PDG 8000 Manual

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380V Version: 8K02R39
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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.

Jim Weder

President

Table of Contents

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.

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.

IMPORTANT

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

Mechanical Action of Moving Machine Parts

Several parts of this machine are understood to be dangerous.

The Grind Head has a rotation and a counter rotation, keep body parts clear of the moving grinder head.

The handle is heavy. Failure to lock the handle in place can result in operator injury.

During operation, the machine has a twisting force. If you lose control of the machine, it will walk away without you. The operator has to maintain control of the machine. The machine moving freely can damage finished floor sections, or wall sections. Not to mention anyone caught by the grind head could be seriously injured.

Preventative Maintenance

Preventing the hazard is the best case scenario. Preventative Maintenance (PM) is the responsibility of the operator.

- Check and clean air filter regularly(200 operating hours)
- Keep a Log Book for all service done.
- Be sure that adequate vacuum system is in use.
- Be aware of changes in operation, smell, noise, etc. while operating
- Report to management ANY safety concerns.
- Follow manufacturer recommendations for all motor maintenance.

Storage

The machine should always be stored in a cool, dry location. Moisture may upset fragile electrical components.

Break-Down

The machine can be divided into two main parts.

1. Chassis/Frame section – This comprises the handle bars, body panels, Propane tank, Steel frame and wheels.
2. Drum/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. 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.

Set-Up

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

IMPORTANT

Planetary head and grinding heads are set to turn in opposite directions of each other.(as shown in this depiction)

- **When using the machine, each grinding head must always have the same diamond type and number of diamonds as the other heads.**
- Each diamond must also be the same height as the next.
- The Rubber skirt must be adjusted so that a good seal is established, between the floor and the drum.

When setting the height of the handle, the operator is the guide. The comfort of the operator during grinding is key. The handlebar should rest right at the operator’s hip bone. When the machine is running, there will be a grinding force to one side that can be felt through the handlebars. Use the hip to resist this force instead of the arms.

Control Panel

The control panel consists of a number of buttons, giving 6 separate controls.

E- Stop - Brings the rotation to an abrupt halt, only in case of emergency. Excessive use will increase motor wear. Also, must be released(Gently twist clockwise)

Potentiometer - Controls the speed of rotation and counter rotation simultaneously. Range: Low 1 to High 10

FWD - Starts the rotation of the drum in the 'forward' direction. Will not work if inverter is in fault or if the E-Stop is pressed down.

REV - Starts the rotation of the drum in the 'reverse' direction. Will not work if inverter is in fault or if the E-Stop is pressed down.

Stop - Brings the rotation to a gentle halt.

Reset - Reset the inverter, in case of fault. (takes a few seconds)

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).

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, you can unplug the power cord.

Change

1. Set handle in upright position, set the swing weights in the rear position.
2. Pull back on handle to lift grinding head off the ground (Above Top).
3. Lay machine back on the ground
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.

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.

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 to not follow the surface of the floor. If the floor is wavy the machine will grind the high areas yet miss the low spots. The full-set diamond configuration should be used when a very flat floor finish is desired.

Personal Safety

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

Hearing protection

Dust Mask

Protective goggles

Non-slip boots with steel toe

Protective gloves

WARNING

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

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

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.

Reminder

- Always check electrical source before starting.
- 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.
- 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 the unit is OFF. Press the Stop button and when the machine is completely stopped, press the emergency stop button. Disconnect the power cord, to add protection.
- 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.

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 maximum protection is given to the drive.

When transporting, it is important to ensure the machinery is properly secured at all times to eliminate "bouncing". 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 extreme damage to grinding heads of machine and internal parts.

IMPORTANT

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.

Speed

The grinding speed should start low and increase as the operator becomes more comfortable with the application. Be sure that the RPM's do not exceed 2000 when starting and stopping the drum rotation. The machine should be running and the drum rotating before speed selection is fine tuned.

Safety Hazards

Before using the equipment, inspect electrical lines, and connections. Make sure the machine is in good working order. Electrical shock from a split wire could be fatal.

- 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.
- Do 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.

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.

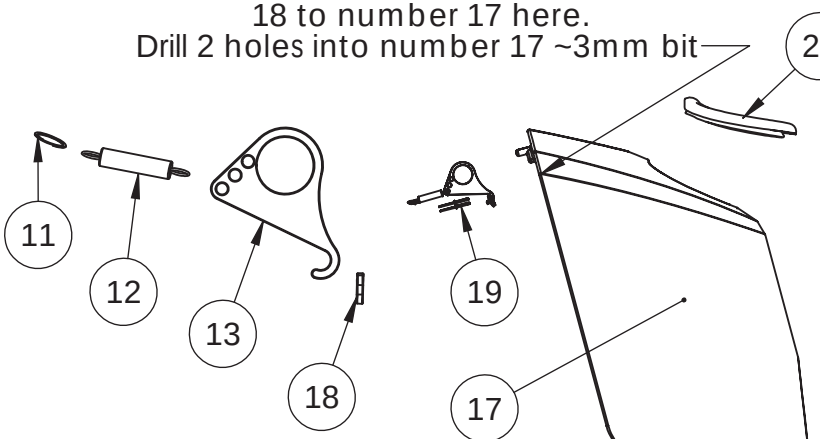
Orange Series
Soft to Very Soft Concrete
Very hard bonded diamonds for grinding soft to very soft concrete floors.

Torque Conversion Chart

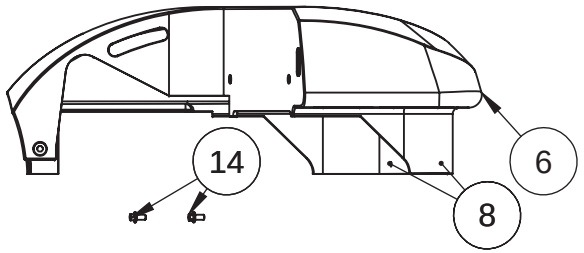
1 ft.-lbs. = 1.3556 N.-m.

35	ft-lb	=	47.5	N-m
40	ft-lb	=	54.2	N-m
60	ft-lb	=	81.3	N-m
80	ft-lb	=	108.5	N-m

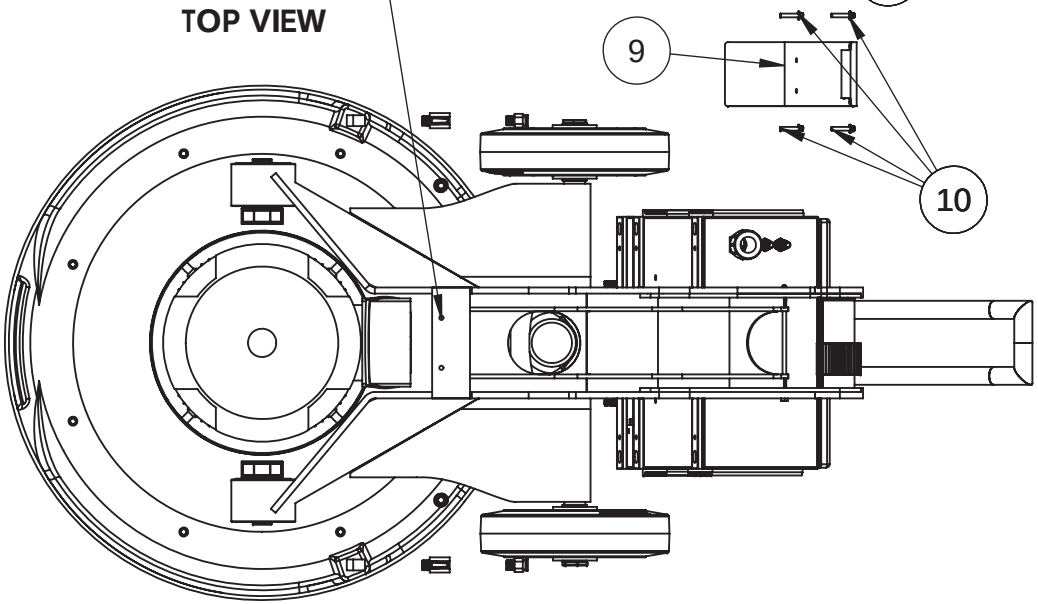
Number 19 attaches number
18 to number 17 here.
Drill 2 holes into number 17 ~3mm bit



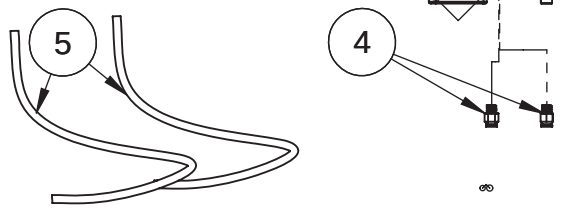
Number 15 and 16 attach
number 6 / 7 to
the frame here

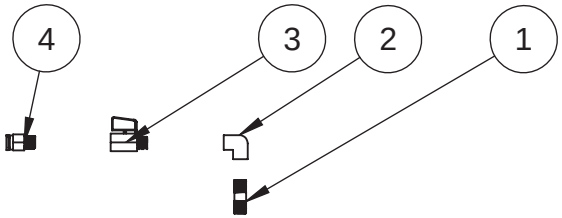


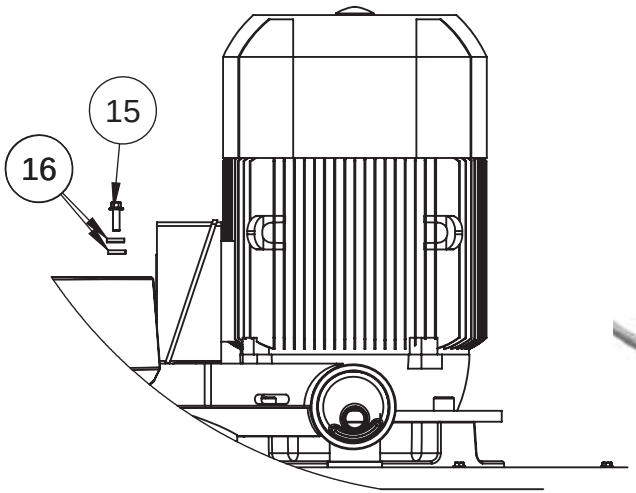
TOP VIEW

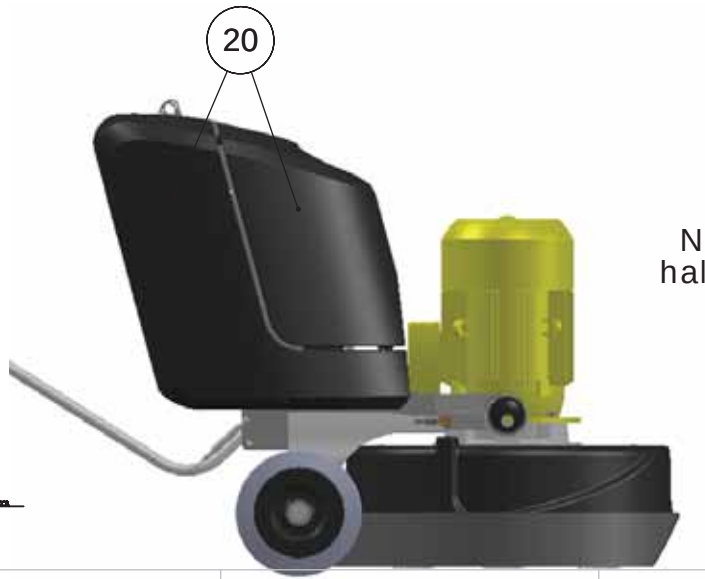


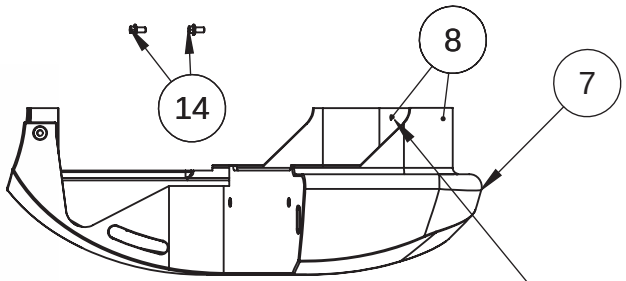
SIDE VIEW











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

5 4 3 2 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.11.110	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 20 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.11.110	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 MMYY0350 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

5 4 3 2 1

Testing Stage			
Item No.	**Part No.**	**Description**	**Quantity**
1	**See Page 19**	**Frame with-out Drum Assembled**	**1**
2	**See Page 17**	**Motor On Drum Assembled**	**1**
3	NB.10.121	SCREW, HEX METAXENTRIC 1"-8 X 4" MODIFIED	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

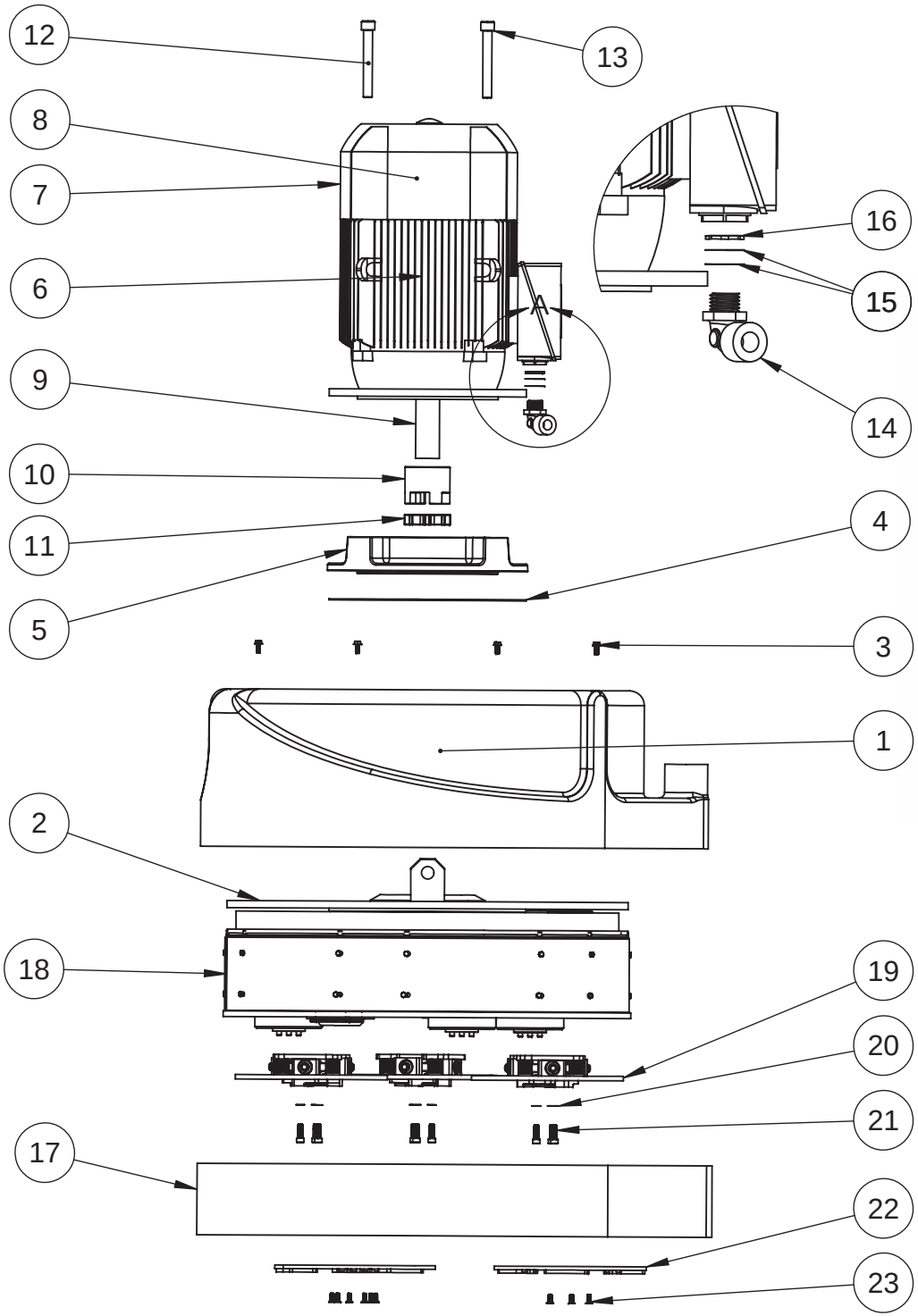
Testing Stage Supplement			
3	NB.10.121	Red LocTite 263, Torque 100 Ft-Lb	2

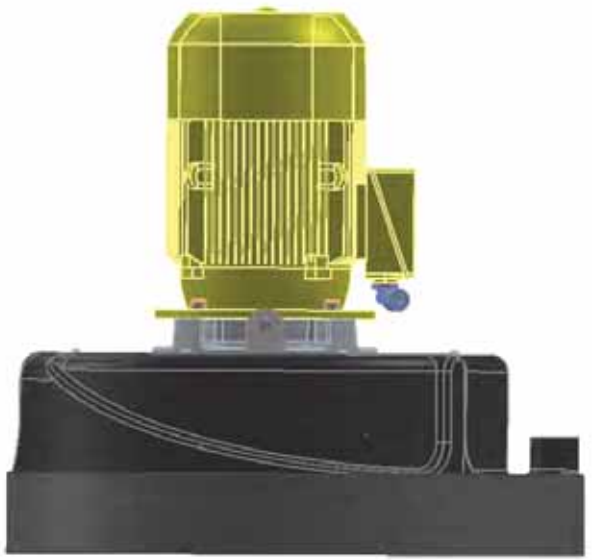
LIGHT KIT			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.80181.00	LIGHT, WITH HARNESS	1
2	PDG.80180.01	BRACKET, LIGHT KIT	1
3	NB.20.113	NUT, HEX 12-1.75	2
4	NB.12.232	SCREW, SOCKET HEAD CAP M12-1.75	2
5	NB.30.130	WASHER, LOCK M12 ZINC	2
6	NB.10.219	SCREW, M8 X 20 ZINC	1
7	NB.52.205	CLAMP, ALUMINUM SNUG-FIT 3/8"	1
8	NB.20.153	NUT, NYLON INSERT M5 - 0.8 ZINC	4

