



# PDG 8000P Manual

PDG.8000.08



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

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

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

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

Sincerely,

SASE Company, Inc.

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

Jim Weder

President



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# 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.

## Hazards

While, this machine is easy to use and has been used safely for many years, there are risks involved in operating any large propane machinery.

- ❖ Toxic Emission Exposure
- ❖ Fire Relate Incidents
- ❖ Mechanical action of moving and hot machine parts

## Toxic Emission Exposure

The major toxic gasses created when spent propane is exhausted are:

- ❖ **Carbon monoxide (CO)** - Over exposure to carbon monoxide results in brain damage, or death.
- ❖ **Oxides of nitrogen (NOx)** – Can damage lung tissue, aggravates respiratory diseases.
- ❖ **Hydrocarbons (HC)** – Can damage lungs.

We have included a sensor to test the air around the machine to limit exposure to toxic levels of emissions. Without proper ventilation, this sensor will shut down the machine after 30 seconds of use.

## Fire Relate Incidents

The fire related incidents are few, because of strict fire safety prevention laws, regulations, devices, and practices. Some common causes of fire related hazards.

- ❖ **Over fill** – If the tank is too full, and the pressure is vented indoors, that gas can start a fire, or be trapped dangerously in a room.
- ❖ **Improper storage** – The storage location must be safe from extreme temperature, but also safe from theft, and tampering.
- ❖ **Uneducated users** – The end user that does not understand the danger of improper use can cause unthinkable damage.

## Mechanical Action of Moving and Hot Machine Parts

Several parts of this machine are understood to be dangerous.

The front of the machine has a grill indicating it is “HOT”, this is an understatement. The muffler can reach nearly 1000F Degrees after use, and air venting from the motor side, can reach 800F to 1000F degrees as well.

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 entire machine has a force of it's own. If you lose control of the machine, it will walk away without you. The operator has to maintain control of the machine while it is on the ground. The machine moving freely can damage finished floor sections, or wall sections. Not to mention anyone caught by the grind head would be 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
- ❖ Check Oil and adjust level as needed
- ❖ Keep a Log Book for all service done.
- ❖ Check fuel cylinder for overfill before taking them into a building
- ❖ Be SURE that adequate ventilation is in use.
- ❖ Properly store propane fuel cylinders and machines.
- ❖ Be aware of changes in operation, smell, noise, etc. while operating
- ❖ Report to management ANY safety concerns.
- ❖ Follow manufacturer recommendations for all motor maintenance.

## Propane Cylinder

The cylinder used is classified as a DOT 4E240 cylinder. The service pressure the cylinder is designed for is at 20 PSI. The cylinder has a pressure relief if it reaches an excess of 300 PSI. If the tank is overfilled, this pressure relief will become active once the tank comes up to room temperature.

- ❖ Pressure relief is highly flammable!
- ❖ Never store the propane tank on the machine.
- ❖ Follow local and national regulation when using, storing and filling propane.

In the case of pressure relief catching fire, it is necessary to cool the cylinder. Use non-flammable cooling liquid, or a fire extinguisher, to lower the temperature of the cylinder. The flow of gas should stop, when the cylinder is cooled. Shutting off the flow of gas should extinguish the fire the gas was fueling.

Propane cylinders are above the capacity for storage in a place frequented by the public. So, storage on site at a grocery store would be against national fire safety code. NFPA 58 chapters 5 and 8

## Storage

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

Do not store the machine with propane attached.

The propane cylinder has to be stored in accordance with local and national regulation. **Do not overlook the danger of propane fire or explosion!**

## Operation 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. 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.

## Transportation

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.

## Control Panel

The operator controls consist of a number of toggles and switches, giving 4 separate controls.

### Clutch



Engage/disengage the drum rotation

NEVER ENGAGE/ DISENGAGE CLUTCH ABOVE 2000 RPM!

The motor is connected to a throttle cable for speed control. Twist to lock/Unlock, Pull for fast, push for slow.

### Speed Control



### Ignition



Turn to “START” until motor starts, leave in “ON” until finished. Turn to “OFF”, for motor stop.

### Tachometer



Reads current motor speed or total hours of operation. Push button toggles display.

### USB charging ports



USB ports, to use for charging a 2.1A device. Such as a phone or headset.

## Machine Power-Up

- ❖ Connect battery harness & propane tank.
- ❖ Turn Key to “START” position for a moment
- ❖ Turn Key to “ON” position

## Drum Rotation

- ❖ The green switch controls the electric clutch.
- ❖ Do not engage the clutch above 2000 RPM’s

In case of emergency stop, disengaging the clutch above 2000 RPM’s could be harmful to the motor. As some situations are more important than the service life of your machine, we recommend you use your discretion.

## Speed / Throttle

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.



**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.

# 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

Turn off the clutch, and then turn the key to the off position..

As an extra precaution, unplug battery from motor, to avoid 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.
2. Pull back on handle to lift grinding head off the ground (Illustrated middle right).
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.
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.



### 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 oil level 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.
- ❖ 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 the unit is OFF by turning the Key "OFF", and set the clutch to "OFF". Disconnecting the battery would add another layer of 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.
- ❖ Do not disconnect the static strap, this should discharge a great deal of static that is generated during grinding concrete..
- ❖ Follow Propane gas safety regulations at all times.

# 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

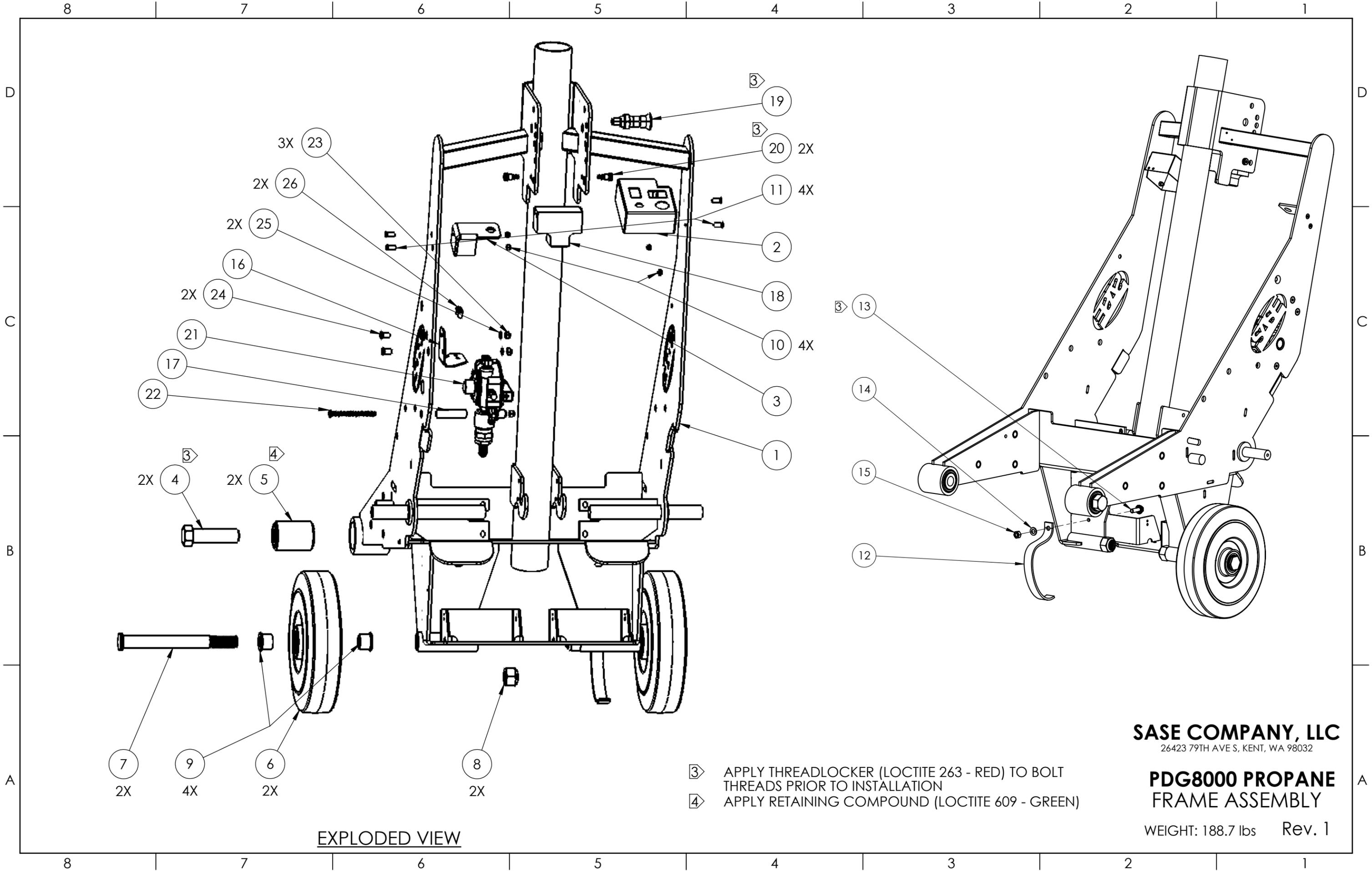
**1 ft.-lbs. = 1.3556 N.-m.**

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

## Basic Torque Reference

Thread Size	Socket Head Cap	Flat Head Socket Low Head Socket	Hex Head Flanged Hex Head
5 mm	88 in*lb	54 in*lb	76 in*lb
6 mm	12 ft*lb	8 ft*lb	11 ft*lb
8 mm	30 ft*lb	19 ft*lb	26 ft*lb
10mm	60 ft*lb	38 ft*lb	52 ft*lb

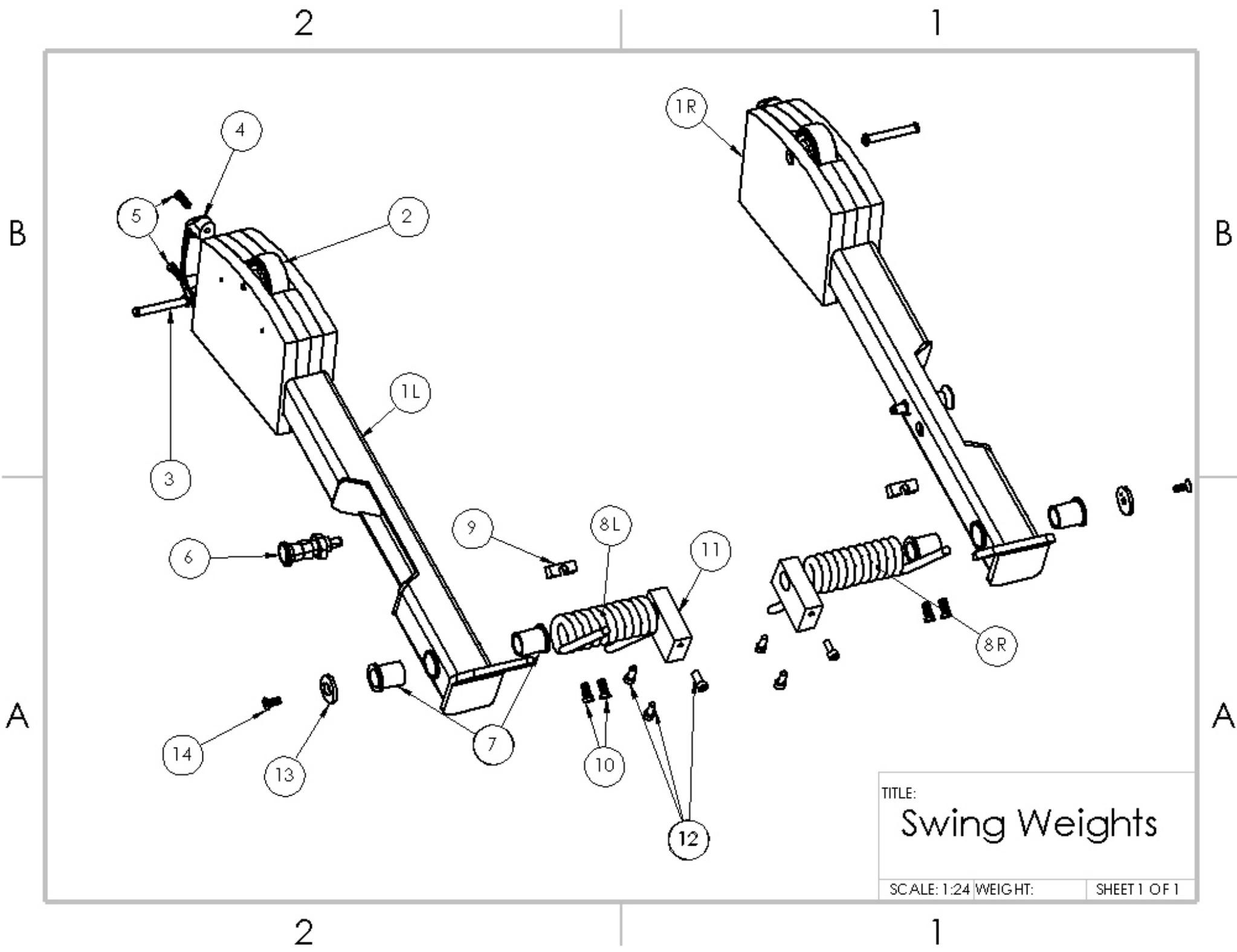
The torque reference should be thought of as the guide for the max force on a fastener. Not all cases will require max force. Example, If the fastener is holding a bearing max force should not be applied.



<b>FRAME ASSEMBLY</b>			
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	PDG.83320.50	FRAME, PROPANE, PDG8000	1
2	PDG.80403.01	CONTROLS BOX, PDG 8KP	1
3	PDG.83656.00	THROTTLE PLATE	1
4	NB.10.132	SCREW, HEX 1.0-8x4x4	2
5	PDG.84062.00	BUSHING, DRUM MOUNTING	2
6	PDG.20411.00	WHEEL, REAR M300	2
7	NB.10.123	SCREW, MOD HEX HEAD CAP M24 X 250	2
8	NB.20.151	NUT, NYLOC HEX M24 ZINC	2
9	PDG.20255.01	BUSHING, WHEEL AXLE METRIC	4
10	NB.20.132	NUT, NYLOC M6	4
11	NB.13.116	SCREW, FLAT HEAD SOCKET M6 -1.0 X 20	4
12	PDG.83356.00	STRAP, STATIC	1
13	NB.11.130	SCREW, FLANGED HEX HEAD CAP SERRATED M10-1.5 X 30 ZINC	1
14	NB.30.110	WASHER, FLAT M10 ZINC	1
15	NB.20.115	NUT, HEXAGONAL M10 ZINC	1
16	PDG.80400.01	FRAME BRACKET, REGULATOR	1
17	PDG.80400.02	SPACER, PROPANE REGULATOR, 8KP	1
18	PDG.83605.00	TANK LOCK, SWINGING	1
19	PDG.80150.50	PLUNGER, PULL KNOB	1
20	NB.15.246	SCREW, SOCKET HEAD SHOULDER M10 X 10. M8-1.25 2	2
21	PDG.83495.00	REGULATOR, PROPANE ASSEMBLY B&S	1
22	NB.13.230	SCREW, FLAT HEAD SOCKET M8-1.25 X 100	1
23	NB.20.143	NUT, M8 - 1.25 ZINC-PLATED NYLOC	3
24	NB.13.222	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 20 2	2
25	NB.30.111	WASHER, FLAT M8 ZINC	2
26	NB.10.200	SCREW, HEX M6-1.0 x 12	2

**WATER TANK AND FASTENERS (NOT DISPLAYED)**

27	PDG.80055.50	TANK, WATER 25 GAL V5	1
28	NB.13.225	SCREW, FLAT HEAD SOCKET M8-1.25 X 40	2
29	NB.30.404	WASHER, FENDER M8 X 24	2
30	NB.20.143	NUT, M8-1.25 NYLOC	2

