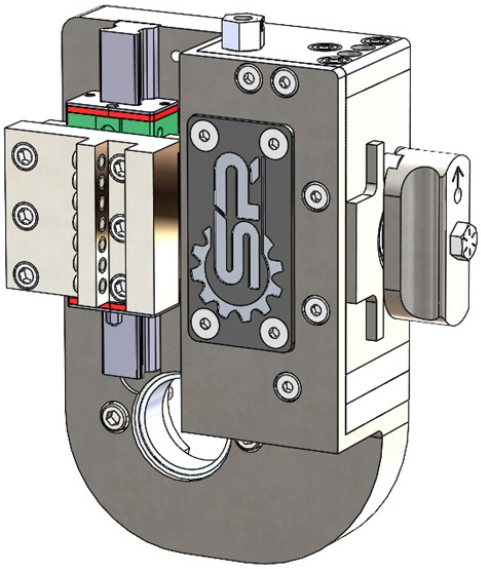
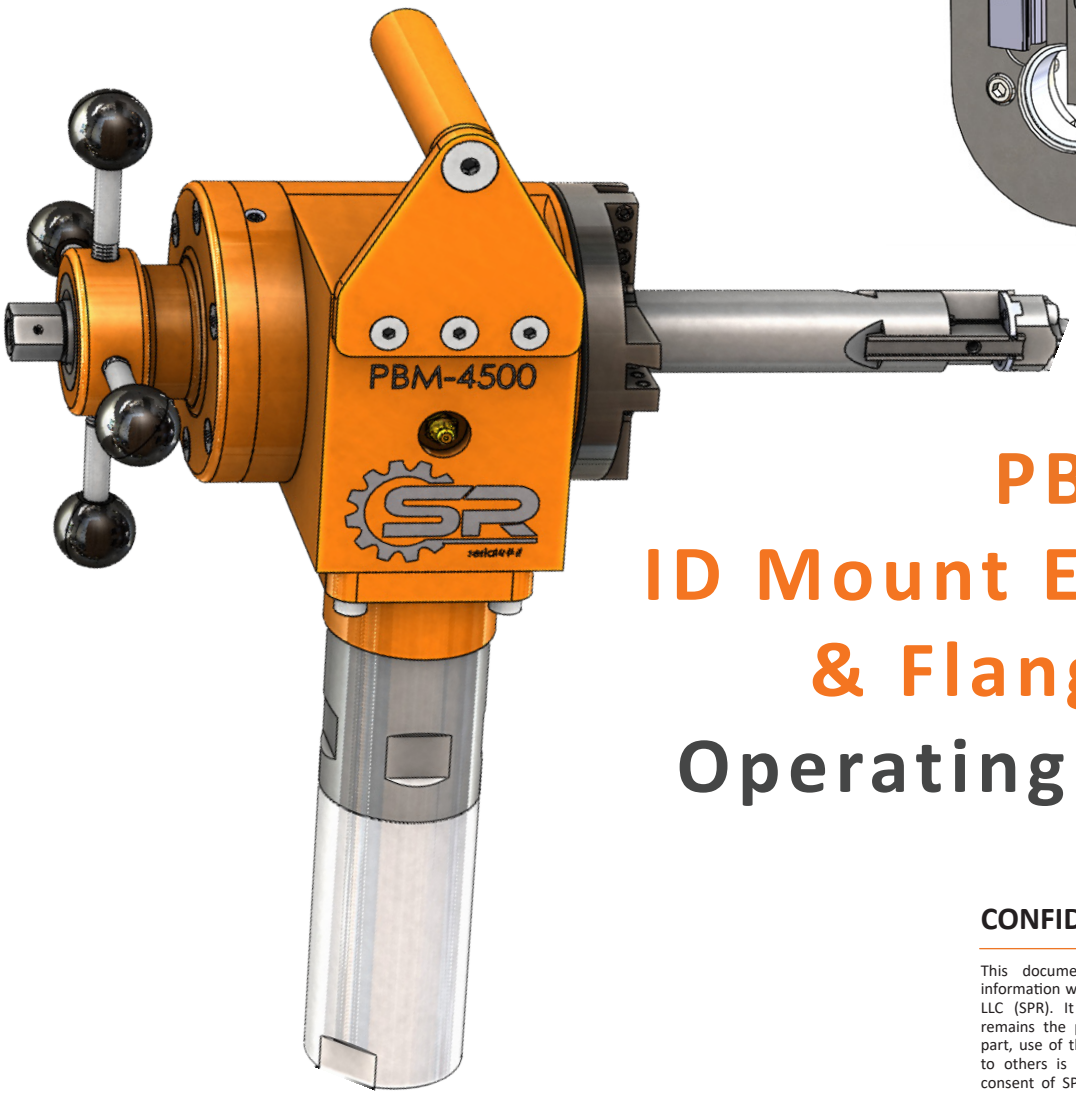
SUPERIOR





PBM-4500
ID Mount End Prep & Flange Facer
Operating Manual

CONFIDENTIALITY STATEMENT

DOCUMENT NUMBER SPR-MAN-PBM-4500

REV 03

Superior Plant Rentals, LLC.

SUPERIOR

One Company, *Superior* Results.

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ABOUT US

Superior Plant Rentals, LLC. (SPR) specializes in portable machining, bore welding, line isolation, and testing solutions, providing equipment and tools manufactured under the highest standards of quality control and engineering expertise along with 24/7 service and support. Designed with the operator in mind, our tools and equipment deliver dependable and precise performance, providing cost-effective solutions and reduced downtime, making them beneficial resources in the Oil and Gas, Mining, Heavy Construction, Shipbuilding, Aerospace, Defense, and Power Generation industries.

SPR rents and sells equipment and tools; we offer our own line of portable ID/OD flange facers, linear/gantry and rotary mills, end prep bevelers, isolation and test plugs, line boring, and bore welders, as well as custom-designed equipment and tools.

Our team includes machining, test and isolation, and engineering experts, all with a thorough working knowledge of applications to support you with our equipment on any job. We understand the urgency of your projects and are committed to delivering the highest quality equipment and tools to satisfy the requirements of your clients.

SPR delivers outstanding customer service, specialized training by seasoned professionals, and tools as tough as the jobs you need them to do.

YORK
PORTABLE MACHINE TOOLS

SUPERIOR
PLANT RENTALS

CLIFF'S BITS
PRECISION GRINDING & TOOLING

SUPERIOR HEAT EXCHANGERS
PORTABLE TOOLS AND MACHINERY

WARNING:

SPR is committed to continued product improvement; therefore, the machine you received may be slightly different than the one described herein. This manual and the information provided is a basic guideline for our customers. SPR will do its best to ensure that the information and procedures contained in this manual are correct and up-to-date. Superior cannot guarantee that the information and procedures contained herein are correct for all applications or situations.

The contents of this manual are subject to change without notice. It is the obligation of the user to read all information in this manual, become familiar with the equipment to be used, and exercise the utmost care in equipment operation. **Do not make any modifications to this equipment. Any modifications will void all warranty claims, as well as increase the risk of injury or harm.** Do not operate this equipment if all parts are not functioning at 100% efficiency. Notify us immediately for any needed repairs.

Note: SPR will supply all repair and replacement parts necessary for maintenance and operation of this machine. For repair, service, or additional information, please locate repair and replacement part description/part numbers within the O&M manual in the exploded view section and contact us for ordering.

USA

Superior Plant Rentals LLC.
350 Dowdy Road, Gonzales, LA 70737 | Phone: 225.647.7771

Superior Plant Rentals LLC.
1530 Live Oak Street, Webster, TX 77598 | Phone: 281.554.9400

Superior Plant Rentals LLC.
5450 Avenue A, Bldg. 1, Beaumont TX 77705 | Phone: 409.853.4382

Superior Plant Rentals LLC.
8233 Leopard Street, Corpus Christi, TX 78409 | Phone: 361.541.5900

Superior Plant Rentals LLC.
2030 Gladwick St., Unit B, Rancho Dominguez, CA 90220 | Phone: 310.356.6105

Superior Plant Rentals LLC.
3958 Airway Drive, Rock Hill, SC 29732 | Phone: 803.981.9065

Superior Plant Rentals LLC.
8001 Hwy 90, Moss Point, MS 39562 | Phone: 251.370.8039

INTERNATIONAL

SPR York Portable Machine Tools
1641 17th Ave, Campbell River, BC, Canada, V9W 4L5 | Phone: 250.286.6400

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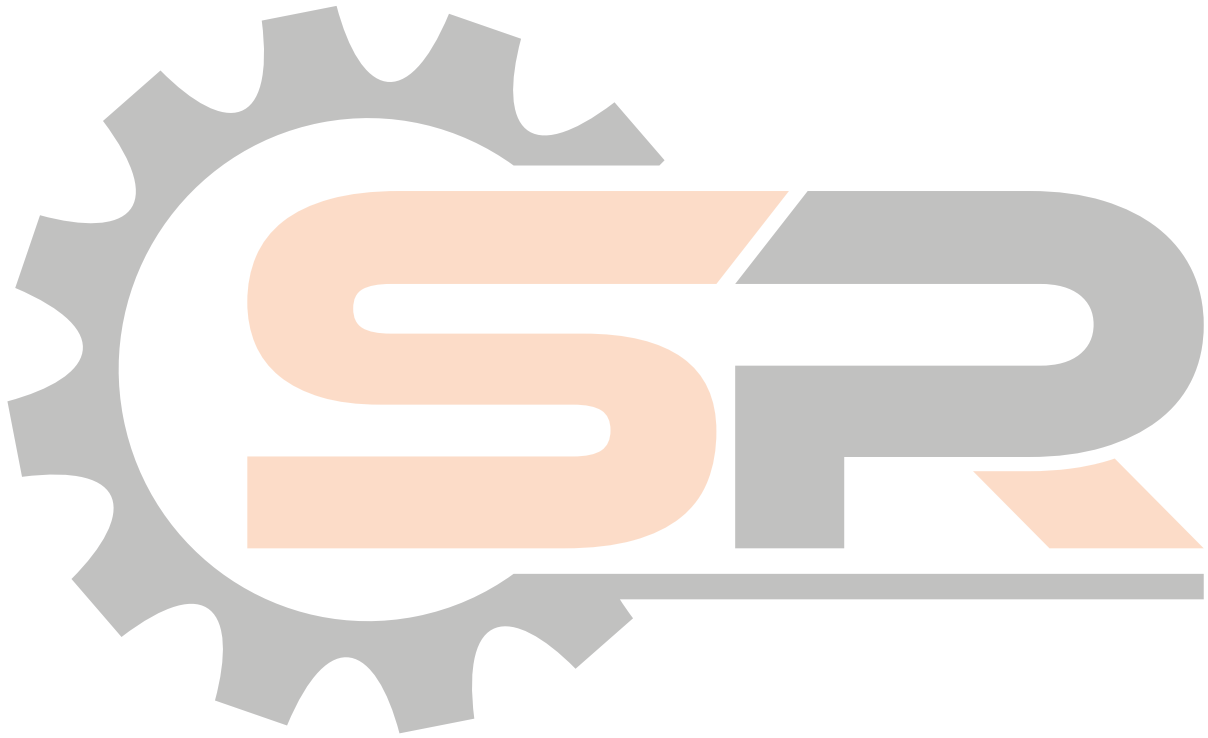

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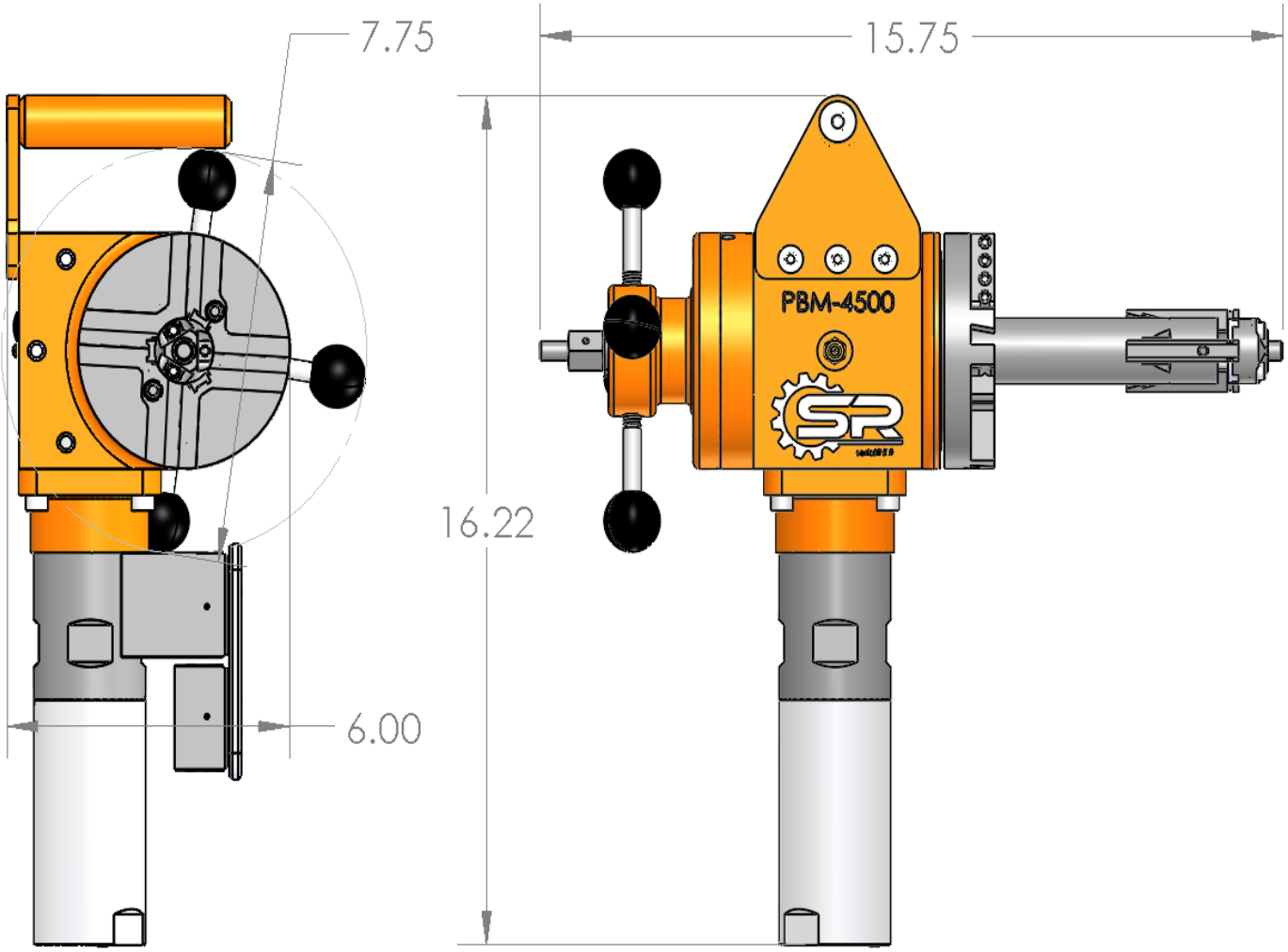
PBM-4500 ID MOUNT END PREP INTRODUCTION

APPLICATIONS

The PBM-4500 is 25 lbs in weight and is designed to bevel larger pipes. The tool bits are held in place by our wedge lock system. The clamping mandrel with bolt-on locator pads (no springs) stops any pieces from dropping down into the work piece. Our worm drive system provides exceptional torque for demanding applications.

When you receive the PBM-4500:

Inspect the machine for shipping damage. Verify that all of the parts listed below, or on the Bill of Materials, are present. If any parts are missing, or if you have questions regarding the PBM-4500, please contact a Superior Plant Rentals or SPR York location nearest you immediately.



SPECIFICATIONS CHART

Machining Performance Range		4500
ID Mounting Range:	Standard Mandrel	1.250 in - 4.850 in (31.75 mm – 123.19 mm)
	Large Mandrel (Optional)	4.630 in – 8.000 in (117.60 mm – 203.20 mm)
	Elbow Mandrel (Optional)	N/A
Cutting Range		1.250 in - 8.000in (31.75 mm – 203.20 mm)
Radial Clearance		7.750 in (196.85 mm)
Max Wall Thickness		1.000 in
Optional Flange Facer		Yes
Drive System		
Motor		2.50 HP (1864.25 W)
Recommended Air Pressure		55 CFM @ 90 PSI
Speed		510 rpm @ Max output
Electric Motor		Available Upon Request
Measurements		
Machine Weight		25 lbs (11.34 kg)
Shipping Weight		45 lbs (20.41 kg)
Dimensions		
Machine (LxWxH)		Refer to drawing below
Crate/Shipping (LxWxH)		24 in x 20 in x 10 in (609.6 mm x 508 mm x 254 mm)

SAFETY PRECAUTIONS

Please follow this list of general safety guidelines when operating the PBM-4500 tool. Safe machining practices should always be followed when operating SPR machines.

Before operating this machine, read the entire operating manual. Inspect machine, cord, and accessories for any damage.

Wear safety glasses, ear plugs, and safety shoes while operating the PBM-4500 machine. For maximum protection keep your equipment clean and in good condition. Follow company and OSHA safety rules when operating equipment.

The motor should always be disconnected from the air supply or drive battery when servicing the machine or when changing cutting inserts, collets, or other components.

Moving machine parts can seriously injure operators. Understand and read all instructions before operating this machine.

For maximum safety and performance, read the entire instruction manual before operating this machine.

WARNING!
MOVING PARTS.
Keep hands, loose clothing, and hair away from rotating or moving parts. Disconnect the air supply from the machine and unplug all equipment prior to adjusting or servicing. If electric, remove power from the machine prior to adjusting or servicing.

WARNING!
ELECTRICAL SHOCK.
Possible shock if not handled properly.

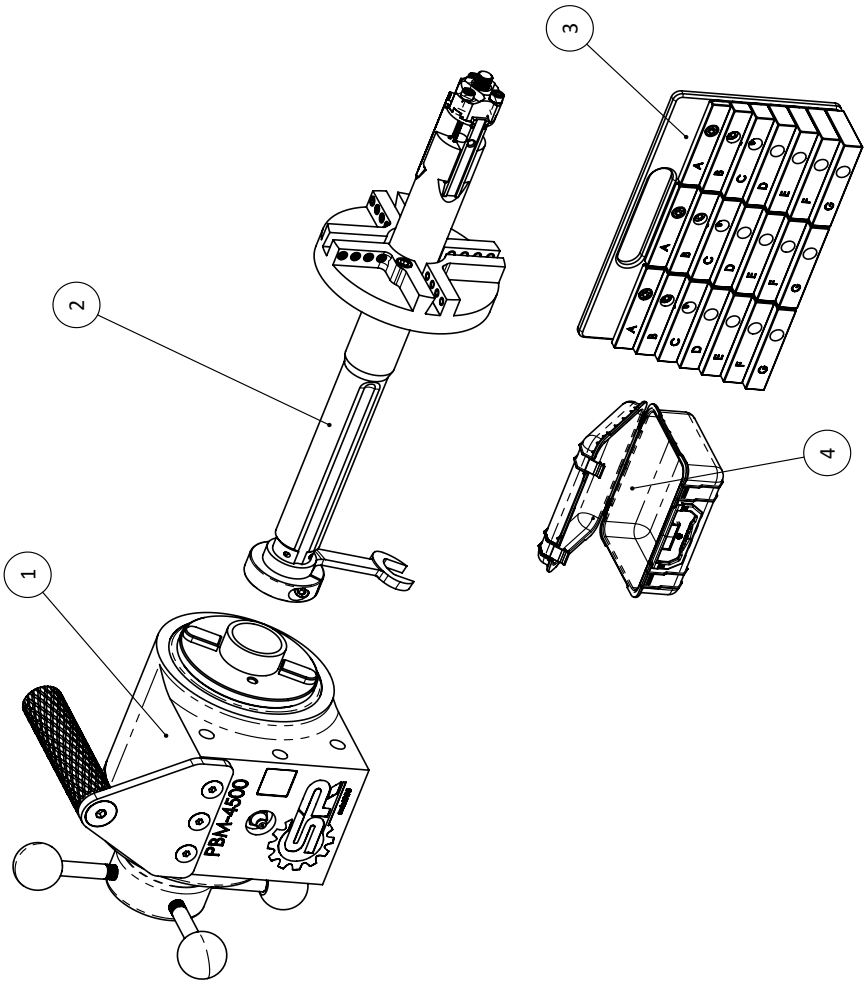
WARNING!
KEEP DRY.
Keep all equipment and components away from any water source.

WARNING!
EYE PROTECTION.
Eye protection must be worn while operating or working near powered equipment.

WARNING!
EAR PROTECTION.
Ear protection should be worn while operating or working near loud equipment.