PDG.8A227.00	LIGHT KIT, LED	1

Siemens motor uses the following components:

PDG.80181.00	LIGHT, WITH HARNESS	1
PDG.80180.00	BRACKET, LIGHT KIT	1
NB.20.122	NUT, HEX FLANGE M10-1.5	2
NB.12.236	SCREW, SOCKET HEAD CAP M10-1.5	2
NB.30.120	WASHER, LOCK M10 ZINC	2
NB.16.116	SCREW, BUTTON HEAD M5 X 12 ZINC	1
NB.52.205	CLAMP, ALUMINUM SNUG-FIT 3/8"	1
NB.20.153	NUT, NYLON INSERT M5 - 0.8 ZINC	4





PDG 8000

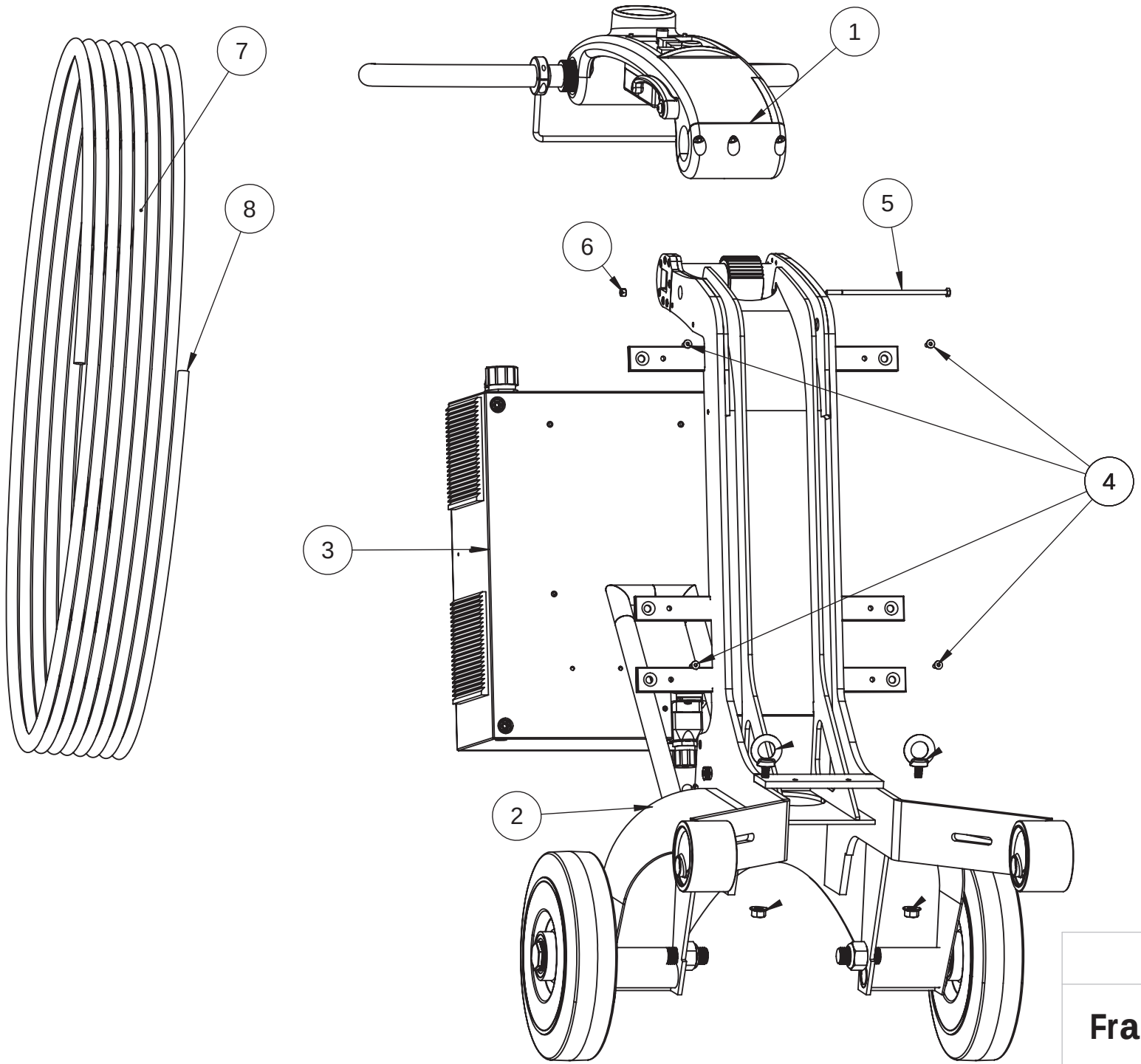
Motor On Drum

SCALE: 1:6	WEIGHT:	SHEET 1 OF 1

5 4 3 2 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.80107.03	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	**PDG.80210.01**	**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



PDG 8000

Frame without Drum

SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

5 4 3 2 1

Frame W/O Drum			
Item No.	**Part No.**	**Description**	**Qty.**
1	**See Page 21**	**Handle Assembly**	**1**
2	**See Page 25**	**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

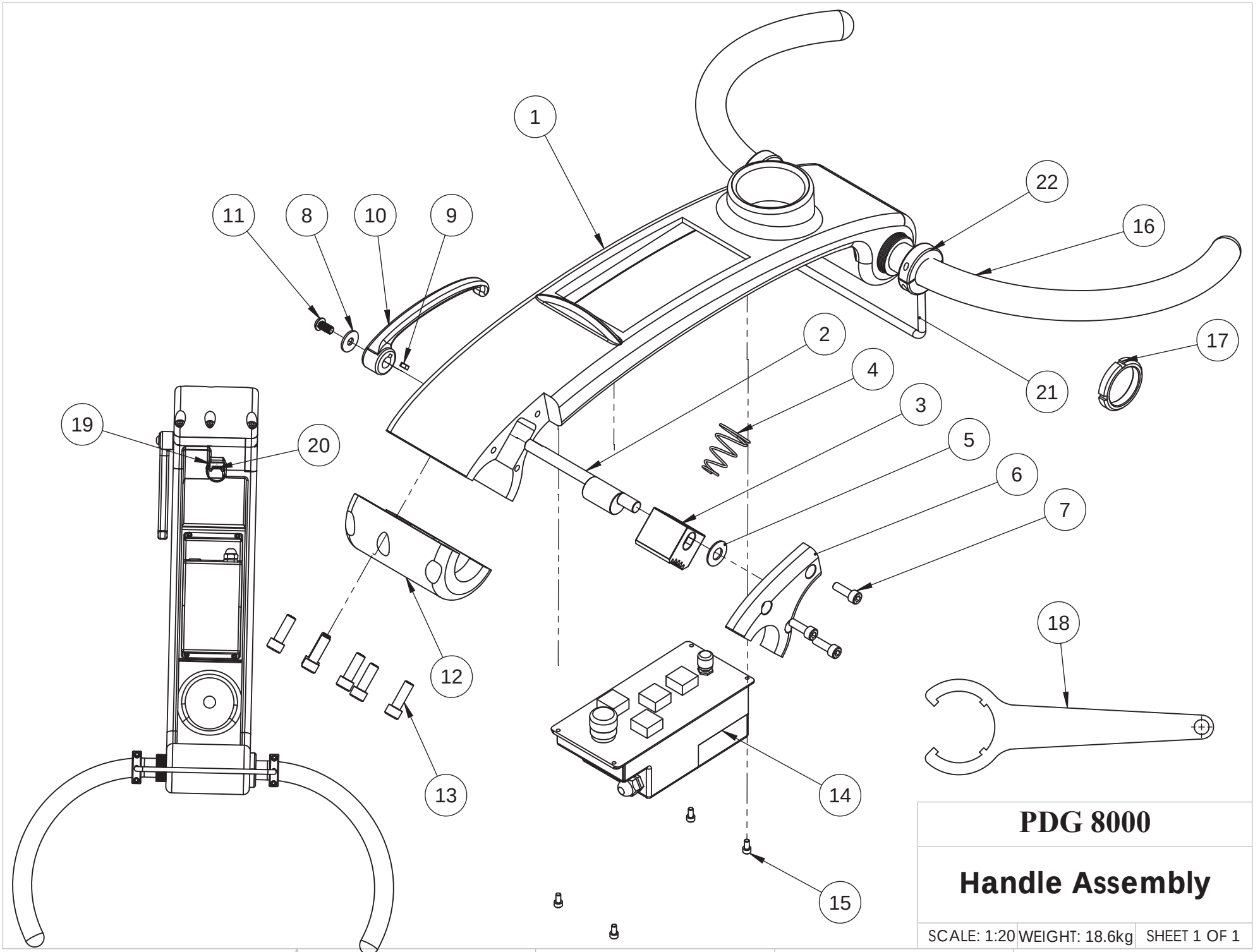
Low Voltage Option			
3	PDG.80194.00	DRIVE, WITH ENCLOSURE E-SC SERIES 20HP 230V W/LEAD	1
7	AIW.6X4.CORD	CORD, POWER 6/4(Not Shown)	60ft
8	SAS.CS8364	TWISTLOCK 50A 250V 3P MALE(Not Shown)	1

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.**			
9	PDG.20239.00	FILTER, INLET FINE ELECTRICAL BOX (Part of Inverter)	0
10	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

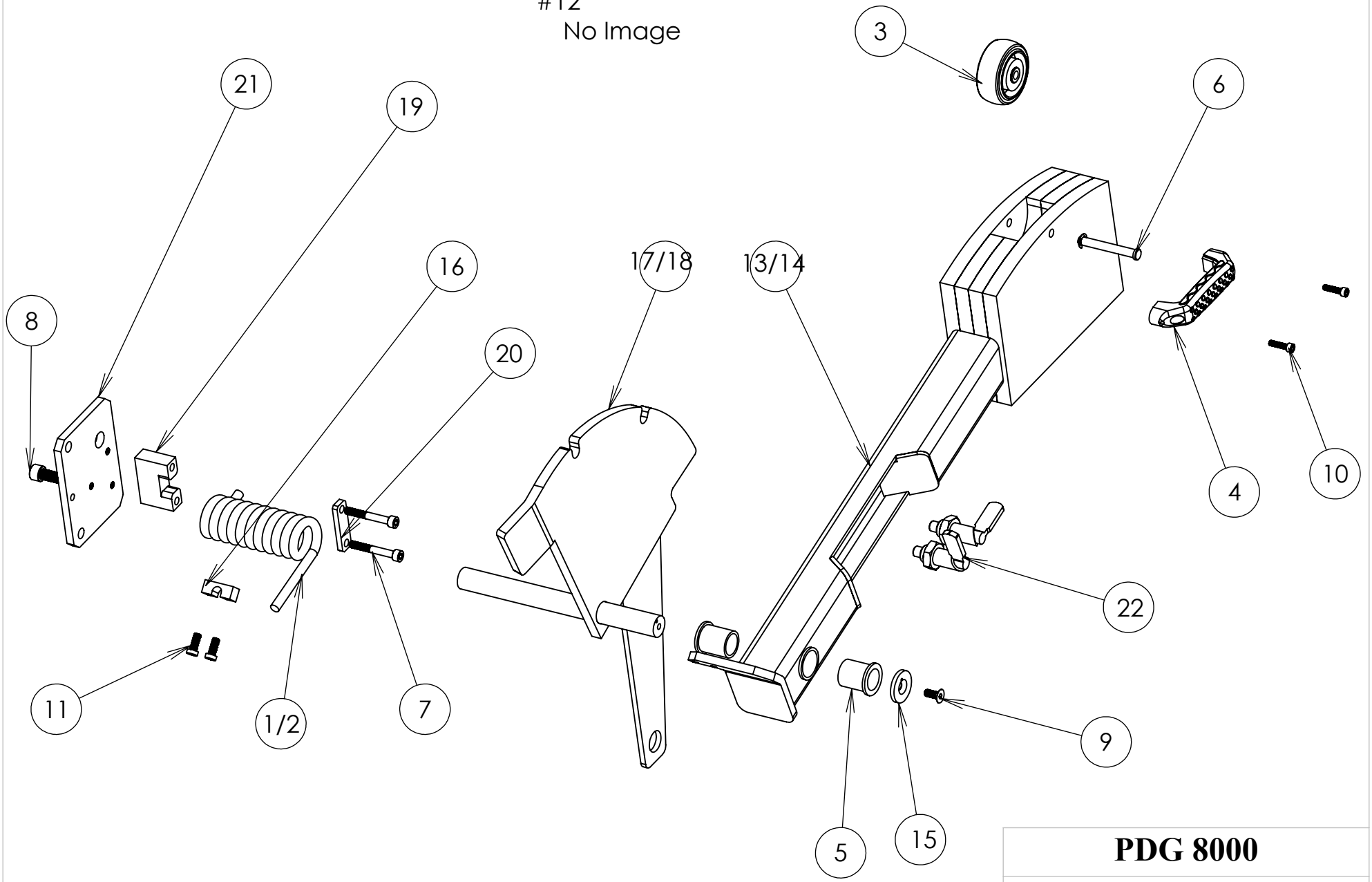
SCALE: 1:20 | WEIGHT: 18.6kg | SHEET 1 OF 1

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			
2 / 3	PDG.20228.00	P.T.F.E. "Dry Lube" is used along contact points.	1
7	NB.12.219	Red LocTite 262	3
11	NB.16.119	Red LocTite 262	1
13	NB.12.235	Blue LocTite 243, Torque 45 ft*lb	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

#12
No Image



PDG 8000

ELECTRIC SWING WEIGHT

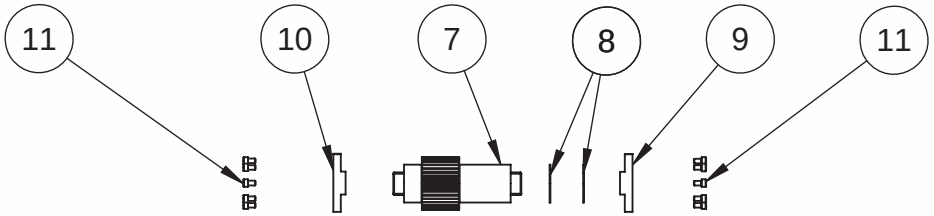
SCALE: 1:6 | WEIGHT: | SHEET 2 OF 2

5 4 3 2 1

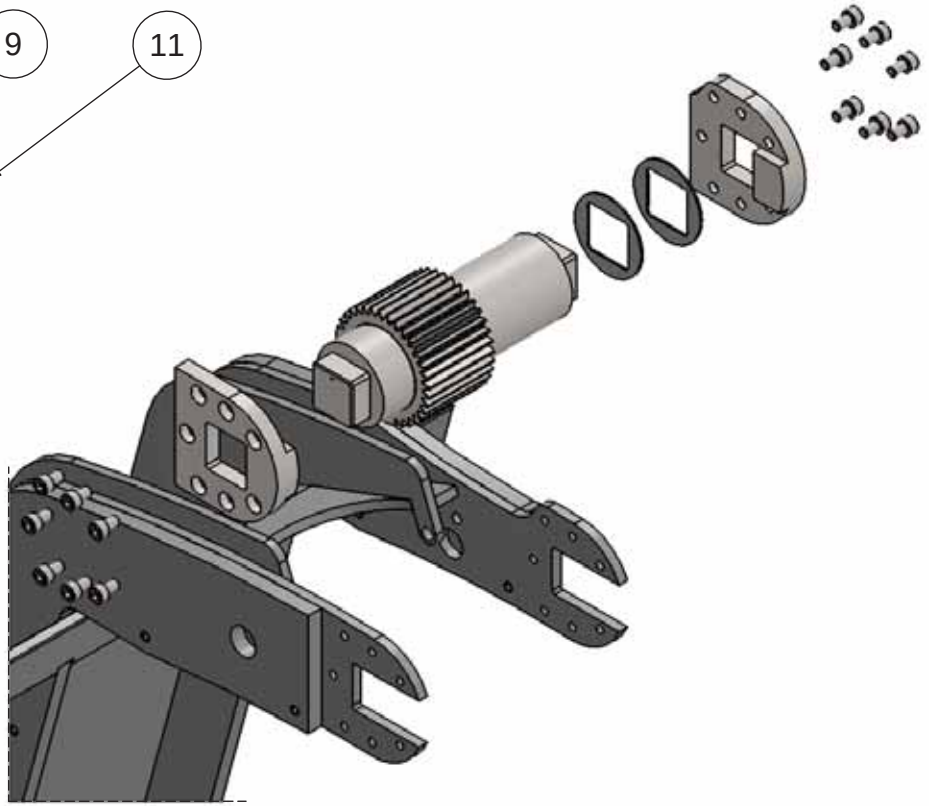
ELECTRIC SWING WEIGHT			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.80130.00	SPRING, TORSION RIGHT HAND	1
2	PDG.80140.00	SPRING, TORSION LEFT HAND	1
3	PDG.80133.00	WHEEL, RUBBER SWING WEIGHT	2
4	PDG.80134.00	HANDLE, PULL	2
5	PDG.80135.00	BEARING, FLANGED SLEAVE	4
6	NB.50.163	PIN, CLEVIS 3/8” X 2-13/16”	2
7	NB.12.223	SCREW, FHSC 10MM X 35	4
8	NB.12.253	SCREW, SHCS M12-1.75 X 35	2
9	NB.13.218	SCREW, FHSC M8 -1.25 X 20	2
10	NB.12.117	SCREW, SHCS M6-1.0 X 25	4
11	NB.12.225	SCREW, SLHC M8-1.25 X 25 ZINC	4
12	PDG.20424.01	EYE, LIFTING W/ SWING WEIGHT	2
13	PDG.80220.00	ARM, SWING WEIGHT LEFT HAND	1
14	PDG.80221.00	ARM, SWING WEIGHT RIGHT HAND	1
15	PDG.80224.00	RETENTION WASHER, SWING WEIGHT	2
16	PDG.80225.00	SPRING STRAP, SWING WEIGHT	2
17	PDG.80230.00	DIAL PLATE, LEFT HAND	1
18	PDG.80231.00	DIAL PLATE, RIGHT HAND	1
19	PDG.80232.00	RETAINER, SPRING SWING WEIGHT	2
20	PDG.80233.00	CAP, SPRING RETAINER SWING WEIGHT	2
21	PDG.80235.00	TEMPLATE, DRILL SWING WEIGHT	1
22	PDG.80150.50	PLUNGER, PULL KNOB	2

