RS30 PRO BLADE SHARPENER

OPERATOR'S MANUAL

0007650-M-EN: Rev C
Publication Date: 24-Oct-2024

WOODLAND MILLS

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INTRODUCTION

This operator's manual describes in detail how the bandsaw blade sharpener is used and maintained and how servicing is to be carried out. It also describes the measures to be taken for maximum safety and how the safety features are designed and function, as well as how they are inspected, maintained, and repaired if necessary.

Note: The section dealing with safety must be read and understood by all those who install, use, or repair the sharpener.

The operator's manual comprises installation, usage, and the maintenance procedures to be performed by the operator. More comprehensive servicing or troubleshooting should not be performed unless instructed by a service technician.

The operator's manual describes all the requisite safety features and should be read and understood by the user before the sharpener is assembled.

Symbols and warning signs shown on this page can be found in this operator's manual and on the sharpener. If a decal on the sharpener has been damaged or is worn, a new warning decal must be applied as soon as possible in order to ensure the greatest possible safety when using the sharpener.

The bandsaw blade sharpener shall only be used for bandsaw blades with hardened teeth. The bandsaw blade width shall be between 1 to 1-½ in [25 to 38 mm].

KEY SYMBOLS

MANDATORY ACTIONS

The symbols below used in this operator's manual:

Read the manual carefully before attempting to use the bandsaw blade grinder.

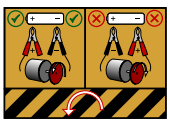
Wear protective gloves.

Wear protective eyewear.

WARNINGS

The decal with the symbols below are found on the bandsaw blade grinder:

Exercise caution.



Battery polarity warning.

SAFETY REGULATIONS

The following safety regulations apply to the sharpener:

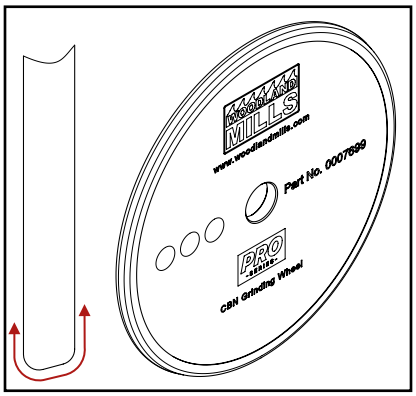
- Do not store flammable liquids in the vicinity of the sharpener. Sparks from the grinding wheel or the electrical connection could ignite them.
- The bandsaw blade is sharp and can cause injury. Always wear protective gloves when handling blades.
- The grinding wheel must be turned off when adjusting the sharpener.
- Ensure the battery polarity connections are correct.
- Ensure the grinding wheel shows no signs of cracking and is secured tightly to the spindle. Stop the grinding wheel immediately if abnormal vibration occurs.
- Always wear protective eyewear while grinding!

TECHNICAL SPECIFICATIONS

Item	Sharpener Specification
Motor	12 VDC
Power Source	12 V Battery (Customer-Supplied)
Blade Width Range	1 to 1-½ in [25 to 38 mm]
Blade Pitch Range	¾ to 1 in [19 to 25 mm]
Blade Thickness Range	0.035 to 0.055 in [0.89 to 1.4 mm]
Preset Blade Angles	7°, 10°, 14°
Shipping Weight	29 lb [13.2 kg]
Grinding Speed	**Lo**: 8 Teeth per Minute / **Hi**: 28 Teeth per Minute

CBN GRINDING WHEEL

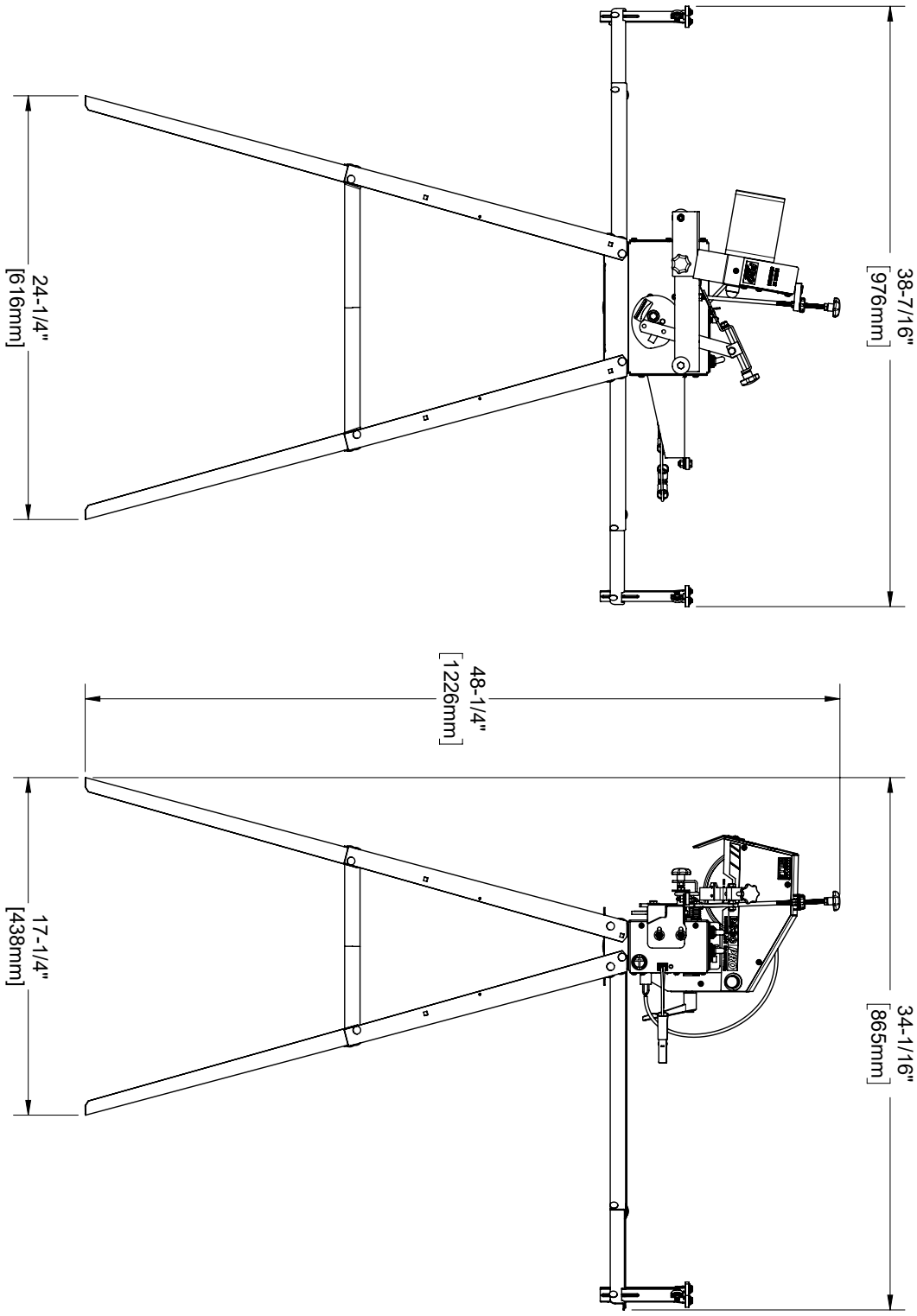
The RS30 PRO Sharpener comes equipped with a cubic boron nitride (**CBN**) grinding wheel. Do *not* attempt to alter the wheel profile with a whetstone or other medium—it will ruin the grinding wheel.



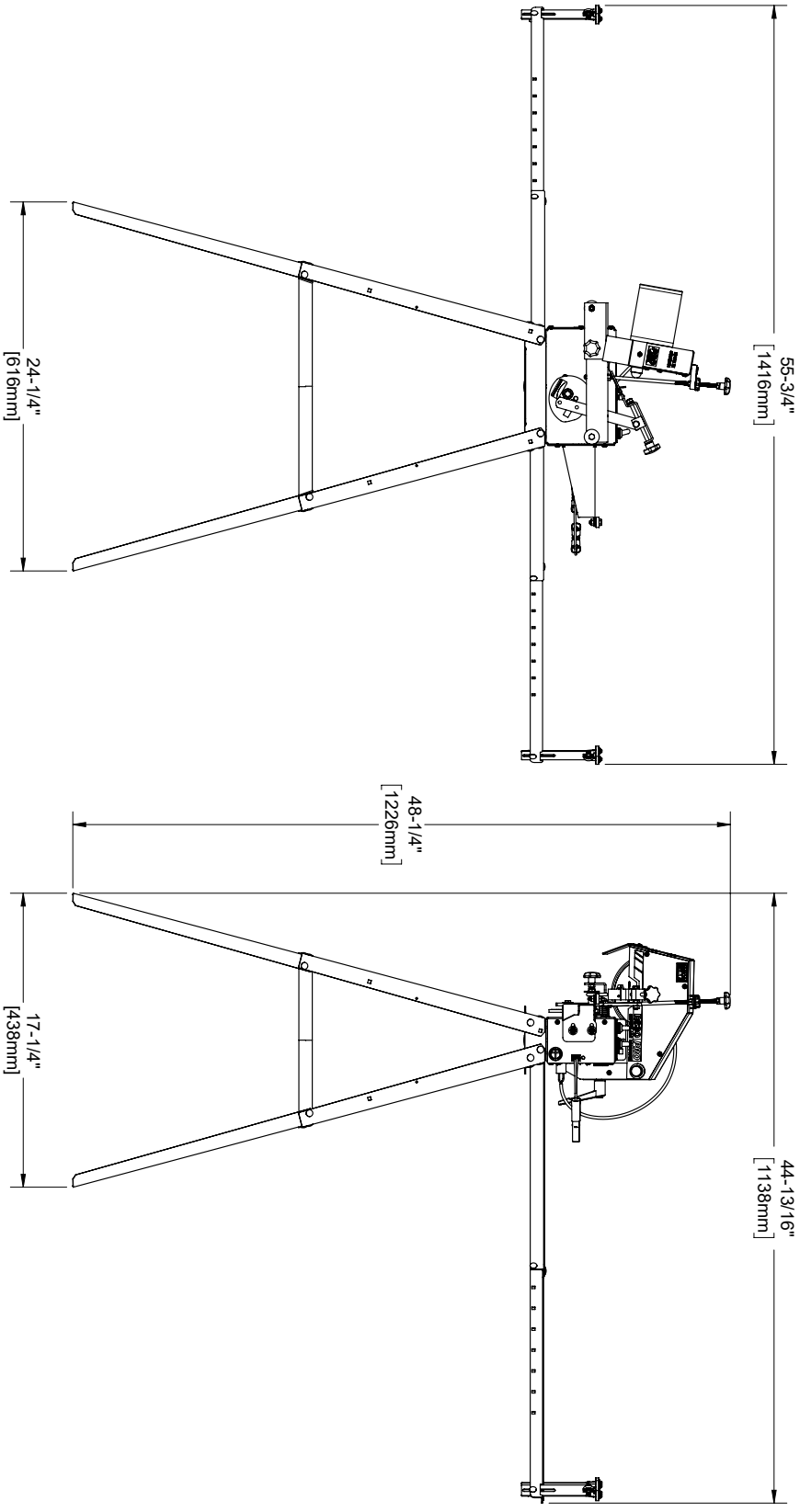
Because the grinding wheel comes with an asymmetric profile, care needs to be taken during assembly so that it is not installed backwards. Read and follow the assembly steps carefully.

