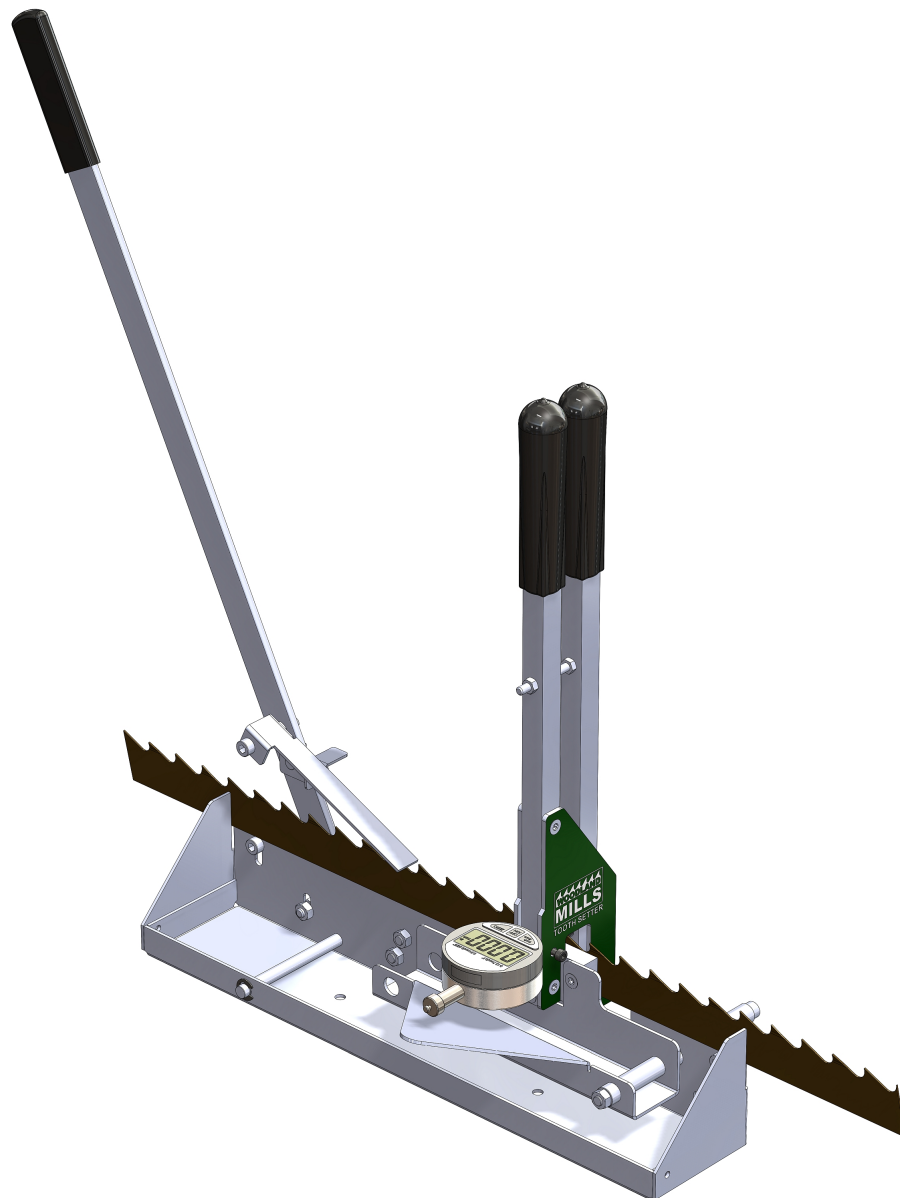


BANDSAW BLADE TOOTH SETTER



OPERATOR'S MANUAL

0002130-M-EN: Rev B
Publication Date: 10-Jun-2022



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INTRODUCTION

Congratulations on your purchase and welcome to Woodland Mills! This manual gives you the necessary information about your Sawmill Blade Tooth Setter so you will be able to use it properly. The entire manual must be read and understood before using the setter. If any questions should arise that are not covered by this manual, please contact Woodland Mills, Inc.

OWNER'S RECORD

Please take a moment to record the following information about your Sawmill Blade Tooth Setter. If you need to call for assistance, please be ready to provide your production date. This information will allow us to help you more quickly when you call.

MODEL/ARTICLE NUMBER

DATE PRODUCED

DATE OF PURCHASE

The Sawmill Blade Tooth Setter is designed for certain applications only. We strongly recommend the setter not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the setter until you have first contacted Woodland Mills to determine if it can, or should, be performed using the product.

For technical questions and replacement parts, please contact Woodland Mills, Inc.



TECHNICAL SPECIFICATIONS

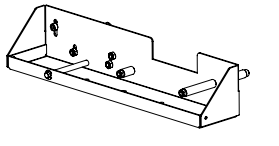
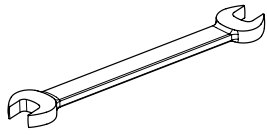
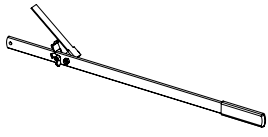

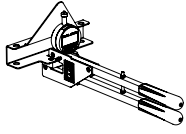


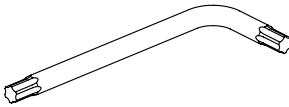
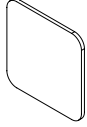
The tooth setter comes mostly preassembled in a single box. It is designed to work with blades of varying pitches, widths, and thicknesses. See the table below for blade compatibility.

Item	Tooth Setter Capability
Blade Pitch Range	3/4 thru 1 in [19 thru 25.4 mm]
Blade Width Range	1 thru 1-3/4 in [25.4 thru 44.5 mm]
Blade Thickness Range	.035 thru .055 in [0.9 thru 1.4 mm]
Shipping Weight	11.8 lb [5.4 kg]



COMPONENT LISTS



Verify all component and hardware quantities are correct prior to assembling the setter.

1x	Setter Base Assembly		1x	8/10 mm Open End Wrench [0002992]	
1x	Advancement Arm Assembly		1x	3 mm Hex Key [0002994]	
1x	Setter Head Assembly		1x	5 mm Hex Key [0002993]	
1x	Battery [LR44]		1x	T25 Torx Key [0002995]	
1x	Calibration Plate [0003578]				

TO-SCALE HARDWARE

NUTS

Hardware graphics are printed at 1:1 scale for ease of identification. Simply place the hardware over the image in the tables to verify it is the correct size.

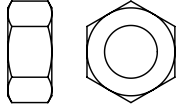
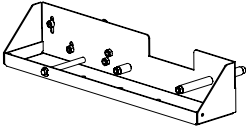
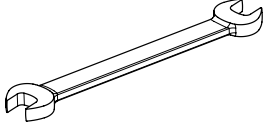
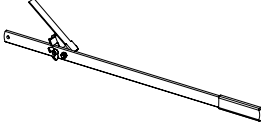
1x	HXN-MBECH M6 X 1 HEX NUT
 	



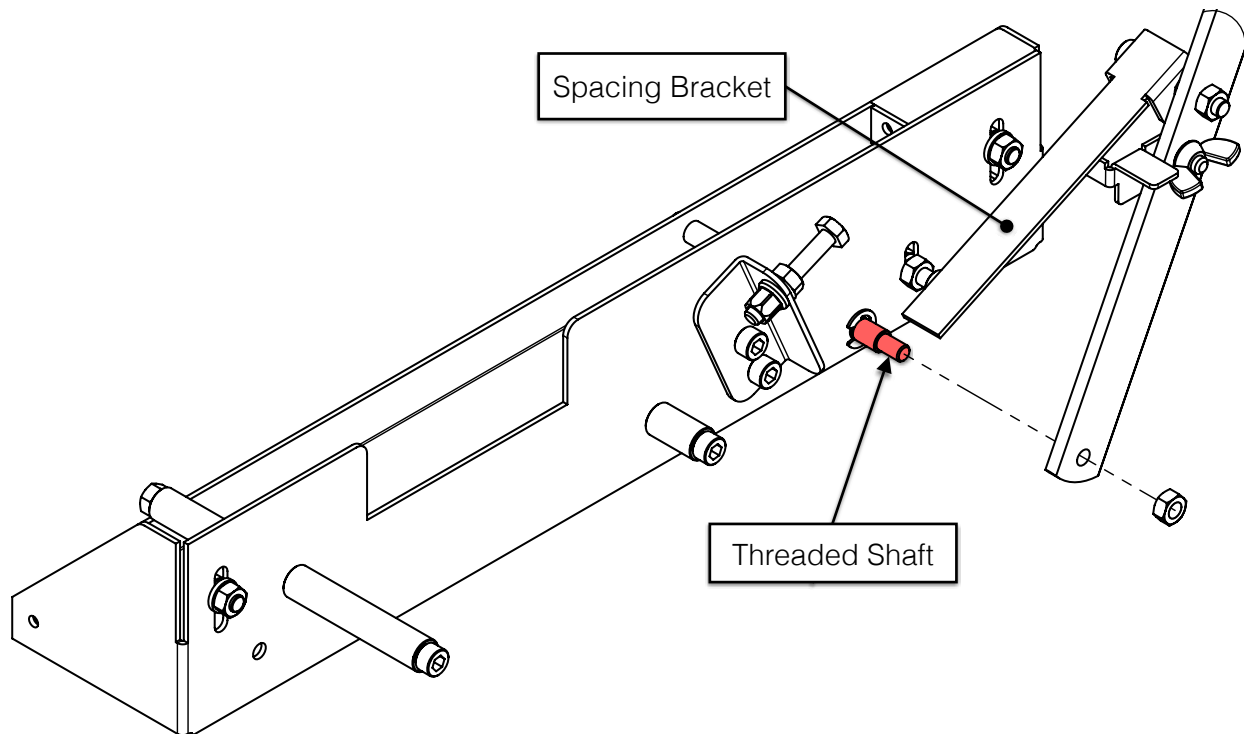
ASSEMBLY

1. BASE

Assemble the advancement arm sub-assembly to the threaded shaft at the rear of the setter base using the hardware listed in the table below.

