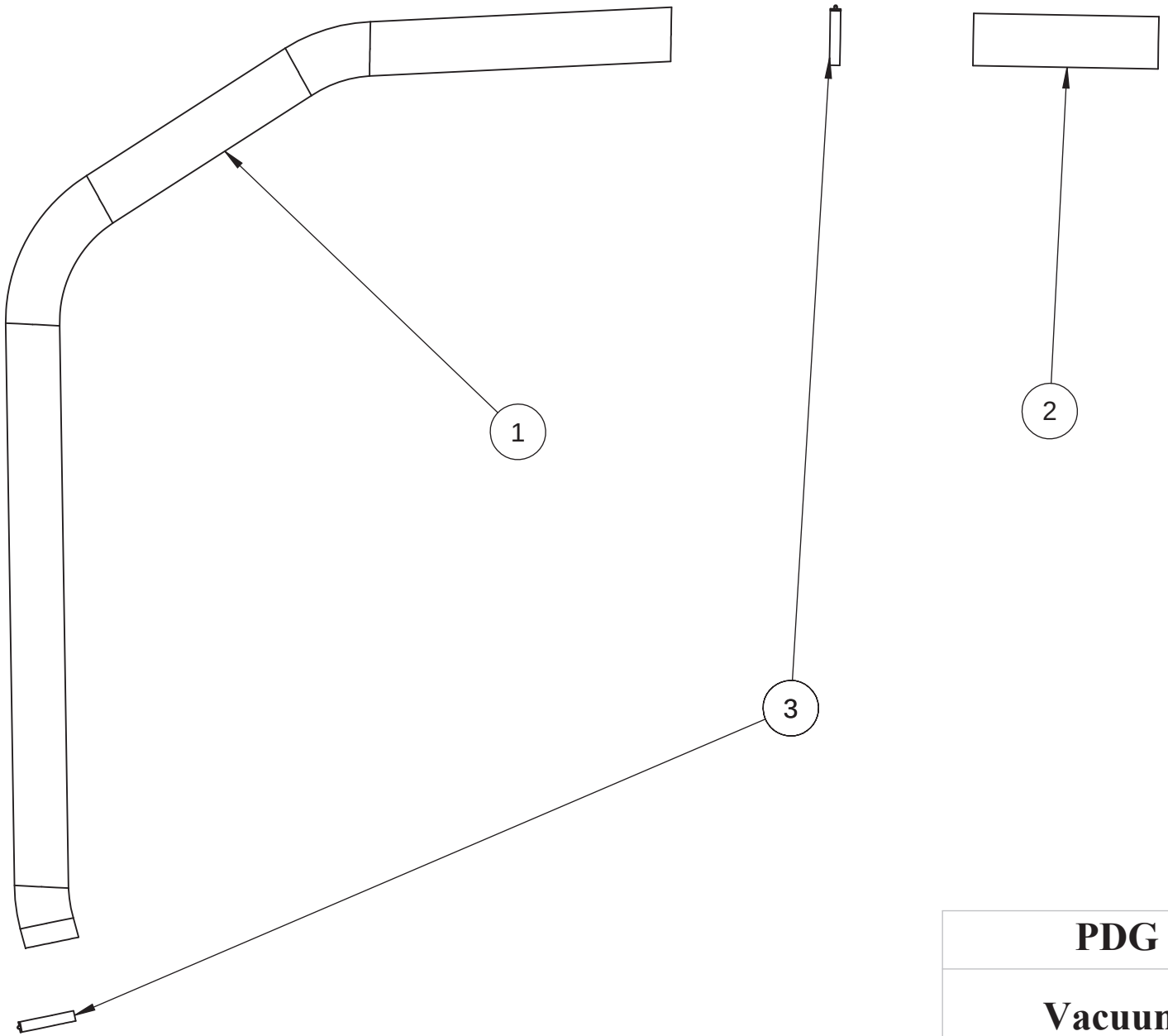
Water System

SCALE: 1:5/1:2	WEIGHT:	SHEET 1 OF 1

5 4 3 2 1

Water System			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45059.00	TANK, WATER	1
2	PDG.20268.01	ELBOW, BRASS 1/4 NPT MALE X MALE 90 /PDG5000	2
3	PDG.20247.00	VALVE, 1/4 BALL	2
4	PDG.20260.01	FITTING, 1/4 NPT FEMALE X 1/4 BARB	2
5	PDG.20262.00	TUBING, WATER	3 ft
6	NB.11.112	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 30	2
7	PDG.20270.00	TRIM, FLEXIBLE 3/16" X 5/8"	2 ft

Water System Supplemental			
1	PDG.45059.00	"Goop" applied around brass fittings, inside tank.	1



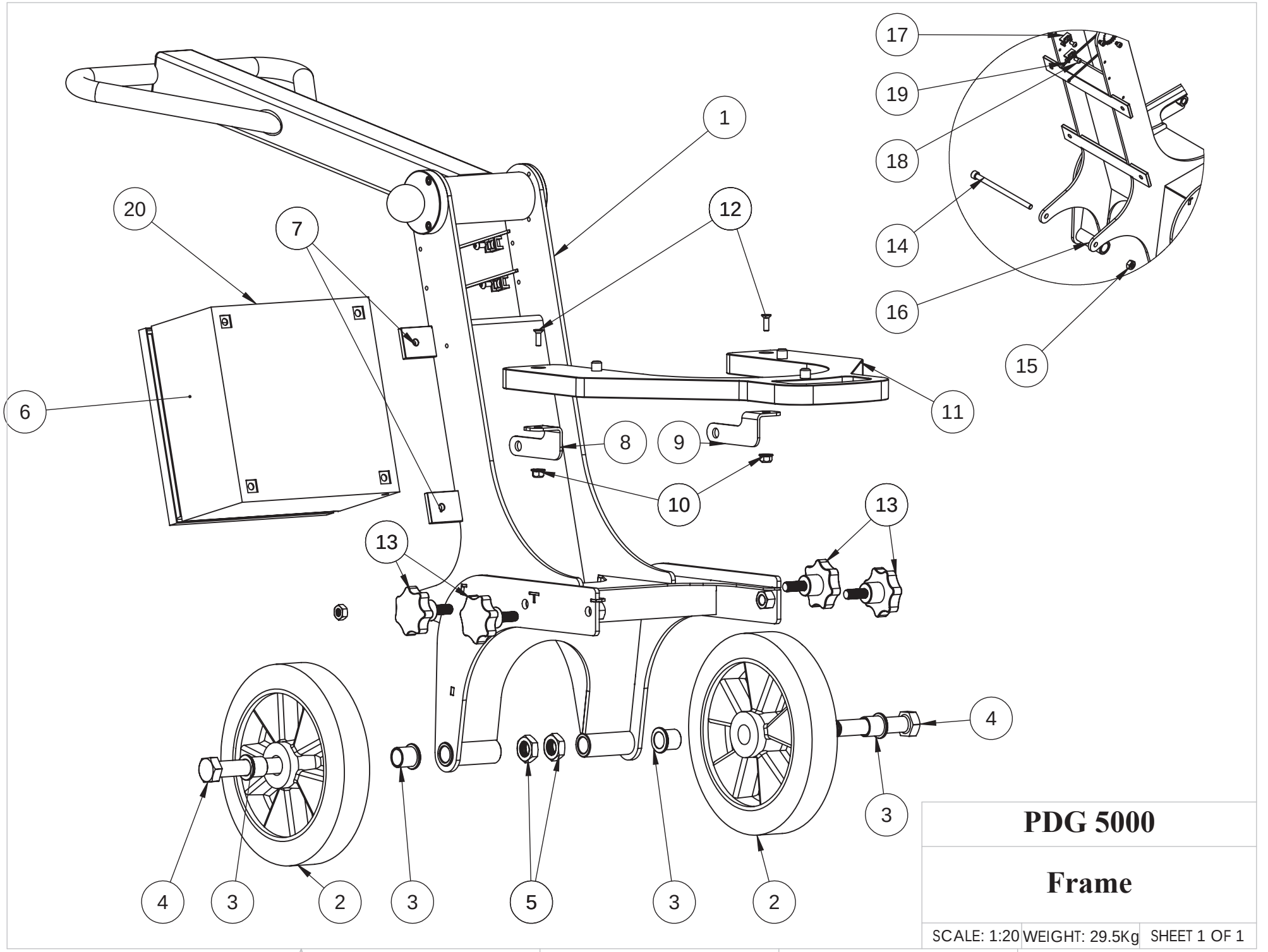
PDG 5000

Vacuum Hose

SCALE: 1:20 | WEIGHT: | SHEET 1 OF 1

5 4 3 2 1

Vacuum Hose			
Item No.	**Part No.**	**Description**	**Quantity**
1	WVAC.HS2.00000	HOSE, VACUUM 2.0" ID, YELLOW, BY THE FOOT	4ft
2	VAC.WCN.2020	MALE CONNECTOR, 2" X 2" CHROME	1
3	NB.52.101	CLAMP, HOSE, 2.0"	2