OVERALL DIMENSIONS

SHORTEST SUPPORT ARM POSITION

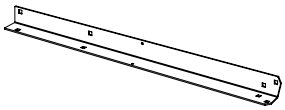
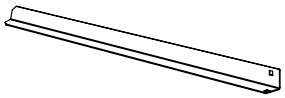
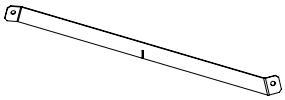
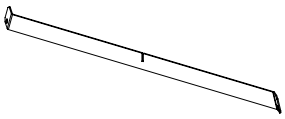
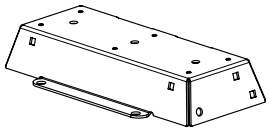
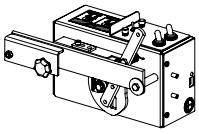
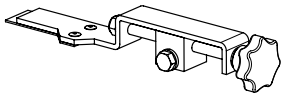
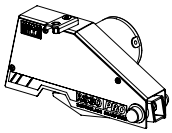
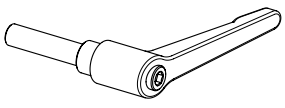


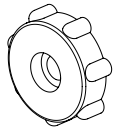
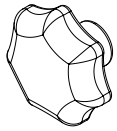
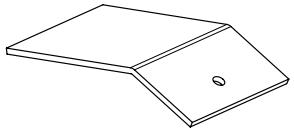
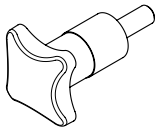
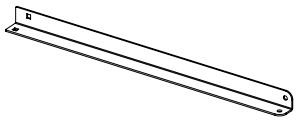
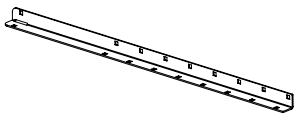
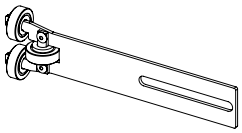
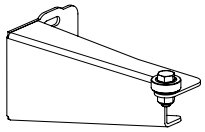
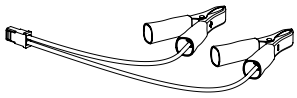
LONGEST SUPPORT ARM POSITION

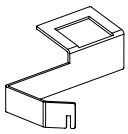
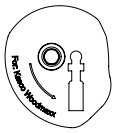


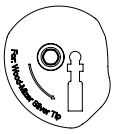
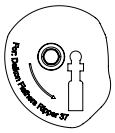
COMPONENT LISTS

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

4x	Upper Leg [0007652]	
4x	Lower Leg [0007653]	
1x	Upper Cross Brace [0007654]	
1x	Lower Cross Brace [0007655]	
1x	Mounting Base [0001554]	
1x	Control Box Assembly	
1x	Advancer Assembly	
1x	Grinding Head Assembly	
1x	Adjustable Handle [0007690]	
1x	CBN Grinding Wheel [0007699]	

1x	Depth Adjustment Rod Assembly	
1x	M6 Thru Hole Lock Knob [0003982]	
1x	M6 Threaded Knob [0003981]	
1x	Grinding Shield [0001562]	
1x	M6 4-Lobe Knob [0003980]	
2x	Inner Support Arm [0004159]	
2x	Adjustable Outer Arm Support [0004158]	
2x	Blade Support Assembly	
1x	Infeed Arm Assembly	
1x	Battery Clamps [0007678]	

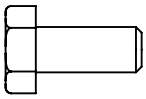
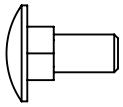
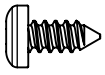
1x	**Auto Stop [0001560]**	
1x	**Blade Profile Cam: Kasco Woodmaxx [0009533]**	

1x	**Blade Profile Cam: Wood-Mizer [0009531]**	
1x	**Blade Profile Cam: Ripper 37 [0009535]**	

TO-SCALE HARDWARE

BOLTS & SCREWS

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.

3x	**HHB-MBE067FCJ**	**M6 X 1 X 14 mm HEX BOLT**
		
26x	**SNC-MBA063FCJ**	**M5 X 0.8 X 12 mm CARRIAGE BOLT**
		
1x	**TST-UAY011FTB**	**No. 8 X 3/8 in SELF-TAPPING PAN HEAD SCREW**
		

SCALES

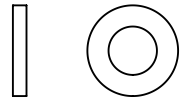
Ruler scales are also provided below to double-check bolt and screw lengths when necessary.

CENTIMETRES / MILLIMETRES

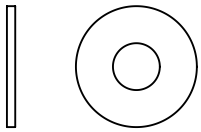
INCHES

WASHERS

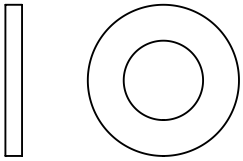
26x	**FTW-MBE000AJ M6 FLAT WASHER**



2x	**FDW-MBE063000AJ M6 X 16 mm FENDER WASHER**



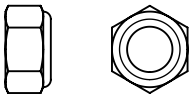
1x	**FTW-MBM000AJ M10 FLAT WASHER**



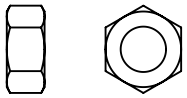
NUTS

24x	**HXN-MBACH M5 X 0.8 HEX NUT**

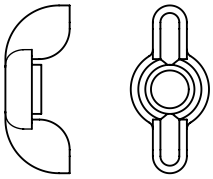
2x	**HLN-MBACH M6 X 1 LOCK NUT**



2x	**HXN-MBECH M6 X 1 HEX NUT**



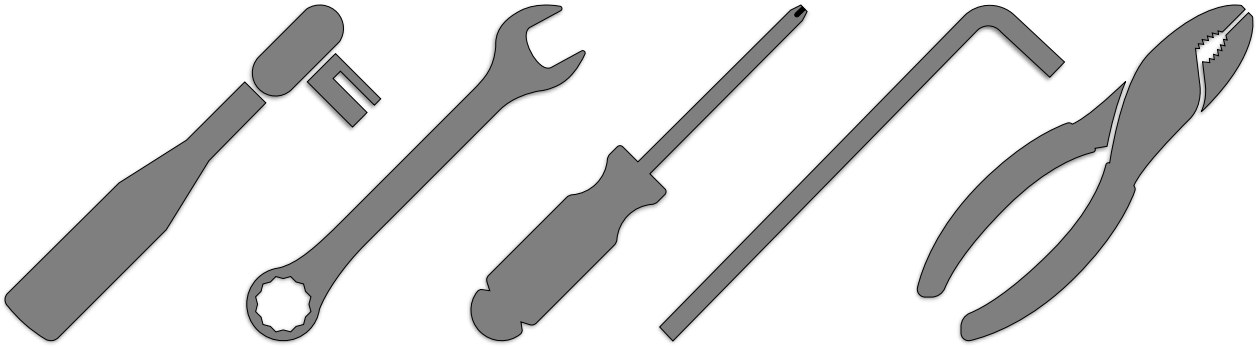
2x	**0006216 M5 X 0.8 WING NUT**



ASSEMBLY

1. TOOLS REQUIRED

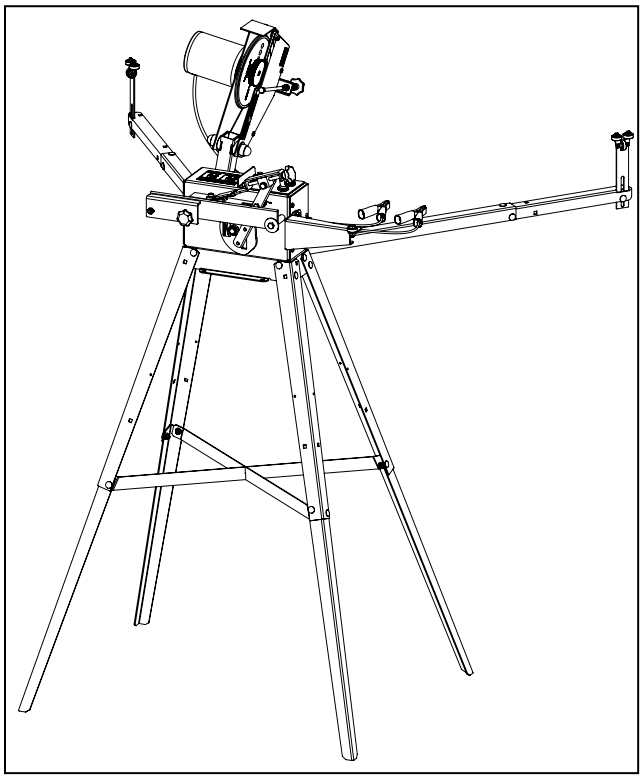
Tool	Specification
Screwdriver	T20 Torx
Wrench/Socket	8 mm
Wrench/Socket	10 mm
Hex Key	3 mm
Pliers	Min. 2 in [50 mm] grip dia



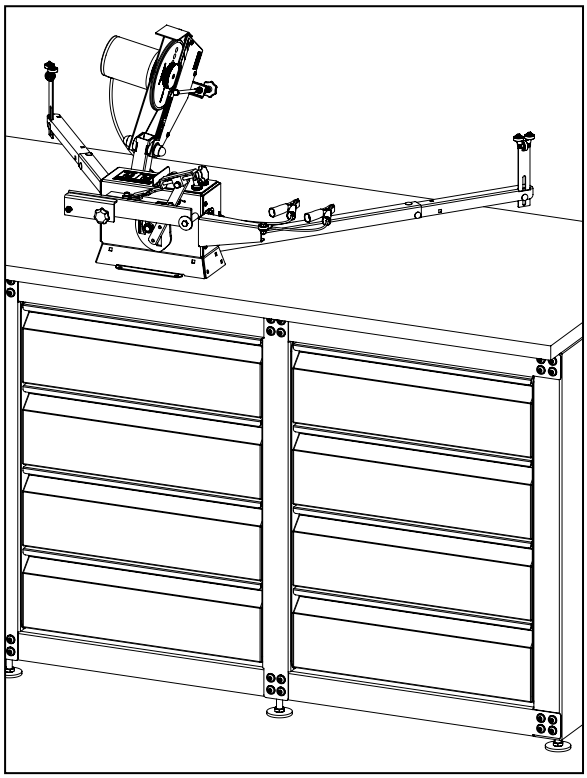
2. MOUNTING STYLE

Before starting the assembly, decide how the sharpener will be mounted when in use. If utilizing the stand is desirable from a portability standpoint, proceed to the next section, ***STAND***.

However, if the sharpener would be better utilized secured to a workbench, skip over the ***STAND*** section and start at assembly step, ***CONTROL BOX***.



STAND MOUNT

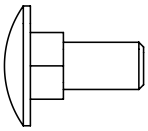
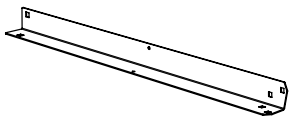
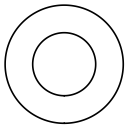
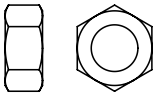
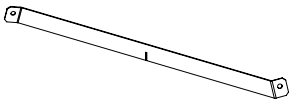
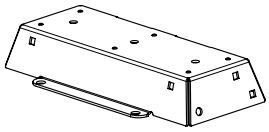
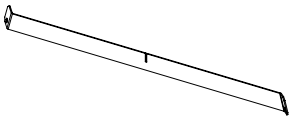


WORKBENCH MOUNT

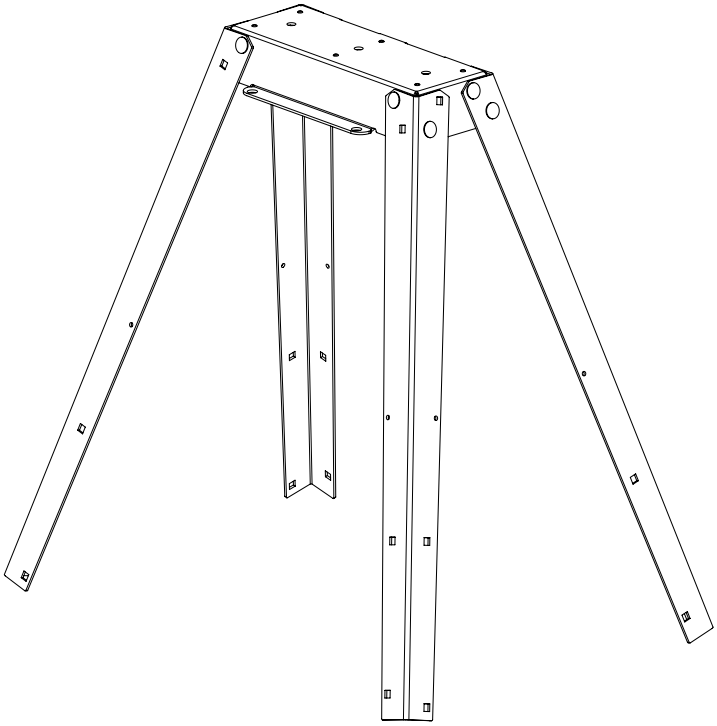
****Note: The graphics in this manual assume a stand-mount installation but the instructions will note the assembly differences where applicable.****

3. STAND

Using the hardware and components listed below, assemble the stand. If the sharpener will be mounted directly to a workbench, skip this assembly step and proceed to the next ***section***.