STANDARD EQUIPMENT

No.	PartNo	SprDesc	Qty.
1	17877	ASSY DRIVE HOUSING PBM-4500	1
2	14647	MANDREL PBM-4500 1.25-4.85	1
3	14956	ASSY PAD HOLDER	1
4	18311	ASSY KIT CASE PBM-4500	1



REV	DESCRIPTION	DATE	NAME

STANDARD TOLERANCES:
ONE PLACE DECIMAL ±.050 ±1.0mm
TWO PLACE DECIMAL ±.010 ±0.25mm
THREE PLACE DECIMAL ±.003 ±0.06mm
FOUR PLACE DECIMAL ±.0005 ±0.01mm
FRACTIONAL ± 1/16
ANGULAR: ± 0.5°
STANDARD FINISH 125
BREAK SHARP EDGES
DEBURR HOLES
125

YORK PORTABLE MACHINE TOOLS
A SUPERIOR PLANT RENTALS LLC COMPANY - WWW.SPRTOOL.COM

MTRL: SEE BOM | DRVD:
DATE: MAY-04-2021 | DRN: GROTH | CHK:
TITLE: ASSY MAIN PBM-4500 | DWG#: 18310

DIMENSIONS IN INCHES [mm]
NOT TO SCALE
SHEET 1 OF 1
REV: 0

PRODUCT DESCRIPTION

The PBM-4500 is a right-angled pipe (tube) end-prep machining tool designed to face, bevel, and counterbore for cutting end-prep configurations for welding. These operations can be performed separately or simultaneously. The current model uses a pneumatic powered motor. An optional electric motor is available upon request.

This machine uses an internal expanding clamping mandrel with interchangeable pad sets, which will accommodate internal diameters from a 1.25 in to 4.85 in ID (Standard Mandrel) and 4.63 in to 8.00 in ID (Large Mandrel Option)

The PBM-4500 beveling machine is capable of tube and pipe weld-end preparation that meets all existing conventional codes including the more stringent nuclear codes.

The expanding mandrel provides fast, accurate, self-centering alignment to the pipe or tube to be machined.

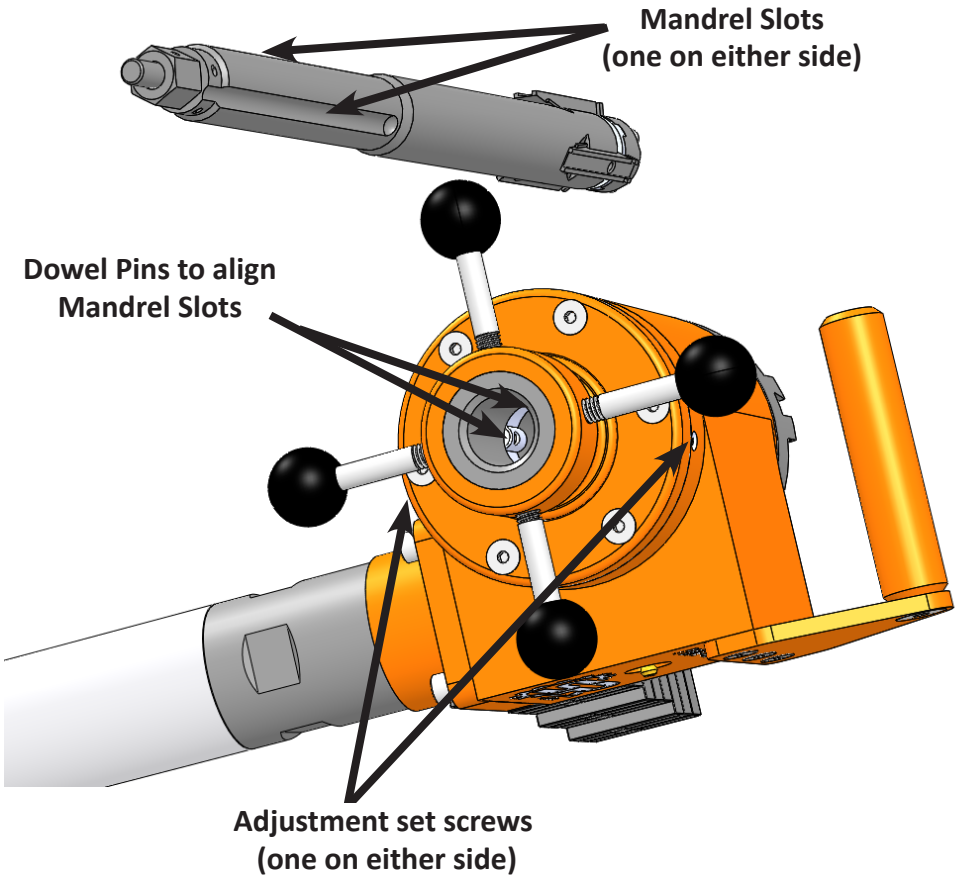
The standard PBM-4500 package includes:

- Beveling Machine assembled with air or electric motor (air motor comes with in-line oiler)
- Custom carrying case
- Mandrel pad set (standard mandrel 1.25 in to 4.85 in ID)
- Tool Bits - OD bevel angle, ID bevel angle, facing
- Allen keys t-handle: 5/32 in, 3/16 in & 1/8 in
- Ratchet Wrench: 3/4 in
- Operating manual
- In-line oiler whip hose

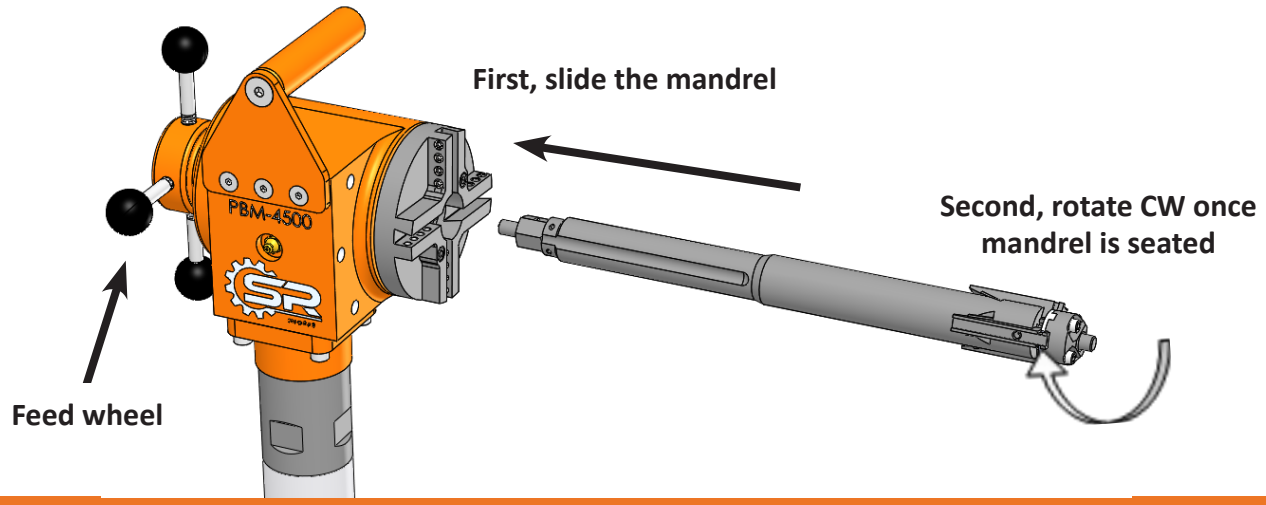
INITIAL SET-UP

INSTALL A MANDREL

1. In the event you need to install a mandrel, make sure to loosen the torque adjustment set screws on the beveling machine in order to allow alignment with the slots on either side of the mandrel shaft:



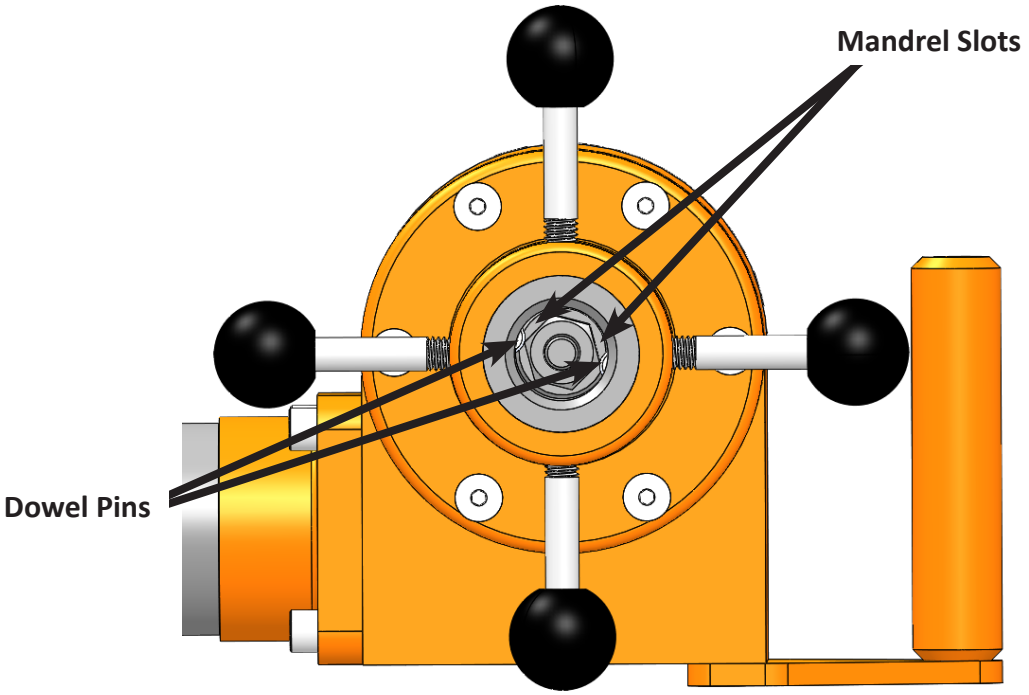
2. Gently feed the mandrel into the cutter head end of the tool (front end) until the mandrel is seated. Once seated, twist the mandrel in a clockwise direction (this will engage the mandrel into the feed wheel's nut). Once the mandrel begins threading into the nut, you may also turn the feed wheel to install the mandrel.



INSTALL A MANDREL (CONT'D)

3. When the mandrel has been fed through the feed nut enough to see it from the back side of the tool, hold and twist the mandrel to align the two mandrel slots to the two dowel pins. Once aligned, continue turning the feed nut until the threads on the end of the mandrel begin to extend beyond the feed nut.

Note: Ensure set screws as per step 1 have been loosened.



Note: A minimum of 10 threads must be engaged to prevent stripping of the threads during the machining operation.

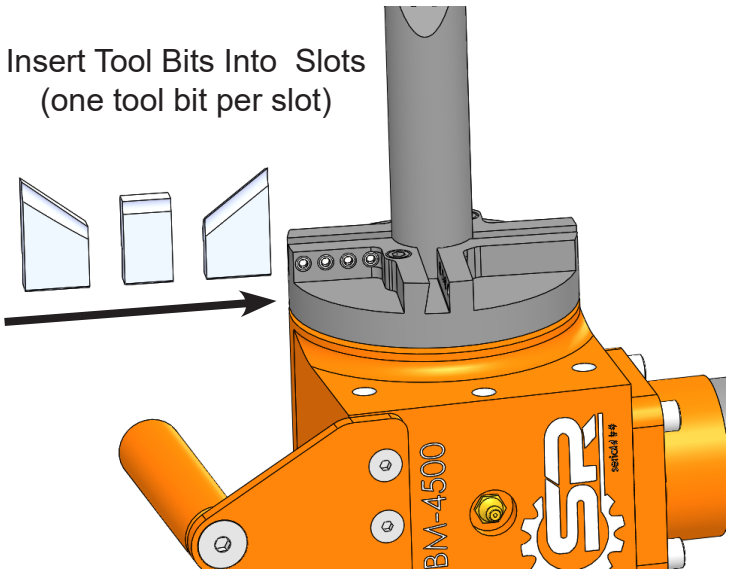
4. After you have installed the mandrel into the beveling machine, check the backlash on the mandrel and tighten the torque adjustment set screws to take out the backlash as required. **Make sure you do not over tighten the adjustment set screw. If they are too tight, you will not be able to move the mandrel while operating the machine.**

SELECTING & SETTING TOOL BITS

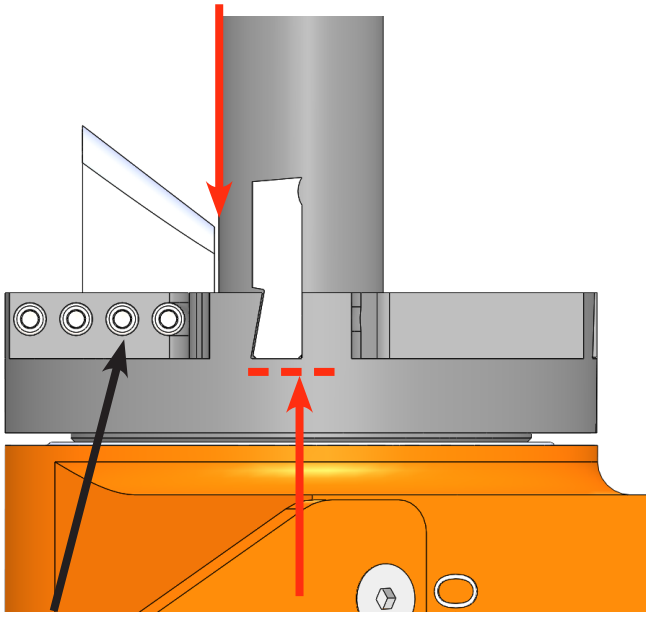
WARNING! Use of dull or improperly designed tool bits or cutting inserts not manufactured by SPR may result in poor performance and may constitute abuse of this machine and therefore voids the SPR factory warranty.

1. Select the correct Tool Bit or combination of Tool Bits and slip them into the cutter head. When putting in the Tool Bits, ensure the tapered surfaces align with each other, fasten the 2x set-screws to lock in Tool Bit.

Insert Tool Bits Into Slots
(one tool bit per slot)



Ensure Tool Bit
is NOT touching
the Mandrel



Tighten Set Screws
Using 5/32 in
T-Handle Allen Key
provided

Ensure Tool Bit is
Fully Seated and
Flush with Bottom of
Cutting Heads Slot

Note: Depending on the required bevel configuration, the tool bits should be set in a certain order. Facing or squaring tool bits should be set first, and then either ID (inner diameter) or OD (outside diameter) beveling tool bits should follow.

TOOL BIT SELECTION

Standard Tool Bits Available for the PBM-4500

PART NUMBER	DESCRIPTION
14669	TOOL BIT 37.5 DEG BEVEL BIT 1.25 in - 2 in PIPE
14670	TOOL BIT 37.5 DEG BEVEL BIT 2 in - 3.5 in PIPE
14671	TOOL BIT 37.5 DEG BEVEL BIT 3 in - 4 in PIPE
14672	TOOL BIT 37.5 DEG HEAVY BEVEL BIT 2.5 in - 3.5 in PIPE
14673	TOOL BIT 30 DEG BEVEL BIT (LOWER RANGE)
14674	TOOL BIT 30 DEG BEVEL BIT (UPPER RANGE)
14675	TOOL BIT 45 DEG BEVEL BIT (LOWER RANGE)
14676	TOOL BIT 45 DEG BEVEL BIT (UPPER RANGE)
14677	TOOL BIT 25.5 DEG "J" BEVEL BIT (LOWER RANGE)
14678	TOOL BIT 25.5 DEG "J" BEVEL BIT (UPPER RANGE)
14679	TOOL BIT 20 DEG "J" BEVEL BIT (LOWER RANGE)
14680	TOOL BIT 20 DEG "J" BEVEL BIT (UPPER RANGE)
14681	TOOL BIT FACING BIT .750 in TALL FOR 1 in - 2 in PIPE
14682	TOOL BIT FACING BIT .875 in TALL FOR 2 in - 3 in PIPE
14683	TOOL BIT FACING BIT 1 in TALL FOR 3 in - 4 in PIPE
14684	TOOL BIT 4 DEG CHAMFER
14685	TOOL BIT 10 DEG COUNTERBORE (LOWER RANGE)
14686	TOOL BIT 10 DEG COUNTERBORE (UPPER RANGE)

*** Tool Bit can be requested with TIN or laser coating**

Additional ID and OD bevel tool bit angles (degree) are available.

SETTING UP CLAMPING MANDREL AND PAD/SIZES

1. Measure the inside diameter of the tube or pipe to be beveled or faced. This measurement is important for correct sizing and selection of the clamping mandrel and components.

2. Select the proper clamping mandrel and set of clamping pad blocks from the chart:

STANDARD MANDREL

PART NUMBER	QTY	DESCRIPTION	SIZES
		Without Pads	1.25 in – 1.72 in
14658	3	BLOCK A	1.72 in – 2.10 in
14657	3	BLOCK B	2.10 in – 2.55 in
14656	3	BLOCK C	2.55 in – 3.00 in
14655	3	BLOCK D	3.00 in – 3.45 in
14654	3	BLOCK E	3.45 in – 3.95 in
14653	3	BLOCK F	3.95 in – 4.40 in
14659	3	BLOCK G	4.40 in – 4.85 in

LARGE MANDREL (Optional)

PART NUMBER	QTY	DESCRIPTION	SIZES
		Without Pads	4.63 in – 5.10 in
14658	3	BLOCK A	5.10 in – 5.50 in
14657	3	BLOCK B	5.50 in – 5.92 in
14656	3	BLOCK C	5.92 in – 6.37 in
14655	3	BLOCK D	6.37 in – 6.81 in
14654	3	BLOCK E	6.81 in – 7.26 in
14653	3	BLOCK F	7.26 in – 7.71 in
14659	3	BLOCK G	7.71 in – 8.00 in

3. Install the correct clamping pad set on the ID clamping mandrel, being sure all mandrel pads are secure and seated properly.

STARTING AND OPERATING THE MACHINE

1. Once the correct mandrel, tool bit(s) and mandrel pads have been installed, slide the mandrel into the inside of the tube/pipe. Leave about 1” clearance from tool bit to end of pipe. Then, gently tighten the mandrel clamping nut (draw rod nut) until the internal clamping mechanism begins to grip the work piece.

Note: Ensure there is enough room between the tool bit and mandrel pads to complete desired cutting operation; otherwise, the tool bit may cut into the mandrel pads.

2. Once the pads begin to touch the ID of the pipe, tighten the draw rod nut with the 3/4” wrench provided while gently working the tool back and forth so that the clamping pads seat evenly. It is very important to make sure the mandrel pads are fully set on the ID of the work piece; this will cause the misalignment of the head. The clamping mandrel must be tight to prevent slippage; however, do not over-tighten.

Note: Hand tighten only; do not power tighten.
The closer the tube/pipe clamp mount is to the PBM, the more ridged the machine.

Note: Check the backlash on the mandrel and adjust the torque adjustment set screws (see Initial Set-Up) to take out the backlash as required. Do not over tighten the torque adjustment set screws. If they are too tight, you will not be able to move the mandrel while operating the machine.

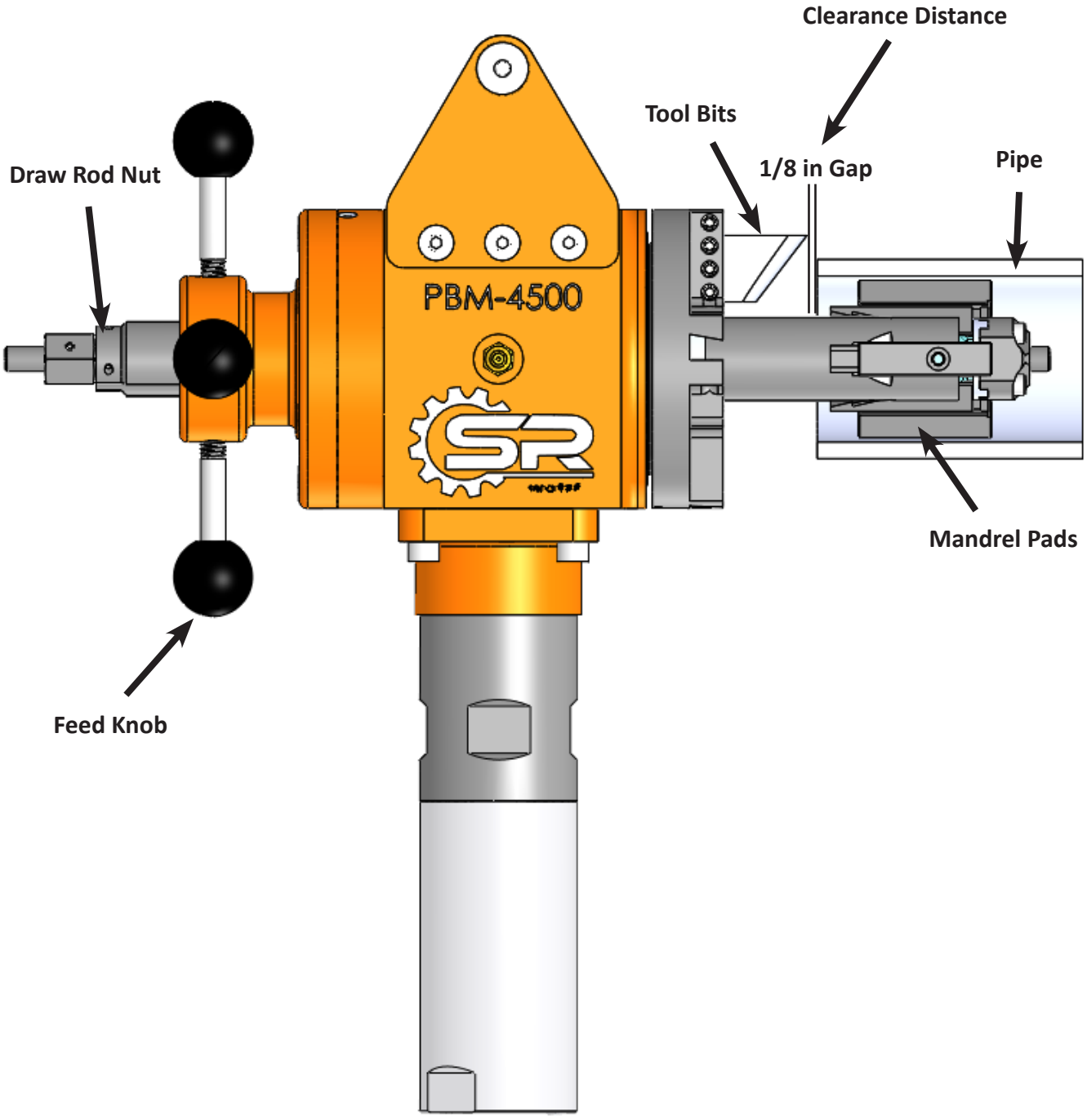
3. Position the machine with the tool bit roughly 1/8” above the pipe surface to be cut. Connect the air supply line to the tool and jog the motor throttle to ensure that the cutter(s) are not touching the tube/pipe.