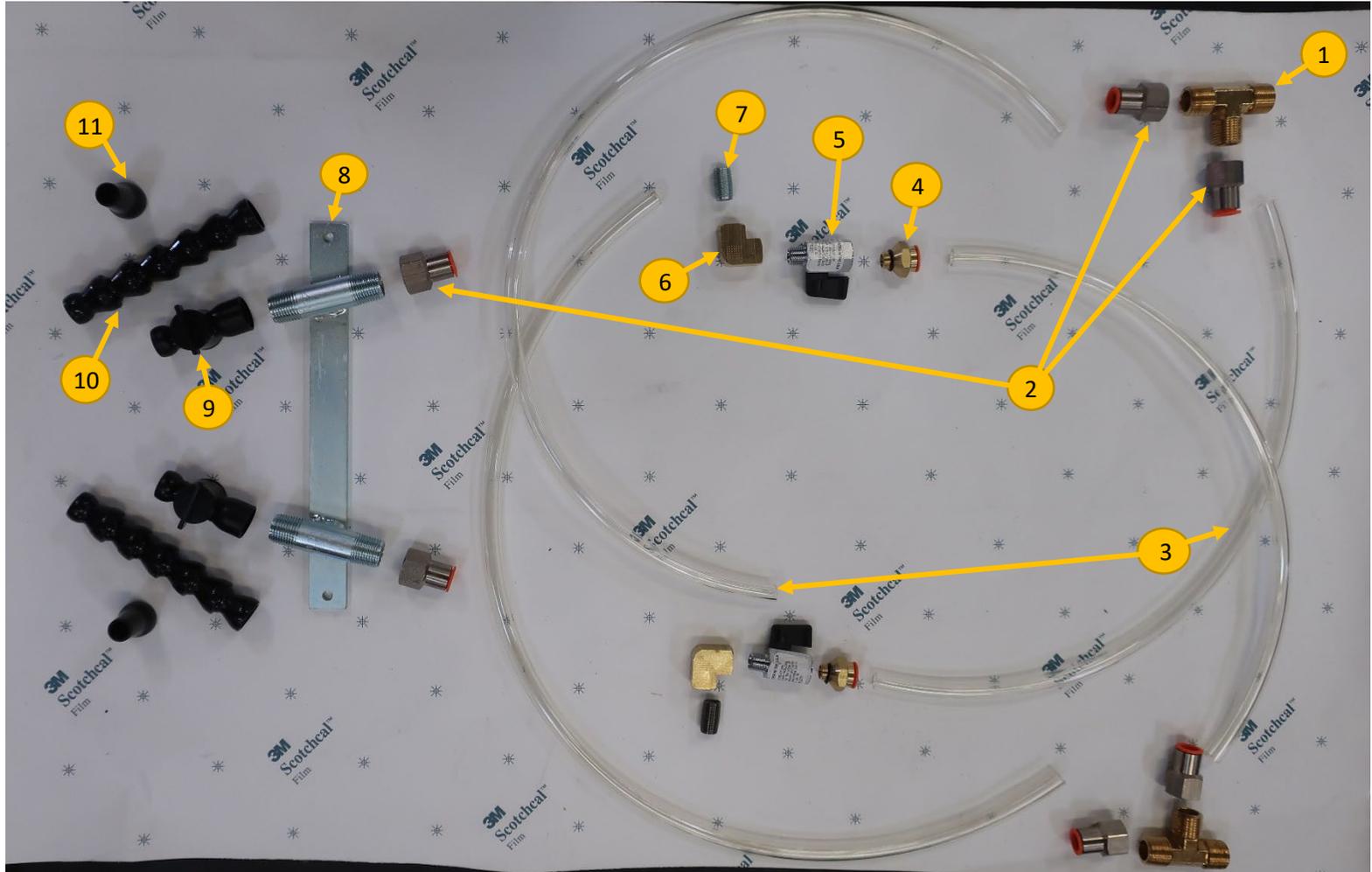


TITLE:  
**Swing Weights**

SCALE: 1:24 | WEIGHT: | SHEET 1 OF 1

**SWING WEIGHTS**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Quantity</b>
1 R	PDG.80221.00	ARM, SWING WEIGHT WELDMENT RIGHT	1
1 L	PDG.80220.00	ARM, SWING WEIGHT WELDMENT LEFT	1
2	PDG.80133.00	WHEEL, RUBBER SWING WEIGHT	2
3	NB.50.163	PIN, CLEVIS 3/8" X 2-13/16"	2
4	PDG.80134.00	HANDLE, PULL	2
5	NB.12.117	SCREW, SOCKET HEAD CAP M6-1.0 X 25 12.9 ZINC	4
6	PDG.80150.70	PLUNGER, PULL KNOB HD	2
7	PDG.80135.00	BEARING, FLANGED SLEEVE	4
8 R	PDG.80130.00	SPRING, TORSION RIGHT HAND	1
8 L	PDG.80140.00	SPRING, TORSION LEFT HAND	1
9	PDG.80225.00	CLAMP, SPRING	2
10	NB.12.225	SCREW, SLHC M8 X 25	4
11	PDG.83670.00	BRACE, SUPPORT	2
12	NB.10.218	SCREW, SHC M8 X 20	6
13	PDG.80224.00	RETAINER, WEIGHT ARM	2
14	NB.13.218	SCREW, FSHC M8 X 20	2



**WATER SYSTEM**

WATER SYSTEM			
Item No.	Part No.	Description	Quantity
1	PDG.84146.00	COUPLER, TEE	2
2	PDG.84140.00	FITTING, PUSH TO CONNECT FEMALE 1/2" TO 1/2"	6
3	PDG.20262.50	TUBING, WATER CLEAR 1/2"	~10 FT
4	PDG.84141.00	FITTING, PUSH TO CONNECT MALE 1/2" TO 1/4"	2
5	PDG.20247.00	VALVE, 1/4 BALL	2
6	PDG.20268.00	ELBOW, BRASS FEMALE 1/4 NPT X 1/4 NPT	2
7	PDG.20267.00	NIPPLE, 1/4" X CLOSE GALV	2
8	PDG.84147.00	BRACKET, WATER SYSTEM	1
9	PDG.84145.00	VALVE, FEMALE 1/2" NPT BLACK	2
10	PDG.84143.00	HOSE, FLEXIBLE 1/2" X 5 1/2" BLACK	2
11	PDG.84144.00	NOZZLE, ROUND 1/2" BLACK	2

#3, CUT 4 pieces as follows.

2 @ 22 inch

2 @ 33 inch

#1/#8 leak prevention tape added, at thread ends.

#9/#10/#11 are connected to each other, using a special tool.

8

7

6

5

4

3

2

1

D

D

C

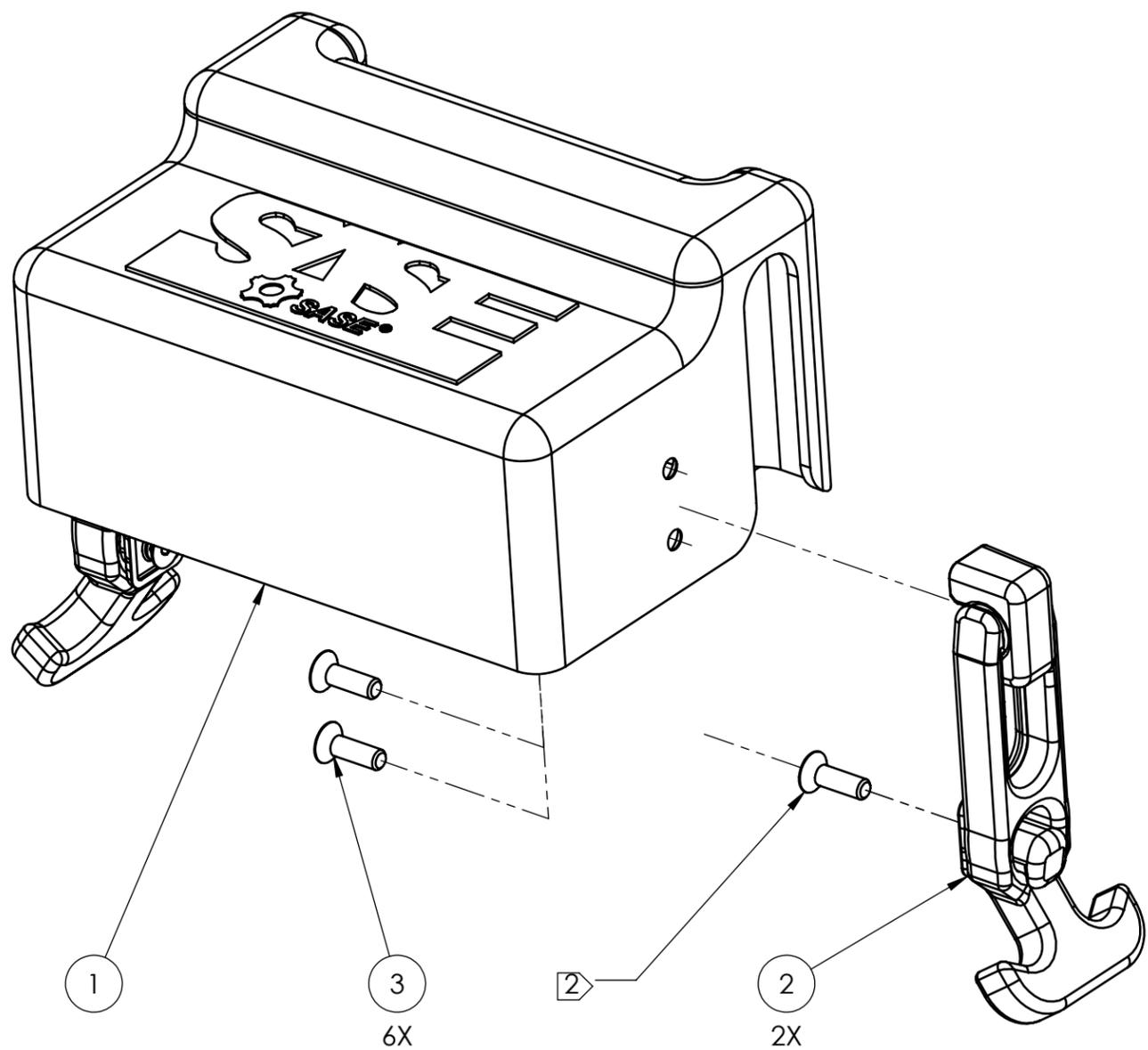
C

B

B

A

A



EXPLODED VIEW  
(P/N: PDG.8A40400)

**SASE COMPANY, LLC**  
26423 79TH AVE S, KENT, WA 98032

**PDG8000 PROPANE**  
**BATTERY ASSEMBLY**  
WEIGHT: 0.7 lbs Rev. 0

8

7

6

5

4

3

2

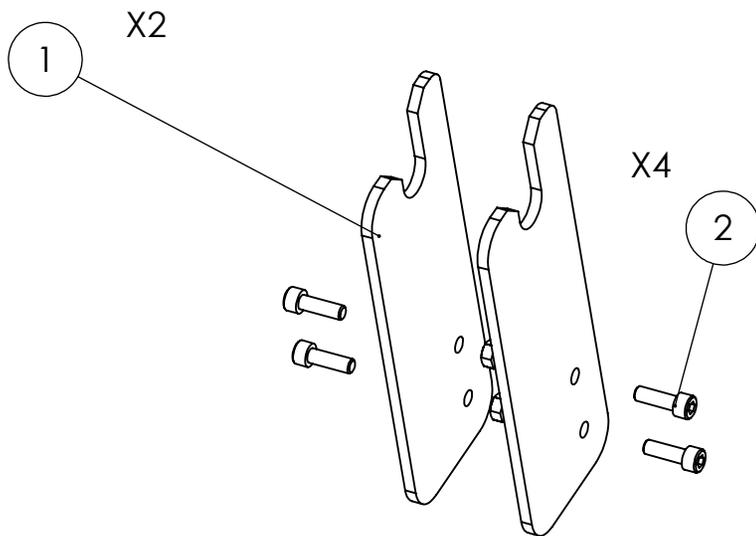
1

BATTERY ASSEMBLY			
Item No.	Part No.	Description	Qty.
1	PDG.83560.30	LID, BATTERY	2
2	PDG.20276.00	T-HANDLE FLEXIBLE W/ CONSEALED SCREWS	4
3	NB.13.130	SCREW, FLAT HEAD SOCKET CAP M5-0.8 X 16	12
4	PDG.83204.00	BATTERY, 12 VOLT <b>(NOT IN IMAGE)</b>	2
5	PDG.83574.00	HARNESS, BATTERY CABLE ENGINE SIDE (2-BATTERIES) <b>(NOT IN IMAGE)</b>	1

MACHINE CONTROLS			
6	PDG.83214.25	SWITCH, IGNITION	1
7	PDG.83212.00	METER, HOUR	1
8	PDG.20395.00	ADAPTER, USB CHARGER	1
9	PDG.83213.00	SWITCH, ROCKER	1
10	PDG.83211.50	CABLE, THROTTLE	1

NOTES:

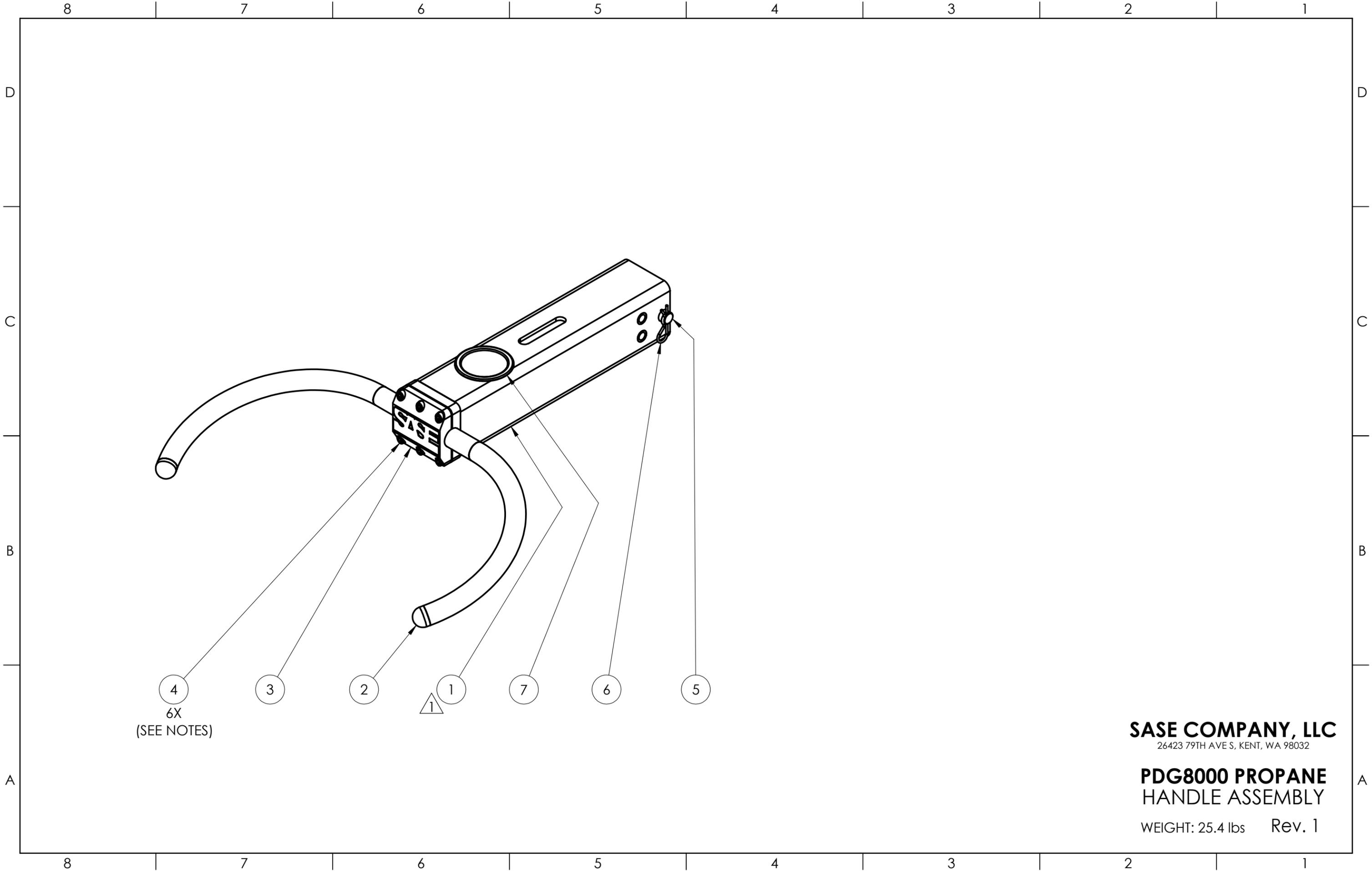
1. FOLLOW MANUFACTURER TORQUE VALUES FOR THREADS ON PLASTIC PARTS
- ② THIS SCREW & HOOK MECHANISM ATTACHES TO PDG.8A400.00 (2 PCS)



#1 (SMALL TANK ADAPTERS) AND  
#2 (NUT AND BOLT) SET IN TANK

<b>PDG 8000</b>		
<b>SMALL TANK BRACKET</b>		
SCALE: 1:50	WEIGHT:	