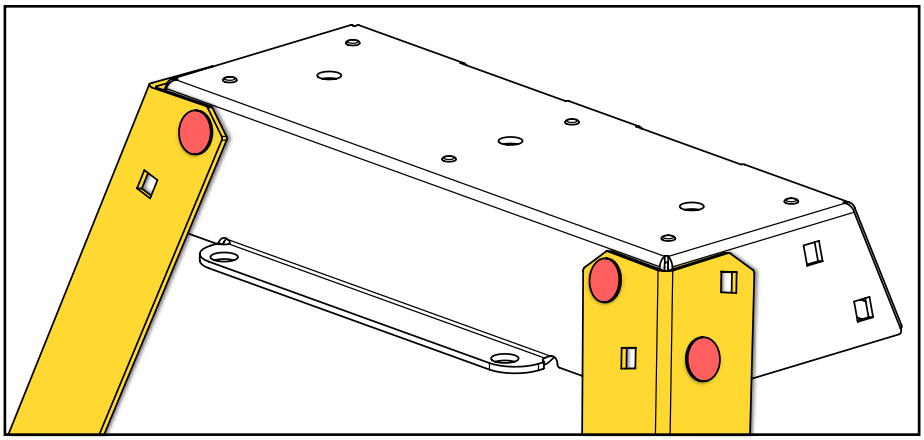
20x	M5 X 12 mm Carriage Bolt		4x	Upper Leg	
20x	M6 Flat Washer		4x	Lower Leg	
20x	M5 Hex Nut		1x	Upper Cross Brace	
1x	Mounting Base		1x	Lower Cross Brace	

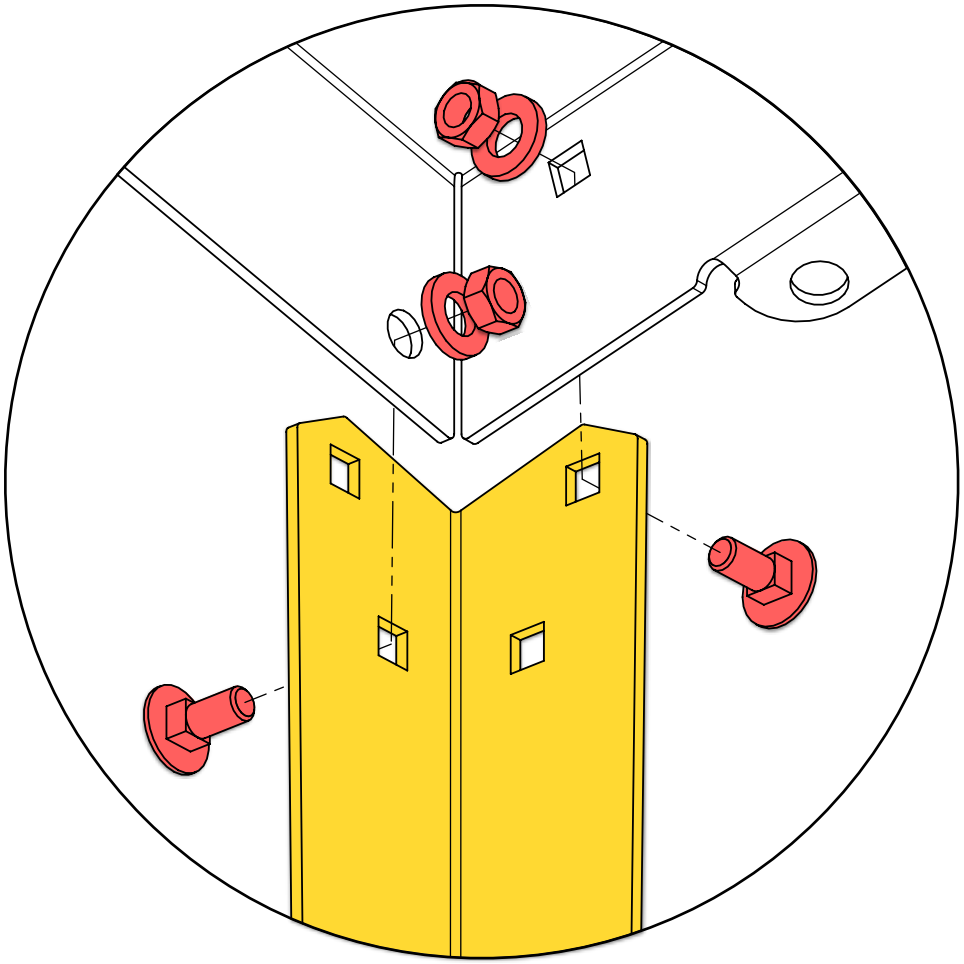
In the first two steps of the stand assembly, the upper legs are attached to the mounting base.



A. FRONT UPPER LEGS

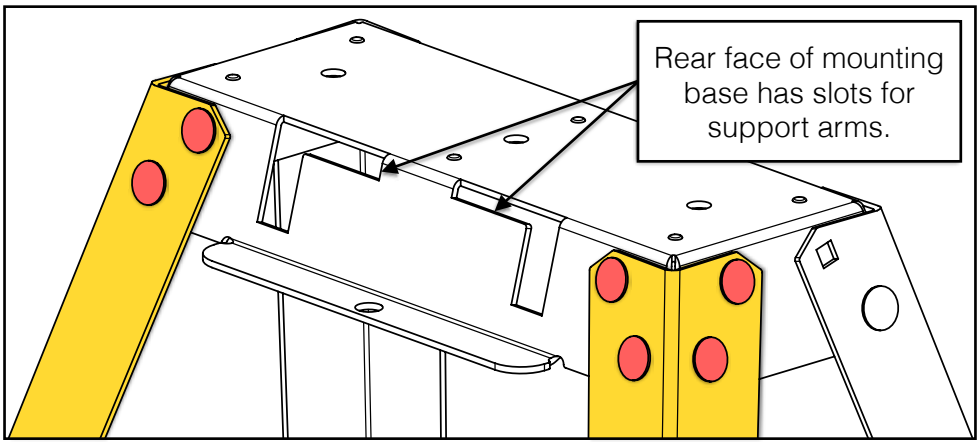
Assemble the front upper legs to the mounting base first using two (2) M5 X 12 mm carriage bolts, two (2) M6 flat washers, and two (2) M5 hex nuts per leg. Do *not* fully tighten the hardware until instructed.

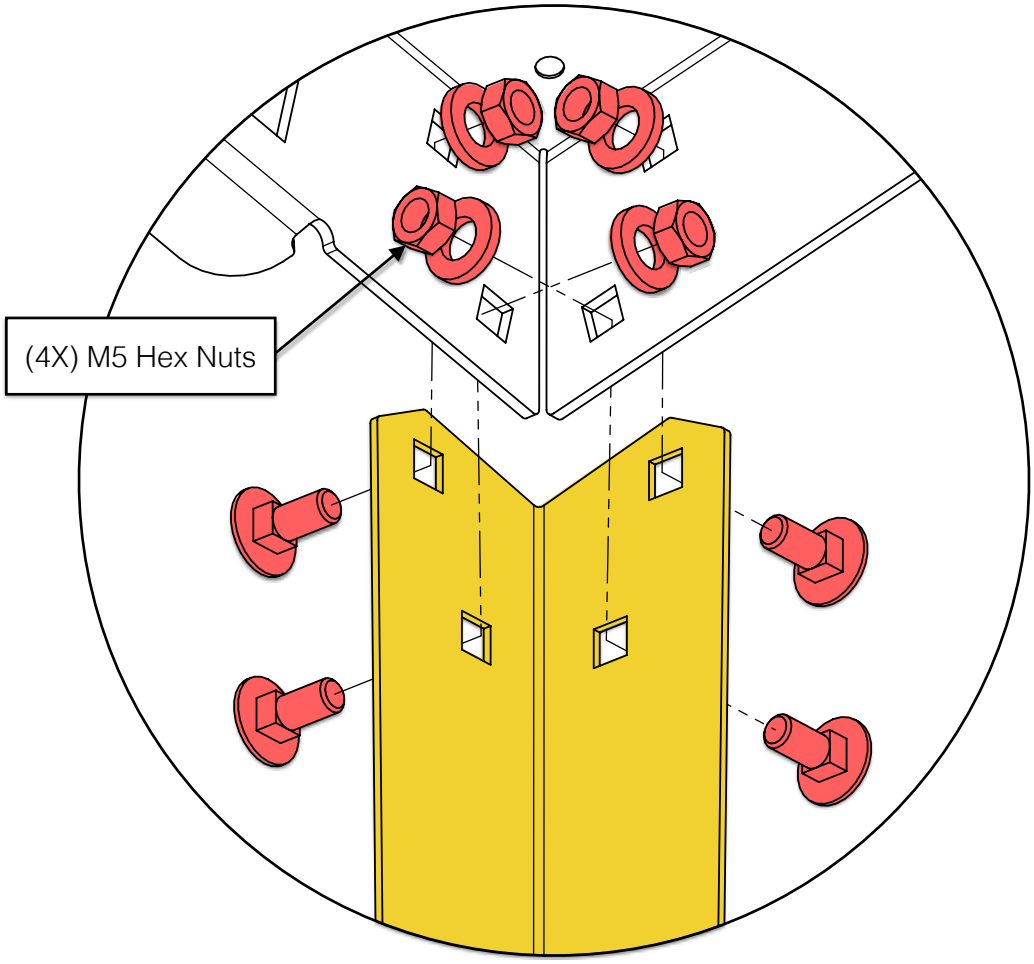




B. REAR UPPER LEGS

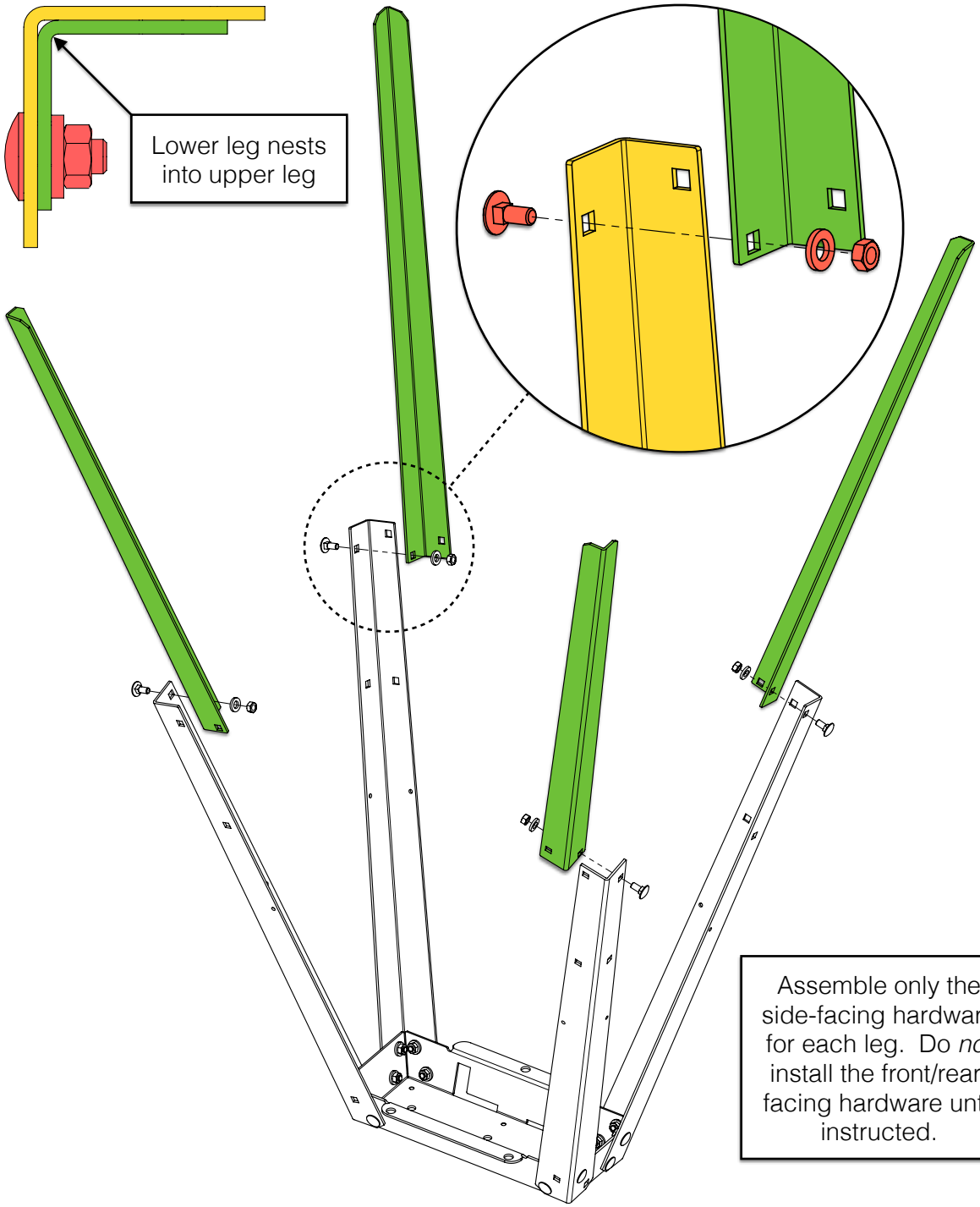
Fasten the rear upper legs to the mounting base using four (4) M5 X 12 mm carriage bolts, four (4) M6 flat washers, four (4) M5 hex nuts per leg. Do *not* fully tighten the hardware until instructed.