4. Depress and hold the throttle on the air motor and feed the cutter head forward using Feed Knob.

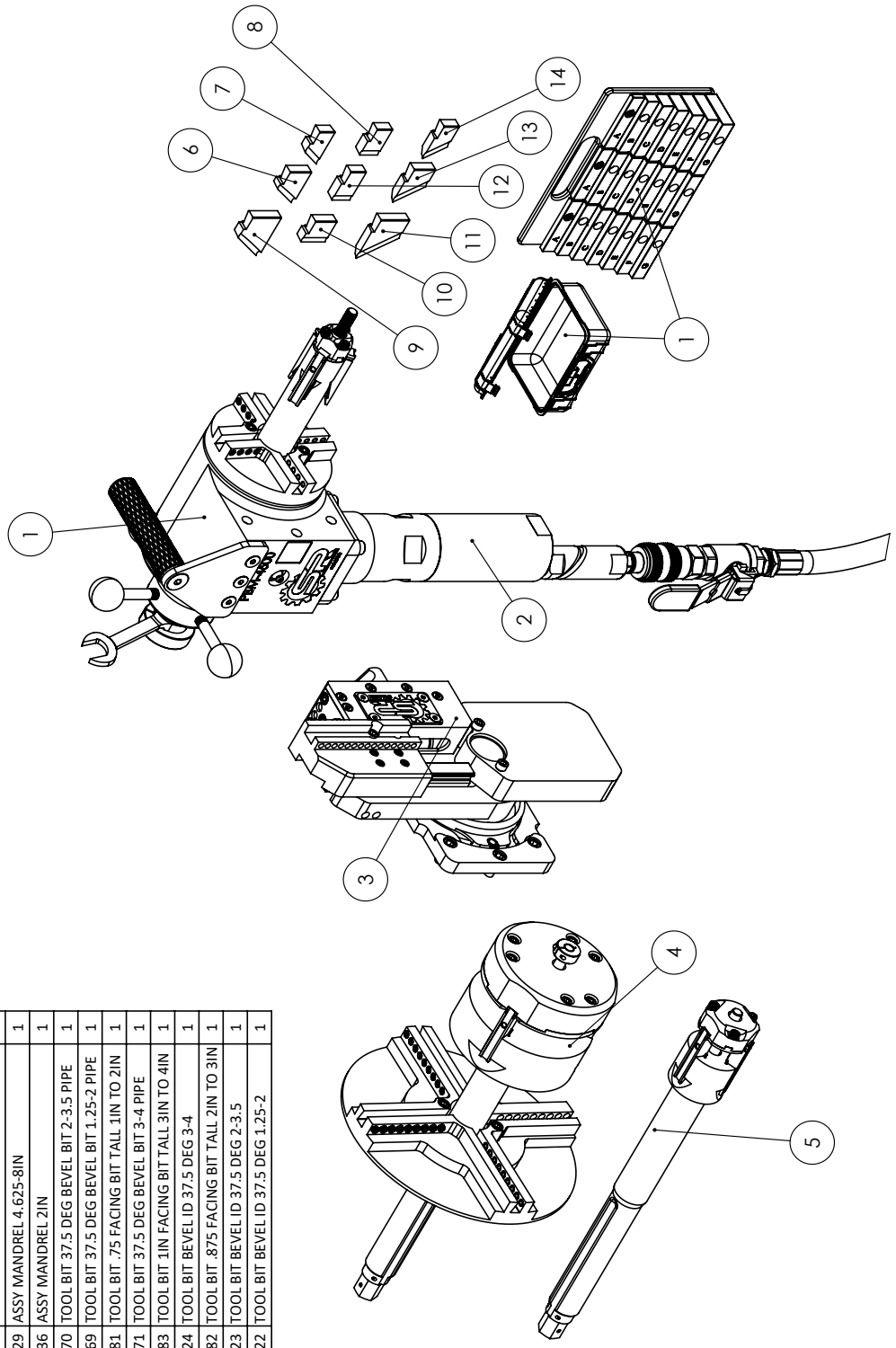
5. Continue feeding the beveling head into the work piece until you begin to get a smooth curly (ribbon) chip. Do not over-feed the tool bits; this will cause the machine to torque, resulting in damage of the machine and tool bits. You may wish to add a small amount of cutting oil to the cut as the beveller is cutting the work piece.

6. Do not stop the air motor while the tool is cutting the work piece. When the desired bevel is present on the end of the tube or pipe, let the cutting head rotate a few turns without feeding the machine forward. As the chip diminishes, reverse the feeding motion and back the cutter head assembly away from the work piece.

7. Release the throttle on the air motor assembly and disconnect the air supply hose. Back off the feed mechanism until the threads on the mandrel shaft assembly are even with the end of the feed nut. Loosen the draw rod nut and gently rock the tool to loosen the clamping mandrel and remove the beveling machine from the work piece.


Clearance Distance
Tool Bits
1/8 in Gap
Pipe
Draw Rod Nut
PBM-4500
Mandrel Pads
Feed Knob

EXPLODED VIEWS



No.	PartNo	SprDesc	Qty.
1	18310	ASSY MAIN PBM-4500	1
2	18312	ASSY AIR-MOTOR PBM-4500	1
3	17882	ASSY FLANGE FACER PBM-4500	1
4	15129	ASSY MANDREL 4.625-8IN	1
5	19036	ASSY MANDREL 2IN	1
6	14670	TOOL BIT 37.5 DEG BEVEL BIT 2-3.5 PIPE	1
7	14669	TOOL BIT 37.5 DEG BEVEL BIT 1.25-2 PIPE	1
8	14681	TOOL BIT .75 FACING BIT TALL 1IN TO 2IN	1
9	14671	TOOL BIT 37.5 DEG BEVEL BIT 3-4 PIPE	1
10	14683	TOOL BIT 1IN FACING BIT TALL 3IN TO 4IN	1
11	15124	TOOL BIT BEVEL ID 37.5 DEG 3-4	1
12	14682	TOOL BIT .875 FACING BIT TALL 2IN TO 3IN	1
13	15123	TOOL BIT BEVEL ID 37.5 DEG 2-3.5	1
14	15122	TOOL BIT BEVEL ID 37.5 DEG 1.25-2	1

REV	DESCRIPTION	DATE	NAME
6	ECO-0274 FASTENERS AND FITTINGS, FLANGE FACER	JUL-05-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

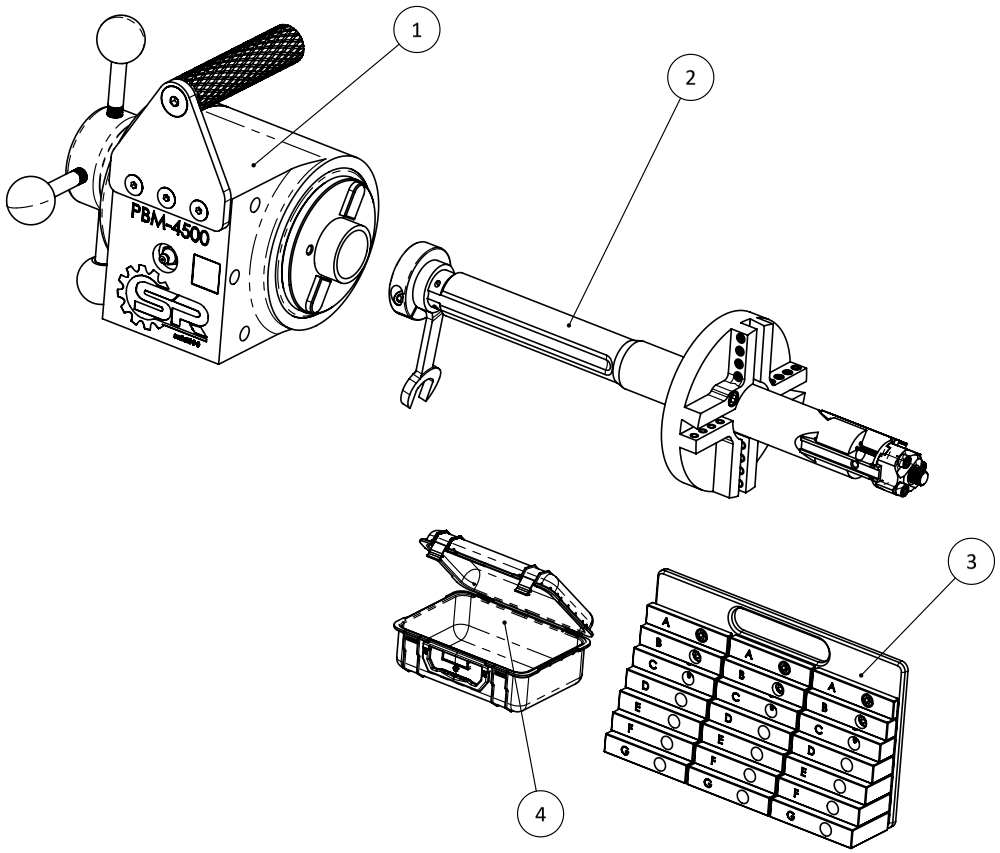
STANDARD TOLERANCES:
ONE PLACE DECIMAL ± .050 ±1.0mm
TWO PLACE DECIMAL ± .010 ±0.25mm
THREE PLACE DECIMAL ± .003 ±0.06mm
FOUR PLACE DECIMAL ± .0005 ±0.01mm
FRACTIONAL ± 1/16
ANGULAR: ± 0.5°

YORK PORTABLE MACHINE TOOLS
A SUPERIOR PLANT RENTALS LLC COMPANY - WWW.SPRTOOL.COM

DIMENSIONS IN INCHES [mm]
NOT TO SCALE
SHEET 1 OF 1

MTRL: SEE BOM | DRVD: | DRN: GROTH | CHK: | DWG#: 14663 | REV: 6
DATE: APR-28-2021
TITLE: PBM-4500 END PREP MACHINE

No.	PartNo	SprDesc	Qty.
1	17877	ASSY DRIVE HOUSING PBM-4500	1
2	14647	MANDREL PBM-4500 1.25-4.85	1
3	14956	ASSY PAD HOLDER	1
4	18311	ASSY KIT CASE PBM-4500	1



REV	DESCRIPTION	DATE	NAME

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

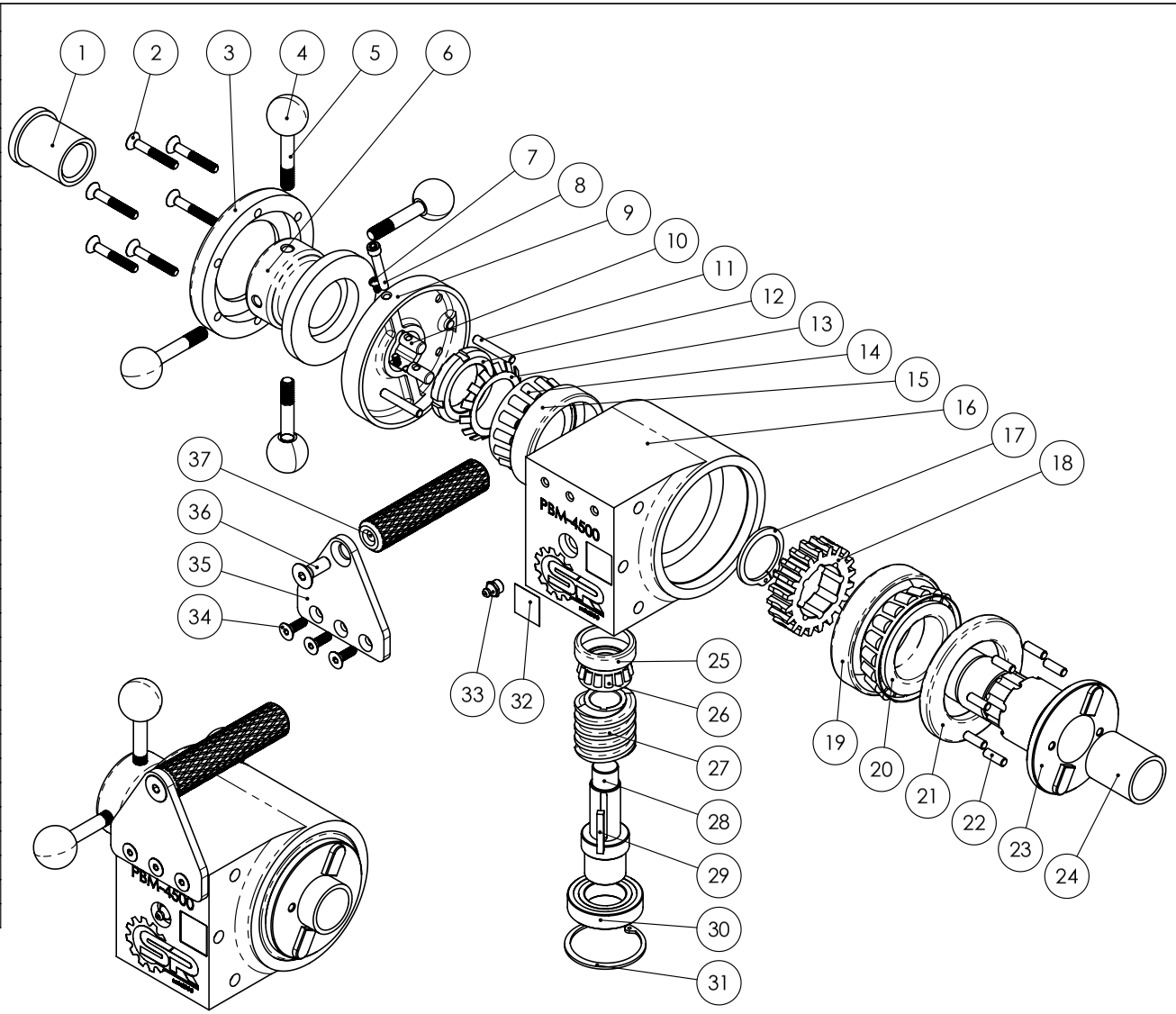
125

YORK PORTABLE MACHINE TOOLS
A SUPERIOR PLANT RENTALS LLC COMPANY - WWW.SPRTOOL.COM

DIMENSIONS IN INCHES [mm]

MTRL: SEE BOM		DRVD:	NOT TO SCALE
DATE: MAY-04-2021	DRN: GROTH	CHK:	SHEET 1 OF 1
TITLE: ASSY MAIN PBM-4500		DWG#: 18310	REV: **0**

No.	PartNo	SprDesc	Qty.
1	14642	FEED NUT INSERT	1
2	20707	FHCS .25-20 X 1.75 ZP	6
3	14641	RETAINER FEED NUT HOUSING	1
4	12309	KNOB RND .375-16	4
5	14860	STUD .375-16 X 2.5	4
6	14640	NUT FEED HOUSING	1
7	20705	BHCS 10-32 X .375 ZP	2
8	18671	SHCS .25-20 X 1.5 ZP	2
9	14639	FEED HOUSING	1
10	14646	MANDREL KEY	2
11	13335	PIN DOWEL .25X1.5	2
12	13333	NUT SHAFT LOCK 1.563-18	1
13	13334	WASHER SHAFT LOCK 1.563-18	1
14	13330	BEARING CONE 1.625IN	1
15	13329	BEARING CUP 80MM	1
16	14638	MAIN HOUSING	1
17	13341	RING RETAIN EXT 1.563IN	1
18	14632	WORM WHEEL	1
19	13327	BEARING CUP 3.813IN	1
20	13328	BEARING CONE 2IN	1
21	13324	SEAL OIL 2.5X3.875X.375IN	1
22	12305	PIN DOWEL .25X.75IN	8
23	14631	MAIN SHAFT	1
24	15128	BUSHING GAR-FIL 1.25X1.5X2	1
25	13331	BEARING CUP 1.75IN	1
26	13332	BEARING CONE .75IN	1
27	13338	WORM H1427RH	1
28	14635	INPUT SHAFT	1
29	12060	KEY SQR .188X.188X1.375IN	1
30	13339	BEARING DEP 30X55X13	1
31	13340	RING RETAIN INT 55MM	1
32	18318	STICKER QR PBM-4500	1
33	13337	FITTING GREASE .125NPT	1
34	20706	FHCS .25-20 X .75 ZP	3
35	14644	BRACKET	1
36	18670	FHCS .375-16 X 1 ZP	1
37	14645	HANDLE	1



REV	DESCRIPTION	DATE	NAME
0	COMBINED 14637, 14634 & 14630 & SS TO SHCS #33	FEB-11-2021	GROTH
1	ADDED QR STICKER	MAY-04-2021	GROTH
2	ECO-0274 CHANGE FASTENERS	JUN-21-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050 ±1.0mm
TWO PLACE DECIMAL	±.010 ±0.25mm
THREE PLACE DECIMAL	±.003 ±0.06mm
FOUR PLACE DECIMAL	±.0005 ±0.01mm
FRACTIONAL	± 1/16
ANGULAR:	± 0.5°