1x	M6 Hex Nut		1x	Setter Base Assembly	
1x	8/10 mm Open-End Wrench		1x	Advancement Arm Assembly	


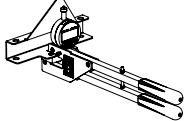
Using the provided open-end wrench, assemble the advancement arm assembly to the threaded shaft at the rear of the base using one (1) M6 hex nut. Note the orientation of the spacing bracket that comes pre-assembled to the advancement arm.



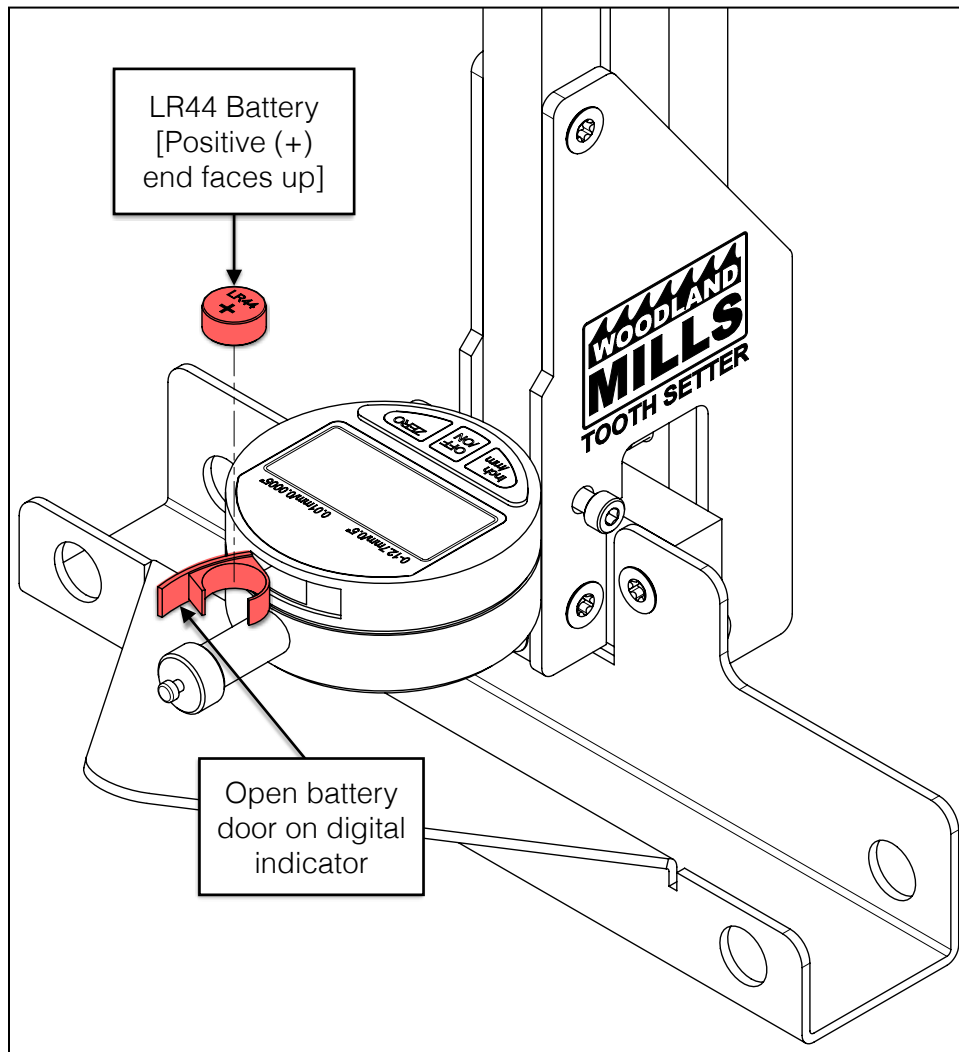


2. HEAD

The setter may ship with the digital indicator battery separate from the assembly. If this is the case, assemble the components as shown below. Otherwise, proceed to the **next section**.

1x	LR44 Button Battery		1x	Setter Head Assembly	
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Pry open the battery door on the digital indicator and insert the LR44 button battery into the ring. Ensure the end marked positive (+) is facing up. Close the battery door by pushing it in until it clicks.