**SASE COMPANY, LLC**  
26423 79TH AVE S, KENT, WA 98032

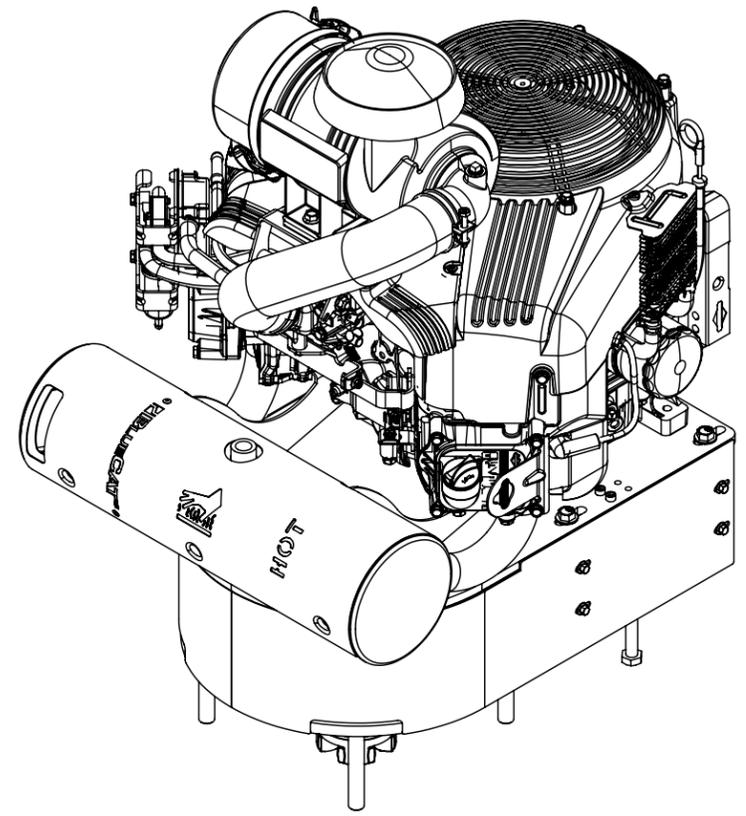
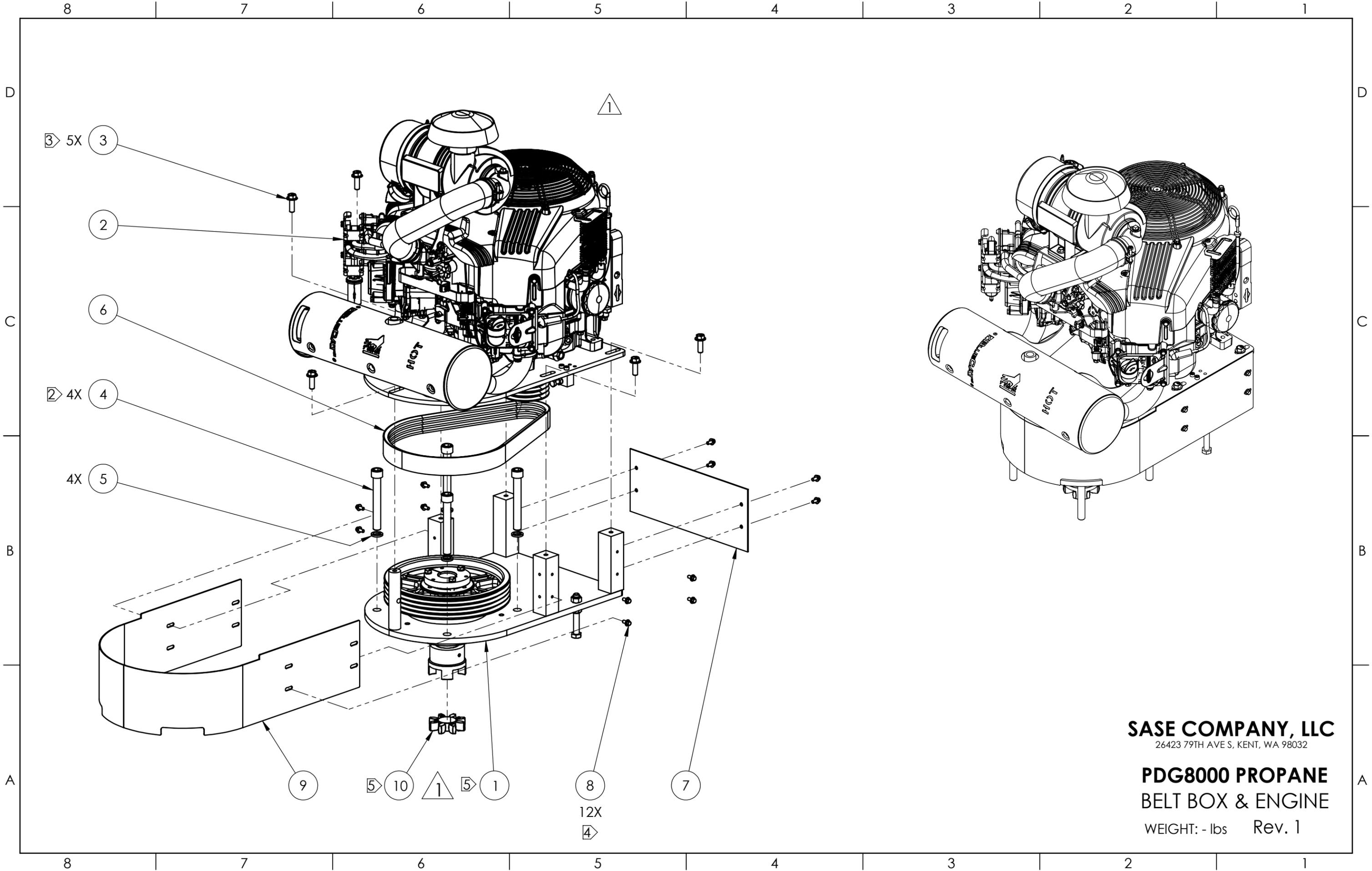
**PDG8000 PROPANE  
HANDLE ASSEMBLY**

WEIGHT: 25.4 lbs    Rev. 1

HANDLE ASSEMBLY			
Item No.	Part No.	Description	Qty.
1	PDG.83526.21	HANDLE STEM WELDMENT	1
2	PDG.83526.02	HANDLE BAR WELDMENT	1
3	PDG.83526.23	CLAMP, HANDLE BAR	1
4	NB.12.219	SCREW, SOCKET HEAD CAP M8-1.25 X 25 12.9 ZINC	6
5	NB.50.169	CLEVIS PIN, .75" X 5" LONG	1
6	NB.50.128	COTTER PIN, 18-8 SS HAIRPIN	1
7	PDG.20423.00	CUP HOLDER, BLACK PLASTIC	1
8	PDG.84323.30	PIN, QUICK RELEASE RING-GRIP W/LANYARD	1
9	NB.11.104	SCREW, FLANGED M4-0.7	1

NOTES:

1. APPLY 23.6 FT-LBS OF TORQUE TO ITEM 4 WHEN INSTALLING HANDLE BAR CLAMP.
2. INSTALL AND TIGHTEN SIX (6) SCREWS EVENLY TO ENSURE CLAMP IS NOT MISALIGNED ON HANDLE BAR WELDMENT.



**SASE COMPANY, LLC**  
 26423 79TH AVE S, KENT, WA 98032

**PDG8000 PROPANE  
 BELT BOX & ENGINE**

WEIGHT: - lbs Rev. 1

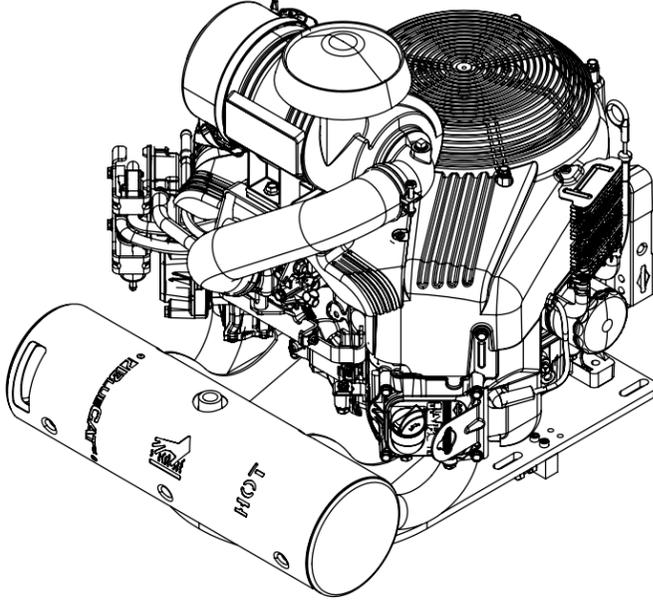
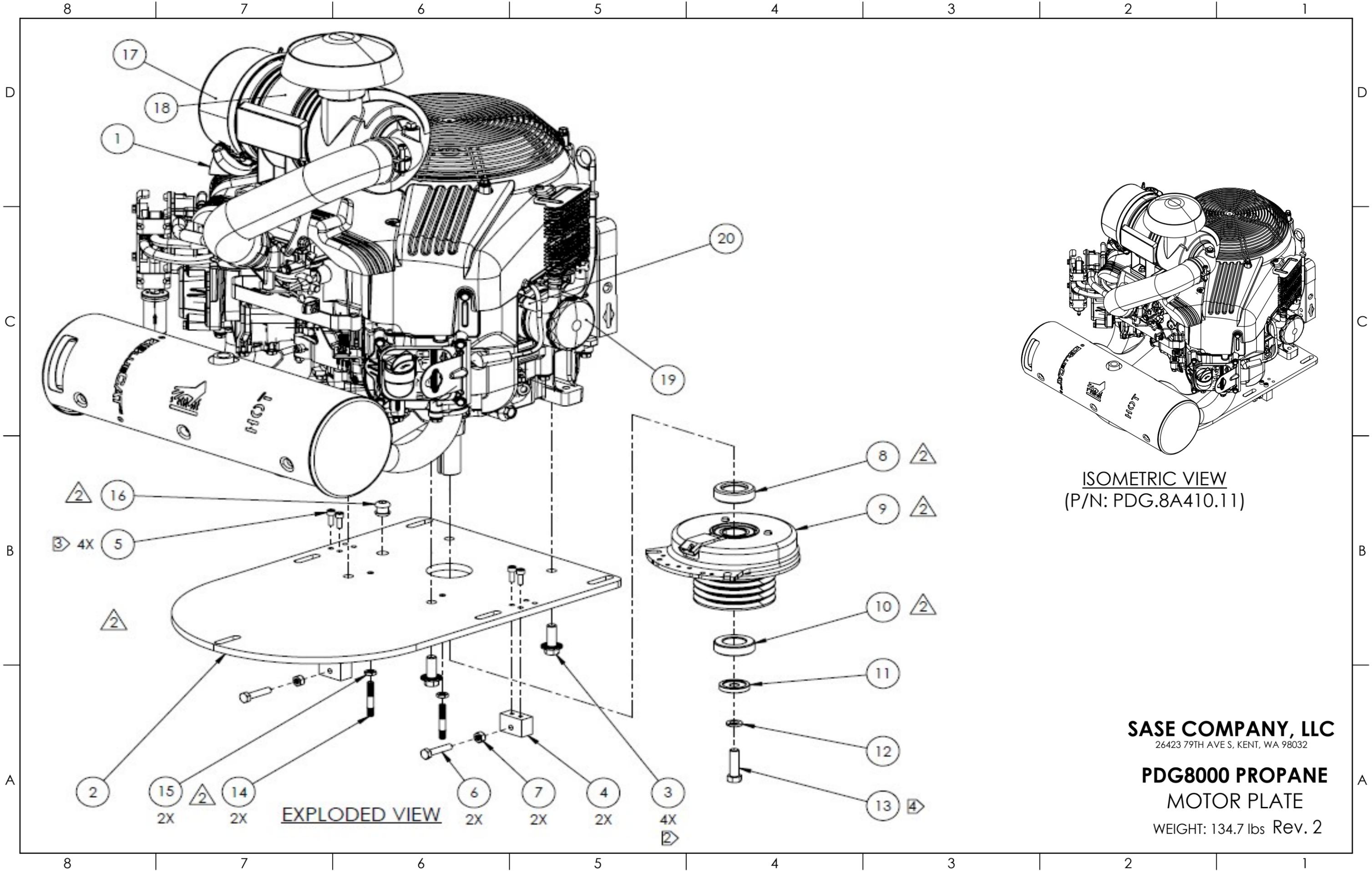
<b>BELT BOX ASSEMBLY W/ ENGINE</b>			
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	PDG.8A410.10	SUBASSEMBLY, DRUM PLATE, CENTRIFUGAL CLUTCH	1
2	PDG.8A410.11	SUBASSEMBLY, MOTOR PLATE, ELECTRIC CLUTCH	1
3	NB.11.130	SCREW, FLANGED HEX HEAD CAP SERRATED M10-1.5 X 30 ZINC	5
4	NB.12.259	SCREW, SOCKET HEAD M16 -2 X 120 ZINC	4
5	NB.30.133	WASHER, LOCK M16 ZINC	4
6	PDG.83226.80	BELT, 4/3VX 425 GATES POWERBAND	1
7	PDG.83510.00	REAR COVER	1
8	NB.11.109	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 12 NON-SERRATED ZINC	12
9	PDG.83515.30	COVER, LONG	1
10	PDG.80099.00	BUSHING, SPYDER RED	1

<b>WIRING COMPONENTS</b>			
11	PDG.83346.00	HARNESS, WIRING	1
12	PDG.83232.00	SOFTSTART, CLUTCH	1
13	PDG.83233.50	CABLE, SOFTSTART	12

<b>ADDITIONAL COMPONENTS</b>			
14	PDG.83488.00	HOSE, OIL DRAIN	1
15	NB.52.207	CLAMP, LOOP 7/8"	2
16	NB.52.206	CLAMP, LOOP 1/4"	1
17	795.00.12	ZIP TIE, BLACK 11"	15

NOTES:

1. EXPLODED VIEW
2. WHEN INSTALLING BOLTS INTO DRUM (P/N: PDG.80000.00), APPLY BLUE LOCTITE (#243) AND TORQUE TO 50 FT-LBS
3. APPLY RED LOCTITE (#263) TO BOLTS PRIOR TO INSTALLATION & TORQUE TO 50 FT-LBS
4. APPLY BLUE LOCTITE (#243) TO BOLTS PRIOR TO INSTALLATION & TORQUE UNTIL TIGHT
5. ITEM 1 AND ITEM 10 NEEDS TO BE INSTALLED ON DRUM (P/N: PDG.80000.00) PRIOR TO INSTALLING REMAINING COMPONENTS.



ISOMETRIC VIEW  
(P/N: PDG.8A410.11)

**SASE COMPANY, LLC**  
26423 79TH AVE S, KENT, WA 98032

**PDG8000 PROPANE  
MOTOR PLATE**

WEIGHT: 134.7 lbs Rev. 2

EXPLODED VIEW

- 17
- 18
- 1
- 20
- 19
- 2
- 16
- 3 4X 5
- 2
- 2
- 15 2X
- 14 2X
- 6 2X
- 7 2X
- 4 2X
- 3 4X
- 8 2
- 9 2
- 10 2
- 11
- 12
- 13 4

