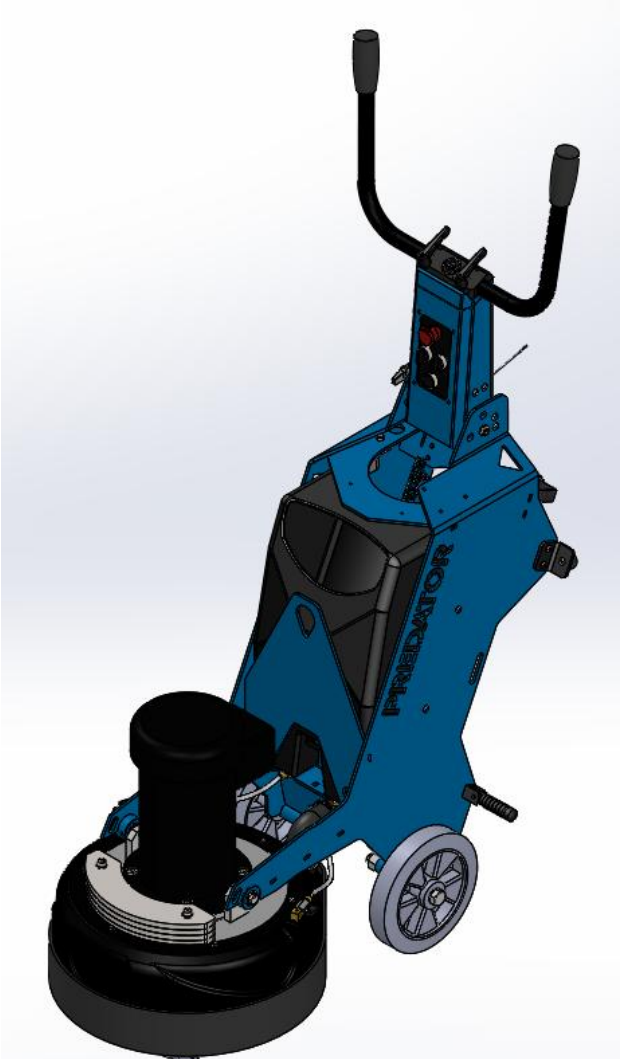
BARTELL GLOBAL | OWNER'S MANUAL | PARTS BOOK

Predator Series Grinder

P500E



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ORIGINAL LANGUAGE OPERATING MANUAL FOR BARTELL GRINDERS

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REV.	DATE	DESCRIPTION	APPROVED BY:
A	6/17	Initial Release	SH

SAFETY PRECAUTIONS

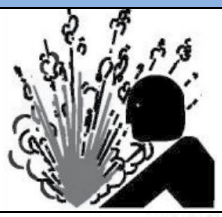
	**DANGER** **EXPLOSION HAZARD** Never operate the machine in an explosive atmosphere, near combustible materials, or where ventilation does not clear exhaust fumes.
	**WARNING** **BURN HAZARD** Never come into contact with the engine or muffler when engine is operating or shortly after it is turned off. Serious burns may occur.
	**WARNING** **ROTATING HAZARD** Never place hands or feet inside safety guard rings. Serious injury will result from contact with rotating blades.
	**CAUTION** **MOVING PARTS** Before starting the machine, ensure that all guards and safety devices are in place and functioning properly.
	**ATTENTION** **READ OWNER'S MANUAL** Read and understand owner's manual before using this machine. Failure to follow operating instructions could result in serious injury or death.

TABLE OF CONTENTS

INTRODUCTION

The Predator Series Planetary Diamond Grinders are designed for wet and dry grinding of Concrete, marble, terrazzo, and granite. Their applications range from rough grinding and coating removal through a polished finish.

This Manual contains information and procedures to assist you to operate and maintain the P500E floor grinder safely and correctly.

- P500E – 500mm Wide, Electrically Powered Planetary Grinder

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

Only staff that have received the necessary training, both practically and theoretically concerning their usage, should operate the machines

WARRANTY INFORMATION

All grinders sold by Bartell Morrison Inc. are warranted against defects in materials and/or workmanship; excluding normal wear on wearing components and components covered by a separate original manufacturer's warranty, for a period of 12 months from the date of sale to the original end user purchaser provided that certain conditions have been met.

Conditions:

1. The equipment serial number has been registered with Bartell Morrison Inc. or its approved dealers, distributors, representatives, or agents.
2. The equipment has been operated in an appropriate manner by qualified individuals.
3. The equipment has been properly maintained as per the instructions included in the Owner's Manual.
4. All claims for warranty must be filed on proper forms and include the serial number of the equipment along with proof of purchase.

Any evidence of failure to meet these conditions may result in a denial of the warranty claim. Consideration of warranty claims will be at the sole discretion of Bartell Morrison Inc., or its authorized dealers, distributors, representatives, or agents. Bartell Morrison Inc. may, at its discretion, request that the equipment to be considered for warranty be returned at the owner's expense to an authorized repair facility for inspection. Under this warranty we may, at our discretion, repair or replace a part or the whole of the defective component or equipment. Our Warranty coverage is limited to the cost to repair or replace the defective portion of the equipment and a reasonable (as determined by Bartell Morrison Inc.) amount of labor to conduct the repair or replacement. Under no circumstances shall Bartell Morrison Inc. be liable for any additional or exceptional costs beyond the cost to repair or replace the defective portion of the equipment. Bartell Morrison Inc. shall not be held accountable for; costs associated with travel to inspect or repair defective equipment, costs for transporting defective equipment to or from an authorized repair facility, costs incurred to repair or replace the defective equipment at any facility other than one authorized by Bartell Morrison Inc., or ancillary damage caused by or because of the defective equipment. Under no circumstances shall equipment be returned to Bartell Morrison Inc. or its authorized dealers, distributors, representatives, or agents without the approval of Bartell Morrison Inc. as evidenced by a Returned Goods Number. To obtain a Returned Goods Number contact the factory or your authorized dealer, distributor, representative or agent. This warranty is for the sole benefit of the original end user purchaser and is not transferable to any other company or person.

SPECIFICATIONS

	P500E	P500Pro	P650E	P650Pro	P800E	P800Pro
Source	Electric	Propane	Electric	Propane	Electric	Propane
Power	230V, 60 Hz, 1 Phase	479cc Briggs & Stratton	230V, 60 Hz, 1 Phase 230V, 60 Hz, 3 Phase 460V, 60 Hz, 3 Phase	993 cc Briggs and Stratton Commercial	230V, 60 Hz, 3 Phase 460V, 60 Hz, 3 Phase	993 cc Briggs and Stratton Vanguard
Output - HP (kW)	7.5 HP (3.7 kW) – 230V	16 HP (11.9 kW)	10 HP (7.5 kW) – 460V 7.5 HP (5.6 kW) – 230V	27 HP (14.1 kW)	20 HP (15 kW)	35 HP (26 kW)
Variable Head Speed - RPM	850-2000 rpm	850-2000 rpm	1012	1012	890	890
Grinding Heads	3	3	3	3	3	3
Head Diameter	7" (178mm)	7" (178mm)	9" (228.6mm)	9" (228.6mm)	11" (279.4 mm)	11" (279.4 mm)
Grinding Width	20" (508mm)	20" (508mm)	25" (625mm)	25" (625mm)	30" (762 mm)	30" (762 mm)
Water Tank Capacity	4 gal (15 L)	4 gal (15 L)	7.5 gal (28 L)	7.5 gal (28 L)	12.5 gal (47 L)	12.5 gal (47 L)
Vacuum Port	2" (51mm)	2" (51mm)	3" (75.6mm)	3" (75.6mm)	3" (75.6mm)	3" (75.6mm)
Machine Weight (lbs)	445 lbs (202 kg)	490 lbs (222 kg)	873 lbs (395 kg)	775 lbs (351 kg)	1254 lbs (568 kg)	1309 lbs (593 kg)
Grinding Force (lbs)	260 lbs (118 kg)	300 lbs (136 kg)	639 lbs (289 kg)	565 lbs (256 kg)	877 lbs (397 kg)	916 lbs (415 kg)
Max Height (Handle Up)	68.5" (1741 mm)	68.5" (1741 mm)	76" (1930 mm)	76" (1930 mm)	82.3" (2092 mm)	82.3" (2092 mm)
Min Height (Handle Down)	42" (1067 mm)	42" (1067 mm)	44" (1118 mm)	44" (1118 mm)	51.5" (1310 mm)	51.5" (1310 mm)
Min Length - in (mm) (Handle and Weights forward)	44" (1118 mm)	44" (1118 mm)	52" (1321 mm)	52" (1321 mm)	68.5" (1740 mm)	68.5" (1740 mm)
Max Length - in (mm) (Handle and weights Back)	67.5" (1714 mm)	67.5" (1714 mm)	83" (2108 mm)	83" (2108 mm)	92.3" (2345 mm)	92.3" (2345 mm)
Width - in (mm)	23.5" (597 mm)	23.5" (597 mm)	26" (660 mm)	26" (660 mm)	31.6" (800 mm)	31.6" (800 mm)

SAFETY PRECAUTIONS

It is important that the following be read carefully in order that the operational performance of the Bartell Grinder be fully understood. Proper maintenance procedures will ensure long life and top performance of the unit.

SAFETY PRECAUTIONS

- Always keep unauthorized, inexperienced, untrained people away from this machine.
- Rotating and moving parts will cause injury if contacted. Make sure guards are in place. Keep hands and feet away from moving parts.
- The engine must always be electrically disconnected from the source before attempting any repair or adjustments.

Danger: Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes. Refer to your engine owner's manual for more safety instructions.

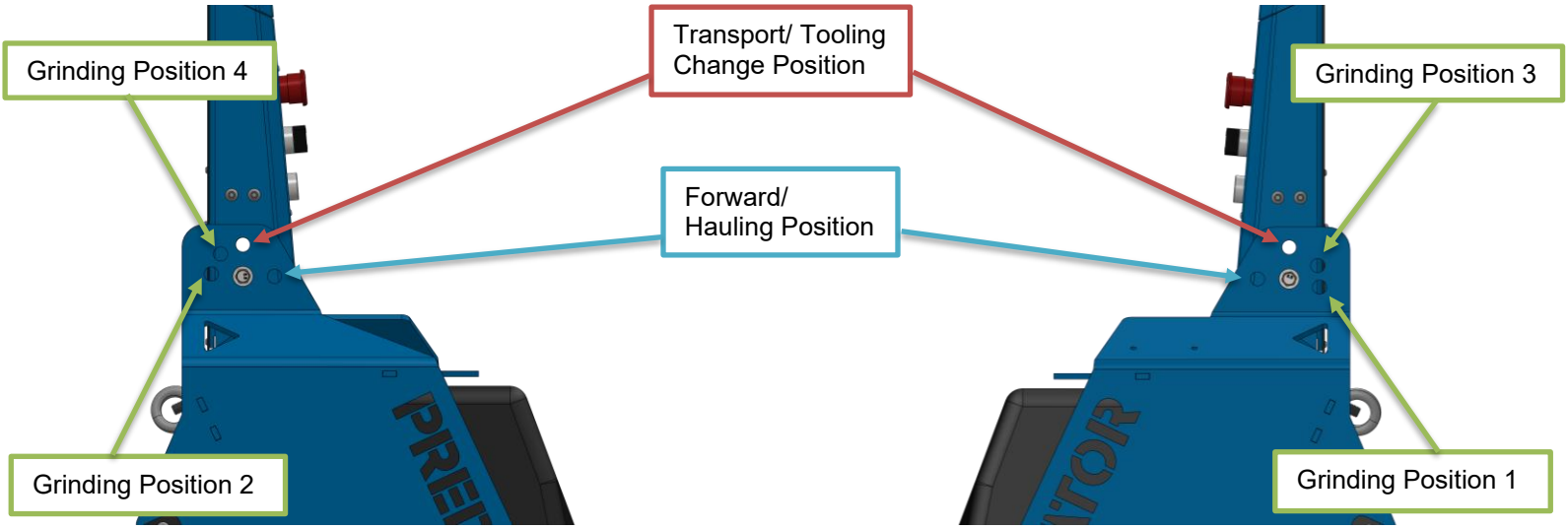
- Always maintain control of the machine while it is in operation. Never let go of the machine while drum is rotating.
- Be careful with the grinder around stub pipes or other obstructions on the floor. Should the machine catch, or hit such an obstruction, serious damage may result to the machine, or operator to be injured.
- When lifting the grinder, only use the specified connection points. At no time should the machine be lifted without mechanical means such as a hoist or a forklift.
- When securing the grinder for transport, only use indicated tie down points labeled on equipment.
- Disconnect battery before attempting any electrical maintenance.
- 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.
- 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.

Transportation

Grinder Handle Position Reference

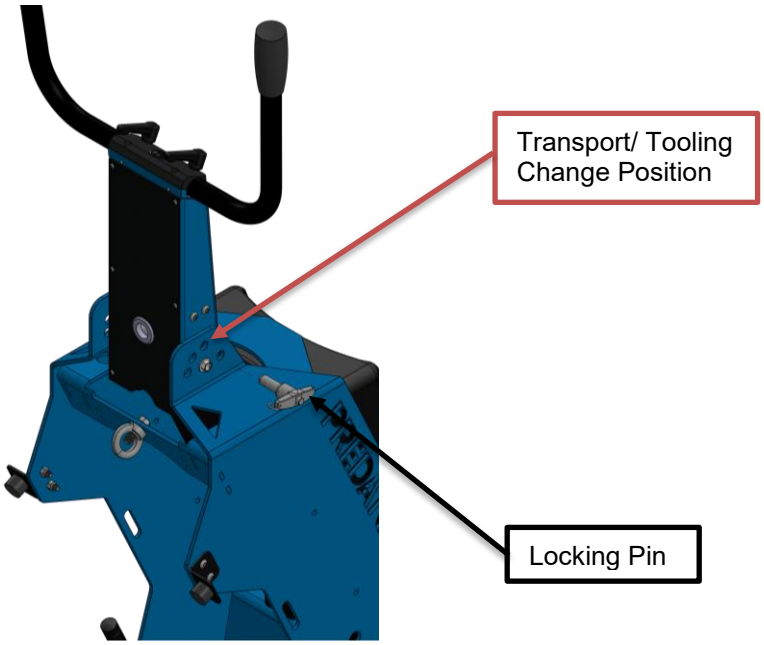
Right Side View

Left Side View

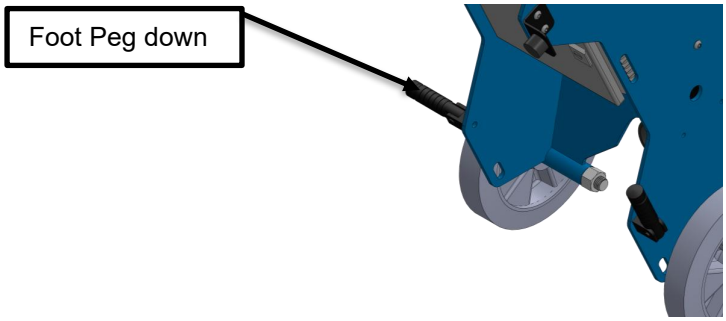


Transporting grinder

1. Rotate handle to the "Transport/ Tooling Change Position" and insert locking pin into either the left or right-side panel holes.



2. Flip down either left or right-side Foot Peg



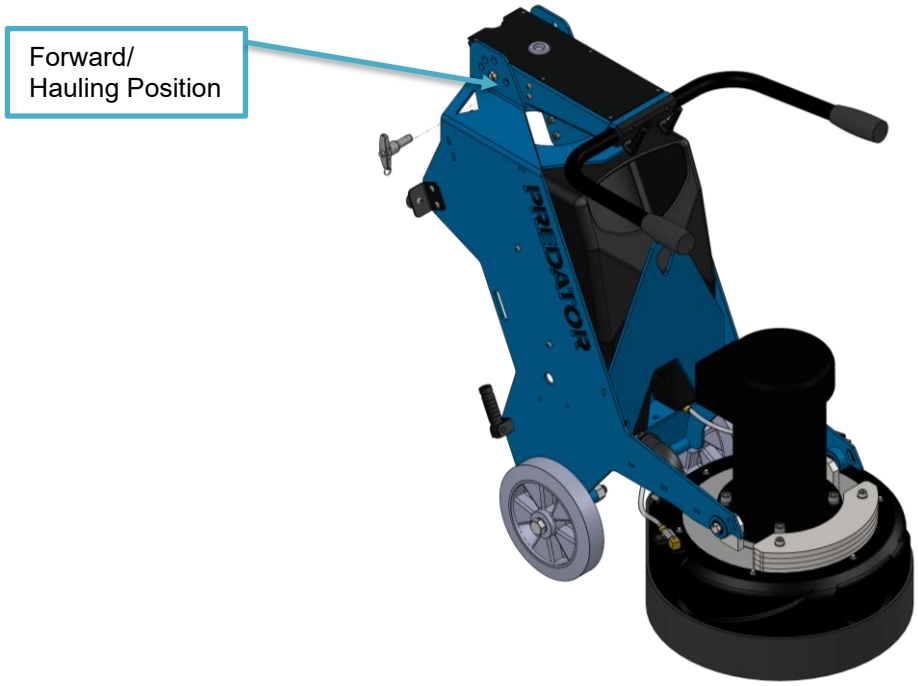
3. Placing one foot on the Foot Peg, pull on the handle.