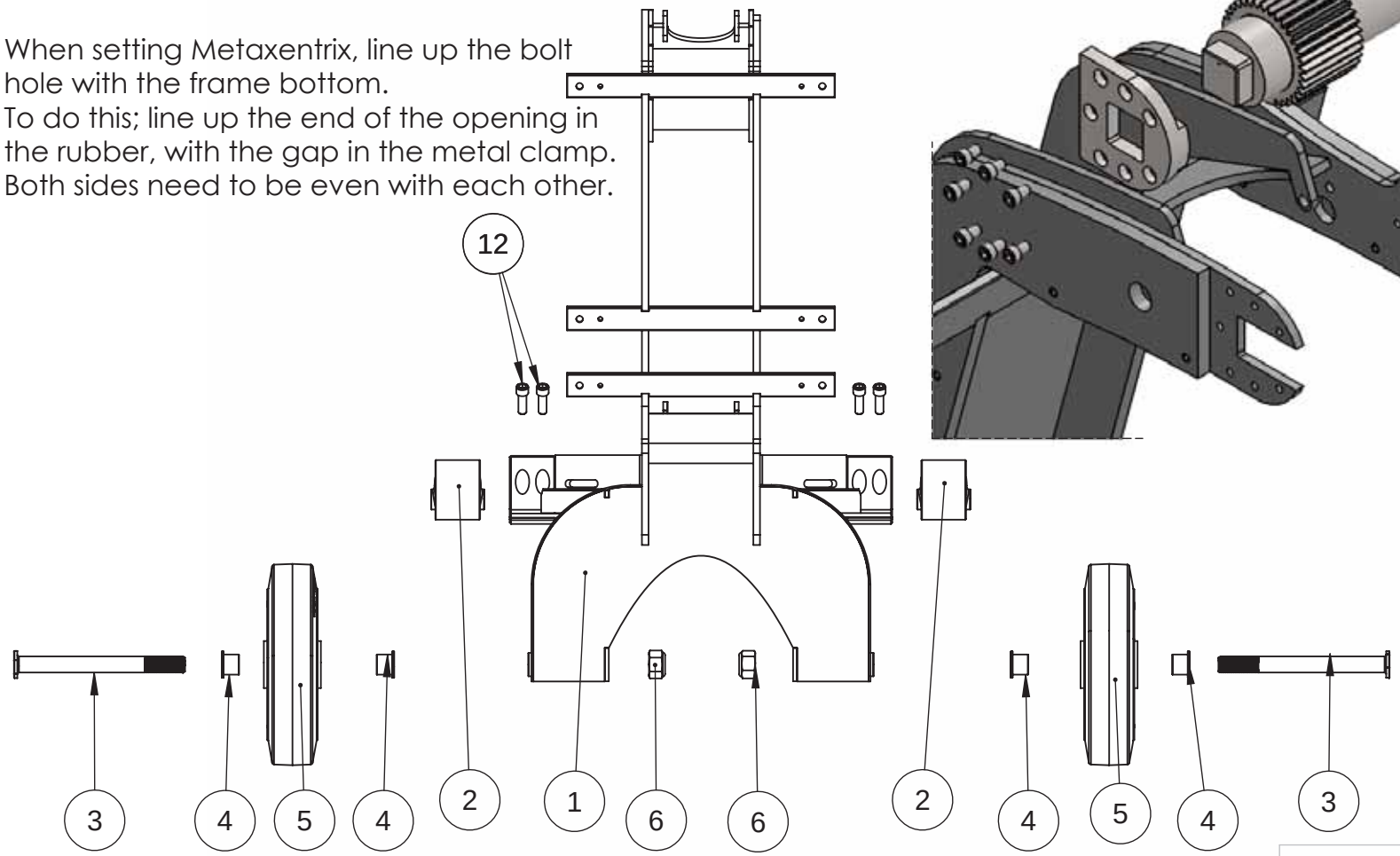
PDG.8A220.00	SWING WEIGHT KIT	1

This assembly contains several potentially dangerous components.
Be careful not to drop the weights.



When setting Metaxentrix, line up the bolt hole with the frame bottom.
To do this; line up the end of the opening in the rubber, with the gap in the metal clamp.
Both sides need to be even with each other.





PDG 8000

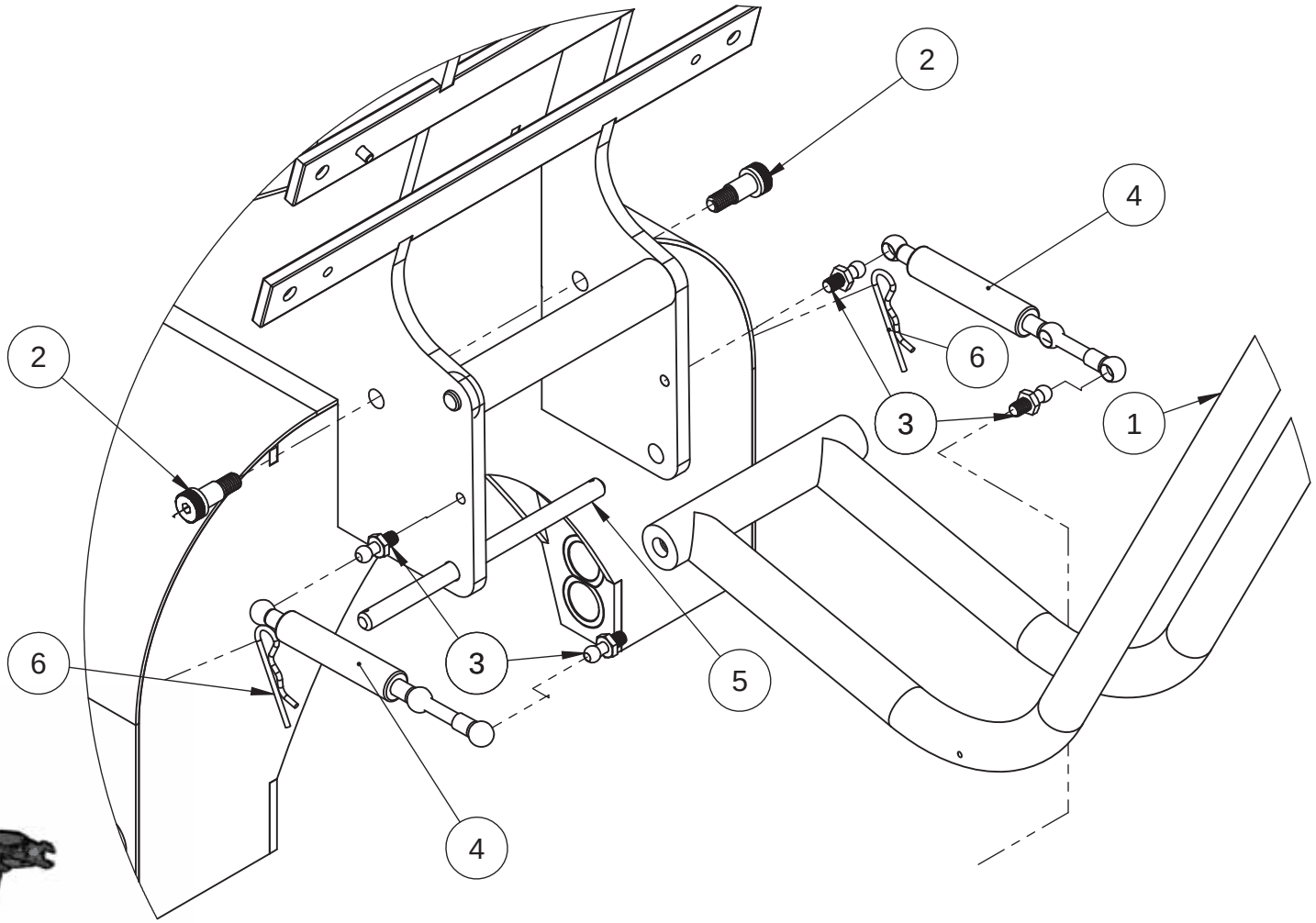
Basic Frame

SCALE: 1:9	WEIGHT:lb	SHEET 1 OF 1

5 4 3 2 1

Basic Frame			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80084.00	FRAME, SKELETAL	1
2	PDG.80062.00	BUSHING, METAXENTRIC	2
3	NB.10.123	SCREW, MOD HEX HEAD CAP M24 X 250	2
4	PDG.20255.01	BUSHING, WHEEL AXLE METRIC	4
5	PDG.80068.50	WHEEL, REAR M300 MAG STYLE	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	NB.12.253	SCREW, SOCKET HEAD CAP M12-1.75 X 35	4

Basic Frame			
11	NB.12.106	Red LocTite 263	14
12	NB.12.253	Red LocTite 263	4



PDG 8000

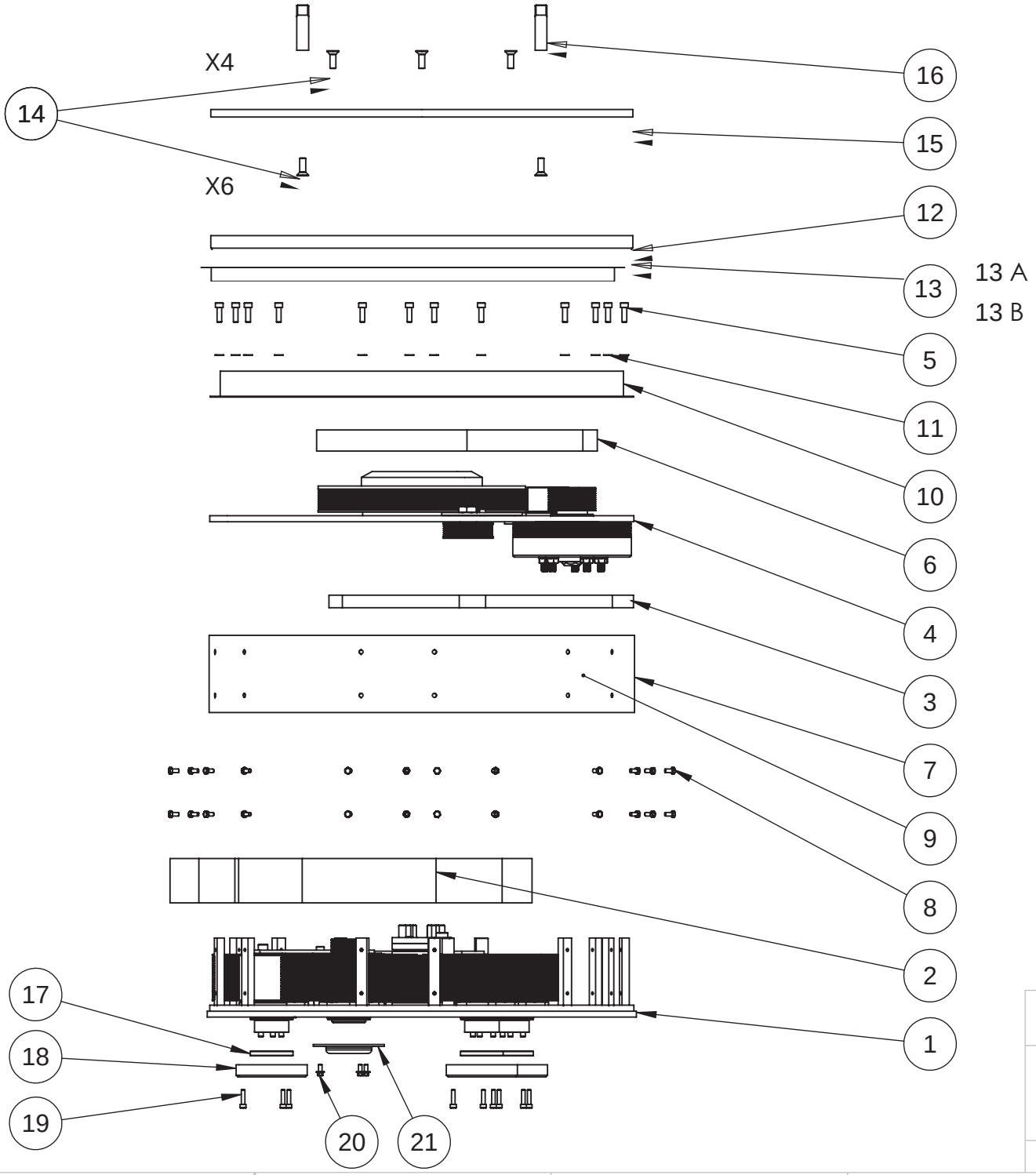
Step View

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

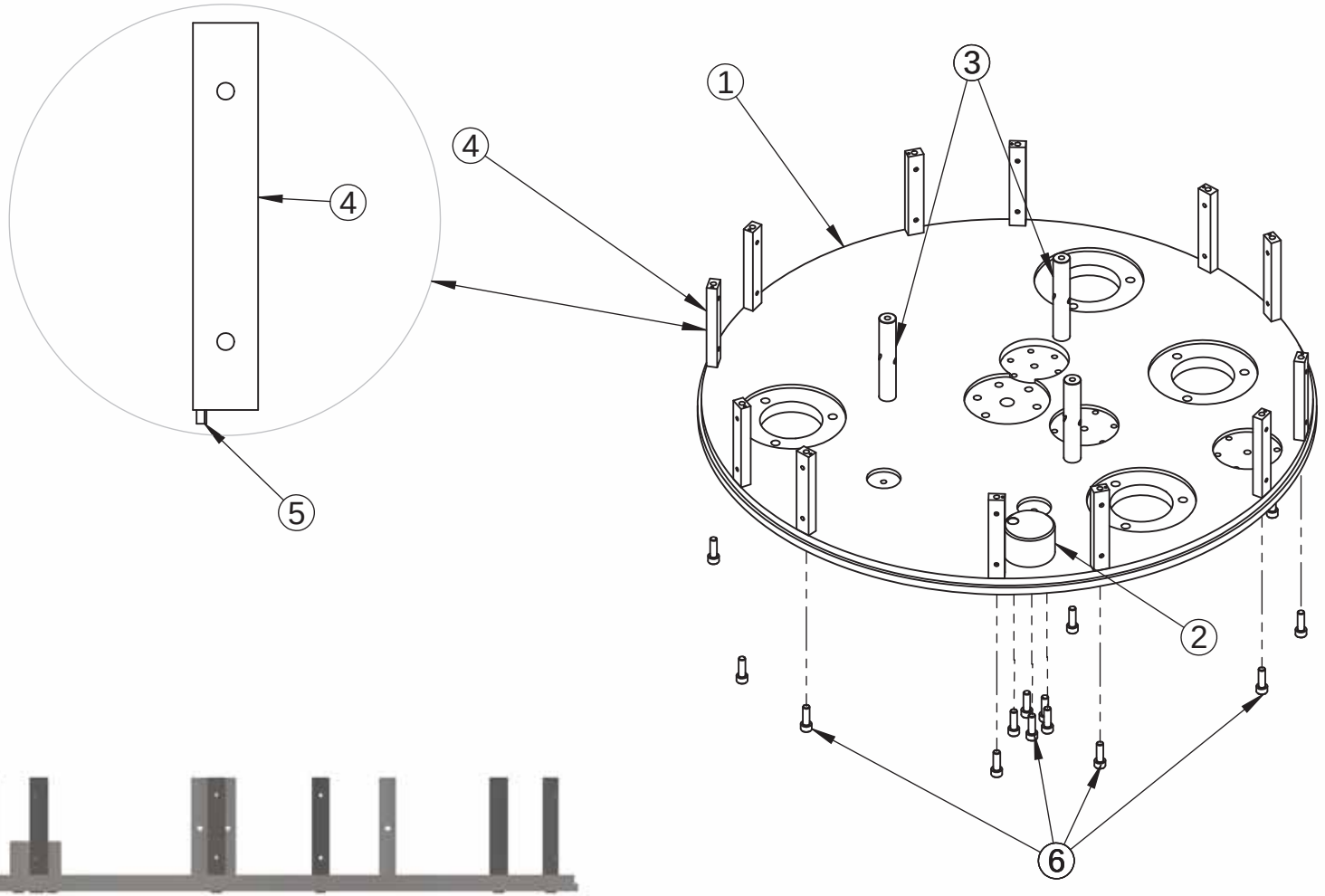
Complete Drum

SCALE: 1:50 | WEIGHT: 140.28 | SHEET 1 OF 1

5 4 3 2 1

Complete Drum			
Item No.	**Part No.**	**Description**	**Qty.**
1	**See Page 12 - 13**	**Bottom Plate Assembled**	**1**
2	PDG.80039.00	BELT, MAIN PK21 M75 X 3046 OC BOTTOM	1
3	PDG.80040.00	BELT, PTO PK6 M11 X 1310 OC MIDDLE	1
4	**See Page 14 - 15**	**Top Plate Assembled**	**1**
5	NB.12.219	SCREW, SOCKET HEAD CAP M8-1.25 X 25 12.9 ZINC	15
6	PDG.80041.00	BELT, TOP PK10 M35 X 1460 OC	1
7	PDG.80044.02	SHROUD, BOTTOM BELT 3PC DESIGN DUST	3
8	NB.10.200	SCREW, HEX M6 - 1.0 X 12	24
9	PDG.20287.00	TAPE, PRESERVATION HEAT SHRINK 3" WHITE	24ft
10	PDG.80043.01	SHROUD, TOP BELT DUST V-RING TYPE	1
11	DG.1327	WASHER, LOCK INTERNAL TOOTH M8 ZINC	12
12	PDG.80072.50	SEAL, RUBBER V RING	1
13	PDG.80043.11	POSITIONER, SEAL V-RING TYPE	2
13 A	NB.11.104	SCREW, HEX FLANGED HEAD M5 - 0.8 X 8 ZINC	1
13 B	NB.20.153	NUT, NYLOC M5 ZINCED	1
14	NB.13.252	SCREW, SOCKET FLAT HEAD CAP M10-1.5 X 30	10
15	PDG.80042.01	PLATE, STATIONARY	1
16	PDG.80046.00	EAR, DRUM MOUNTING	2
17	PDG.20286.02	SEAL, AXLE NITRILE AL. SLURRY COVERS	3
18	PDG.20285.02	COVER, PLANETARY SLURRY ALUMINUM	3
19	NB.12.117	SCREW, SOCKET HEAD CAP M6-1.0 X 25 (Aluminum covers)	9
20	NB.11.109	SCREW, FLANGED HEX HEAD CAP M6 -1.0 X 12 (PTO cover)	3
21	PDG.20284.00	COVER, PTO SLURRY	1