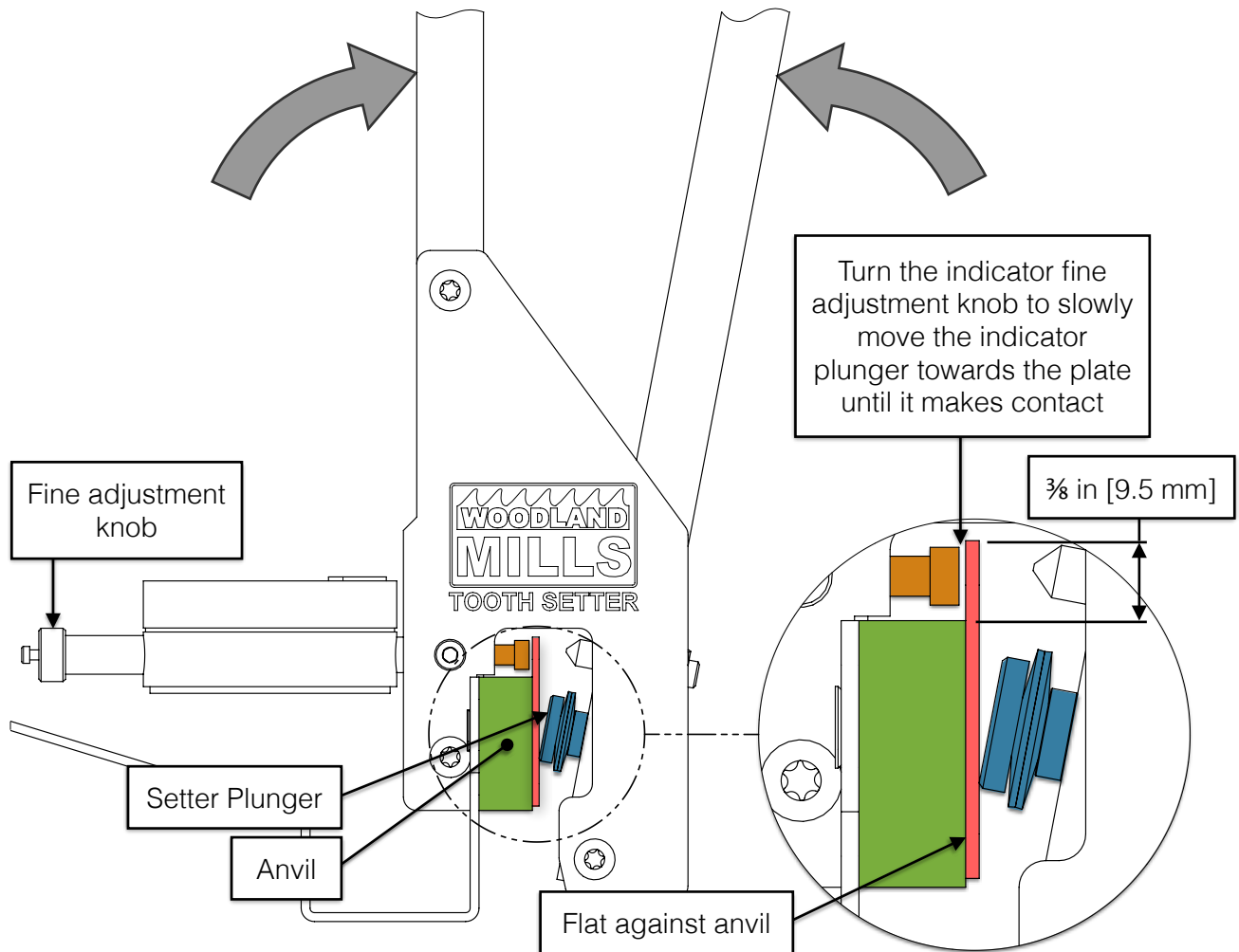




3. ZEROING THE DIGITAL INDICATOR

1x	Calibration Plate	
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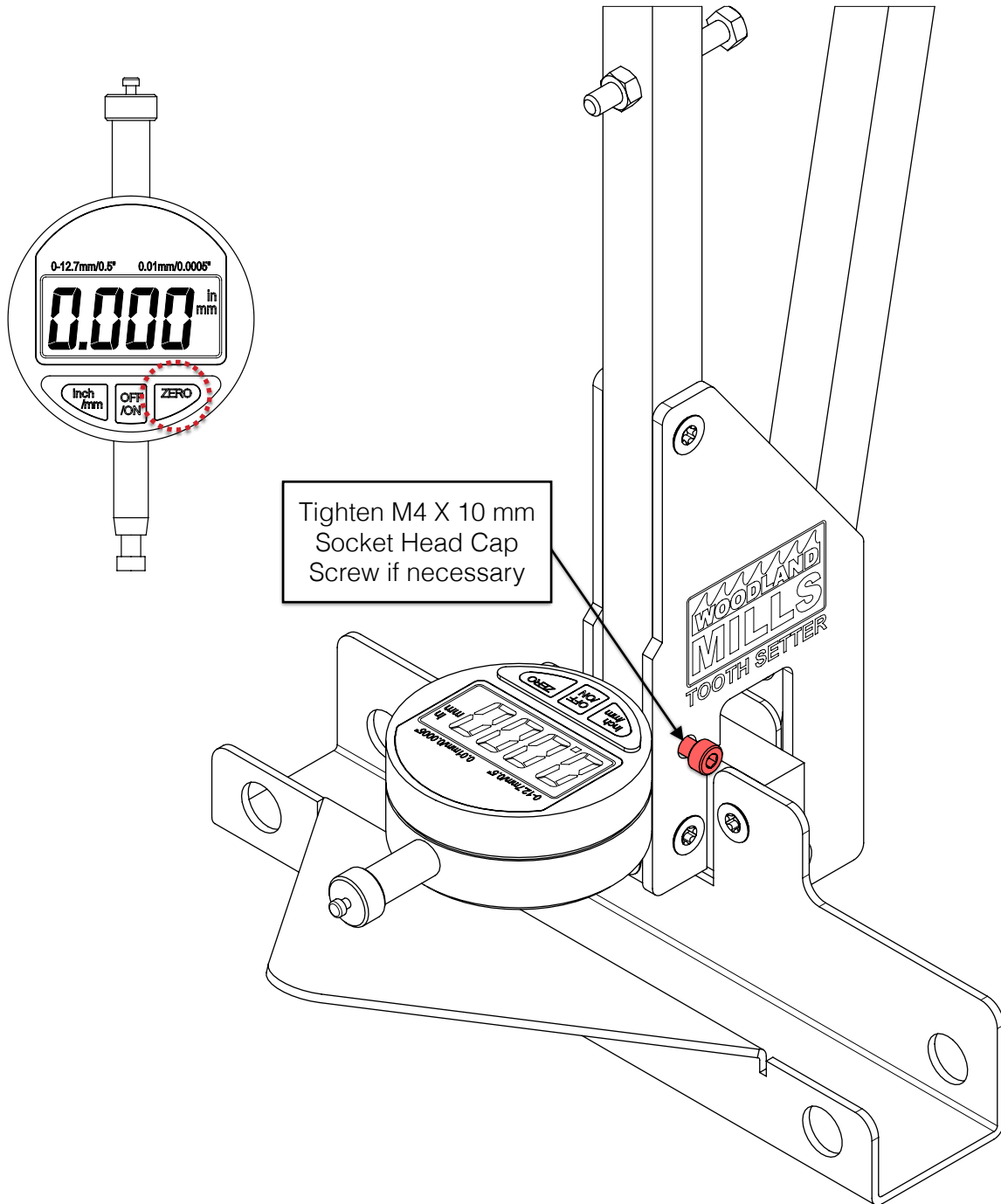
Place the calibration plate (highlighted red below) between the backing plate/anvil (green) and the setter plunger (blue). The calibration plate should protrude past the top of the anvil by approximately $\frac{3}{8}$ in [9.5 mm] to create a contact face for the digital indicator's plunger (orange).



Squeeze the setter handles together with light pressure, just enough to push the calibration plate flat against the anvil.



Press the "Zero" button to zero the indicator.



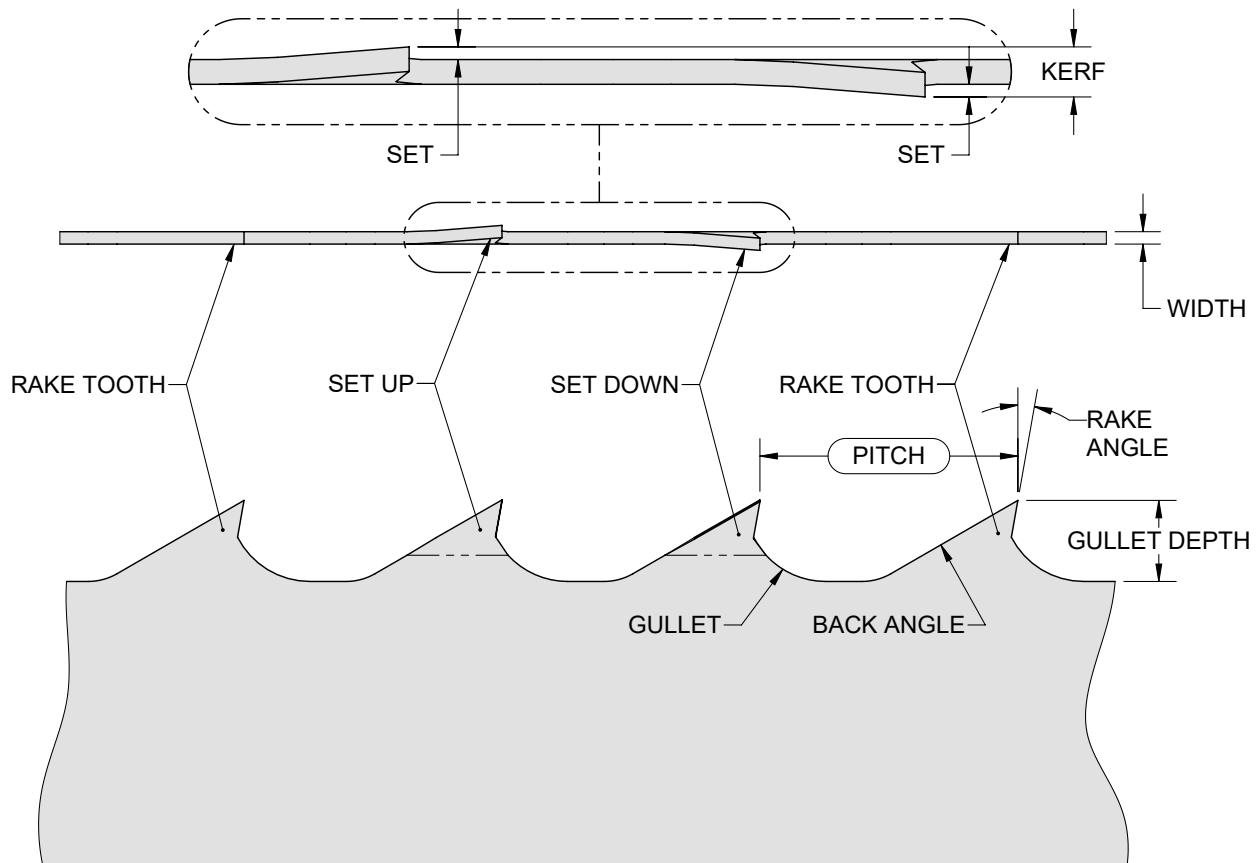
Fully tighten the M4 X 10 mm socket head cap screw using the provided M3 hex key if necessary.



SAW BLADE GEOMETRY

Saw blade tooth geometry follows a particular “set” pattern where one tooth is straight (rake tooth), the next is set up, the next is set down, and then a straight rake tooth again. This 4-tooth pattern repeats throughout the entire length of the saw blade.

The example below is illustrative of a typical *Woodland Mills* saw blade.



Pitch: The distance between the tips of two adjacent teeth.

TPI: The number of **T**eeth **P**er **I**nch on a blade, commonly referred to as **Pitch**. See definition above.

Gullet: The valley between the points of two adjacent teeth.

Gullet Depth: The distance measured from the gullet's lowest point to the tooth tip.

Rake Angle: Also called **Rake** or **Hook Angle**, is the angle of the front face of the tooth perpendicular to the length of the blade.

Back Angle: Also called **Relief Angle**, is the angle down the back side of the tooth.

Rake Tooth: A straight tooth with no set.

Width: The thickness of the blade material without regard to set.

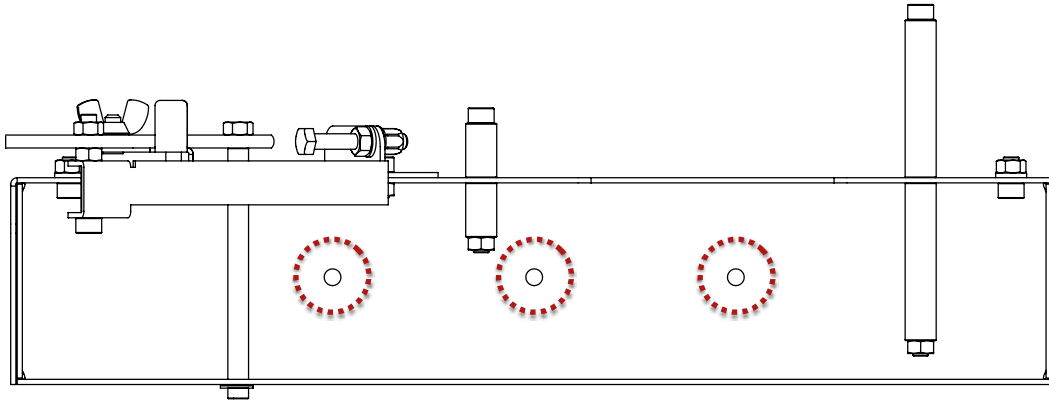
Set: The degree to which the teeth are bent up or down away from the blade.

Kerf: The narrow channel in the wood left behind by the saw, roughly equating to the distance measured across two opposing set teeth.