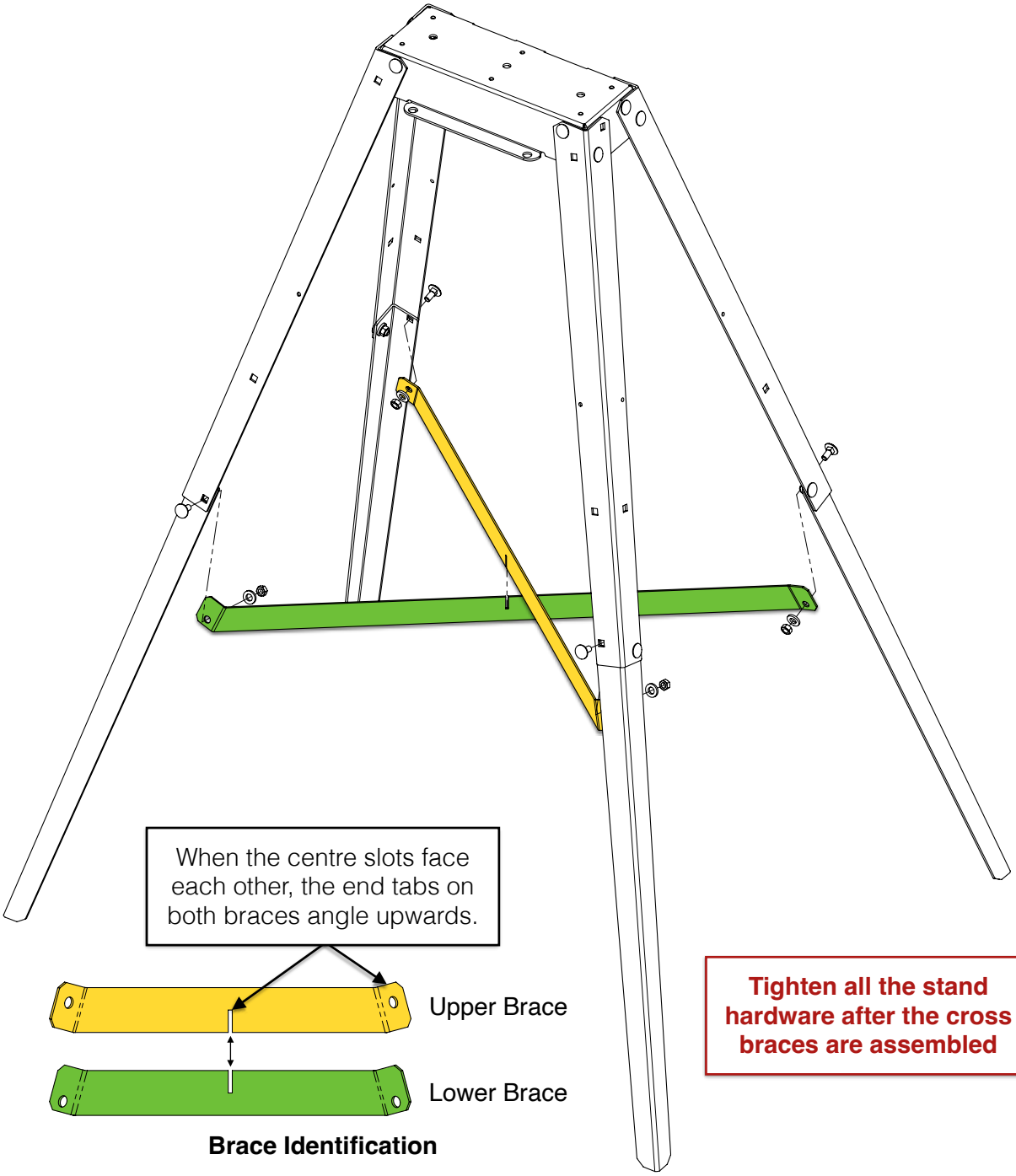
C. LOWER LEGS

Turn the stand assembly upside-down to assemble the lower legs to the upper legs. Use one (1) M5 X 12 mm carriage bolt, one (1) M6 flat washer, and one (1) M5 hex nut per leg. ***Assemble only the side-facing hardware for each leg***—not the front/rear facing hardware. Do *not* fully tighten the hardware until instructed.



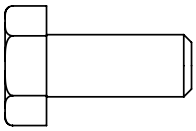
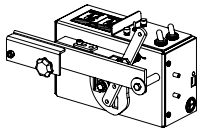
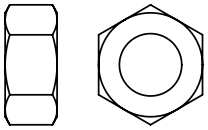
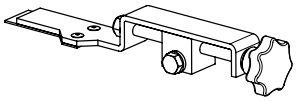
D. CROSS BRACES

Assemble the upper and lower cross braces to the leg joints using one (1) M5 X 12 mm carriage bolt, one (1) M6 flat washer, and one (1) M5 hex nut at the ends of each brace. **Tighten all the stand hardware after the cross braces are assembled**.



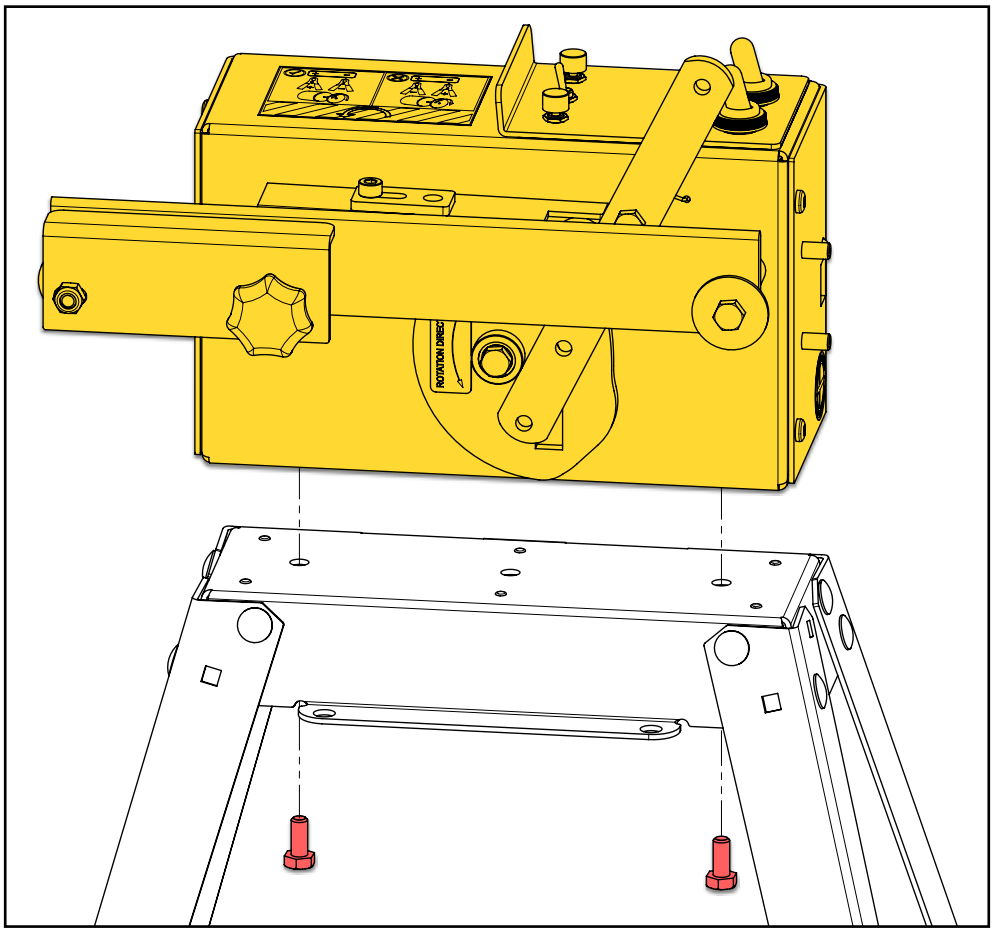
4. CONTROL BOX

Using the hardware and components listed below, assemble the control box to the stand and the advancer to the control box.

2x	M6 X 14 mm Hex Bolt		1x	Control Box Assembly	
1x	M6 Hex Nut		1x	Advancer Assembly	

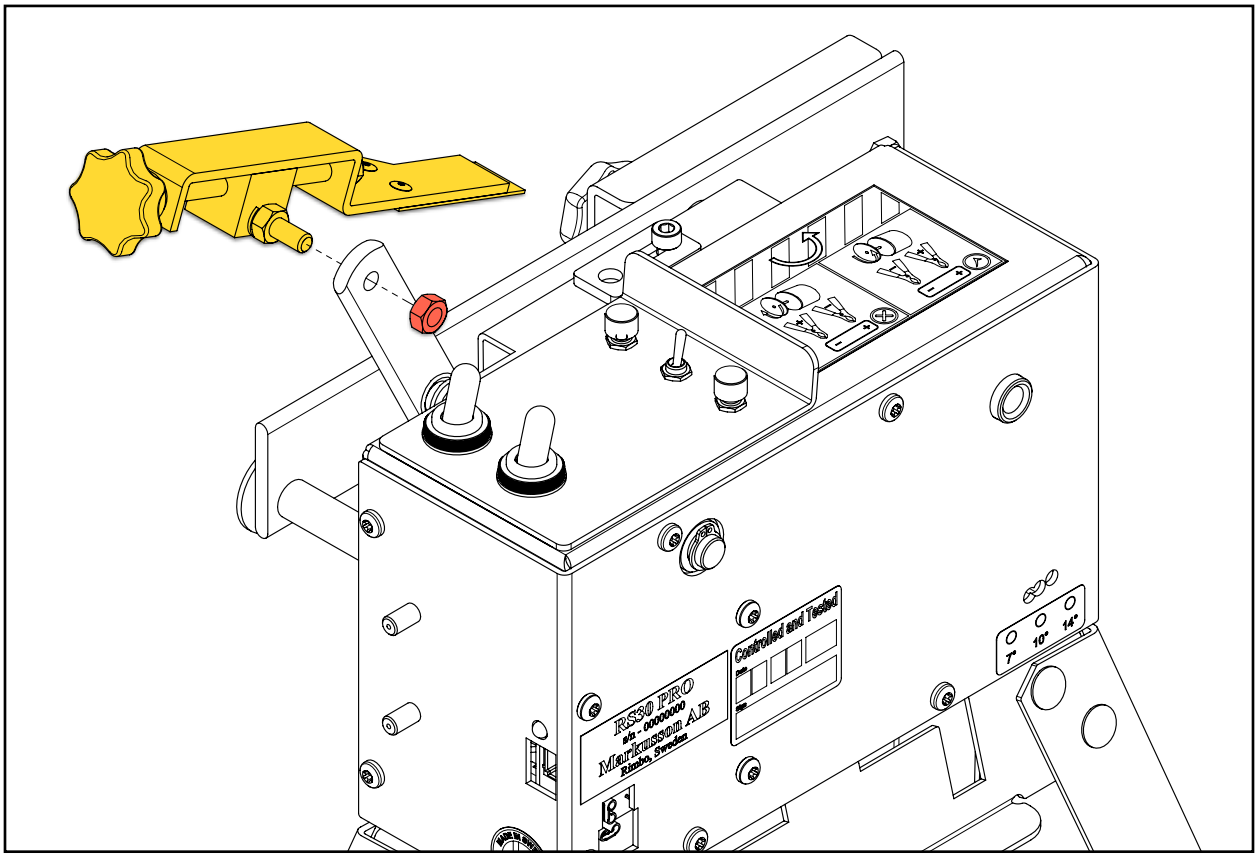
A. CONTROL BOX-TO-STAND

Assemble the control box to the stand using two (2) M6 X 14 mm hex bolts as shown.