Complete Drum Supplement			
2	PDG.80039.00	Tension to 75-85 Hz, read Hz along the longest span of belt.	1
3	PDG.80040.00	Tension to 80-90 Hz, read Hz along the longest span of belt.	1
5	NB.12.219	Red LocTite 263	3
6	PDG.80041.00	Tension to 145-155 Hz, read Hz along the longest span of belt.	1
7	PDG.80044.00	Butyl Flex added to 1 and 4 where 7 meets.	1
8	NB.10.200	Red LocTite 263	24
9	PDG.20287.00	Heat gun used to adhere	24ft
10	PDG.80043.00	Butyl Flex added to bottom edge, where 4 meets	1
12	PDG.80072.00	Grease added to felt, Chemrex added to upper edge where 15 meets.	1
14	NB.13.252	Red LocTite 263(10), torque 40 ft-lbf(6), Anti-seize added to countersink(4)	10
17	PDG.20286.02	Press into 18, Grease before installing.	3
18	PDG.20285.02	Silicone added where 1 meets	3
19	NB.12.117	Red LocTite 263	9
20	NB.11.109	Red LocTite 263	3
21	PDG.20284.00	Silicone added where 1 meets	1



PDG 8000

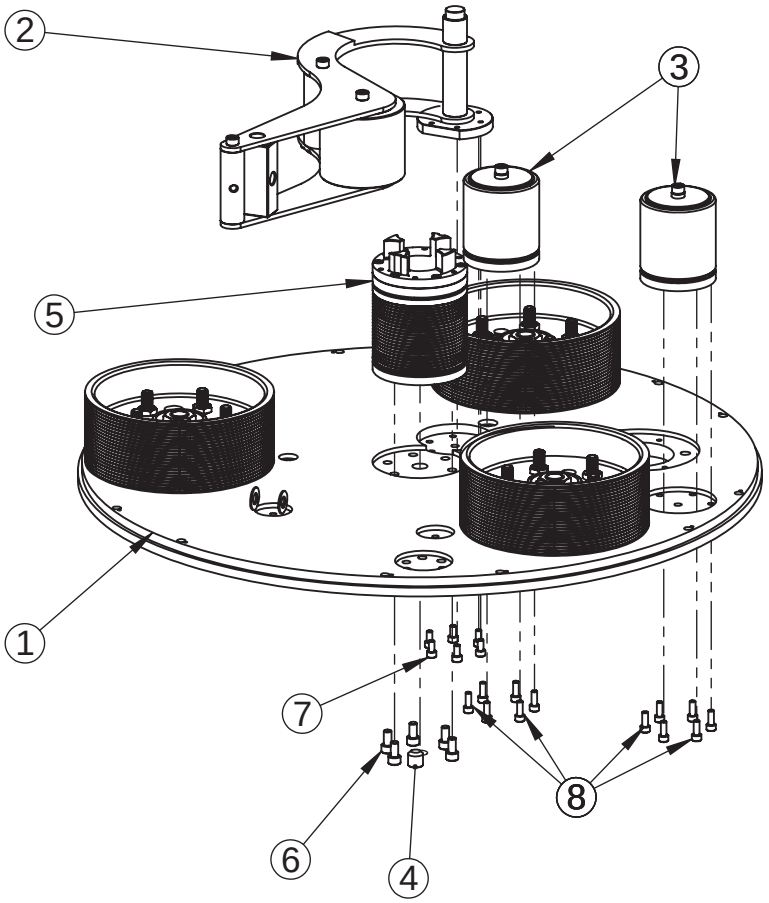
Bottom Drum Assembly Level I

SCALE: 1:8 | WEIGHT: 101.4kg | SHEET 3 OF 3

5 4 3 2 1

Bottom Drum I Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80027.00	PLATE, BOTTOM DRUM STEEL	1
2	PDG.80019.00	POST, MAIN TENSIONER REACT	1
3	PDG.80025.00	STANCION, INNER	3
4	PDG.80026.00	STANCION, PERIMETER	12
5	NB.50.147	PIN, SPIRAL M3 X 16	12
6	NB.12.219	SCREW, SOCKET HEAD CAP M8-1.25 X 25 12.9 ZINC	20

Bottom Drum I Assembly			
6	NB.12.219	Red LocTite 263	20



PDG 8000

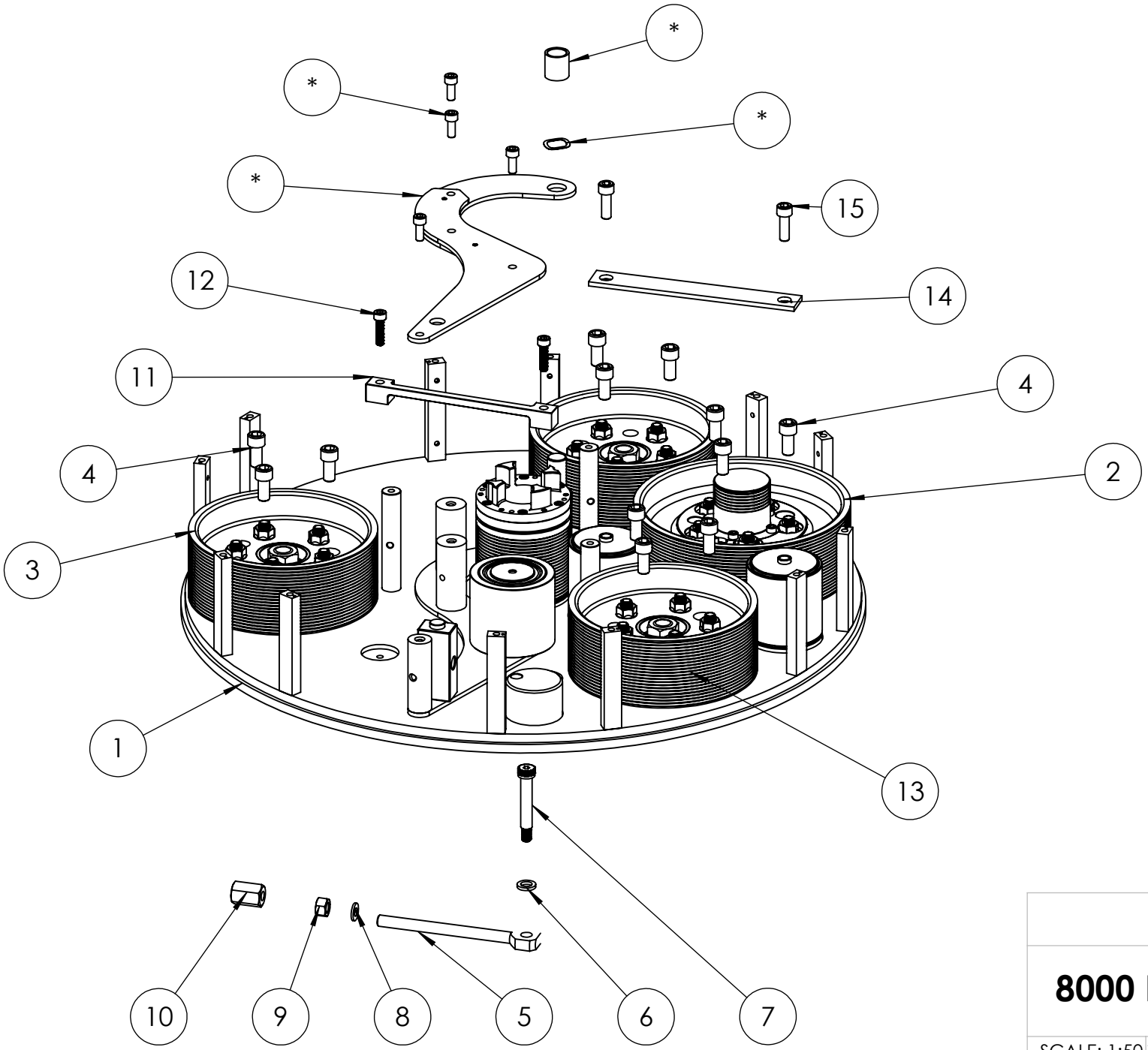
Bottom Drum Assembly Level II

SCALE: 1:8 | WEIGHT: 101.4kg | SHEET 2 OF 3

5 4 3 2 1

Bottom Drum II Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	**See Page 31**	**Bottom Drum I Assemnbled**	**1**
2	**PDG.8A005.01**	**SUBASSEM, BELT TIGHTENER**	**1**
3	**PDG.8A006.02**	**SUBASSEM, MAIN BELT STEEL IDLER**	**2**
4	NB.18.140	SET SCREW, M16-2.0 X 16 (Not used)	0
5	**PDG.8A007.50**	**SUBASSEM, MAIN BELT SPINDLE SPIDER REV 3**	**1**
6	NB.12.213	SCREW, SOCKET HEAD CAP M8-1.25 X 16 12.9	5
7	NB.12.108	SCREW, SOCKET HEAD CAP M6 -1.0 X 12 ZINC	6
8	NB.12.111	SCREW, SOCKET HEAD CAP M6 -1.0 X 16 12.9 ZINC	12

Bottom Drum II Assembly Supplement			
2	PDG.8A005.01	Upper arm must be removed to install belt, then Red LocTite 263 is used.	1
6	NB.12.213	Red LocTite 263	5
7	NB.12.108	Red LocTite 263	6
8	NB.12.111	Red LocTite 263	12



PDG 8000

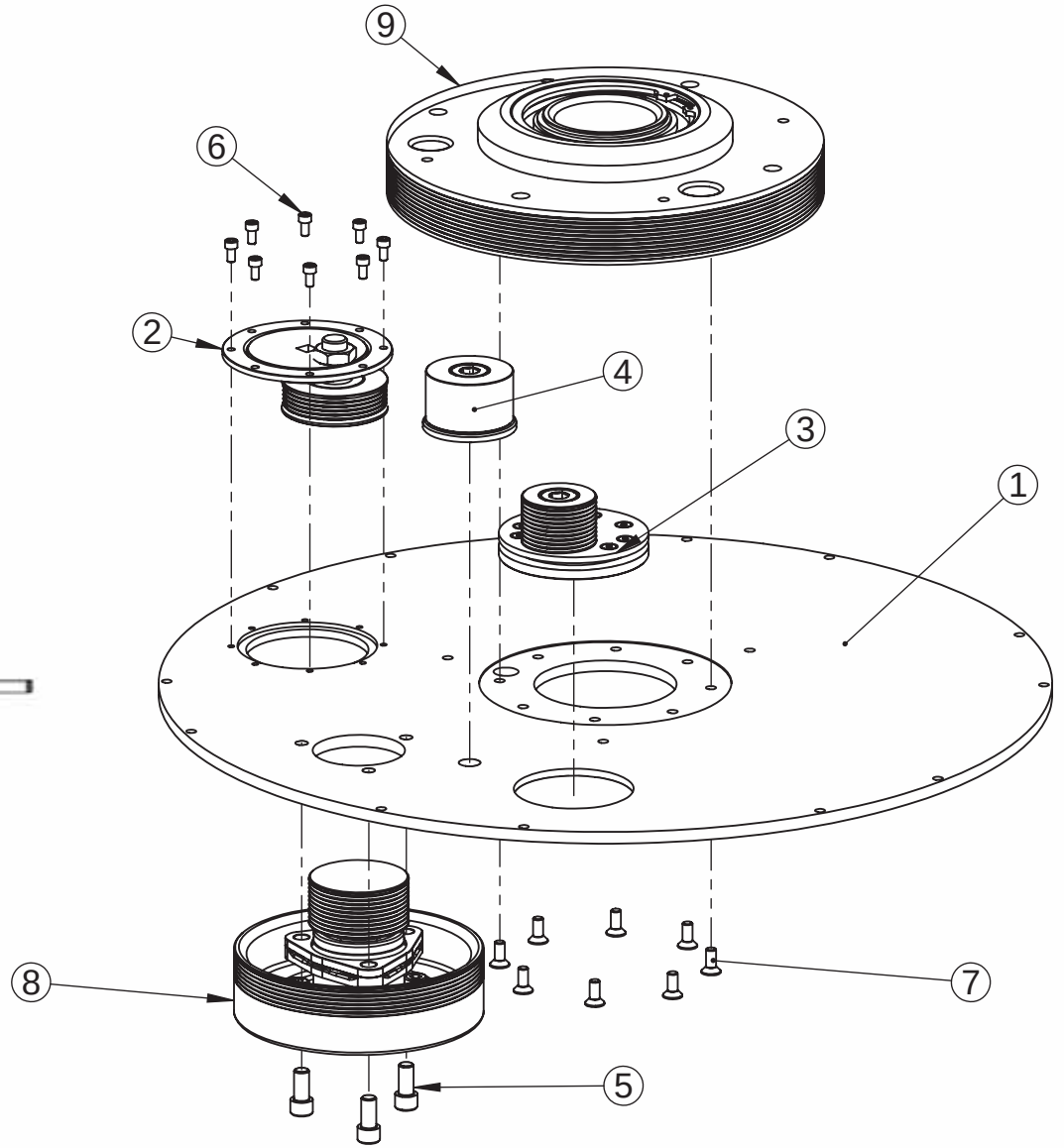
8000 BOTTOM DRUM

SCALE: 1:50 | WEIGHT: 177.03 | SHEET 1 OF 1

5 4 3 2 1

Bottom Drum III Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	**See Page 33**	**Bottom Drum II Assembled**	**1**
2	**PDG.8A009.00**	**SUBASSEM, PTO**	**1**
3	**PDG.8A008.00**	**SUBASSEM, PLANETARY**	**3**
4	NB.12.249	SCREW, SOCKET HEAD CAP M12-1.75 X 25 12.9 ZINC	12
5	PDG.20207.02	ROD, MAIN BELT TENSIONER	1
6	PDG.80064.00	SPACER, ROD TIE DOWN	1
7	NB.15.251	SCREW, SOCKET HEAD SHOULDER M12 X 60	1
8	NB.30.134	WASHER, FLAT M12 ZINC	2
9	NB.20.113	NUT, HEXAGONAL M12-1.75 ZINC	1
10	NB.20.120	NUT, TENSIONER M12	1
11	PDG.20208.00	BAR, TENSIONER CONTROL	1
12	NB.10.230	SCREW, SOCKET HEAD CAP M8-1.25 X 30	2
13	PDG.80039.00	BELT, MAIN	1
14	PDG.80008.00	LINK, IDLER REINFORCING	1
15	NB.12.234	SCREW, SOCKET HEAD CAP M10-1.5 X 30 12.9 ZINC	2

Bottom Drum III Assembly Supplement			
2	**PDG.8A009.00**	**Add butyl flex, along the hub base where the hub meets the hole**	**1**
3	**PDG.8A008.00**	**Add butyl flex, along the hub base where the hub meets the hole**	**3**
4	NB.12.249	Red LocTite 263, torque 80 ft-lbf	12
7	NB.15.251	Red LocTite 263	1
10	NB.20.120	Left loose until belt is at tension, then after belt is tensioned add Red LocTite 263	1
12	NB.10.230	Red LocTite 263	2
15	NB.12.234	Red LocTite 263, do not add, until belt is in place.	2
*	**PDG.8A005.01**	**Red LocTite 263, do not add, until belt is in place.**	*