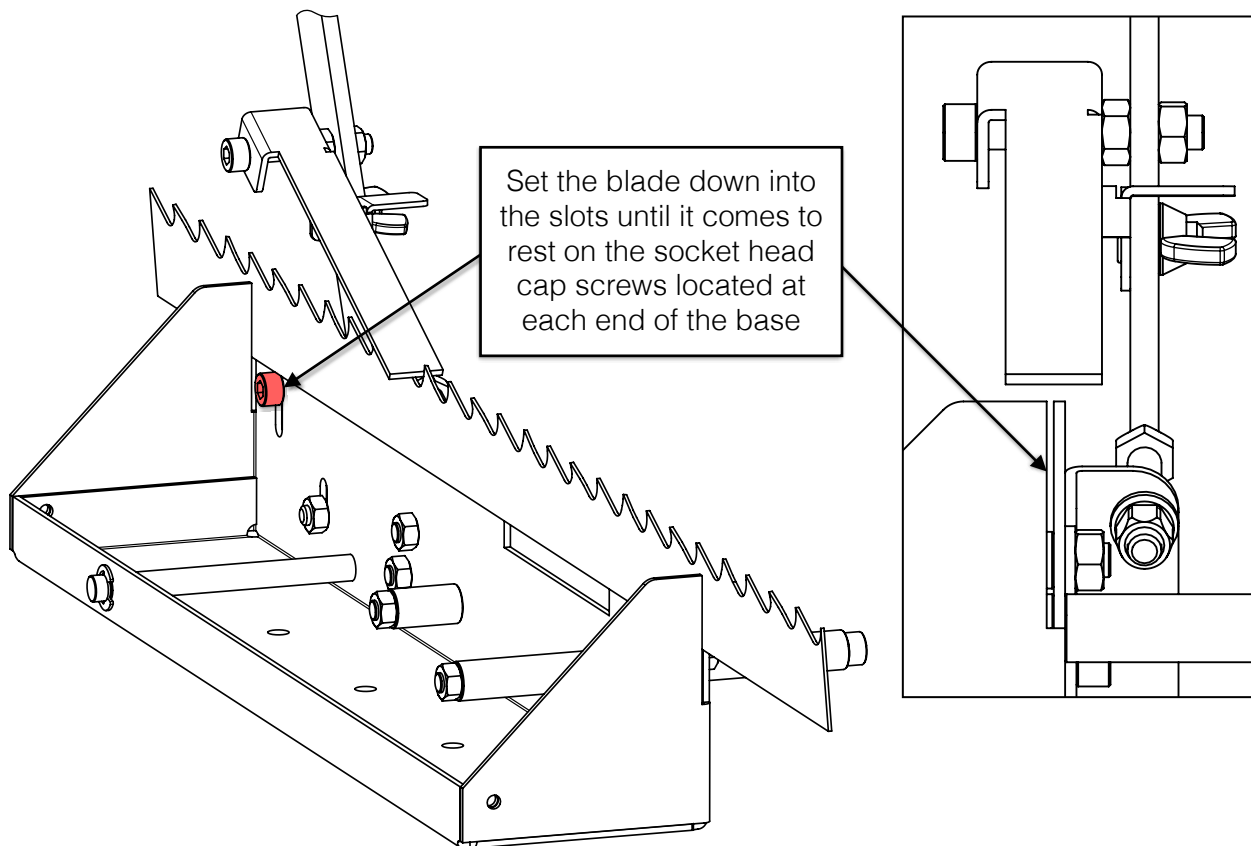


OPERATION BLADE SETUP

Secure the base to a rigid work surface using the three (3) holes in the bottom of the base.

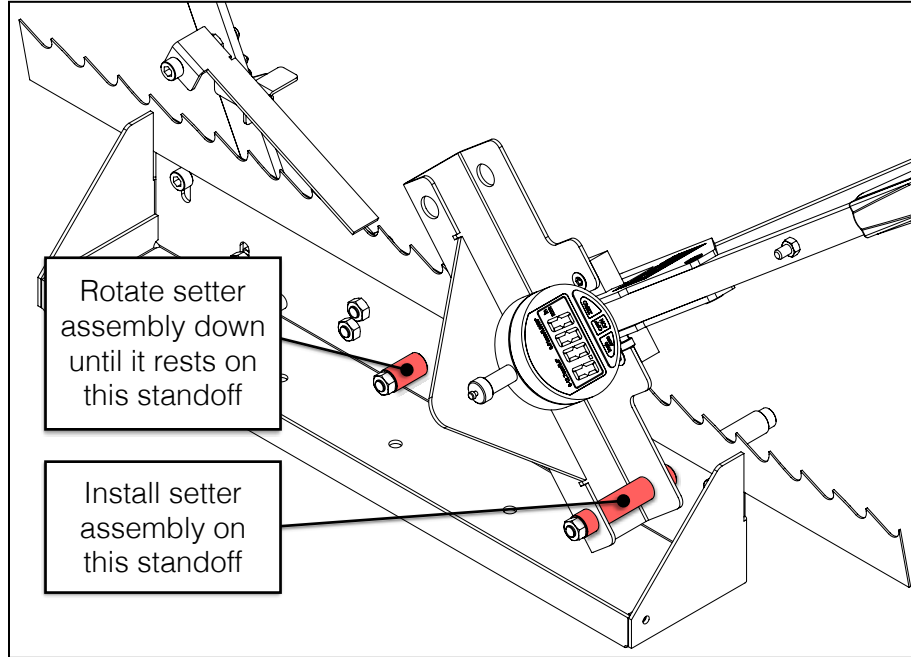


Insert the blade into the slots located at each end of the base as shown.

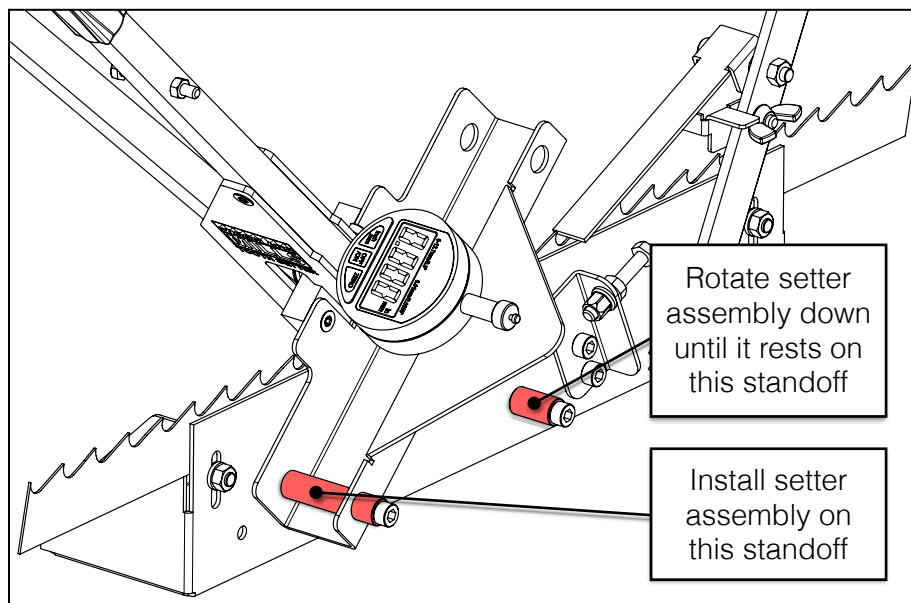


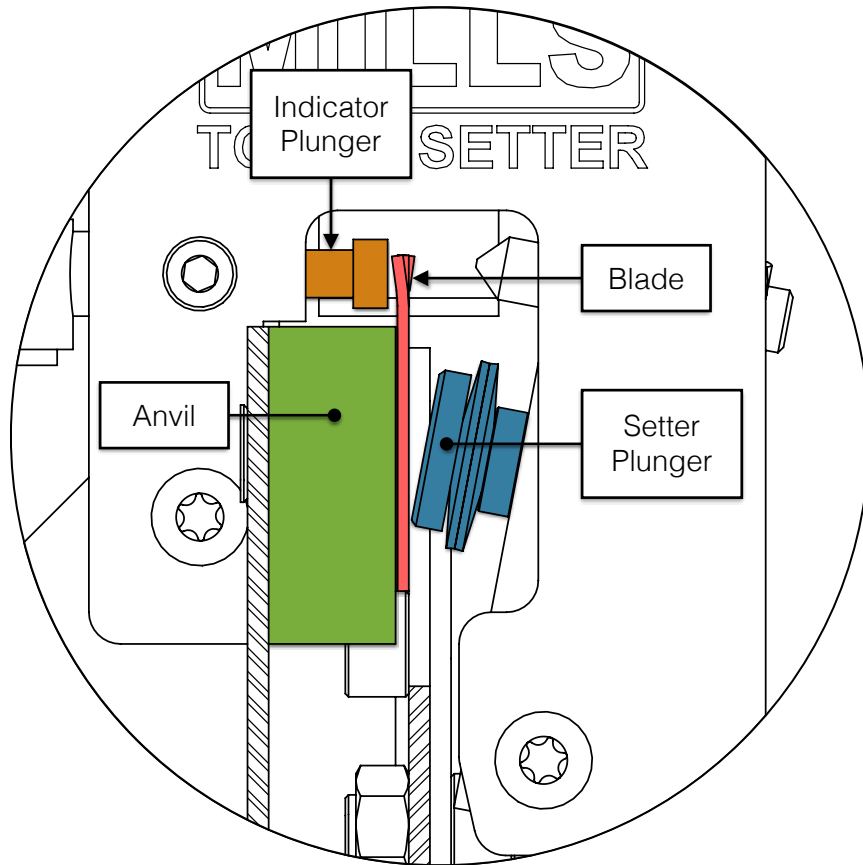


To set the teeth that point towards the inside of the saw blade band, install the setter as shown below. Rotate the setter at an angle to fit it over the back of the blade. This helps position the blade between the backing plate/anvil and plunger on the setter (see detail on next page).

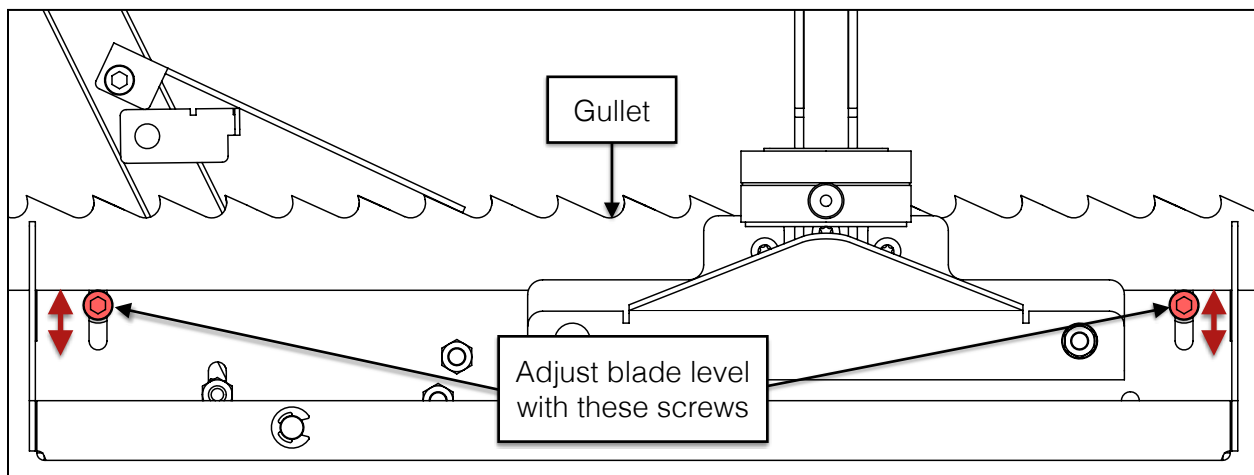


To set the teeth that point in the opposite direction (towards the outside of the blade band), reverse the installation of the setter by mounting it to the rear of the base as shown below.