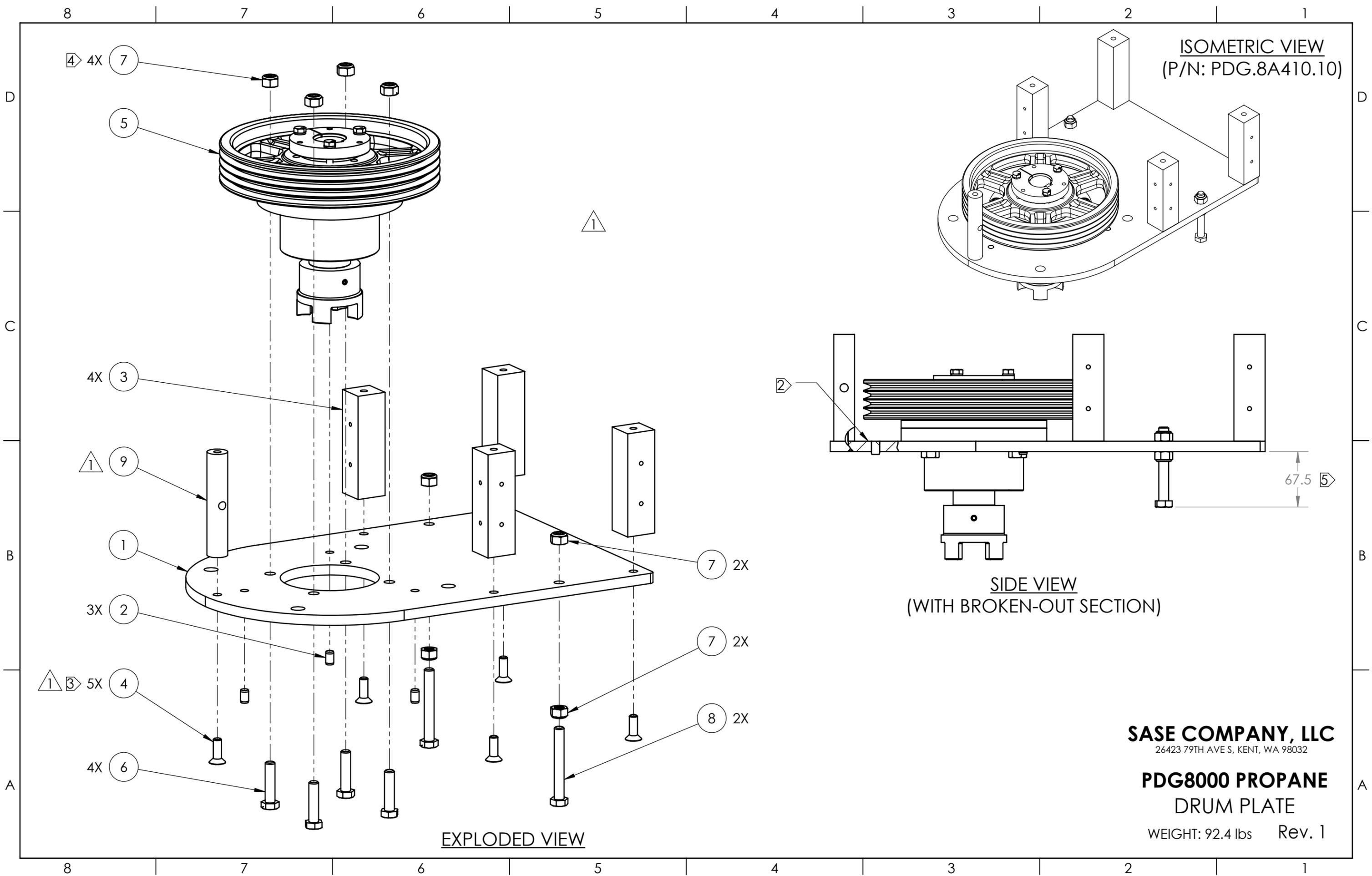
MOTOR PLATE ASSEMBLY			
Item No.	Part No.	Description	Qty.
1	PDG.83503.00	ENGINE, B&S 993CC	1
2	PDG.83511.30	MOTOR PLATE, ELECTRIC CLUTCH	1
3	NB.11.150	SCREW, FLANGED HEX HEAD CAP SERRATED M12-1.75 X 30 ZINC	4
4	PDG.83517.00	TENSIONER, CENTRIFUGAL CLUTCH	2
5	NB.12.111	SCREW, SOCKET HEAD CAP M6 -1.0 X 16 12.9 ZINC	4
6	NB.10.146	SCREW, HEX M8-1.25 X 55 18-8 STAINLESS	2
7	NB.20.127	NUT, JAM M8 - 1.25 ZINC-PLATED	4
8	PDG.83518.25	SPACER,	1
9	PDG.83210.50	CLUTCH, ELECTRIC 4 GROOVE PULLEY	1
10	PDG.83518.00	CLUTCH SPACER	1
11	PDG.83519.00	CLUTCH WASHER	1
12	NB.30.406	WASHER, LOCK 7/16" GRADE 8 YELLOW	1
13	NB.10.255	SCREW, HEX 7/16-20 X 1.5" GRADE 8 YELLOW	1
14	NB.82.100	STUD, DOUBLE END THREADED M8-1.25 X 50	2
15	NB.20.127	NUT, HEXAGONAL JAM M8	2
16	PDG.83529.00	GROMMET, HIGH-TEMP 9/16"-3/8"-3/8"	1
17	PDG.83490.00	AIR FILTER, OUTER PRIMARY AIR BRIGGS 810CC/993CC/PDG8KP	1
18	PDG.83490.50	AIR FILTER, INNER SAFETY AIR BRIGGS 810CC/993CC/PDG8KP	1
19	PDG.83499.00	OIL FILTER, BRIGGS 993CC/PDG8KP (10W 30 FULL SYNTHETIC OIL RECOMMENDED)	1
20	PDG.83479.00	SPARK PLUG, BRIGGS 810CC/993CC/PDG8KP	2

- ② APPLY RED LOCTITE (#263) TO BOLTS PRIOR TO INSTALLATION & TORQUE TO 50 FT-LBS
- ③ APPLY RED LOCTITE (#263) TO BOLTS PRIOR TO INSTALLATION & TORQUE TO 115 IN-LBS
- ④ APPLY RED LOCTITE (#263) TO BOLTS PRIOR TO INSTALLATION & TORQUE TO 52 FT-LBS

ITEM NUMBERS 17-20 ARE INCLUDED IN THE MOTOR IN A NEW MACHINE.

REPLACEMENT PARTS ARE ALL AVAILABLE AT [shop.briggsandstratton.com](http://shop.briggsandstratton.com) USING THE FOLLOWING NUMBERS:

- #17 (PDG.83490.00) B&S# 841497
- #18 (PDG.83490.50) B&S# 821136
- #19 (PDG.83499.00) B&S# 842921
- #20 (PDG.83479.00) B&S# 491055



**ISOMETRIC VIEW**  
(P/N: PDG.8A410.10)

**SIDE VIEW**  
(WITH BROKEN-OUT SECTION)

**EXPLODED VIEW**

**SASE COMPANY, LLC**  
26423 79TH AVE S, KENT, WA 98032

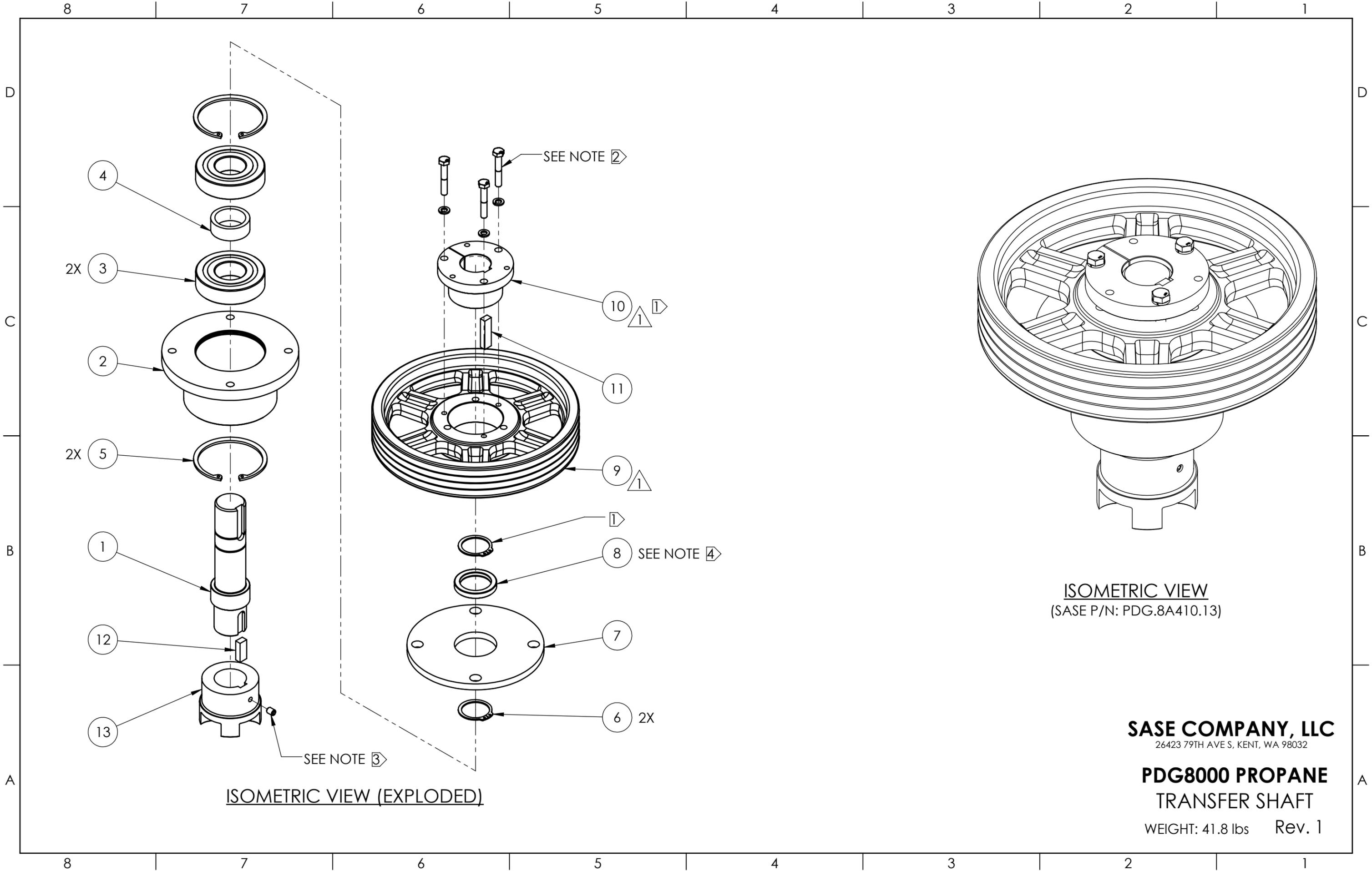
**PDG8000 PROPANE**  
**DRUM PLATE**

WEIGHT: 92.4 lbs Rev. 1

DRUM PLATE ASSEMBLY			
Item No.	Part No.	Description	Qty.
1	PDG.83512.30	BASE PLATE, LONG	1
2	NB.50.158	M10 X16 SS DOWEL PIN	3
3	PDG.83513.00	STAND OFF	4
4	NB.13.252	SCREW, SOCKET FLAT HEAD CAP M10-1.5 X 30	5
5	PDG.8A410.13	SUBASSEM, TRANSFER SHAFT, CLUTCH	1
6	NB.10.129	SCREW, HEX HEAD CAP M12-1.75 X 50 ZINC 10.9	4
7	NB.20.118	NUT, HEX M12-1.75 NYLOC	8
8	NB.10.155	SCREW, HEX M12-1.75 X 90 FULL THREAD ZINC 8.8	2
9	PDG.83513.30	STANCHION, FRONT CLUTCH BOX	1

NOTES:

1. SEE SHEET 2 FOR EXPLODED VIEW AND BOM
- ② PRESS FIT DOWEL PINS FLUSH TO THIS SURFACE WITHIN  $\pm 0.3$
- ③ APPLY RED LOCTITE (#263) TO BOLT(S) PRIOR TO INSTALLATION & TORQUE TO 50 FT-LBS
- ④ TORQUE BOLT(S)/NUT(S) TO 69.5 FT-LBS
- ⑤ ADJUST BOLTS AS REQUIRED TO REST BOLT HEADS ON TOP OF DRUM AFTER INSTALLATION OF THIS SUBASSEMBLY ONTO DRUM AND FRAME



ISOMETRIC VIEW (EXPLODED)

ISOMETRIC VIEW  
(SASE P/N: PDG.8A410.13)

**SASE COMPANY, LLC**  
26423 79TH AVE S, KENT, WA 98032

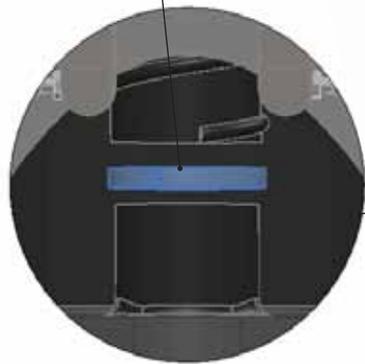
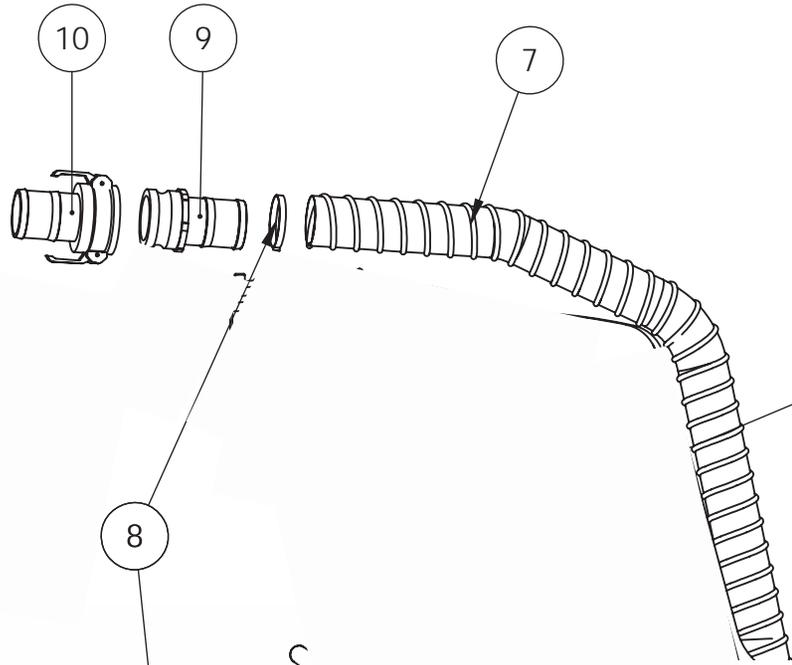
**PDG8000 PROPANE  
TRANSFER SHAFT**

WEIGHT: 41.8 lbs Rev. 1

TRANSFER SHAFT ASSEMBLY			
Item No.	Part No.	Description	Qty.
1	PDG.83514.00	SHAFT	1
2	PDG.83520.00	BEARING HOUSING, PRIMARY	1
3	PDG.83530.00	BEARING, BALL, 6308-2RS	2
4	PDG.83521.00	ID SPACER	1
5	NB.40.127	RING, INTERNAL RETAINING M90	2
6	NB.40.110	RING, EXTERNAL RETAINING M40	2
7	PDG.83522.00	SEAL PLATE	1
8	PDG.83531.00	SEAL, ROTARY SHAFT M40 X M55	1
9	PDG.83225.50	SHEAVE, 4/3V 1060	1
10	PDG.83227.85	BUSHING, 40MM - SK	1
11	PDG.83525.00	SHEAVE KEY, CENTRIFUGAL CLUTCH	1
12	PDG.83524.00	LOVEJOY KEY	1
13	PDG.80100.50	COUPLER, CJ38/45 LOVEJOY MACHINED DOWN	1

NOTES:

- ① BUSHING (ITEM 10) SHOULD REST ON EXT. RETAINING RING (ITEM 6)
- ② THREE M8 HEX BOLTS AND LOCKWASHERS COME WITH ITEM 10. APPLY RED LOCTITE (#263) PRIOR TO INSTALLATION & TORQUE TO BUSHING MANUFACTURER'S INSTRUCTIONS
- ③ SETSCREW COMES WITH ITEM 13. APPLY BLUE LOCTITE (#243) PRIOR TO INSTALLATION
- ④ APPLY GREEN LOCTITE (#609) PRIOR TO INSTALLATION



**Drum View**

**PDG 8000**

**VACUUM HOSE**

SCALE: 1:1

WEIGHT:

SHEET 1 OF 1

5

4

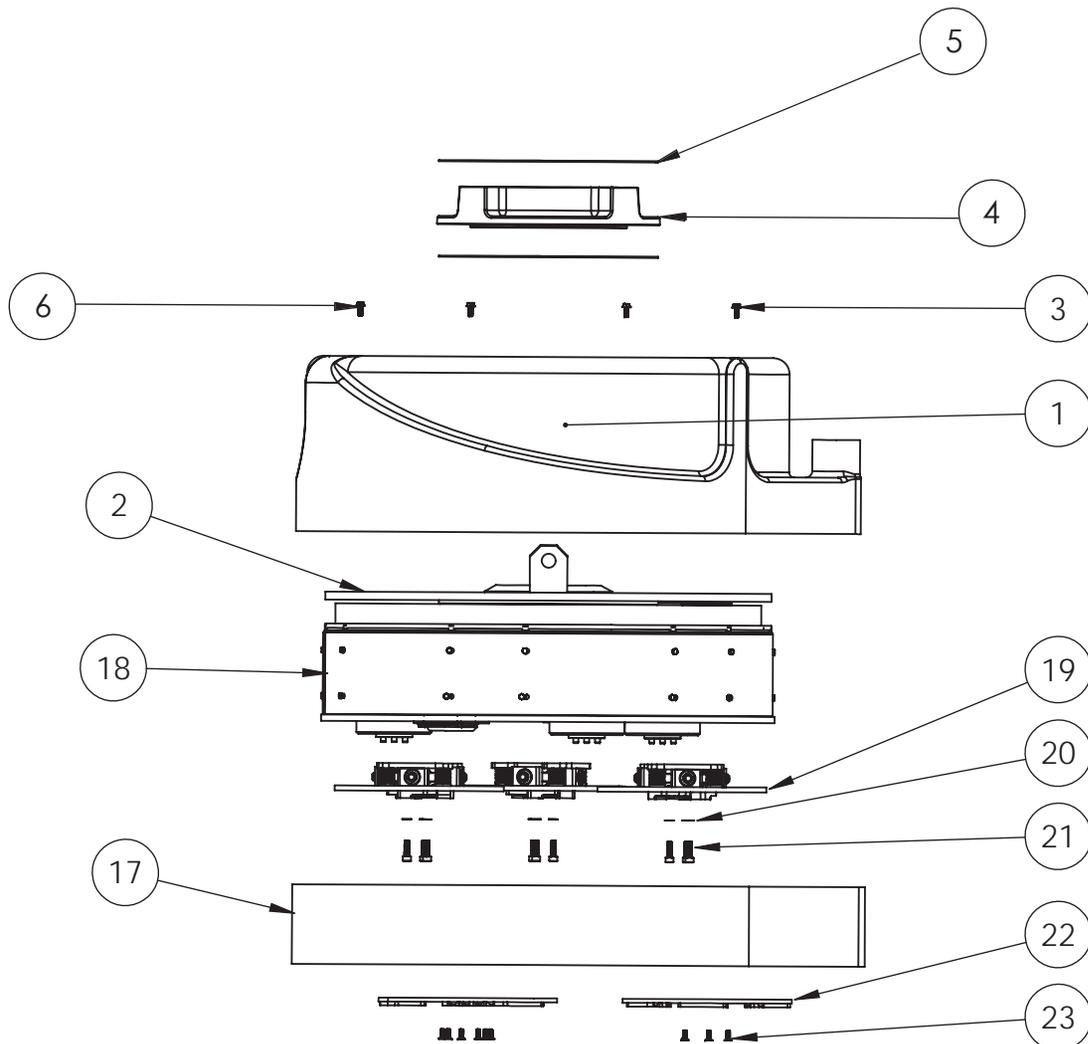
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1