PDG 8000

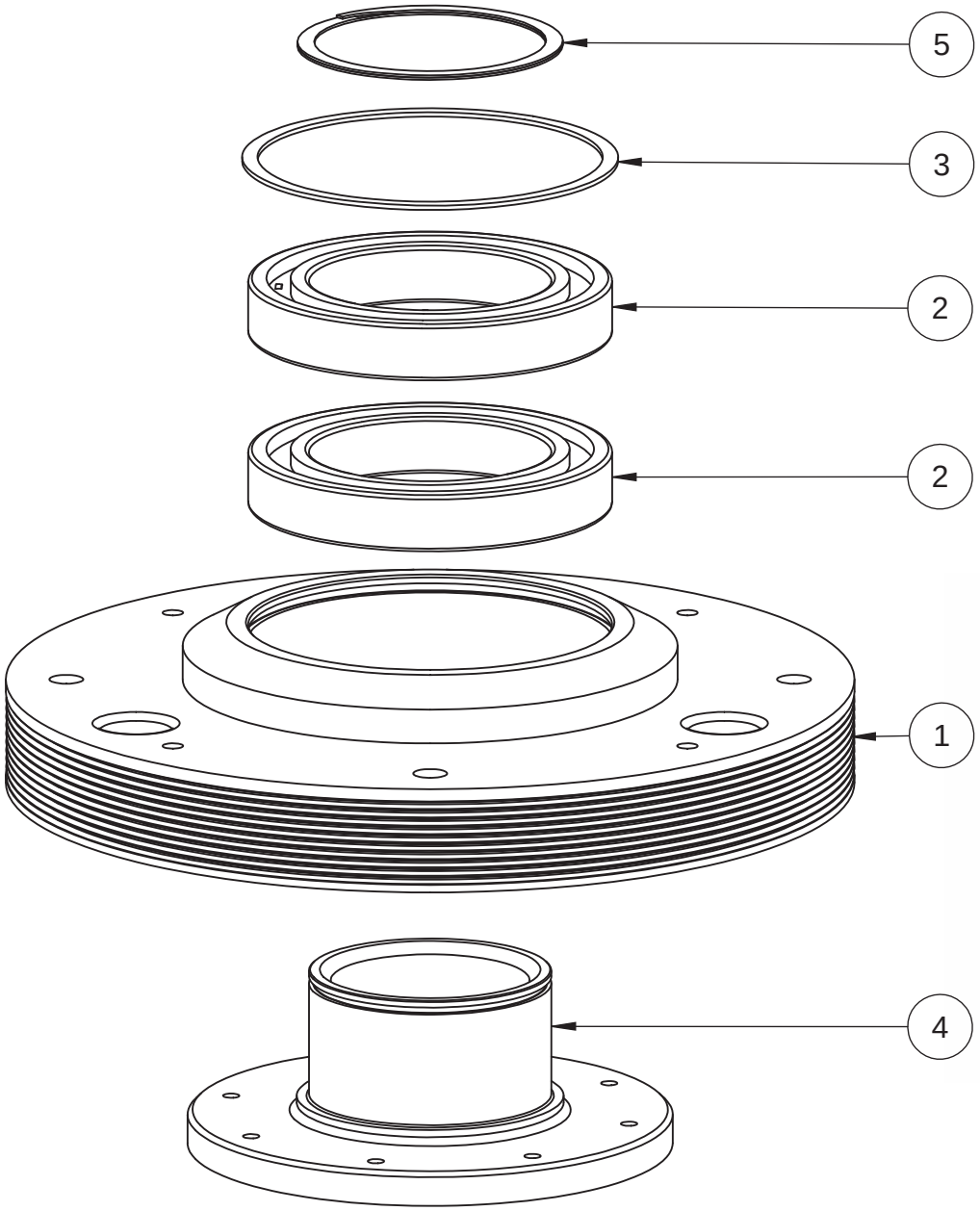
Top Plate Assembly

SCALE: 1:6	WEIGHT: 48.9kg	SHEET 1 OF 1

5 4 3 2 1

Top Plate Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80028.02	PLATE, TOP DRUM ALUMINUM	1
2	**PDG.2A001.00**	**SUBASSEM, PTO TENSIONER**	**1**
3	**PDG.8A004.00**	**SUBASSEM, TOP TENSIONER**	**1**
4	**PDG.8A003.00**	**SUBASSEM, TOP BELT IDLER**	**1**
5	NB.12.252	SCREW, SOCKET HEAD CAP M12-1.75 X 30 12.9 ZINC	3
6	NB.12.108	SCREW, SOCKET HEAD CAP M6 -1.0 X 12 ZINC	8
7	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	8
8	**PDG.8A002.00**	**SUBASSEM, INTERMEDIATE SHEAVE**	**1**
9	**PDG.8A001.00**	**SUBASSEM, DRUM SHEAVE**	**1**

Top Plate Assembly Supplement			
3	**PDG.8A004.00**	**Lower plate removed, and added to opposite side of top plate. Large bolt: Red LocTite 263, torque 80 ft-lbf. Small bolts: left loose, until belt is tensioned. Then blue loctite, Torque to 9 ft-lbf (107 in-lbs)**	**1**
4	**PDG.8A003.00**	**Large bolt: Red LocTite 263, torque 80 ft-lbf**	**1**
5	NB.12.252	Red LocTite 263, torque 80 ft-lbf	3
6	NB.12.108	Left loose, until belt is tensioned. Then blue loctite, Torque to 12 ft-lbf (144 in-lbf)	8
7	NB.13.218	Red LocTite 263, torque 35 ft-lbf	8
8	**PDG.8A002.00**	**Place spacer flat on top plate, with chamfer exposed. Install sheave, carefully line up bolt pattern. Now install #5 use specs above. Insert axle, red LocTite 263, torque NB20108 to 150 ft-lbf**	**1**



PDG 8000

Drum Sheave

SCALE: 1:10	WEIGHT:	SHEET 1 OF 1

5 4 3 2 1

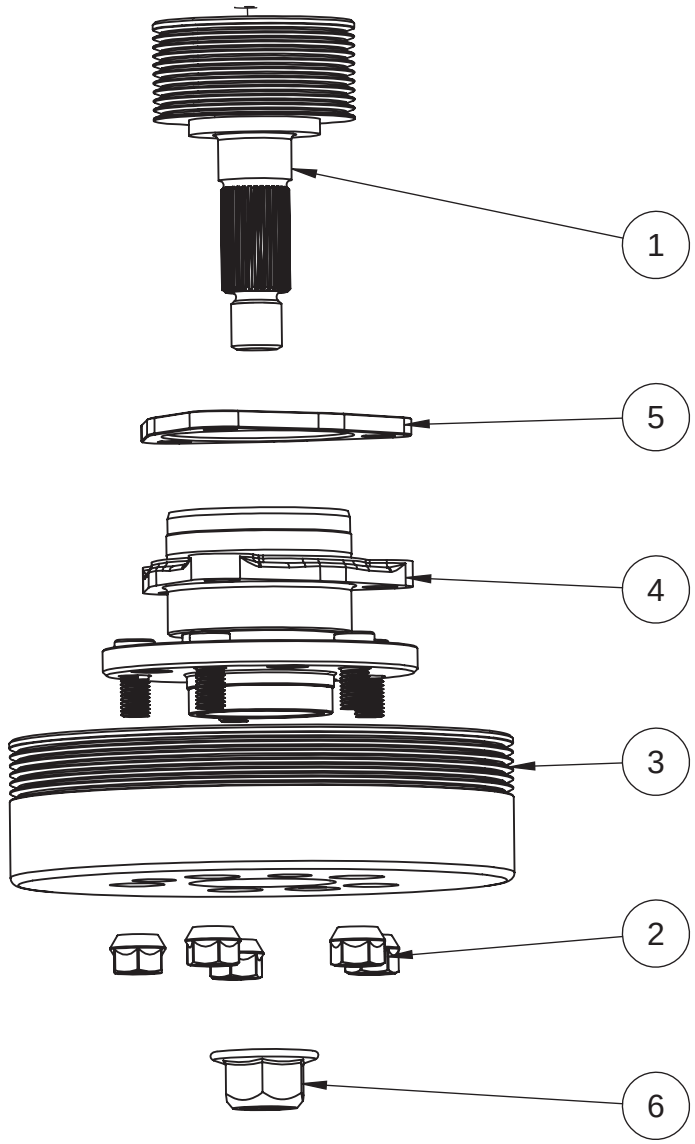
Drum Sheave Assembly			
Item No.	Part No.	Description	Qty.
1	PDG.80029.60	SHEAVE, STATIONARY DRUM	1
2	PDG.20250.00	BEARING, 6020-2RS	2
3	NB.40.131	RING, INTERNAL RETAINING M150	1
4	PDG.80032.50	SPINDLE, DRUM	1
5	NB.40.133	RING, EXTERNAL RETAINING M100	1

	PDG.8A001.00	**SUBASSEM, DRUM SHEAVE**	**1**

Drum Sheave Assembly Supplement			
2	PDG.20250.00	Green LocTite 609, inner and outter, where contacts spindle/sheave.	2
3	NB.40.131	Make sure the snapring seats	1
5	NB.40.133	Make sure the snapring seats	1

RED LOCTITE 263 MUST BE USED ON EACH FASTENER

EXCESS LOCTITE MUST BE VISIBLE ONCE COMPLETED



PDG 8000

Intermediate Sheave

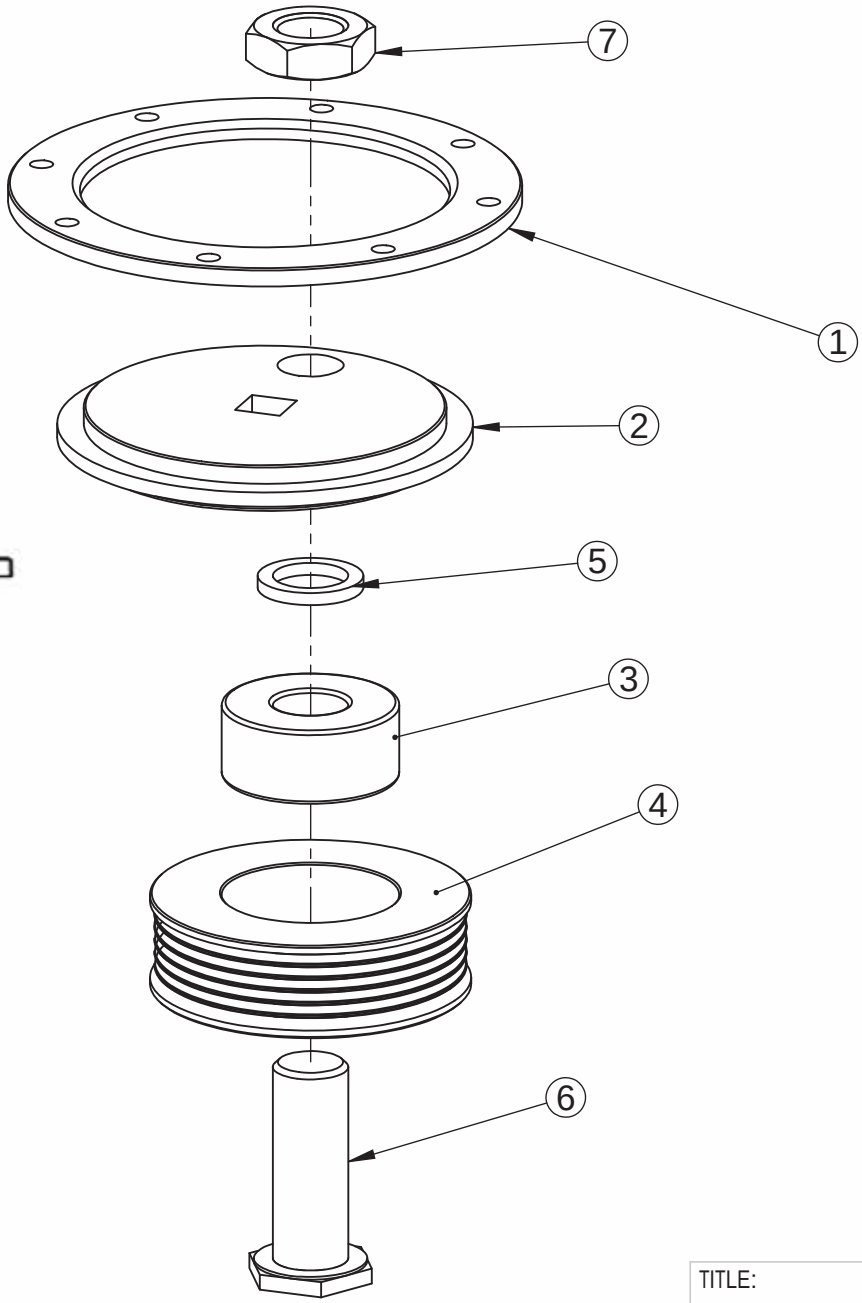
SCALE: 1:10 | WEIGHT: 6.11kg | SHEET 1 OF 1

5 4 3 2 1

Intermediate Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80033.00	AXLE, INTERMEDIATE	1
2	NB.20.107	LUGNUT, M12-1.5	5
3	PDG.80034.00	SHEAVE, INTERMEDIATE	1
4	PDG.20201.00	HUB	1
5	PDG.20209.00	SPACER, PTO HUB	1
6	NB.20.108	NUT, HEX FLANGE M20-2.5	1

	PDG.8A002.00	**SUBASSEM, INTERMEDIATE SHEAVE**	**1**

Intermediate Assembly Supplement			
2	NB.20.107	Red LocTite 263, torque 60 ft-lbf.	5
3	PDG.80034.00	Press onto hub(#4)	1
1/5/6	Various	These parts left loose in subassembly. During top plate assembly; torque and loctite.	1/1/1



TITLE:

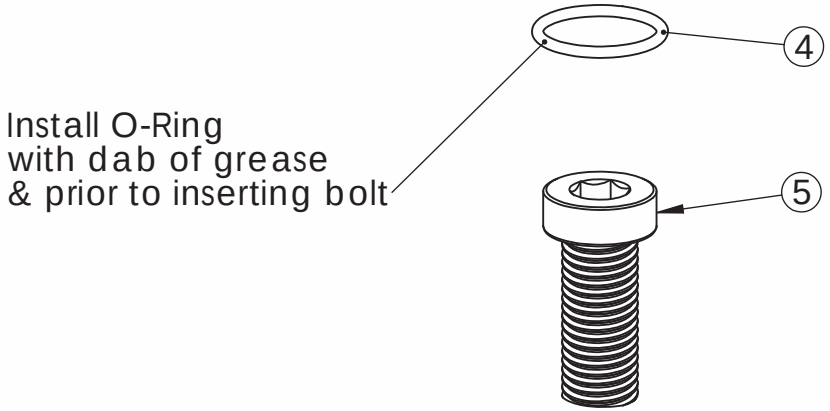
PTO Tensioner Assembly

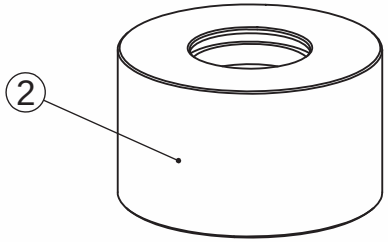
SCALE: 1:2	WEIGHT: 1.99kg	SHEET 1 OF 1

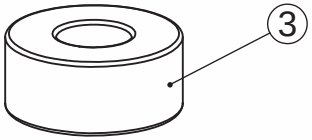
5 4 3 2 1

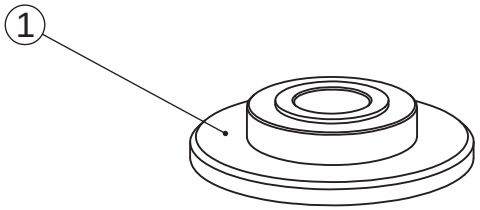
PTO Tensioner Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.20203.00	CLAMP, PTO TENSIONER	1
2	PDG.20204.00	PLATE, PTO TENSIONER	1
3	PDG.20220.00	BEARING, 3204-2RS	1
4	PDG.20212.00	IDLER, PTO TENSIONER	1
5	PDG.20211.00	SPACER, PTO TENSIONER IDLER	1
6	PDG.20214.00	SCREW, HEX HEAD MODIFIED M20-2.5 X 55	1
7	NB.20.110	NUT, JAM M20 - 2.5	1
	PDG.2A001.00	**SUBASSEM, PTO TENSIONER**	**1**

PTO Tensioner Assembly Supplemental			
6	PDG.20214.00	Red LocTite 263 for contact with #2, Torque 80 ft-lbf.	1
7	NB.20.110	Then, Red LocTite 263 on #6 for #7. Capture #6; Torque #7 to 80 ft-lbf.	1









PDG 8000

Top Belt Idler Assembly

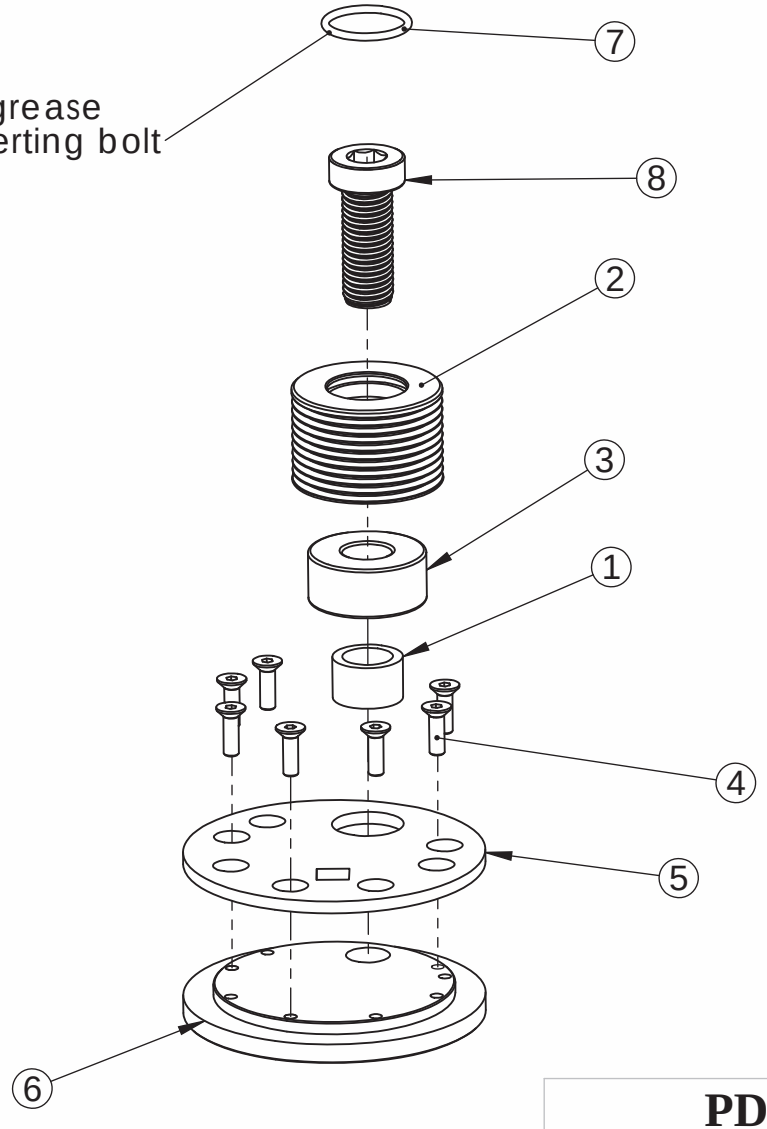
SCALE: 1:2	WEIGHT: 1.1kg	SHEET 1 OF 1

5 4 3 2 1

Top Idler Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80038.00	BASE, TOP BELT IDLER	1
2	PDG.80037.00	IDLER, TOP BELT	1
3	PDG.20220.00	BEARING, 3204-2RS	1
4	PDG.20215.00	O-RING, M30	1
5	PDG.80078.00	SCREW, MODIFIED SOCKET HEAD M20-2.5 X 46.8	1