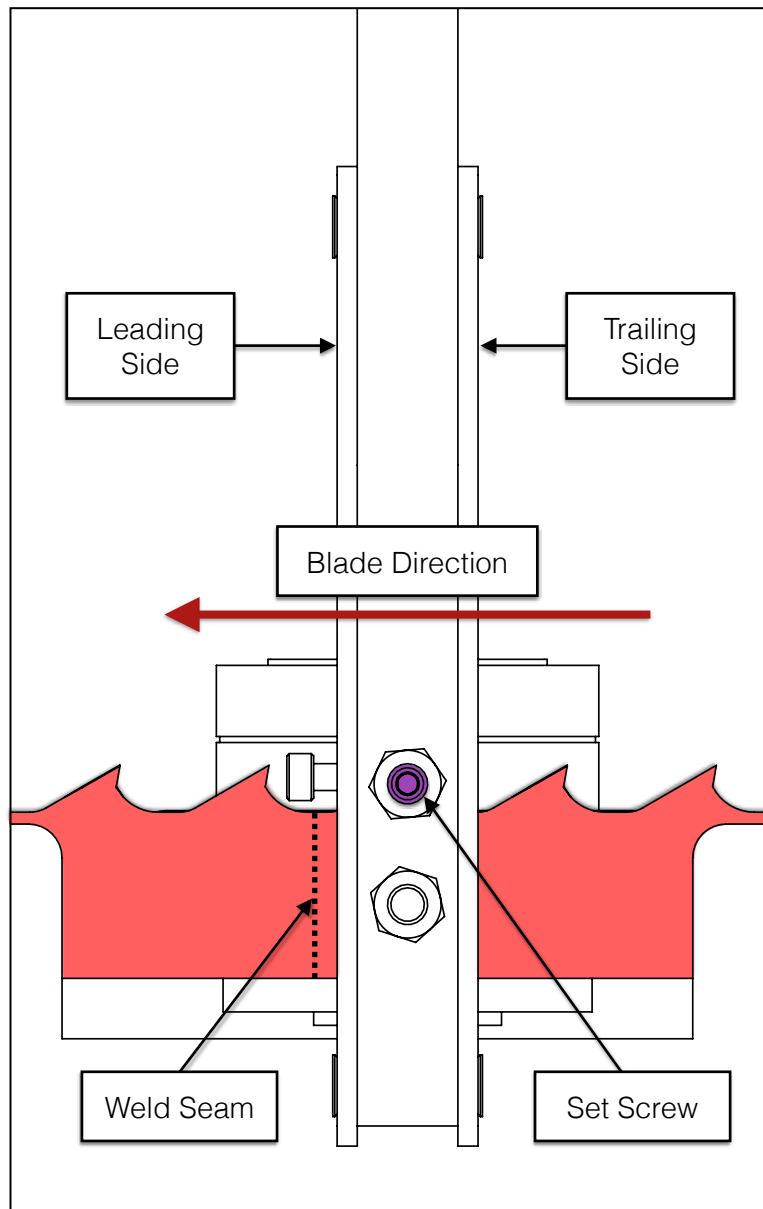
The tooth to be offset must always point toward the indicator plunger. When a tooth is offset over the anvil, the bend starts at the *gullet*. Adjust the two (2) screws shown below to ensure the blade is sitting level and that the tooth will bend over the anvil at the gullet line.



BLADE WELD SEAM

Position the blade weld seam so that it is on the leading side of the setter head relative to the direction of the blade.

The tooth spacing at the weld can vary slightly from the rest of the blade due to the welding tolerance. Isolating the weld allows the last tooth to be manually set at the end.



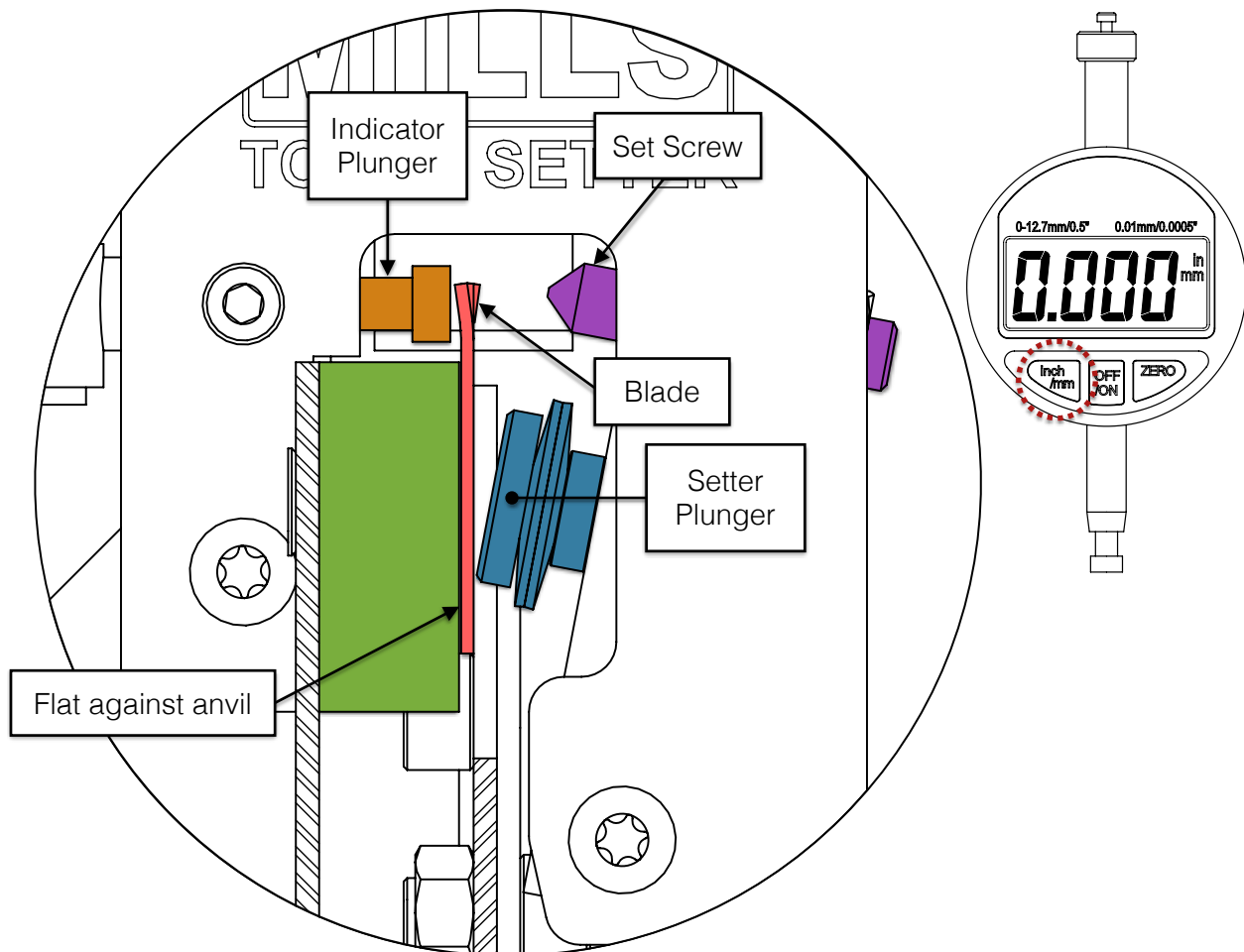
****Always start the setting process with the weld seam on the leading side of the setter head, just past the set screw and indicator plunger.****