125

YORK PORTABLE MACHINE TOOLS
A SUPERIOR PLANT RENTALS LLC COMPANY - WWW.SPRTOOL.COM

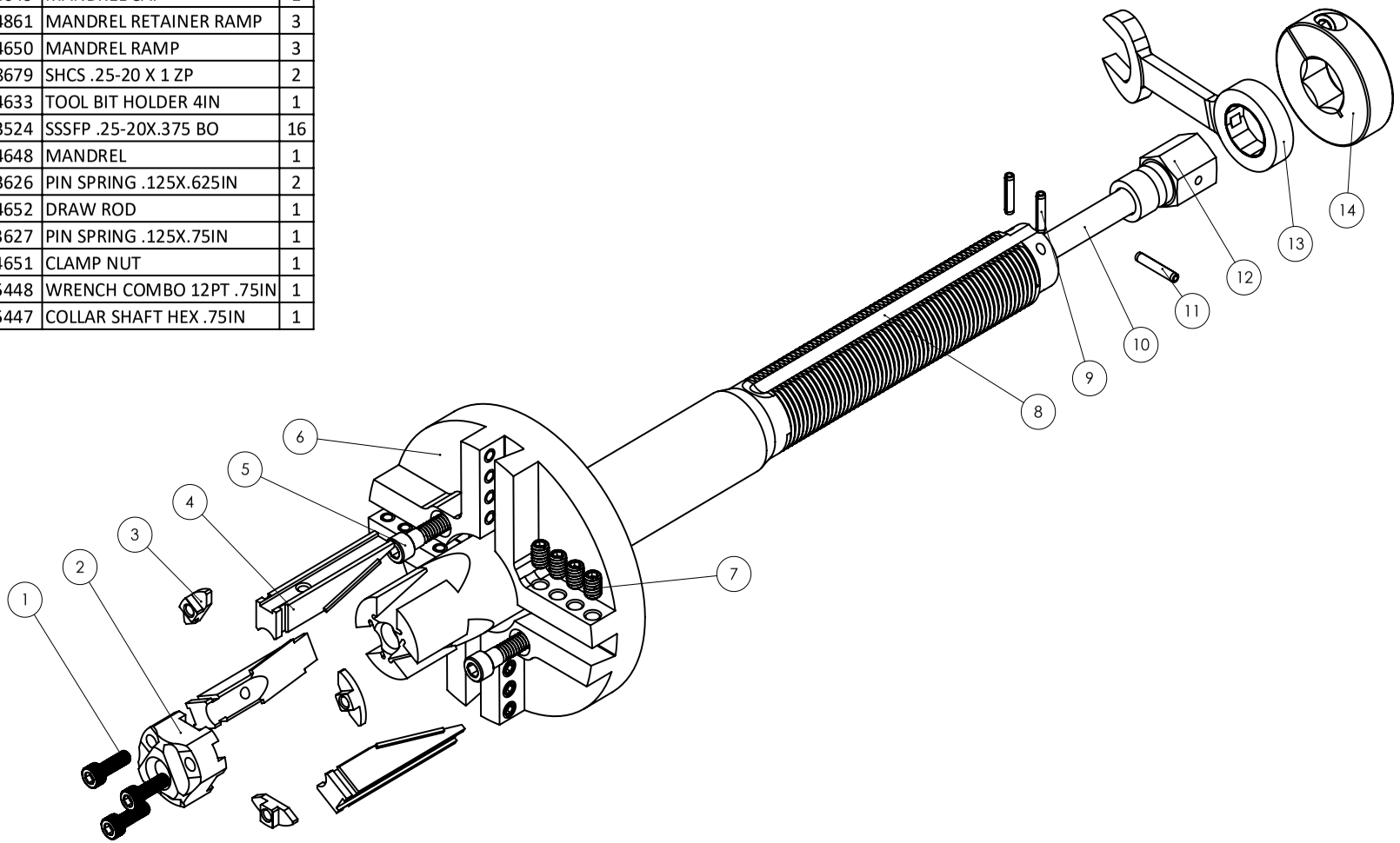
DIMENSIONS IN INCHES

MTRL: SEE BOM | DRVD: | NOT TO SCALE

DATE: FEB-11-2021 | DRN: GROTH | CHK: | SHEET 1 OF 1

TITLE: **ASSY DRIVE HOUSING PBM-4500** | DWG#:**17877** | REV: **2**

No	PartNo	SprDesc	Qty
1	20719	SHCS 10-32 X .563 ZP	3
2	14649	MANDREL CAP	1
3	14861	MANDREL RETAINER RAMP	3
4	14650	MANDREL RAMP	3
5	18679	SHCS .25-20 X 1 ZP	2
6	14633	TOOL BIT HOLDER 4IN	1
7	13524	SSSFP .25-20X.375 BO	16
8	14648	MANDREL	1
9	13626	PIN SPRING .125X.625IN	2
10	14652	DRAW ROD	1
11	13627	PIN SPRING .125X.75IN	1
12	14651	CLAMP NUT	1
13	15448	WRENCH COMBO 12PT .75IN	1
14	15447	COLLAR SHAFT HEX .75IN	1



REV	DESCRIPTION	DATE	NAME
1	CHANGED PART NO.	FEB-06-2019	DHARM
2	UPDATED BOM	MAY-17-2019	DHARM
3	CHANGED BOM TEMPLATE, ADDED TOOL HOLDER	FEB-11-2021	GROTH
4	ADDED WRENCH, CHANGED DESCRIPTION	APR-28-2021	CMATT
5	ECO-0274 CHANGE FASTENERS TO ZP	JUL-05-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL ±.050 ±1.0mm
TWO PLACE DECIMAL ±.010 ±0.25mm
THREE PLACE DECIMAL ±.003 ±0.06mm
FOUR PLACE DECIMAL ±.0005 ±0.01mm
FRACTIONAL ± 1/16
ANGULAR: ± 0.5°

125

YORK PORTABLE MACHINE TOOLS
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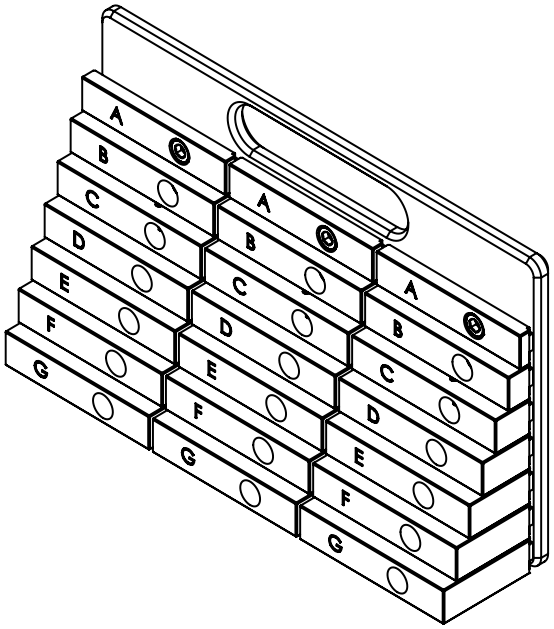
DIMENSIONS IN INCHES [mm]

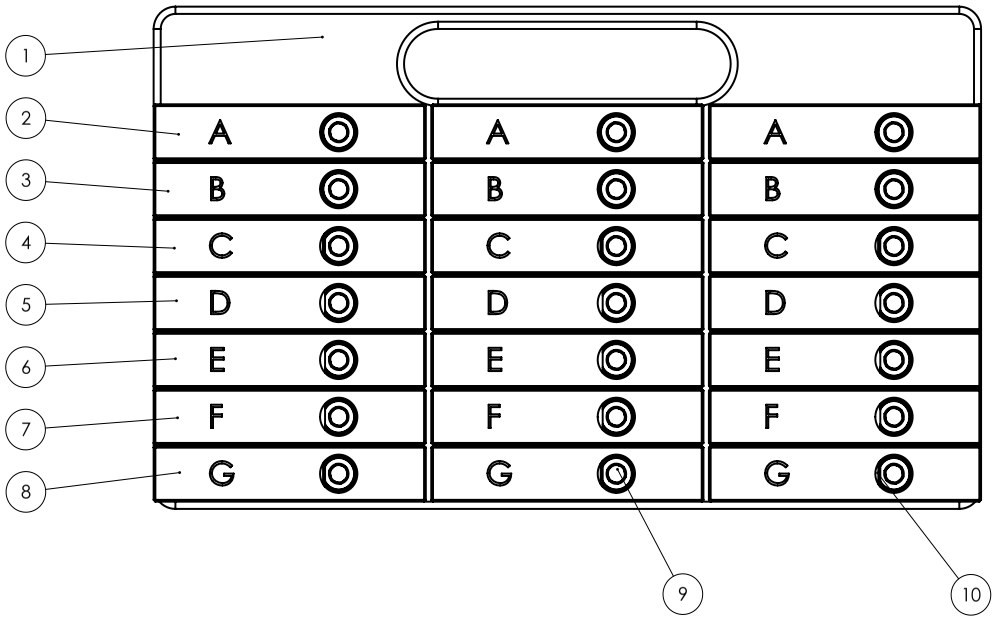
MTRL: SEE BOM | DRVD: | NOT TO SCALE

DATE: OCT-12-2018 | DRN: ACAMB | CHK: | SHEET 1 OF 1

TITLE: ASSY MANDREL 1.25-4.85 | DWG#: 14647 | REV: 5

No.	PartNo.	SprDesc	Qty.
1	14836	PAD HOLDER	1
2	14658	CLAMP BLOCK A	3
3	14657	CLAMP BLOCK B	3
4	14656	CLAMP BLOCK C	3
5	14655	CLAMP BLOCK D	3
6	14654	CLAMP BLOCK E	3
7	14653	CLAMP BLOCK F	3
8	14659	CLAMP BLOCK G	3
9	20709	SHCS 10-32 X .375 ZP	21
10	13628	PIN SPRING .093X.5IN	15





REV	DESCRIPTION	DATE	NAME
1	CHANGED BOM TEMPLATE	FEB-11-2021	GROTH
2	ECO-0274 CHANGE FASTENERS	JUL-05-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

125

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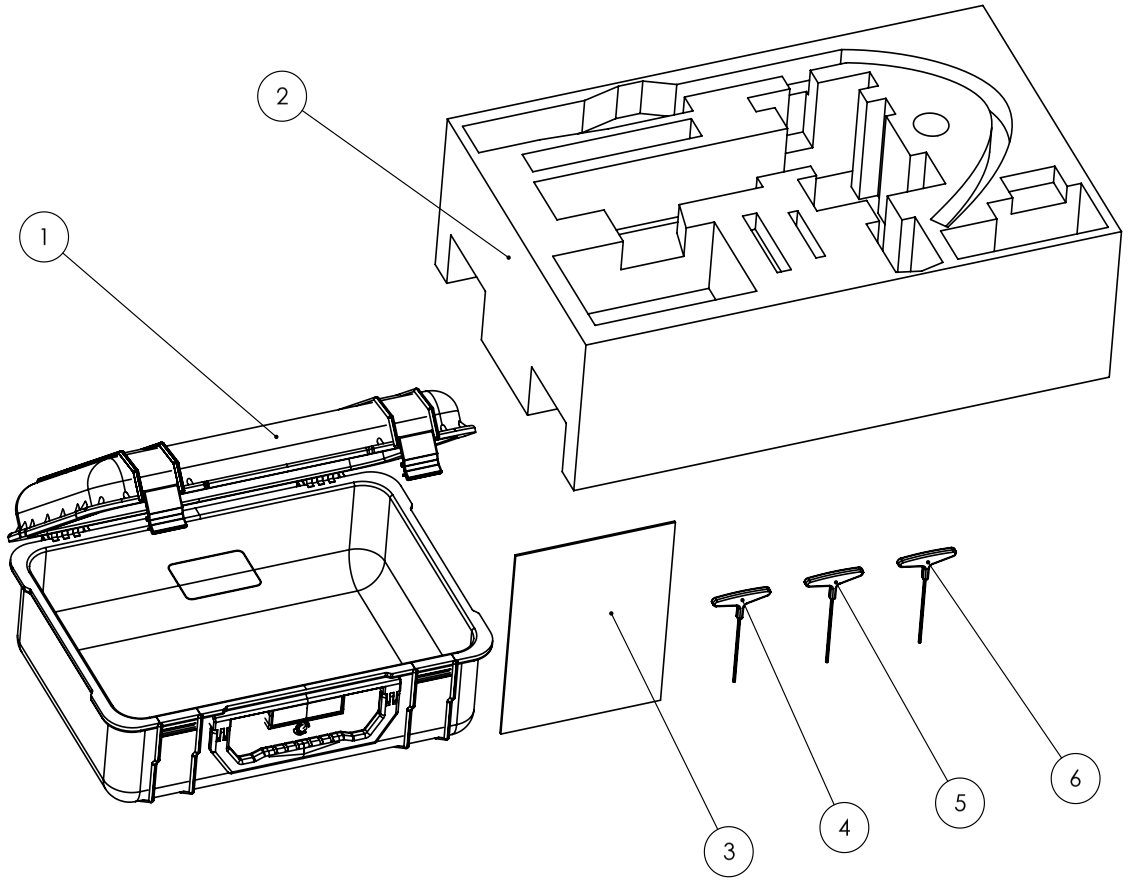
DIMENSIONS IN INCHES [mm]

MTRL: SEE BOM	DRVD:		NOT TO SCALE
DATE: JUN-12-2019	DRN: DHARM	CHK:	SHEET 1 OF 1
TITLE: ASSY PAD HOLDER		DWG#: 14956	REV: **2**

No.	PartNo	SprDesc	Qty.
1	14792	CASE 21.5 X 16.5 X 8IN	1
2	18313	FOAM CASE PBM-4500	1
3	15120	MANUAL PBM-4500	1
4	14790	KEY ALLEN T HANDLE 0.1875 IN	1
5	15090	KEY ALLEN T HANDLE 0.125 IN	1
6	14791	KEY ALLEN T HANDLE 0.15625 IN	1



REV	DESCRIPTION	DATE	NAME

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL ±.050 ±1.0mm
TWO PLACE DECIMAL ±.010 ±0.25mm
THREE PLACE DECIMAL ±.003 ±0.06mm
FOUR PLACE DECIMAL ±.0005 ±0.01mm
FRACTIONAL± 1/16
ANGULAR: ± 0.5°

125

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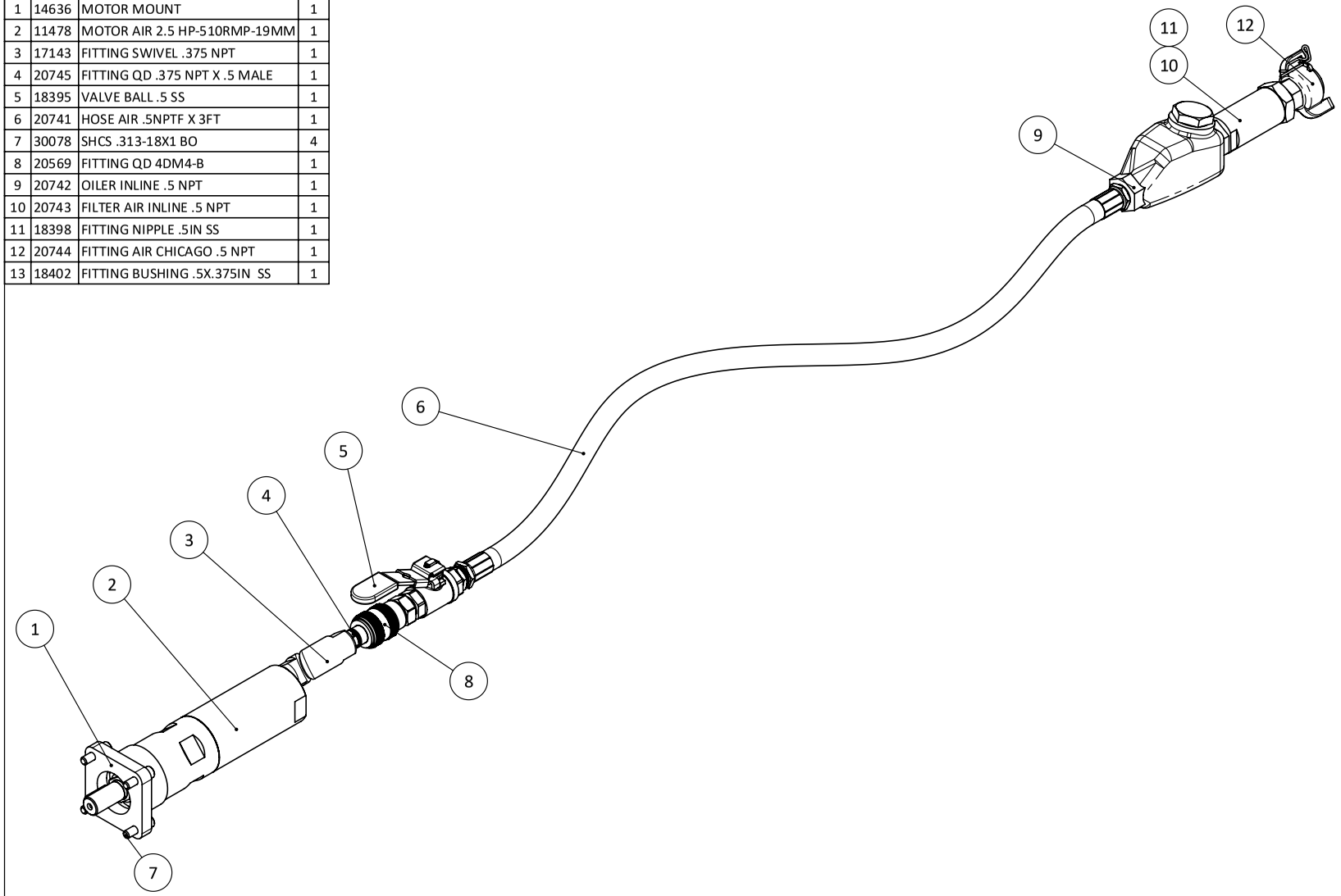
DIMENSIONS IN INCHES [mm]

MTRL: SEE BOM | DRVD: | NOT TO SCALE

DATE: MAY-04-2021 | DRN: GROTH | CHK: | SHEET 1 OF 1

TITLE: ASSY KIT CASE PBM-4500 | DWG#: 18311 | REV: **0**

No.	PartNo	SprDesc	Qty.
1	14636	MOTOR MOUNT	1
2	11478	MOTOR AIR 2.5 HP-510RMP-19MM	1
3	17143	FITTING SWIVEL .375 NPT	1
4	20745	FITTING QD .375 NPT X .5 MALE	1
5	18395	VALVE BALL .5 SS	1
6	20741	HOSE AIR .5NPTF X 3FT	1
7	30078	SHCS .313-18X1 BO	4
8	20569	FITTING QD 4DM4-B	1
9	20742	OILER INLINE .5 NPT	1
10	20743	FILTER AIR INLINE .5 NPT	1
11	18398	FITTING NIPPLE .5IN SS	1
12	20744	FITTING AIR CHICAGO .5 NPT	1
13	18402	FITTING BUSHING .5X.375IN SS	1



REV	DESCRIPTION	DATE	NAME
1	ADDED OILER/FILTER FITTINGS	JUL-05-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DEBURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

125

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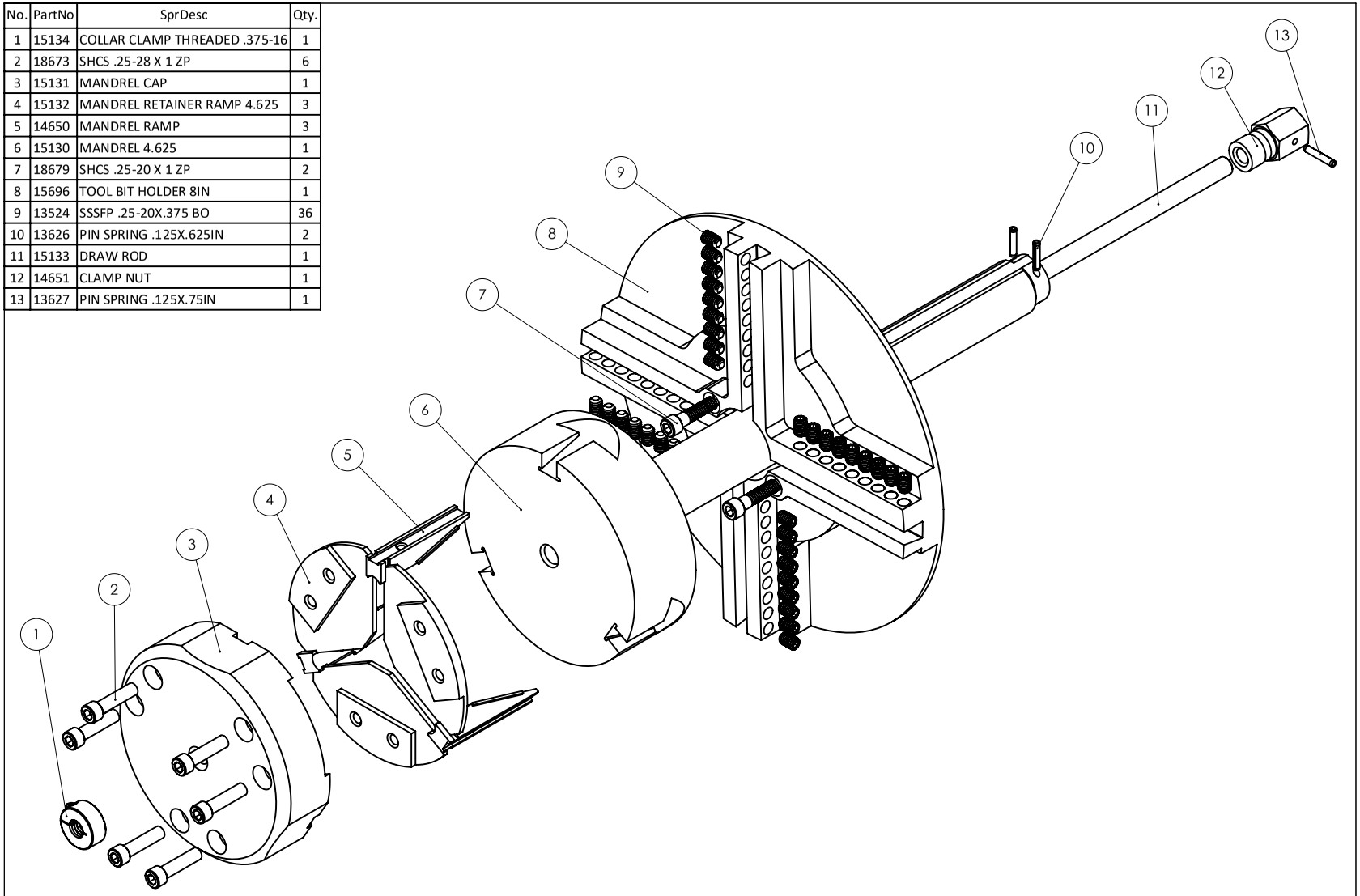
DIMENSIONS IN INCHES [mm]