**VACUUM HOSE**

<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Quantity</b>
7	VAC.HS3.00050	HOSE, BLACK PDG VACUUM 3.0" ID BY THE FOOT	5 ft + 1 ft
8	VAC.10095	CLAMP, 3" BLACK PDG VACUUM HOSE	4
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



**PDG 8000**

**DRUM FINAL**

SCALE: 1:6

WEIGHT:

SHEET 1 OF 1

5

4

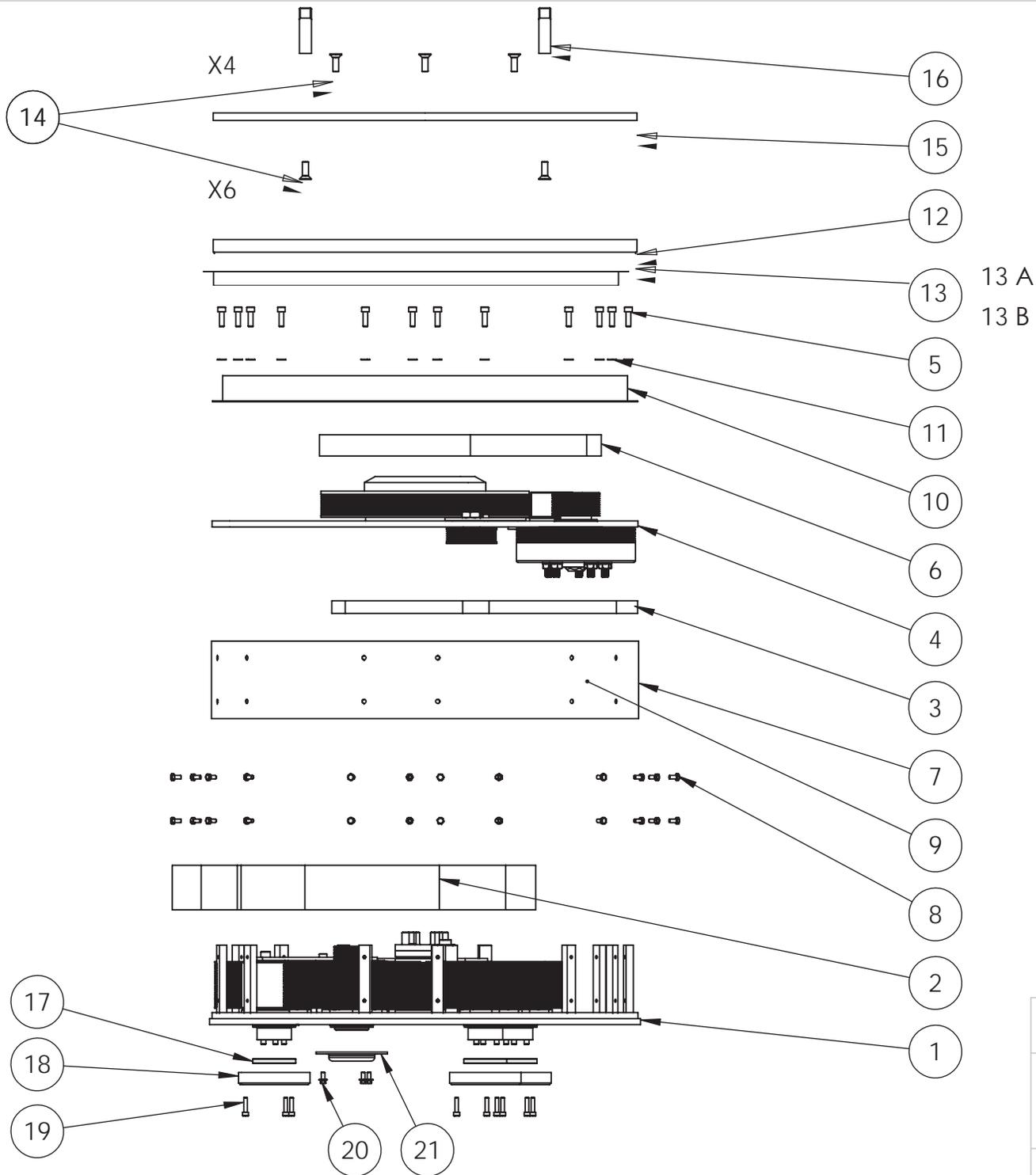
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2

1

DRUM FINAL			
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	6
4	PDG.80107.03	SPACER, 8000 MOTOR	1
5	PDG.80071.00	GASKET, RUBBER	2
6	NB.11.105	SCREW, FLANGED HEX HEAD CAP M6 -1.0 X 25(FRONT 2 IN WATER BRACKET)	2
17	PDG.80067.00	SKIRT, RUBBER DUST (IN TANK FOR SHIPPING)	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

DRUM FINAL SUPPLEMENTAL			
3/6	VARIOUS	Butyl Flex used instead of LocTite to exclude moisture.	8
21	NB.10.218	Blue LocTite 242	9



**PDG 8000**

**Complete Drum**

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

5

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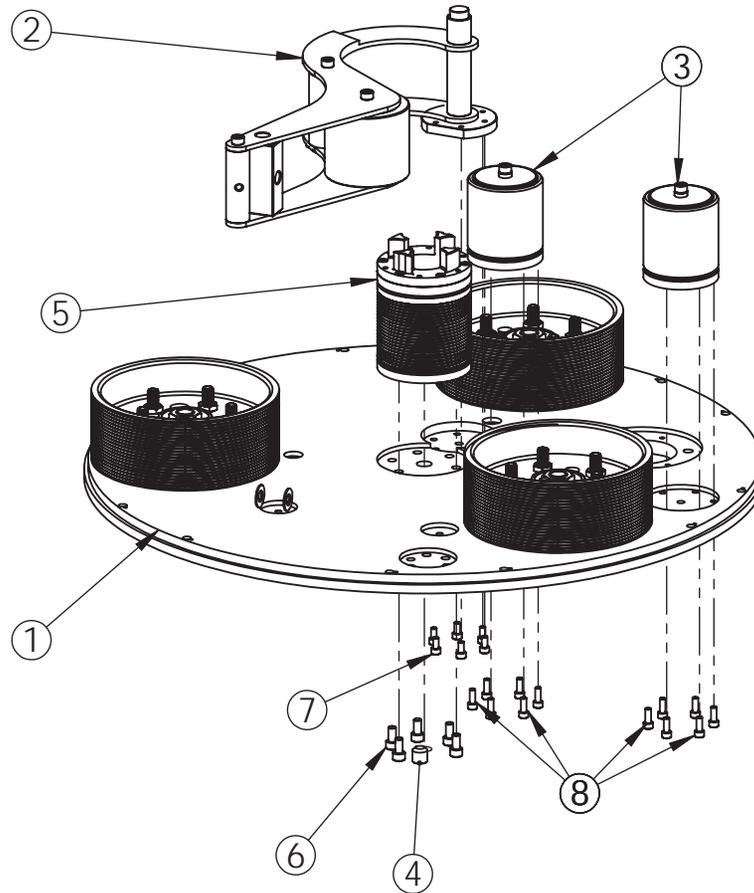
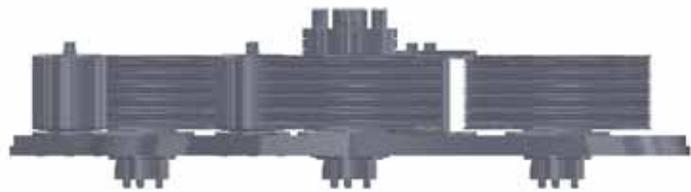
Complete Drum			
Item No.	Part No.	Description	Qty.
1	See Page 12 - 13	Bottom Plate Assembled	1
2	PDG.80039.00	BELT, MAIN PK21 M75 X 3046 OC BOTTOM	1
3	PDG.80040.00	BELT, PTO PK6 M11 X 1310 OC MIDDLE	1
4	See Page 14 - 15	Top Plate Assembled	1
5 A	NB.12.219	SCREW, SOCKET HEAD CAP M8-1.25 X 25 12.9 ZINC	3
5 B	NB.10.109	SCREW, HEX HEAD M8-1.25 X 25 12.9 ZINC	12
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, NB.12.219 is used for the center 3 stancions,	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



Bottom Drum I Assembly			
Item No.	Part No.	Description	Qty.
1	PDG.80027.00	PLATE, BOTTOM DRUM ALUMINUM	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



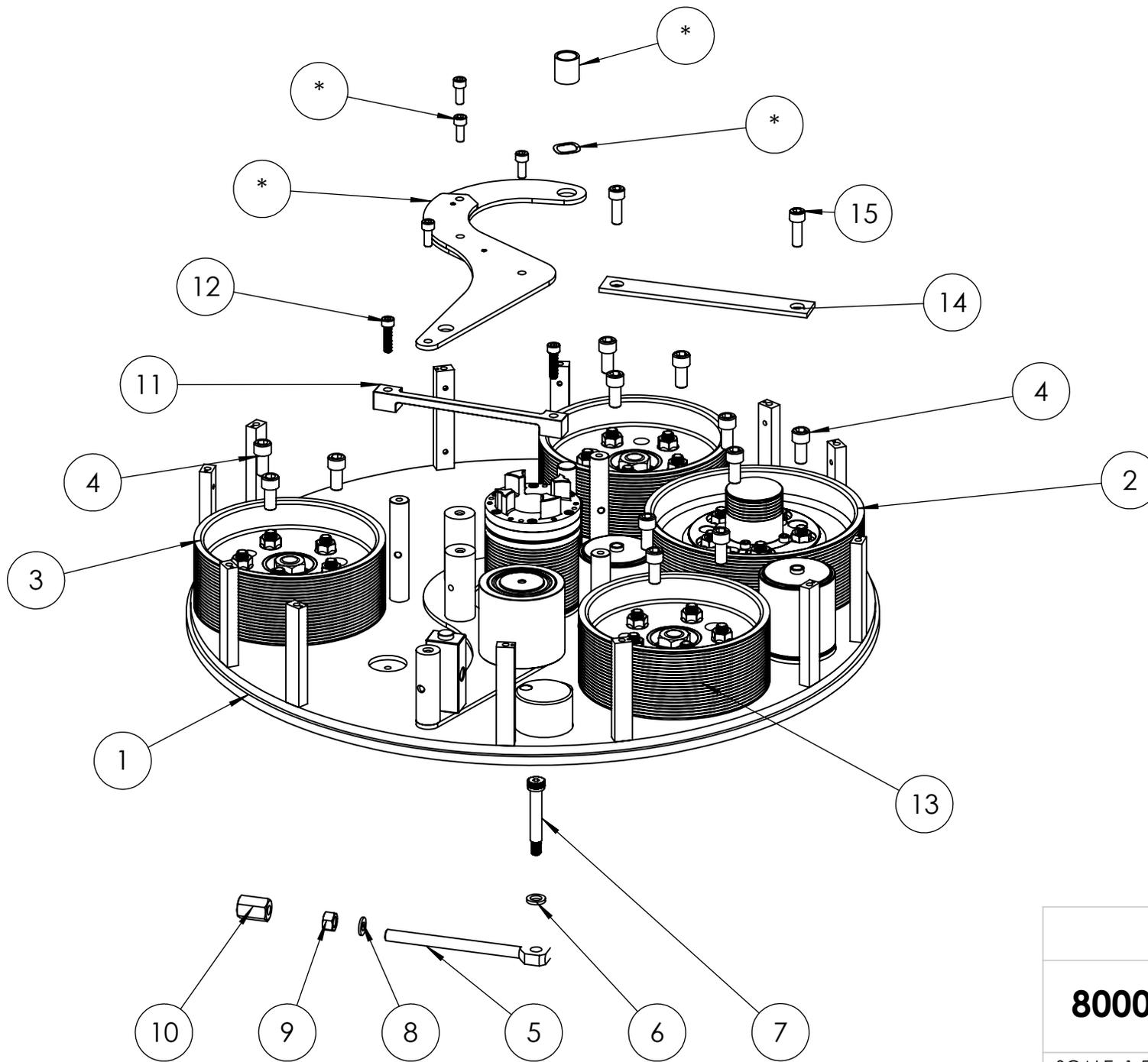
## PDG 8000

### Bottom Drum Assembly Level II

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

Bottom Drum II Assembly			
Item No.	Part No.	Description	Qty.
1	See Page 8 - 9	Bottom Drum I Assembled	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

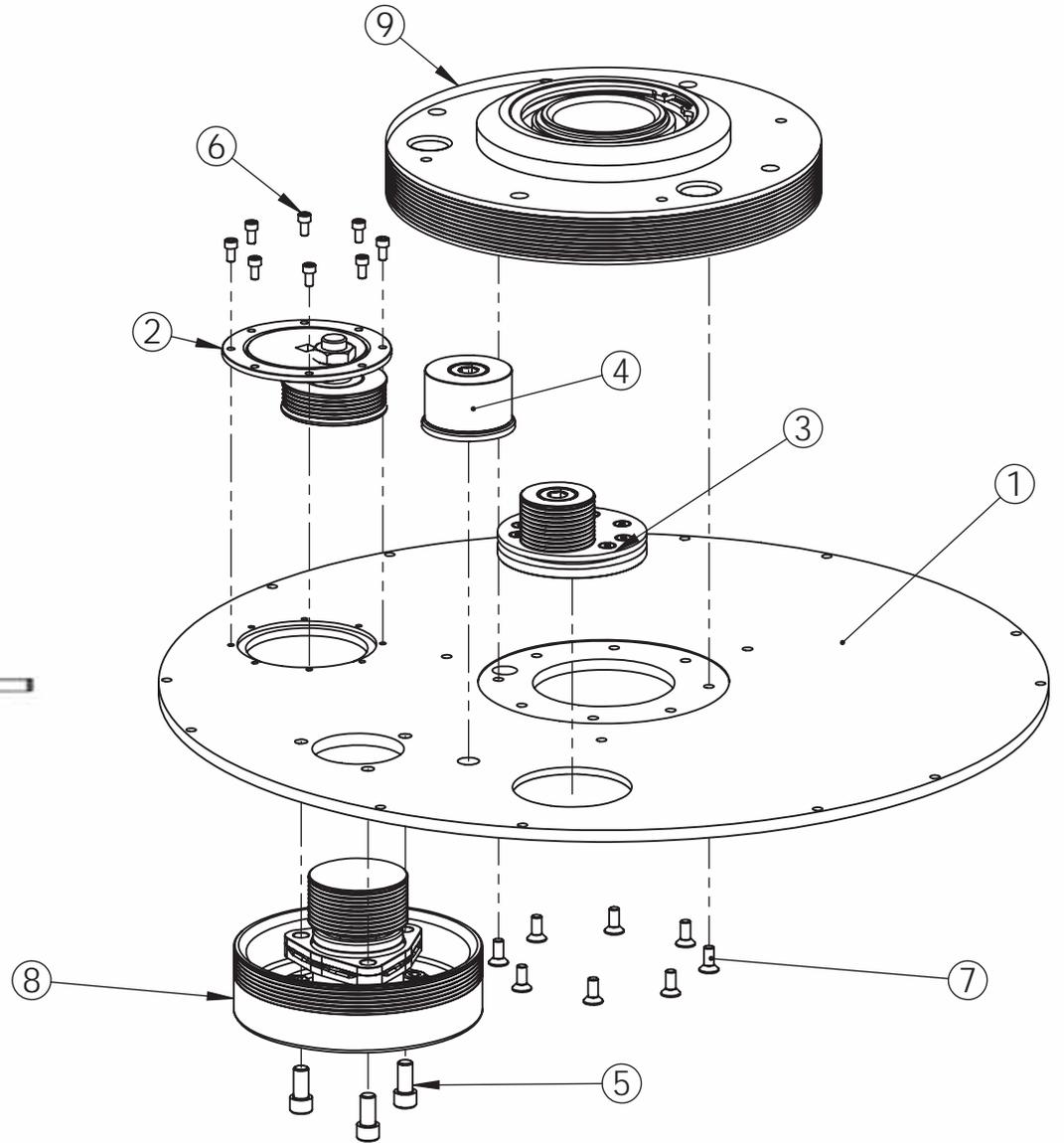
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1