	PDG.8A003.00	**SUBASSEM, TOP BELT IDLER**	**1**

Top Idler Assembly			
4	PDG.20215.00	Grease used with this part.	1



PDG 8000

Top Tensioner Assembly

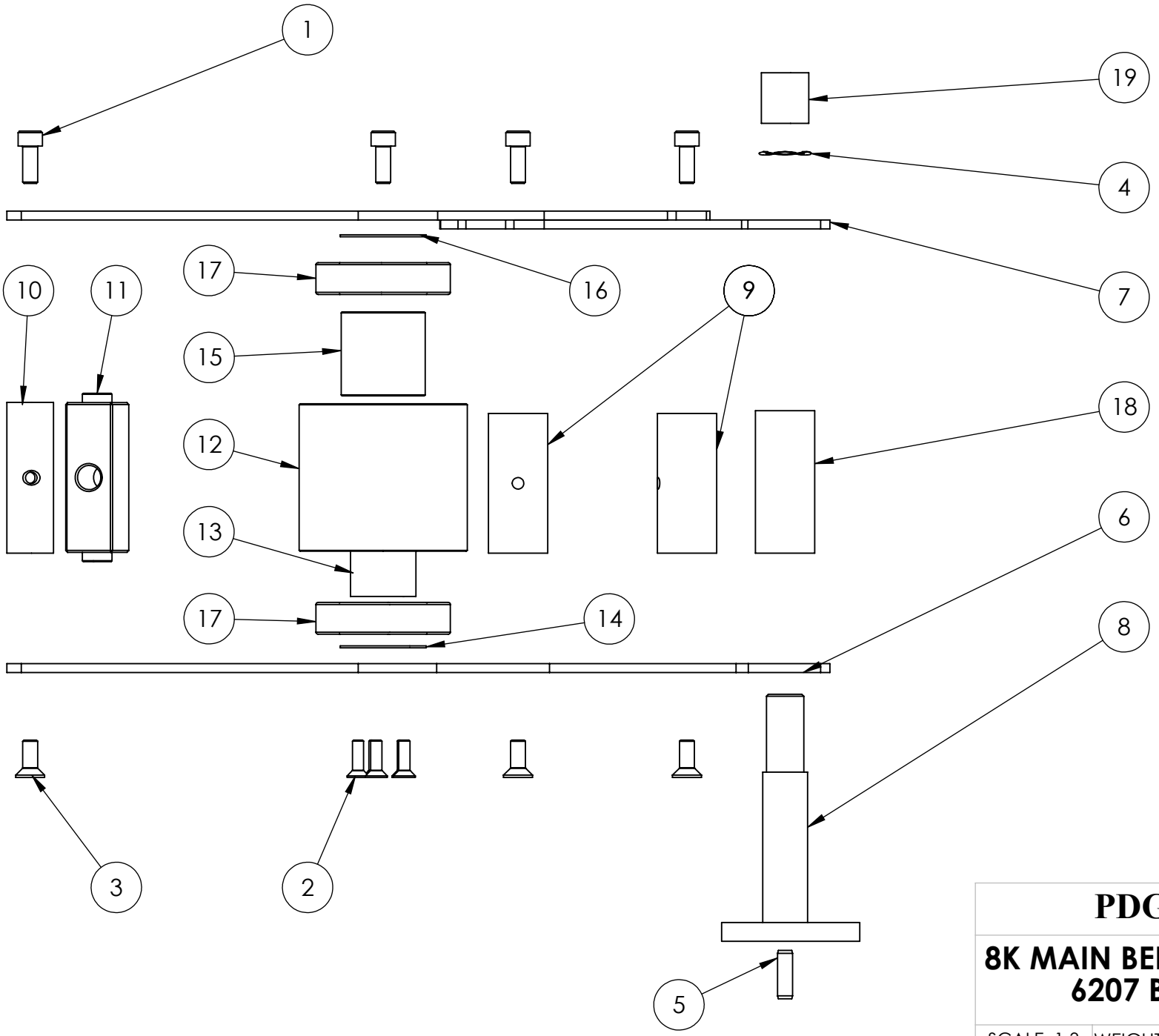
SCALE: 1:3	WEIGHT: 1.93kg	SHEET 1 OF 1

5 4 3 2 1

Top Tensioner Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.20210.00	SPACER, TOP BELT TENSIONER IDLER	1
2	PDG.80035.00	IDLER, TOP BELT TENSIONER	1
3	PDG.20220.00	BEARING, 3204-2RS	1
4	NB.13.116	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 20	7
5	PDG.20206.50	CLAMP, TOP BELT TENSIONER	1
6	PDG.20205.50	PLATE, BELT TENSIONER	1
7	PDG.20215.00	O-RING, M30	1
8	NB.12.263	SCREW, LOW SOCKET HEAD CAP M20-2.5 X 50	1

	PDG.8A004.00	**SUBASSEM, TOP TENSIONER**	**1**

Top Tensioner Assembly Supplement			
4	NB.13.116	Assembled loose. Blue LocTite 242 used when top belt is tensioned correctly	7
7	PDG.20215.00	Grease used with this part.	1
8	NB.12.263	Assembled loose. Red LocTite 263 used & torque 80 ft-lbf; after added to top plate.	1



PDG 8000

8K MAIN BELT TENSIONER, 6207 BEARING

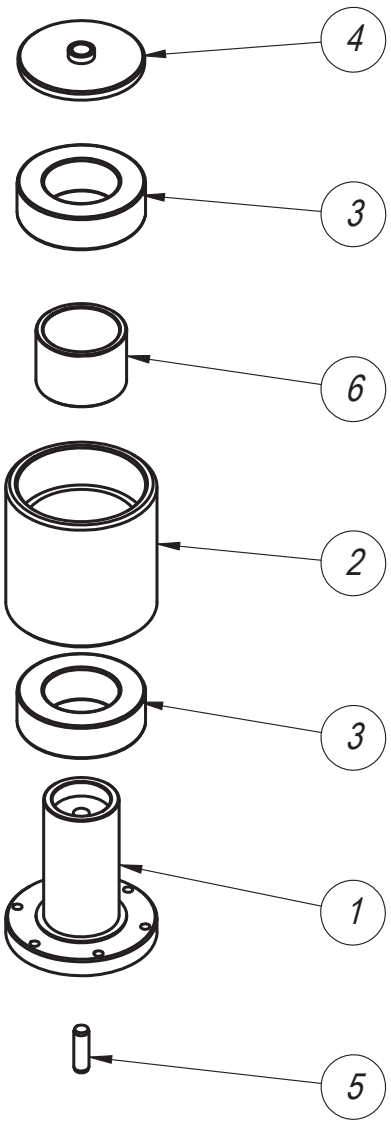
SCALE: 1:3	WEIGHT:	SHEET 2 OF 2

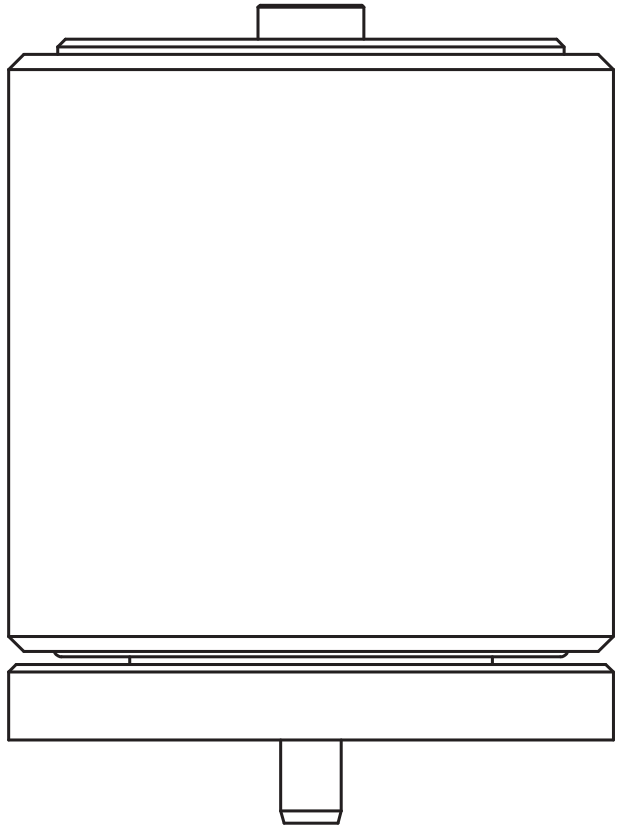
5 4 3 2 1

Main Belt Tightener Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	NB.10.218	SCREW, SOCKET HEAD CAP M8-1.25 X 20	4
2	NB.13.116	SCREW, FLAT HEAD TORX SOCKET CAP M6 -1.0 X 20	5
3	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8 -1.25 X 20	3
4	NB.30.128	WASHER, FINGER DISC SPRING 20MM	1
5	NB.50.143	PIN, HARDENED M8 X 26	1
6	PDG.80012.03	ARM, LOWER TENSIONER 6207 BEARING	1
7	PDG.80013.03	ARM, UPPER TENSIONER 6207 BEARING	1
8	PDG.80014.02	PIVOT, MAIN BELT TENSIONER 6207 BEARING	1
9	PDG.80015.02	STANCION, MAIN TENSIONER HEAVY 6207 BEARING	2
10	PDG.80016.00	SPACER, MAIN TENSIONER	1
11	PDG.80017.00	GRUDGEON, TENSIONER	1
12	PDG.80020.01	IDLER, MAIN TENSIONER 6207 BEARING	1
13	PDG.80021.02	SPINDLE, MAIN TENSIONER 6207 BEARING	1
14	PDG.80022.01	SPACER, LOWER TENSIONER SPINDLE 6207 BEARING	1
15	PDG.80063.00	SPACER, MAIN BELT TENSIONER BEARING 6207 BEARING	1
16	PDG.80023.03	SPACER, UPPER TENSIONER SPINDLE 6207 BEARING	1
17	PDG.80047.00	BEARING, NACHI 6207-2NSE	2
18	PDG.80105.02	TUBE, TIGHTENER SPACER LOWER 6207 BEARING	1
19	PDG.80105.03	TUBE, TIGHTENER SPACER UPPER 6207 BEARING	1

	PDG.8A005.01	**SUBASSEM, BELT TIGHTENER 6207 BEARING**	**1**

Main Belt Tightener Assembly Supplemental			
1	NB.10.218	Leave loose, no LocTite, finished in bottom drum assembly.	4
2	NB.13.116	Red LocTite 263	5
3	NB.13.218	Red LocTite 263	3
5	NB.50.143	Green LocTite 609	1





PDG 8000

MAIN BELT IDLER

SCALE: 1:4	WEIGHT: 2.27kg	SHEET 1 OF 1

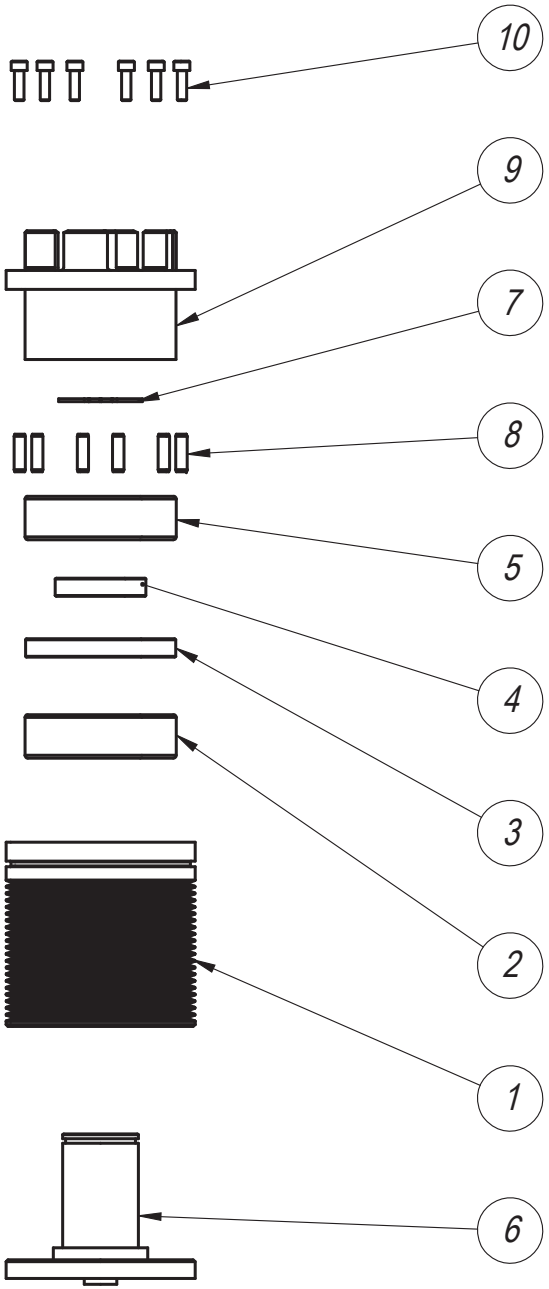
5 4 3 2 1

Main Idler Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80011.01	SPINDLE, MAIN BELT IDLER 6207	1
2	PDG.80010.02	IDLER, **STEEL** MAIN BELT 6207	1
3	PDG.80047.00	BEARING, NACHI 6207-2NSE	2
4	PDG.80009.01	RETAINER, IDLER BEARING 6207	1
5	NB.50.143	PIN, HARDENED M8 X 26	1
6	PDG.80114.01	SPACER, MAIN BELT IDLER BEARING 6207	1

PDG.8A006.02	**SUBASSEM, MAIN BELT IDLER 6207**	**1**

Red LocTite is used for #10

Green LocTite is used for #8



Before pressing #9, Insert 3; NB.12.219 into #6.

Remove the 3; NB.12.219 after #10 are set tight.

PDG 8000

Main Belt Spindle III

SCALE: 1:4	WEIGHT: 6.14kg	SHEET 1 OF 1

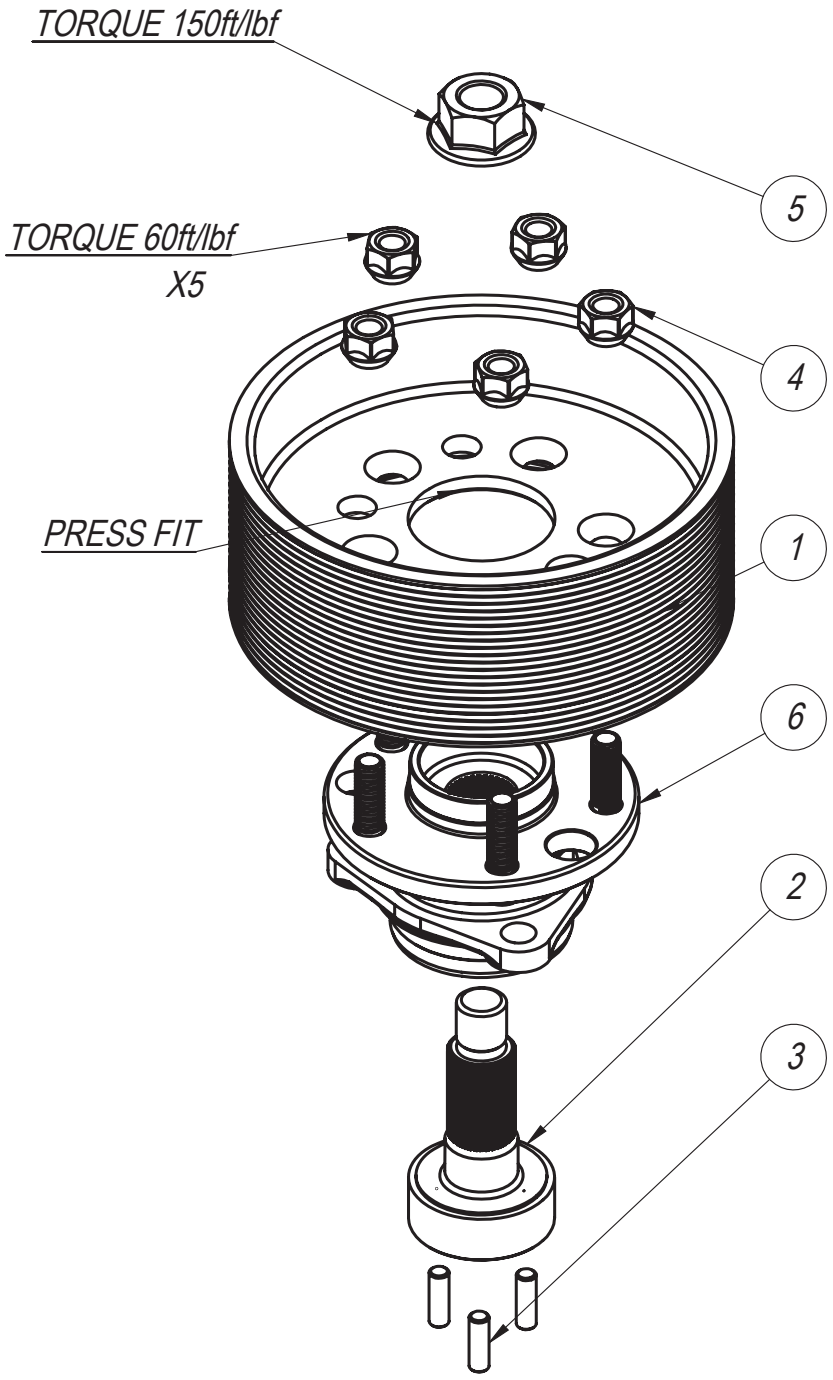
Main Spindle Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80002.50	SHEAVE, MAIN DRIVE REV 3	1
2 & 5	PDG.20218.00	BEARING, 62208-2RS	2
3	PDG.80003.00	SPACER, OUTER MAIN BEARING	1
4	PDG.80004.00	SPACER, INNER MAIN BEARING	1
6	PDG.80005.50	SPINDLE, MAIN BEARING REV 2	1
7	NB.40.110	RING, EXTERNAL RETAINING M40	1
8	NB.50.138	PIN, CYLINDER M5 x 20	6
9	PDG.80002.53	CAP, MAIN DRIVE COUPLER SHEAVE	1
10	NB.12.090	SCREW, SOCKET HEAD CAP M5 -0.8 X 16	6

	PDG.8A007.50	**SUBASSEM, MAIN BELT SPINDLE SPIDER REV 3**	**1**

Main Spindle Assembly Supplement			
*	NB.12.219	TOOL: Used as a spacer when pressing #9	3
8	NB.50.138	Green LocTite 609	6
10	NB.12.090	Red LocTite 263	6

Machines before serial number 0479 use an outdated revision of this part.
To replace the Main Spindle on those machines, order 1 PDG.8A007.50, as well as 1 PDG.80110.00, 1 PDG.80101.00, and 1 PDG.80100.50

Machines before ~1400 use NB.18.140 to plug the center hole, the hole is now gone.