MTRL: SEE BOM	DRVD:		NOT TO SCALE
DATE: MAY-04-2021	DRN: GROTH	CHK:	SHEET 1 OF 1
TITLE: ASSY AIR-MOTOR PBM-4500		DWG#: 18312	REV: **1**

No.	PartNo	SprDesc	Qty.
1	15134	COLLAR CLAMP THREADED .375-16	1
2	18673	SHCS .25-28 X 1 ZP	6
3	15131	MANDREL CAP	1
4	15132	MANDREL RETAINER RAMP 4.625	3
5	14650	MANDREL RAMP	3
6	15130	MANDREL 4.625	1
7	18679	SHCS .25-20 X 1 ZP	2
8	15696	TOOL BIT HOLDER 8IN	1
9	13524	SSSFP .25-20X.375 BO	36
10	13626	PIN SPRING .125X.625IN	2
11	15133	DRAW ROD	1
12	14651	CLAMP NUT	1
13	13627	PIN SPRING .125X.75IN	1



REV	DESCRIPTION	DATE	NAME
1	CHANGED PN FROM 'PBM-0490' TO YORK #	FEB-05-2019	DHARM
2	ADDED KIT CONTENTS	SEP-06-2019	DHARM
3	CHANGED BOM TEMPLATE	FEB-11-2021	GROTH
4	ECO-0274 CHANGE FASTENERS	JUN-21-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DEBURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

125

YORK PORTABLE MACHINE TOOLS
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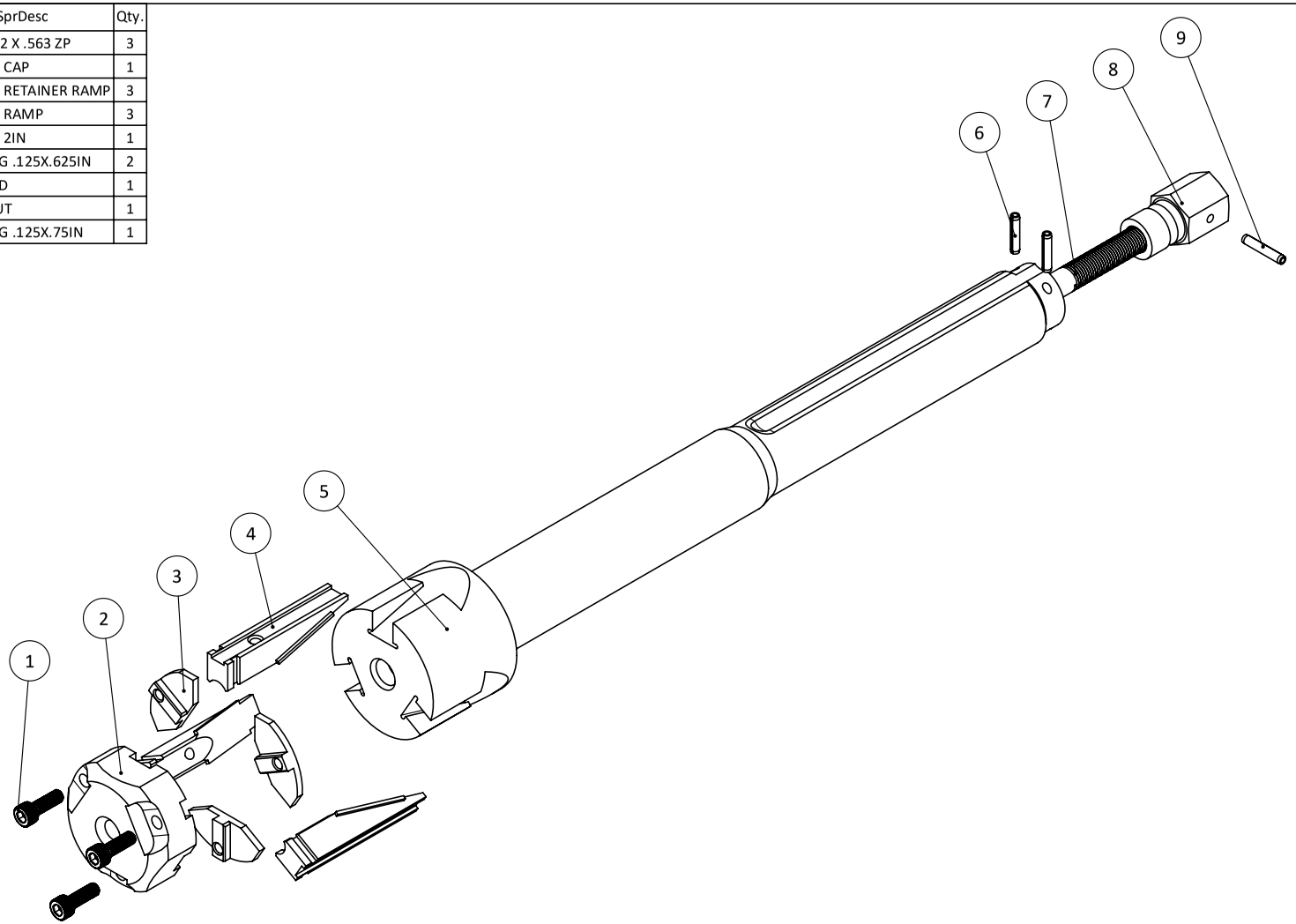
DIMENSIONS IN INCHES [mm]

MTRL: SEE BOM | DRVD: PBM-0490 | NOT TO SCALE

DATE: OCT-12-2018 | DRN: ACAMB | CHK: | SHEET 1 OF 1

TITLE: ASSY MANDREL 4.625-8IN | DWG#: 15129 | REV: **4**

No.	PartNo	SprDesc	Qty.
1	20719	SHCS 10-32 X .563 ZP	3
2	14649	MANDREL CAP	1
3	14861	MANDREL RETAINER RAMP	3
4	14650	MANDREL RAMP	3
5	18497	MANDREL 2IN	1
6	13626	PIN SPRING .125X.625IN	2
7	14652	DRAW ROD	1
8	14651	CLAMP NUT	1
9	13627	PIN SPRING .125X.75IN	1



REV	DESCRIPTION	DATE	NAME
1	CORRECTED MANDREL PART #	DEC-10-2021	GROTH
2	ECO-0274 CHANGE FASTENERS	JUL-05-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

125

YORK PORTABLE MACHINE TOOLS
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DIMENSIONS IN INCHES [mm]

MTRL: SEE BOM		DRVD:	NOT TO SCALE
DATE: DEC-10-2021	DRN: GROTH	CHK:	SHEET 1 OF 1
TITLE: ASSY MANDREL 2IN		DWG#: 19036	REV: **2**

MAINTENANCE

GENERAL MACHINE MAINTENANCE
During heavy operation, use a brush regularly to clean chips away from the machine and clamping mandrel assembly between each use. This is especially important around the mandrel feed nut and threads. Thoroughly clean the machine after use. Dirt and grit can severely shorten the life of the machine. Do not spray anything into the electric motor body.

MONITOR THE TEMPERATURE
Monitor the temperature of the beveler housing during operation. Heat buildup on the aluminum housing is an indication that the bearings need lubrication or maintenance and should be handled immediately to insure proper life of the tool.

Note: Heat buildup can also be the result of improperly set bearing clearances. If this problem exists, it is recommended that you contact the factory.

THREAD INSPECTION
Inspect all visible thread areas for excessive wear. Parts that have worn threads should be replaced before damage to the mating thread assemblies occurs.

DRIVE ASSEMBLY
It is recommended that each beveling machine drive assembly be cleaned, inspected, and greased after approximately 600 hours of use. This will help maintain the gear backlash and isolate seal or bearing problems. The inspection should be performed by a qualified individual. To grease the machine, remove the 3/8” plug and install a grease fitting. Once greased, replace the grease fitting with the plug.

AIR MOTOR
Clean and lubricate the air motor assembly periodically. Light, high-quality oil is recommended, in conjunction with an automatic oiling system. An in-line hose/oiler must be used with all SPR beveling machines to keep the air motor warranty in effect. If automatic oiling is not available, add a few drops of oil to the air inlet at the end of each hour of operation. Do not put an excessive amount of oil in the air inlet or sludge will build up and cause problems. If you are interested in our Air Caddy/In-line oiler please contact our sales office.

MANDREL CLAMP
It is important that the mandrel clamping mechanism and components remain free of dirt and corrosion. All machined surfaces and surfaces that come in contact with seals should be cleaned and inspected periodically. A light coat of oil can be put on all metal surfaces to protect from rusting.

DRIVE SHAFT
After approximately 50 hours of operation on a new (or newly assembled) machine, the drive shaft end play should be checked for main bearing pre-load and gear backlash. In certain instances, this area may need adjustment as the new parts wear into (seat) their mating surfaces. This adjustment should be performed by a qualified individual or by the factory if a qualified individual is not available.

PROPER HANDLING
Do not drop, hit, or otherwise abuse your pipe beveling machine. This equipment is designed as a portable machining assembly, and as such, is not designed to withstand excessive abuse. Care for your equipment will increase your utilization, the life of the machine, and minimize your repair cost.

TOOL BITS
Remember that tool bits (cutting tools) in good condition perform better. Do not try to use dull tool bits or force the tool bits into the work piece. If excessive back pressure exists, if the tool bits seem to be tearing rather than cutting, or if the chips begin to turn blue or brown, replace your cutting tool bits right away. When possible, leave unused tool bits in their packages to prevent them from being damaged. Please store tool bits that have been taken from their original package in a safe place.

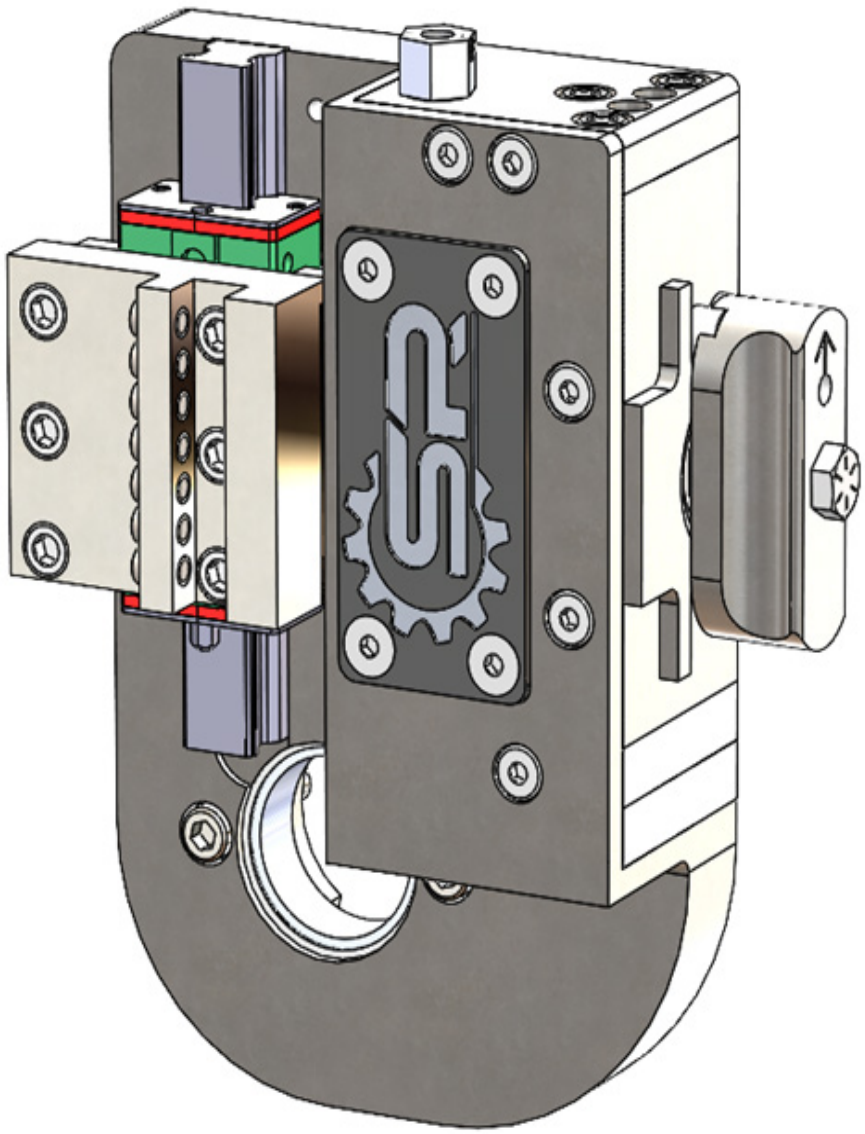
PBM FF-4500 FLANGE FACER INTRODUCTION

APPLICATIONS

The FF-4500 is a flange facing attachment that is used in conjunction with the PBM-4500 Pipe Bevel Machine. Its function is to face both the raised face and bolt hole surface of a flange while clamping to the pipe's inner diameter. The current PBM-4500 model uses a pneumatic powered motor. An optional electric motor is available upon request.

When you receive the FF-4500:

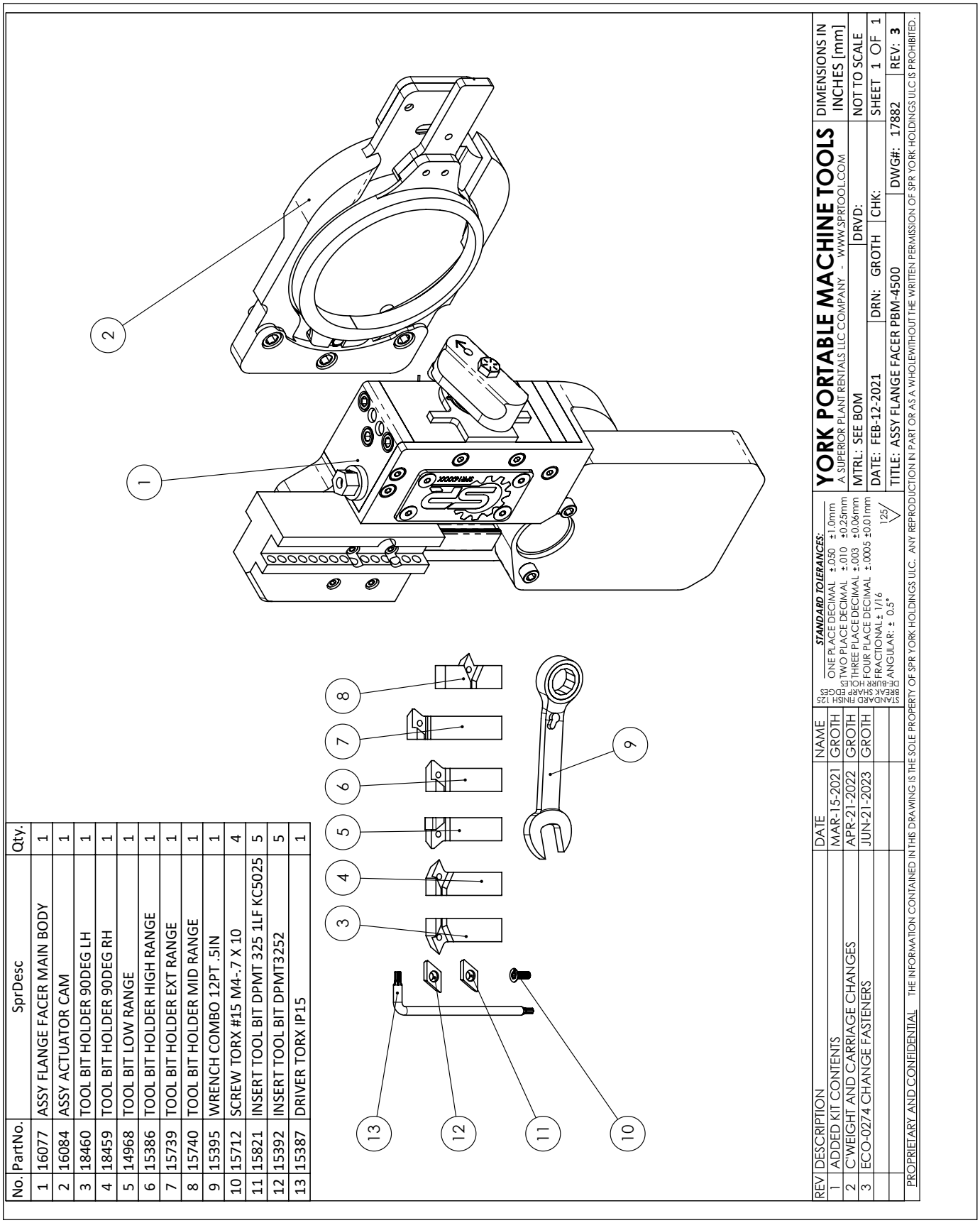
Inspect the machine for shipping damage. Verify that all of the parts listed on the Bill of Materials, are present. If any parts are missing, or if you have questions regarding the FF-4500, please contact a Superior Plant Rentals or SPR York location nearest you immediately.



SPECIFICATIONS CHART

Machining Performance Range		FF-4500
ID Mounting Range:	Standard Mandrel	1.250 in - 4.850 in (31.75 mm – 123.19 mm)
	Large Mandrel (Optional)	4.630 in – 8.000 in (117.60 mm – 203.20 mm)
Cutting Range		1.250 in - 16.00 in (31.75 mm – 203.20 mm)
Drive System		
Motor		2.45 HP (1864.25 W)
Recommended Air Pressure		72 CFM @ 90 PSI
Speed		310 rpm @ Max output
Electric Motor		Available Upon Request
Measurements		
Machine Weight		10 lbs (11.34 kg)
Dimensions		
Machine (LxWxH)		Refer to drawing

STANDARD EQUIPMENT



No.	PartNo.	SprDesc	Qty.
1	16077	ASSY FLANGE FACER MAIN BODY	1
2	16084	ASSY ACTUATOR CAM	1
3	18460	TOOL BIT HOLDER 90DEG LH	1
4	18459	TOOL BIT HOLDER 90DEG RH	1
5	14968	TOOL BIT LOW RANGE	1
6	15386	TOOL BIT HOLDER HIGH RANGE	1
7	15739	TOOL BIT HOLDER EXT RANGE	1
8	15740	TOOL BIT HOLDER MID RANGE	1
9	15395	WRENCH COMBO 12PT .5IN	1
10	15712	SCREW TORX #15 M4-.7 X 10	4
11	15821	INSERT TOOL BIT DPMT 325 1LF KC5025	5
12	15392	INSERT TOOL BIT DPMT3252	5
13	15387	DRIVER TORX IP15	1

REV	DESCRIPTION	DATE	NAME
1	ADDED KIT CONTENTS	MAR-15-2021	GROTH
2	C'WEIGHT AND CARRIAGE CHANGES	APR-21-2022	GROTH
3	ECO-0274 CHANGE FASTENERS	JUN-21-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:
ONE PLACE DECIMAL ±.050 ±1.0mm
TWO PLACE DECIMAL ±.010 ±0.25mm
THREE PLACE DECIMAL ±.003 ±0.08mm
FOUR PLACE DECIMAL ±.0005 ±0.01mm
FRACTIONAL ± 1/16
ANGULAR: ± 0.5°

125

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MTRL: SEE BOM | DRVD: | DIMENSIONS IN INCHES [mm]
DATE: FEB-12-2021 | DRN: GROTH | CHK: | NOT TO SCALE
TITLE: ASSY FLANGE FACER PBM-4500 | DWG#: 17882 | SHEET 1 OF 1 | REV: 3

PRODUCT DESCRIPTION

The FF-4500 is an attachment used in conjunction with the PBM-4500 Pipe Beveling Machine. Its function is to face both the raised face and bolt hole surface of a flange while clamping to the pipe's inner diameter. The current PBM-4500 model uses a pneumatic powered motor. An optional electric motor is available upon request.

The FF-4500 is capable of facing flanges while meeting all existing conventional codes including the more stringent nuclear codes.

The standard FF-4500 package includes:

- Flange Facing Main Body Assembly
- Custom carrying case
- Adjustable Cam Assembly
- Tool Bits – 5 DPMT Inserts (1/32"), 5 DPMT Inserts (1/64")

  Coating: PVD-AlTiN-coated grade with a tough, ultra-fine-grain unalloyed substrate.
  Application: For general-purpose machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.
- Operating manual
- 'High' Range Tool Holder and screw
- 'Low' Range Tool Holder and screw
- 'Mid' Range Tool Holder and screw
- 'Extended' Range Tool Holder and screw
- Screw Driver Torx #15
- Ratchet Wrench

SAFETY PRECAUTIONS

The customer shall ensure that only people thoroughly trained in safe work procedures operate this machine. Safe working procedures are required when operating rotating machine tools. The misuse of this machine could result in severe injury or death.