PDG 5000

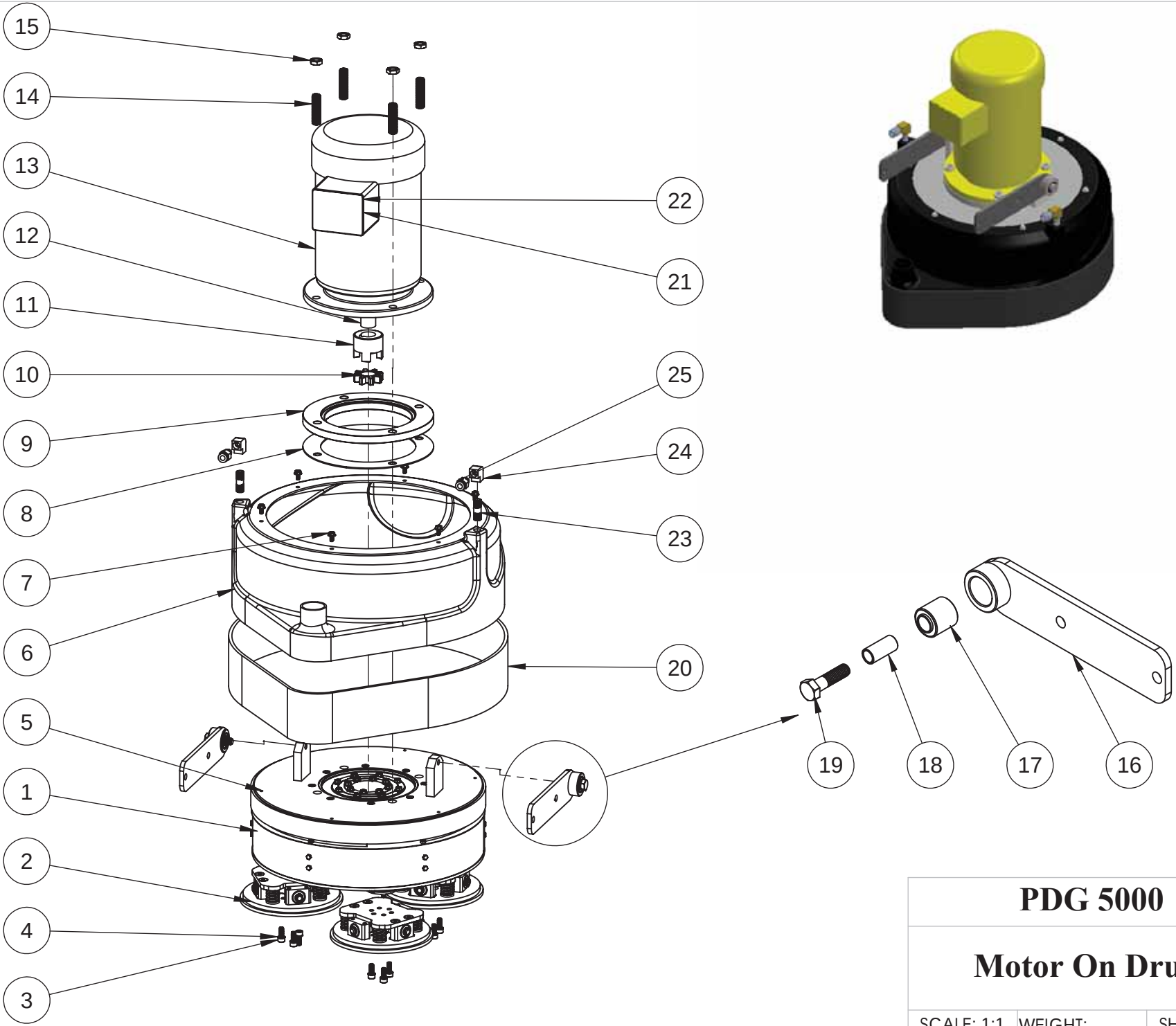
Frame

SCALE: 1:20 | WEIGHT: 29.5Kg | SHEET 1 OF 1

5 4 3 2 1

Frame Assembly			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45048.03	CARRIAGE, V3	1
2	PDG.45077.00	WHEEL	2
3	PDG.20255.60	BUSHING, WHEEL AXLE	4
4	NB.10.253	SCREW, HEX M20-2.5 X 160 ZINC /5K	2
5	NB.20.110	NUT, JAM M20 - 2.5	2
6	PDG.50114.00	DRIVE, WITH ENCLOSURE 5 HP	1
7	NB.11.110	SCREW, FLANGED HEX HEAD M6 -1.0 X 20	4
8	PDG.50113.01	CLIP, WEIGHT RETAINER RIGHT HAND	1
9	PDG.50113.02	CLIP, WEIGHT RETAINER LEFT HAND	1
10	NB.20.143	NUT, M8 - 1.25 NYLOC	2
11	PDG.50112.00	WEIGHT, BALLAST	2
12	NB.13.225	SCREW, FLAT HEAD SOCKET M8 -1.25 X 40	2
13	PDG.45108.00	KNOB, SEVEN LOBE WITH STUD	4
13	NB.30.130	WASHER, LOCK M12	4
14	NB.10.247	SCREW, HEX M10 X 160 ZINC	1
15	NB.20.131	NUT, NYLOC M10 ZINC	1
16	NB.20.137	NUT, JAM M10-1.5 ZINC	1
17	NB.51.201	MOUNT, ZIP TIE	2
18	NB.16.117	SCREW, BUTTON HEAD SOCKET M6 X 8	2
19	795.00.12	Zip Tie 6' inch	2
20	PDG.20271.00	WRAP, 1/2" SPIRAL CORD	2 ft

Frame Assembly			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45048.03	CARRIAGE, V3	1



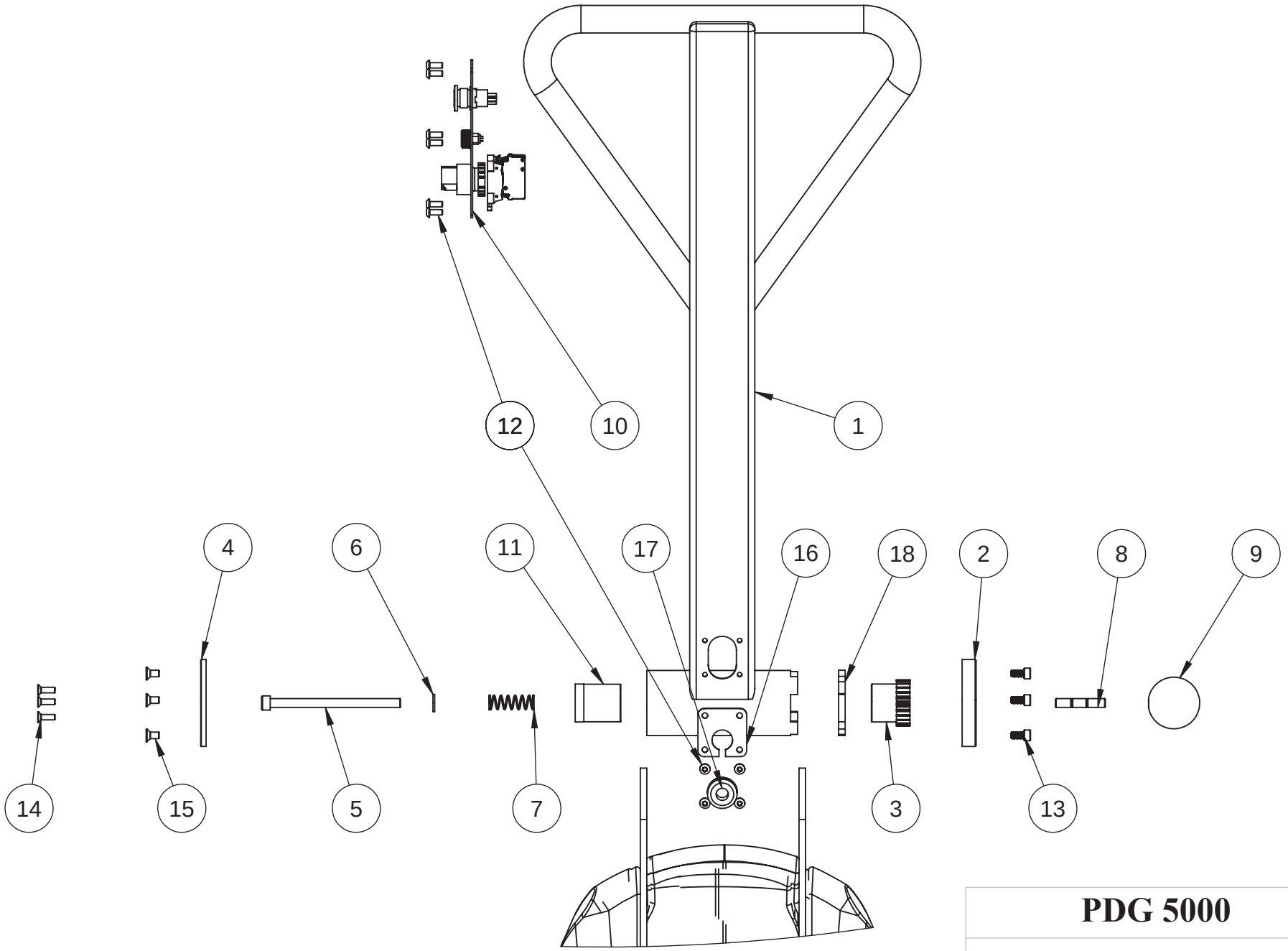
PDG 5000

Motor On Drum

SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

Motor on Drum			
Item No.	**Part No.**	**Description**	**Quantity**
1	**PDG.5000.85**	**DRUM, ASSEMBLED**	**1**
2	**PDG.5000.90**	**FLEX HEAD, COMPLETE**	**3**
3	NB.10.218	SCREW, SOCKET HEAD CAP M8-1.25 X 25 12.9	9
4	NB.30.212	WASHER, LOCK M8 ZINC	9
5	PDG.20249.00	RUBBER, EPDM GASKET (No Image)	8ft
6	PDG.50060.00	SHROUD, MOLDED VACUUM	1
7	NB.11.109	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 12	8
8	PDG.45110.50	GASKET, MOTOR(Now above and below spacer)	2
9	PDG.45039.00	SPACER, MOTOR ROTO	1
10	HOL.E014831	BUSHING, SPIDER /435 (YELLOW)	1
11	PDG.45074.00	COUPLING, LOVEJOY FLEX SIZE 24 HUB 28	1
12	NB.70.112	KEY, MOTOR M8 X 7 X 25 (Included in Motor)	1
13	PDG.50043.00	5HP BALDOR MOTOR	1
14	NB.18.143	SET SCREW, M14 -2 X 60	4
15	NB.20.136	NUT, JAM M14 - 2	4
16	PDG.45047.50	RACK, DRUM V2	2
17	PDG.45075.50	BUSHING, 1.3 OD 1.15 ID 1.18 LG	2
18	PDG.45086.00	SLEEVE, CARRIAGE BOLT	2
19	NB.10.129	SCREW, HEX HEAD CAP M12 X 50	2
20	PDG.50082.00	SKIRT, RUBBER DUST	1
21	NB.60.108	LUG, TERMINAL 8 AWG #10 STUD (Included in Motor)	0
22	DG.1403	SCREW, HEX SOCKET FLANGE BUTTON HEAD #8 -32 X 3/8" YW ZINC	4
23	PDG.20267.00	NIPPLE, 1/4" X CLOSE GALV	2
24	PDG.20268.00	ELBOW, BRASS FEMALE 1/4 NPT X 1/4 NPT	2
25	PDG.20246.00	FITTING, PUSH TO CONNECT 3/8 X 1/4	2

Motor on Drum			
Item No.	**Part No.**	**Description**	**Quantity**
3	NB.10.218	Blue LocTite 242	9
14	NB.18.143	Red LocTite 263	4
19	NB.10.129	Red LocTite 263, Torque 40 Ft-Lb	2