<b>Bottom Drum III Assembly</b>			
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	See Page 31	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

<b>Bottom Drum III Assembly Supplement</b>			
2	PDG.8A009.00	Use Rubber Seal along the hub base where the hub meets the hole	1
3	PDG.8A008.00	Use Rubber Seal 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.	*



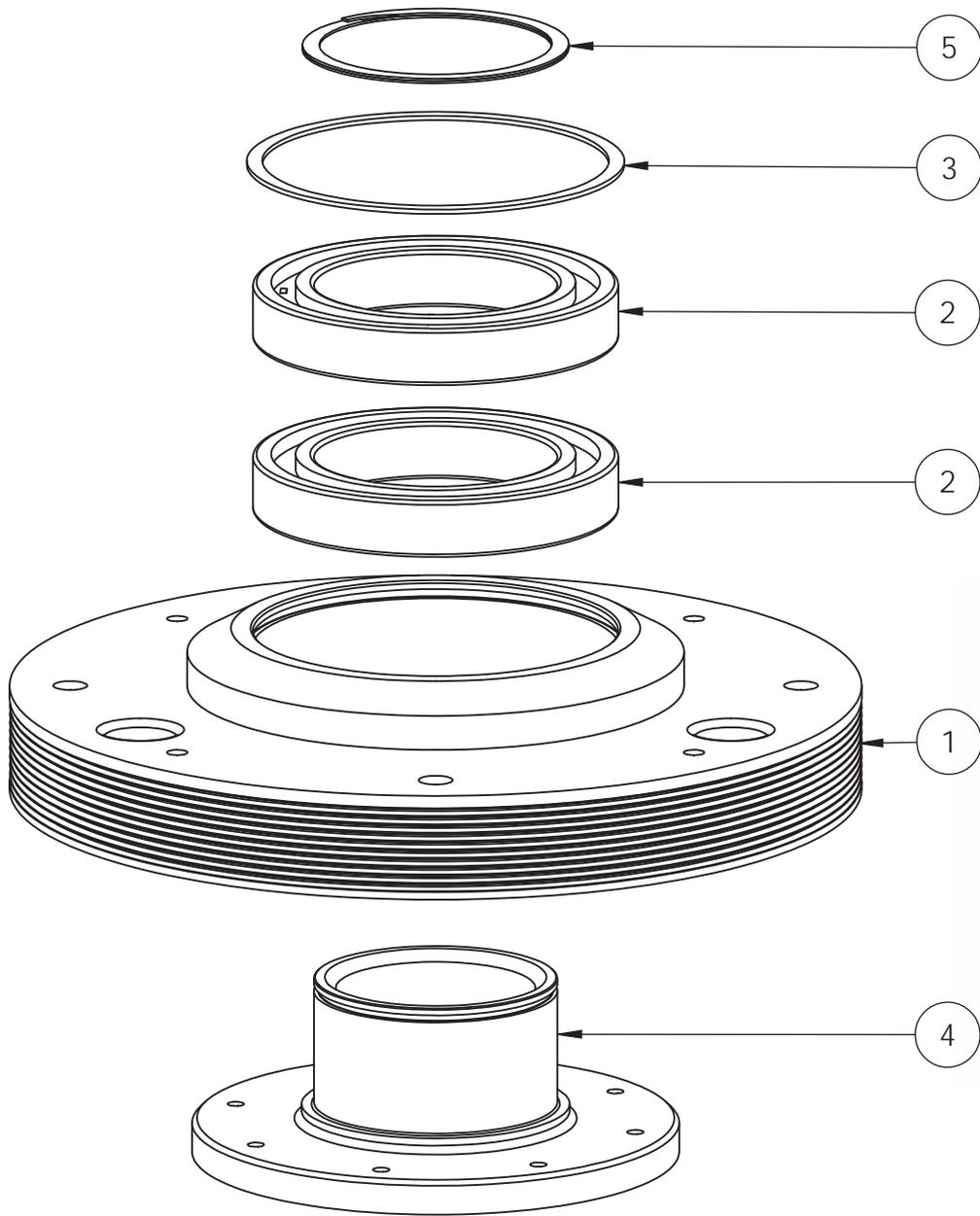
**PDG 8000**

**Top Plate Assembly**

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

Top Plate Assembly			
Item No.	Part No.	Description	Qty.
1	PDG.80028.00	PLATE, TOP DRUM STEEL	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: <b>Red</b> Loctite 263, torque 80 ft-lbf. Small bolts: left loose, until belt is tensioned. Then <b>blue</b> loctite, Torque to 9 ft-lbf (107 in-lbs)	1
4	PDG.8A003.00	Large bolt: <b>Red</b> Loctite 263, torque 80 ft-lbf	1
5	NB.12.252	<b>Red</b> Loctite 263, torque 80 ft-lbf	3
6	NB.12.108	Left loose, until belt is tensioned. Then <b>blue</b> loctite, Torque to 12 ft-lbf (144 in-lbf)	8
7	NB.13.218	<b>Red</b> 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, <b>red</b> Loctite 263, torque NB20108 to 150 ft-lbf	1

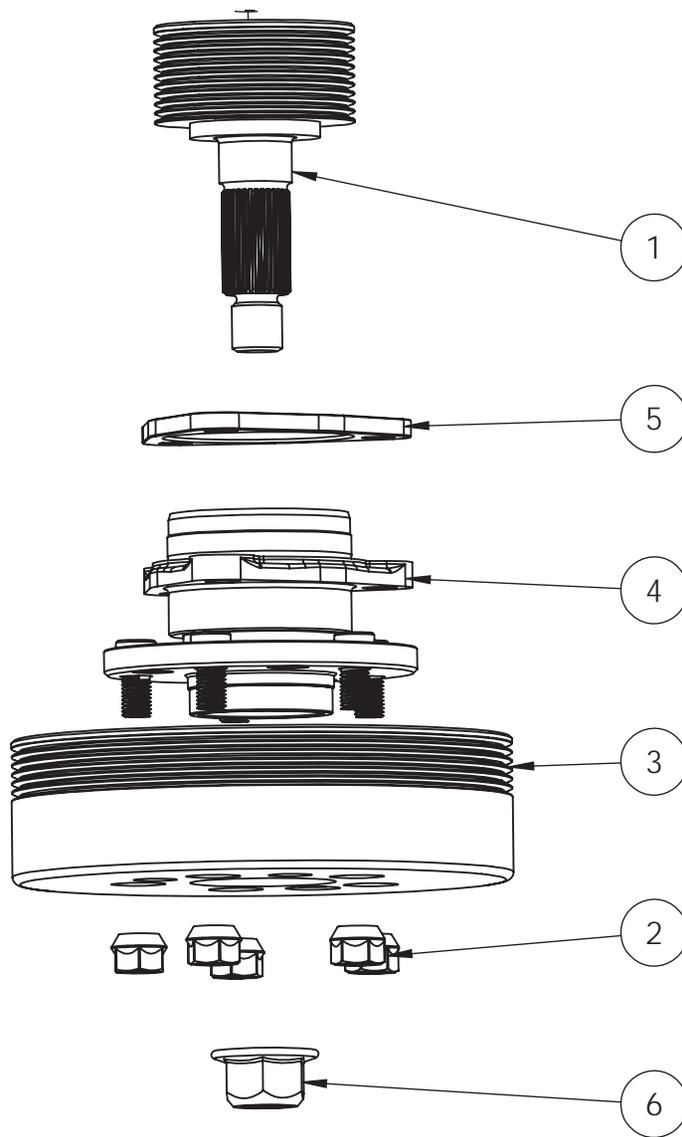


<b>PDG 8000</b>		
<b>Drum Sheave</b>		
SCALE: 1:10	WEIGHT:	SHEET 1 OF 1

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
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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 snapping seats	1
5	NB.40.133	Make sure the snapping seats	1



**PDG 8000**

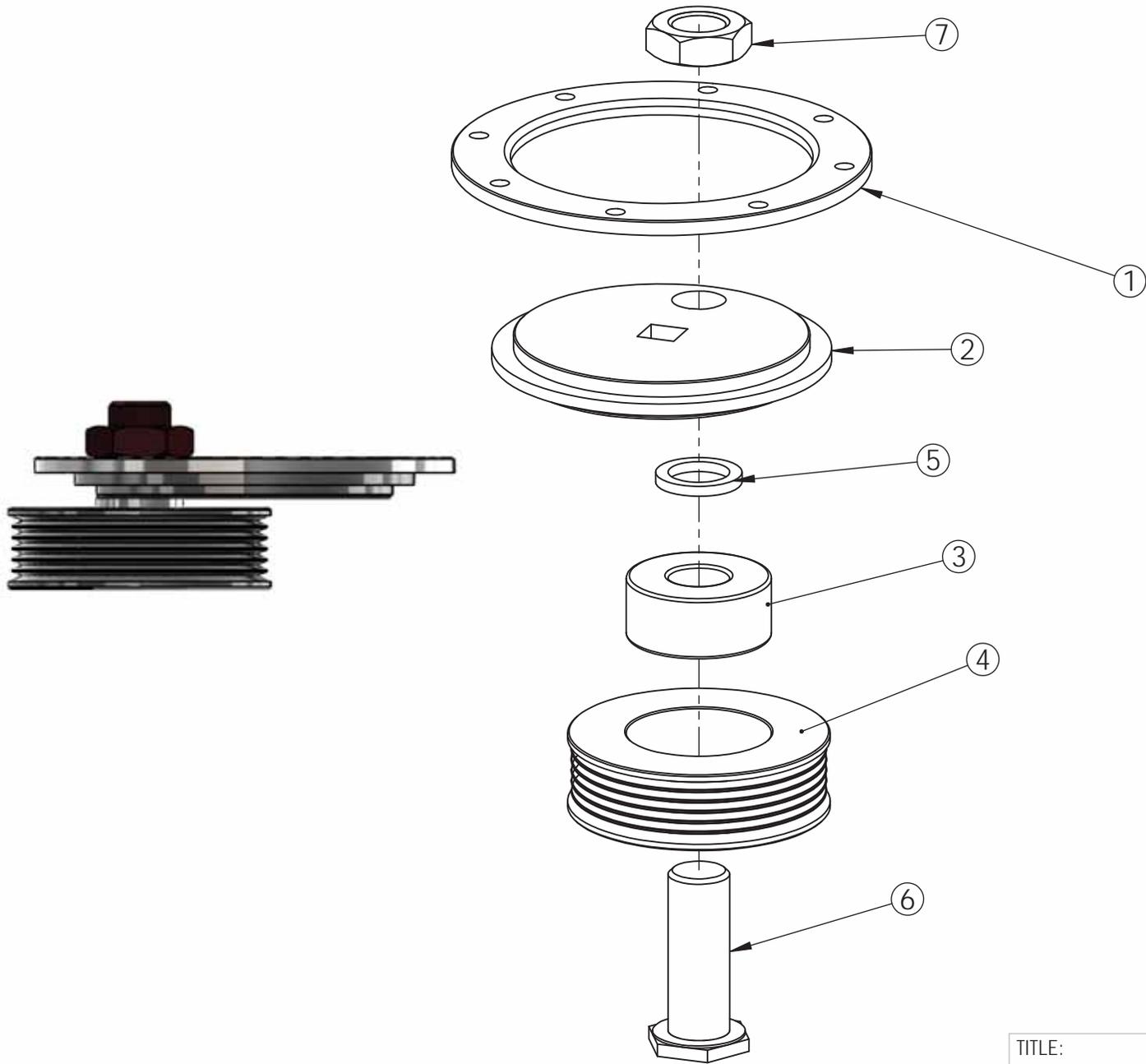
**Intermediate Sheave**

SCALE: 1:10 | WEIGHT: 6.11kg | SHEET 1 OF 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.80034.01	SHEAVE, INTERMEDIATE RED	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
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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**

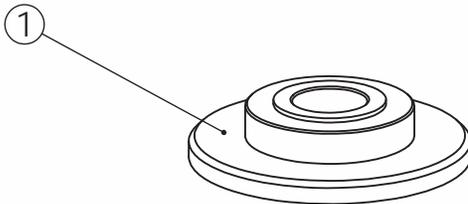
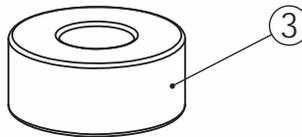
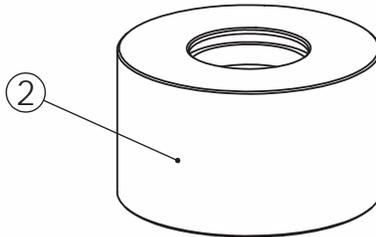
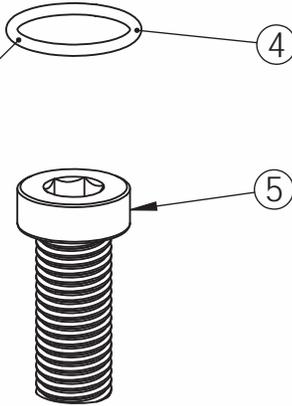
SCALE: 1:2 | WEIGHT: 1.99kg | SHEET 1 OF 1

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
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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

Install O-Ring  
with dab of grease  
& prior to inserting bolt



**PDG 8000**

**Top Belt Idler Assembly**

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

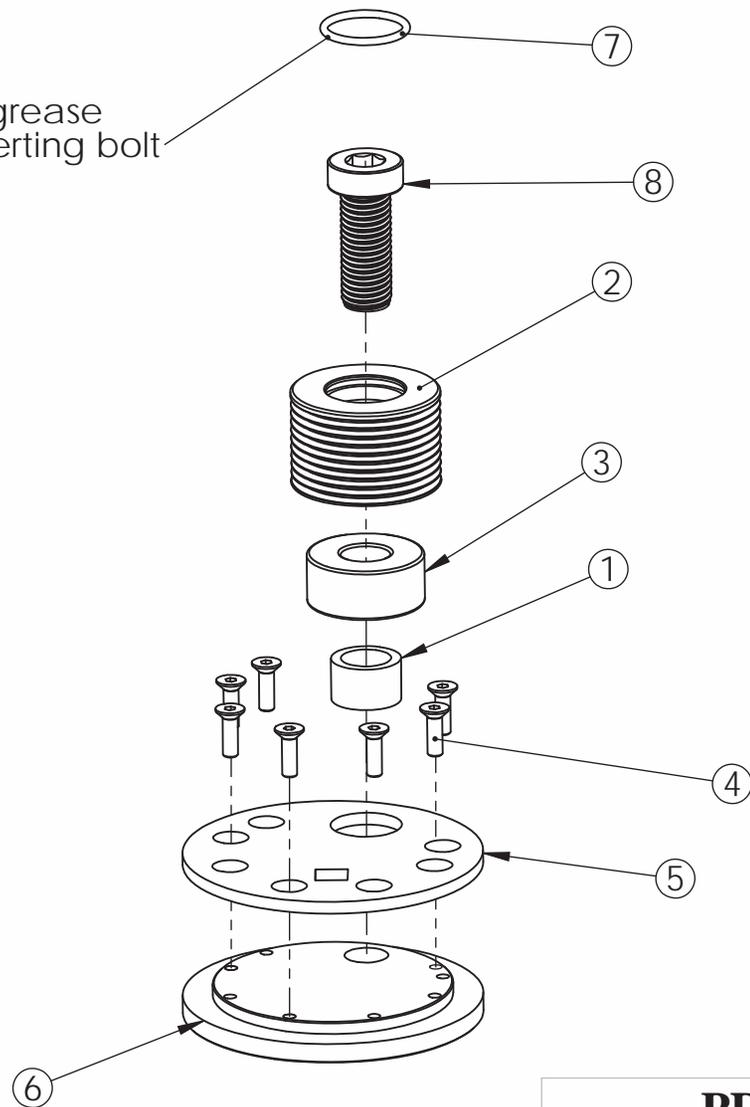
Top Idler Assembly			
Item No.	Part No.	Description	Qty.
1	PDG.80038.00	BASE, TOP BELT IDLER	1
2	PDG.80037.00	IDLER, TOP BELT	1
3	PDG.20220.00	BEARING, 3204-2RS	1
4	PDG.20215.00	O-RING, M30	1
5	PDG.80078.00	SCREW, MODIFIED SOCKET HEAD M20-2.5 X 46.8	1

	PDG.8A003.00	SUBASSEM, TOP BELT IDLER	1
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Top Idler Assembly			
4	PDG.20215.00	Grease used with this part.	1