Proper training and safety precautions can help avoid accidents. Please observe all company and Government work safety practices.

- Keep others clear from the machine when it is running.
- Keep clear of the cutting head and other moving parts. Never try to remove chips while the machine is running.
- Disconnect the power when inserting or adjusting the cutting tool.
- Wear protective goggles, footwear and ear plugs. Please observe all Company and Government work-safe practices
- Do not wear loose fitting clothing that could get caught up or wrapped in the machine.
- Flying chips can cut or burn you. Do not remove cuttings with bare hands.
- Do not operate in water. Watch for electrical hazards.
- Do Not leave machine unattended while in operation.
- Beware of pinch points. Keep all body parts clear of the machine while it is running.

Rotating machine parts can cause serious injuries, even death! Running the X-Axis feed into End-Stops may damage machine.

For maximum safety and performance, read the entire instruction manual before operating this machine.

WARNING! - MOVING PARTS.
Keep hands, loose clothing, and hair away from rotating or moving parts. Disconnect the air supply from the machine and unplug all equipment prior to adjusting or servicing. If electric, remove power from the machine prior to adjusting or servicing.

WARNING! - ELECTRICAL SHOCK.
Possible shock if not handled properly.

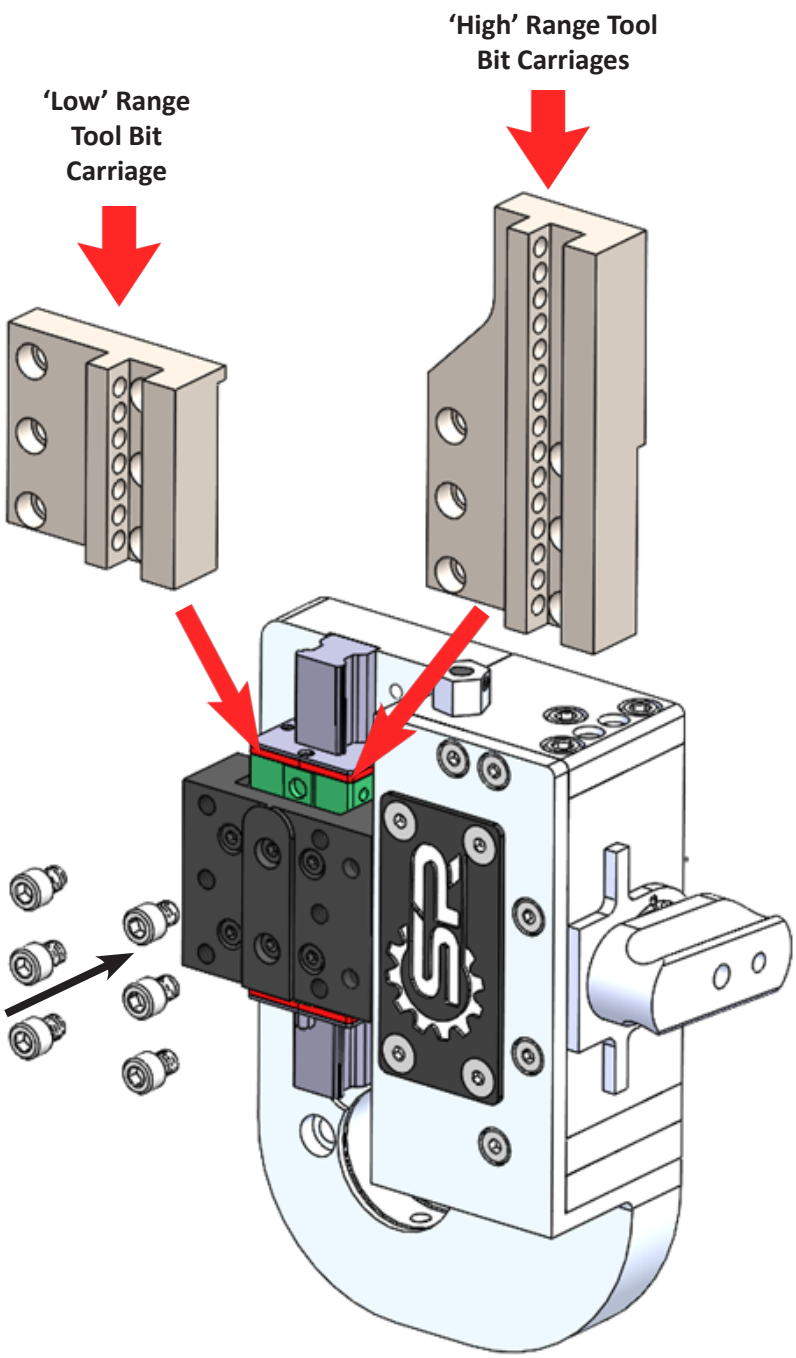
WARNING! - KEEP DRY.
Keep all equipment and components away from any water source.

WARNING! - EYE PROTECTION.
Eye protection must be worn while operating or working near powered equipment.

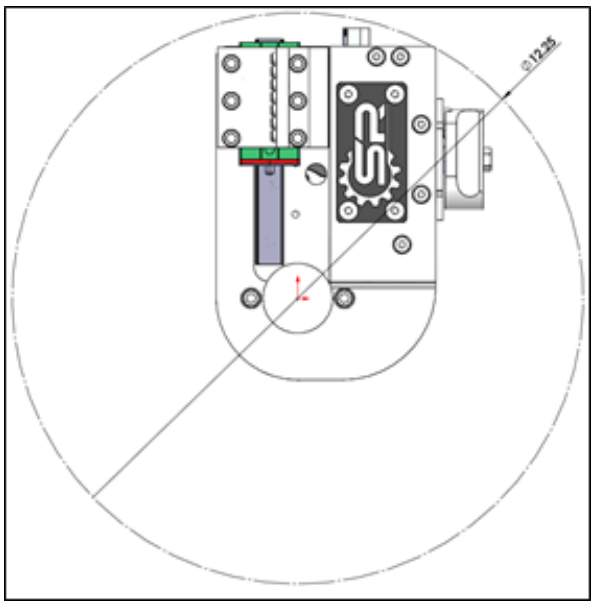
WARNING! - EAR PROTECTION.
Ear protection should be worn while operating or working near loud equipment.

INITIAL SET-UP

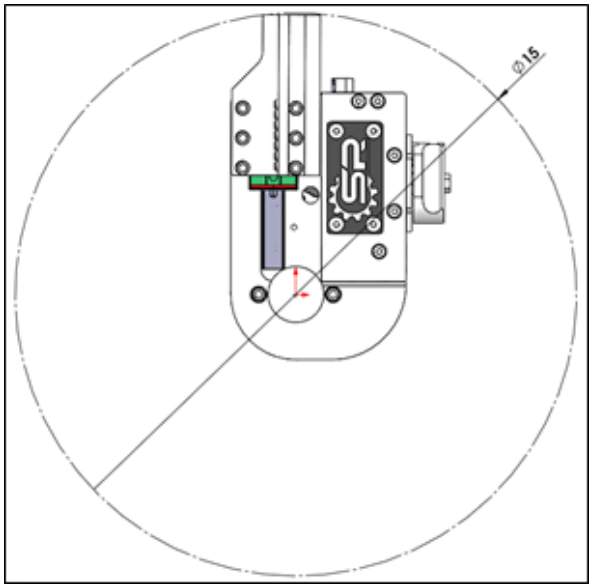
1. First, the flange facer must be setup for the desired flange facing range. To minimize the swing diameter of the facer, there are two Tool Bit Carriages to choose from, 'Low' and 'High'. See below for swing diameters.



Swing Diameter = 12.25" with Low Range Tool Bit Carriage at maximum travel



Swing Diameter = 15" with High Range Tool Bit Carriage at maximum travel



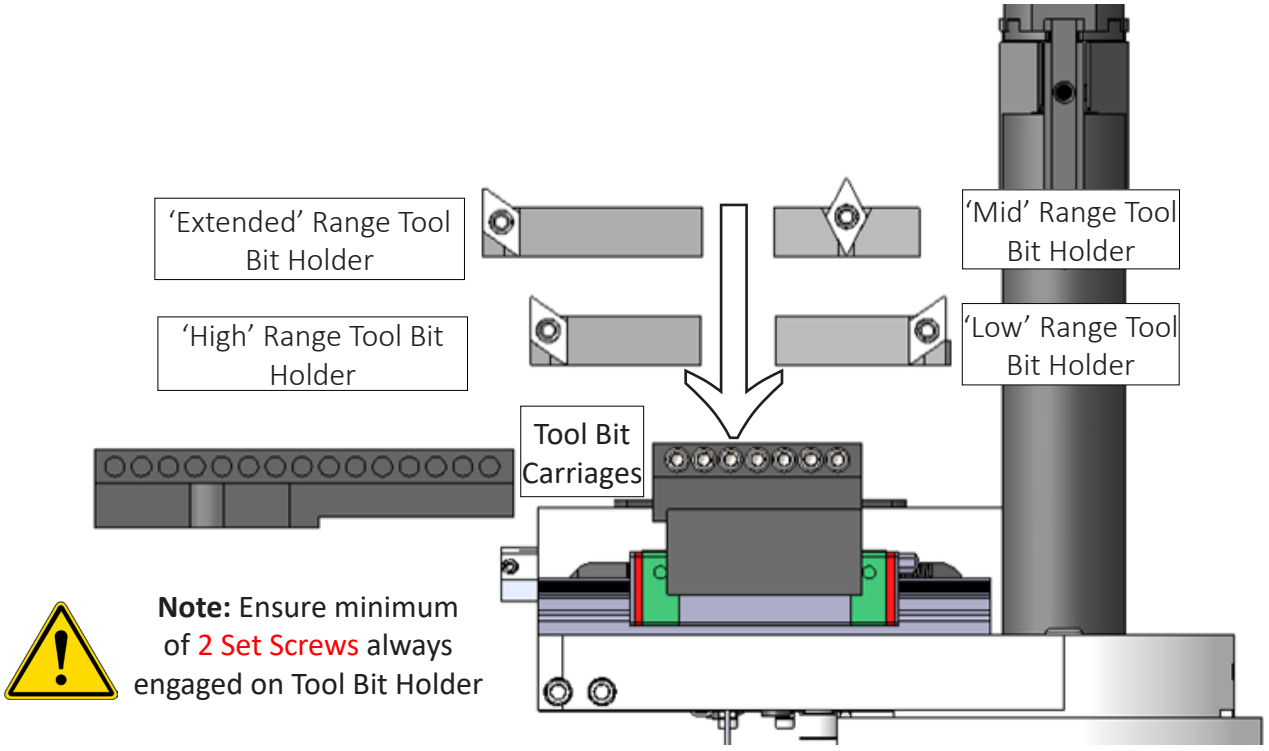
Next, select the correct Tool Bit Holder for the desired range to face from the following table and load the Tool Bit Holder into the Tool Bit Carriage; there are **Low, Mid, High** and **Extended** Range Tool Bit Holders:

Updating needed on this table

I.D. Diameter Nominal	Seal Surface Diameter	Flange Class 150			300, 400, 600		400		600		900		1500		2500	
0.5	1.375	Low	3.5	2.13 Low	3.75	2.375 Low	3.75	2.375 Low	3.75	2.375 Low	4.75	3.375 Low	4.75	3.375 Low	5.25	3.875 Hi
0.75	1.688	Low	3.875	2.19 Low	4.625	2.937 Low	4.625	2.937 Low	4.625	2.937 Low	5.125	3.437 Low	5.125	3.437 Low	5.5	3.812 Hi
1	2.000	Low	4.25	2.25 Low	4.875	2.875 Low	4.875	2.875 Low	4.875	2.875 Low	5.875	3.875 Hi	5.875	3.875 Hi	6.25	4.250 Hi
1.25	2.500	Low	4.625	2.13 Low	5.25	2.750 Hi	5.25	2.750 Hi	5.25	2.750 Hi	6.25	3.750 Hi	6.25	3.750 Hi	7.25	4.750 Hi
1.5	2.875	Low	5	2.13 Low	6.125	3.250 Hi	6.125	3.250 Hi	6.125	3.250 Hi	7	4.125 Hi	7	4.125 Hi	8	5.125 Hi
2	3.625	Low	6	2.38 Hi	6.5	2.875 Hi	6.5	2.875 Hi	6.5	2.875 Hi	8.5	4.875 Hi	8.5	4.875 Hi	9.25	
2.5	4.125	Low	7	2.88 Hi	7.5	3.375 Hi	7.5	3.375 Hi	7.5	3.375 Hi	9.625		9.625		10.5	
3	5.000	Low	7.5	2.5 Hi	8.25	3.250 Hi	8.25	3.250 Hi	8.25	3.250 Hi	9.5		10.5		12	
3.5	5.500	Hi	8.5	3 Hi	9		9		9							
4	6.188	Hi	9		10		10		10.75		11.5		12.25		14	

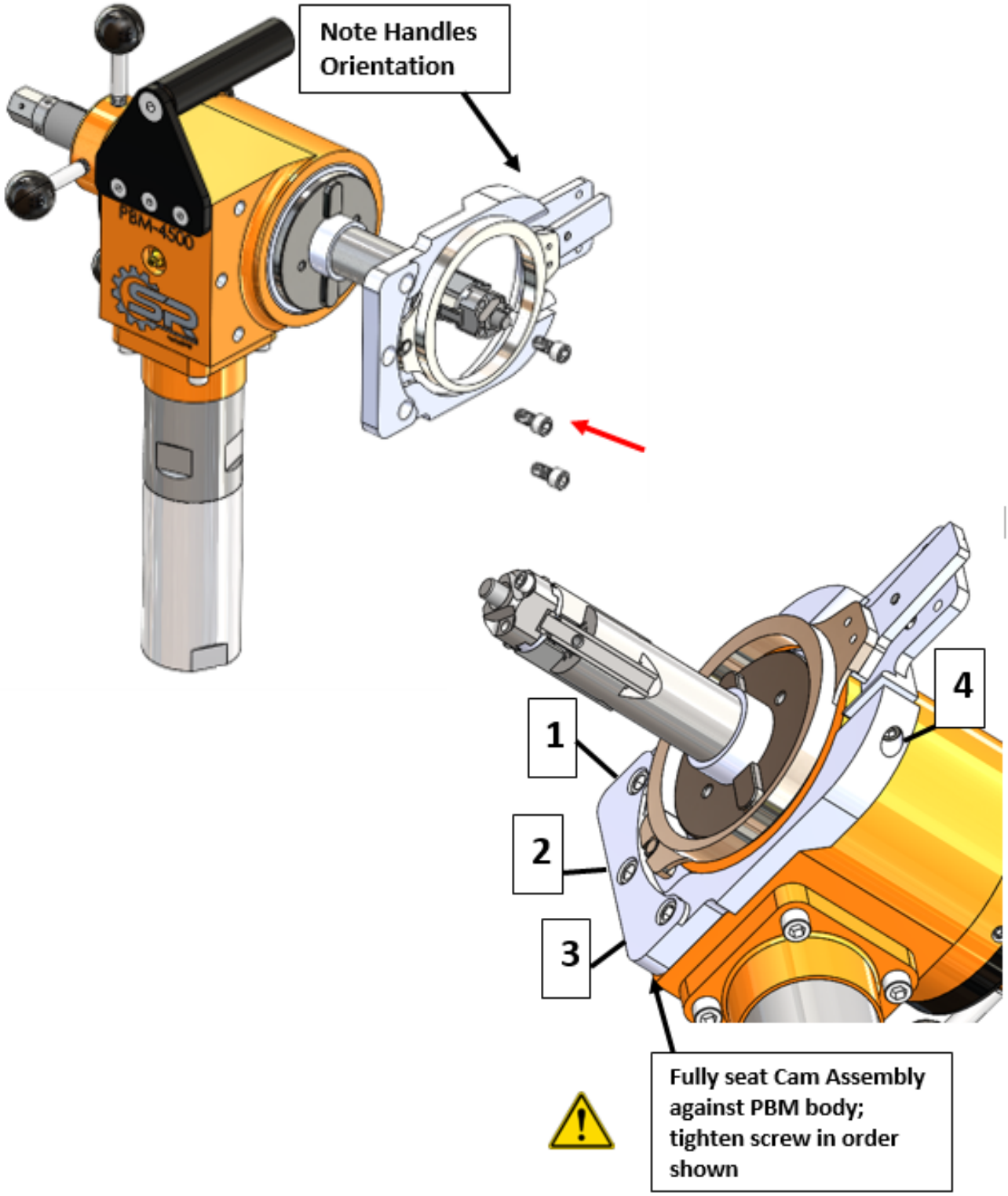
This table shows Flange dimensions including:

- Raised Face Diameters
- Outer Diameters of Flanges for given class
- Correct Tool Bit Range to best perform cutting operation for a given range to complete with one range.



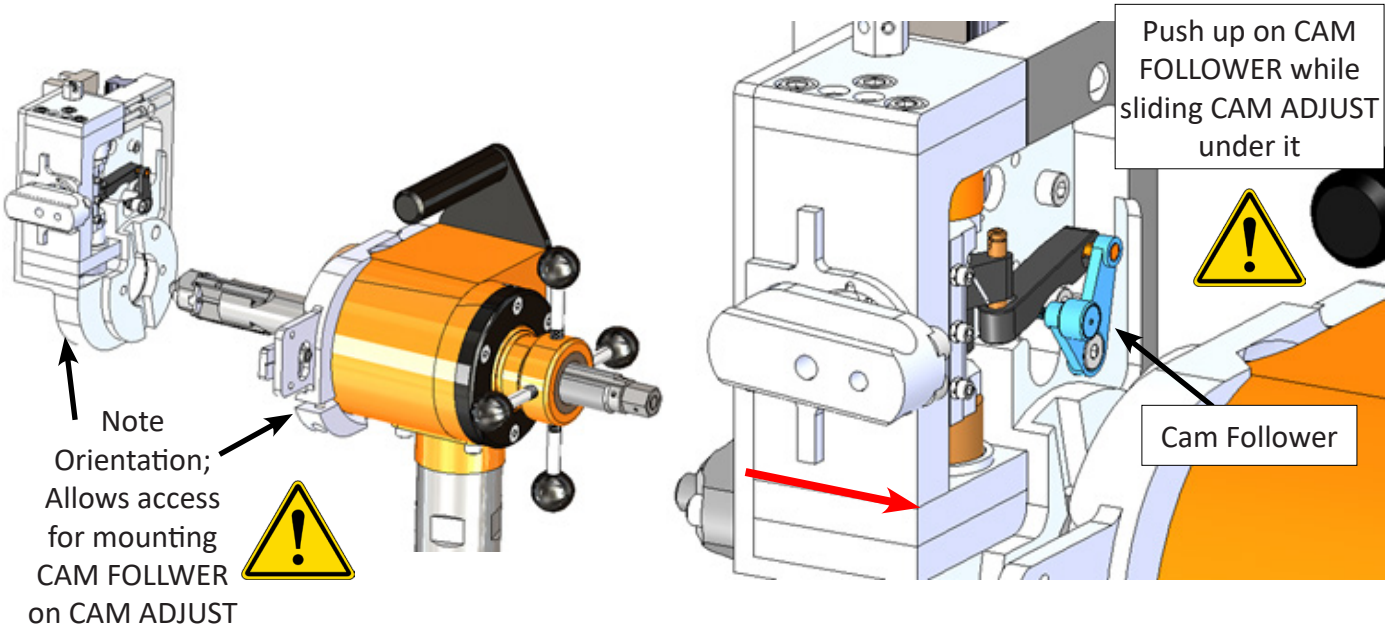
INSTALLING ADJUSTABLE CAM

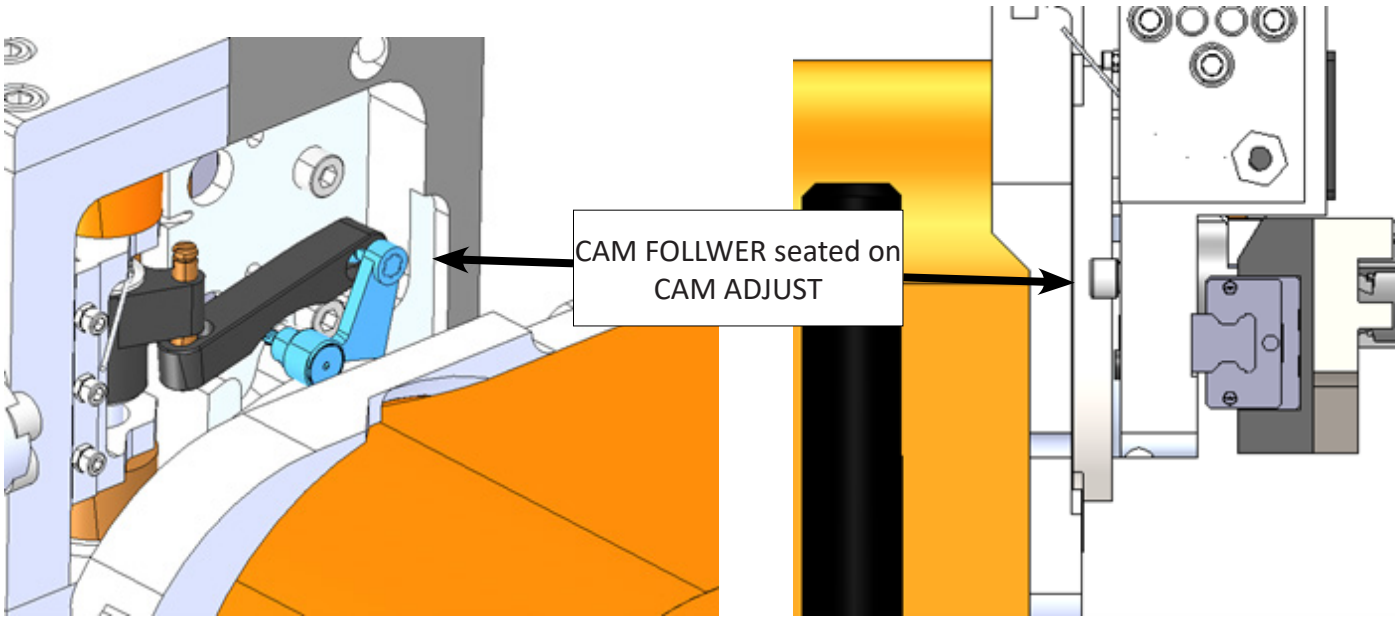
2. Install Adjustable Cam Assembly to the PBM Body as shown:



INSTALLING FLANGE FACER

3. Once the Adjustable Cam has been installed, Flange Facer Main Body can now be installed. Slide the Main Body over the Mandrel as shown, lift the Cam Follower up while mounting Main Body onto PBM unit, allowing the Cam Follower to run on the Cam Adjust Wheel as shown below:

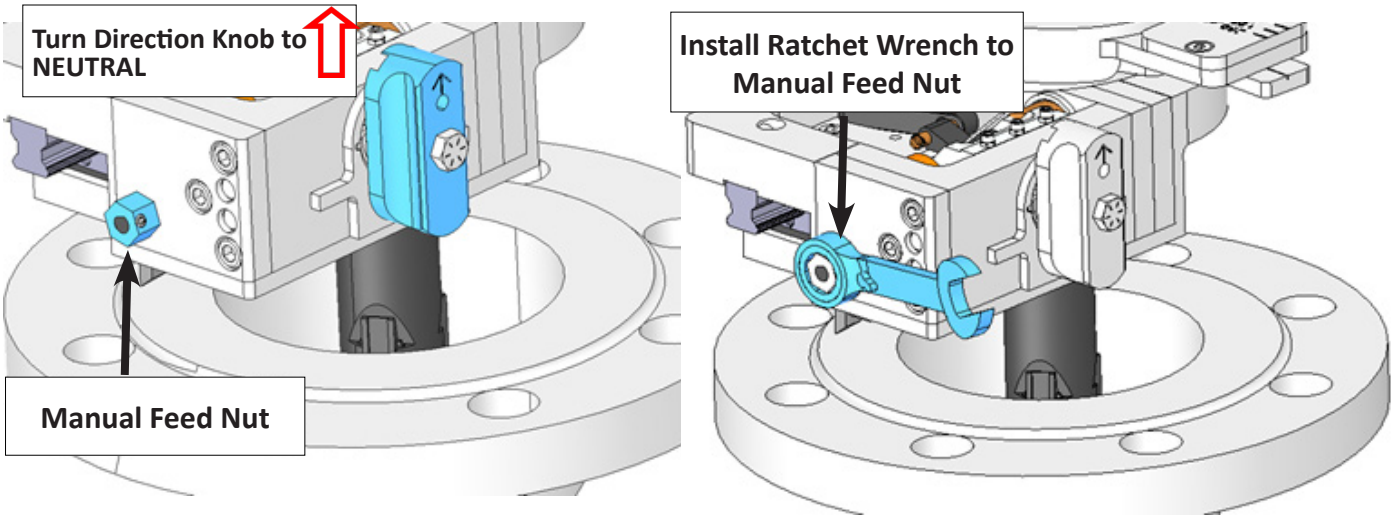


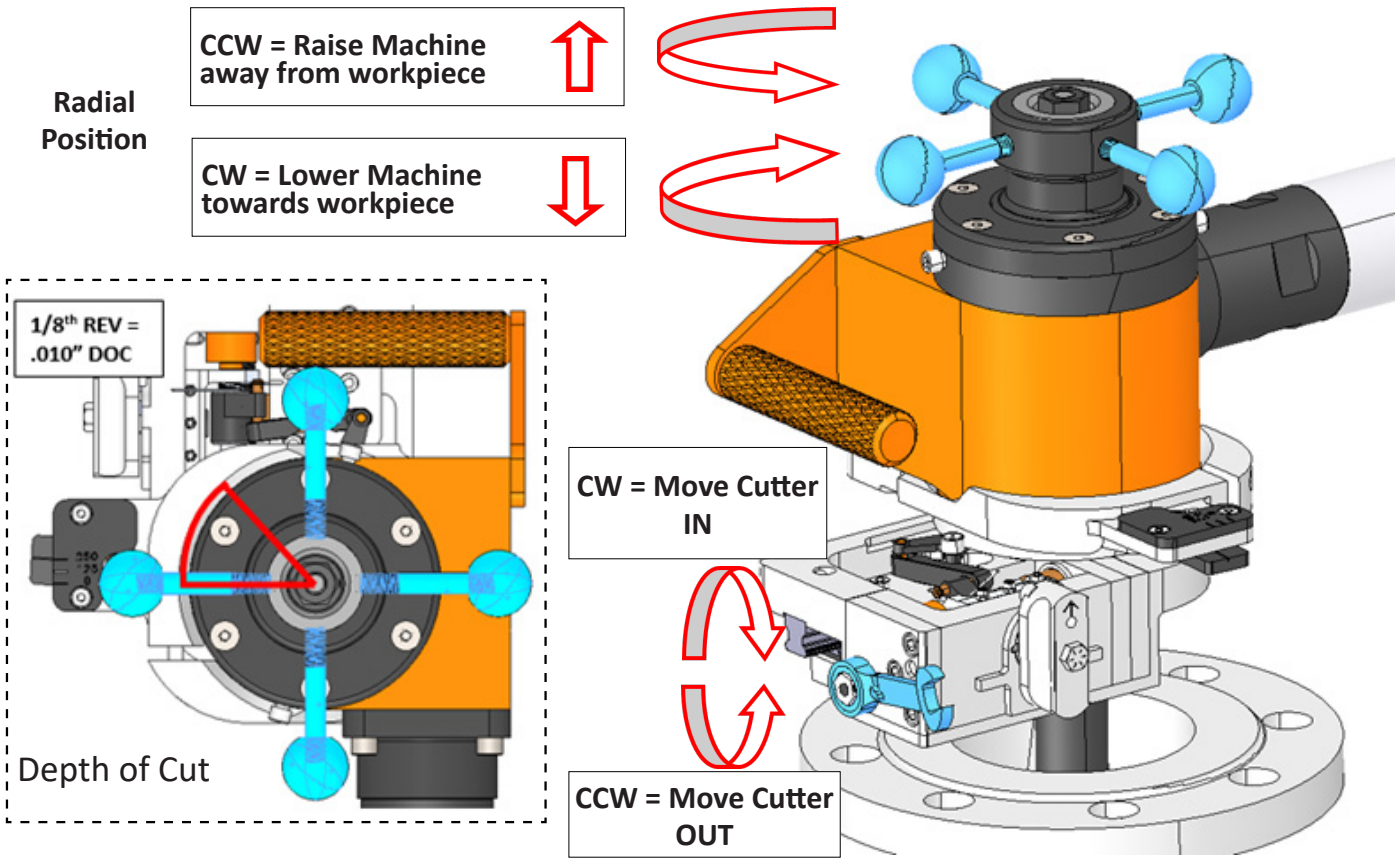


4. Install correct size pad for clamping range (see PBM-4500 document for chart) and tighten the PBM to the pipe as per operating manual.

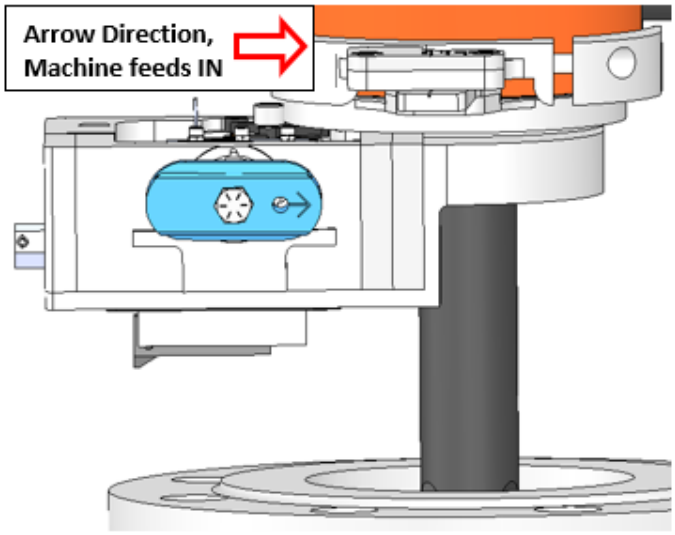
   Once the PBM has been fastened to the pipe/flange, use the following method to position the Flange Facer in order to take the desired cut on the flange:

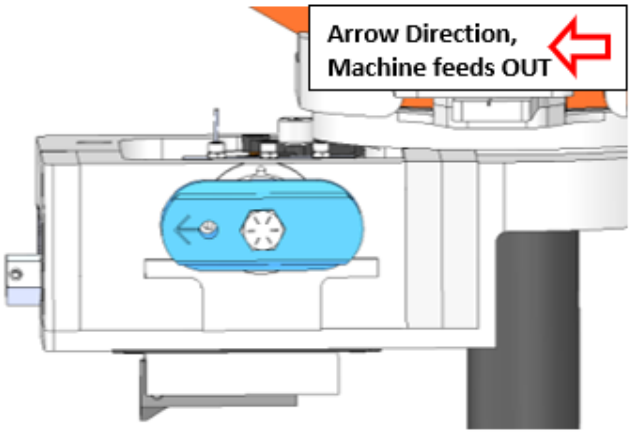
   To position the tool, use the Vertical Feed Knob and the Ratchet Wrench to feed the tool in both axial and radial directions, manually position the cutting tip over the desired area of the flange to be faced:

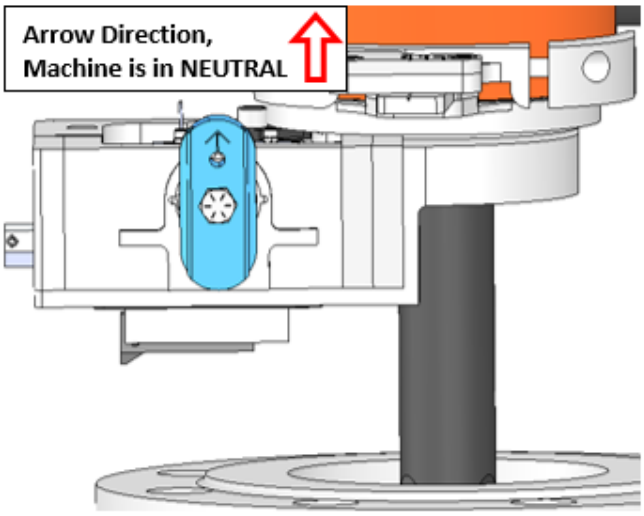




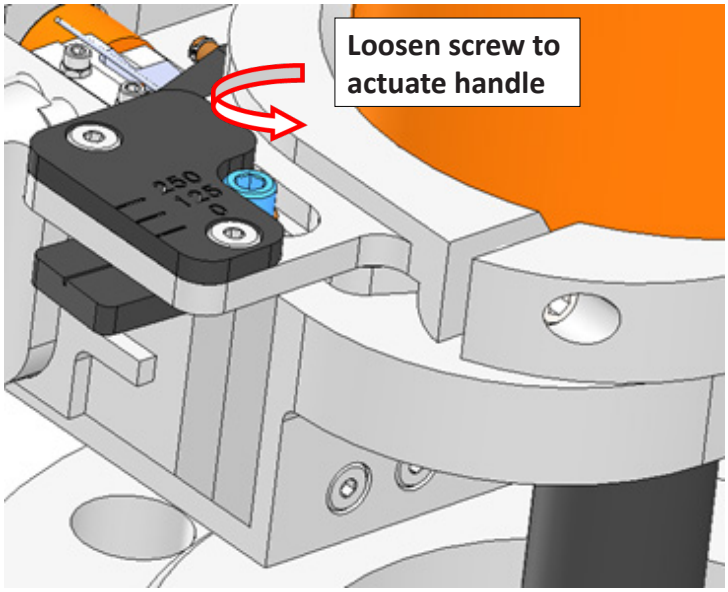
Refer to the below diagrams to determine which Radial Feed Direction the Directional Handle needs to be in order to feed the Flange Facer in the desired cutting direction.

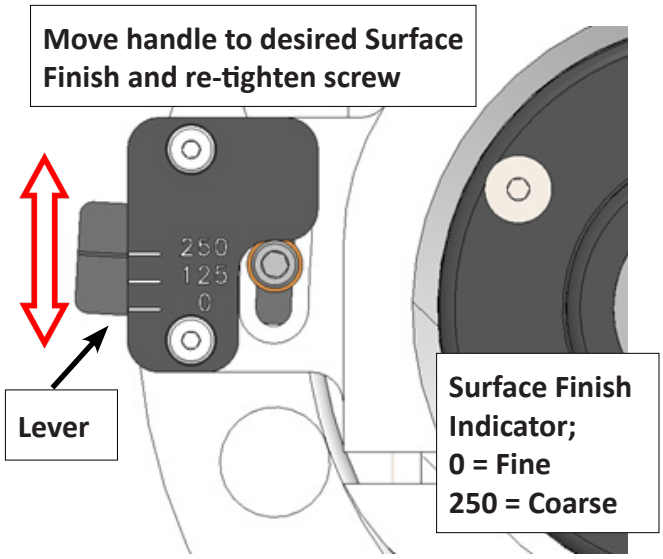






5. Once tool is positioned correctly on work piece, set the desired surface finish by loosening the Lever Screw and setting to desired finish, then tighten screw:





6. Remove all adjustment/install tools from the PBM and Flange Facer, now you are ready to take a cut; connect the air hose wipe to the PBM's air motor, when all tools/obstructions are clear of the PBM unit, depress and hold Air Motor Trigger to feed out flange facer and face desired flange:

NOTE: Never lean on or put pressure on handle; this will cause Inconsistent cutting of the flange

MACHINE OPERATION

INSTALLING FLANGE FACER

The Flange Facer Kit contains following tool bit inserts. These inserts are the following type:

These inserts offer good cutting conditions for most material types expect for hard alloys
DPMT 325 2LF KC5025
Cutting radius is: .032" (1/32")

DPMT 325 1LF KC5025
Cutting radius is: .016" (1/64")

For customer supplied inserts, please use DPMT type; this type will fit in the Tool Bit Holders supplied.

CUTTING CONDITIONS

The following information will give an indication into the machining conditions for a given material:

The below are recommendations only, DOC is also dependent on the Surface Finish selected.

Carbon Steel (A105N) Flange
Stainless Steel (304) Flange
ERNiCu-7 (Monel) Clad A105N Flange:

Depth of cut:
.020" Max
.010" Optimal Cutting DOC
.005" Recommended for Bolt Hole Circle or Interrupted Cutting

VIBRATION REDUCTION TECHNIQUES

If excessive vibration is seen, the following techniques can be used to reduce or eliminate vibration.

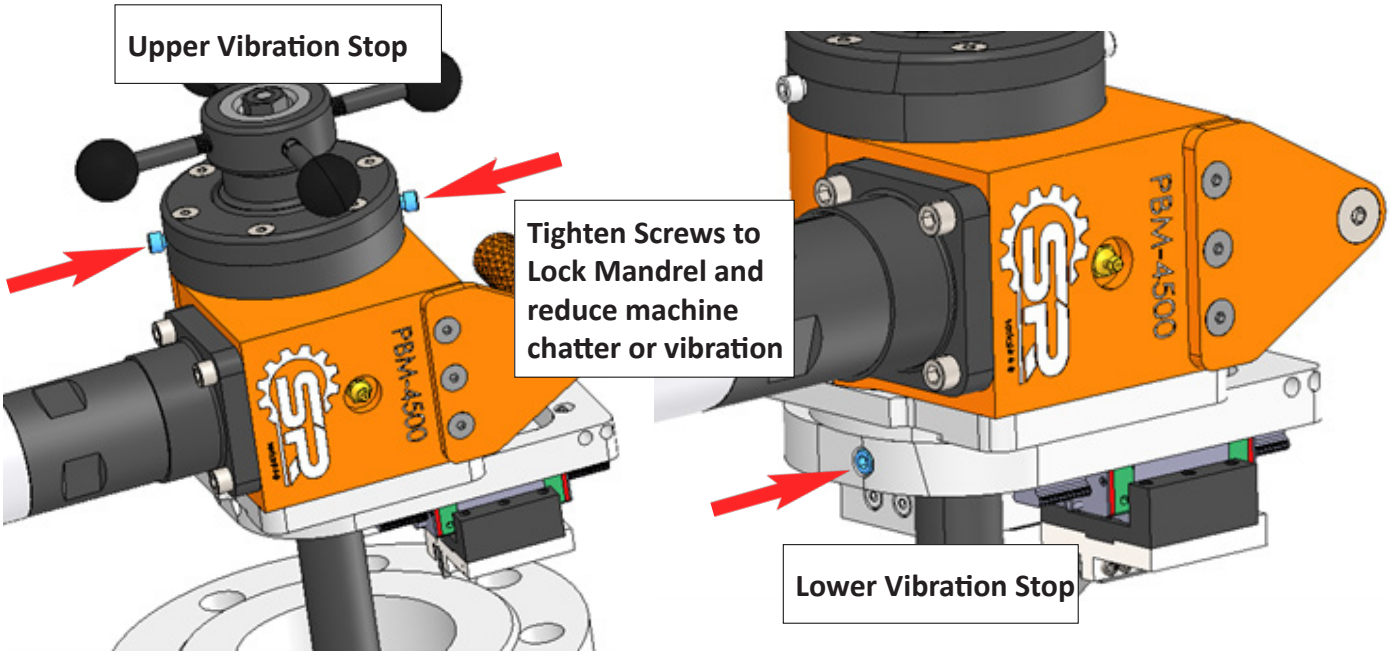
1. Lubrication: Adding of cutting fluid to workpiece can greatly reduce vibrations and improve surface conditions. If cutting fluid such as oil-based coolant is not permitted, misting water on the workpiece will help with vibration reduction.

2. Reducing Depth of Cut: In almost all situation, reducing the depth of cut will reduce vibration that is seen.

Tip for facing: take a heavier 'rough' cut, disregarding surface finish or cutting chatter marks, down close to required depth, then, take a light 'finish' cut to get the desired surface finish and face out any chatter marks.

3. Reducing the Surface Finish: Using a finer (lower) surface finish will reduce the chip load on the tool bit and allow for greater depth of cut without excessive vibration.

4. Locking of the Mandrel Dowel Pin: Once the Flange Facer is set up and operator is ready to take a cut, the Mandrel can be locked out axially by tightening the Upper Vibration Stop Screws and the Lower Vibration Stop Screws to improve rigidity:



NOTE: By tightening the Upper and Lower Vibration Stops the Mandrel will be locked for axial feeding and must be loosened to feed axially.