PDG 5000

Handle Assembly

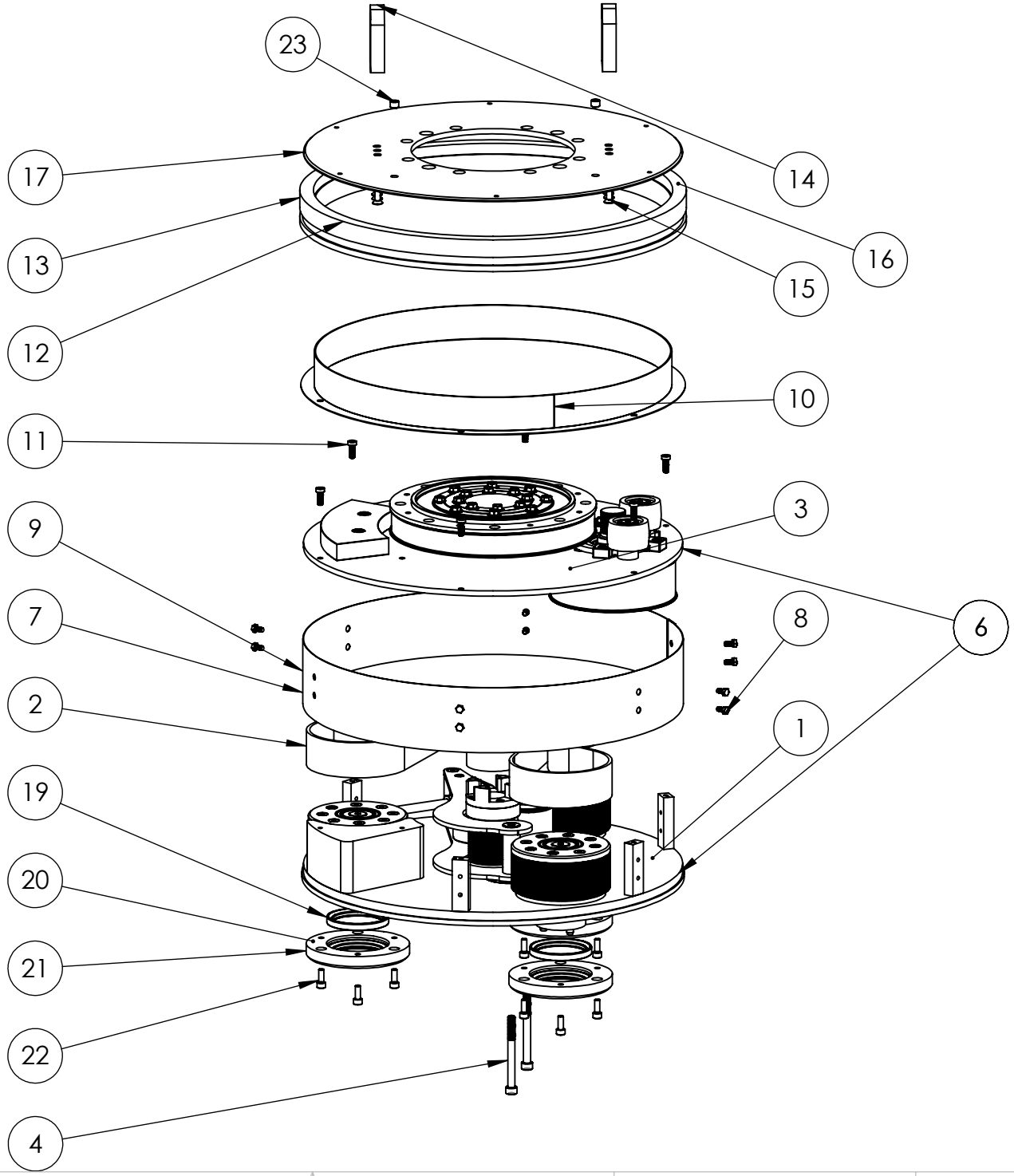
Scale: 1:5

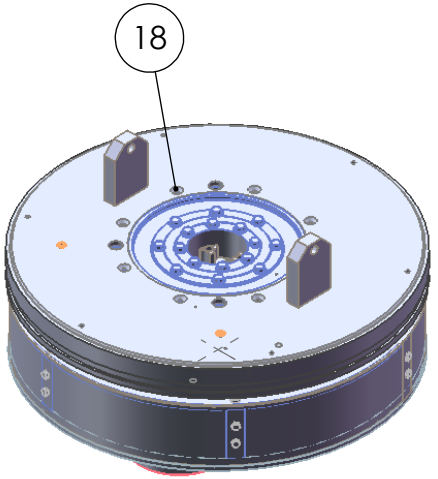
SHEET 1 OF 1

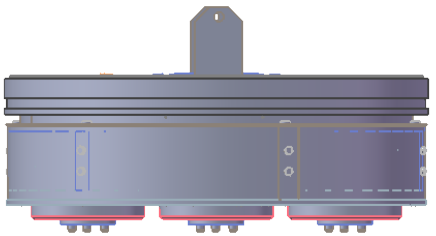
5 4 3 2 1

Handle Assembly			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.50110.50	HANDLE, STEM V4	1
2	PDG.45052.52	COVER, STEM LOCK ACTION	1
3	PDG.45054.50	LOCK, STEM MALE	1
4	PDG.45071.00	CAP, STEM LEFT	1
5	NB.12.220	SCREW, SOCKET HEAD CAP M8-1.25 X 120 12.9	1
6	NB.30.111	WASHER, FLAT M8 ZINC	1
7	PDG.45073.00	SPRING, RETURN COMPRESSION M13.75 X 1.25 X 41.5	1
8	NB.82.100	STUD, DOUBLE END THREADED M8 -1.25 X 50	1
9	PDG.45072.00	KNOB, BALL THREADED	1
10	PDG.50111.00	PANEL, COMPLETE INTERFACE	1
11	PDG.45070.00	LOCK, STEM FEMALE	1
12	NB.16.116	SCREW, BUTTON HEAD M5 X 12 ZINC	10
13	NB.12.108	SCREW, SOCKET HEAD CAP M6 -1.0 X 12 ZINC	3
14	NB.13.119	SCREW, FLAT HEAD SOCKET CAP M5-0.8 X 16	3
15	NB.13.113	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 10	3
16	PDG.50087.00	COVER, WITH HOLE	1
17	PDG.50076.00	GROMMET, RUBBER 1/2" ID 1 1/8" OD	2
18	PDG.50053.50	SPLINE, FEMALE V4	1

5	NB.12.220	Red LocTite 263	1
8	NB.82.100	Red LocTite 263	1
13	NB.12.108	Red LocTite 263	3
14	NB.13.119	Blue LocTite 242	3
15	NB.13.113	Blue LocTite 242	3







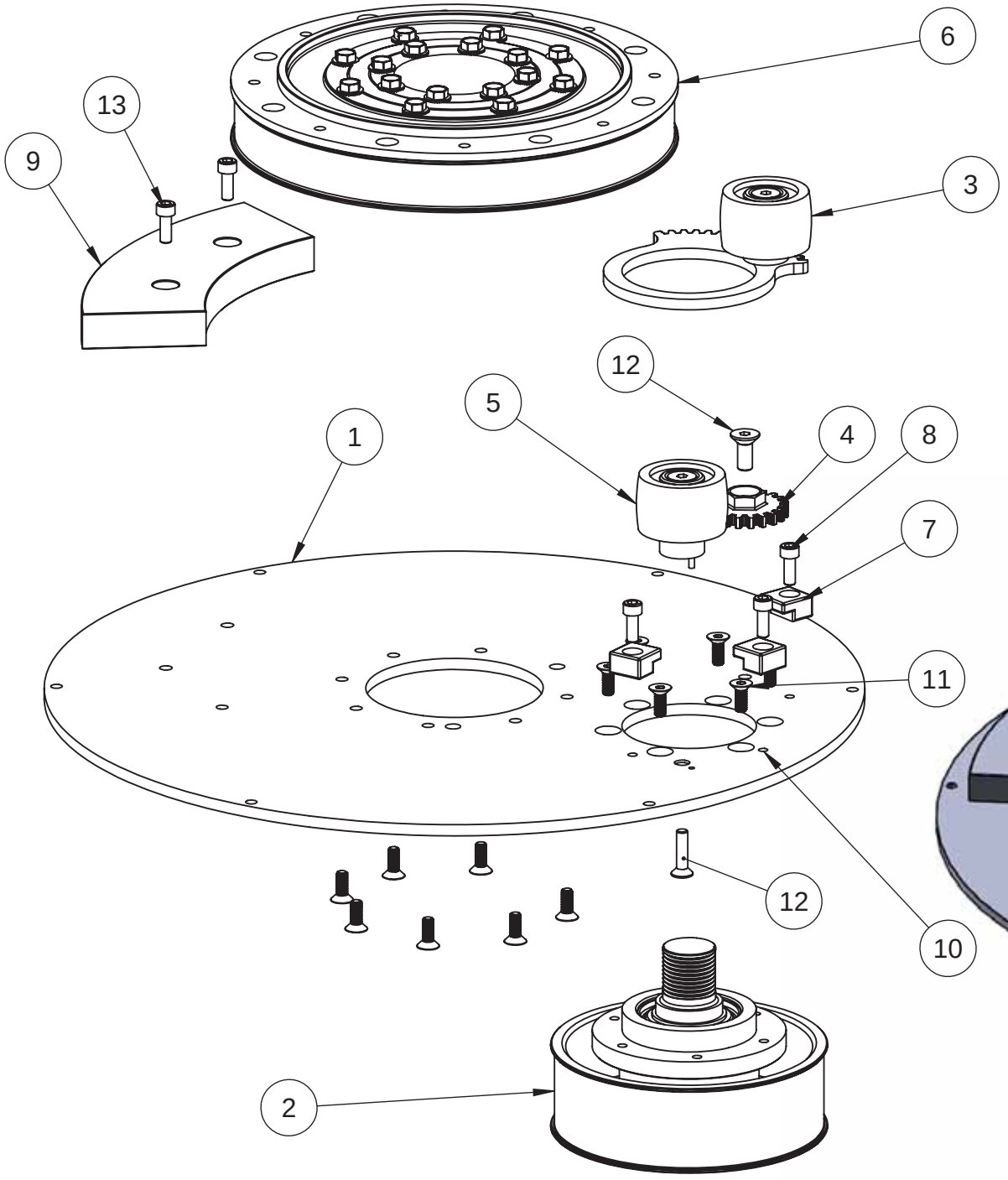
PDG 5000

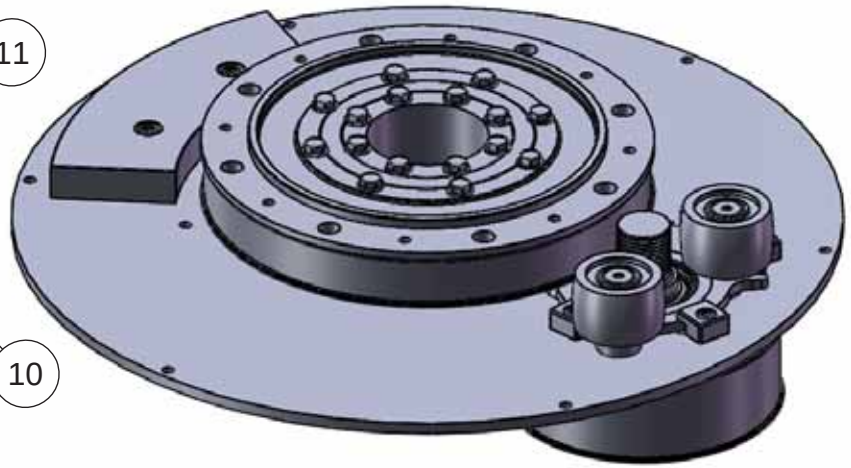
Complete Drum

SCALE: 1:1 | WEIGHT: 61.77kg | SHEET 1 OF 1

5 4 3 2 1

Complete Drum			
Item No.	**Part No.**	**Description**	**Quantity**
1	**See Page 22**	**Bottom Drum Assembled**	**1**
2	PDG.45042.00	BELT, MAIN PJ18 M1872	1
3	**See Page 16**	**Top Plate Assembled**	**1**
4	NB.12.264	SCREW, SOCKET HEAD CAP M8-1.25 X 85 ZINC	2
5	PDG.45056.00	BELT, TOP 380PJ10	1
6	PDG.20291.00	BUTYL FLEX	5 oz
7	PDG.45041.00	SHROUD, BTM BELT DUST	1
8	NB.16.113	SCREW, HEX HEAD CAP M5-0.8 X 10 ZINC 8.8	10
9	PDG.20287.00	TAPE, PRESERVATION HEAT SHRINK 3" WHITE	15 ft
10	PDG.45037.00	RING, UPPER DUST	1
11	NB.12.116	SCREW, SOCKET HEAD CAP M6-1.0 X 20 12.9 ZINC	7
11b	NB.30.215	WASHER, M6 INTERNAL LOCK	6
12	PDG.45078.00	SEAL, TOP BELT	1
13	PDG.20269.00	ZIP TIE, 48"	2
14	PDG.45038.50	EAR, MOUNTING V2	2
15	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	6
16	PDG.20292.00	CHEMREX CX-948	9 oz
17	PDG.45040.00	PLATE, STATIONARY	1
18	NB.13.116	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 20	8
19	PDG.20286.02	SEAL, AXLE NITRILE AL. SLURRY COVERS	3
20	PDG.20294.00	SILICONE, CRYSTAL CLEAR	1.5 oz
21	PDG.50085.00	COVER, PLANETARY SLURRY ALUMINUM	3
22	NB.12.111	SCREW, SOCKET HEAD CAP M6 -1.0 X 16 12.9 ZINC	9
23	NB.18.144	SET SCREW, M10 X 8	2