4. Hold machine in a balanced and comfortable position push or pull to desired location.

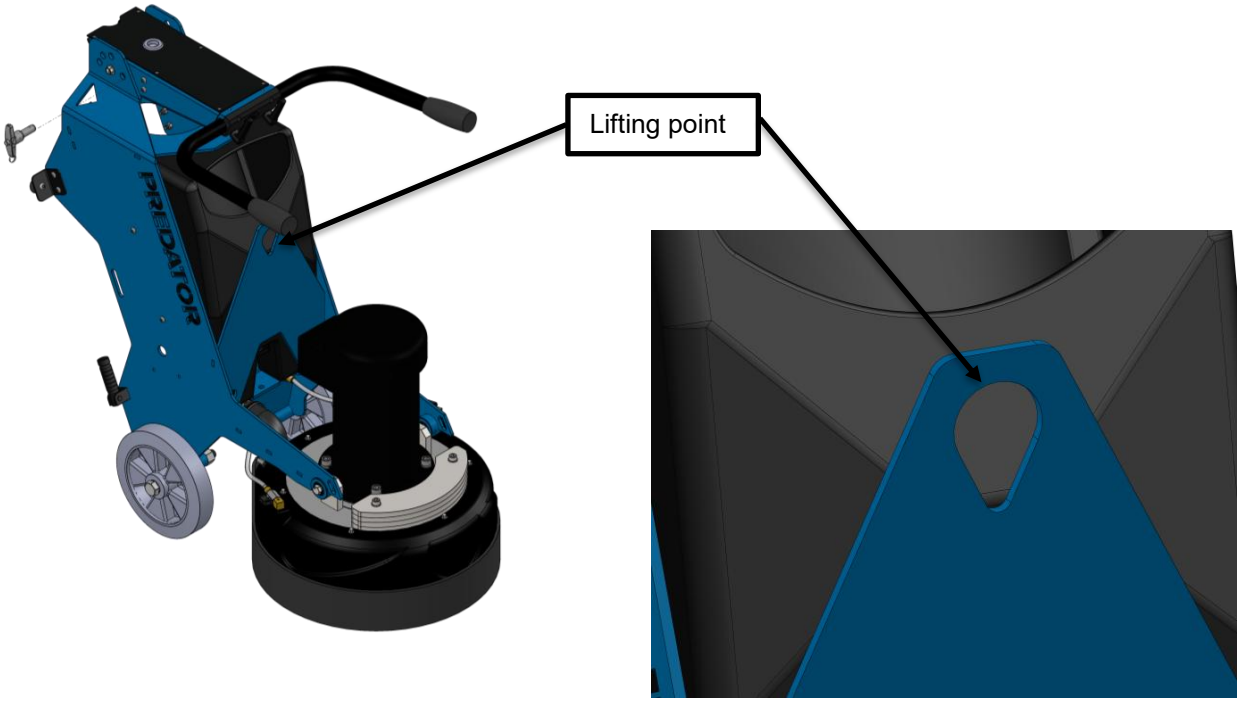
Note: When grinding near walls be sure to flip the Foot Peg back into the upward position.

Lifting grinder with a hoist

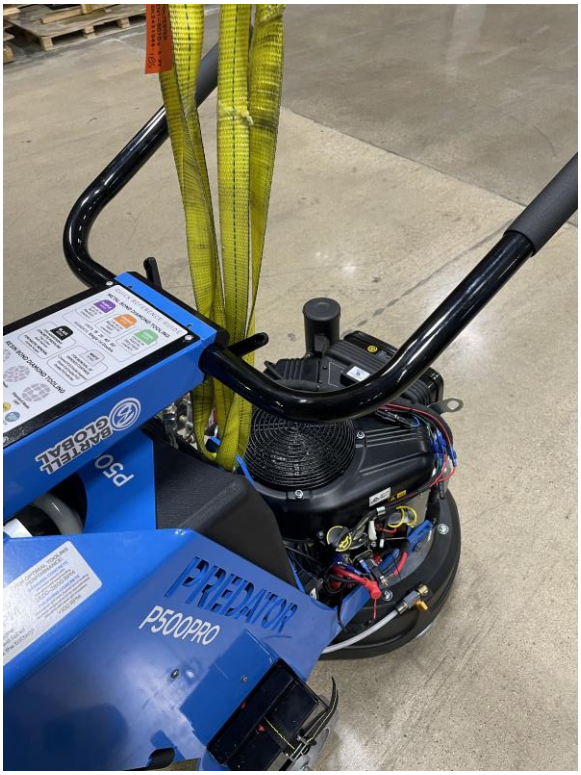
1. Grinder should be in grinding position.
2. Rotate Handle in the "Forward/ Hauling Position".



3. Locate marked single Lifting point behind motor/engine.
    a. Do not use any other points of lifting.



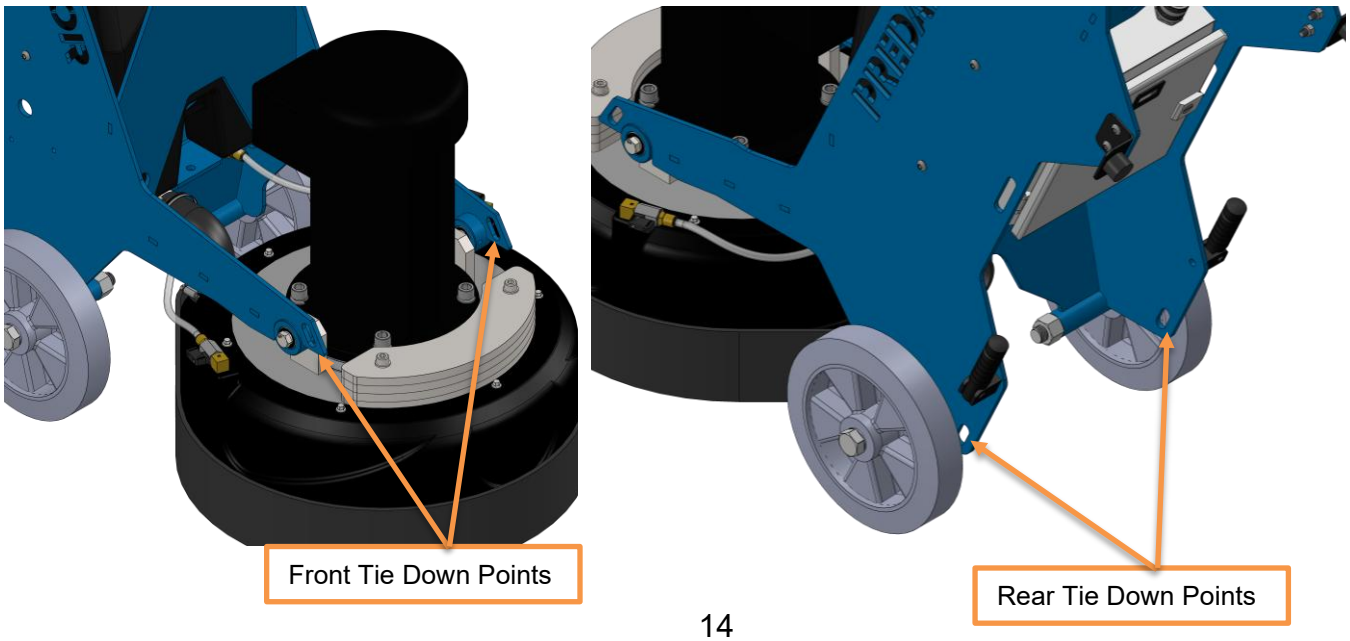
4. Only use OSHA/non-damaged certified lifting equipment



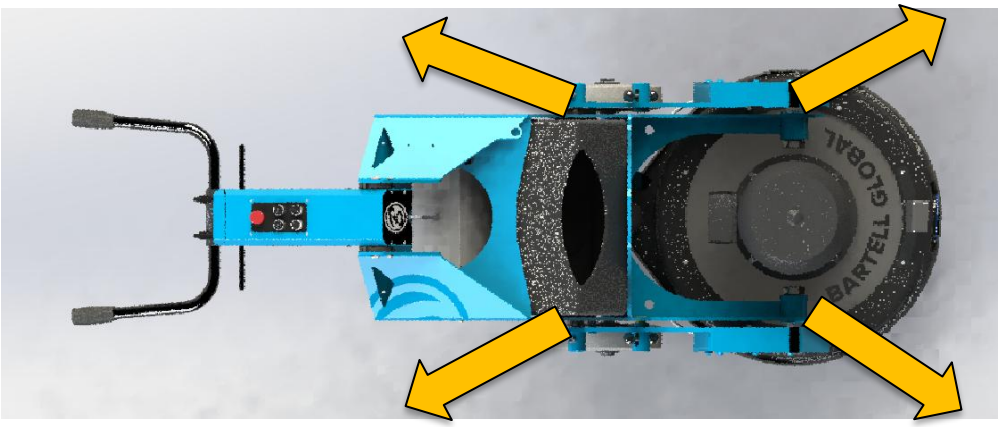
To secure machine for Hauling

1. Grinder should be in grinding position.
2. Rotate Handle in the "Forward/ Hauling Position".

3. Locate 4 marked tie down points
    a. Do not use any other tie down points.



4. Only use DOT certified ratcheting straps based on the weight of the grinder.
    a. Do not use chains for securing machine

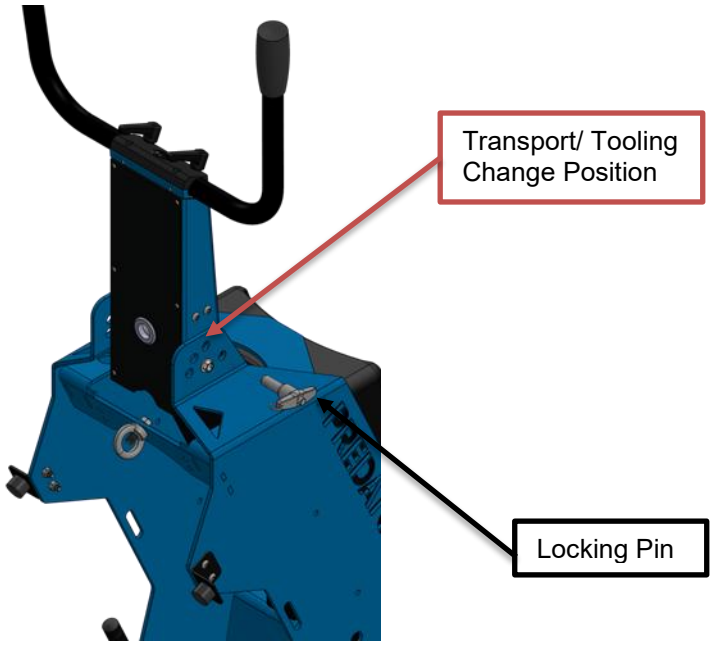


Tooling Installation

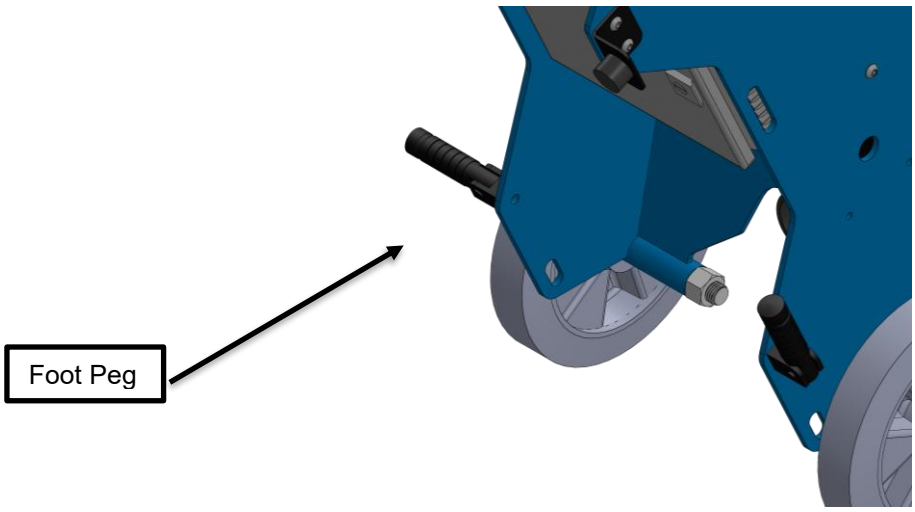
The Predator Series Grinders come equipped with quick change tooling system. This allows operators to quickly change grits or types of diamond tooling.

To install/change tooling plates on machine.

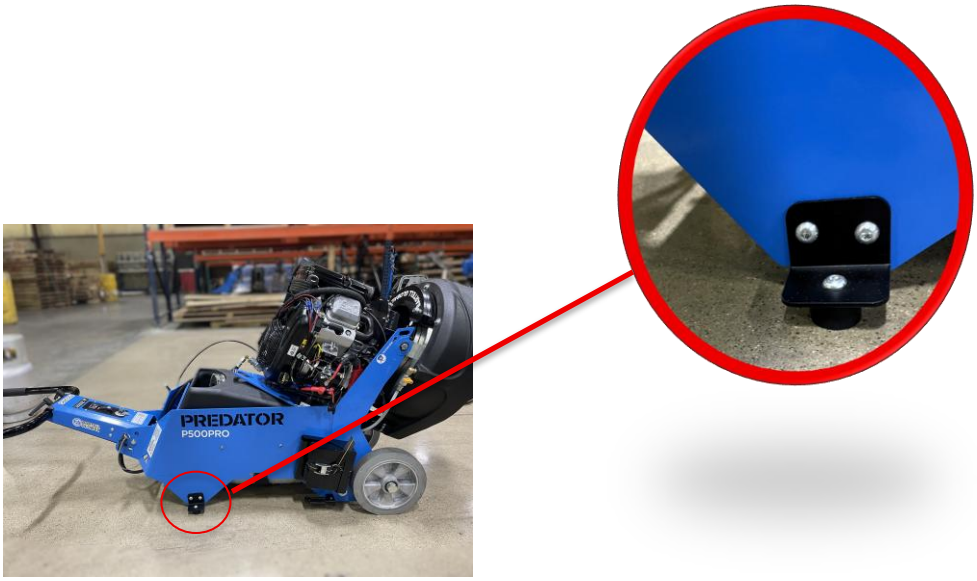
1. Rotate handle to the "Transport/ Tooling Change Position" and insert locking pin into either the left or right-side panel holes.



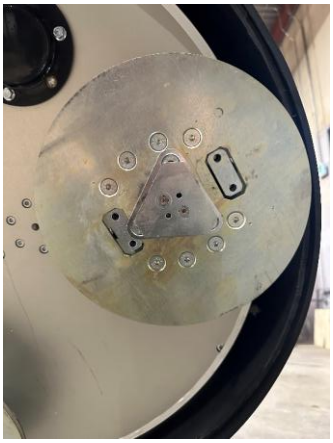
2. Flip down either left or right-side Foot Peg



3. Lay completely down such that the Bumper stops contact the ground.



1. Install/change tooling plates by rotating the triangle in the center of each head.
    a. 3 optional screws can be used to fix the tooling plates to the grinder.
    b. Caution Tooling and tooling plates can be hot. Always use correct PPE.



    a. Same method for metal or resin plates

b. 3 optional screws can be used to fix the tooling plates to the grinder.
c. Caution Tooling and tooling plates can be hot. Always use correct PPE.
d. Resin Tooling is in

2. Install/slide Mag by sliding tooling into grooves.
    a. Use rubber mallet to tap tooling in and out of place.

Note: It is recommended not to transport machines with tooling plates installed, unless using optional transport screws.

3. Install resin tooling by attaching with Velcro

PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Bartell Predator Grinder has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Bartell Grinder. Your dealer is interested in your new Grinder and has the desire to help you get the most value from it. After reading through this manual thoroughly you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your Bartell dealer. For your convenience we have provided this space to record relevant data about your Grinder. When in need of parts or service be prepared to provide your Grinder serial number. Locate the serial number now and record in the space below.

Date Purchased:		**Type of Machine:**	
Dealer Name:		Model:	
Dealer Phone:		Serial Number:	

Replacement Parts Used				**Maintenance Log:**	
Part No.	Quantity	Cost	Date	Date	Operation

ROUTINE SERVICE SCHEDULE

Routine Service Intervals		Each Use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
General Inspection							
Operation of lights	Check		O	O	O	O	O
Battery	Check and clean			O	O	O	O
	Recharge			O	O	O	O
	Replace						2 yrs
Guards	Check	O	O	O	O	O	O
Warning Stickers	Check		O	O	O	O	O
Test Run	Check Operation		O	O	O	O	O
Controls							
Safety switch operation	Check	O	O	O	O	O	O

Routine Service Intervals		Each Use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
Drive Train:							
Bearings	Lubricate		O	O	O	O	O
Universal Couplings	Lubricate			O	O	O	O
Belt Tension/ Condition	Check	O	O	O	O	O	O
Clutch/ Pulley Operation	Check	O	O	O	O	O	O

ROUTINE SERVICE INTERVALS

Due to the nature and environment of use, grinders are exposed to severe operating conditions.

Some general maintenance guidelines will extend the useful life of your grinder:

- The initial service for your grinder should be performed after 50 hours of use, at which time your mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule above. The previous chart is handy for keeping a record of the maintenance performed and the parts used for servicing your grinder.
- Regular service according to the schedule above will prolong the life of the grinder and prevent expensive repairs.
- After each use, your grinder should be cleaned to remove any concrete residue from the drum, flex heads and surrounding components. Use of a power washer will make clean up quick and easy, especially if a release agent was applied prior to use. Use caution to not wet any electrical components. Refer to engine supplier manual on pressure washing guidelines.
- In the Service Schedule above, items that should be checked, replaced or adjusted are indicated by "o" in the appropriate column. Not all grinder models include the same features and options and as such not all service operations may have to be performed. For ease of recording, place a checkmark (√) through the "o" when the item is complete. If an item is not required or not completed place an "x" through the "o" in the box.
- Failure to have your grinder regularly serviced and properly maintained in accordance with the manufacturer's instructions will lead to premature failure and void the warranty.

MAINTENANCE INSTRUCTIONS

GENERAL MAINTENANCE

Remember, safety is paramount when performing routine maintenance checks. Always disconnect the grinder from the power source before conducting any inspections or maintenance tasks.