READING TOOTH OFFSET

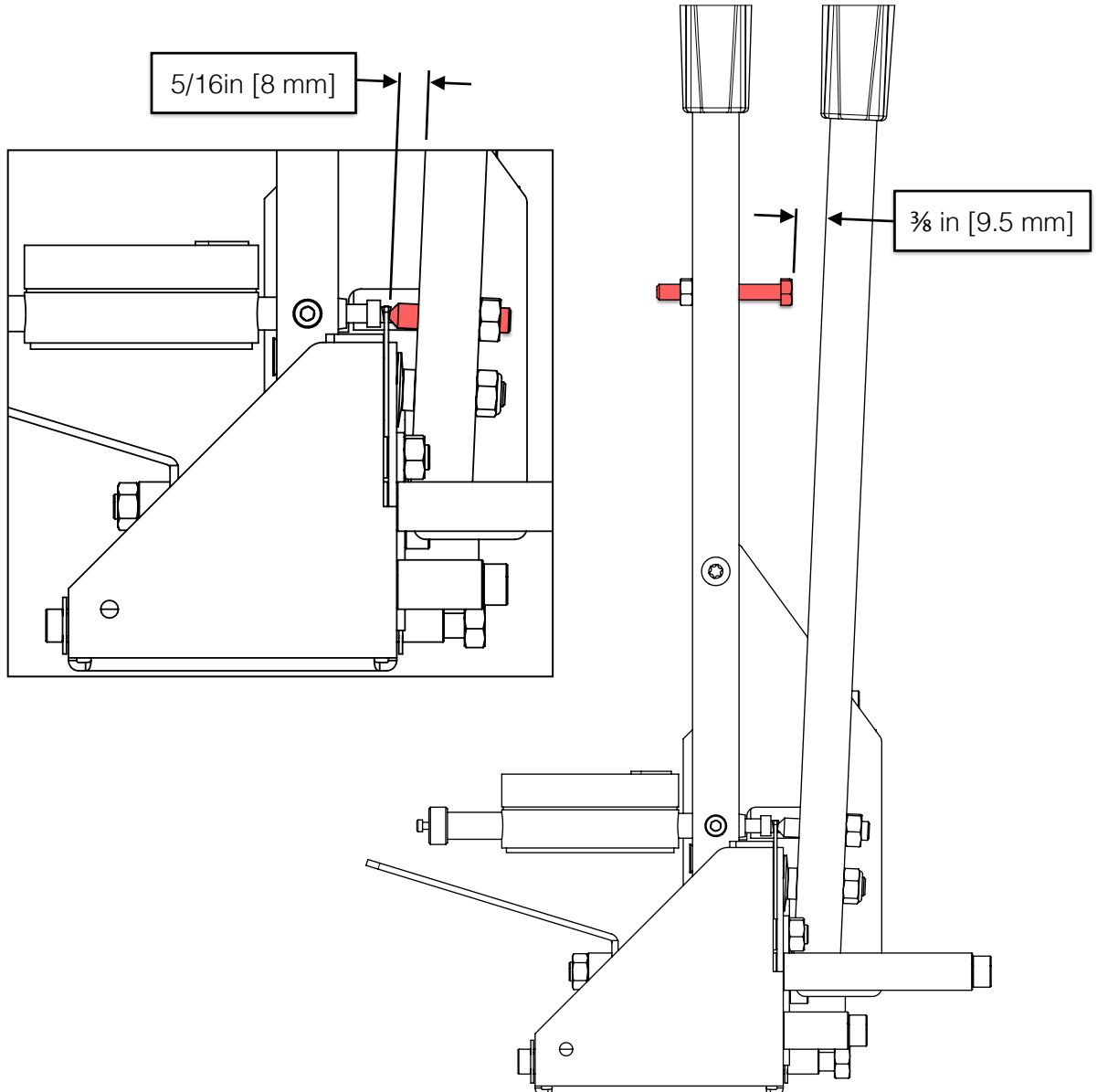
The true tooth offset reading is obtained without the set screw touching the blade tooth. Squeeze the handles using light pressure so that the setter plunger pushes the blade flat against the backing plate/anvil without the set screw touching the blade tooth. Observe the reading on the indicator.

Note that the digital readout can be changed from Metric (mm) to Imperial (in) units using the "inch/mm" button on the indicator.

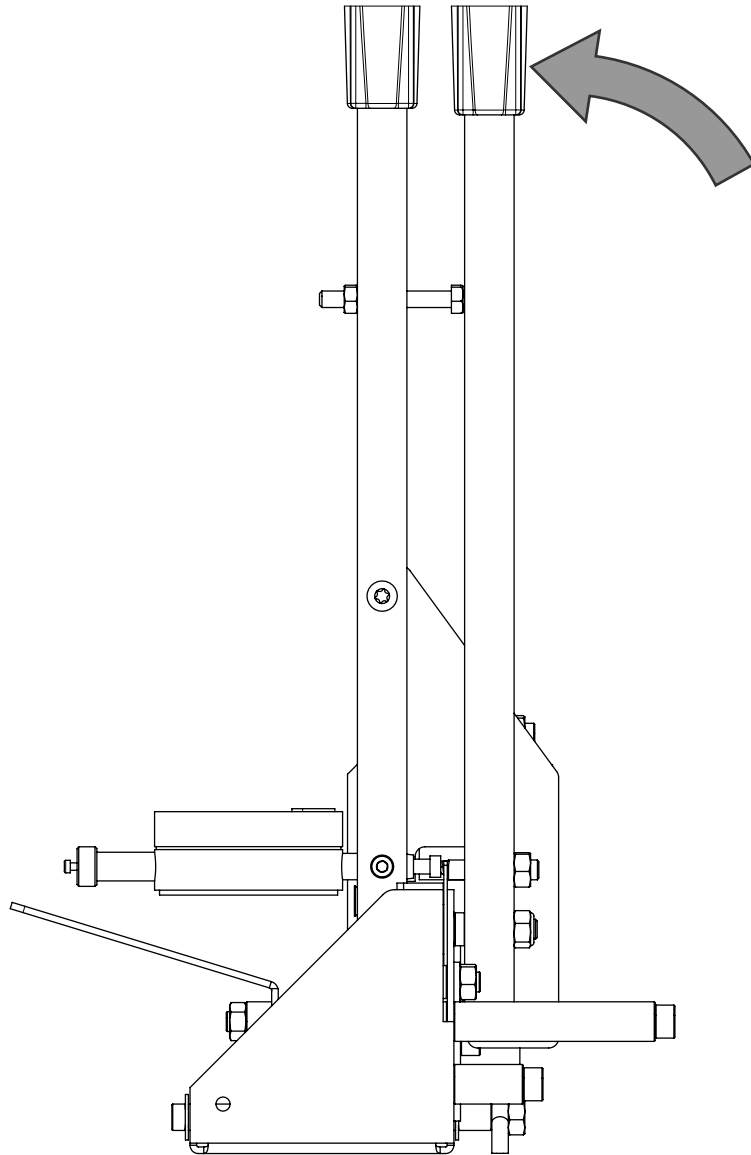


SETTING TEETH

Adjust the set screw so it protrudes out from the arm approximately $\frac{5}{16}$ in [8 mm]. Adjust the hex bolt towards the top of the front handle until it is approximately $\frac{3}{8}$ in [9.5 mm] from the adjacent handle while squeezing them together using light pressure (blade band should be pushed flat against the backing plate/anvil while doing this). The hex bolt will act as the physical stop when the handles are squeezed together to set the teeth.



When setting teeth to the desired offset, material "*spring-back*" needs to be taken into consideration. This requires bending the tooth past its final position so when it springs back it will be set to the appropriate offset. Determining how much to bend the tooth past its final position requires some trial and error. All fine adjustments should be made with the hex bolt on the handle only—the set screw should not need to be adjusted again.



As an initial test to achieve a final tooth offset of .0215 in [0.55 mm], bend it .047 in [1.2 mm] and check the measurement after spring-back. The measurement may vary depending on the thickness of the blade band, initial offset of the tooth before setting, or the blade material itself.

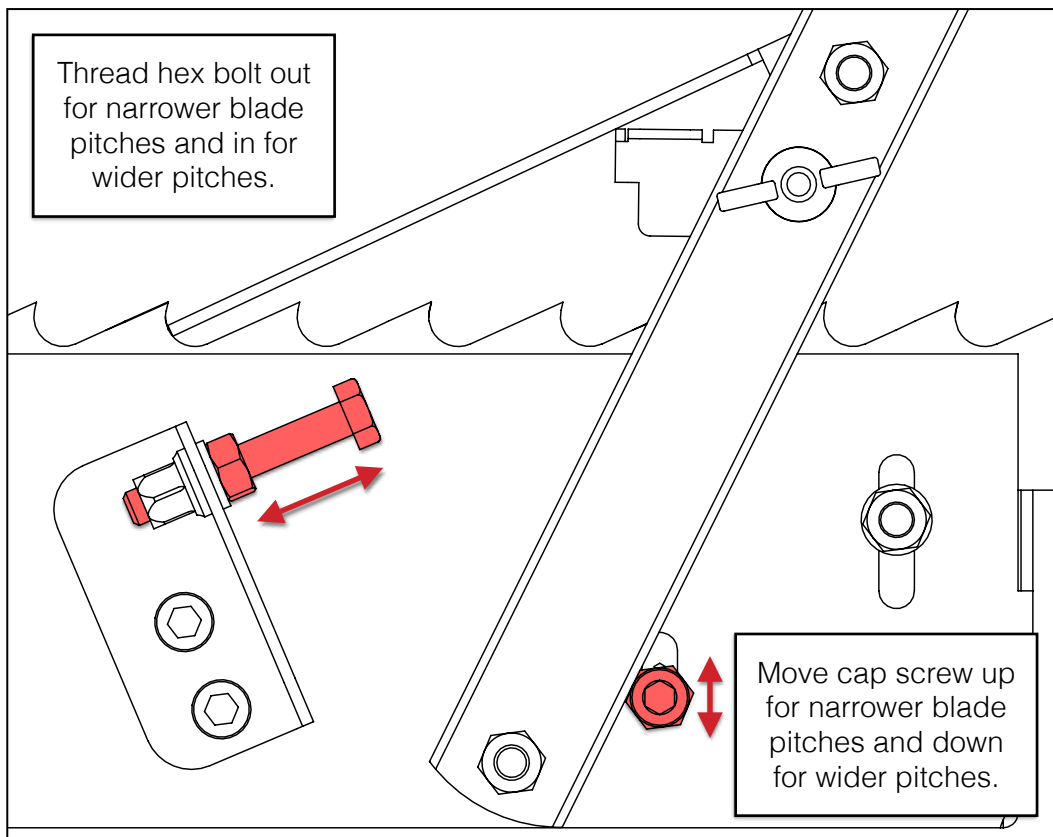
The blade teeth are hardened and care must be taken to not over-bend teeth or they could break. It is best to make minor adjustments until the desired spring-back and set are achieved.

BLADE ADVANCEMENT

To move the blade through the setter to the next tooth to be set, the blade advancement arm is pushed forward until it hits the front stop (hex bolt). After setting the tooth, the arm is pulled all the way back until it hits the backstop (cap screw) and then is immediately pushed forward until it hits the front stop again. This advances the blade, skipping over two (2) teeth to the next tooth to be set—every third tooth is set the same. See section, ***SAW BLADE GEOMETRY*** for more information.

To adjust the arm movement to suit blades of different pitches, adjustments are made to the front stop (M6 hex bolt & jam nut) and the back stop (M6 cap screw & jam nut) as shown below.