PDG 5000

Top Drum

SCALE: 1:10 | WEIGHT: 17.3kg | SHEET 1 OF 1

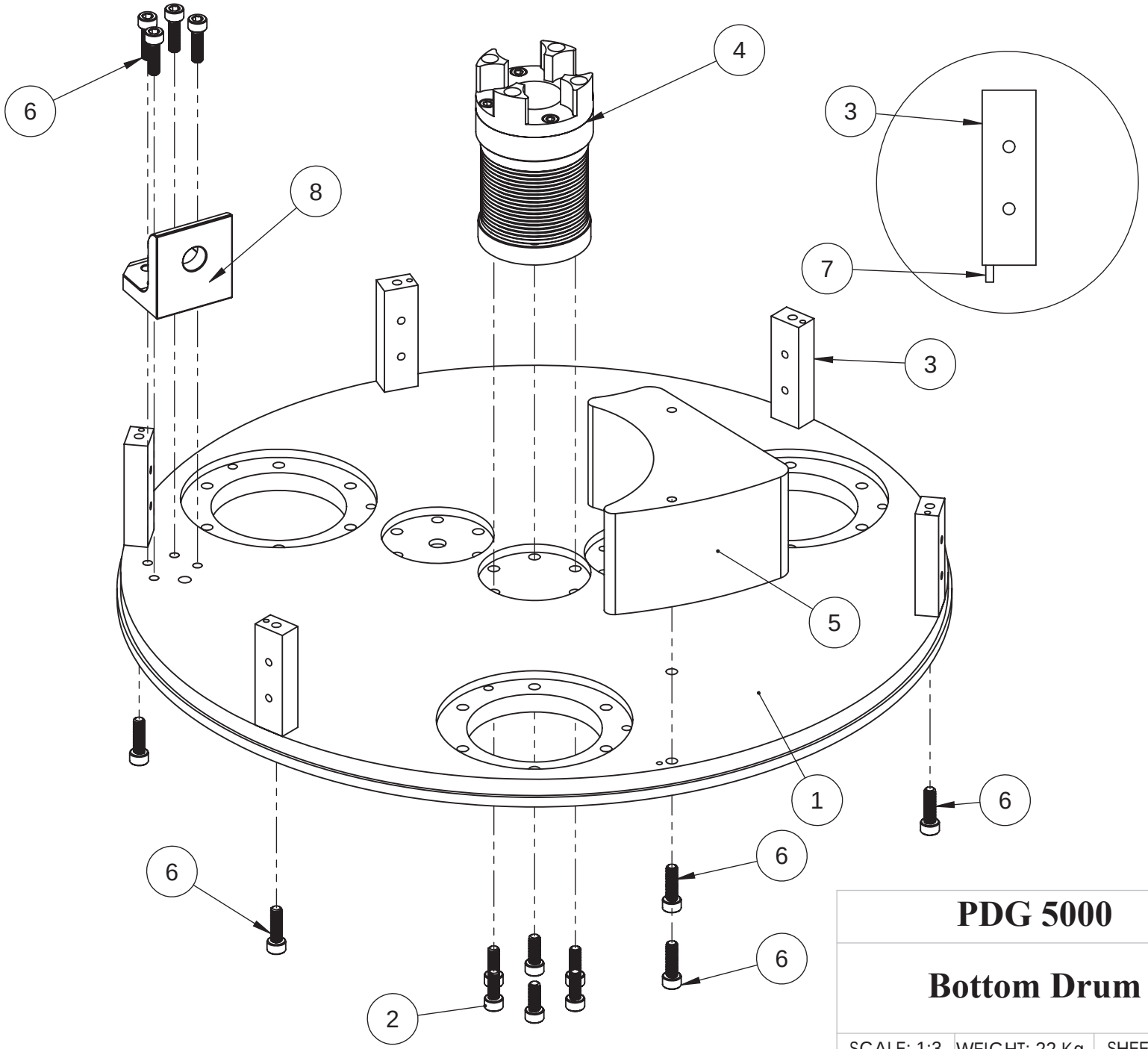
5 4 3 2 1

Top Drum			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.50022.00	Top Plate	1
2	**PDG.4A004.00**	**Steel PTO Assembled**	**1**
3	**PDG.4A003.00**	**Top Tightener Assembled**	**1**
4	PDG.45030.00	Top Tightener Actuator	1
5	**PDG.4A002.00**	**Top Idler Assembled**	**1**
6	**PDG.4A001.00**	**Drum Sheave Assembled**	**1**
7	PDG.45058.00	Tightener Clamp	3
8	NB.12.108	M6-1.0x12 Socket Head Cap Screw	3
9	PDG.50036.00	Upper Counter Weight Half Moon	1
10	NB.25.101	M10 Out/M6 In, Threaded Insert (Required in aluminum Top Plate)	0
11	NB.13.115	M6-1.0x16 Flat Countersunk Head Screw	13
12	NB.13.218	M8-1.25x20 Flat Countersunk Head Screw	2
13	NB.10.218	M8-1.25x20 Socket Head Cap Screw	2

Top Drum Supplemental			
8	NB.12.108	Red LocTite 263	3
10	NB.25.101	Red LocTite 263	0
11	NB.13.115	Red LocTite 263	13
12	NB.13.218	Red LocTite 263	2
13	NB.10.218	Red LocTite 263	2

Start with #1, Insert #5, Bolt down with #12, then remove the sheave from #5. Insert #2, bolt down with #11. Insert #3, Insert #7, bolt down with #8. replace the sheave to #5. Insert #4, bolt down with #12.

Now CHECK the height of #3 and #5. If they are even, go on. If they are uneven, Insert NB.31.101 spacer to level them. The rest of the parts can be added once #3 and #5 are in place and even at the top edge.



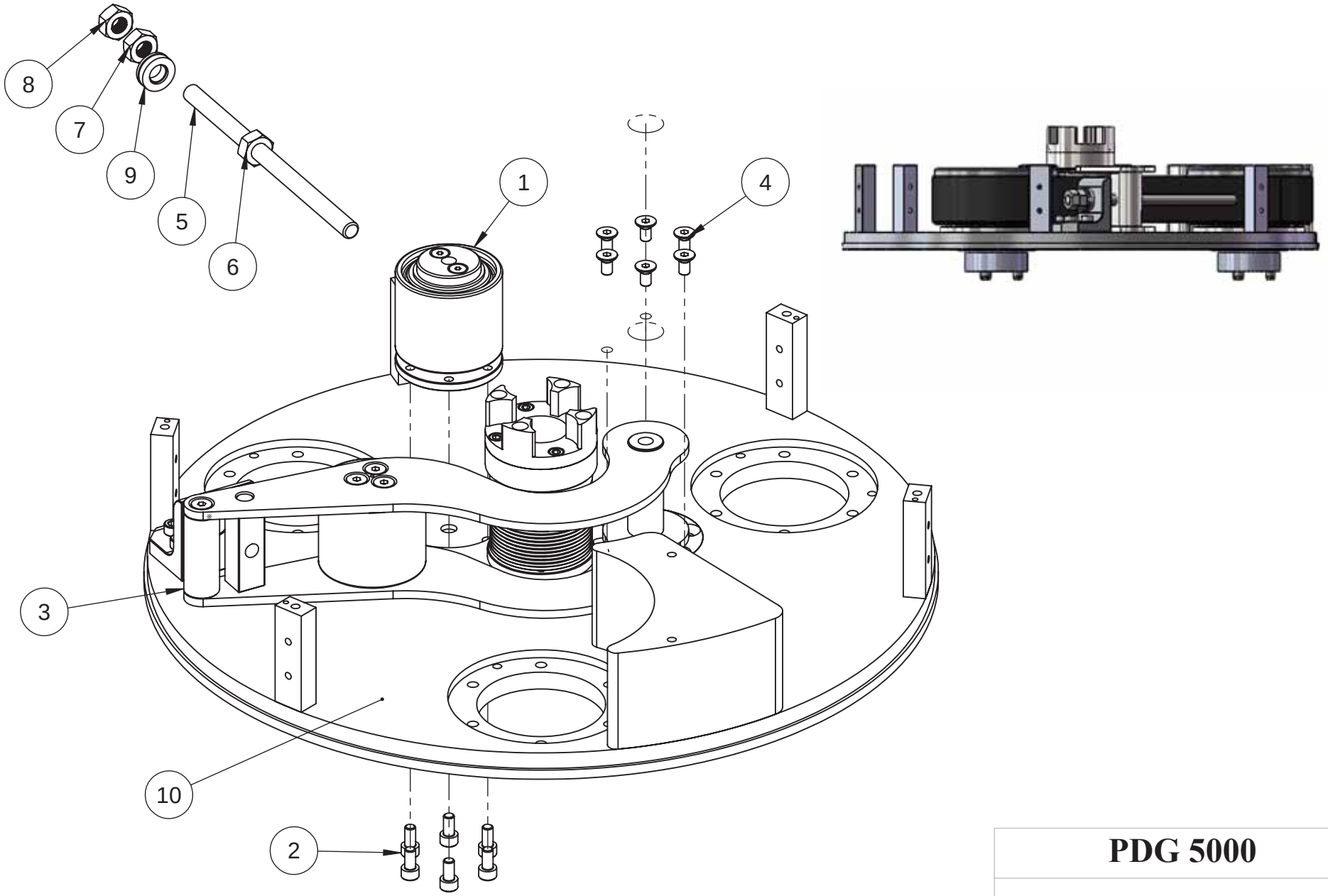
PDG 5000

Bottom Drum

SCALE: 1:3 | WEIGHT: 22 Kg | SHEET 1 OF 3

Bottom Drum I			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45021.00	PLATE, BTM DRUM	1
2	NB.12.108	SCREW, SOCKET HEAD CAP M6 -1.0 X 12 ZINC	6
3	PDG.45016.00	STANCHION, PERIMETER	5
4	**PDG.4A006.00**	**SUBASSEM, MAIN BELT SPINDLE**	**1**
5	PDG.45019.00	WEIGHT, BALANCE	1
6	NB.12.116	SCREW, SOCKET HEAD CAP M6-1.0 X 20 12.9 ZINC	11
7	NB.50.145	PIN, SPIRAL M3 X 12	5
8	PDG.45017.25	POST, REACTION	1

Bottom Drum I Supplemental			
2	NB.12.108	Red LocTite 263	6
6	NB.12.116	Red LocTite 263	11



PDG 5000

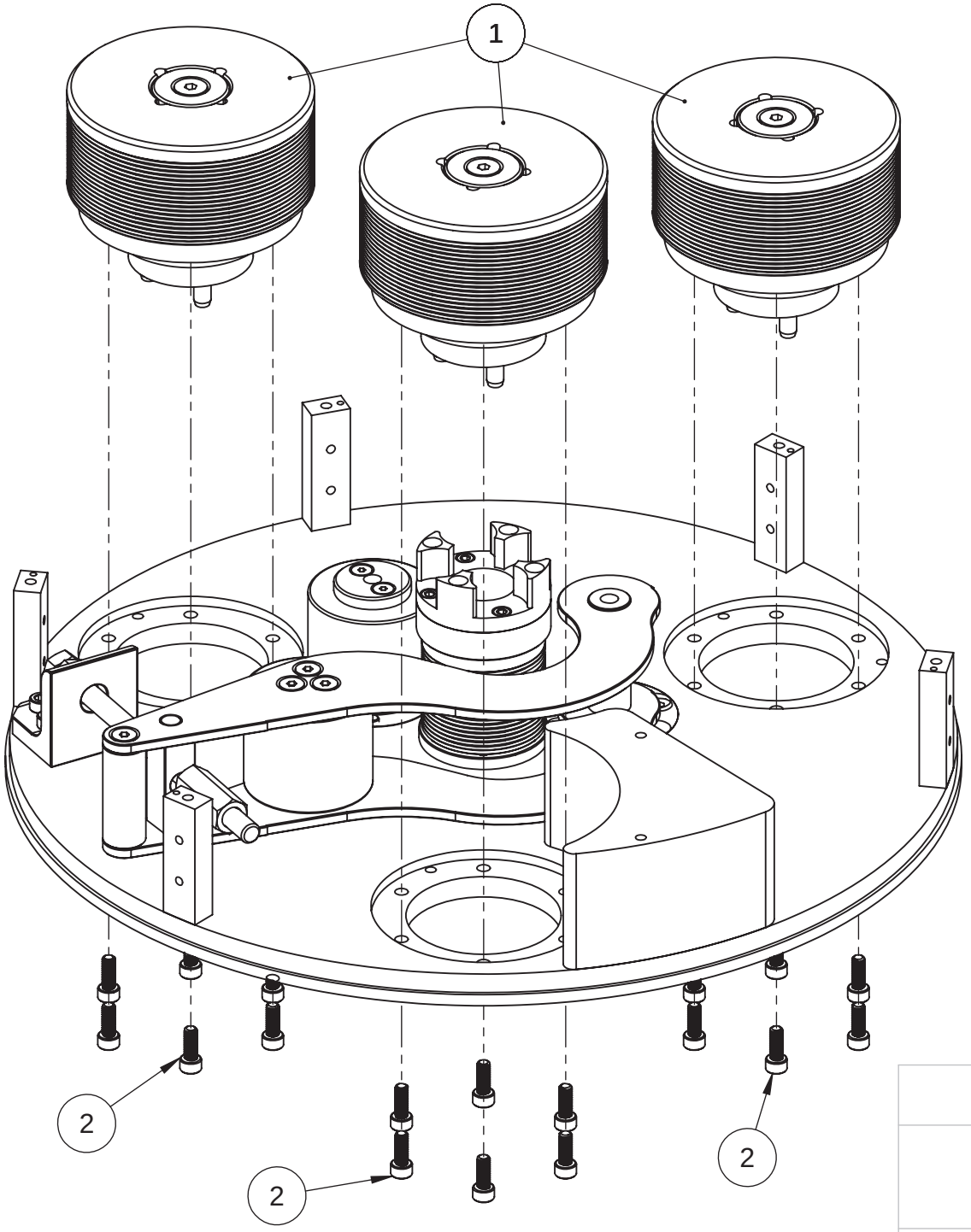
Bottom Drum II

SCALE: 1:10	WEIGHT: 26 Kg	SHEET 1 OF 1

5 4 3 2 1

Bottom Drum II			
Item No.	**Part No.**	**Description**	**Quantity**
1	**PDG.4A007.00**	**SUBASSEM, MAIN IDLER**	**1**
2	NB.12.108	SCREW, SOCKET HEAD CAP M6 -1.0 X 12 ZINC	6
3	**PDG.4A005.00**	**SUBASSEM, MAIN TIGHTENER**	**1**
4	NB.13.118	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 12	6
5	PDG.45018.25	ROD, TIGHTENER	1
6	NB.20.119	NUT, COUPLING M10 -1.5	1
7	NB.20.137	NUT, JAM M10-1.5 ZINC	1
8	NB.20.131	NUT, NYLOC M10 ZINC	1
9	NB.32.101	WASHER, SPHERICAL M10	1
10	**See Page 18**	**Bottom Drum I**	**1**

Bottom Drum II Supplemental			
2	NB.12.108	Red LocTite 263	6
4	NB.13.118	Red LocTite 263	6
5	PDG.45018.25	Red LocTite 263, where #3, #6 and #7 mount. **#8 gets no LocTite**	1
8	NB.20.131	Tighten to #7, all the way to one end of #5(threaded rod). **Do Not LocTite**	1