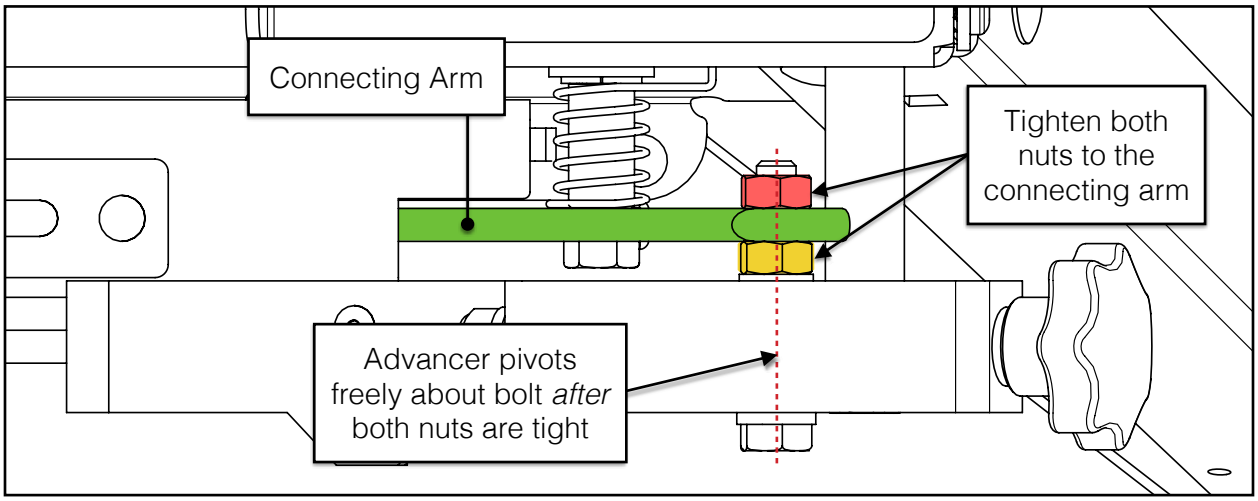


B. ADVANCER

Assemble the advancer assembly to the connecting arm on the control box using one (1) M6 hex nut (a second M6 hex nut comes assembled to the advancer).

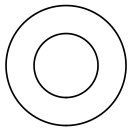
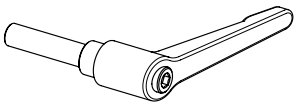
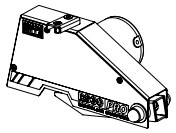


Fully tighten both M6 hex nuts to the connecting arm on the control box. It is important that while this connection is tight, the advancer still pivots freely about the bolt.



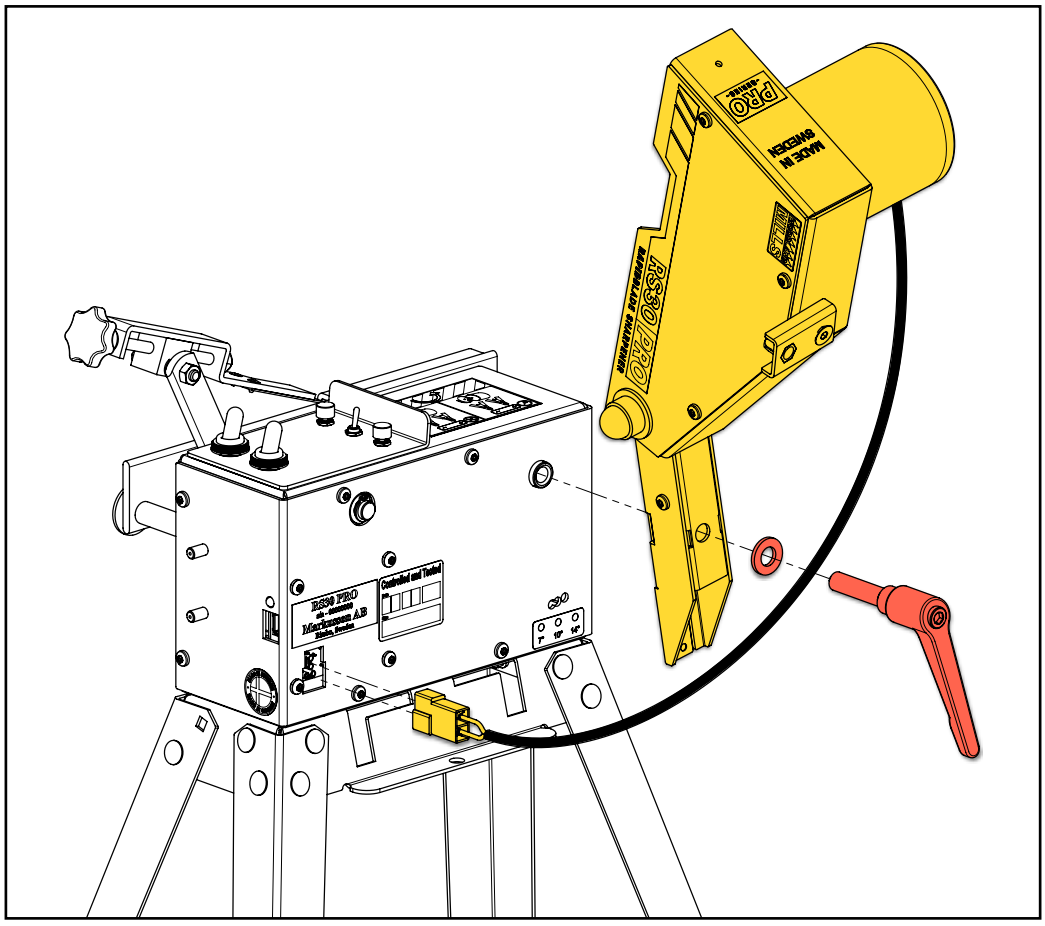
5. GRINDING HEAD

Start the grinding head assembly by using the components and hardware listed below to assemble the grinding head to the control box.

1x	M10 Flat Washer		1x	Adjustable Handle	
			1x	Grinding Head Assembly	

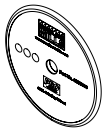
A. GRINDING HEAD-TO-CONTROL BOX

Assemble the grinding head to the rear of the control box using the adjustable handle and one (1) M10 flat washer. Plug the motor cable into the back of the control box as shown.

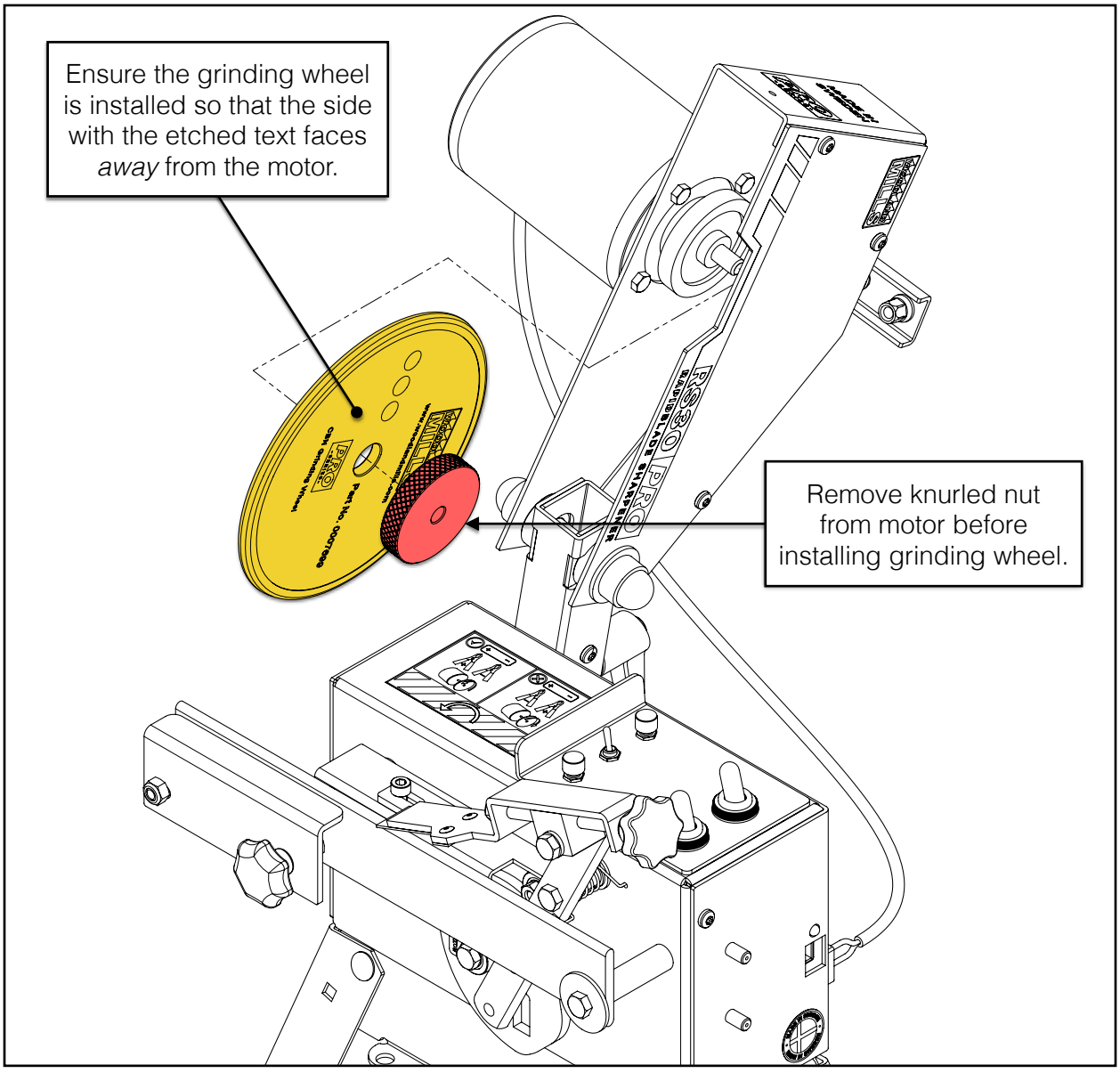


B. GRINDING WHEEL

Next, assembly the CBN grinding wheel to the grinding head assembly.

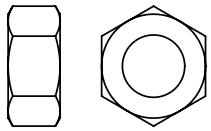
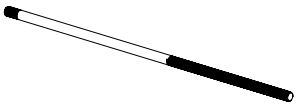
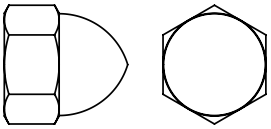
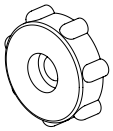
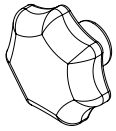
1x	CBN Grinding Wheel	

Remove the knurled nut from the electric motor and slide the grinding wheel onto the motor shaft. Replace the nut and tighten it securely using pliers.