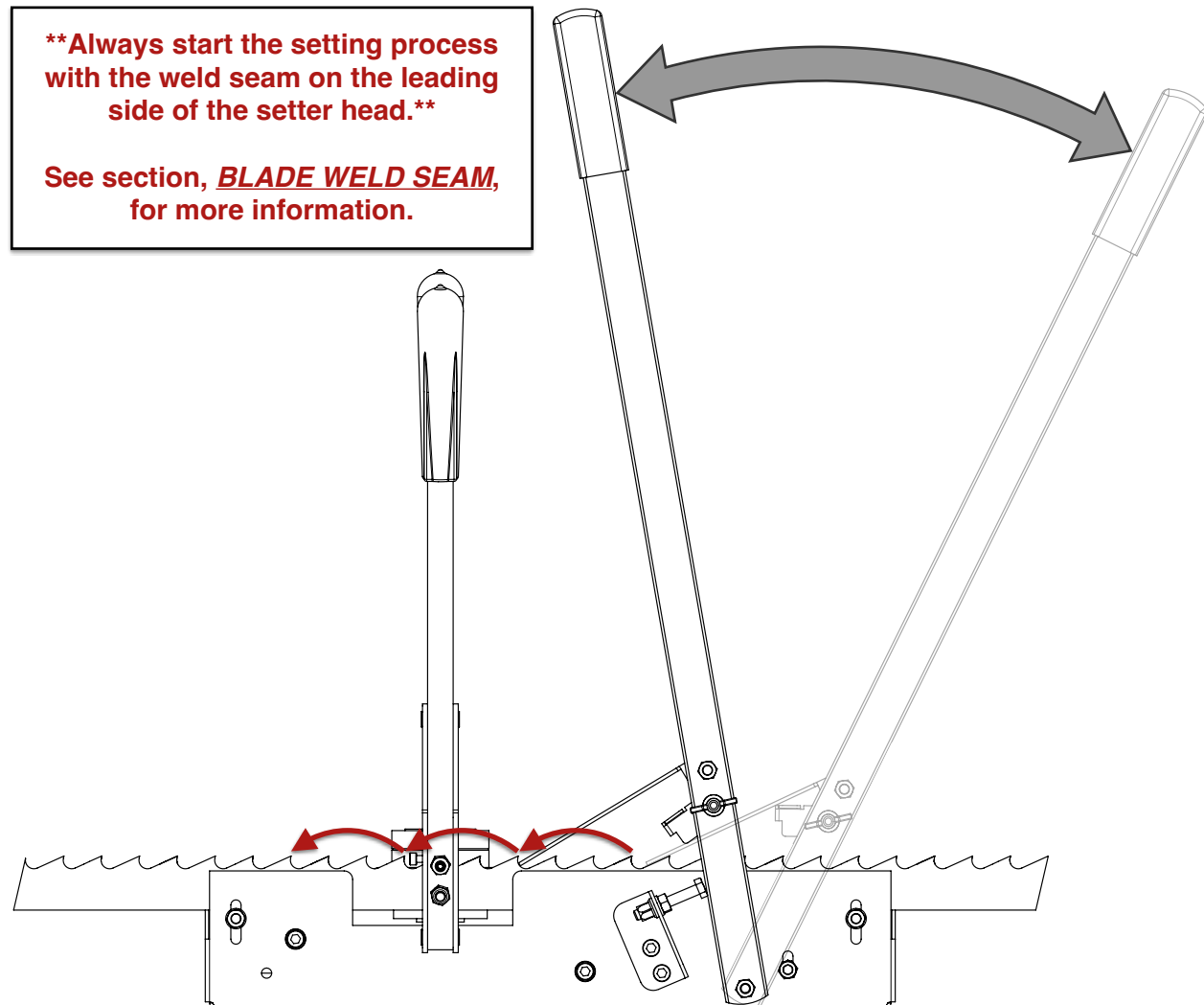
[Use the provided M8/M10 open-end wrench and M5 hex key to make the adjustments.]



****Depending on the blade pitch, it may take a combination of adjustments from both the hex bolt and the cap screw to set the correct spacing.****

As an example, a $\frac{7}{8}$ in [22 mm] pitch blade will advance $2\frac{5}{8}$ in [66 mm] with every movement of the adjustment arm. A $\frac{3}{4}$ in [19 mm] pitch blade will advance $2\frac{1}{4}$ in [57 mm] with every movement of the adjustment arm.

Use the blade advancement arm to position the next tooth to be set as shown below.



The arm will advance the blade, skipping over two (2) teeth—every third tooth is set the same.

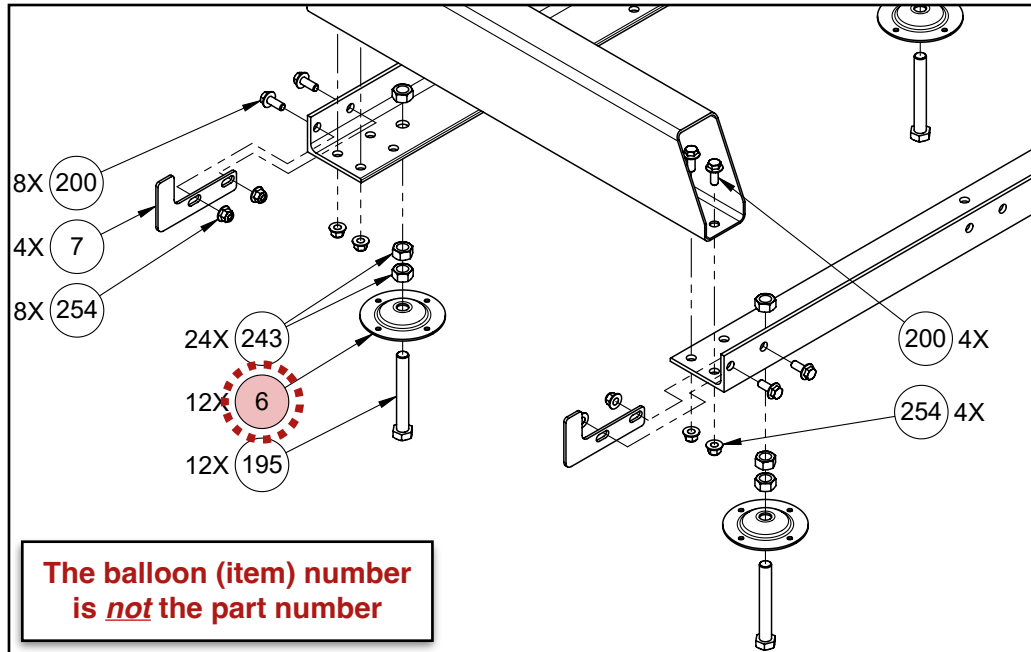
After setting the tooth, pull the arm all the way back until it hits the stop and then push it all the way forward until it hits the other stop. Set the tooth and repeat the process for the entire length of the blade.

Once every third tooth is set in the same direction, remove the setter from the base and install it on the opposite side as shown on [Page 9](#) (section, ***BLADE SETUP***). Do not remove the blade when reorienting the setter. Repeat the blade advancement steps for the teeth set in the opposite direction ensuring there is one rake (straight) tooth between each pair of oppositely set teeth. See section, ***SAW BLADE GEOMETRY***, for more information.



REPLACEMENT PARTS ORDERING

When ordering replacement parts, first locate the balloon number(s) from the appropriate ***exploded assembly view*** as shown in the example below:



Next, turn to the ***Parts List*** section and locate the balloon number in the “**Item**” column:

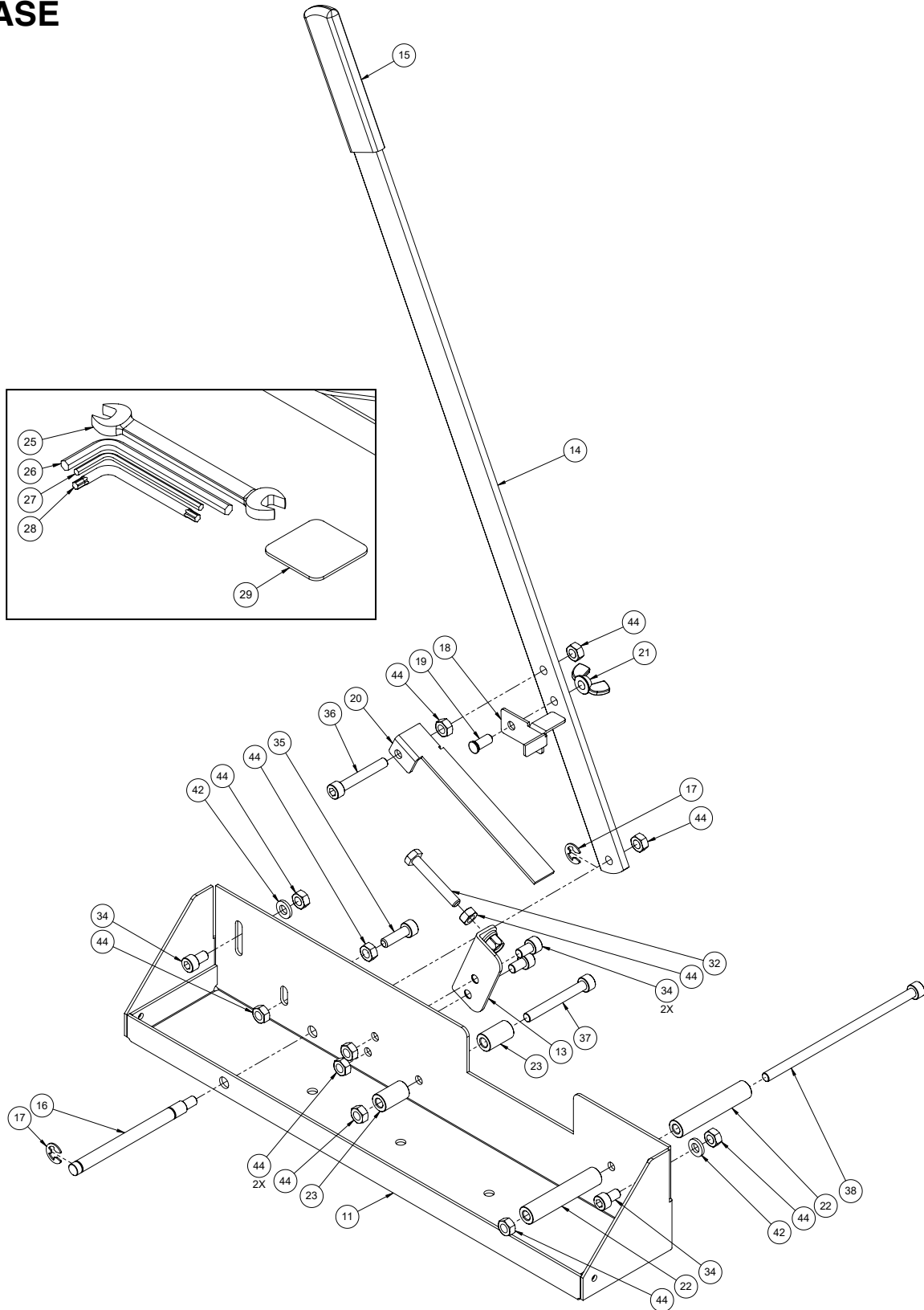
PARTS LIST				
Item	Quantity		Part No.	Description
	14 hp	9.5 hp		
1	4	4	0001073	TRACK RAIL, 58.5 mm TALL
2	2	2	0001075	LOG BUNK, END
3	2	2	0001080	LOG BUNK, MID
4	1	1	0001084	LOG BUNK, CENTER
5	2	2	0001072	REINFORCEMENT PLATE, 90 X 200 mm
6	12	12	0001071	LEVELLING FOOT BASE
7	4	4	0001055	CARRIAGE STOP
8	1	1	0001062	LOG CLAMP SHAFT AND BRACKET WELDMENT