- Visual Inspection: Regularly examine the grinder for any signs of damage, loose parts, or frayed wires. Ensure that all components are in good condition and properly connected.

- Power Cord: Check the power cord for any cuts or exposed wires. If any damage is found, replace the cord immediately to prevent electrical hazards.
    - NOTE: After the first 8 hours of run time, check electrical connections for tightness. Connectors may come loose due to vibration.

- Fasteners: Check all screws, nuts, and bolts on the grinder for proper tightness. If any are loose, tighten them securely to prevent accidents during operation.

- Safety Mechanisms: Test the grinder's safety mechanisms, such as the E-Stop, to ensure they are functioning effectively. These mechanisms are designed to protect the user from potential accidents or injuries.

- Electrical Connections: Inspect the grinder's electrical connections, such as switches and plugs, for any signs of damage or loose connections. Ensure that all connections are secure and properly insulated.

- Cleanliness: Regularly clean the grinder's external surfaces and remove any debris or residue from the grinding area. This prevents build-up that can affect the grinder's performance and poses a safety hazard. Hard concrete is very difficult to remove, greatly increases weight, and reduces efficient subsequent operation of unit.

TROUBLESHOOTING 500E

Operation Panel Indication			Name	Refer to Page
Error message	E - - -	E---	Faults history	229
	HOLd	HOLD	Operation panel lock	234
	LOCd	LOCD	Password locked	234
	Er 1 Er2 Er4	Er1 Er2 Er4	Parameter write error	234
	Err.	Err.	Inverter reset	234
Warning	OL	OL	Stall prevention (overcurrent)	235
	oL	oL	Stall prevention (overvoltage)	235
	rb	RB	Regenerative brake prealarm	236
	rH	TH	Electronic thermal relay function prealarm	236
	PS	PS	PU stop	235
	nr	MT	Maintenance signal output	236
	Uu	UV	Undervoltage	236
	SA	SA	Safety stop	236
	Eu	EV	24V external power supply operation	237
Alarm	Fn	FN	Fan alarm	237
Fault	E.OC 1	E.OC1	Overcurrent trip during acceleration	237
	E.OC2	E.OC2	Overcurrent trip during constant speed	237
	E.OC3	E.OC3	Overcurrent trip during deceleration or stop	238
	E.Ou 1	E.OV1	Regenerative overvoltage trip during acceleration	238
	E.Ou2	E.OV2	Regenerative overvoltage trip during constant speed	238
	E.Ou3	E.OV3	Regenerative overvoltage trip during deceleration or stop	238
	E.THr	E.THT	Inverter overload trip (electronic thermal relay function)	239
	E.THn	E.THM	Motor overload trip (electronic thermal relay function)	239
	E.FIn	E.FIN	Heatsink overheat	239

Operation Panel Indication			Name	Refer to Page
Fault	E.ILF	E.ILF	Input phase loss	239
	E.OLT	E.OLT	Stall prevention stop	240
	E. bE	E. BE	Brake transistor alarm detection	240
	E. GF	E.GF	Output side earth (ground) fault overcurrent at start	240
	E. LF	E.LF	Output phase loss	240
	E.OP 1	E.OP1	Communication option fault	240
	E.OPT	E.OPT	Option fault	241
	E. 1	E. 1	Option fault	241
	E. PE	E.PE	Parameter storage device fault	241
	E.PE2	E.PE2	Internal board fault	241
	E.rET	E.RET	Retry count excess	241
	E. 5 E. 6 E. 7 E.CPU	E. 5 E. 6 E. 7 E.CPU	CPU fault	241
	E.IOH	E.IOH	Inrush current limit circuit fault	242
	E.USb	E.USB	USB communication fault	242
	E.Mb4 to E.Mb7	E.MB4 to E.MB7	Brake sequence fault	242
	E.SAF	E.SAF	Safety circuit fault	242
	E. 13	E.13	Internal circuit fault	242

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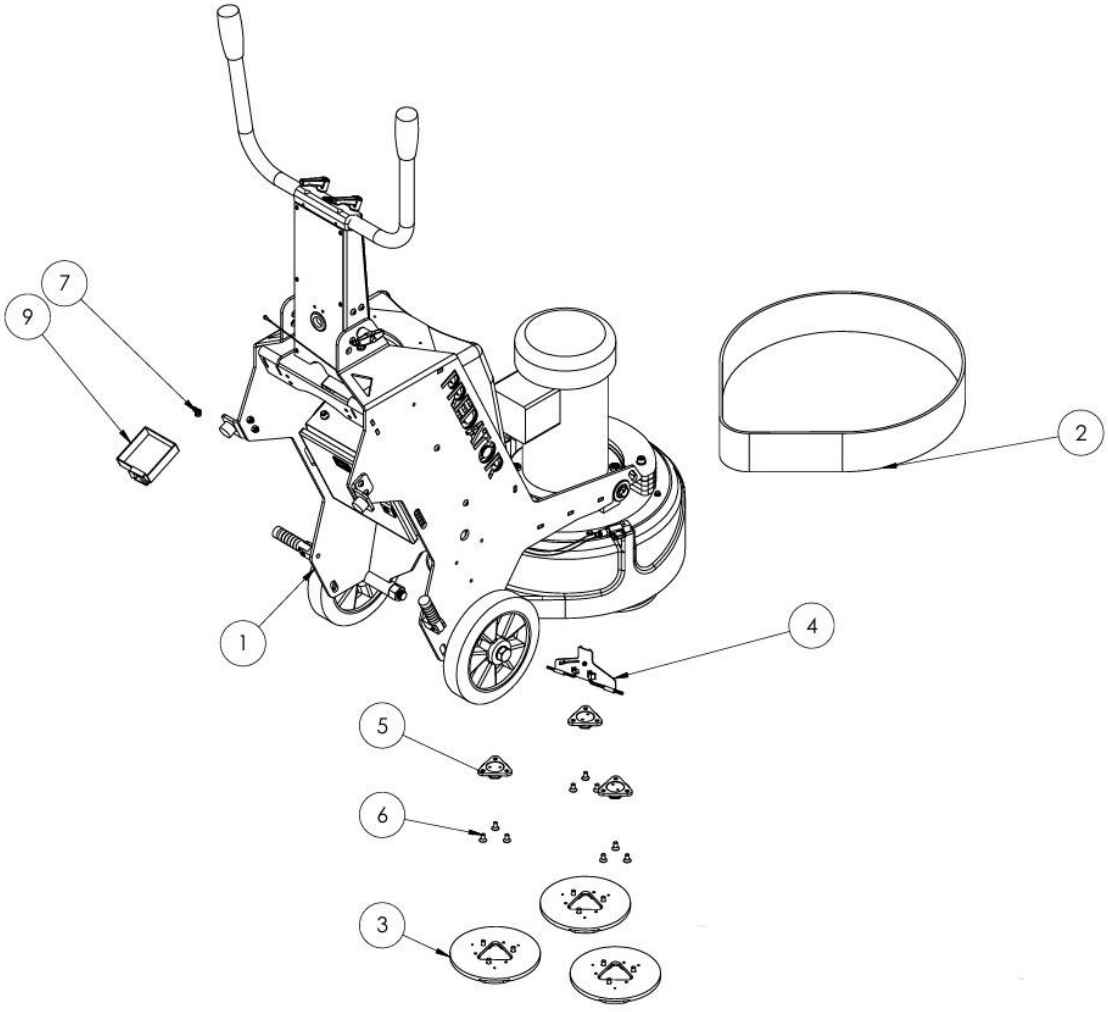
PARTS

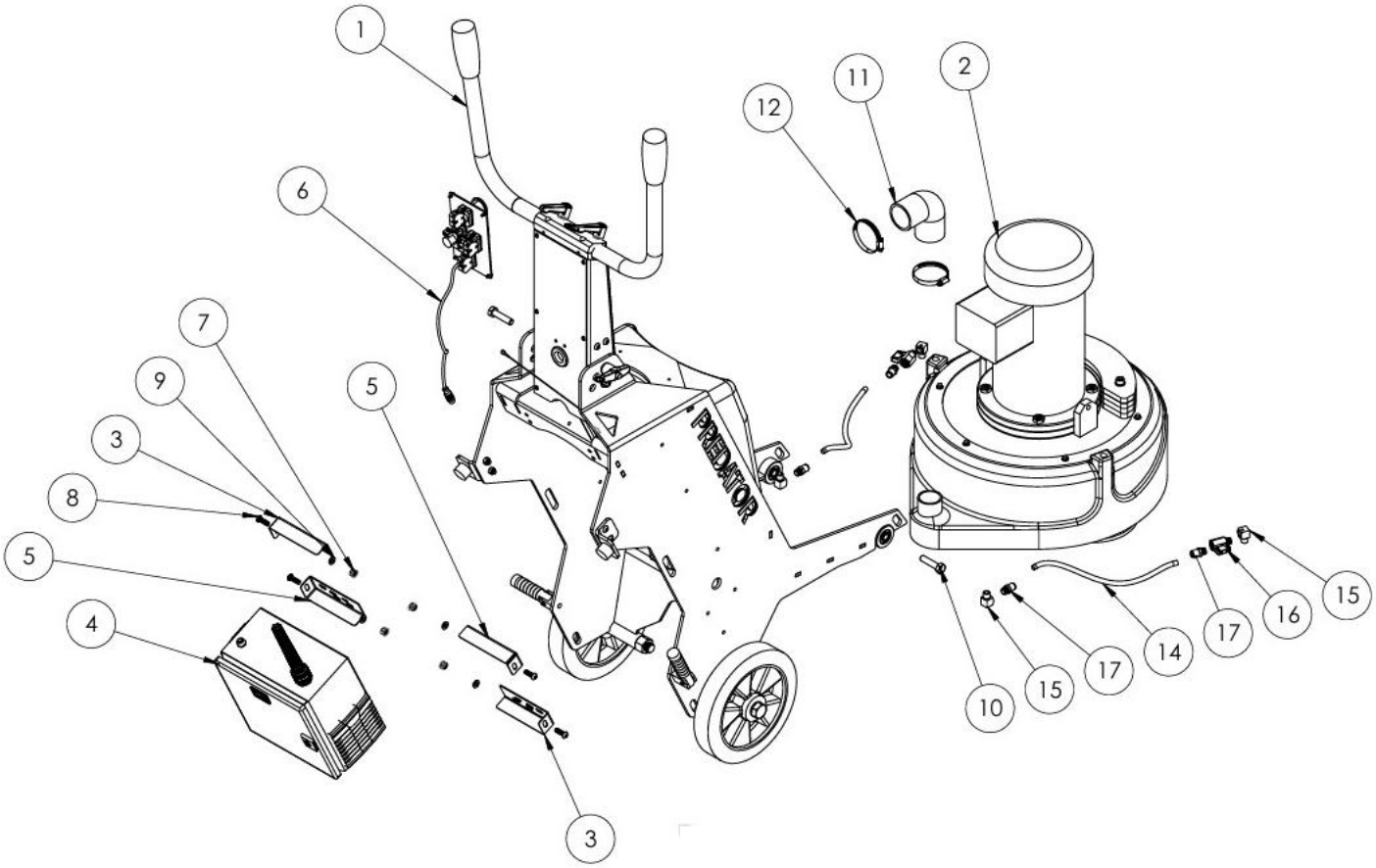
98-0062 - PREDATOR P500E GRINDER - B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	96-0779	P500 E ASSEMBLY	1
2	13-0678	DUST COVER 500	1
3	96-0816	METAL TOOLING KIT 500	3
4	96-0456	TOOLING WRENCH	1
5	96-0785	TOOLING TRIANGLE ASSEMBLY 650	3
6	12-0880-16	FLAT HEAD SOCKET SCREW - M8X16 - ZINC	9
7	13-0285-02	LOOP CLAMP, 1/4 IN	1
8	61-0082	PREDATOR 500E DECAL KIT (NOT SHOWN)	1
9	13-0618	BATTERY STRAP 1"X24"	1



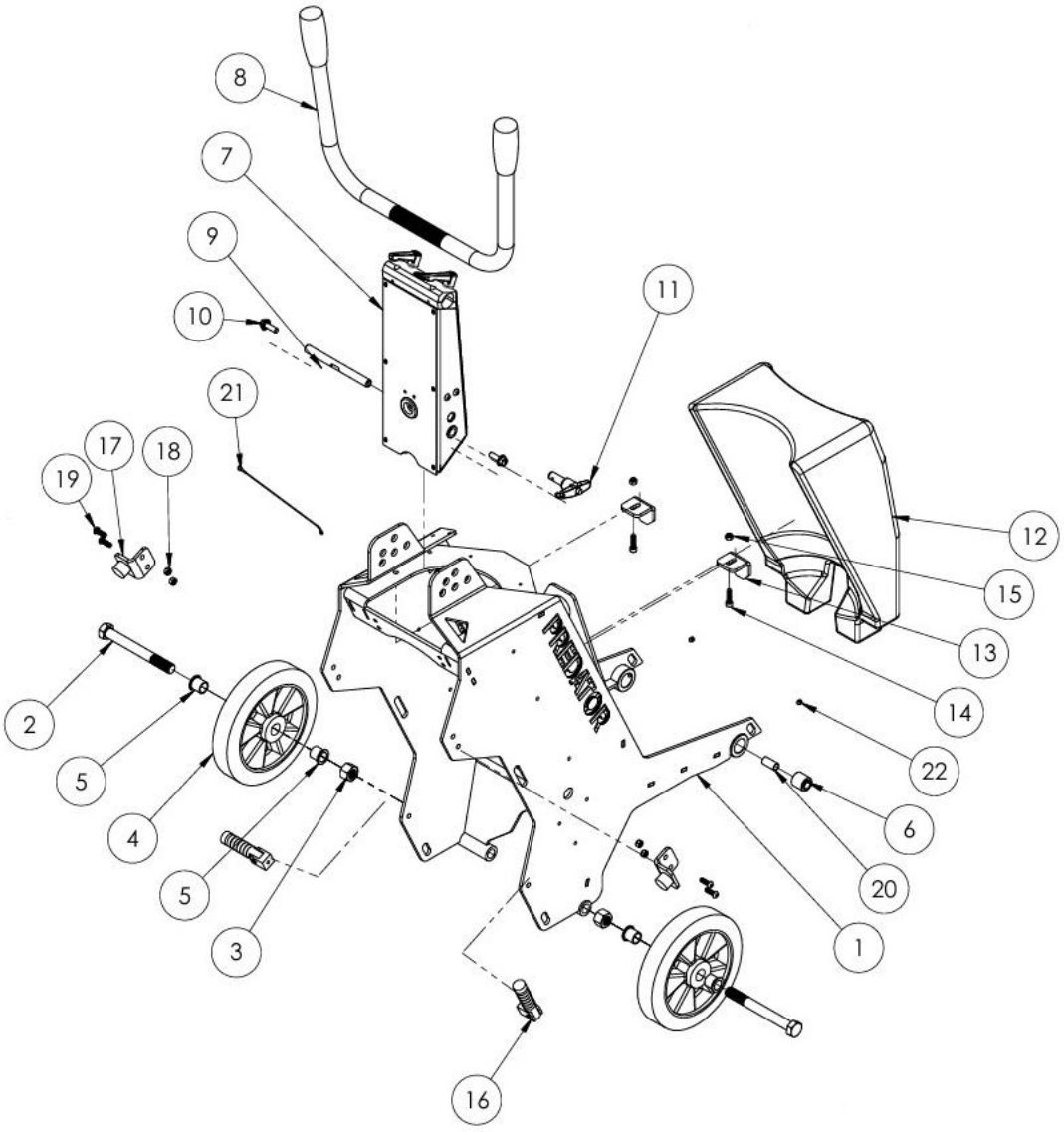
96-0779 - PREDATOR P500E GRINDER ASSEMBLY - A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	96-0774	FRAME ASSEMBLY 500	1
2	96-0778	DRUM MOTOR SUBASSEMBLY 500E	1
3	52-0609	ELECTRICAL PANEL BRACKET LEFT 800E AND 600E	2
4	22-0114	5HP DRIVE ASSEMBLY/ BG5KE	1
5	52-0608	ELECTRICAL PANEL BRACKET RIGHT 800E AND 600E	2
6	96-0777	SWITCH PANEL - 500E	1
7	12-0021-08	LOCKNUT - M8 - ZINC	4
8	12-0810-25	BUTTON HEAD CAP SCREW - M8X25 - ZINC	4
9	12-0850	WASHER - M8 - ZINC	4
10	12-1220-50	HEX HEAD CAP SCREW - M12X50 - ZINC	2
11	13-0617	SHROUD TO VAC ELBOW 3IN	1
12	13-0819	HOSE CLAMP 2 IN SMOOTH	2
13	41-0053	WATER TUBE CLEAR 0.38 OD	1
14	41-0053	WATER TUBE CLEAR 0.38 OD	1
15	41-0057	FITTING 0.25 NPT MALE TO 0.25 NPT FEMALE 90 BRASS	4
16	41-0051	BALL VALVE MALE 0.25 NPT FEMALE 0.25 NPT	2
17	41-0052	Push-to-Connect 0.25 NPT 0.38 TUBE	4