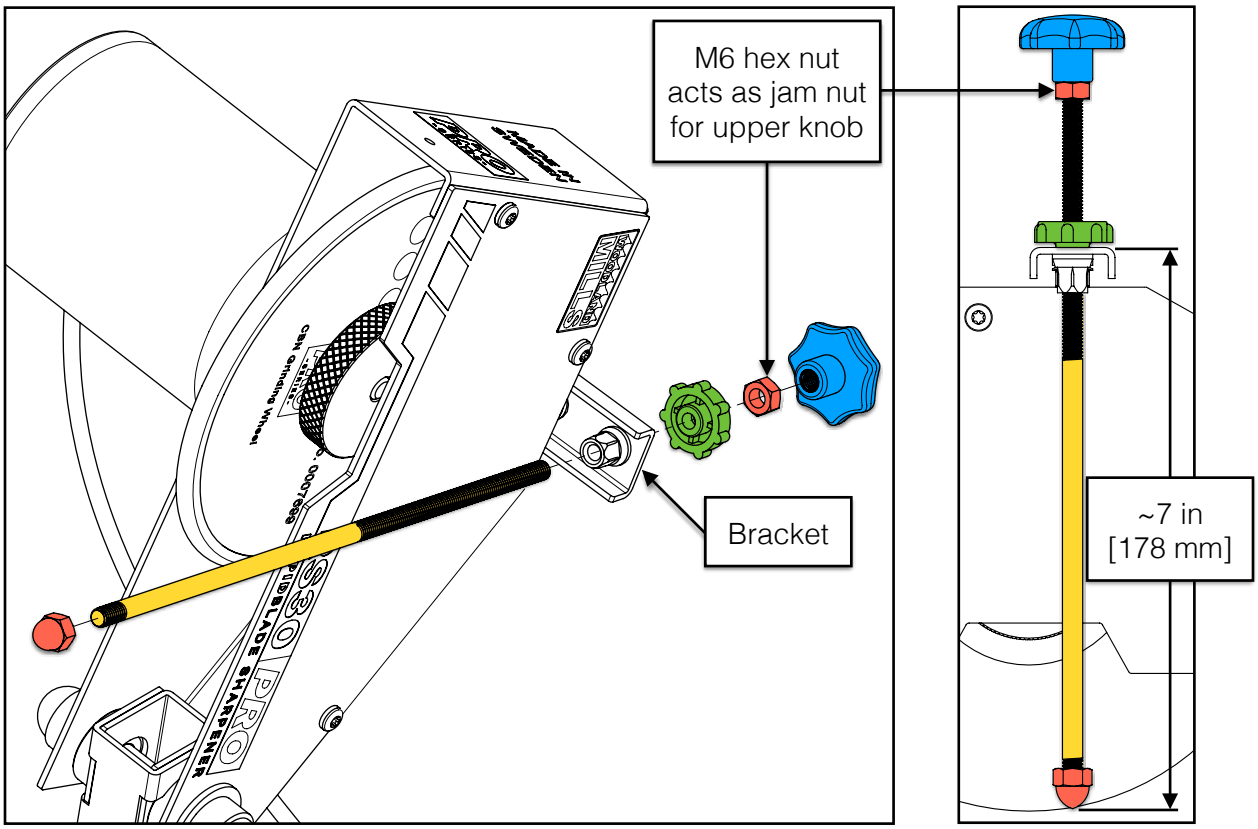


C. DEPTH ADJUSTMENT ROD

Using the hardware listed below, assemble the depth adjustment rod to the grinding head.

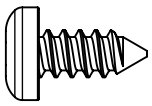
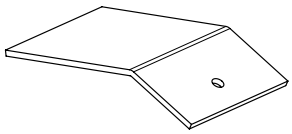
1x	M6 Hex Nut		1x	Depth Adjustment Rod	
1x	M6 Acorn Nut		1x	M6 Thru-Hole Lock Knob	
			1x	M6 Threaded Knob	

Thread the longer-threaded end of the rod up through the bracket on the grinding head. Then thread the thru-hole lock knob, the M6 hex nut, and the upper knob to the top of the rod. Finally, thread the acorn nut onto the bottom end of the rod. Ensure the distance from the top of the bracket to the tip of the acorn nut is approx. 7 in [178 mm] for ease of adjustment later.

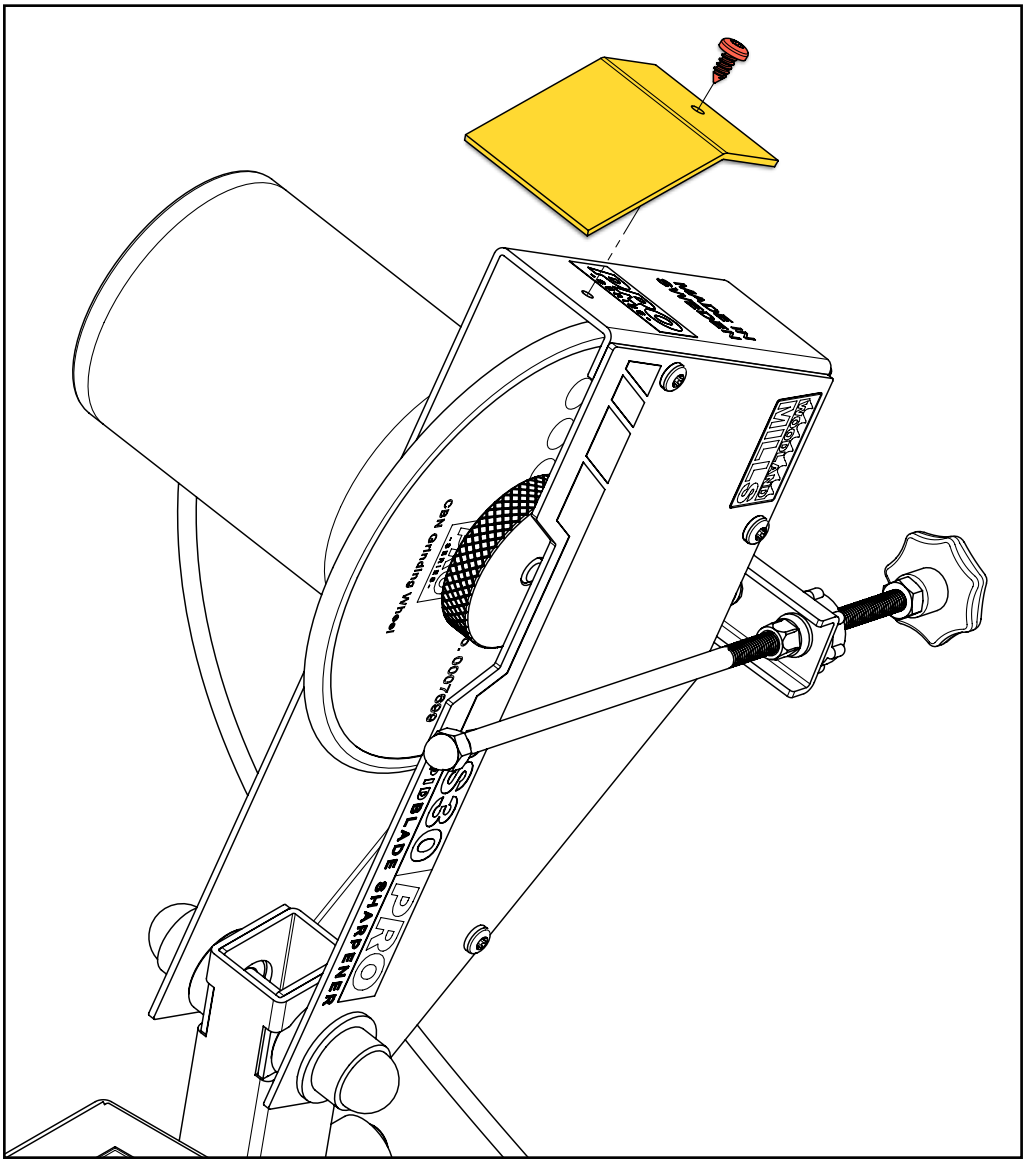


D. GRINDING SHIELD

To finalize the grinding head assembly, secure the grinding shield to the grinding head using the hardware listed below.

1x	#8 X 0.375 Torx Self-Tapping Screw		1x	Grinding Shield	

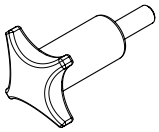
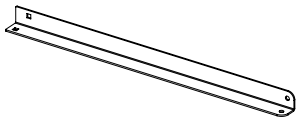
Remove the protective film from the shield. Then secure the shield to the grinding head using a T20 Torx screwdriver and one (1) #8 X 0.375 self-tapping screw as shown.



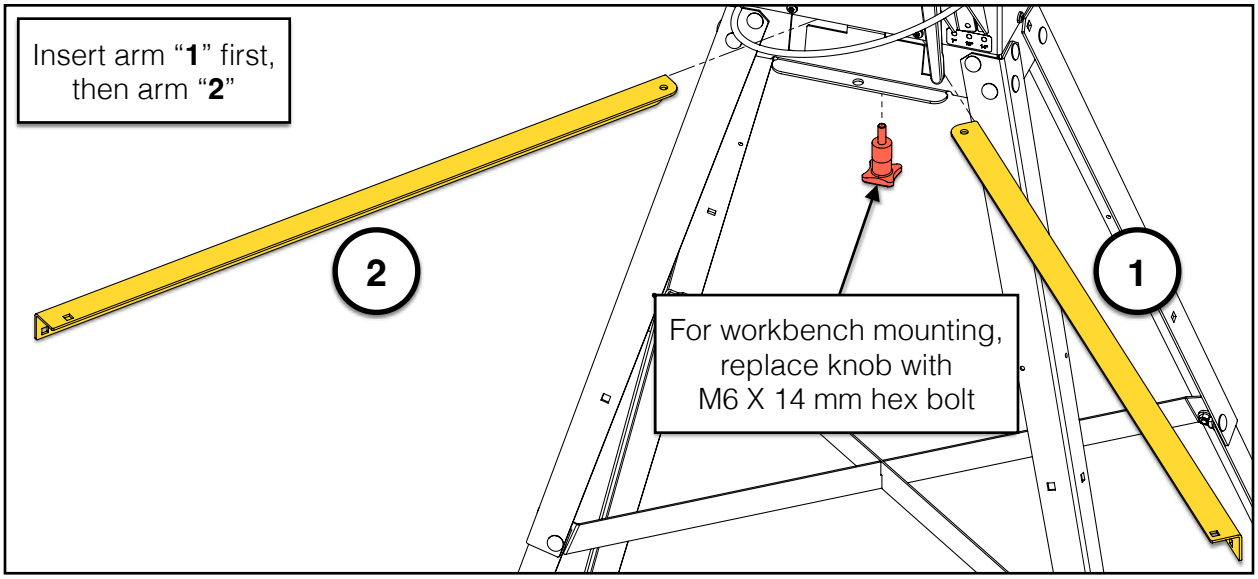
6. SUPPORT ARMS

A. INNER SUPPORT ARMS

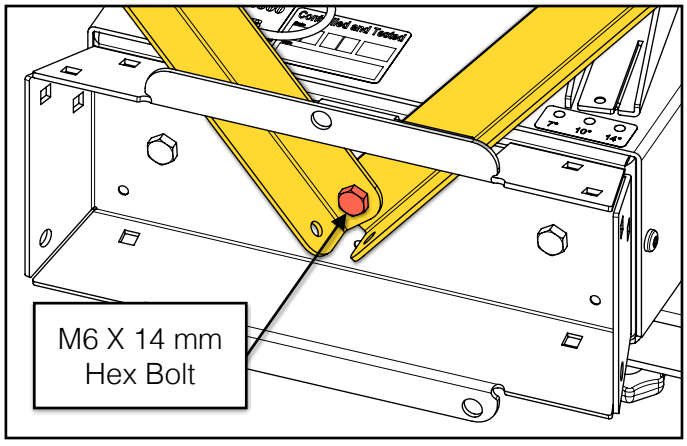
Using the hardware and components listed below, assemble the inner support arms to the sharpener.

1x	M6 4-Lobe Knob		2x	Inner Support Arm	

Facing the rear of the sharpener, slide the right inner support arm into the cutout in the mounting base. Then slide the left support arm into the other cutout ensuring the left arm is below the right arm. Secure both arms to the base and control box using the M6 4-lobe knob.



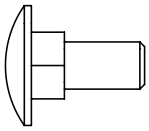
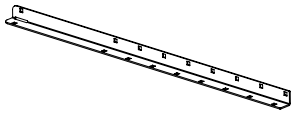
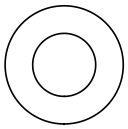
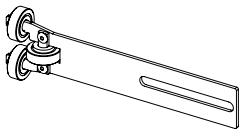
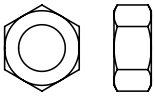
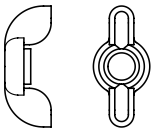
Note: If mounting the sharpener to a workbench, fasten the inner support arms to the mounting base using the extra M6 X 14 mm hex bolt instead of the M6 4-lobe knob. See section, ***WORKBENCH MOUNTING***, for more information.