Install O-Ring  
with dab of grease  
& prior to inserting bolt



**PDG 8000**

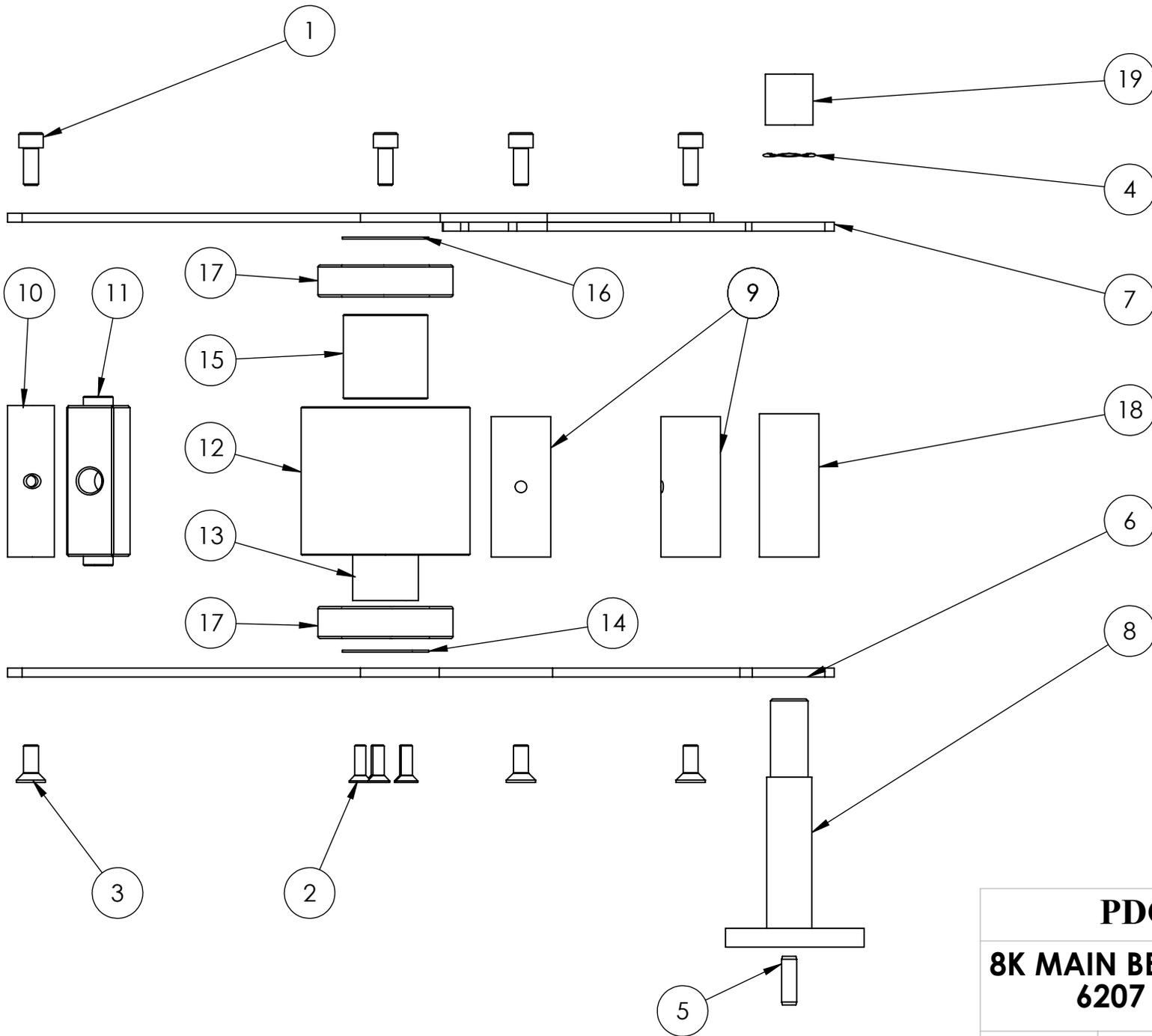
**Top Tensioner Assembly**

SCALE: 1:3 | WEIGHT: 1.93kg | SHEET 1 OF 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
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Top Tensioner Assembly Supplement			
4	NB.13.116	Assembled loose. <b>Blue</b> 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. <b>Red</b> Loctite 263 used & torque 80 ft-lbf; after added to top plate.	1

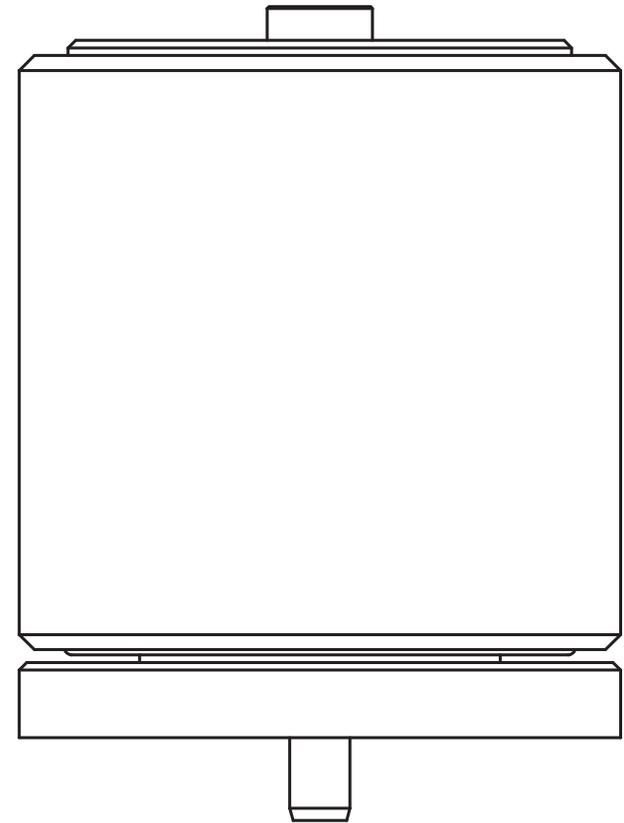
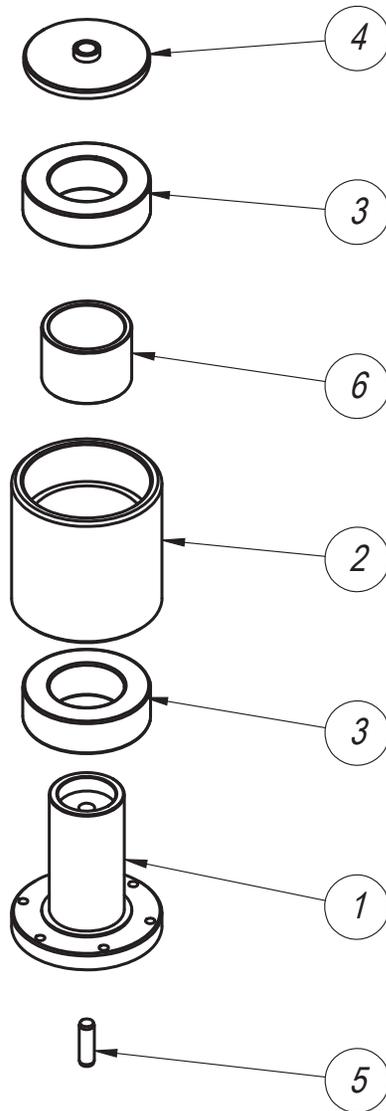


<b>PDG 8000</b>		
<b>8K MAIN BELT TENSIONER, 6207 BEARING</b>		
SCALE: 1:3	WEIGHT:	SHEET 2 OF 2

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
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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

**Main Idler Assembly**

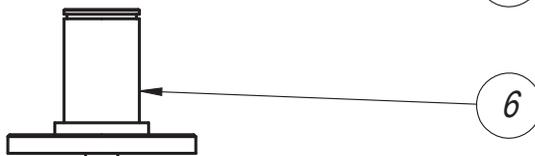
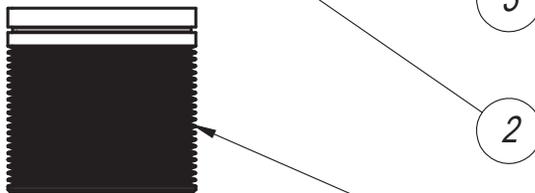
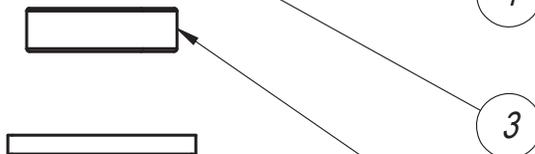
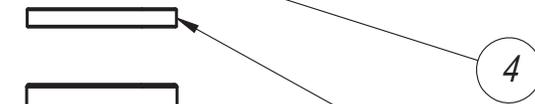
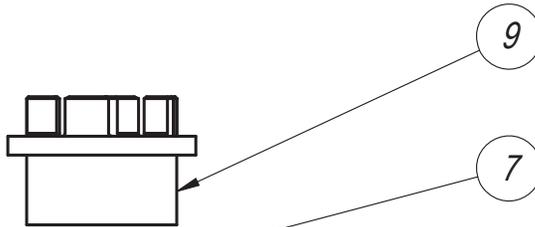
<b>Item No.</b>	<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
1	PDG.80011.01	SPINDLE, MAIN BELT IDLER 6207	1
2	PDG.80010.02	IDLER, STEEL MAIN BELT 6207	1
3	PDG.80047.00	BEARING, 63008-2RS	2
4	PDG.80009.01	RETAINER, IDLER BEARING 6207	1
5	NB.50.143	PIN, HARDENED M8 X 26	1
6	PDG.80114.01	SPACER, MAIN BELT IDLER BEARING 6207	1

	<b>PDG.8A006.02</b>	<b>SUBASSEM, MAIN BELT IDLER 6207</b>	<b>1</b>
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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
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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.

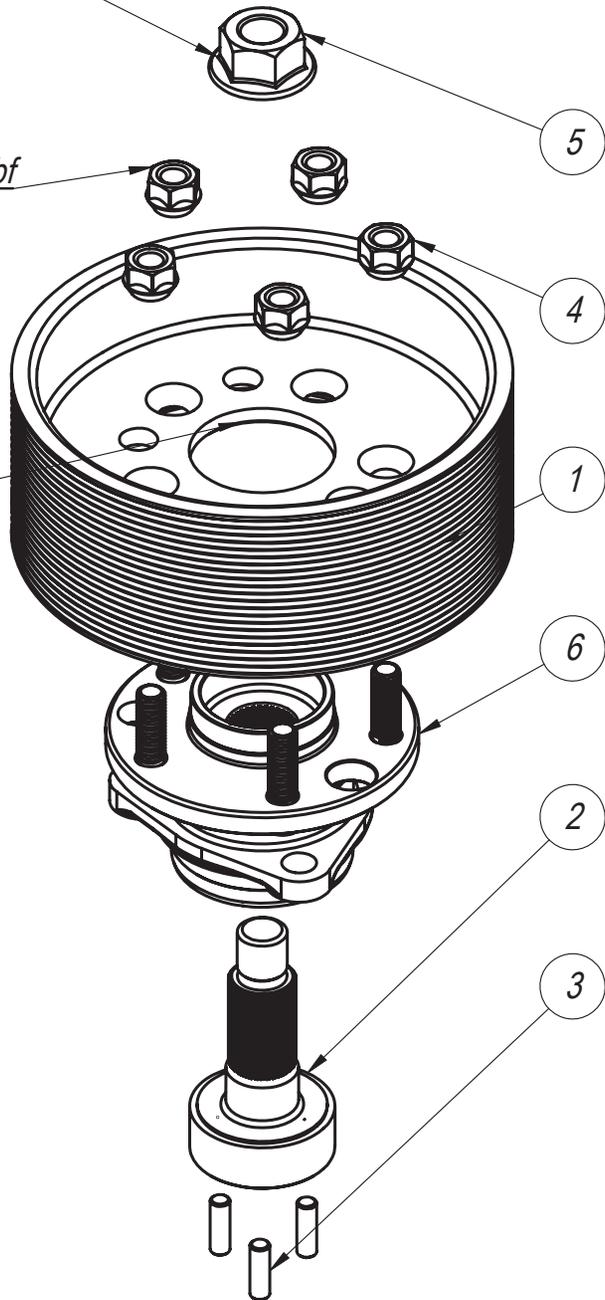
To replace the Main Spindle on those machines, order 1 PDG.8A007.50, as well as 1 PDG.80110.00, 1 PDG.80101.00, and 1 PDG.80100.50

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

*TORQUE 150ft/lbf*

*TORQUE 60ft/lbf  
X5*

*PRESS FIT*



*RED LOCTITE 263  
MUST BE USED ON  
EACH FASTENER*

**PDG 8000**

**Planetary Assembly**

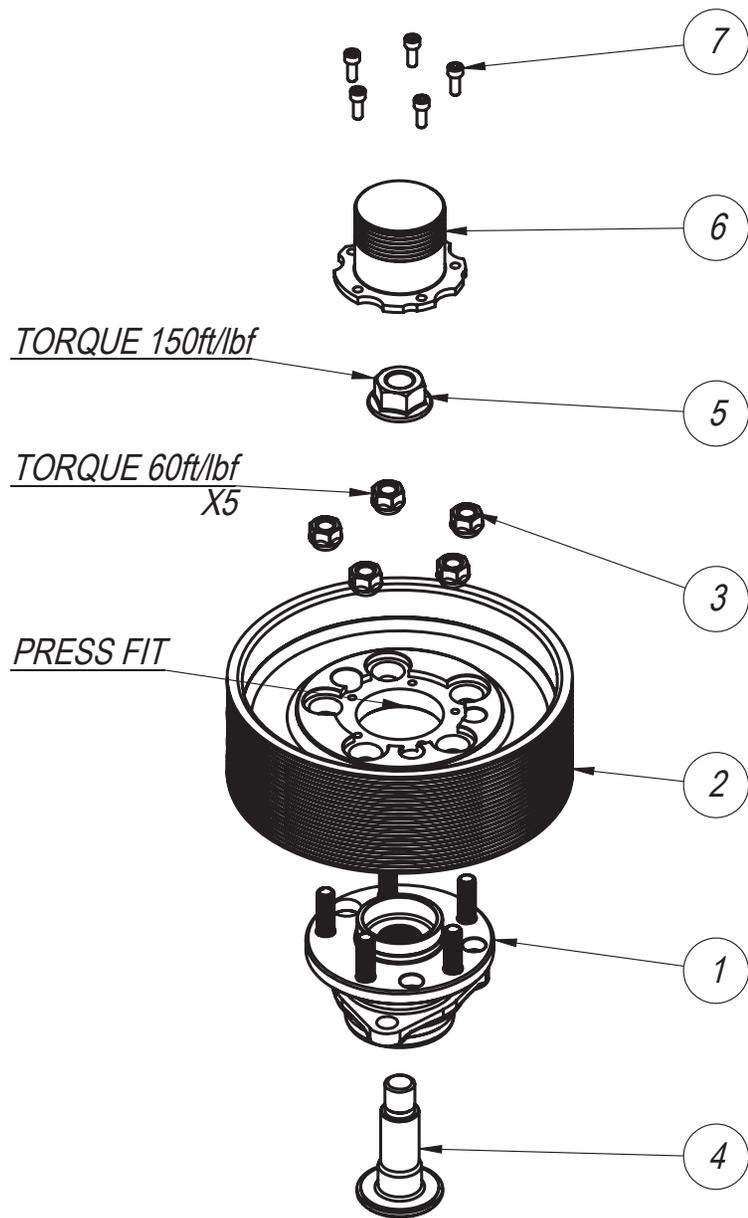
SCALE: 1:5 | WEIGHT: 5.14kg | SHEET 1 OF 1

Planetary Assembly			
Item No.	Part No.	Description	Qty.
1	PDG.80001.01	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
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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