96-0774 - FRAME ASSEMBLY – 500 - C

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	53-0800	FRAME WELDMENT - 500	1
2	12-2020-180	HEX HEAD SCREW - M20X180 - ZINC	2
3	12-2440	LOCKNUT - M20 - ZINC	2
4	13-0670	WHEEL 10IN - 650	2
5	51-3378	AXLE BUSHING - 650	4
6	13-0806	BUSHING	2
7	96-0726	HANDLE ASSEMBLY	1
8	96-0720	BG HANDLE	1
9	51-3501	HANDLE PIVOT PIN	1
10	12-1060-30	SCREW, FLANGED HEX HEAD CAP SERRATED M10-1.5 X 30 ZINC	2
11	13-0808	T-HANDLE LOCKING PIN	1
12	54-0051	WATER TANK - 500	1
13	52-0633	TANK MOUNTING BRACKET	2
14	12-0800-30	SOCKET HEAD CAP SCREW - M8X30 - ZINC	2
15	12-0840	LOCKNUT - M8 - ZINC	2
16	13-0809	FOOT PEG	2
17	96-0776	TILT STOP ASSEMBLY	2
18	12-0021-08	LOCKNUT - M8 - ZINC	4
19	12-0810-25	BUTTON HEAD CAP SCREW - M8X25 - ZINC	4
20	51-3554	CARRIAGE BOLT SLEEVE	2
21	13-0387	12" Lanyard	1
22	13-0804	SET SCREW CONE - MX10 - ZINC	2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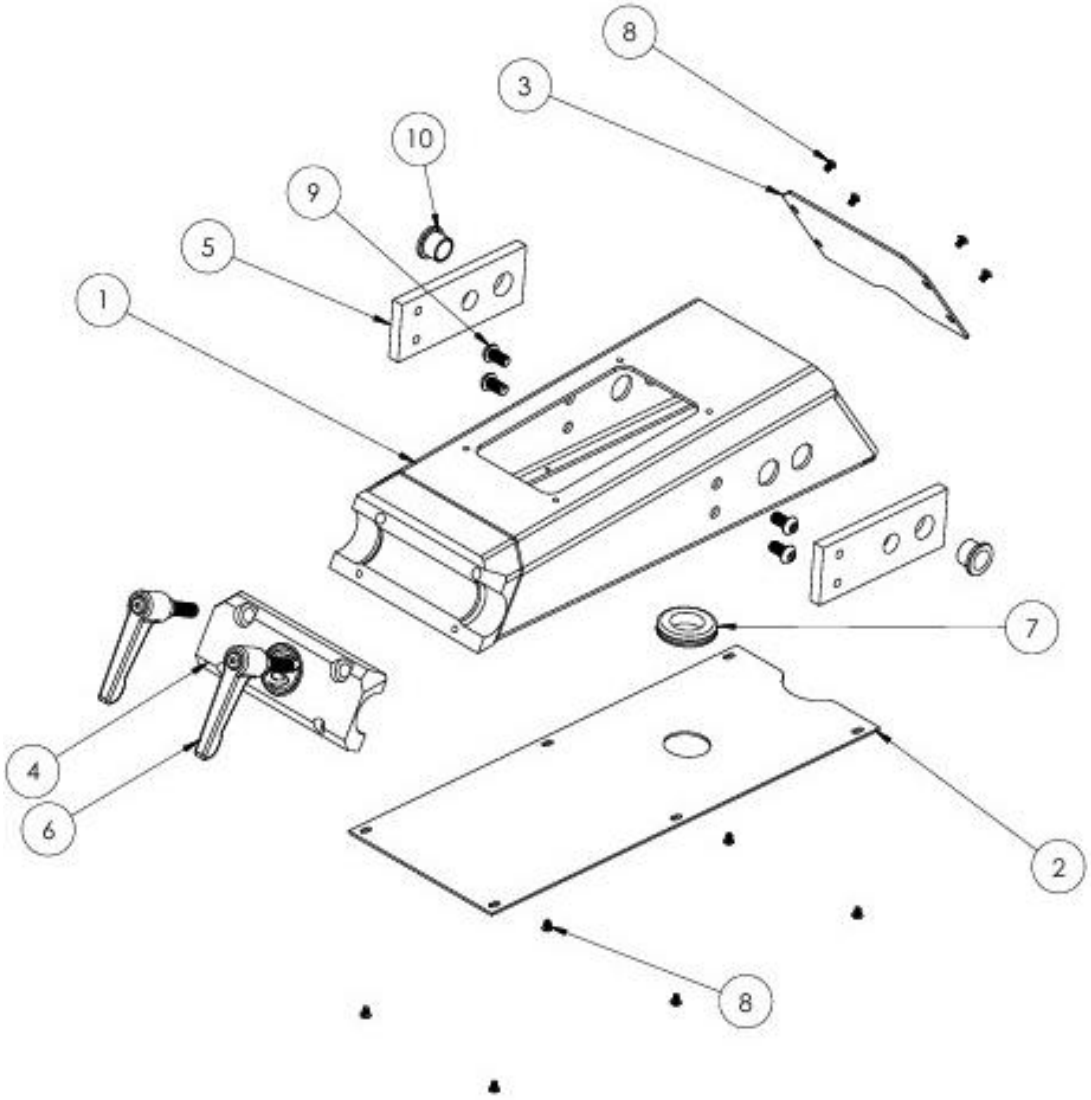
PREDATOR

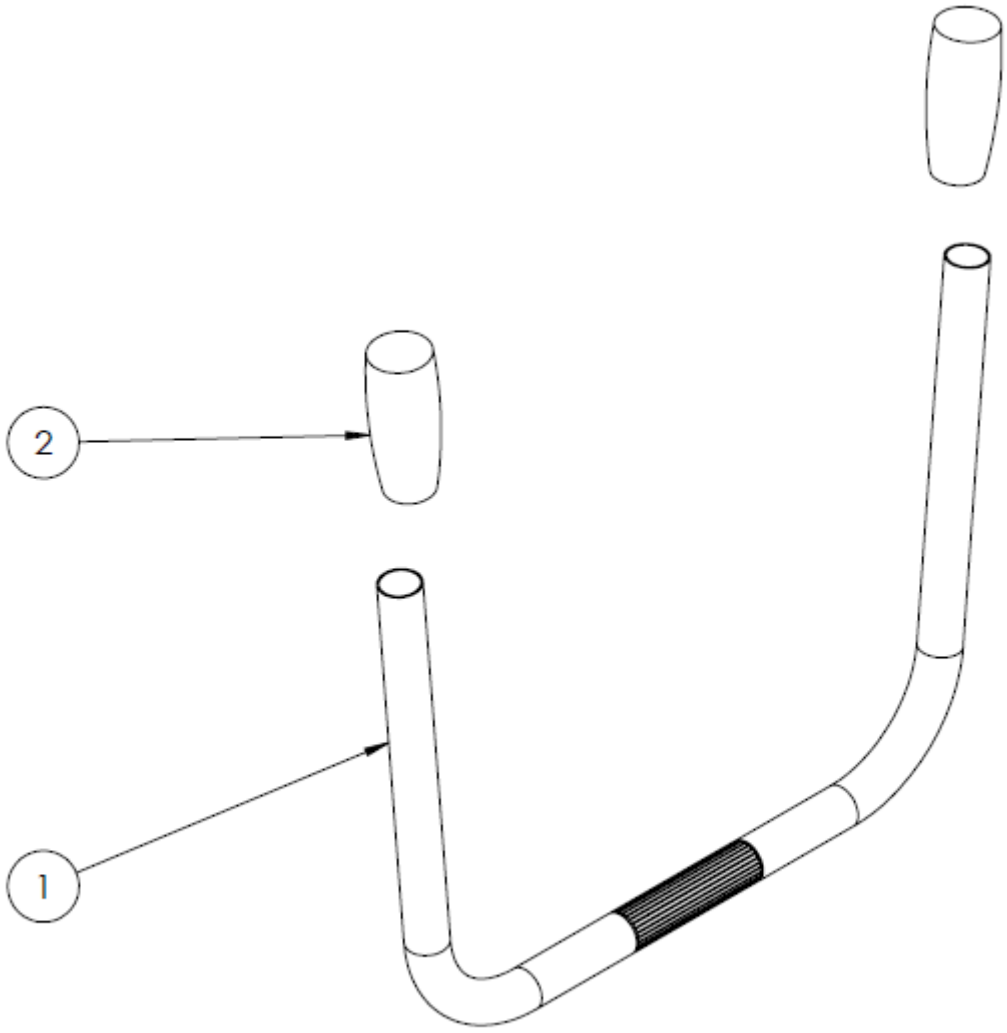
96-0726 - HANDLE ASSEMBLY – 500 - B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	53-0802	HANDLE STEM WELDMENT	1
2	52-0631	BOTTOM COVER PANEL 500	1
3	52-0351	FRONT COVER PANEL	1
4	51-3200	HANDLE CAP PLATE	1
5	51-3500	REINFORCEMENT PLATE	2
6	13-0554	LOW-PROFILE ADJUSTABLE HANDLE	2
7	25-0182	GROMET 1IN	1
8	12-0410-06	BUTTON HEAD CAP SCREW - M4X6 - ZINC	10
9	12-0810-16	BUTTON HEAD CAP SCREW - M8X16 - ZINC	4
10	13-0807	FLANGED BUSHING	2



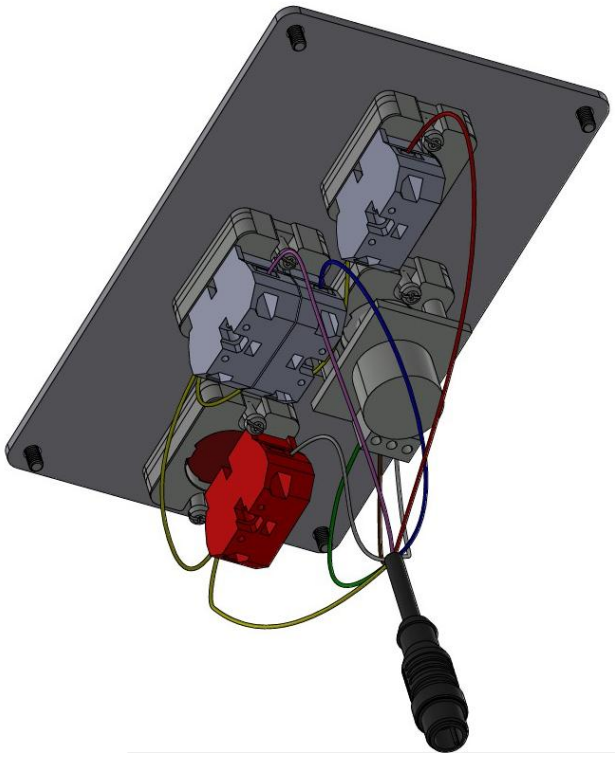
96-0720 - BG HANDLE – 500, 650, & 800 - C

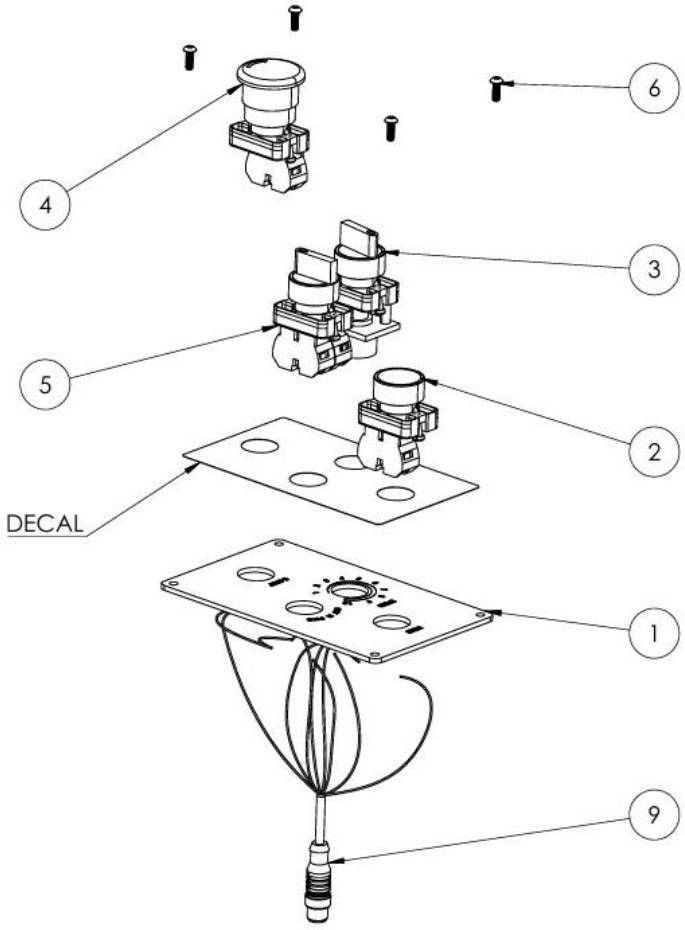
ITEM NO.	Part Number	DESCRIPTION	QTY.
1	53-0797	BG HANDLEBAR WELDMENT	1
2	13-0560	BG HANDLE END GRIP	2



96-0777 - SWITCH PANEL – 500E - A

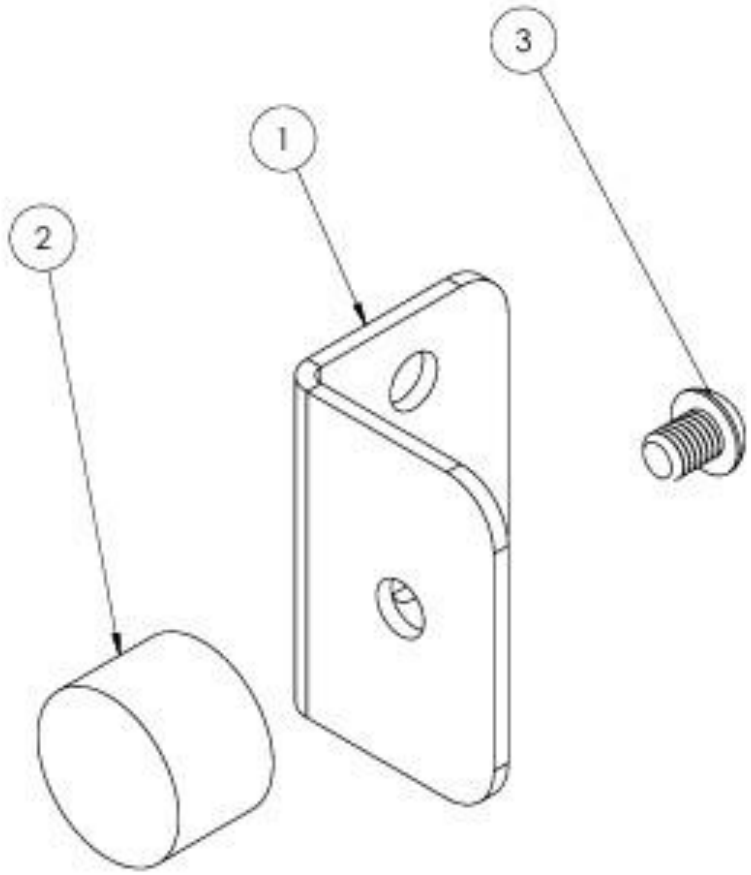
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	52-0616	SWITCH PLATE - 500E	1
2	22-0100	PUSH BUTTON	1
3	22-0105	SWITCH potentiometer	1
4	22-0106	ESTOP SWITCH	1
5	22-0109	SWITCH 3 POSITION	1
6	12-0410-12	BUTTON HEAD CAP SCREW - M4X12 - ZINC	4
7	25-0106-09	1/4" EXPANDABLE WIRE LOOM	1
8	24-0316	22 AWG WIRE FERRULE	1
9	24-0291	SWITCH PANEL CABLE, 500E	1





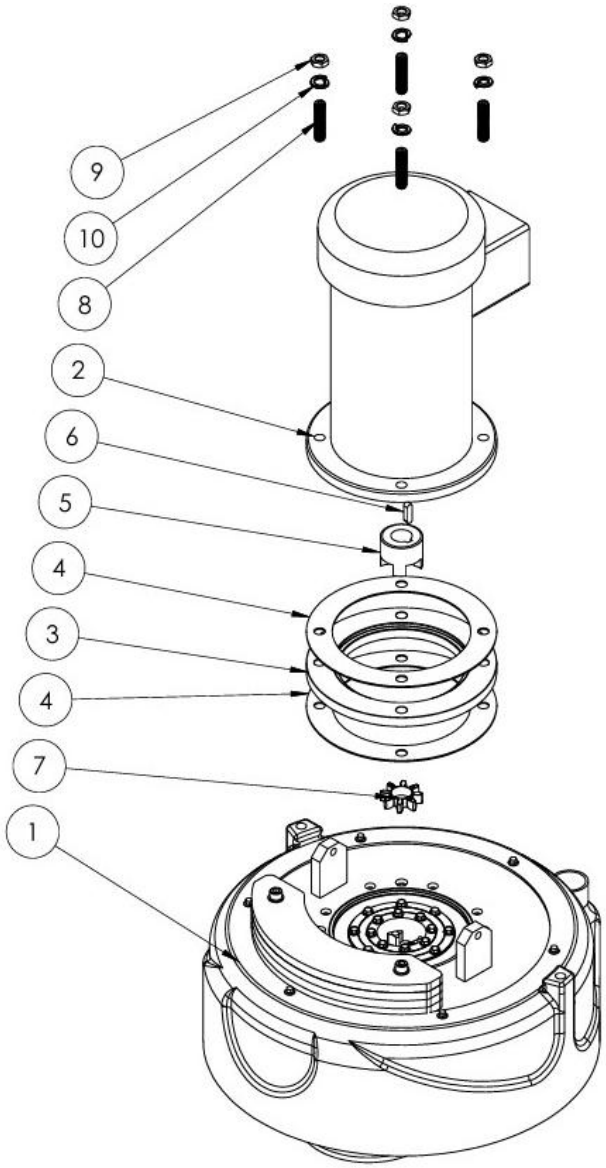
96-0776 – TILT STOP ASSEMBLY - A

ITEM NO.	Part Number	DESCRIPTION	QTY.
1	52-0638	TILT STOP	1
2	13-0820	RUBBER BUMPER	1
3	12-0810-10	BUTTON HEAD CAP SCREW – M8X10 – ZINC	1