WORKBENCH MOUNTING ONLY

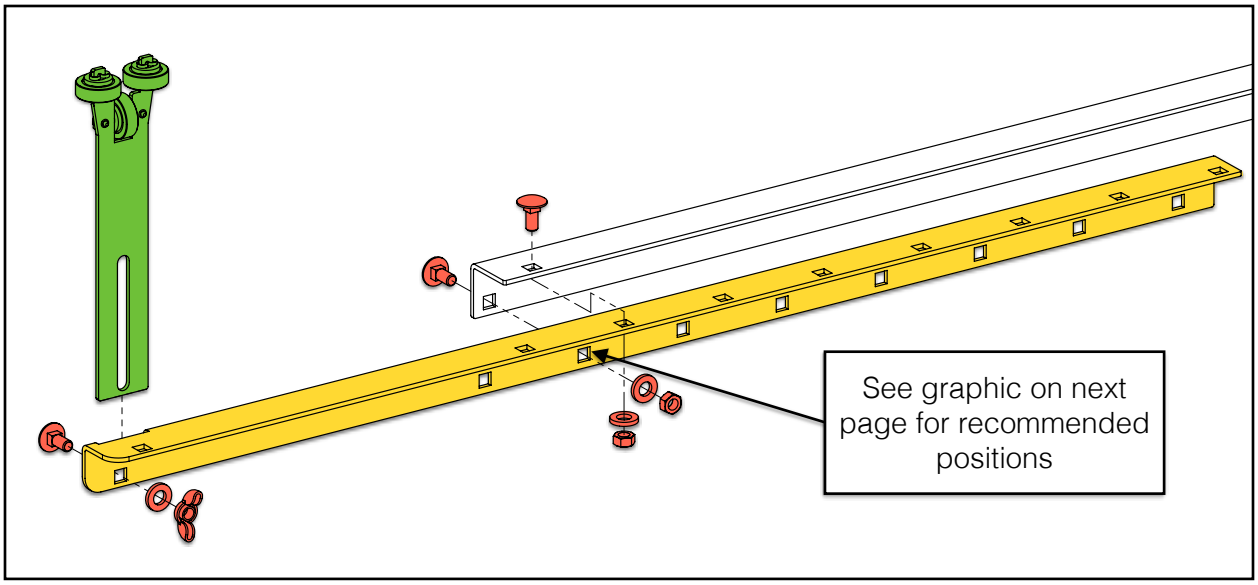
B. ADJUSTABLE OUTER SUPPORT ARMS

Using the hardware and components listed below, assemble the adjustable outer support arms and blade supports to the sharpener.

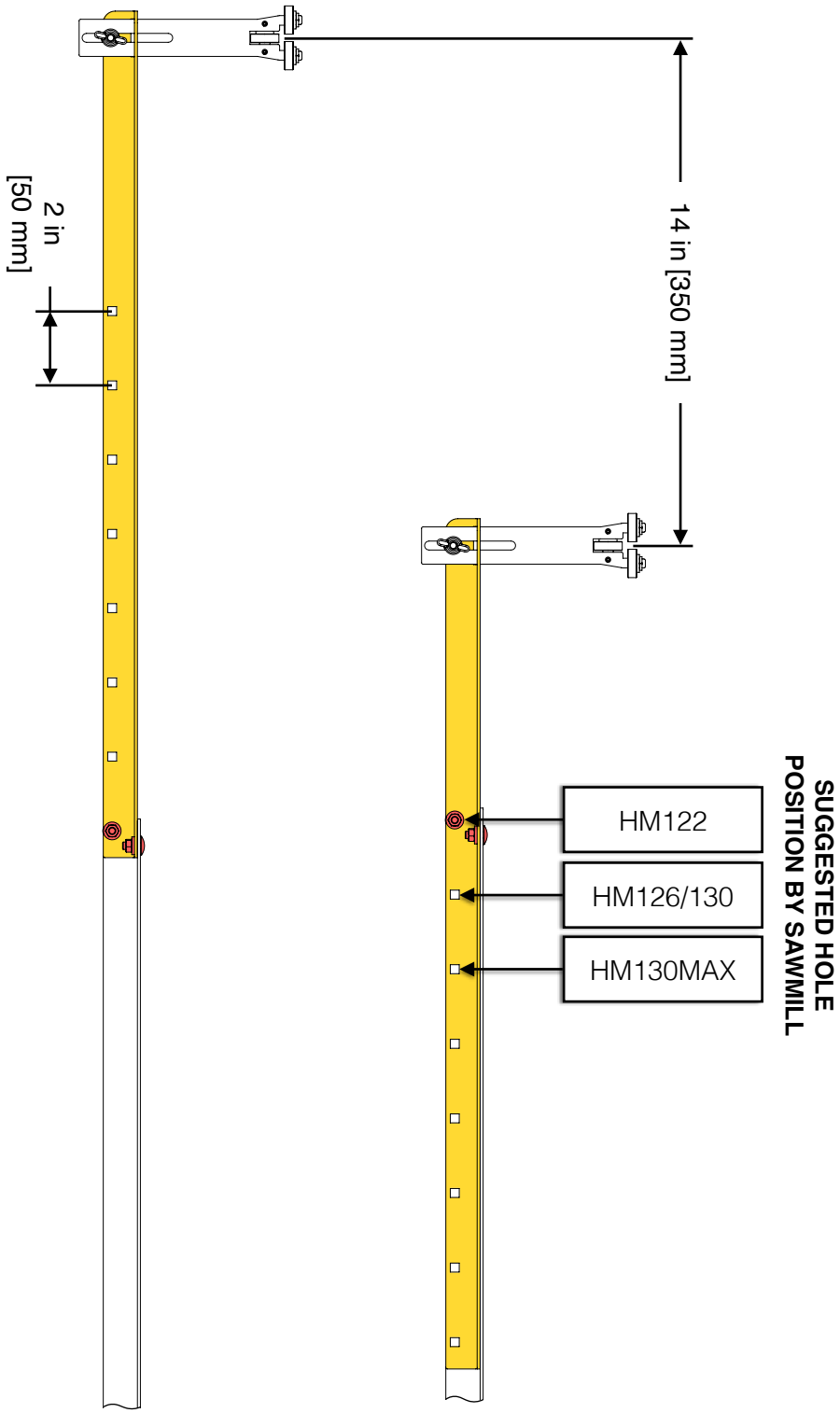
6x	M5 X 12 mm Carriage Bolt		2x	Adjustable Outer Support Arm	
6x	M6 Flat Washer		2x	Blade Support Assembly	
4x	M5 Hex Nut				
2x	M5 Wing Nut				

Assemble an outer support arm to both of the inner support arms using two (2) M5 X 12 mm carriage bolts, two (2) M6 flat washers, and two (2) M5 hex nuts.

Slide the blade supports through the slots in the ends of the outer supports and secure both with a carriage bolt, flat washer, and wing nut.

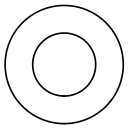
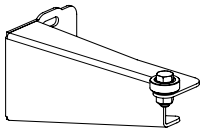
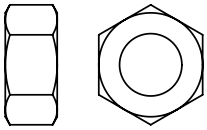


The adjustable outer support arms each contain eight (8) square holes—spaced 2 in [50 mm] apart—that allow the sharpener to accommodate a wide range of blade lengths.

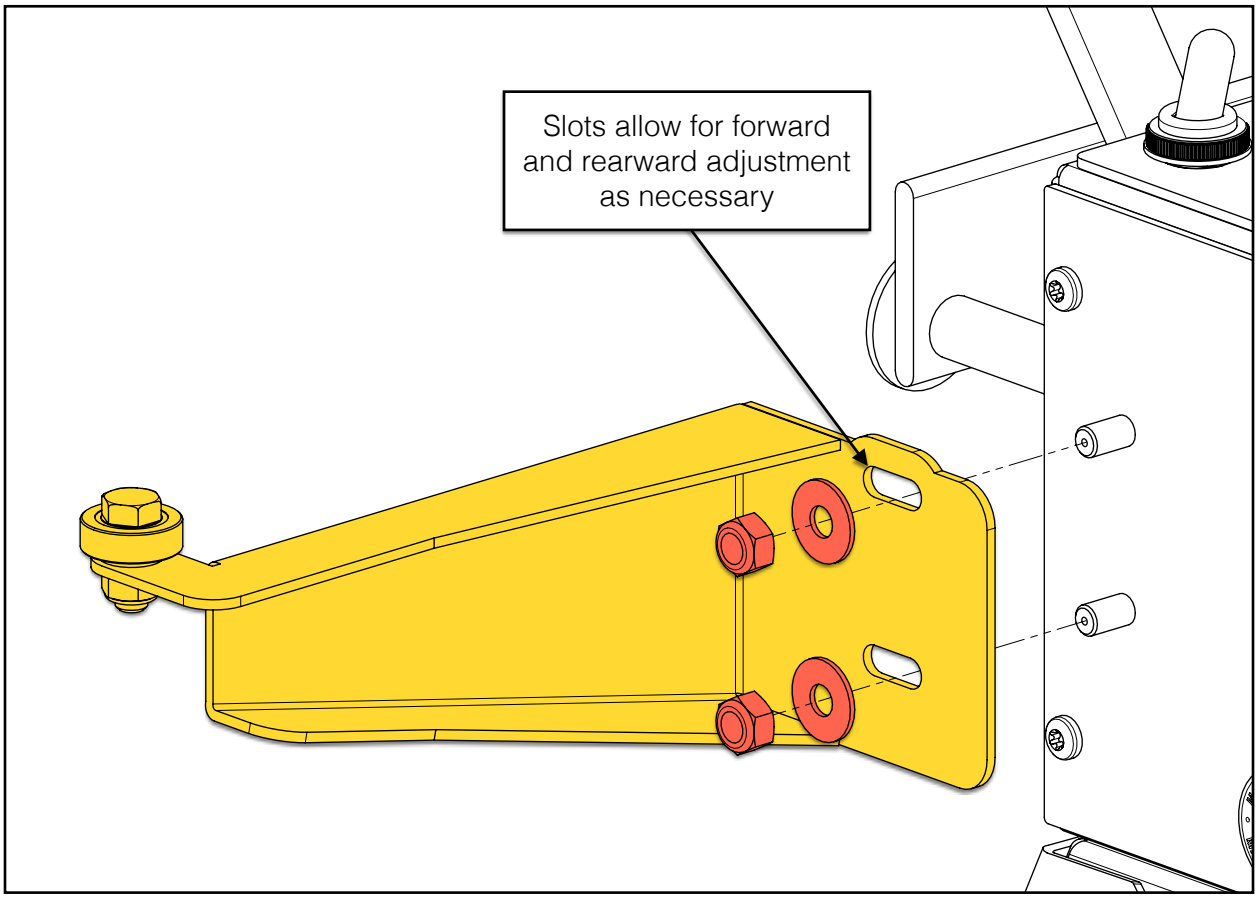


7. INFEED ARM

Using the hardware and components listed below, assemble the infeed arm assembly to the sharpener.

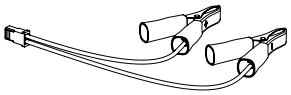
2x	M6 Fender Washer		1x	Infeed Arm Assembly	
2x	M6 Lock Nut				

Assemble the infeed arm to the threaded studs on the side of the control box using two (2) M6 fender washers and two (2) M6 lock nuts. Snug the hardware but do not fully tighten it until a blade is ready to be sharpened.

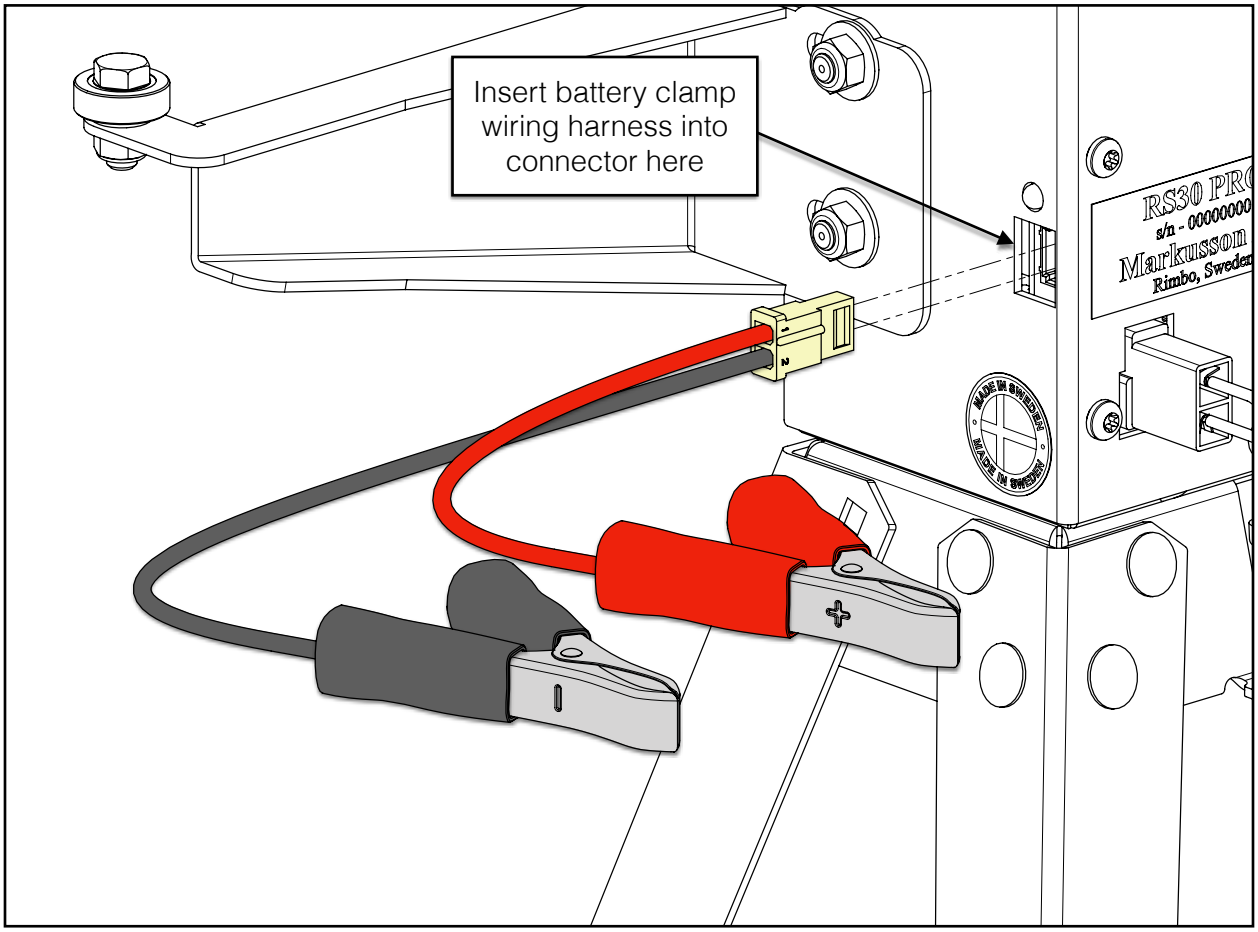


8. BATTERY CABLES

Connect the battery clamp wiring harness to the control box as shown.