**PDG 8000**

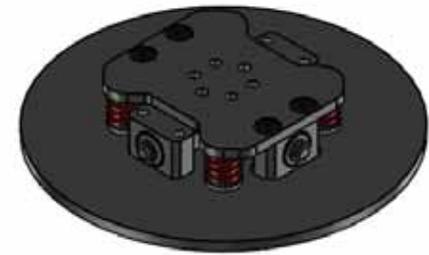
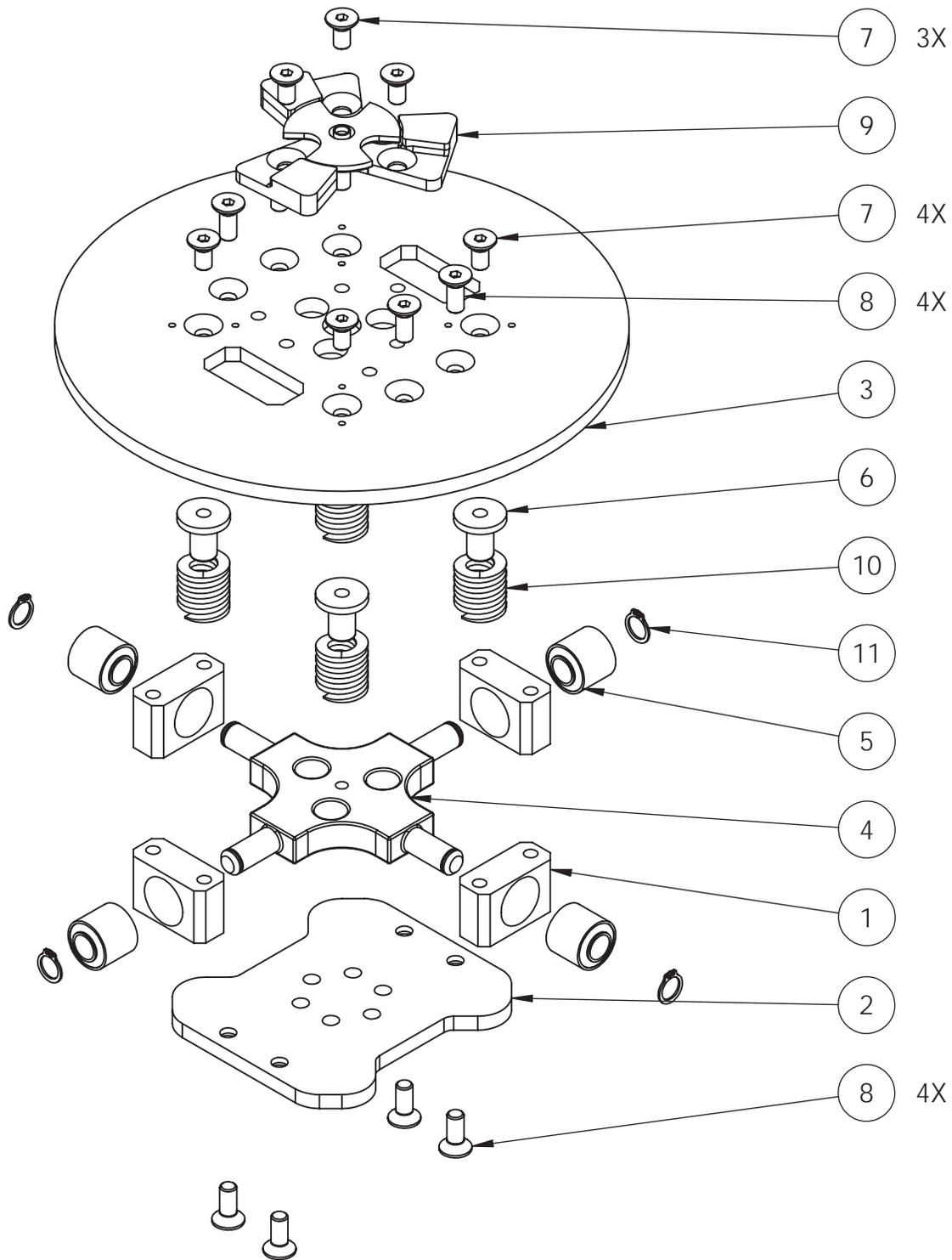
**POWER TAKE OFF (PTO)**

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

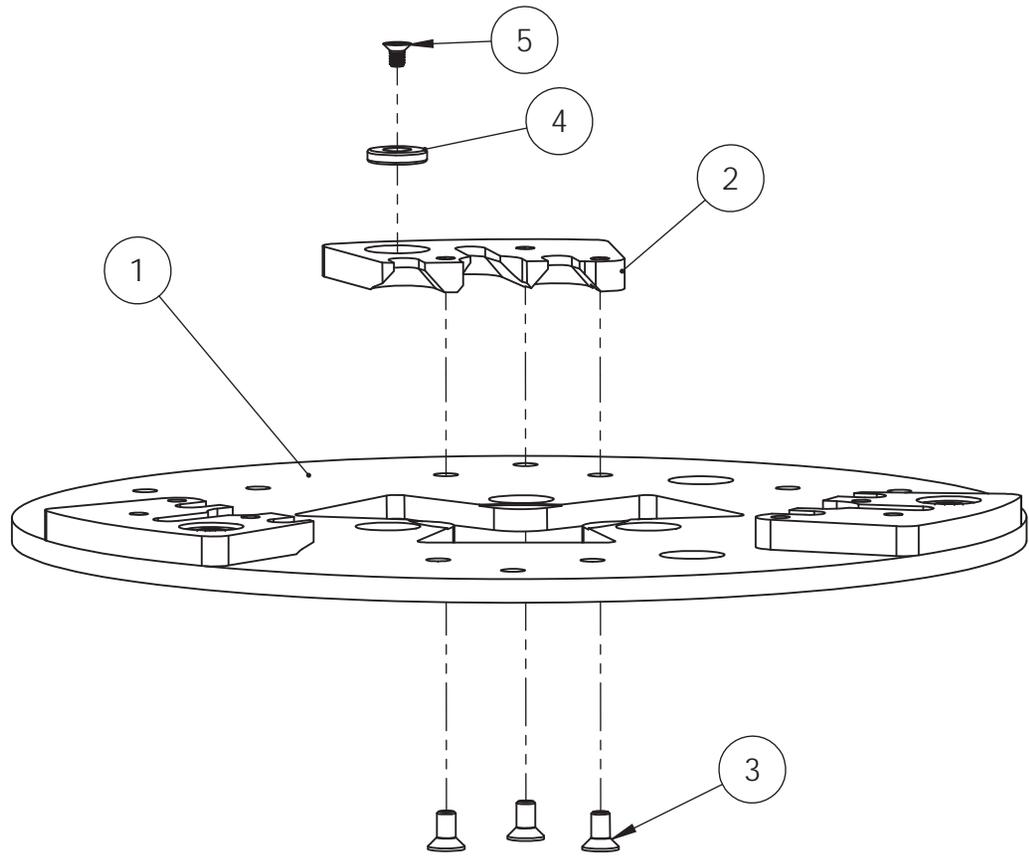
**Flex Head**

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

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

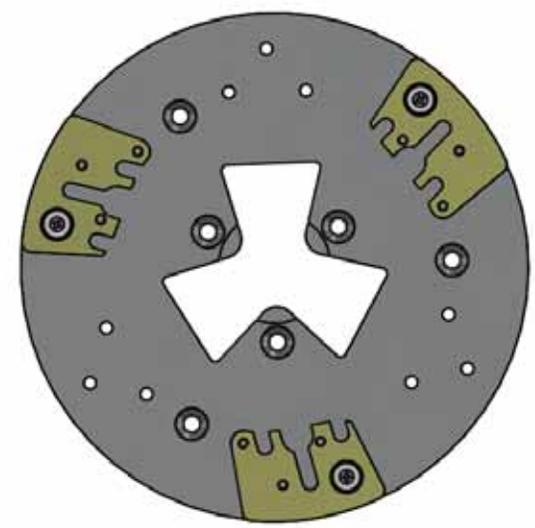
	PDG.8A010.00	FLEX HEAD, COMPLETE WITH REDSPRING	1
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Flex Head Supplement			
7	NB.13.216	Red LocTite 263	7
8	NB.13.218	Red LocTite 263	8

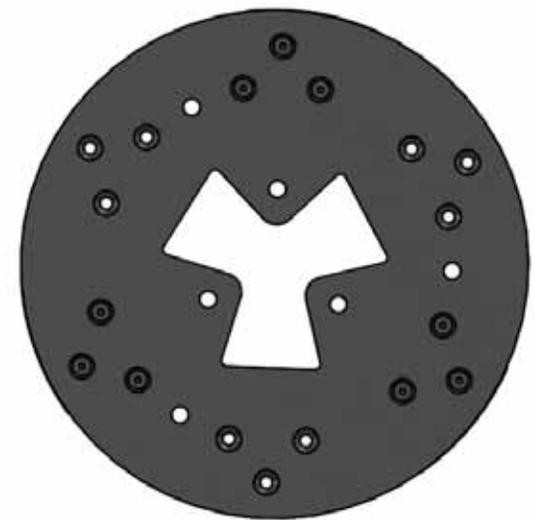


TORQUE @ 95 IN-LB

Top View



Bottom View



**PDG 8000**

**Magnetic Tooling Plate**

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

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

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

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

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



**FOAM RISER / PUCK PLATES**

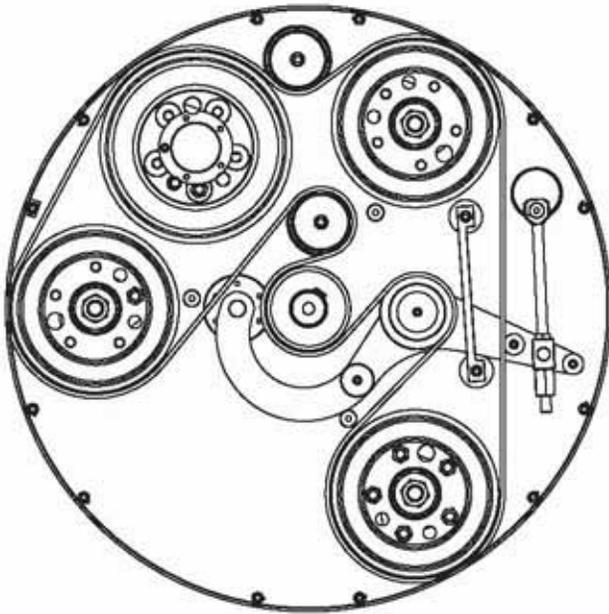
Item No.	Part No.	Description	Qty.
1	HOL.905235	BLANK PLATE, 270MM 6 EACH 3" VELCRO	3
2	SAS.10017	PLATE, VELCRO PLATE FOR 3" LIPPAGE HOLDER	18
3	SAS.100105	PLATE, VELCRO PLATE 270MM (HOOK)	3
4	NB.25.104	INSERT, BRASS HEAT SET M4-0.7 THREAD	72
5	NB.04.08	SCREW, 4MM X 8 TORX FOR TEAR DROP	72
6	HOL.905160	BLANK DISC, 270MM FOR 6 METAL BONDS	3
7	HOL.905192	FOAM RISER, 270MM VELCRO	3

# BELT TENSIONS

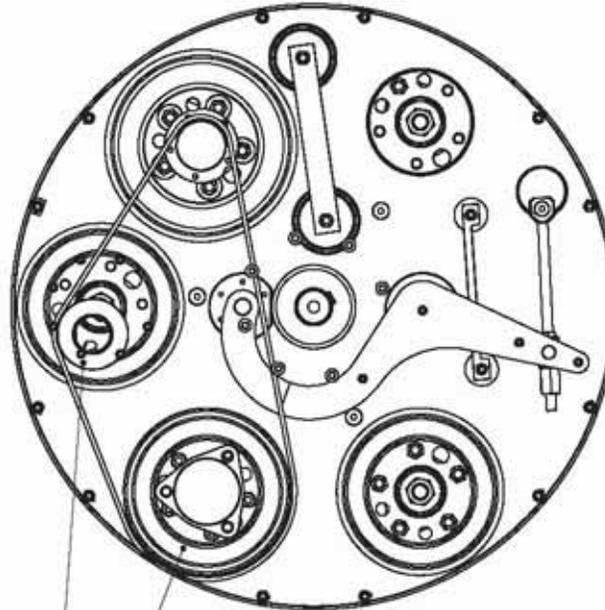
87 ±1

90 ±2

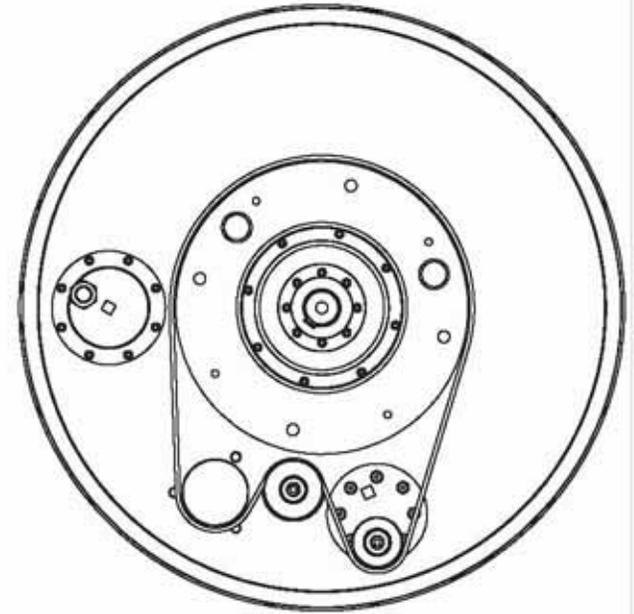
165 ±5



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



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

<b>Problem</b>	<b>Possible cause</b>	<b>Remedy</b>
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.





## 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



## Propane Safety Checklist

Applies to: Propane PDG8000, Propane Bull1250, Tri-Force, Burnisher, Hurricane, Lightning, and Twister

### Start and Operation

- Gas on/ off
- Power on/ off
- Choke on/off, if applicable
- Throttle on/ off
- Emergency stop
- Check oil level and air filter before starting
- Keep nuts and bolts tightened and hose connections snug as applicable
- Proper tilting of machine, if applicable

### Maintenance

- Air filter cleaning/ replacement
- Oil filling/ changing
- Owner's manual

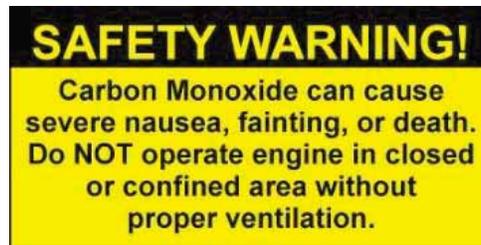
### Safety of Propane Cylinders

- Owner's manual
- Do not smoke or use any device with an open flame when handling, filling or transporting propane cylinders.
- 20-lb. propane outdoor grill cylinders are not legal for use on propane floor care equipment.
- Vapor powered machines do not have an evaporating system and will freeze up if liquid propane is introduced.
- Always wear gloves when filling a propane cylinder. Propane boils at -44 degrees F (-42 degrees C).
- Store cylinders outside in an upright position in a secure, tamper-proof, steel mesh storage cabinet.
- There must be at least 5 ft (1.5 m) of space between the cabinet and the nearest building opening, like a door or window.
- Do not store cylinders inside a building or vehicle.
- Avoid dropping or banding cylinders against sharp objects.
- Any cylinder that has ever been filled is always considered full. The only time that a cylinder is considered empty is when it is new, before it is filled with propane.
- When transporting a propane powered machine, the propane cylinder may be strapped onto the machine as long as the machine itself is firmly secured in the vehicle.
- When transporting, the cylinders, if not strapped onto the machine, should be securely fastened and standing in an upright position with the service valve closed.



- Always install propane cylinders onto machinery in a well-ventilated area with no source of ignition within 10 ft (3 m).
- Use only UL, CTC/ DOT listed cylinders, like the EnviroGard Safe-Fill cylinder.
- Never leave the machine running unattended.
- Operate in a well-ventilated area.
- If you smell gas:
  - Do not operate appliances, telephones, or cell phones. Do not turn lights or flashlights on or off. Flames or sparks from these sources can trigger a fire or explosion.
  - Evacuate the area immediately.
  - Shut off the gas if it is safe to do so.
  - Report the leak from a safe location.
  - Do not return to the building until you are told it is safe to do so.

## Emissions Awareness



- Carbon Monoxide (CO) poisoning can be caused by excessive exhaust emissions. The symptoms include headache, dizziness and nausea. Causes include:
  - Engines with poor preventative maintenance practices, usually those with dirty air filters.
  - Machines operated in confined areas without adequate ventilation.
  - Substandard machines with no emissions control technology and improperly set carburetion.
- CO is an invisible, odorless, colorless gas.
- CO can be lethal within as little as 30 minutes exposure at 3,000 part per million (ppm).
- The Canadian Gas Association (CGA) has set a limit of 1,500 ppm CO in exhaust flow.
- The Occupational Safety and Health Administration (OSHA) has established a limit of 35 ppm CO for an 8-hour time weighted average in ambient air and is considering a limit of 800 ppm CO in exhaust flow.

PPM	Risk
9	CO Max prolonged exposure (ASHRAW standard)
35	CO Max exposure for 8 hour work day (OSHA standard)
800	CO Death within 2 to 3 hours
1,500	CO limit in exhaust flow per CSA standard (Canada)
12,800	CO Death within 1 to 3 minutes



## Acknowledgement

I, \_\_\_\_\_ on behalf of  
(Print Name)

\_\_\_\_\_ and future operators, hereby acknowledge that I have been  
(Company Name)

trained on the proper operation of the \_\_\_\_\_ as per the  
(Equipment Purchased)

checklist above. In addition, I have carefully read and have been instructed on the safety and hazards of

operating a propane powered machine.

---

Signature

Date

PLEASE FILL OUT IN FULL AND SUBMIT TO: SASE COMPANY, INC. 2475 STOCK CREEK BLVD. ROCKFORD TN, 37853

FAX: 865.745.4110 OR EMAIL: JohnA@SASECompany.com



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.