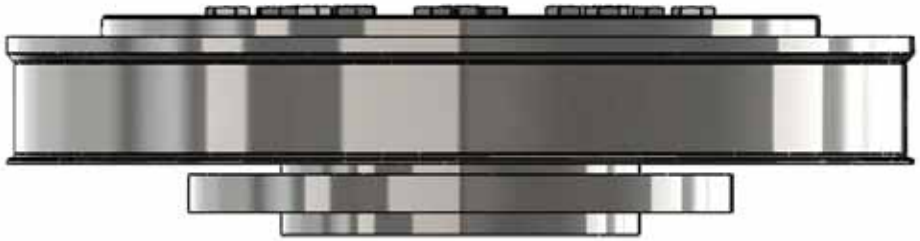
PDG 5000

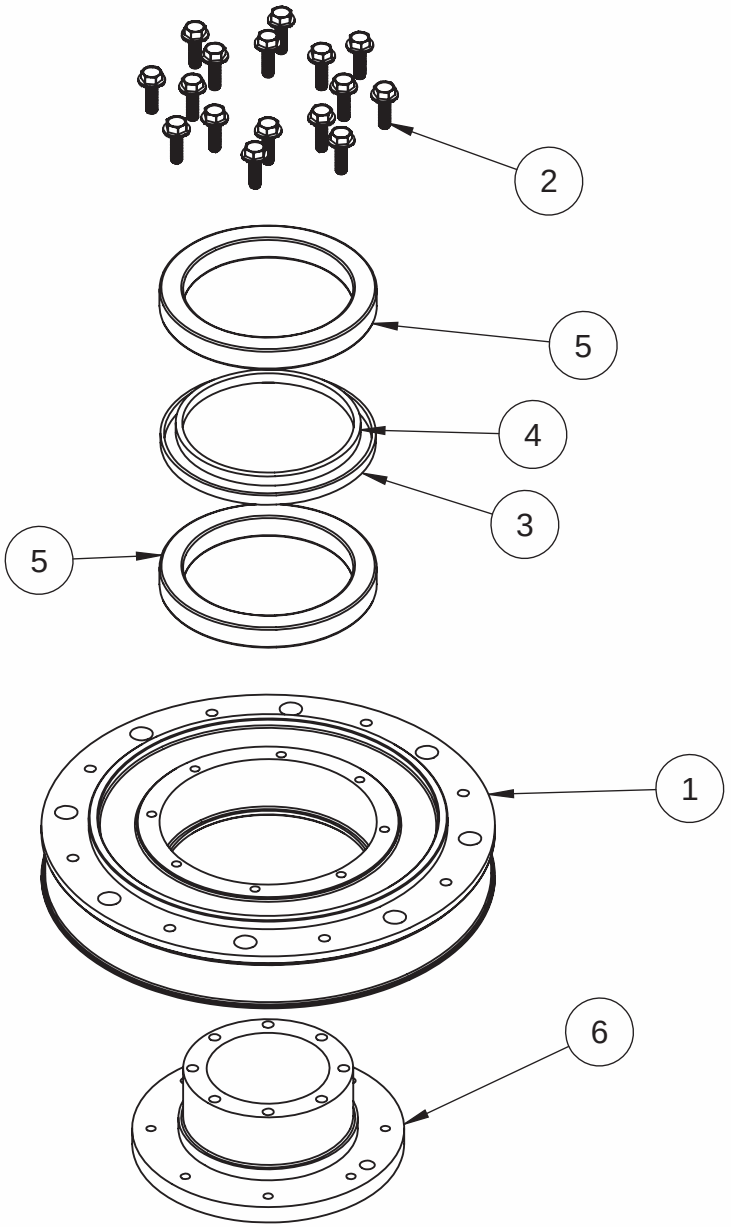
Bottom Drum

SCALE: 1:3	WEIGHT: 36 Kg	SHEET 3 OF 3

Bottom Drum III			
Item No.	**Part No.**	**Description**	**Quantity**
1	**PDG.5A008.00**	**SUBASSEM, PLANETARY**	**3**
2	NB.12.111	SCREW, SOCKET HEAD CAP M6 -1.0 X 16 12.9	18
3	**See Page 20**	**Bottom Drum II**	**1**

Bottom Drum III Supplemental			
1	**PDG.5A008.00**	Butyl Flex is added on the flat face where bolts enter, through the bottom drum.	3
2	NB.12.111	Red LocTite 263	18





PDG 5000

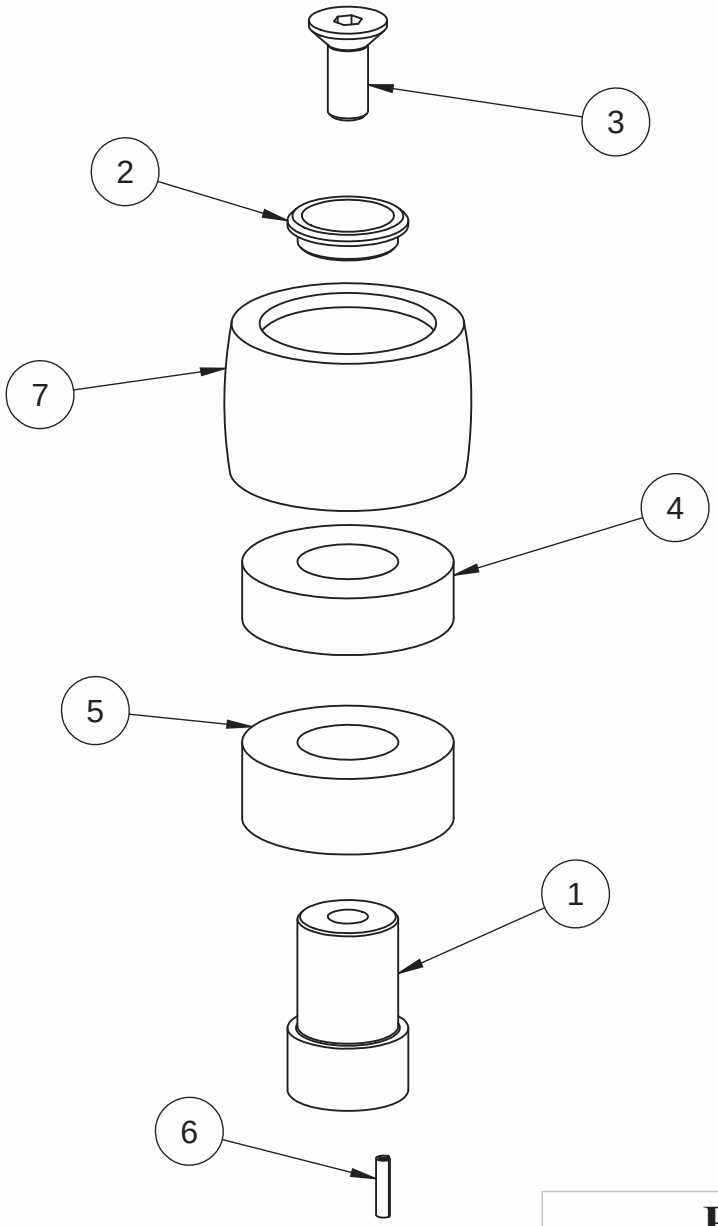
Drum Sheave Assembly

SCALE: 1:4	WEIGHT: 9.5kg	SHEET 1 OF 1

Drum Sheave			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45032.00	SHEAVE, STATIONARY DRUM	1
2	NB.11.110	SCREW, FLANGED HEX HEAD M6 -1.0 X 20 NON	16
3	PDG.45033.00	SPACER, OUTER STAT SHEAVE	1
4	PDG.45034.00	SPACER, INNER STAT SHEAVE	1
5	PDG.20224.00	BEARING, 61818-2RS	2
6	PDG.45031.00	SPINDLE, MAIN DRUM SHEAVE	1

	PDG.4A001.00	**SUBASSEM, DRUM SHEAVE**	**1**

Drum Sheave Supplemental			
2	NB.11.110	Red LocTite 263	16



PDG 5000

Top Idler

SCALE: 2:3	WEIGHT: .212kg	SHEET 1 OF 1

Rev 6
Rev 7

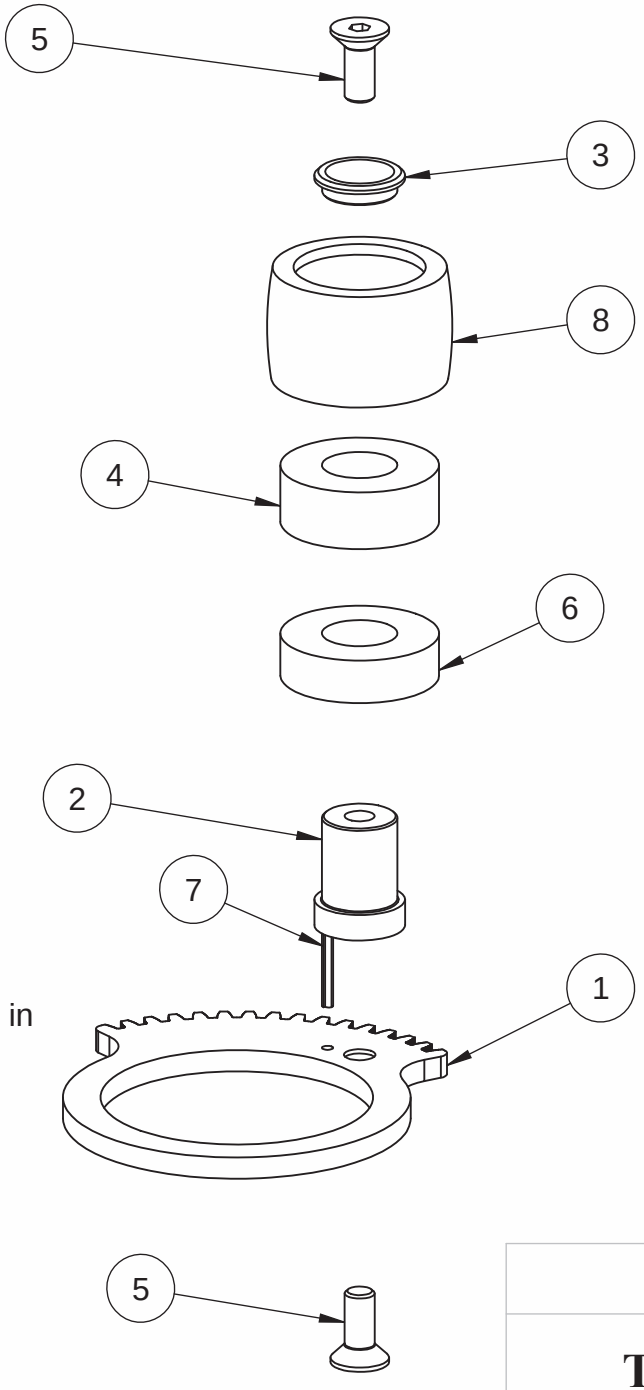
5 4 3 2 1

Top Idler			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45029.00	SPINDLE, TOP IDLER	1
2	PDG.45027.00	CAP, BEARING	1
3	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	1
4	PDG.20278.00	BEARING, 6004-2RS	1
5	PDG.20280.00	BEARING, 63004-2RSJ	1
6	NB.50.145	PIN, SPIRAL M3 X 12	1
7	PDG.45104.00	SHEAVE, TOP TIGHTENER	1

	PDG.4A002.00	**SUBASSEM, TOP IDLER**	**1**

Top Idler Supplemental			
3	NB.13.218	Red LocTite 263	1

Note: There is no amount of pin or screw showing on the bottom in this side view. The bottom must be truely flat.