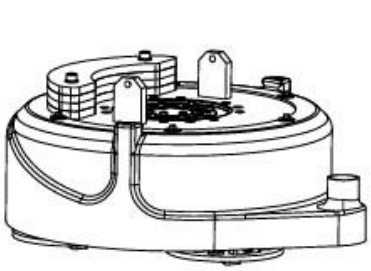
96-0778 – DRUM MOTOR SUB ASSEMBLY - C

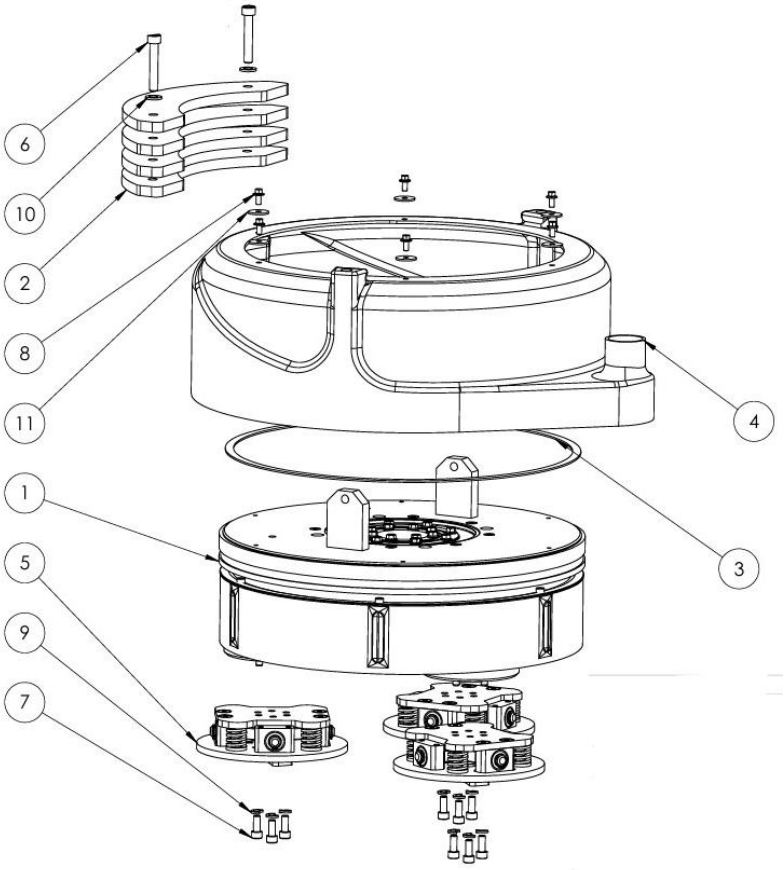
ITEM NO.	Part Number	DESCRIPTION	QTY.
1	96-0817	DRUM ASSEMBLY - 500	1
2	23-0255	MOTOR, 5HP 4P 230V 60HZ - 500E	1
3	51-3384	DRUM TO DRIVER SPACER - 500	1
4	13-0677	MOTOR GASKET - 500	2
5	13-0722	COUPLING, LOVEJOY FLEX - 500	1
6	13-0813	ROUNDED KEY, M8 X 7 X 25MM	1
7	13-0743	BUSHING, SPIDER, YELLOW, 500E	1
8	13-3350	SET SCREW CP, M14-2.0 X 60, ZP	4
9	13-3351	JAM NUT, M14-2.0	4
10	12-1470	Lock WASHER – M14 – ZINC	4



96-0817 - DRUM ASSEMBLY – 500 - C

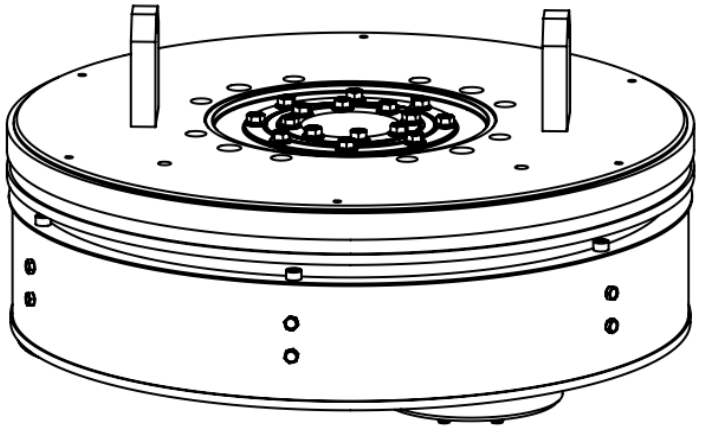
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	BG.5000.85	DRUM ASSEMBLY, BASE /P500	1
2	BG.51008.00	WEIGHT, /P500	4
3	BG.20249.00	RUBBER, EPDM GASKET /P500	1
4	BG.50060.00	SHROUD, MOLDED VACUUM 500	1
5	BG.5000.90	FLEX HEAD P50	3
6	NB.12.238	SOCKET HEAD CAP SCREW - ZINC - M10X60	2
7	NB.10.218	SCREW, SOCKET HEAD CAP M8-1.25 X 20	9
8	NB.11.109	SCREW, FLANGED HEX HEAD CAP M6-1.0 X 12 NON-SERRATED ZINC	6
9	NB.20.212	WASHER, LOCK M8 ZINC	9
10	NB.30.110	WASHER, FLAT M10 ZINC	2
11	NB.30.408	WASHER, FENDER M6 X 25 ZINC	6

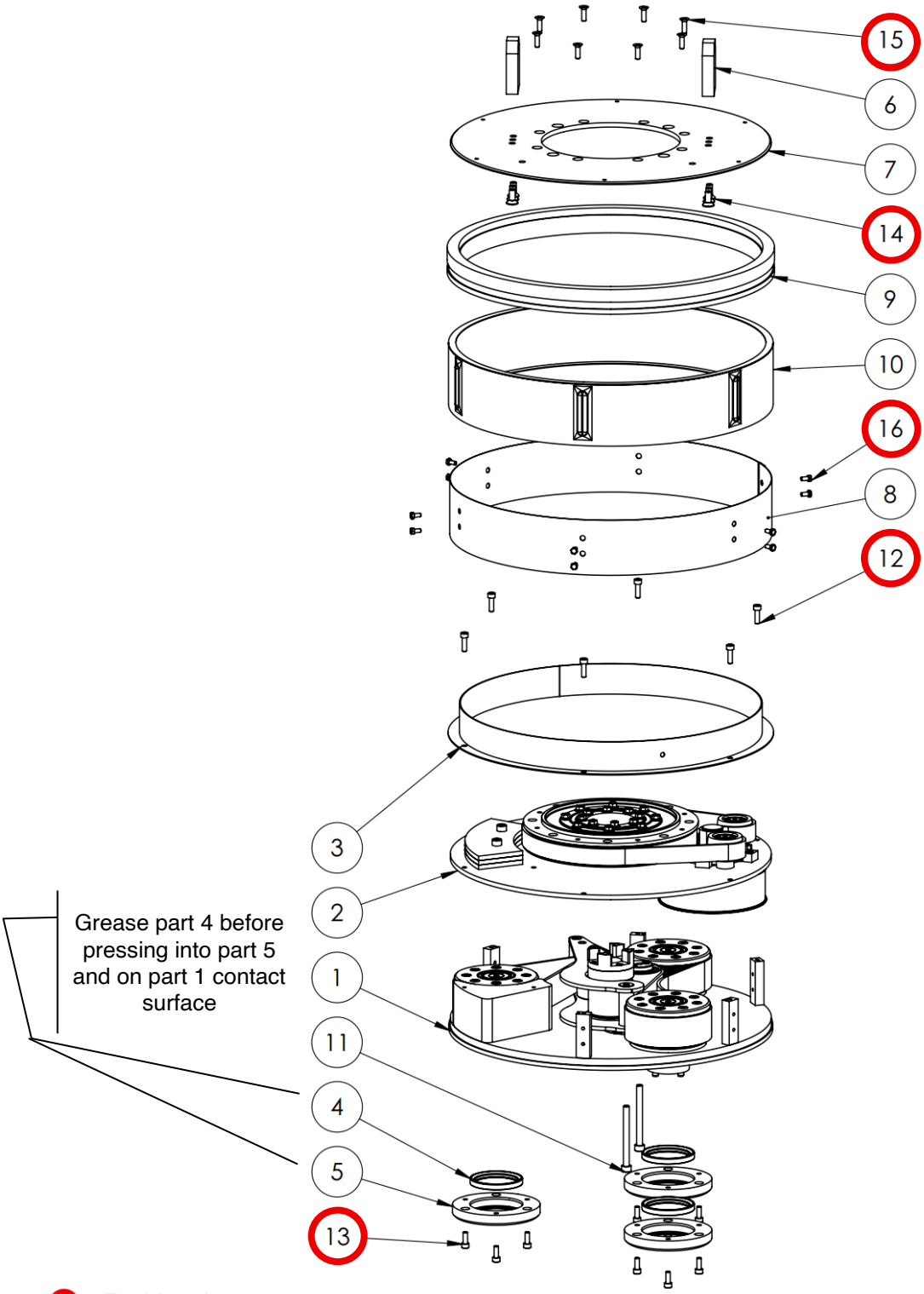




BG.5000.85 – DRUM ASSEMBLY, BASE /BG5K

Item No.	Part Number	Description	Qty.
1	**4.5KBTMDRUMASSY**	**BOTTOM DRUM**	**1**
2	**5KTOPDRUMASSY**		**1**
3	BG.45037.00	UPPER DUST RING	1
4	BG.20286.02	SEAL, AXLE NITRILE AL. SLURRY COVER /BG8K BG6K BG5K (WA)	3
5	BG.50085.00	COVER, PLANETARY SLURRY ALUMINUM	3
6	BG.45038.50	MOUNTING EAR	2
7	BG.45040.00	STATIONARY PLATE	1
8	BG.45041.00	BTM BELT DUST SHROUD	1
9	BG.45078.00	TOP BELT SEAL	1
10	BG.20287.00	TAPE, PRESERVATION HEAT SHRINK 3" WHITE	
11	NB.12.264	SOCKET HEAD CAP SCREW - ZINC - M8X80	2
12	NB.12.116	SOCKET HEAD CAP SCREW - ZINC - M6X20	6
13	NB.12.111	SOCKET HEAD CAP SCREW - ZINC - M6X16	9
14	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 20	6
15	NB.13.116	SCREW, FLAT HEAD SOCKET TORX CAP M6-1.0X20	8
16	NB.16.113	SCREW, HEX HEAD CAP M5-0.8 X 10 ZINC 8.8	12

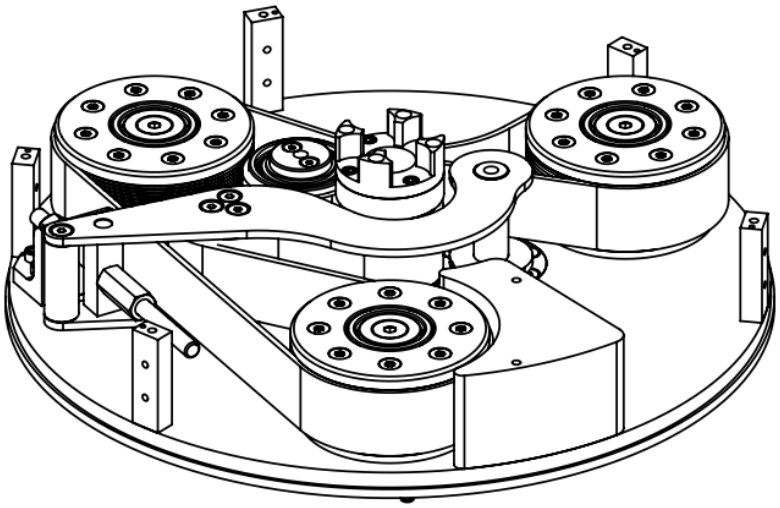


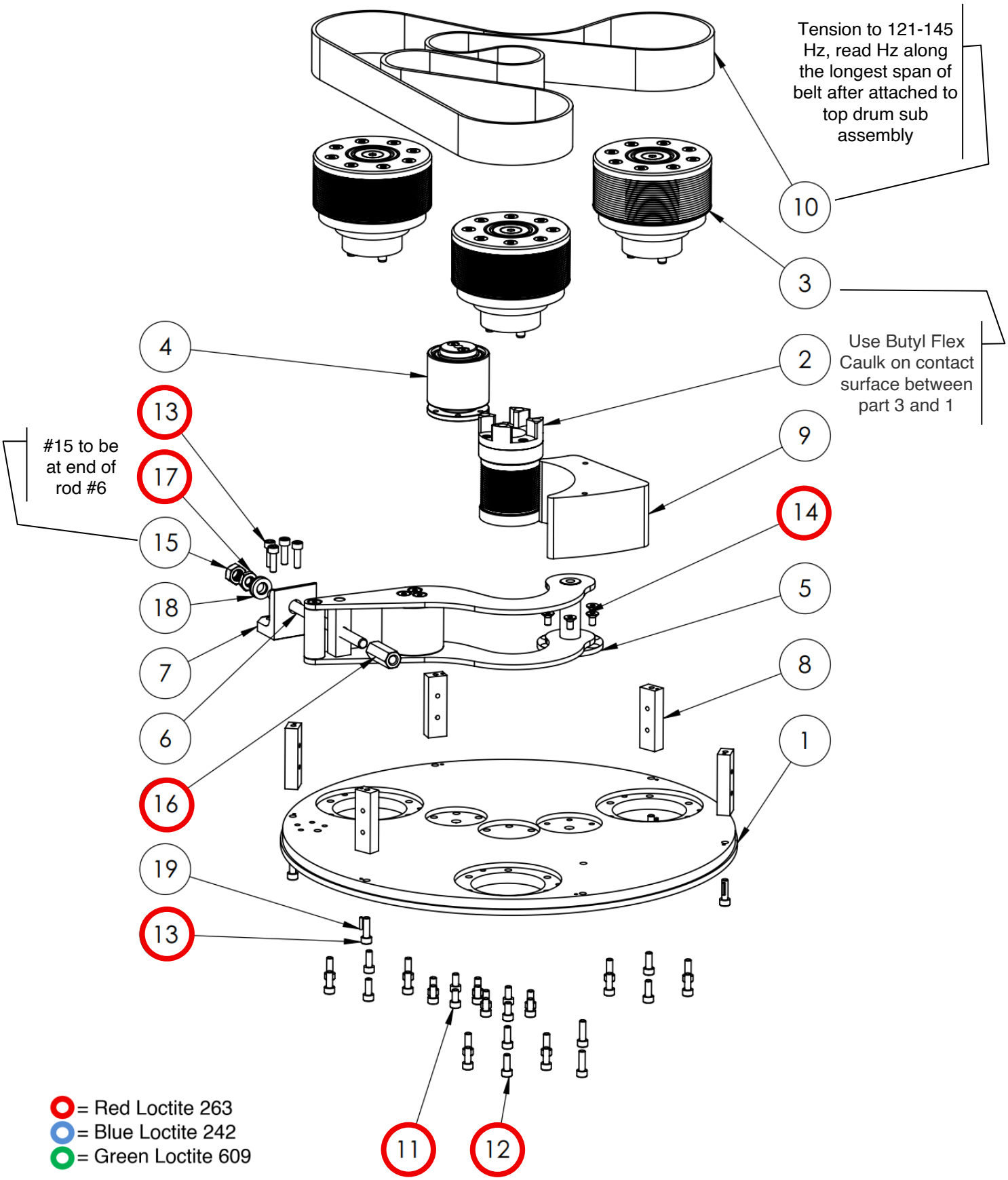


= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.5AXX.XX – LOWER DRUM SUB ASSEMBLY 5K

Item No.	Part Number	Description	Qty.
1	BG.45021.00	BTM DRUM PLATE	1
2	**BG.4A006.00**	**SUBASSEM, MAIN BELT SPINDLE**	**1**
3	**BG.5A008.00**	**5K PLANETARY HUB**	**3**
4	**BG.4A007.00**	**SUBASSEM, MAIN IDLER**	**1**
5	**BG.4A005.00**	**SUBASSEM, MAIN TIGHTNER**	**1**
6	**BG.45018.25**	**TIGHTENER ROD, BG 5K**	**1**
7	BG.45017.25	REACTION POST - STYLE II	1
8	BG.45016.00	PERIMETER STANCHION	5
9	BG.45019.00	BALANCE WEIGHT	1
10	BG.45042.00	BELT, MAIN PJ18 M1872	1
11	NB.12.108	SOCKET HEAD CAP SCREW - ZINC - M6X12	12
12	NB.12.111	SOCKET HEAD CAP SCREW - ZINC - M6X16	18
13	NB.12.116	SOCKET HEAD CAP SCREW - ZINC - M6X20	11
14	NB.13.118	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 12 ZINC	6
15	NB.20.131	NUT, NYLOC M10 ZINC	1
16	NB.20.119	NUT, COUPLER M10-1.5	1
17	NB.20.137	JAM NUT M10 - 1.5	1
18	NB.32.101	WASHER, SPHERICAL M10	1
19	NB.50.145	PIN, SPIRAL M3 X 12	5