TROUBLESHOOTING

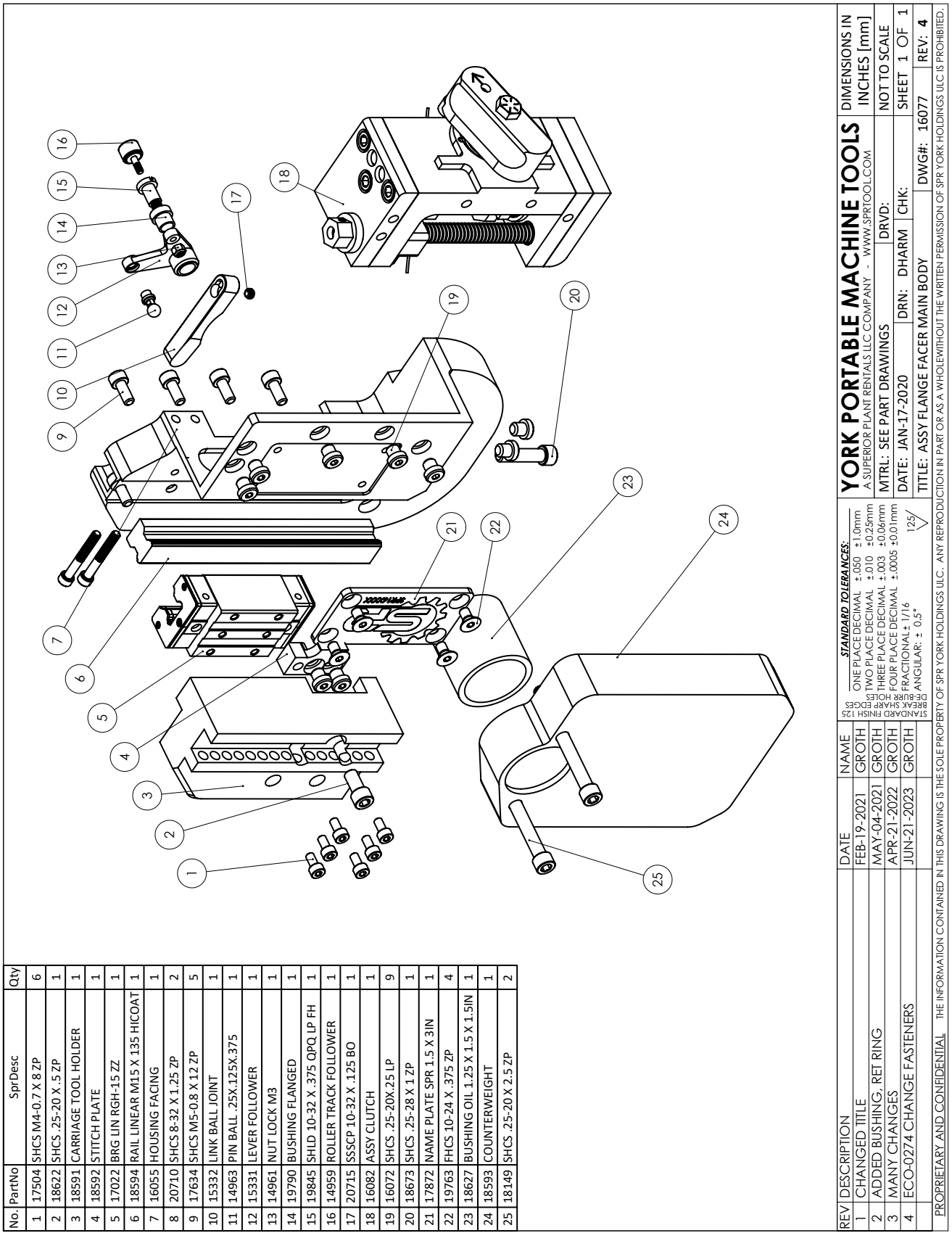
1. Unit will not feed

Possible reasons for unit not feeding: Feed nut is jammed against end stop: When manually feeding the nut back down the screw, do not drive it into the end stop otherwise the pre-loaded nut may not feed. To correct, manually back feed nut off of stop slightly:

2.Unit is feeding/cutting slowly

Possible reasons for slow feed: Depth of cut is too large and the cutter needs to do a clean-up pass before stepping into next cut. To correct, make a lighter depth of cut.

EXPLODED VIEWS



No.	PartNo	SprDesc	Qty
1	17504	SHCS M4-0.7 X 8 ZP	6
2	18622	SHCS .25-20 X .5 ZP	1
3	18591	CARRIAGE TOOL HOLDER	1
4	18592	STITCH PLATE	1
5	17022	BRG LIN RGH-15 ZZ	1
6	18594	RAIL LINEAR M15 X 135 HICOAT	1
7	16055	HOUSING FACING	1
8	20710	SHCS 8-32 X 1.25 ZP	2
9	17634	SHCS M5-0.8 X 12 ZP	5
10	15332	LINK BALL JOINT	1
11	14963	PIN BALL .25X.125X.375	1
12	15331	LEVER FOLLOWER	1
13	14961	NUT LOCK M3	1
14	19790	BUSHING FLANGED	1
15	19845	SHLD 10-32 X .375 QPQ LP FH	1
16	14959	ROLLER TRACK FOLLOWER	1
17	20715	SSSCP 10-32 X .125 BO	1
18	16082	ASSY CLUTCH	1
19	16072	SHCS .25-20X.25 LP	9
20	18673	SHCS .25-28 X 1 ZP	1
21	17872	NAME PLATE SPR 1.5 X 3IN	1
22	19763	FHCS 10-24 X .375 ZP	4
23	18627	BUSHING OIL 1.25 X 1.5 X 1.5IN	1
24	18593	COUNTERWEIGHT	1
25	18149	SHCS .25-20 X 2.5 ZP	2

REV	DESCRIPTION	DATE	NAME
1	CHANGED TITLE	FEB-19-2021	GROTH
2	ADDED BUSHING, RET RING	MAY-04-2021	GROTH
3	MANY CHANGES	APR-21-2022	GROTH
4	ECO-0274 CHANGE FASTENERS	JUN-21-2023	GROTH

STANDARD TOLERANCES:
STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES
ONE PLACE DECIMAL ±.050 ±1.0mm
TWO PLACE DECIMAL ±.010 ±0.25mm
THREE PLACE DECIMAL ±.003 ±0.06mm
FOUR PLACE DECIMAL ±.0005 ±0.01mm
FRACTIONAL± 1/16
ANGULAR: ± 0.5°
125

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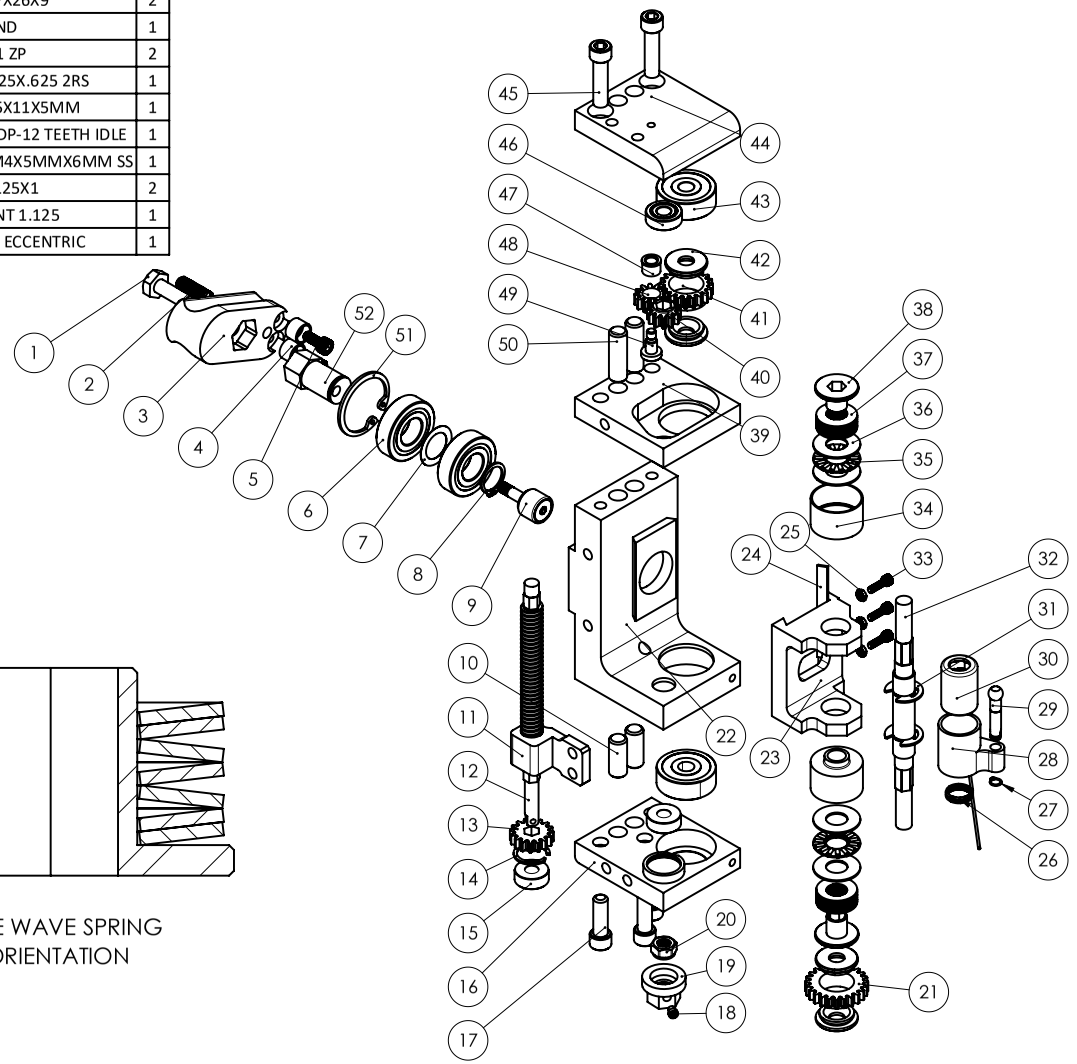
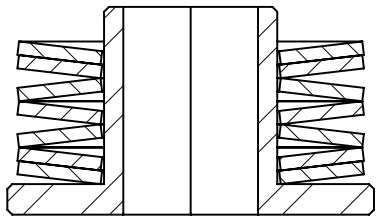
MTRL: SEE PART DRAWINGS | DRVD:
DATE: JAN-17-2020 | DRN: DHARM | CHK:
TITLE: ASSY FLANGE FACER MAIN BODY | DWG#: 16077 | REV: 4

DIMENSIONS IN INCHES [mm]
NOT TO SCALE
SHEET 1 OF 1

No.	PartNo	SprDesc	Qty
1	11319	SCREW HEX .25-20X.75	1
2	18262	SPRING PLUNGER .25-20X.75 LN	1
3	16057	HANDLE CLUTCH	1
4	16157	POST SUPPORT .375	2
5	20716	SHCS 8-32 X .375 ZP	2
6	16153	BEARING DEP .5X1.125X.3125	2
7	16156	WASHER SHIM .5X.75X.005IN	1
8	11186	RING RETAIN EXT .5IN	1
9	16154	BRG TRK ROLL .5IN	1
10	16161	PIN DOWEL .3125X.75	2
11	15361	NUT FEED .375-8 ACME	1
12	16066	LEADSCREW .375-8	1
13	15341	GEAR SPUR 24DP-16 TEETH	1
14	17839	RETRING INT 15MM SPIRAL	1
15	17650	BEARING ANG DBL 6X15X10.5 ZZ	2
16	16058	CAP CLUTCH TOP	1
17	18664	SHCS .25-20 X .75 ZP	3
18	17843	SSSEP 8-32 X .188 BO	2
19	18352	NUT DRIVE	1
20	17844	NUT HEX M6-1 LOC THIN	1
21	15339	GEAR SPUR 24DP-24 TEETH	1
22	15337	BRACKET MAIN CLUTCH	1
23	15336	BRACKET SLIDE CLUTCH	1
24	15823	PLATE GIB	1
25	17845	NUT HEX 4-40 SS THIN	3
26	16162	SPRING TORSION 10MM ID	1
27	12282	RING RETAIN .188	1
28	15330	LEVER DRIVE SHAFT ONE-WAY	1
29	15333	PIN BALL ONE-WAY	1
30	14978	BRG NDL-ONE .375X.625X.875IN	1
31	14230	RING RETAIN EXT .375IN	2
32	15334	SHAFT DRIVE TRANSFER .375	1
33	20717	SHCS 4-40 X .375 ZP	3
34	16063	SPACER CLUTCH	2
35	50011	BRG THR .375X.813X.078IN	2
36	50012	WASHER THR .375X.813X.031IN	4
37	16163	WASHER BELLEVILLE 9.2X18X1.2	14
38	16064	BUSHING CLUTCH THREADED	2
39	16059	CAP CLUTCH BOTTOM	1
40	15342	GEAR SPUR 24DP-12 TEETH	1
41	15340	GEAR SPUR 24DP-20 TEETH	1
42	14829	PLATE WEAR	4
43	16151	BEARING DEP 7X26X9	2
44	16060	CAP CLUTCH END	1
45	18679	SHCS .25-20 X 1 ZP	2
46	17846	BEARING DEP .25X.625 2RS	1
47	17841	BUSHING FLG 5X11X5MM	1
48	17670	GEAR SPUR 24DP-12 TEETH IDLE	1
49	17842	SCREW SHLD M4X5MMX6MM SS	1
50	16160	PIN DOWEL .3125X1	2
51	16155	RING RETAIN INT 1.125	1
52	15335	SHAFT ROTATE ECCENTRIC	1





NOTE WAVE SPRING ORIENTATION

REV	DESCRIPTION	DATE	NAME
1	ADDED MISSING CAP SCREW, REARRANGED	MAY-04-2021	GROTH
2	CHANGE HEX DRIVE, ADD NUT	APR-21-2022	GROTH
3	ECO-0274 CHANGE FASTENERS	JUN-21-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

125

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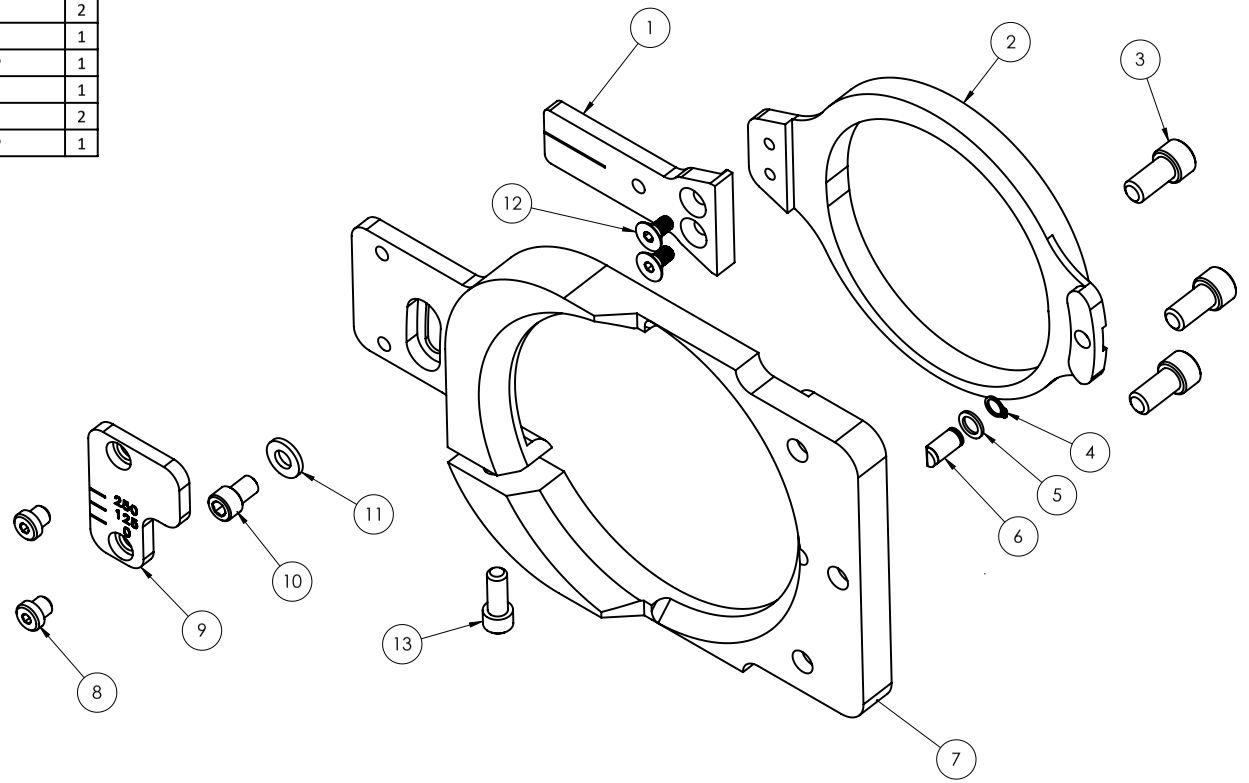
DIMENSIONS IN INCHES [mm]

MTRL: SEE PARTS		DRVD:	NOT TO SCALE
DATE: JAN-15-2021	DRN: DHARM	CHK:	SHEET 1 OF 1
TITLE: ASSY CLUTCH		DWG#: 16082	REV: 3

No	PartNo	SprDesc	Qty
1	16097	HANDLE CAM	1
2	16096	RING CAM	1
3	18750	SHCS .313-18 X .625 ZP	3
4	13152	RET-RING EXT .25 X .025IN BO	1
5	13145	WASHER NYL .25X.38X.03 BK	1
6	16202	PIN .25 HINGE	1
7	16095	LEVER MOUNT	1
8	16072	SHCS .25-20X.25 LP	2
9	17104	PLATE RMS	1
10	19764	SHCS .25-20 X .375 ZP	1
11	17881	WASHER FLT .25 MS	1
12	20718	FHCS 10-32 X .375 ZP	2
13	19826	SHCS .25-20 X .625 ZP	1



REV	DESCRIPTION	DATE	NAME
1	ECO-0274 CHANGE FASTENERS	JUN-21-2023	GROTH

STANDARD FINISH 125
BREAK SHARP EDGES
DE-BURR HOLES

STANDARD TOLERANCES:

ONE PLACE DECIMAL	±.050	±1.0mm
TWO PLACE DECIMAL	±.010	±0.25mm
THREE PLACE DECIMAL	±.003	±0.06mm
FOUR PLACE DECIMAL	±.0005	±0.01mm
FRACTIONAL	± 1/16	
ANGULAR:	± 0.5°	

125

YORK PORTABLE MACHINE TOOLS
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DIMENSIONS IN INCHES [mm]

MTRL: SEE PARTS		DRVD:	NOT TO SCALE
DATE: FEB-11-2021	DRN: DHARM	CHK:	SHEET 1 OF 1
TITLE: ASSY ACTUATOR CAM		DWG#: 16084	REV: 1

MAINTENANCE

GENERAL MACHINE MAINTENANCE
During heavy operation, use a brush regularly to clean chips away from the machine and clamping mandrel assembly between each use. This is especially important around the mandrel feed nut and threads. Thoroughly clean the machine after use. Dirt and grit can severely shorten the life of the machine.

THREAD INSPECTION
Inspect all visible thread areas for excessive wear. Parts that have worn threads should be replaced before damage to the mating thread assemblies occurs.

PROPER HANDLING
Do not drop, hit, or otherwise abuse your pipe beveling machine or flange facer. This equipment is designed as a portable machining assembly, and as such, is not designed to withstand excessive abuse. Care for your equipment will increase your utilization, the life of the machine, and minimize your repair cost.

TOOL BITS
Remember that tool bits (cutting tools) in good condition perform better. Do not try to use dull tool bits or force the tool bits into the work piece. If excessive back pressure exists, if the tool bits seem to be tearing rather than cutting, or if the chips begin to turn blue or brown, replace your cutting tool bits right away. When possible, leave unused tool bits in their packages to prevent them from being damaged. Please store tool bits that have been taken from their original package in a safe place.

WARRANTY

Superior Plant Rentals, LLC (SPR) warrants that the equipment manufactured by it will: (i) conform to SPR's written specifications and descriptions, and (ii) be free from substantial defects in design, materials, and workmanship for a period of one year from date of shipment to the original buyer, or six months from date of placing in service by buyer, whichever date is earlier.

During this period, if any equipment is proved to SPR's satisfaction to be defective, SPR will, at our sole and absolute discretion, and as SPR's sole warranty liability and buyer's sole remedy, repair, replace, or credit buyer's account for any equipment that fails to conform to the warranties, provided that: (i) SPR is notified in writing within 10 days following discovery of such failure with a detailed explanation of any alleged deficiencies; (ii) SPR is given a reasonable opportunity to investigate all claims; and (iii) SPR's examination of such equipment confirms the alleged deficiencies and that the deficiencies were not caused by accident, misuse, neglect, improper use, unauthorized alteration, repair, or improper testing.

Shipping cost of the alleged defective equipment to SPR is to buyer's account. However, if SPR agrees that the equipment is defective, then pursuant to this warranty, SPR will reimburse buyer its shipping cost to return the equipment to SPR.

The warranty against defects does not apply to: (1) consumable components or ordinary wear items, and (2) use of the equipment with equipment, components, or parts not specified or supplied by SPR or contemplated under the equipment documentation.

The following actions will void the one-year warranty:

1. Repairs or attempted repairs have been made by persons other than SPR personnel, or authorized service repair personnel;

2. Repairs are required because of normal wear;

3. The tool has been abused or involved in an accident;

4. There is evidence is misuse, such as overloading of the tool beyond its rated capacity, use after partial failure, or use with improper accessories.

5. Damage to the motor due to lack of oiler/mister while tool was in use (pending motor type).

NO OTHER WARRANTY IS VALID

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Edmonton, AB | Gonzales, LA | Houston, TX | Moss Point, MS
Rancho Dominguez, CA | Rock Hill, SC | Webster, TX