PDG 5000

Top Tightener

SCALE: 1:2	WEIGHT: .39kg	SHEET 1 OF 1

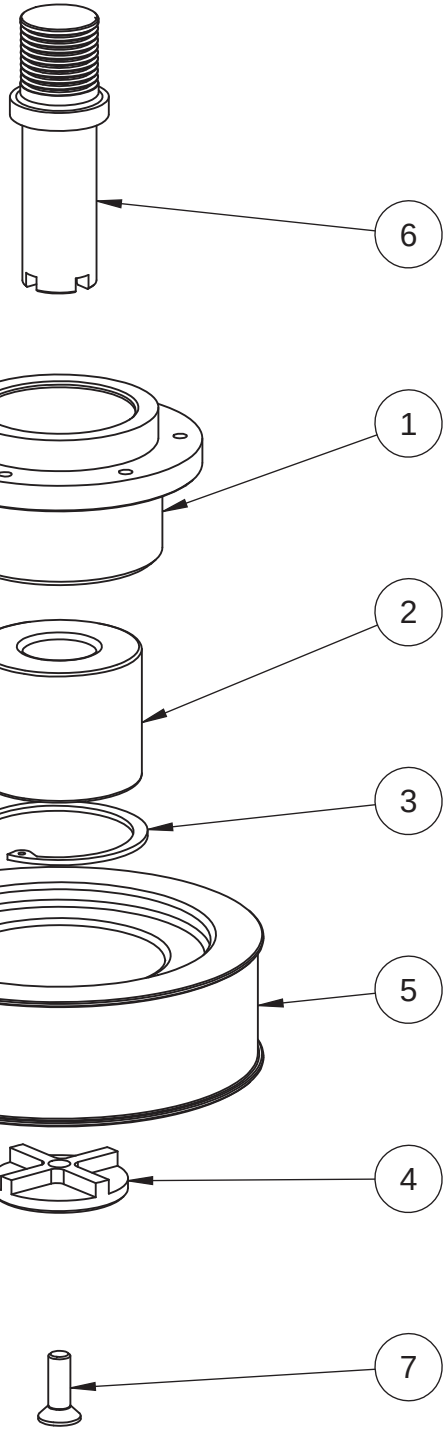
Rev 7

5 4 3 2 1

Top Tightener			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45026.00	GEAR, TOP TIGHTENER	1
2	PDG.45028.00	SPINDLE, TOP TIGHTENER	1
3	PDG.45027.00	CAP, BEARING	1
4	PDG.20280.00	BEARING, 63004-2RSJ	1
5	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	2
6	PDG.20278.00	BEARING, 6004-2RS	1
7	NB.50.145	PIN, SPIRAL M3 X 12	1
8	PDG.45104.00	SHEAVE, TOP TIGHTENER	1

	PDG.4A003.00	**SUBASSEM, TOP TIGHTENER**	**1**

Top Tightener Supplemental			
5	NB.13.218	Red LocTite 263	2
7	NB.50.145	Insert pin into 2 all the way, Careful not to crush either end in the process. Then 2&7 into 1. fasten bottom screw, fasten top screw.	1



PDG 5000

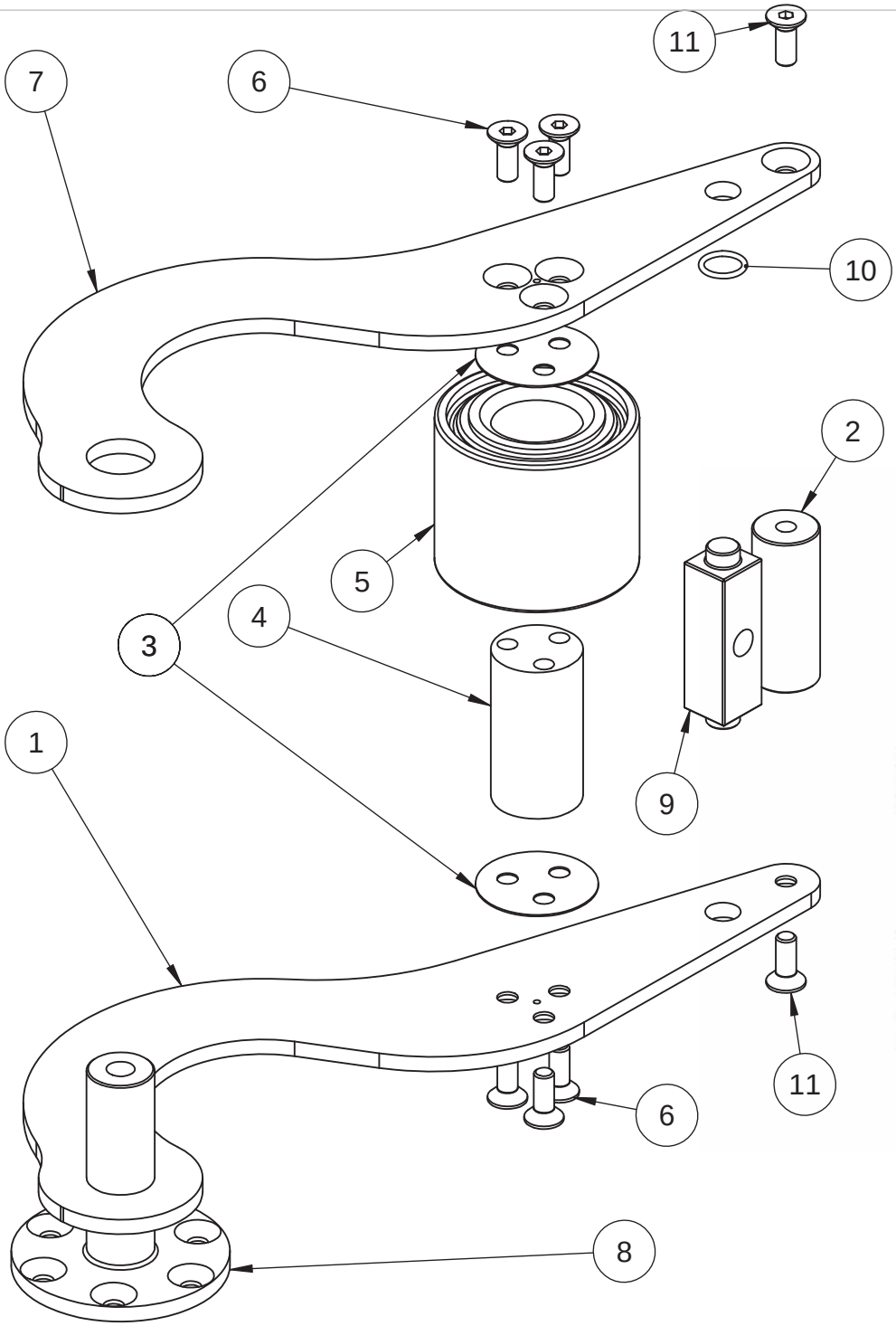
PTO Assembly

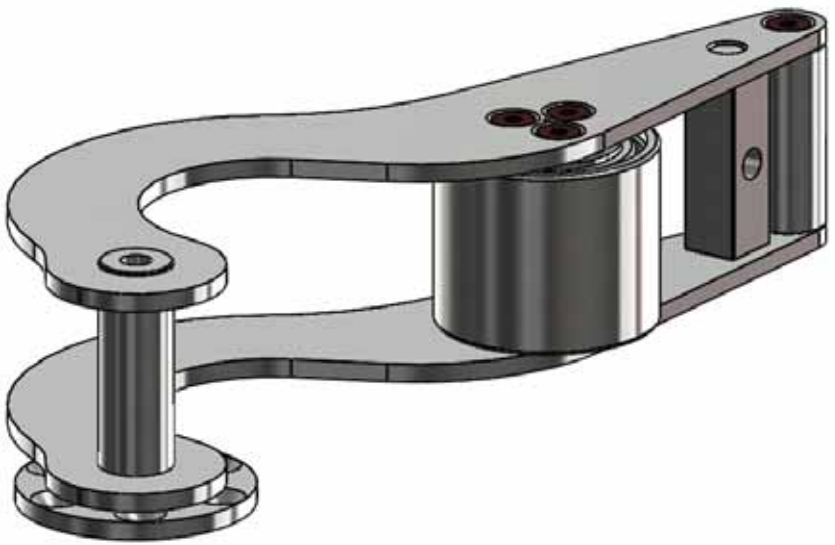
SCALE: 1:5	WEIGHT: 4.0kg	SHEET 1 OF 1

Power Take Off (PTO)			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45003.00	HOUSE, PLANETARY BEARING	1
2	PDG.20248.00	BEARING, 513071-2RS	1
3	NB.40.123	RING, INTERNAL RETAINING M60	1
4	PDG.50004.00	RETAINER, SHEAVE STEEL	1
5	PDG.50023.00	SHEAVE, PTO STEEL	1
6	PDG.45025.00	AXLE, PTO	1
7	NB.13.222	SCREW, FLAT HEAD SOCKET M8 -1.25 X 25 ZINC	1

	PDG.4A004.00	**SUBASSEM, PTO**	**1**

Power Take Off (PTO)			
7	NB.13.222	Red LocTite 263, Torque 35 Ft-Lbf	1





PDG 5000

Main Tightener

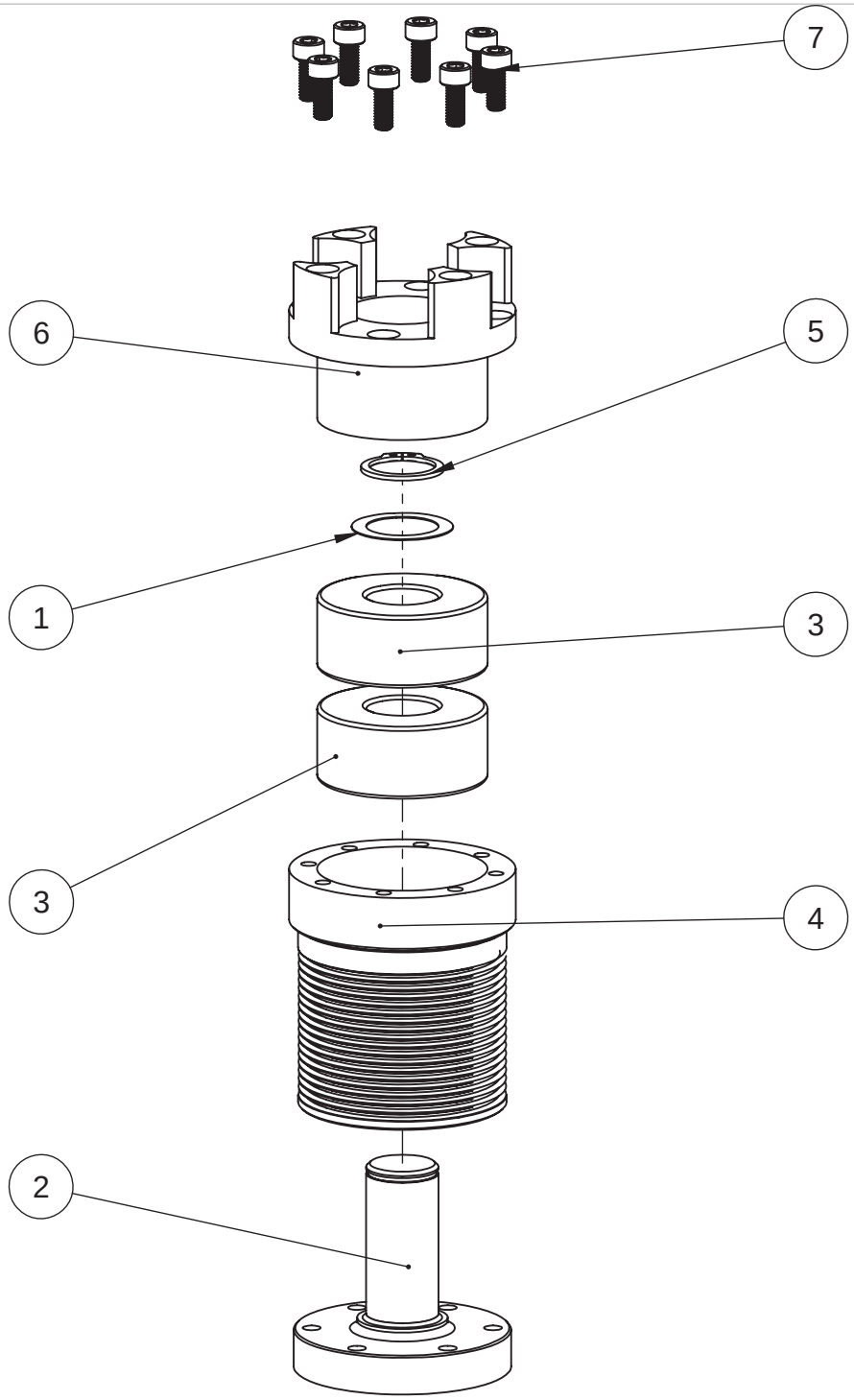
SCALE: 1:4 | WEIGHT: | SHEET 2 OF 2

5 4 3 2 1

Main Tightener			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45010.00	PLATE, BTM TIGHTENER	1
2	PDG.45013.00	STANCION, TIGHTENER	1
3	PDG.45015.00	SPACER, BEARING	2
4	PDG.45014.00	SPINDLE, TIGHTENER BEARING	1
5	PDG.20248.00	BEARING, 513071-2RS	1
6	NB.13.116	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 20	6
7	PDG.45011.00	PLATE, TOP TIGHTENER	1
8	PDG.45012.00	POST, TIGHTENER PIVOT	1
9	PDG.45020.25	GRUDEGEON, TENSIONER	1
10	PDG.45080.00	O-RING, TIGHTENER DASH013	1
11	NB.13.115	SCREW, FLAT HEAD SOCKET M6 -1.0 X 16	2