Tension to 121-145 Hz, read Hz along the longest span of belt after attached to top drum sub assembly
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Use Butyl Flex Caulk on contact surface between part 3 and 1
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#15 to be at end of rod #6
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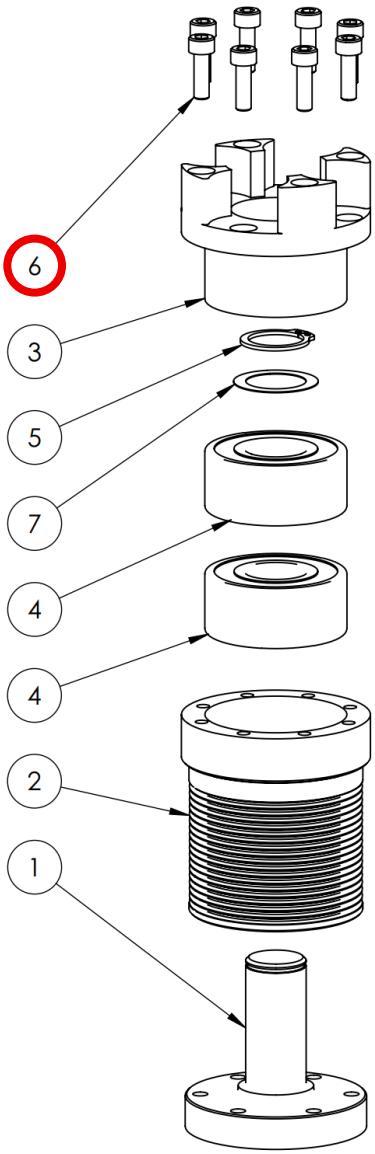
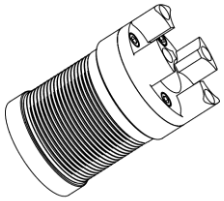
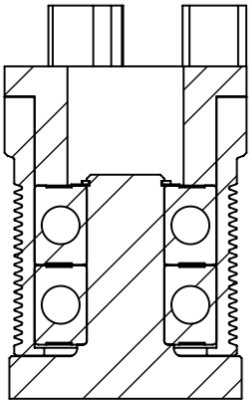
= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.4A006.00 – SUBASSEM, MAIN BELT SPINDLE

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





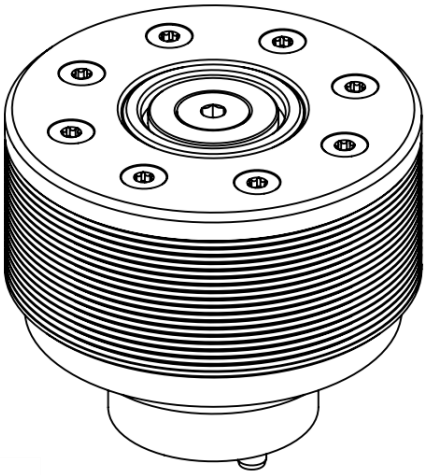


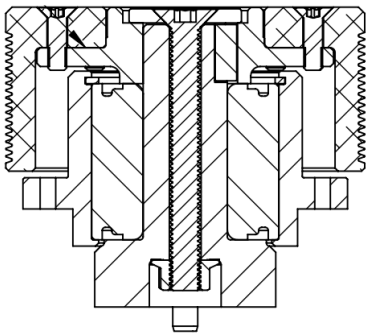
SECTION B-B
SCALE 1 : 2

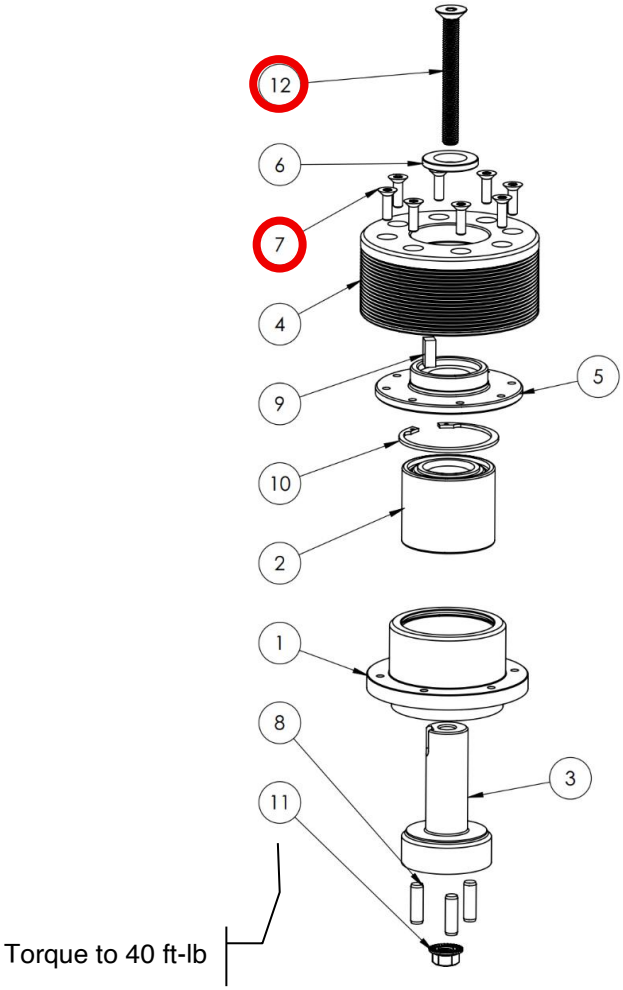
= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.5A008.00 – 5K PLANETARY HUB

Item No.	Part Number	Description	Qty.
1	BG.45003.00	PLANETARY BEARING HOUSE	1
2	BG.20248.00	BEARING, 513071-2RS	1
3	BG.50010.00	PLANETARY AXLE FOR 5K	1
4	BG.50002.00	PLANETARY SHEAVE 5K	1
5	BG.50011.00	SPINDLE ROTOR COMPONENT 5K	1
6	BG.50003.00	WASHER 5K SPINDLE TOP	1
7	NB.13.116	SCREW, FLAT HEAD SOCKET, TORX CAP M6 -1.0 X 20	8
8	NB.50.143	PIN, HARDENED M8 X 26	3
9	NB.70.126	PARALLEL KEY, M8X7X18, 5K DRUM	1
10	NB.40.123	RING, INTERNAL RETAINING M60	1
11	NB.20.122	NUT FLANGE, M10X1.5	1
12	NB.13.253	SCREW, SOCKET FLAT HEAD CAP M10-1. X 90	1



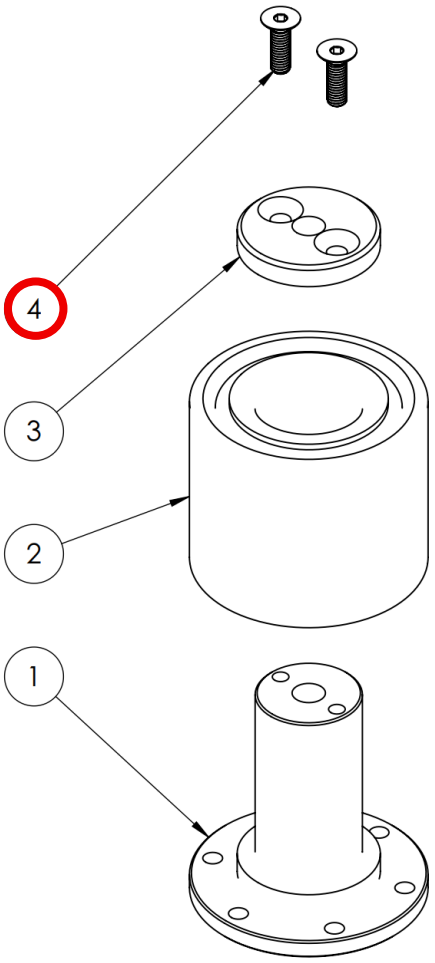


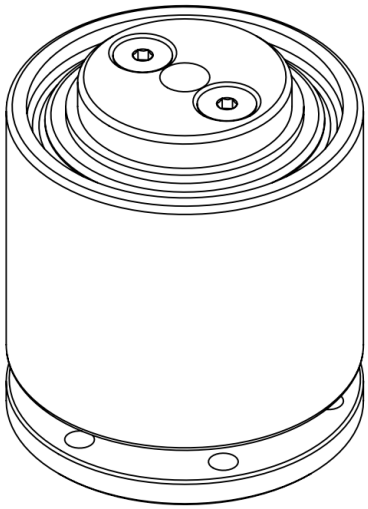


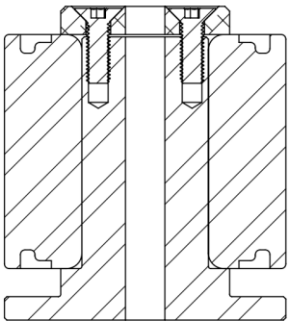
= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.4A007.00 – SUBASSEM, MAIN IDLER

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





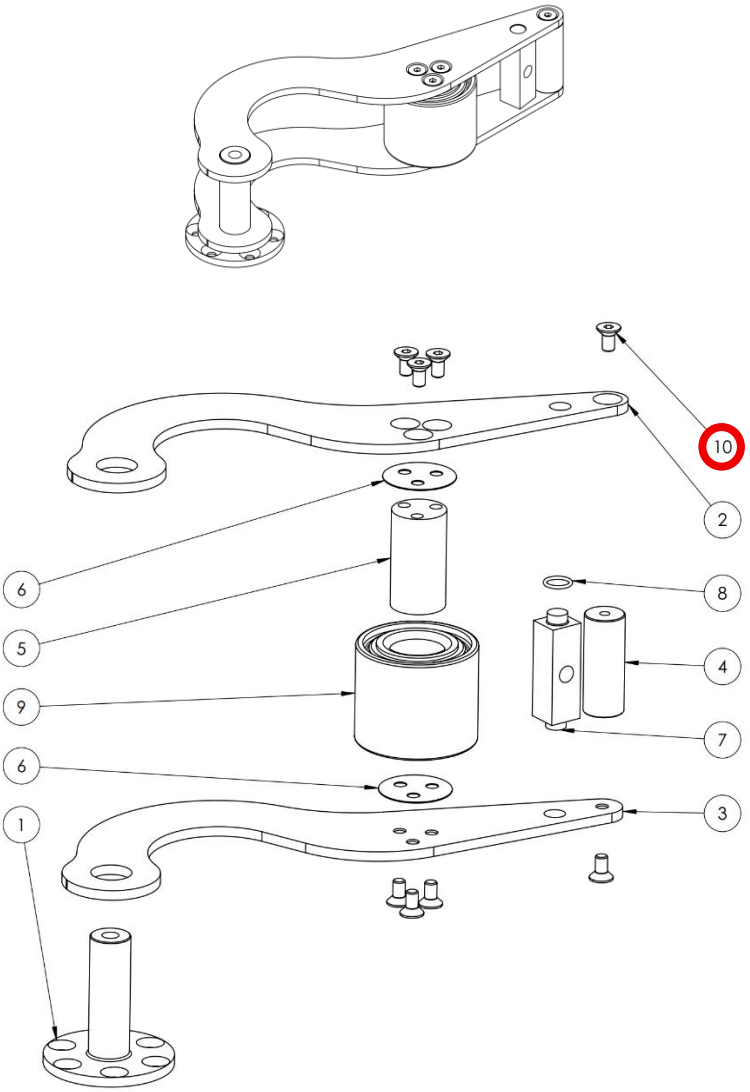


SECTION B-B
SCALE 1 : 1

= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.4A005.00 – SUBASSEM, MAIN TIGHTENER

Item No.	Part Number	Description	Qty.
1	BG.45012.00	TIGHTENER PIVOT POST	1
2	BG.45010.00	TOP TIGHTENER PLATE	1
3	BG.45011.00	BOTTOM TIGHTENER PLATE	1
4	BG.45013.00	TIGHTENER STANCION	1
5	BG.45014.00	TIGHTENER BEARING SPINDLE	1
6	BG.45015.00	BEARING SPACER	2
7	BG.45020.25	TENSIONER GRUDGEON	1
8	BG.45080.00	TIGHTENER O-RING	1
9	BG.20248.00	BEARING, 513071-2RS	1
10	NB.13.118	SCREW, FLAT HEAD SOCKET CAP M6 -1.0 X 12 ZINC	8



= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

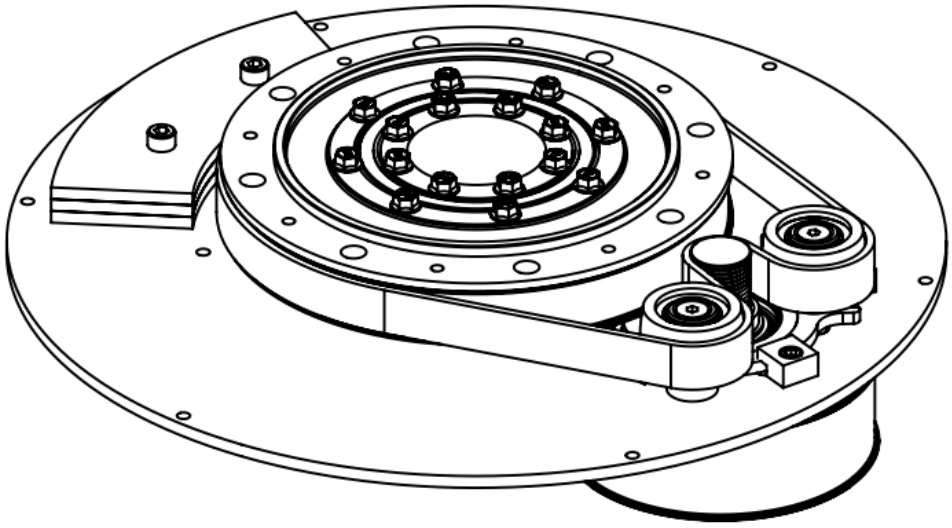
BG.5AXXX.XX – 5K TOP DRUM SUB ASSEMBLY

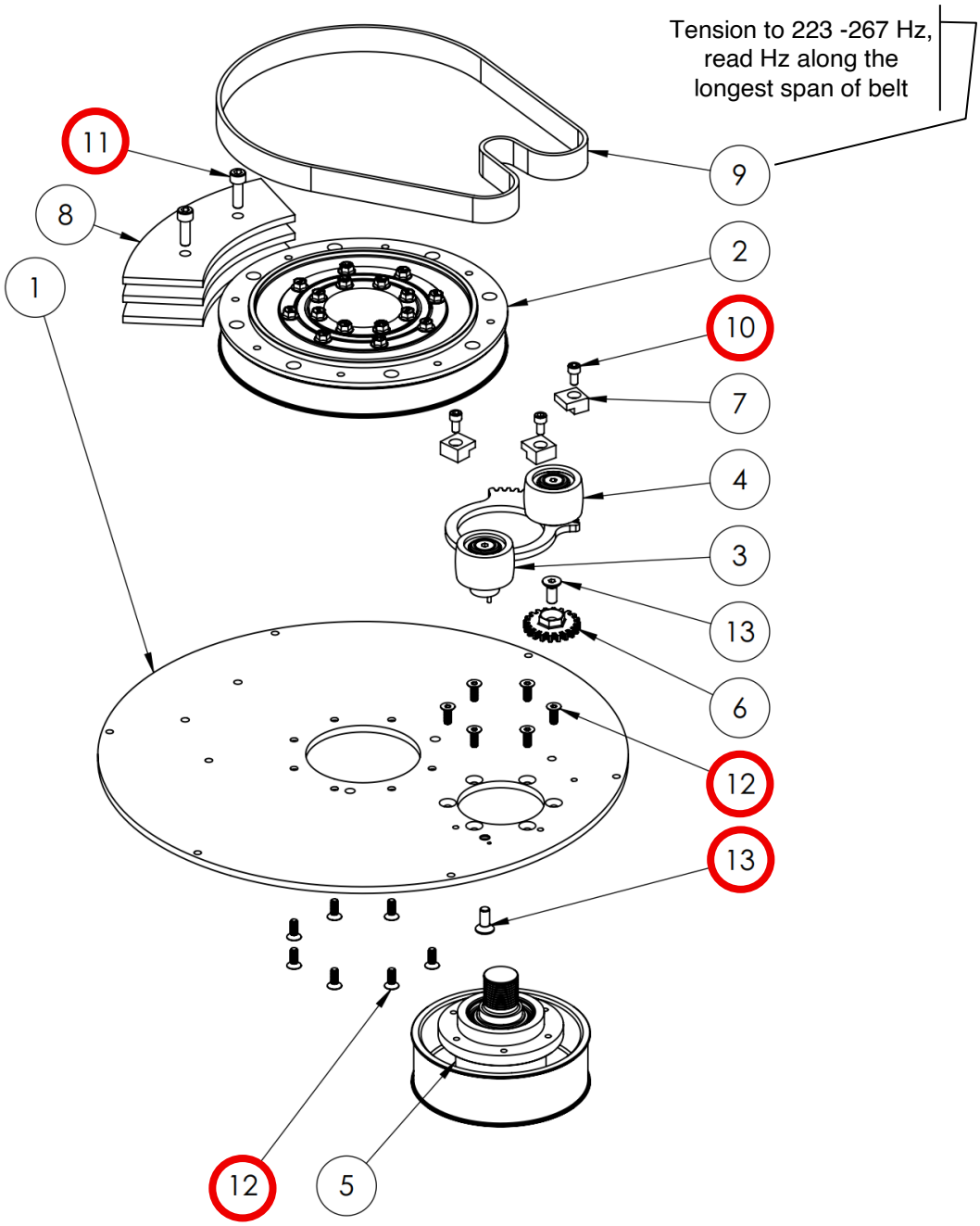
Item No.	Part Number	Description	Qty.
1	BG.50022.00	TOP DRUM PLATE STEEL	1
2	**BG.4A001.00**	**DRUM SHEAVE ASSEMBLY**	**1**
3	**BG.4A002.00**	**TOP IDLER**	**1**
4	**BG.4A003.00**	**TOP TIGHTENER**	**1**
5	**BG.4A004.00**	**SUBASSEM, PTO**	**1**
6	BG.45030.00	TOP TIGHTENER ACTUATOR	1
7	BG.45058.00	TIGHTENER CLAMP	3
8	BG.50036.10	UPPER COUNTER WEIGHT	3
9	BG.45056.00	BELT, TOP 380PJ10	1
10	NB.12.108	SOCKET HEAD CAP SCREW - ZINC - M6X12	3
11	NB.12.219	SOCKET HEAD CAP SCREW - ZINC - M8X25	2
12	NB.13.115	SCREW, FLAT HEAD SOCKET M6 -1.0 X 16	13
13	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 20	2

Notes: To Assemble

1. Start with #1, Insert #3, Bolt down with #13. Then remove the sheave from #3.
2. Insert #5, bolt down with #12.
3. Insert #4, Insert #7's, bolt down with #10's.
4. replace the sheave to #3.
5. Insert #6, bolt down with #13.