Record the part number (e.g. *0001071, HHB-MBM080FCJ, etc.*) in the “**Part No.**” column.

Contact Woodland Mills through the website or via phone/email. If possible, include the invoice or sales number from the purchased product so an associated account can be located. If the account has multiple addresses on file, please indicate to which address the replacement part(s) will be shipped.

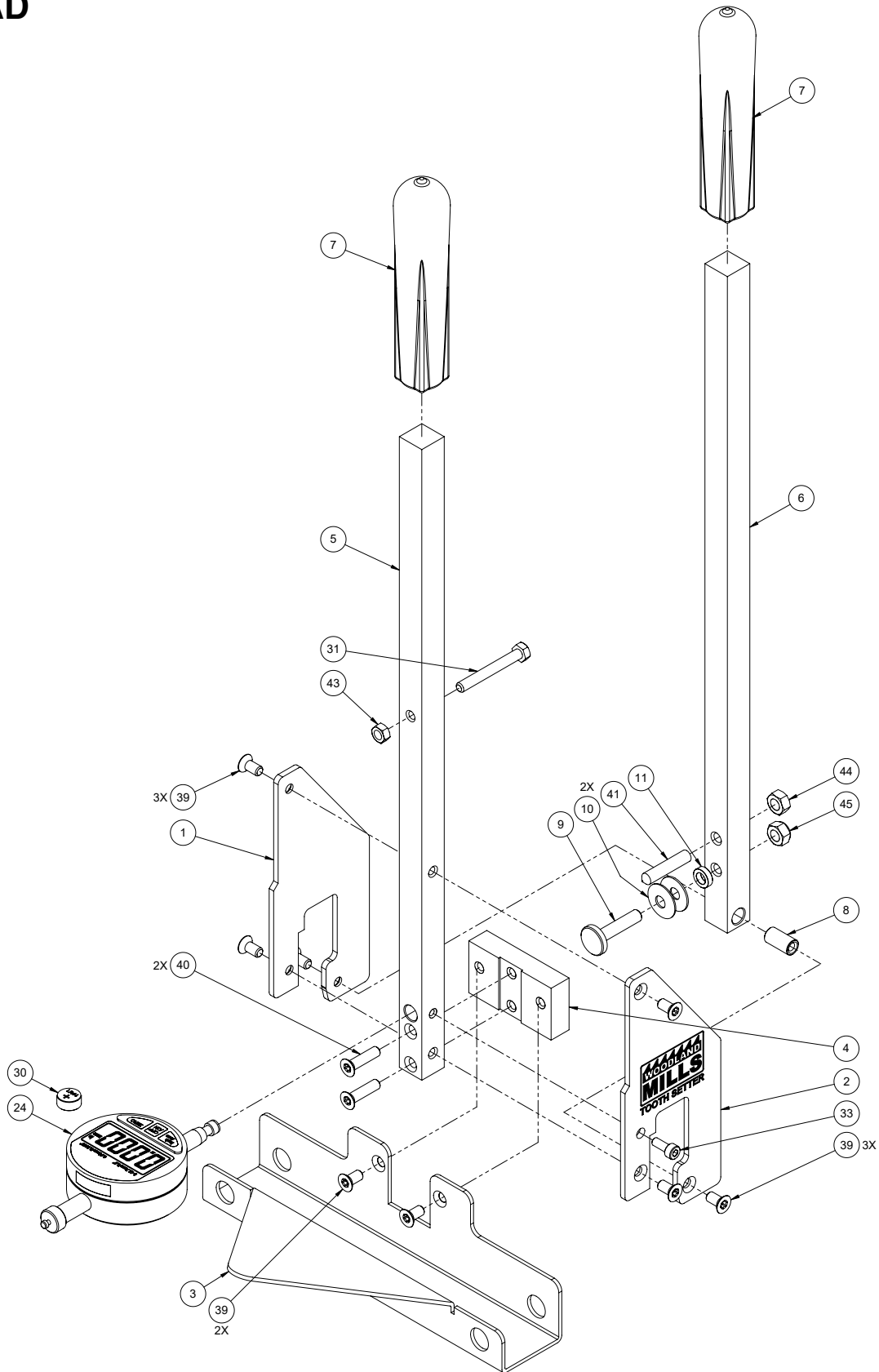


EXPLODED ASSEMBLY VIEWS BASE





HEAD





PARTS LIST

Item	Qty	Part No.	Description
1	1	0002132	INDICATOR BRACKET, LEFT
2	1	0002133	INDICATOR BRACKET, RIGHT
3	1	0002134	INDICATOR BASE
4	1	0002135	BACKING PLATE
5	1	0002136	HANDLE, FIXED
6	1	0002137	HANDLE
7	2	0002138	HANDLE GRIP
8	1	0002139	SPACER, M5 X 0.8 THD X 8 OD X 15.3 mm LG
9	1	0002140	PLUNGER
10	2	0006085	BELLEVILLE WASHER, 6.2 ID, 18 OD, 0.8 THK, 1.5 mm TALL, 240 lb WORKING LOAD
11	1	0002141	SPACER, 6 ID X 10 OD X 2.5 mm LG
11	1	0002144	BASE
13	1	0002145	BLADE ADVANCEMENT ARM STOP
14	1	0002146	BLADE ADVANCEMENT ARM
15	1	0002147	BLADE ADVANCEMENT ARM GRIP
16	1	0002148	BLADE ADVANCEMENT ARM SHAFT
17	2	0004788	CIRCLIP, 8-11 mm SHAFT (7 mm GROOVE)
18	1	0002149	SPACING BRACKET STOP
19	1	0005596	STUD, SELF-CLINCHING, CLS 10.9, M6 X 1, 15 mm LG, FULL
20	1	0002150	SPACING BRACKET
21	1	0006217	WING NUT, CLS 5, M6 X 1
22	2	0002151	STANDOFF, 6 ID X 12 OD X 61 mm LG
23	2	0002152	STANDOFF, 6 ID X 12 OD X 21 mm LG
24	1	0003584	DIGITAL INDICATOR
25	1	0002992	OPEN END WRENCH, 10/8 mm
26	1	0002993	HEX KEY, 5 mm
27	1	0002994	HEX KEY, 3 mm
28	1	0002995	TORX KEY, T25
29	1	0003578	CALIBRATION PLATE, 38 X 38 X 1.52 mm THK
30	1	LR44	BUTTON BATTERY, 1.5 V, LR44
31	1	HHB-MBA095FCJ	HEX HEAD BOLT, CLS 8.8, M5 X 0.8, 40 mm LG, FULL
32	1	HHB-MBE095FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 40 mm LG, FULL
33	1	SHC-MAW059FCP	SHCS, CLS 12.9, M4 X 0.7, 10 mm LG, FULL
34	4	SHC-MBE059FCP	SHCS, CLS 12.9, M6 X 1, 10 mm LG, FULL
35	1	SHC-MBE075FCP	SHCS, CLS 12.9, M6 X 1, 20 mm LG, FULL
36	1	SHC-MBE095PCP	SHCS, CLS 12.9, M6 X 1, 40 mm LG, 24 mm LG THD
37	1	SHC-MBE105PCP	SHCS, CLS 12.9, M6 X 1, 50 mm LG, 24 mm LG THD
38	1	SHC-MBE185PCP	SHCS, CLS 12.9, M6 X 1, 130 mm LG, 24 mm LG THD
39	8	TFH-MBA059FCJ	SCREW, TFH, CLS 8.8, M5 X 0.8, 10 mm LG, FULL
40	2	TFH-MBA075FCJ	SCREW, TFH, CLS 8.8, M5 X 0.8, 20 mm LG, FULL
41	1	CNS-MBE085GR	SET SCREW, CONE POINT, GR 45H, M6 X 1, 30 mm LG
42	2	FTW-MBE000AJ	FLAT WASHER, M6
43	1	HXN-MBACH	HEX NUT, CLS 8, M5 X 0.8
44	13	HXN-MBECH	HEX NUT, CLS 8, M6 X 1
45	1	HLN-MBECH	LOCK NUT, CLS 8, M6 X 1

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