	PDG.4A005.00	**SUBASSEM, MAIN TIGHTENER**	**1**

Main Tightener Supplemental			
6	NB.13.116	Red LocTite 263	6
10	PDG.45080.00	This is easy to lose.	1
11	NB.13.115	Red LocTite 263	2



PDG 5000

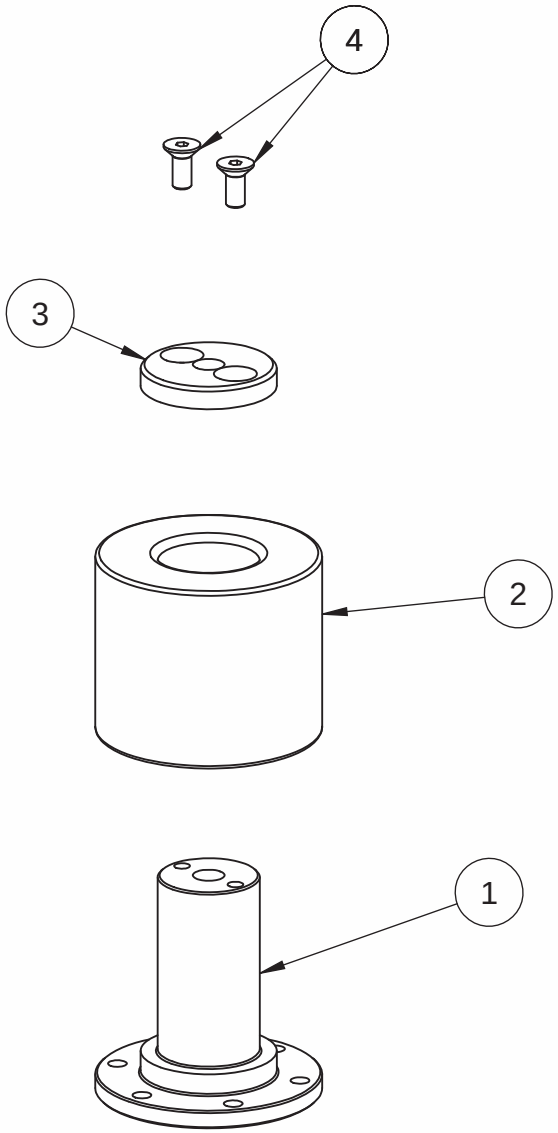
Main Belt Drive

SCALE: 1:4	WEIGHT: 1.59kg	SHEET 2 OF 2

Main Belt Drive			
Item No.	**Part No.**	**Description**	**Quantity**
1	NB.30.122	WASHER, SPRING M30.5 X 46.5 X 6	1
2	PDG.45008.00	SPINDLE, MAIN DRIVE	1
3	PDG.20220.00	BEARING, 3204-2RS	2
4	PDG.45007.00	SHEAVE, MAIN DRIVE	1
5	NB.40.104	RING, EXTERNAL RETAINING M20	1
6	PDG.45009.00	COUPLER, DRIVEN MOTOR	1
7	NB.12.090	SCREW, SOCKET HEAD CAP M5 -0.8 X 16	8

	PDG.4A006.00	**SUBASSEM, MAIN BELT SPINDLE**	**1**

Main Belt Drive Supplemental			
3	PDG.20220.00	3 into 4 outter race press, 3 over 2 inner race press.	2
7	NB.12.090	Red LocTite 263	8



PDG 5000

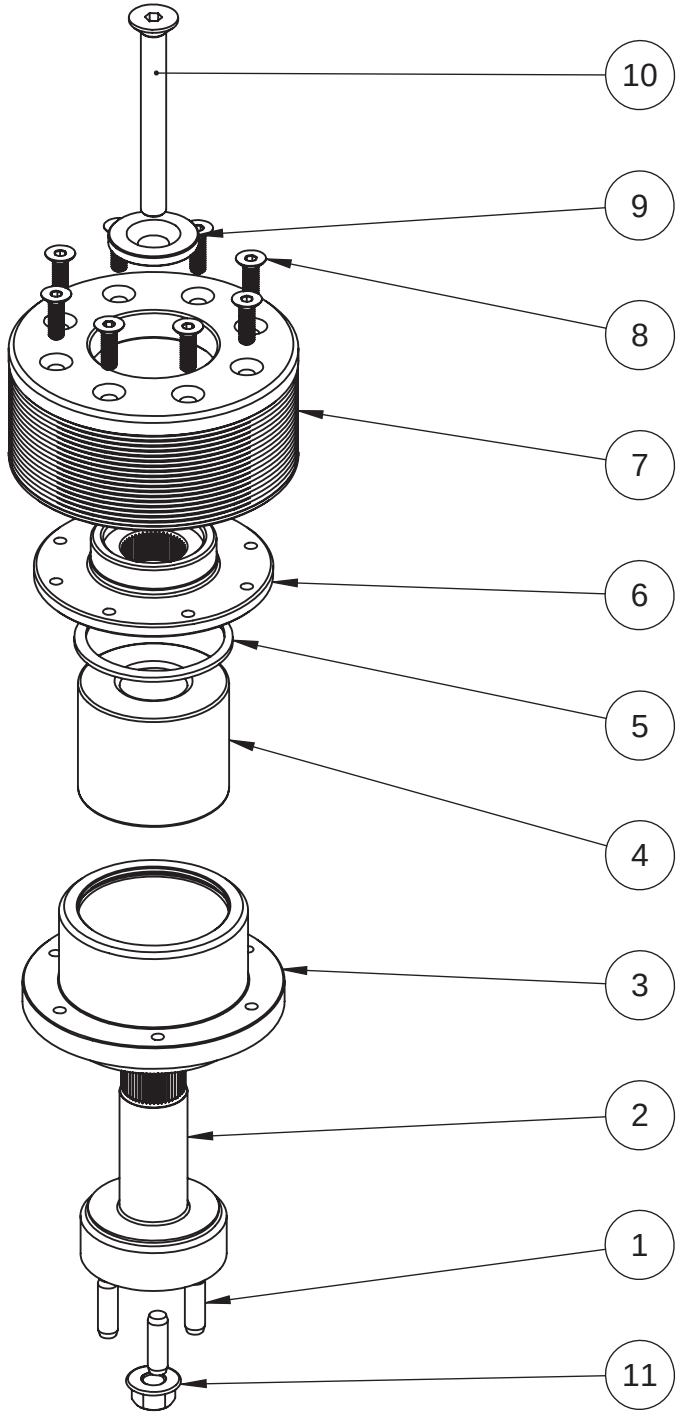
Main Idler

SCALE: 1:2 | WEIGHT: 1.25kg | SHEET 1 OF 1

Main Idler			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.45005.00	SPINDLE, MAIN IDLER	1
2	PDG.20248.00	BEARING, 513071-2RS	1
3	PDG.45006.00	RETAINER, IDLER BEARING	1
4	NB.13.119	SCREW, FLAT HEAD SOCKET CAP M5-0.8 X 16	2

	PDG.4A007.00	**SUBASSEM, MAIN IDLER**	**1**

Main Idler Suplemental			
4	NB.13.119	Red LocTite 263	2



PDG 5000

Planetary

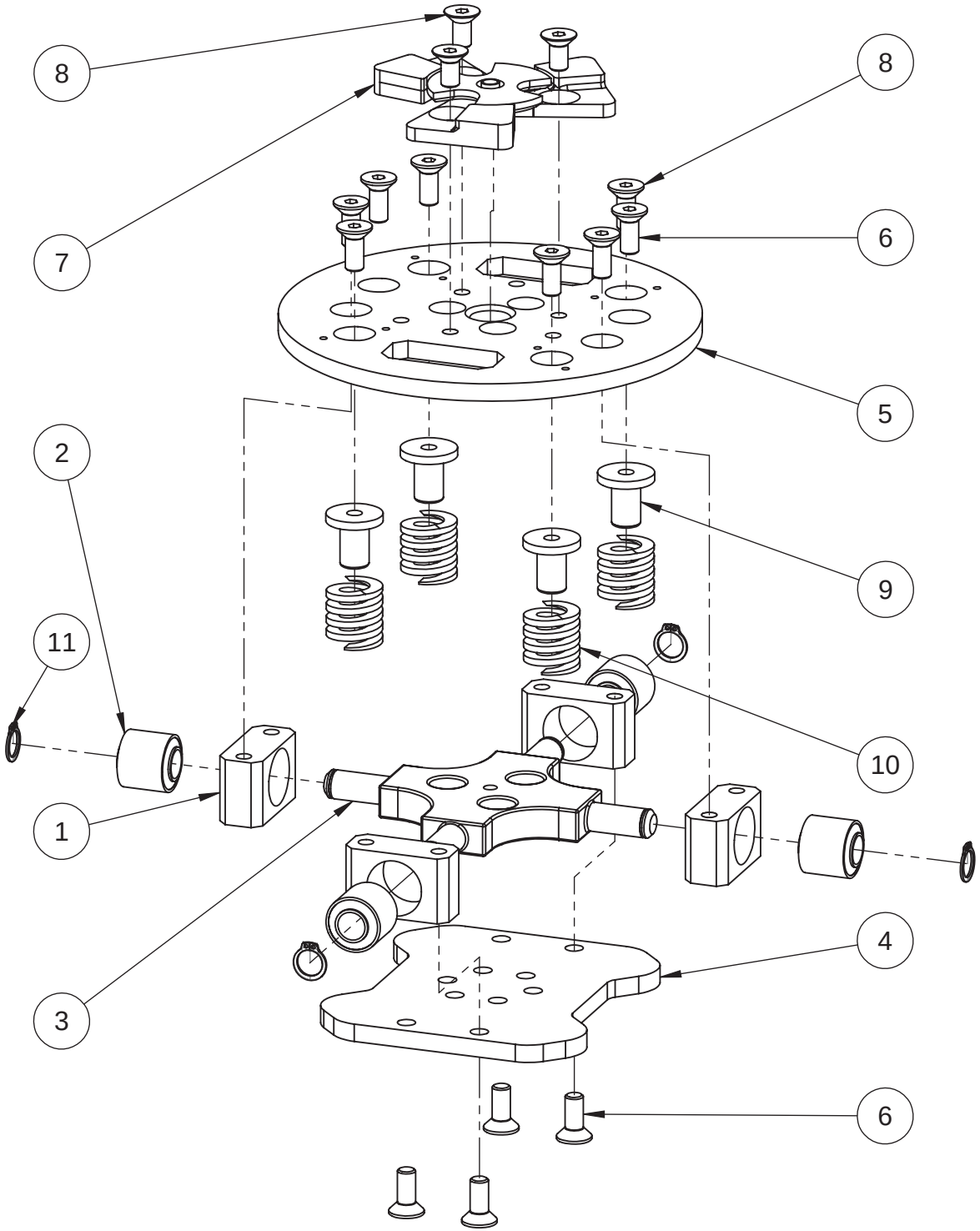
SCALE: 1:8	WEIGHT:	SHEET 1 OF 1

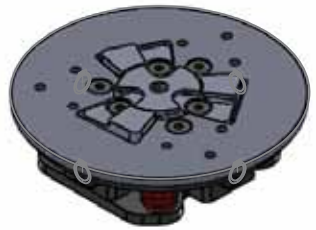
5 4 3 2 1

Planetary			
Item No.	**Part No.**	**Description**	**Quantity**
1	NB.50.143	PIN, HARDENED M8 X 26	3
2	PDG.50001.00	AXLE, PLANETARY	1
3	PDG.45003.00	HOUSE, PLANETARY BEARING	1
4	PDG.20248.00	BEARING, 513071-2RS	1
5	NB.40.123	RING, INTERNAL RETAINING M60	1
6	PDG.50001.50	ROTOR, SPINDLE	1
7	PDG.50002.00	SHEAVE, PLANETARY	1
8	NB.13.116	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 20	8
9	PDG.50003.00	WASHER, SPINDLE TOP	1
10	NB.13.253	SCREW, SOCKET FLAT HEAD CAP M10-1. X 90	1
11	NB.20.122	NUT, HEX FLANGE M10-1.5	1

	PDG.5A008.00	**SUBASSEM, PLANETARY**	**3**

Planetary Supplemental			
8	NB.13.116	Red LocTite 263	8
10	NB.13.253	Red LocTite 263, at tip.	1
11	NB.20.122	Tighten to 40 ft-lbf, with #10 captured.	1