RED LOCTITE 263 MUST BE USED ON EACH FASTENER

EXCESS LOCTITE MUST BE VISIBLE ONCE COMPLETED

PDG 8000

Planetary Assembly

SCALE: 1:5	WEIGHT: 5.14kg	SHEET 1 OF 1

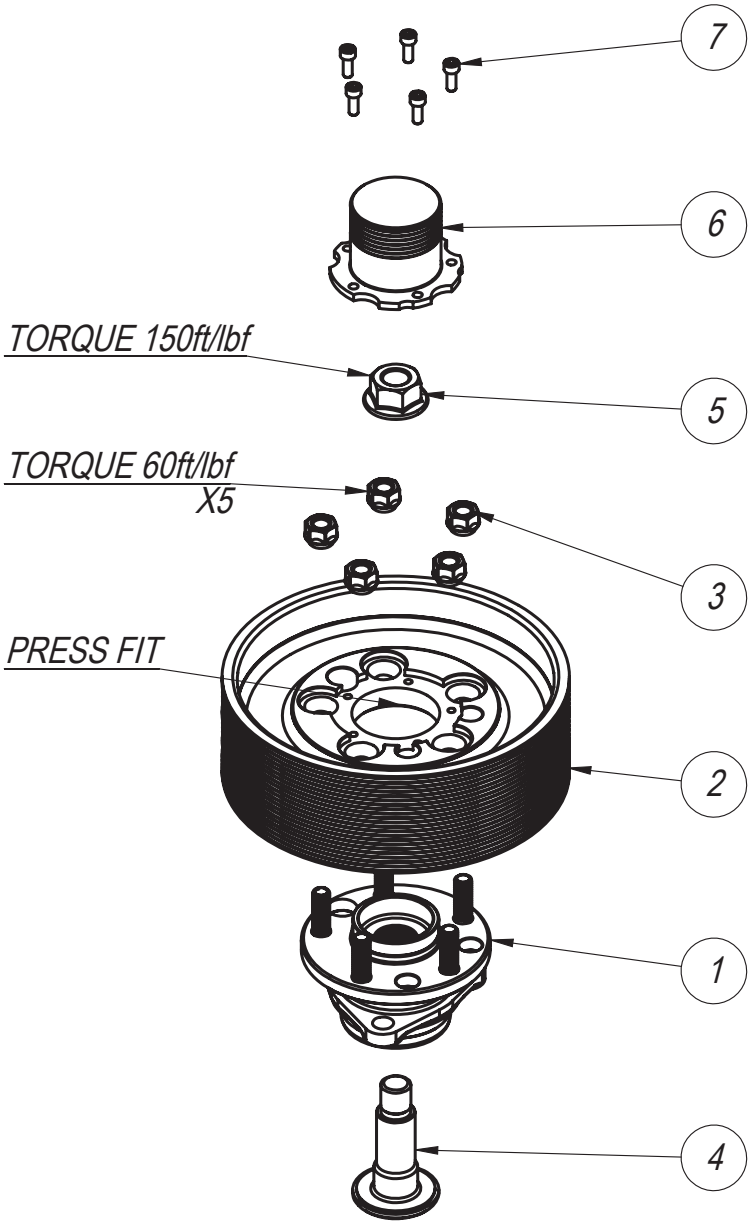
5 4 3 2 1

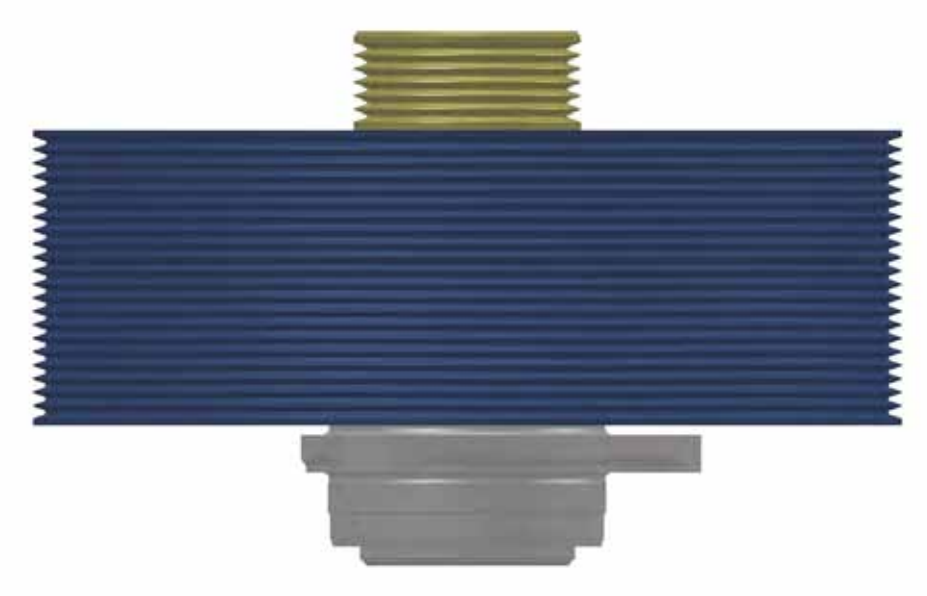
Planetary Assembly			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.80001.00	SHEAVE, PLANETARY RED	1
2	PDG.20200.00	AXLE, PLANETARY 40MM	1
3	NB.50.143	PIN, HARDENED M8 X 26	3
4	NB.20.107	NUT, LUG M12-1.5	5
5	NB.20.108	NUT, HEX FLANGE M20-2.5	1
6	PDG.20201.00	HUB	1

	PDG.8A008.00	**SUBASSEM, PLANETARY**	**1**

Planetary Assembly			
4	NB.20.107	Red LocTite 263, torque 60 ft-lbf	5
5	NB.20.108	Red LocTite 263, torque 150 ft-lbf	1

Older versions of this assembly, use PDG.80001.00 without countersunk holes.
That version uses NB.20.109 (JAM NUTS), instead of NB.20.107 (LUG NUTS)





RED LOCTITE 263 MUST BE USED ON EACH FASTENER

EXCESS LOCTITE MUST BE VISIBLE ONCE COMPLETED

PDG 8000

POWER TAKE OFF (PTO)

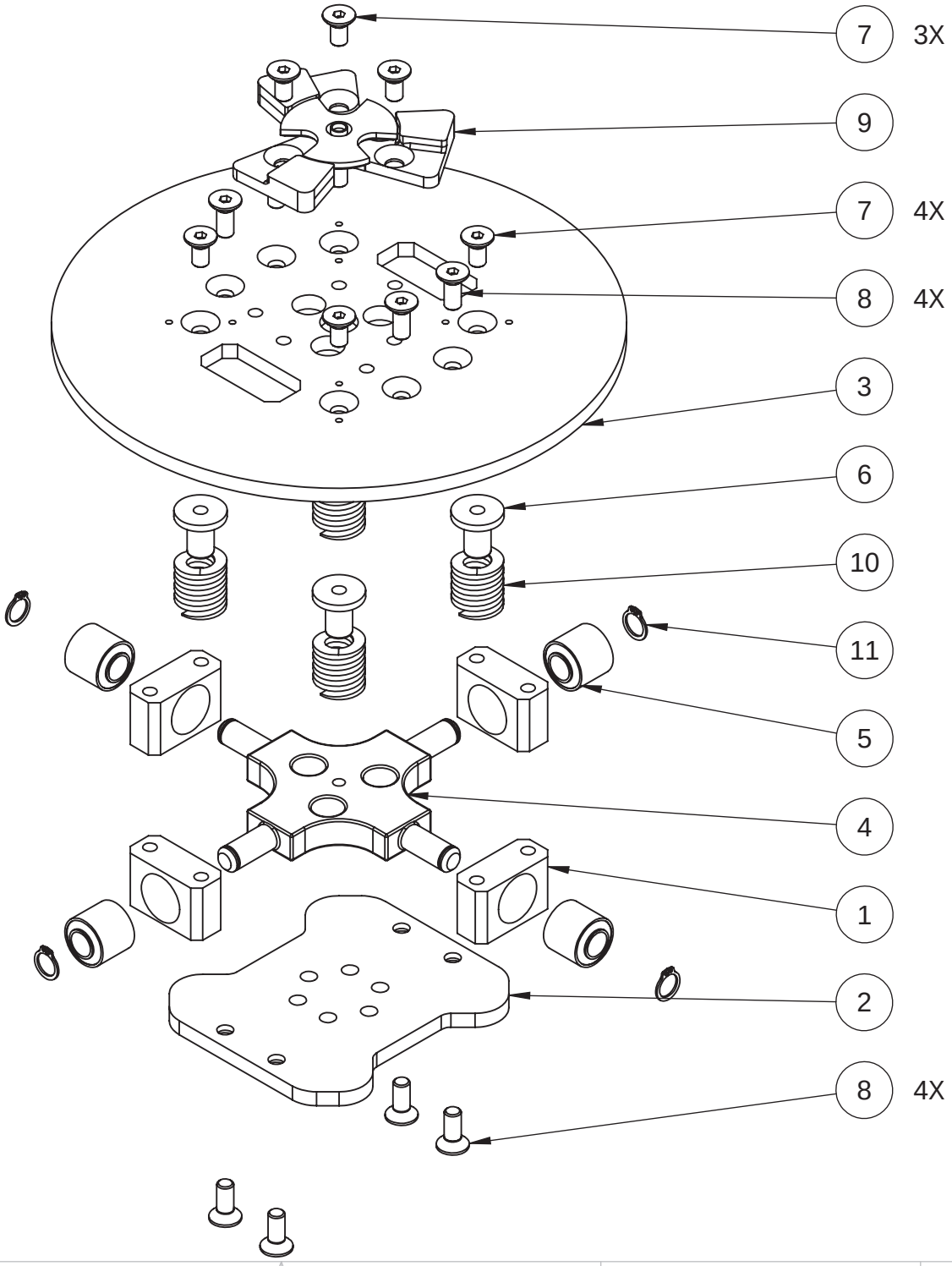
SCALE: 1:10	WEIGHT: 6.92	SHEET 1 OF 1

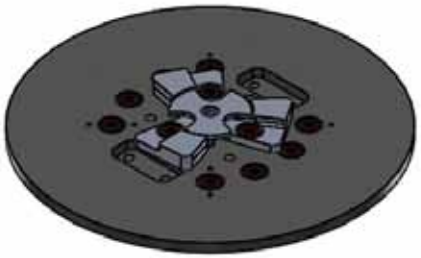
5 4 3 2 1

Power Take Off (PTO)			
Item No.	**Part No.**	**Description**	**Qty.**
1	PDG.20201.00	HUB	1
2	PDG.80007.02	SHEAVE, PTO HUB V3 RED	1
3	NB.20.107	Lugnut, M12-1.5	5
4	PDG.20202.00	AXLE, PTO	1
5	NB.20.108	NUT, HEX FLANGE M20-2.5	1
6	PDG.80006.50	SHEAVE, PTO DRIVE V2 YELLOW	1
7	NB.12.111	SCREW, SOCKET HEAD CAP M6 -1.0 X 16 12.9	5

	PDG.8A009.00	**SUBASSEM, PTO**	**1**

Power Take Off (PTO) Supplement			
3	NB.20.107	Red LocTite 263, torque 60 ft-lbf	5
5	NB.20.108	Red LocTite 263, torque 150 ft-lbf	1
7	NB.12.111	Red LocTite 263	5





PDG 8000

Flex Head

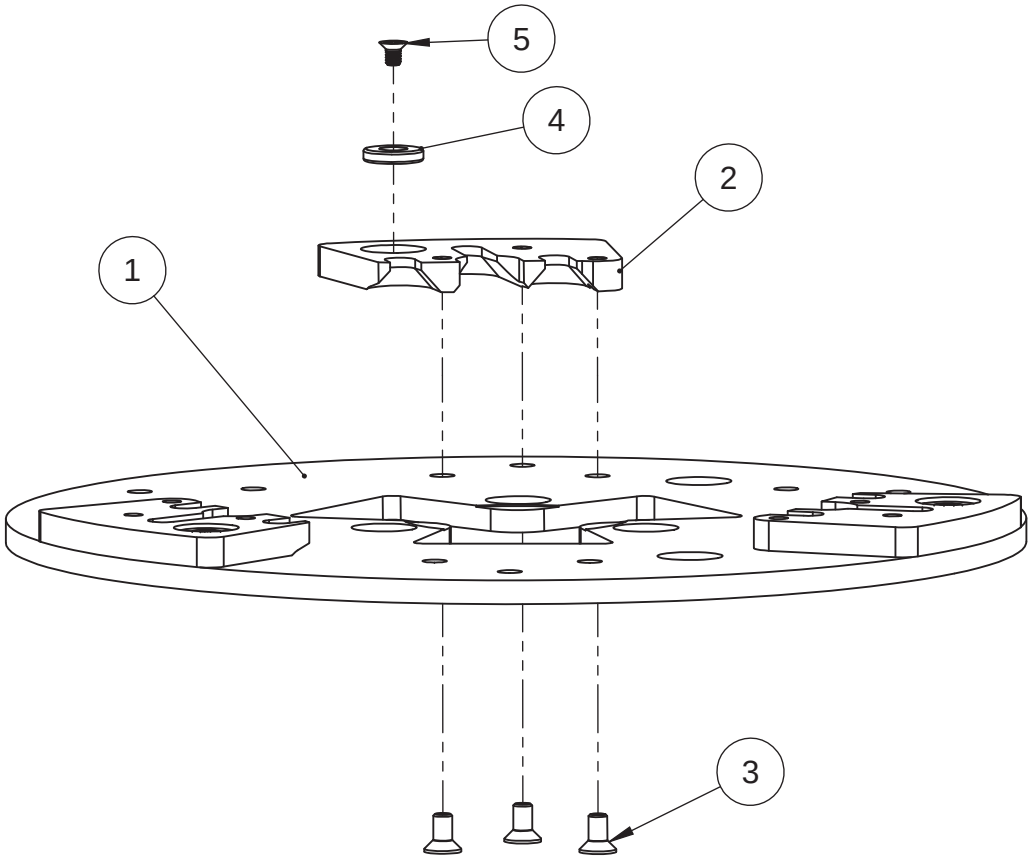
SCALE: 1:5	WEIGHT: 3.81	SHEET 1 OF 1

5 4 3 2 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 STUDDED	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

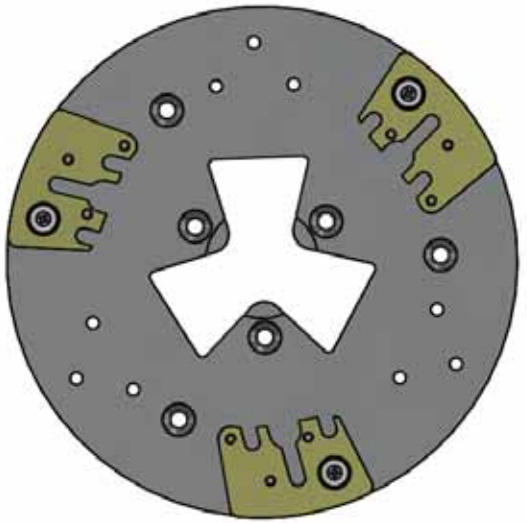
	PDG.8A010.00	**FLEX HEAD, COMPLETE WITH REDSPRING**	**1**

Flex Head Supplement			
7	NB.13.216	Red LocTite 263	7
8	NB.13.218	Red LocTite 263	8