Now CHECK the height of #3 and #4. If same, complete assembly. If they are uneven, Insert NB.31.101 spacer to level them. The rest of the parts can be added once #3 and #4 are in place and even at the top edge.

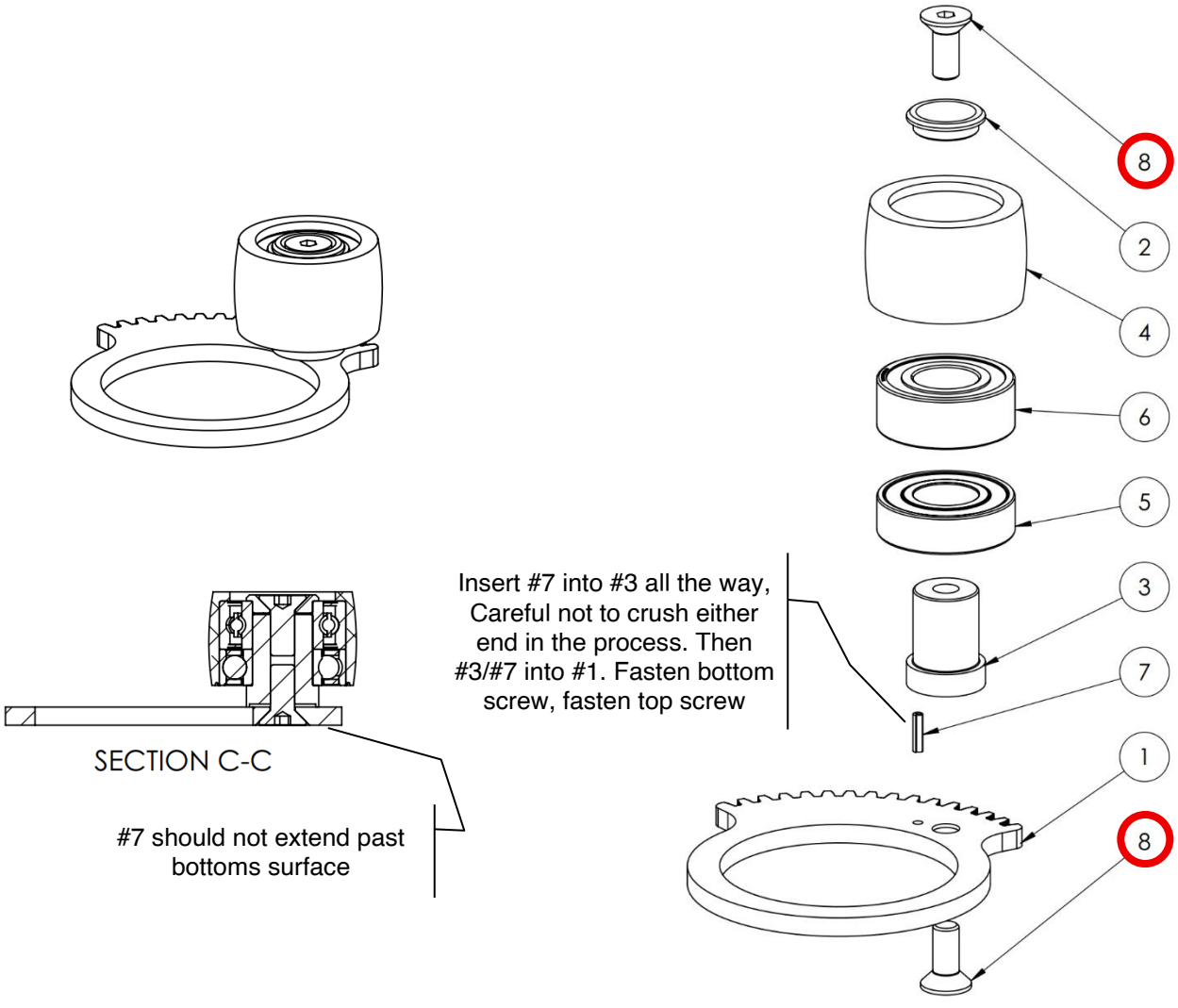




= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.4A003. – PTO TENSIONER SUBASSEMBLY, 6K/8K

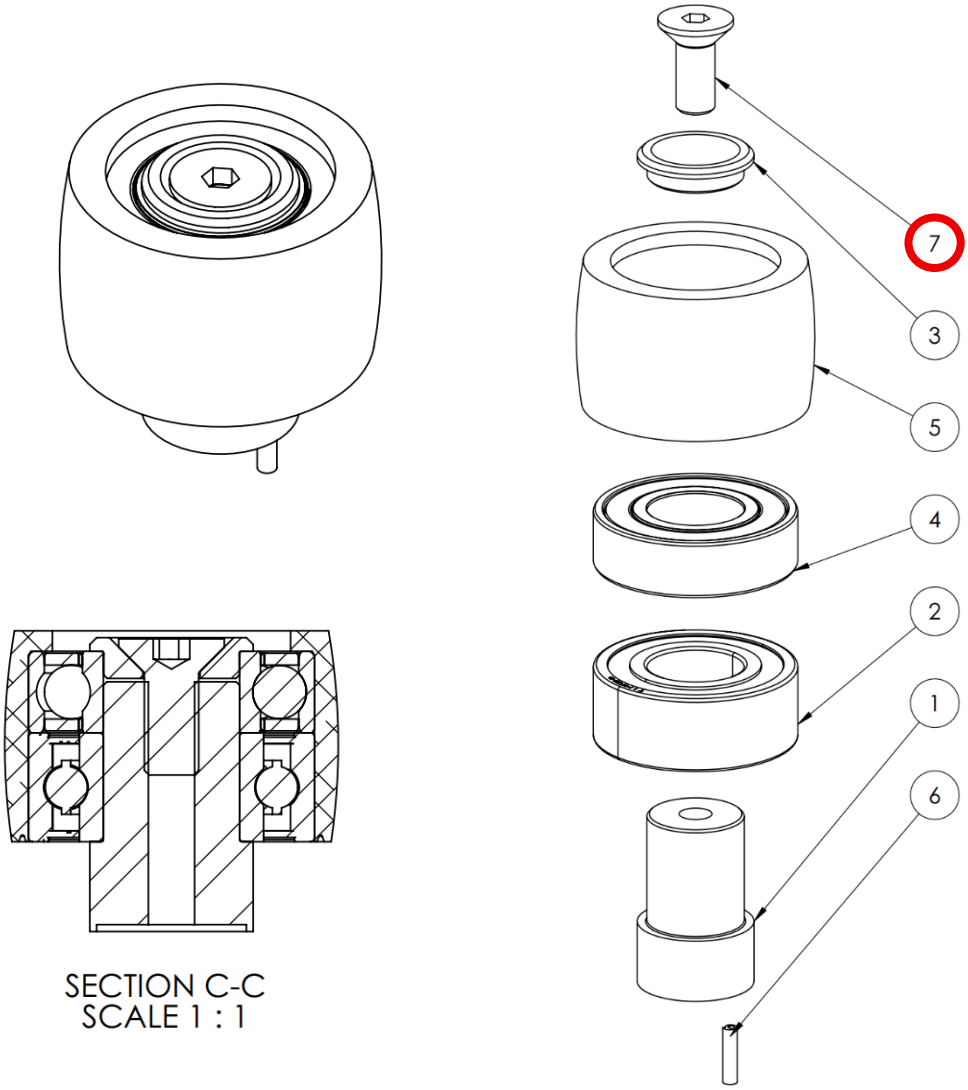
Item No.	Part Number	Description	Qty.
1	BG.45026.00	TOP TIGHTENER GEAR	1
2	BG.45027.00	BEARING CAP	1
3	BG.45028.00	TOP TIGHTENER SPINDLE	1
4	BG.45104.00	TOP TIGHTENER SHEAVE	1
5	BG.20278.00	BEARING, 6004-2RS	1
6	BG.20280.00	BEARING, 63004-2RSJ	1
7	NB.50.145	PIN, SPIRAL M3 X 12	1
8	NB.13.218	SCREW, FLAT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



= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

BG.4A002.00 – TOP IDLER 5K

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

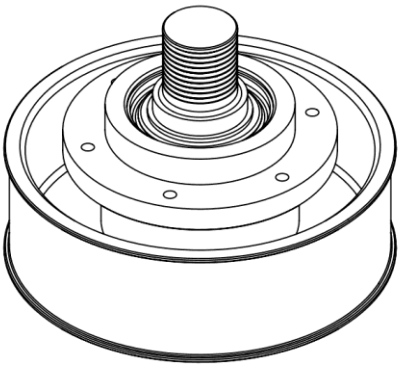


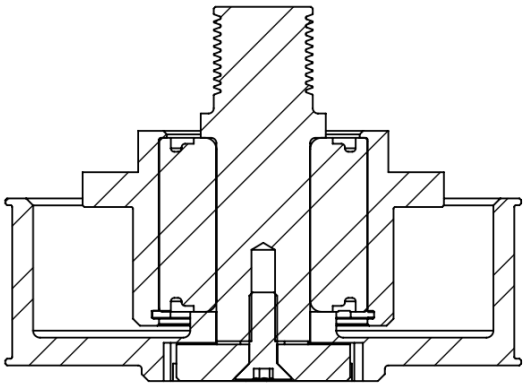
SECTION C-C
SCALE 1 : 1

= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

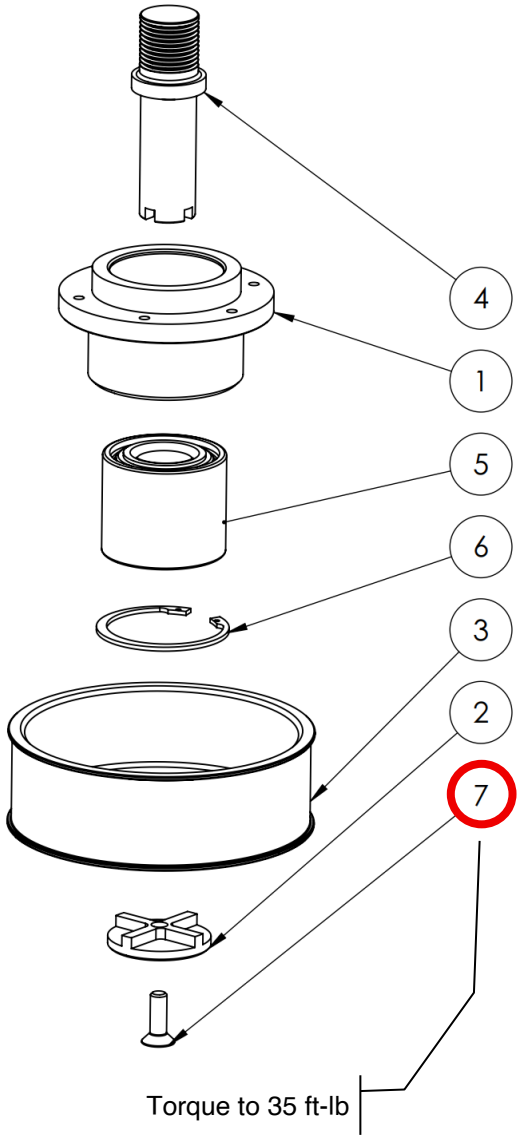
BG.4A004.10 – SUBASSEM, PTO 5K

Item No.	Part Number	Description	Qty.
1	BG.45003.00	PLANETARY BEARING HOUSE	1
2	BG.50004.00	SHEAVE RETAINER	1
3	BG.50023.00	PTO SHEAVE	1
4	BG.45025.00	PTO AXLE	1
5	BG.20248.00	BEARING, 513071-2RS	1
6	NB.40.123	RING, INTERNAL RETAINING M60	1
7	NB.13.222	SCREW, FLAT HEAD SOCKET M8-1.25 X 25	1





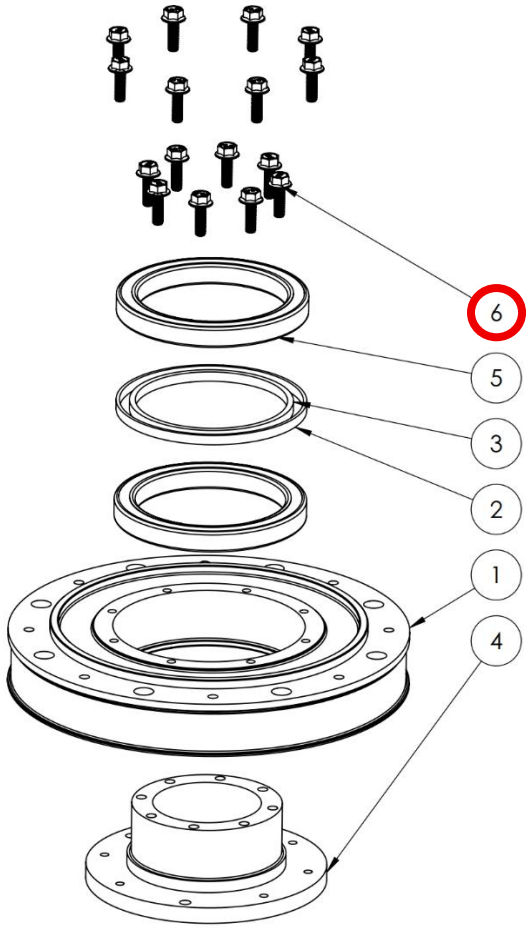
SECTION C-C



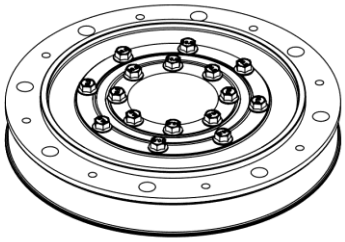
= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

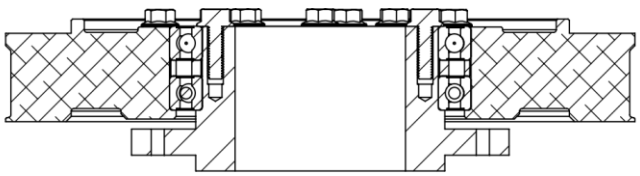
BG.4A001.00 – DRUM SHEAVE ASSEMBLY 5K

Item No.	Part Number	Description	Qty.
1	BG.45032.00	STATIONARY DRUM SHEAVE	1
2	BG.45033.00	OUTTER STAT SHEAVE SPACER	1
3	BG.45034.00	INNER STAT SHEAVE SPACER	1
4	BG.45031.00	MAIN DRUM SHEAVE SPINDLE	1
5	BG.20224.00	BEARING, 6818-2RU KOY	2
6	NB.11.110	SCREW, FLANGED HEX HEAD CAP M6-1 X 20 NON-SERRATED ZINC	16



= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

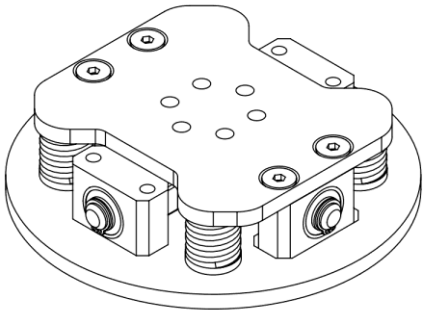


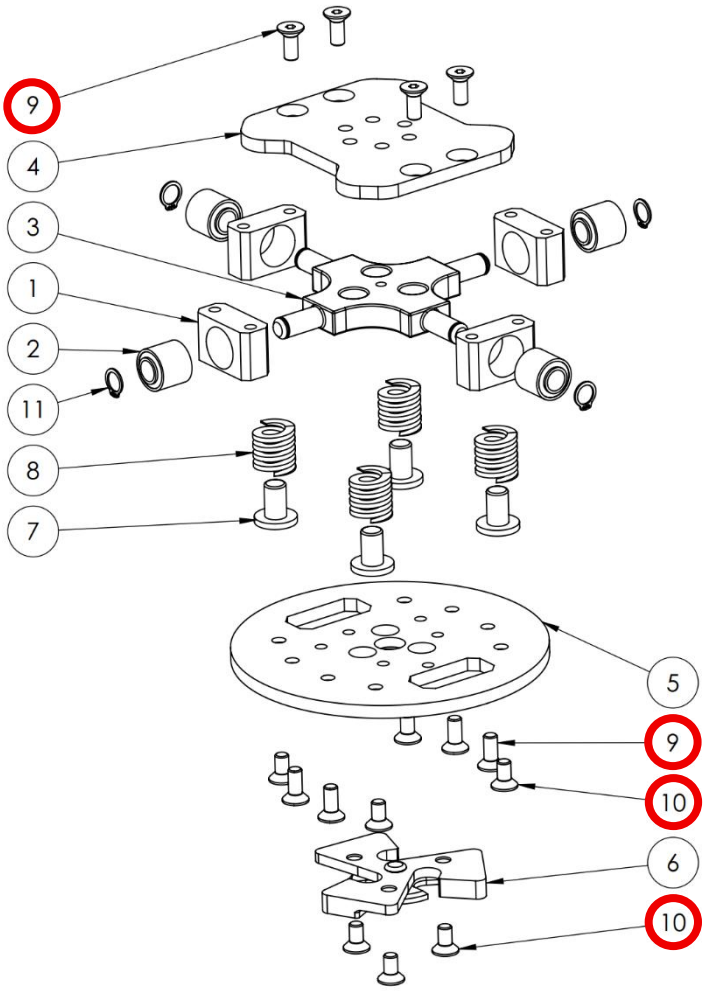


SECTION C-C
SCALE 1 : 2

BG.5000.90 – FLEX HEAD, COMPLETE 5K

Item No.	Part Number	Description	Qty.
1	BG.20103.00	YOKE, SUSPENSION /BG6K BG8K	4
2	BG.20109.00	BUSHING, YOKE /BG6K BG8K	4
3	BG.20102.01	ELEMENT, CENTER STUDDED	1
4	BG.20100.50	PLATE, DRIVING /BG6K BG8K BG5K	1
5	BG.20101.01	BLANK PLATE, DRIVEN /BG5K BG6K(STEEL)	1
6	BG.20104.25	SHAMROCK LOCK	1
7	BG.20106.25	POST, SPRING /BG6K 8K	4
8	BG.20106.53	SPRING, DIE GREEN /BG5K	4
9	NB.13.218	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 20	8
10	NB.13.216	SCREW, FLAT HEAD SOCKET CAP M8-1.25 X 16	7
11	NB.40.113	RING, EXTERNAL 1/2"	4