PDG 5000

Flex Head

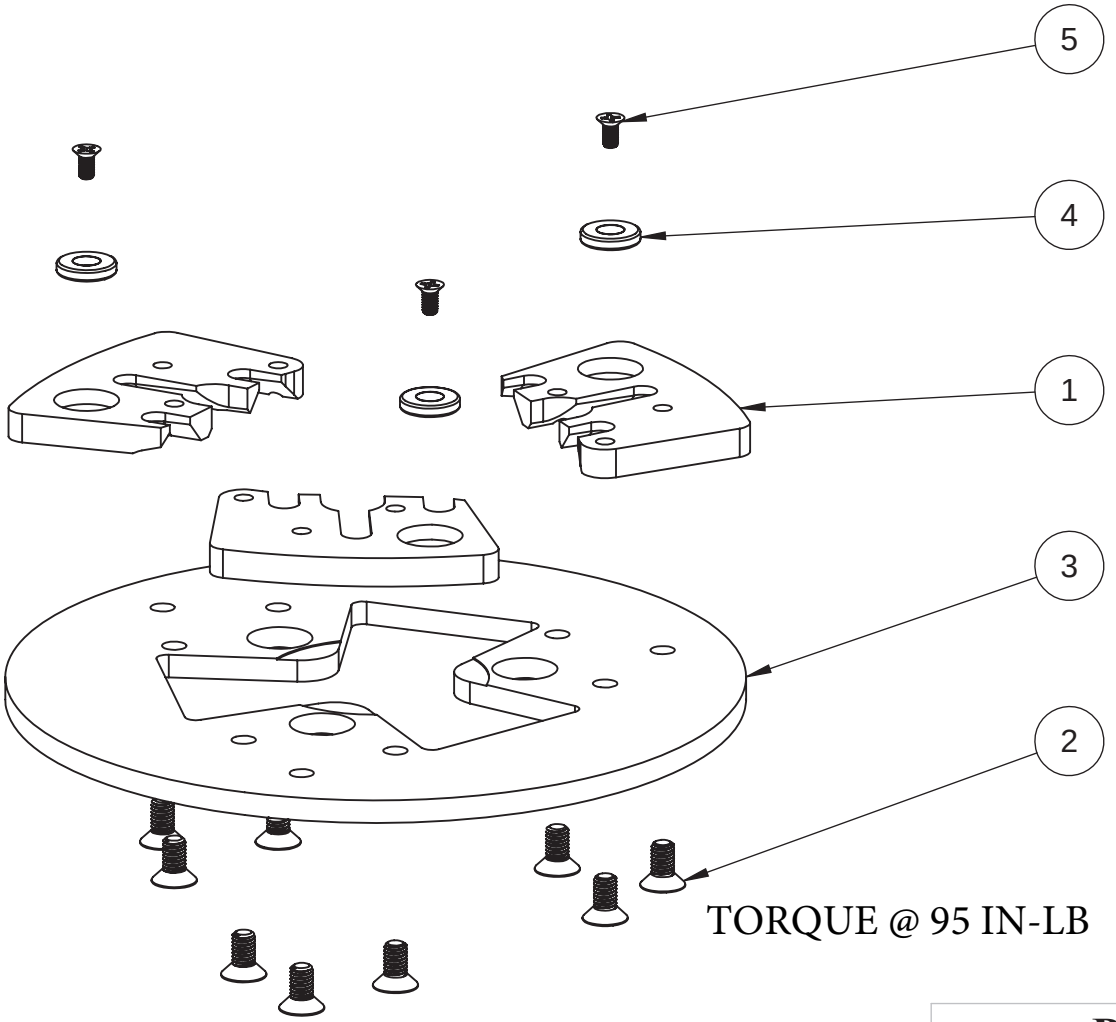
SCALE: 1:10	WEIGHT: 3.81	SHEET 1 OF 1

5 4 3 2 1

Flex Head			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.20103.00	YOKE, SUSPENSION	4
2	PDG.20109.00	BUSHING, YOKE	4
3	PDG.20102.01	ELEMENT, CENTER STUDDED	1
4	PDG.20100.50	PLATE, DRIVING	1
5	PDG.20101.01	PLATE, DRIVEN	1
6	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	8
7	PDG.20104.25	LOCK, SHAMROCK PLATE ASSEM	1
8	NB.13.216	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 16 ZINC	7
9	PDG.20106.25	POST, SPRING	4
10	PDG.20106.53	SPRING, DIE GREEN	4
11	NB.40.113	RING, EXTERNAL 1/2"	4

PDG.5000.90	**FLEX HEAD, COMPLETE**	**1**

Flex Head Supplemental			
6	NB.13.218	Red LocTite 263	8
8	NB.13.216	Red LocTite 263	7



TORQUE @ 95 IN-LB

PDG 5000

Tooling Plate

SCALE: 1:5	WEIGHT:	SHEET 1 OF 1

5 4 3 2 1

Tooling Plates			
Item No.	**Part No.**	**Description**	**Quantity**
1	HOL.904134	QCS METAL BOND ADAPTERS	3
2	NB.13.118	SCREW, FLAT HEAD SOCKET CAP M6 X 16	9
3	PDG.50015.00	PLATE, TOOLING PDG5K	1
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

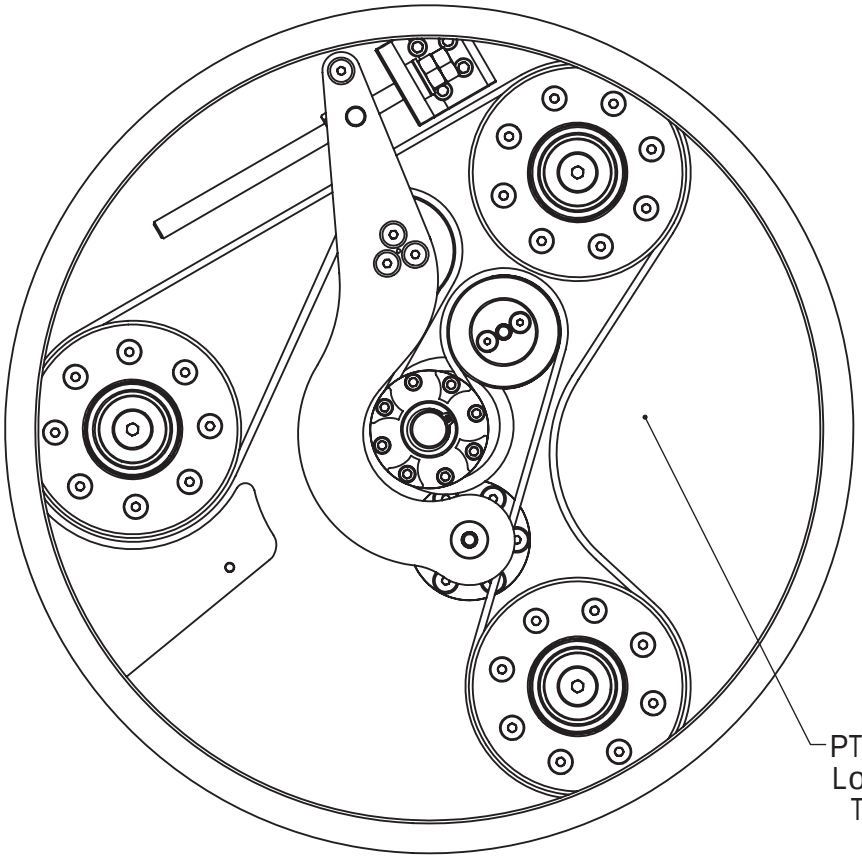
Tooling Plates Supplemental			
5	NB.13.110	Green LocTite 609	3
2	NB.13.118	Red LocTite 263	9

BELT TENSIONS

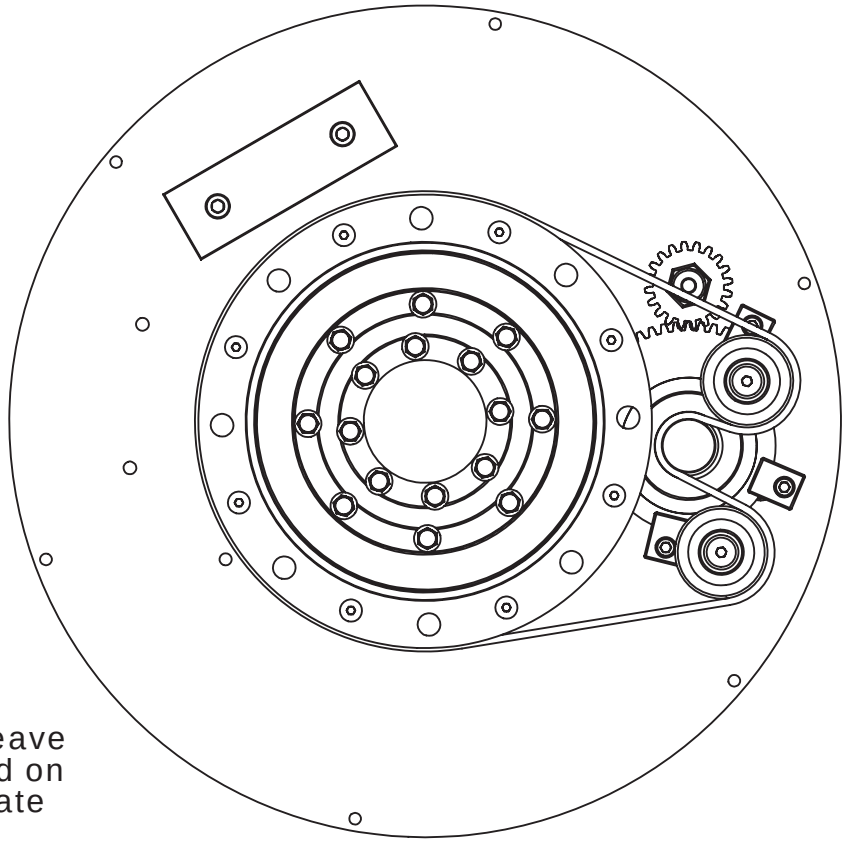
132 ±12 Hz

245 ±22 Hz
or 12-15 ft/lb

MAIN BELT



TOP BELT



PDG 5000		
Belt Paths		
SCALE: 1:1	WEIGHT: 61.77kg	SHEET 1 OF 1

5 4 3 2 1

7.2 List of fault or alarm indications

Operation Panel Indication			Name
Error message	E - - -	E--	Faults history
	HOLd	HOLD	Operation panel lock
	Er 1 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
	rH	TH	Electronic thermal relay function prealarm
	PS	PS	PU stop
	nr	MT	Maintenance signal output
	Uu	UV	Undervoltage
Alarm	Fn	FN	Fan fault
Fault	E.OC 1	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.Ou 1	E.OV1	Regenerative overvoltage trip during acceleration
	E.Ou2	E.OV2	Regenerative overvoltage trip during constant speed
	E.Ou3	E.OV3	Regenerative overvoltage trip during deceleration or stop
	E.THr	E.THT	Inverter overload trip (electronic thermal relay function)
	E.THn	E.THM	Motor overload trip(electronic thermal relay function)
	E.Fin	E.FIN	Fin overheat

Operation Panel Indication			Name
Fault	E.ILF	E.ILF *	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 protectionat 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.IOH	E.IOH *	Inrush current limit circuit fault
	E.AIE	E.AIE *	Analog input fault
	E.USb	E. USB *	USB communication fault
	E.nb4 to E.nb7	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**	**DERSCRIPTION**
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

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 ware 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

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 of Declaration and Conformity:

(Applies to Europe only)

SASE Planetary Diamond Grinders

PDG 4500 230 volt 50/60 HZ single phase 8464.20.0120
PDG 6000 460 volt 50/60 HZ three phase 8464.20.0120
PDG 6000 380 volt 50/60 HZ three phase 8464.20.0120
PDG 6000 230 volt 50/60 HZ three phase 8464.20.0120
PDG 8000 230 volt 50/60 HZ three phase 8464.20.0120
PDG 8000 380 volt 50/60 HZ three phase 8464.20.0120
PDG 8000 460 volt 50/60 HZ three phase 8464.20.0120

SASE Company hereby certifies that the above listed Planetary Diamond Grinders are classified within the following EU directives of conformity for CE markings:

EU Machinery directive 2006/42/EC
EU Low voltage directive 2006/95/EC
EU Electromagnetic compatibility directive 2004/108/EC

and further conform with the following EU Harmonized Standards:

EN 60745-2-3:2007 EN 60204-1:2006 + A1:2009
EN 6100-6-3:2007 EN 61000-6-1:2007