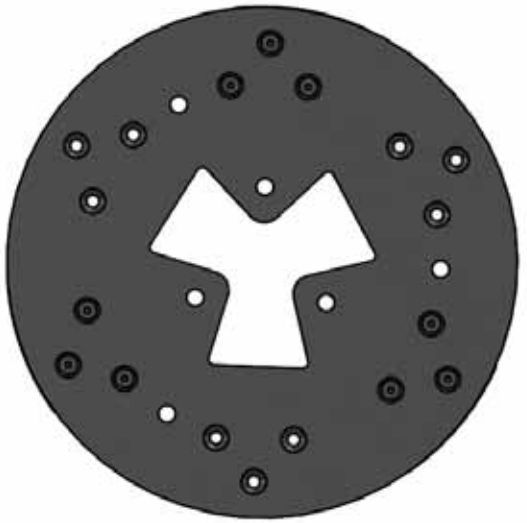


TORQUE @ 95 IN-LB

Top View



Bottom View



PDG 8000

Magnetic Tooling Plate

SCALE: 1:5	WEIGHT:	SHEET 1 OF 1

5 4 3 2 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**

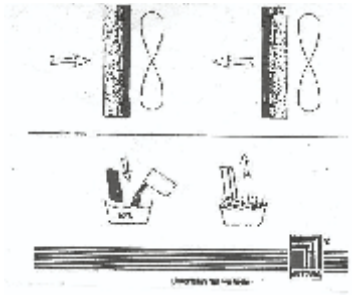
Tooling Plate Supplement			
3	NB.13.118	Red LocTite 263	9
5	NB.13.110	Green LocTite 609	3

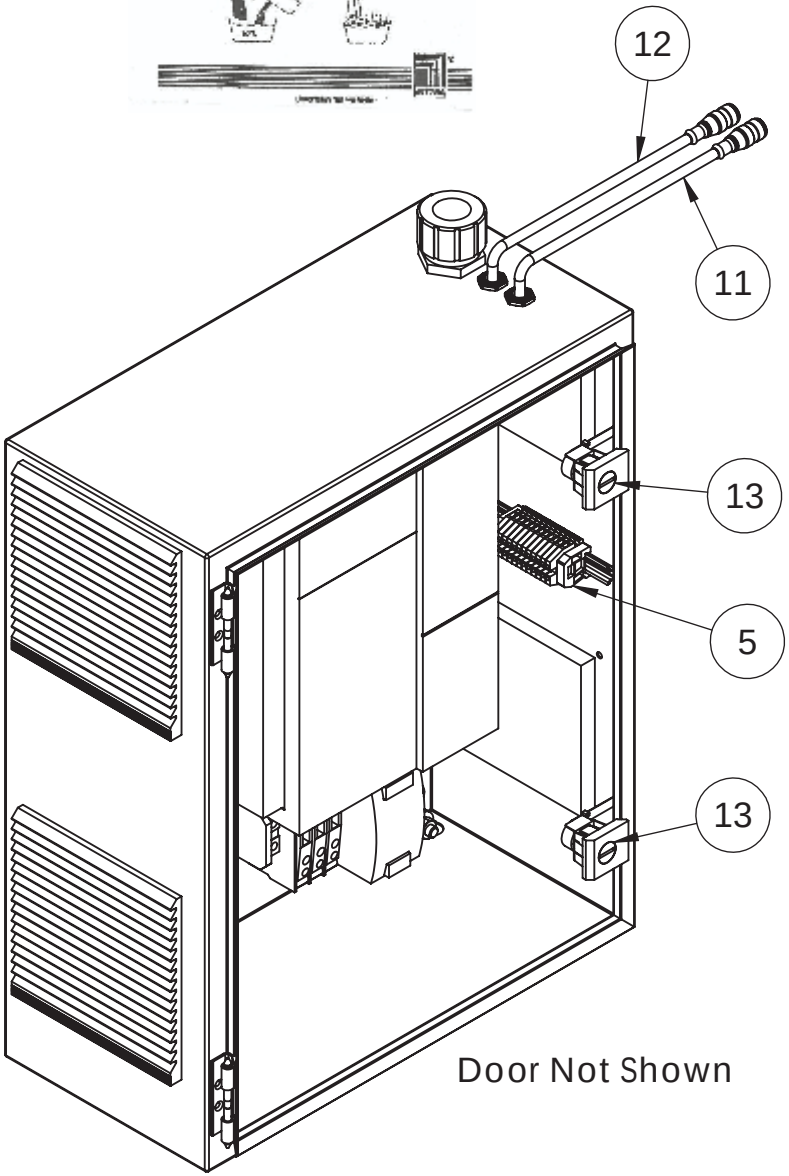
QCS Adapter			
2	WHOL.904134	QCS METAL BOND ADAPTERS FOR MAGNETS	1
4	PDG.20295.00	MAGNET, 5/8" OD X 1/8" THICK WITH CS HOLE NORTH	1
5	NB.13.110	SCREW, M4 X 6 FLAT HEAD PHILLIPS S/S	1

	SAS.904175	**ADAPTER, QCS WITH MAGNET**	**1**

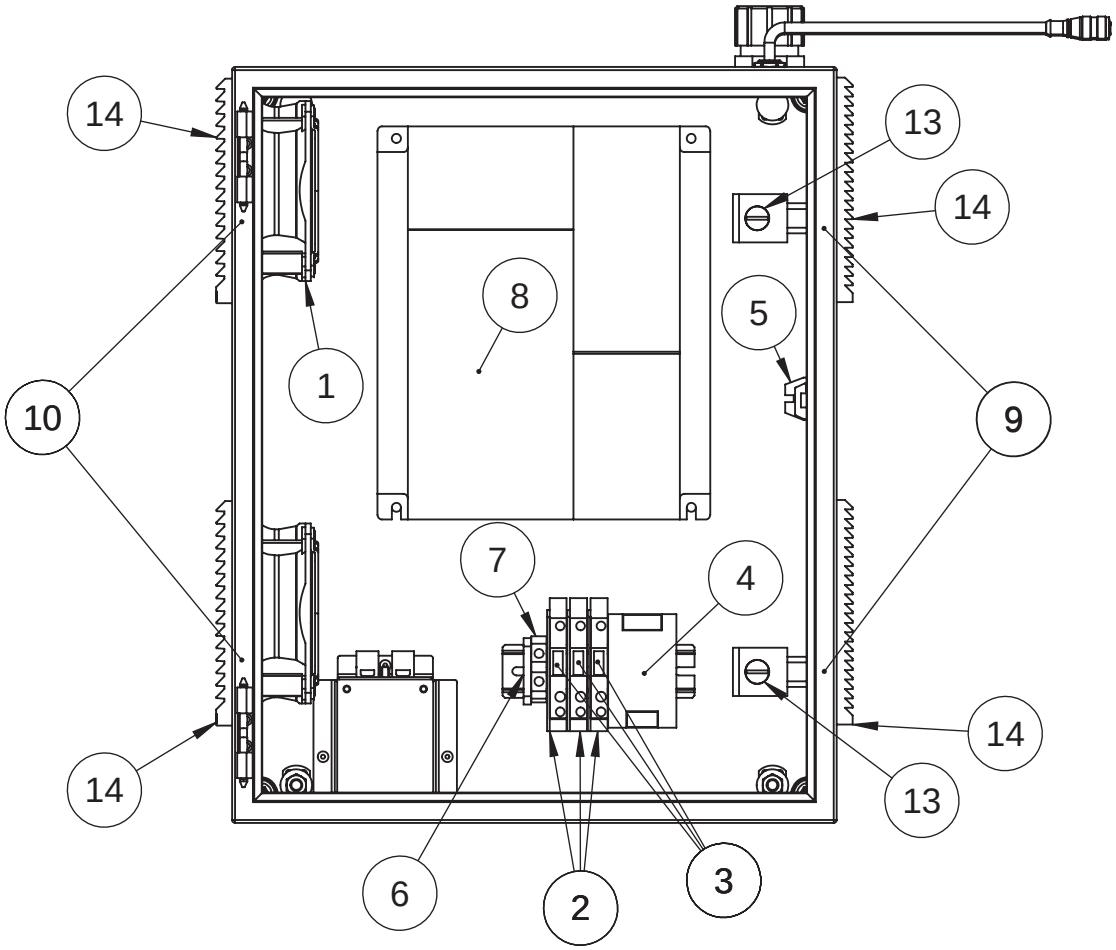
QCS Adapter Supplement			
5	NB.13.110	Green LocTite 609	3

Filter Maintenance: 100 Hours





Door Not Shown



PDG 8000

Control Box

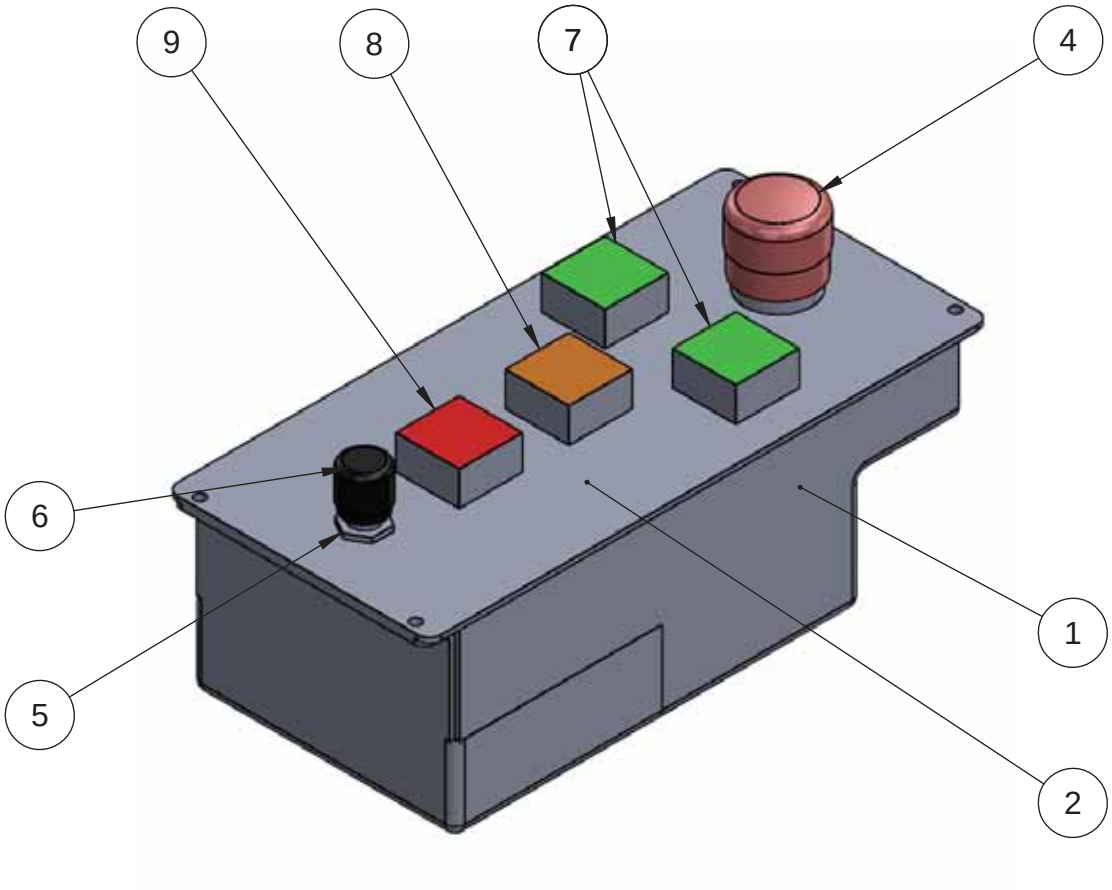
SCALE: 1:5 | WEIGHT: 19.72kg | SHEET 1 OF 1

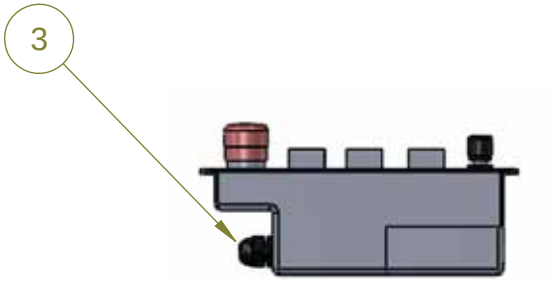
5 4 3 2 1

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 (in 230V machines)	1
4	PDG.20343.01	High Volt Power Supply (in 460V machines)	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	XXX.XXXXX.XX	Not Used	0
12	PDG.20317.01	CONNECTOR, BULKHEAD 12 PIN MALE RECEPTACLE	1
13	PDG.20327.00	Latch, Enclosure	2
14	PDG.20328.00	Filter Housing	4

Old inverters use different components

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





PDG 8000

Operator Interface

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

5 4 3 2 1

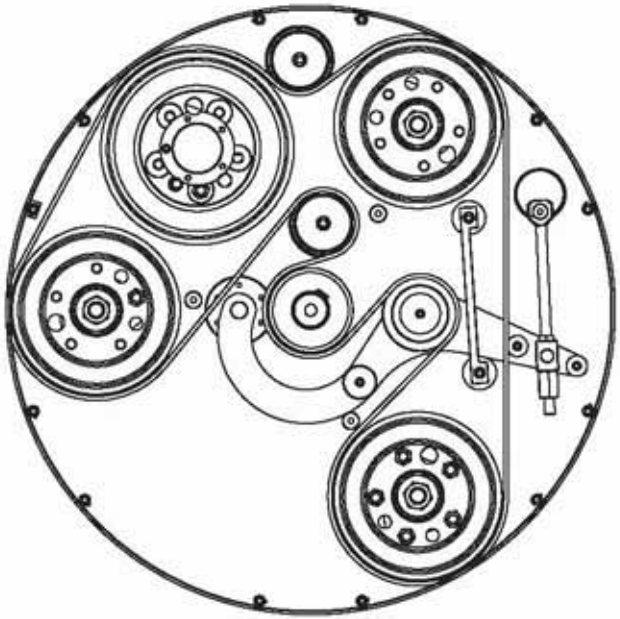
Operator Control Panel			
Item No.	**Part No.**	**Description**	**Quantity**
1	PDG.20318.00	Enclosure, Box	1
2	PDG.20320.00	Panel, No GOTT Face	1
3	PDG.20311.00	12-Pin Female Connector	1
4	PDG.20326.00	Emergency Stop	1
5 & 6	PDG.20331.00	Potentiometer, W/ Knob	1
7	PDG.20323.00	Green Push, Button	2
8	PDG.20322.00	Orange Push, Button	1
9	PDG.20324.00	Red Push, Button	1

Old version uses wires from inverter

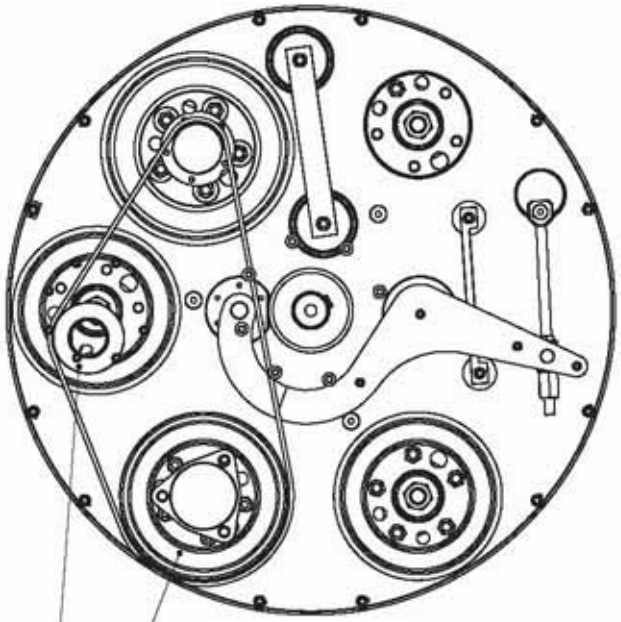
3	PDG.20317.00	12-Pin Male Connector	1

BELT TENSIONS

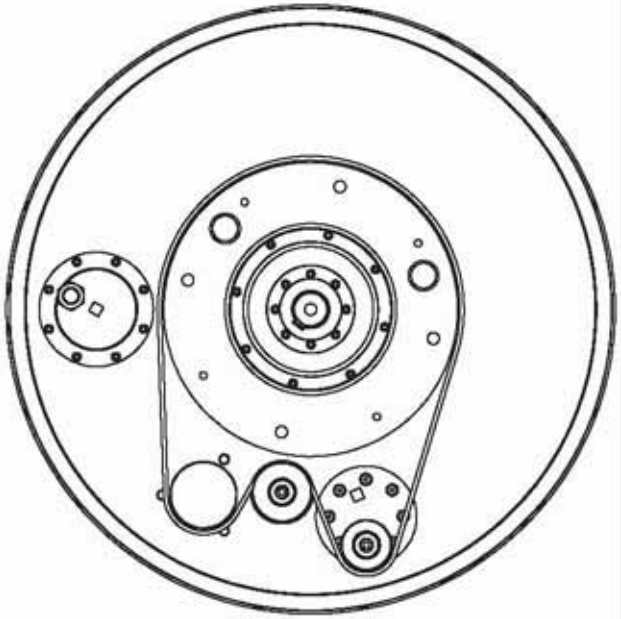
80 ±5 | 85 ±5 | 150 ±5



MAIN BELT
PDG.80039.00



PTO BELT
PDG.80040.00



TOP BELT
PDG.80041.00

THESE SHEAVES
LOCATED ON
TOP ASSEMBLY

PDG 8000

BELT PATHS

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

5 4 3 2 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
	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
	MT	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.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
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.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**	**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

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

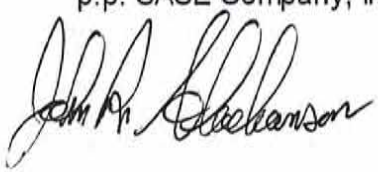
Company contact details:
SASE Company, Inc.
26423 79th Ave. South, Kent, Washington 98032, USA
Phone #: 800-522-2606 Fax #: 877-762-0748

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