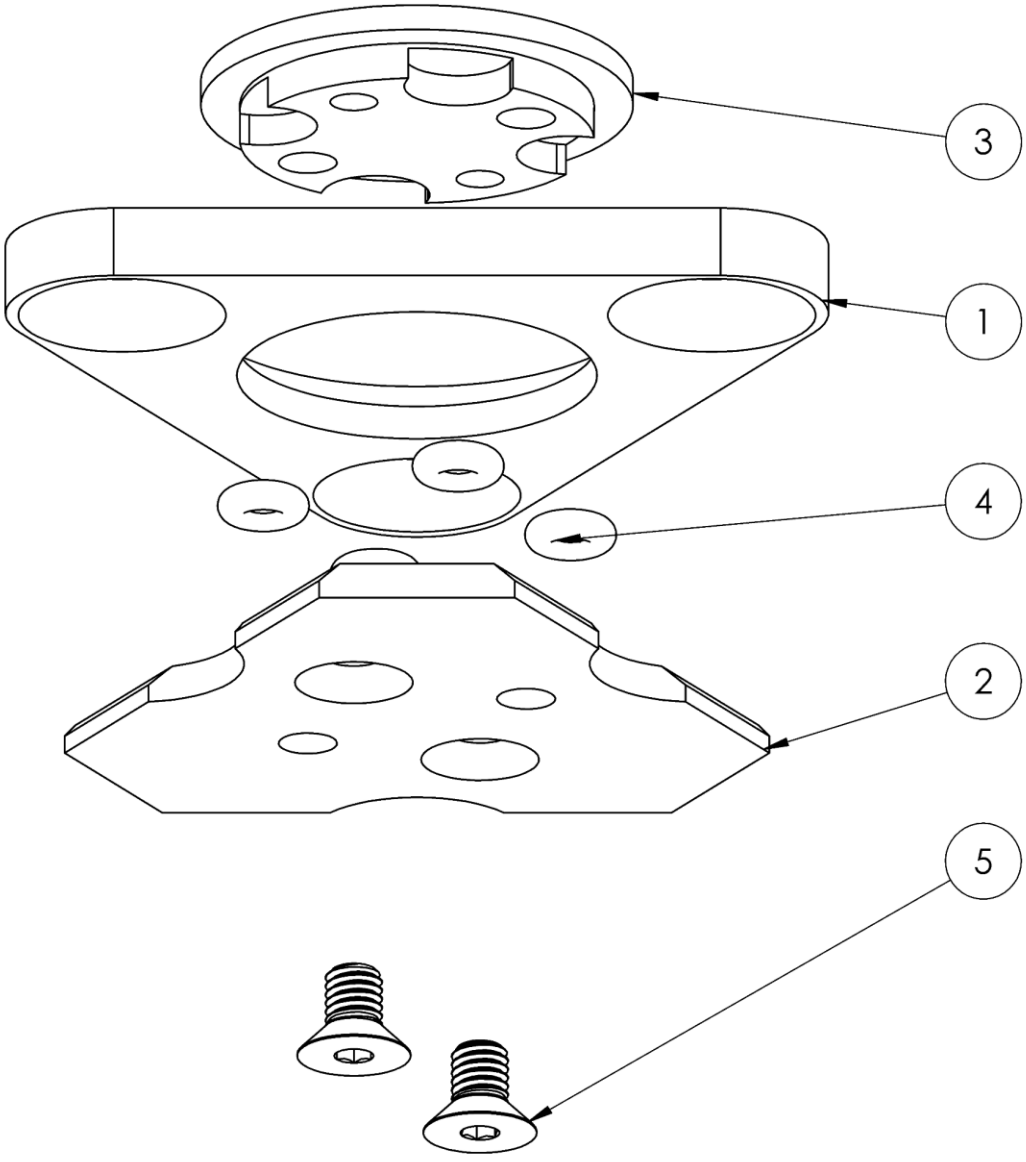




= Red Loctite 263
= Blue Loctite 242
= Green Loctite 609

96-0785 - TOOLING TRIANGLE ASSEMBLY – 650 - B

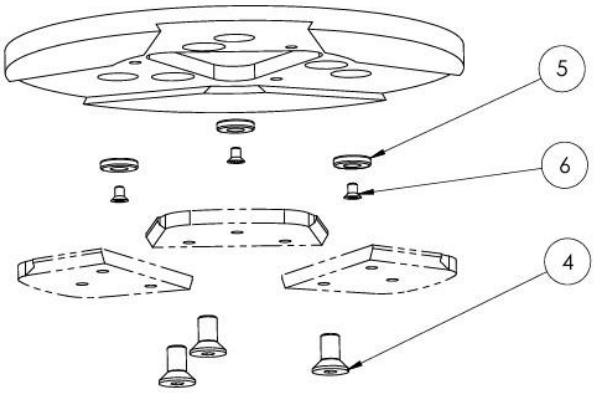
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	51-3340	TOOLING TRIANGLE BASE 650	1
2	51-3341	TRIANGLE HOLDER 650	1
3	51-0110	TRIANGLE HOLDER CENTER ROTATOR	1
4	13-0142	O-RING (.125 ID X .313 OD X 0.94 W)	4
5	12-0581-10	FLAT HEAD - M5X10 -SS	2



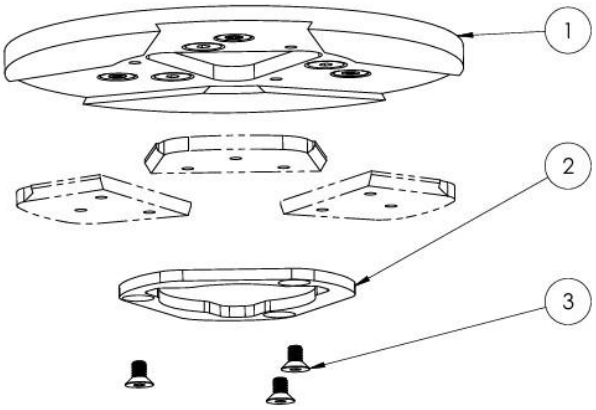
96-0816 - METAL TOOLING KIT – 500 – B

ITEM NO.	PART NUMBER	DESCRIPTION	SLIDE IN QTY.	SLIDE IN WITH RING QTY.
1	51-3419	TOOLING PLATE 500	1	1
2	51-3420	METAL TOOLING RING 500		3
3	12-0680-10	FLAT HEAD SOCKET SCREW - M6X10 - ZINC		3
4	12-0880-16	FLAT HEAD SOCKET SCREW - M8X16 - ZINC	3	3
5	13-0650	METAL TOOLING MAGNET	3	1
6	12-0481-06	FLAT HEAD PHILLIPS SCREW - M4X6 - SS	3	3

SLIDE IN TOOLING
(WITH LOCKING TRANSPORT SCREWS)

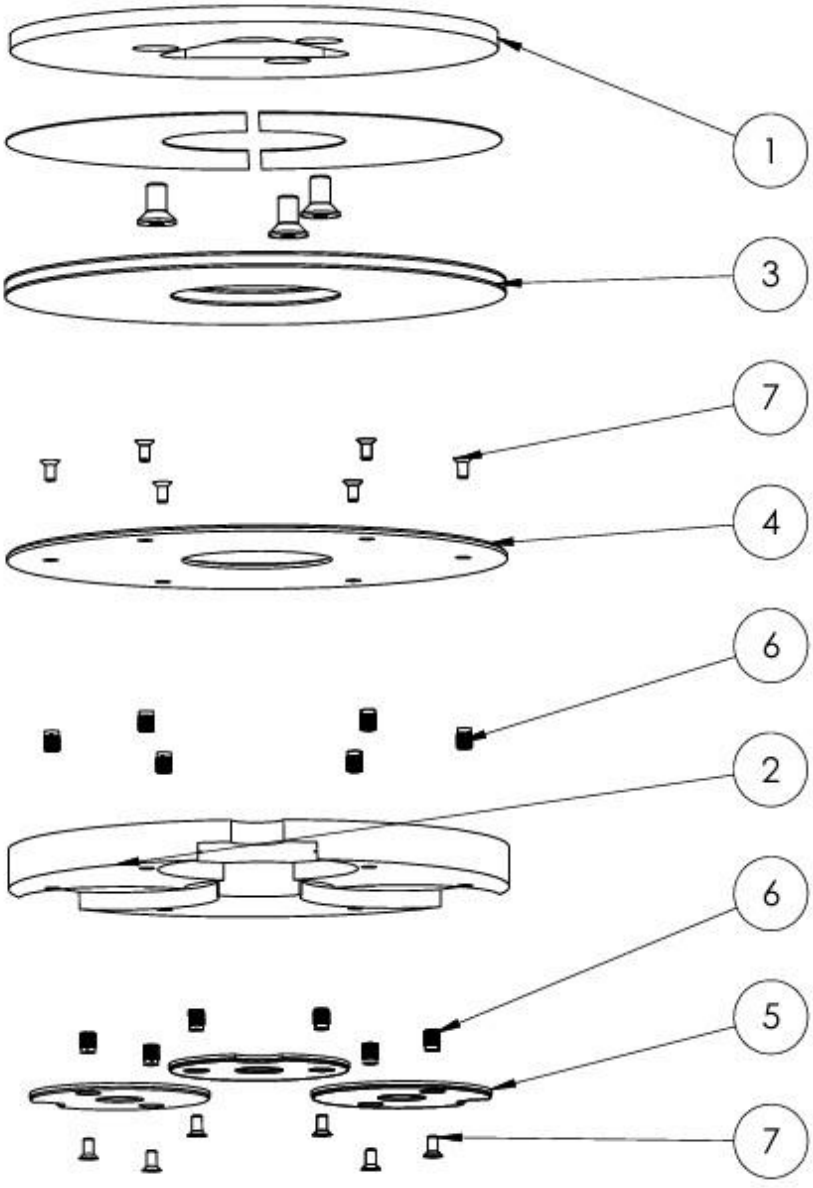


SLIDE IN TOOLING
(WITH LOCKING RING AND TRANSPORT SCREWS)



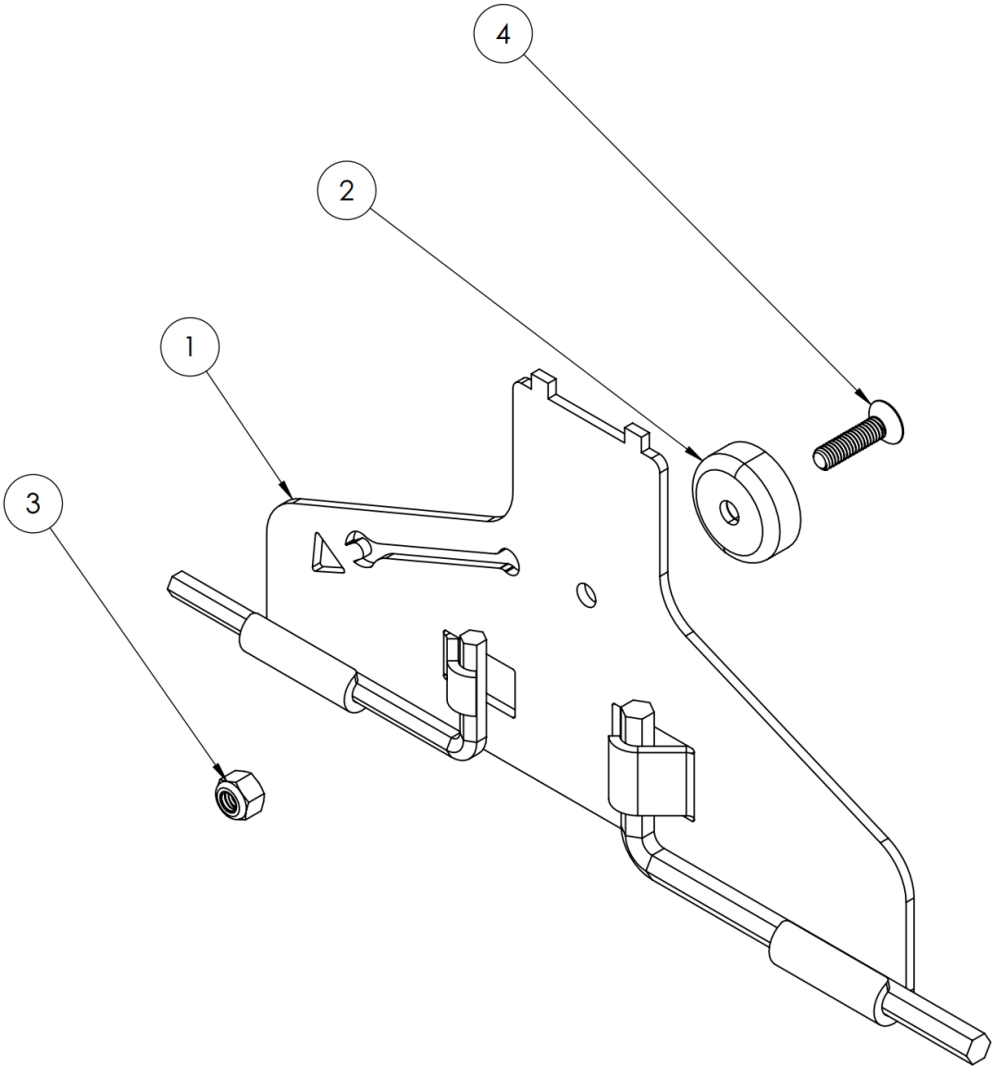
96-0818 RESIN TOOLING PLATE ASSEMBLY 3IN 500 – A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	51-3429	RESIN TOOLING PLATE 500	1
2	51-3430	RESIN TOOLING HOLDER 500	1
3	13-0680	FOAM RISER ASSEMBLY 500	1
4	13-0684	RESIN TOOLING VELCRO PLATE 500	1
5	13-0653	RESIN TOOLING PLATE VELCRO 3IN	5
6	13-0654	PRESS-IN INSERT - M4 - BRASS	18
7	12-0480-08	FLAT HEAD PHILLIPS SCREW - M4X8 - ZINC	20
8	13-0679	ADHESIVE/VELCRO LOOP HALF 500	2
9	12-0880-16	FLAT HEAD SOCKET SCREW - M8X16 - ZINC	3

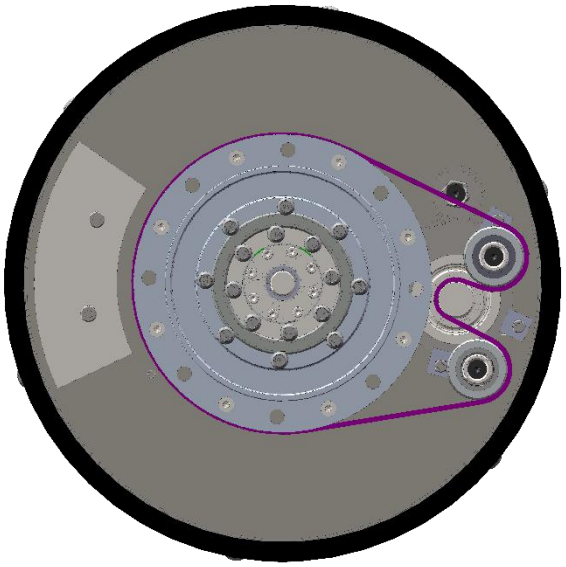


96-0456 – TOOLING WRENCH - A

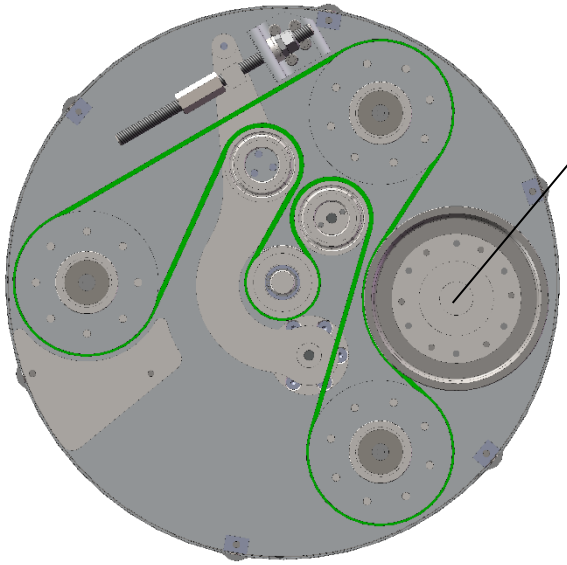
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	52-0628	TOOLING WRENCH FLAT	1
2	13-0115	WRENCH MAGNET	1
3	12-0440	NYLOC NUT – M4 - ZINC	1
4	12-0480-16	FLAT HEAD – M4X16 - ZINC	1



BELT TENSIONS



TOP BELT
BG.45056.00
223 -267 HZ



MAIN BELT
BG.45042.00
121-145 HZ

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