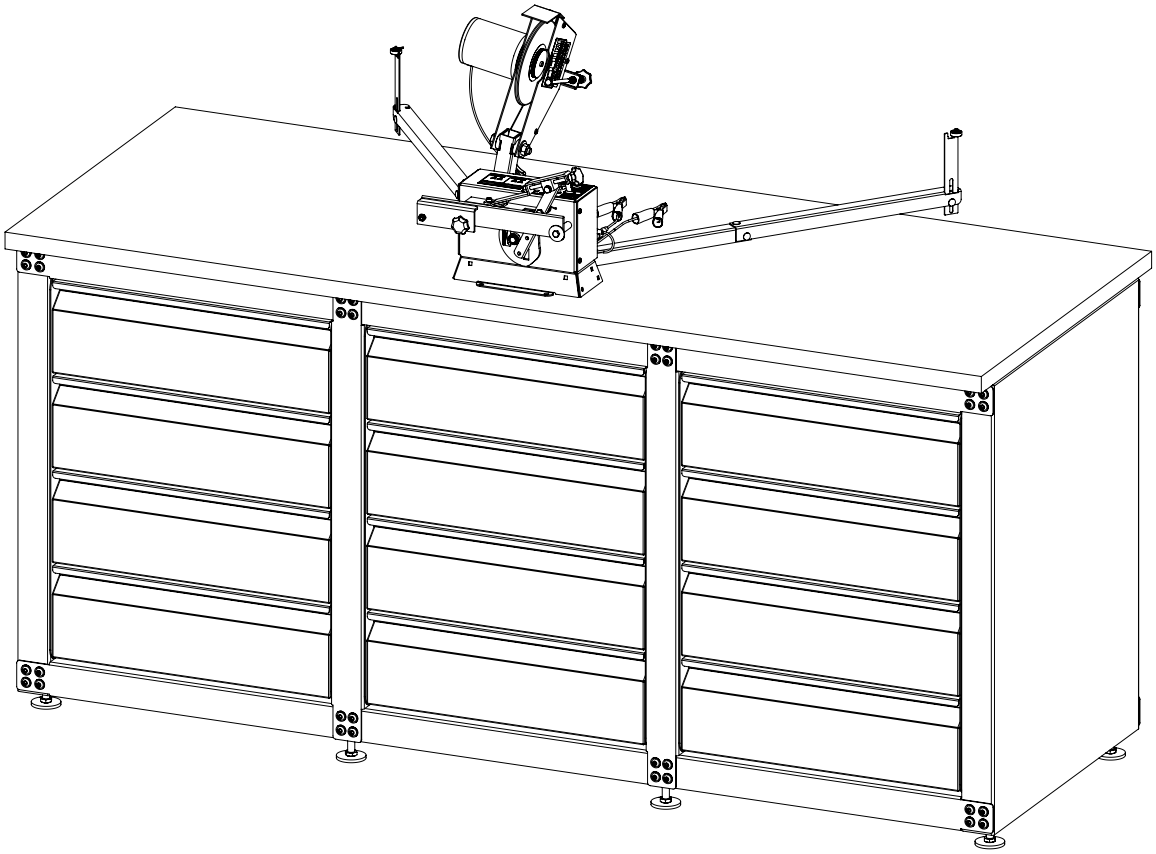
1x	Battery Clamp Wiring Harness	

Insert the battery clamp wiring harness into the connector on the side of the control box, located behind the infeed arm. Push the connector in until it is fully seated.

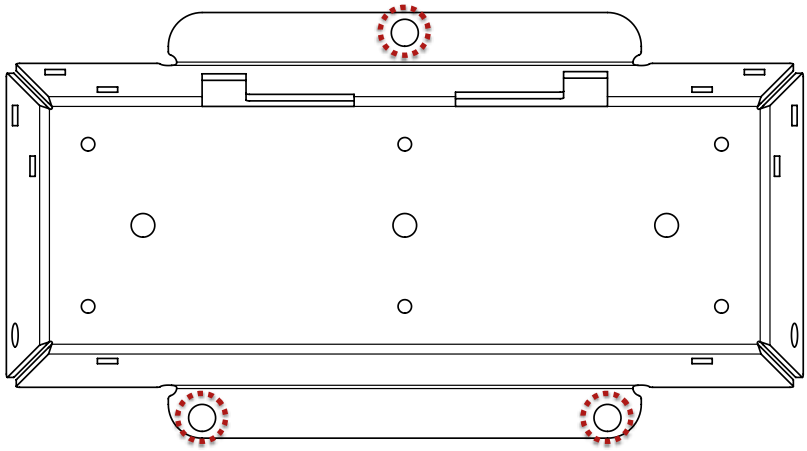


9. WORKBENCH MOUNTING (OPTIONAL)

If it is desirable to mount the sharpener to a workbench instead of utilizing the stand, be sure the M6 X 14 mm hex bolt was used in place of the the 4-lobe knob in step, ***INNER SUPPORT ARMS***, on page 23.

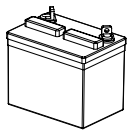


No workbench-mounting hardware is included with the sharpener and must be provided by the customer. The mounting holes will accept hardware no larger than 5/16 in [8 mm].

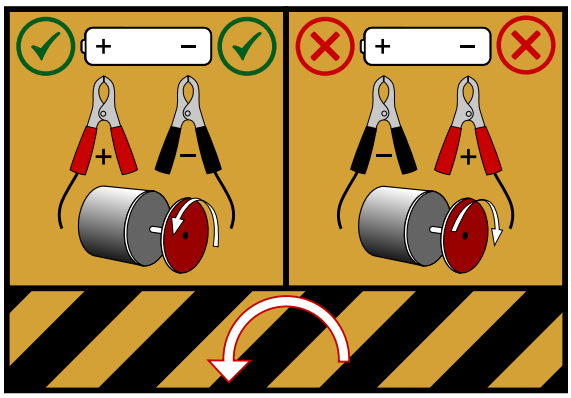


BATTERY

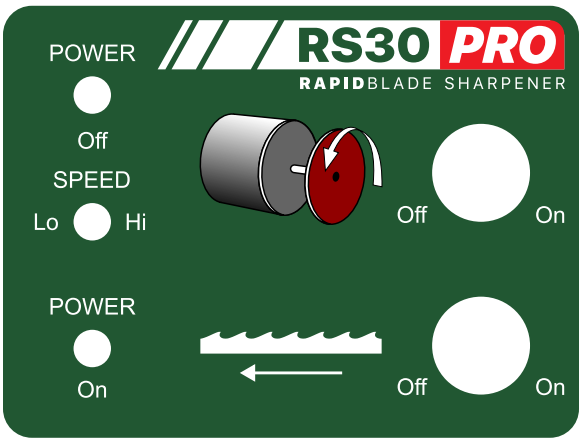
The customer is required to purchase their own 12 Volt battery.

1x	12 V Battery	

Follow the battery polarity label on top of the control box: connect the **POSITIVE** clamp (+ red) to the positive battery terminal and the **NEGATIVE** clamp (— black) to the negative battery terminal.

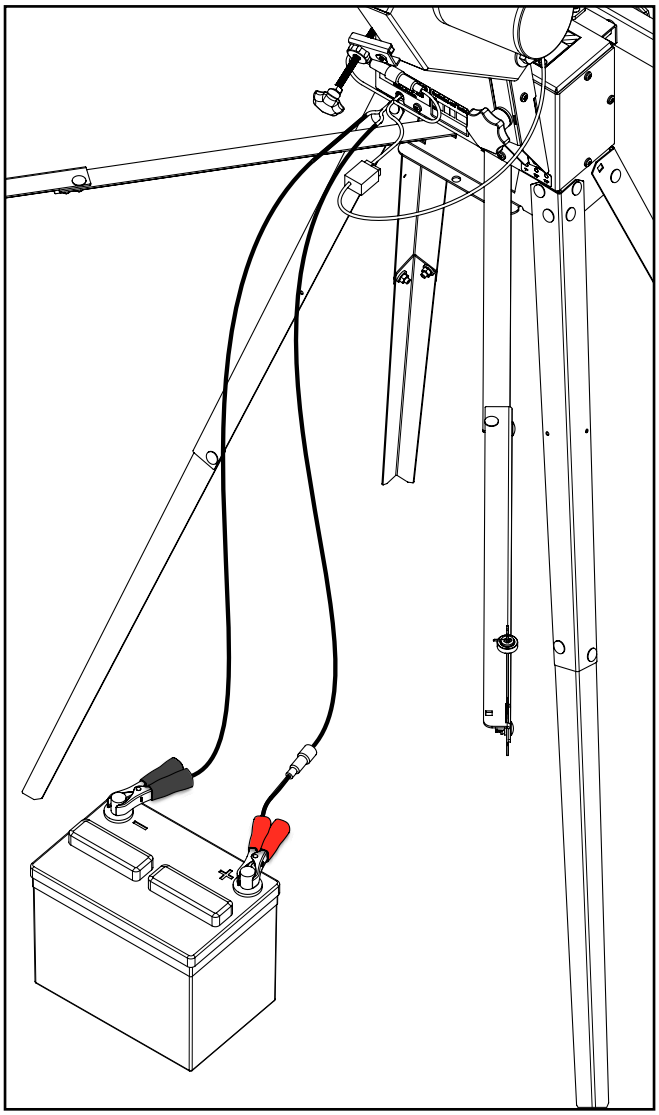


BATTERY POLARITY LABEL



TOGGLE SWITCH LABEL

****Always remember to check that the toggle switches are in the STOP position before connecting the battery.****



MAINTENANCE

The bandsaw blade should be set and sharpened regularly for optimal performance. During normal sawing of most wood species this should be done at intervals of approximately 2 hours of effective cutting time (*effective cutting time* refers to the time the bandsaw blade was actually cutting). The bandsaw blade should be sharpened more frequently when cutting those species of wood with a high sand content.

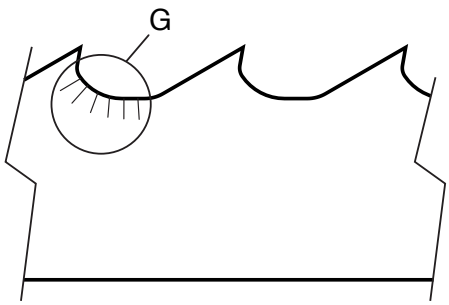
CLEANING AND INSPECTION

Clean sawdust and any coating from the bandsaw blade.

Check whether there are cracks in the gullets (**FIG 1**). Small cracks can be ground away when sharpening the blade. If the cracks are so large that they cannot be ground away, the bandsaw blade should be discarded.

Cracks in the gullets "**G**" are the most common cause of bandsaw blade breakage.

FIG 1



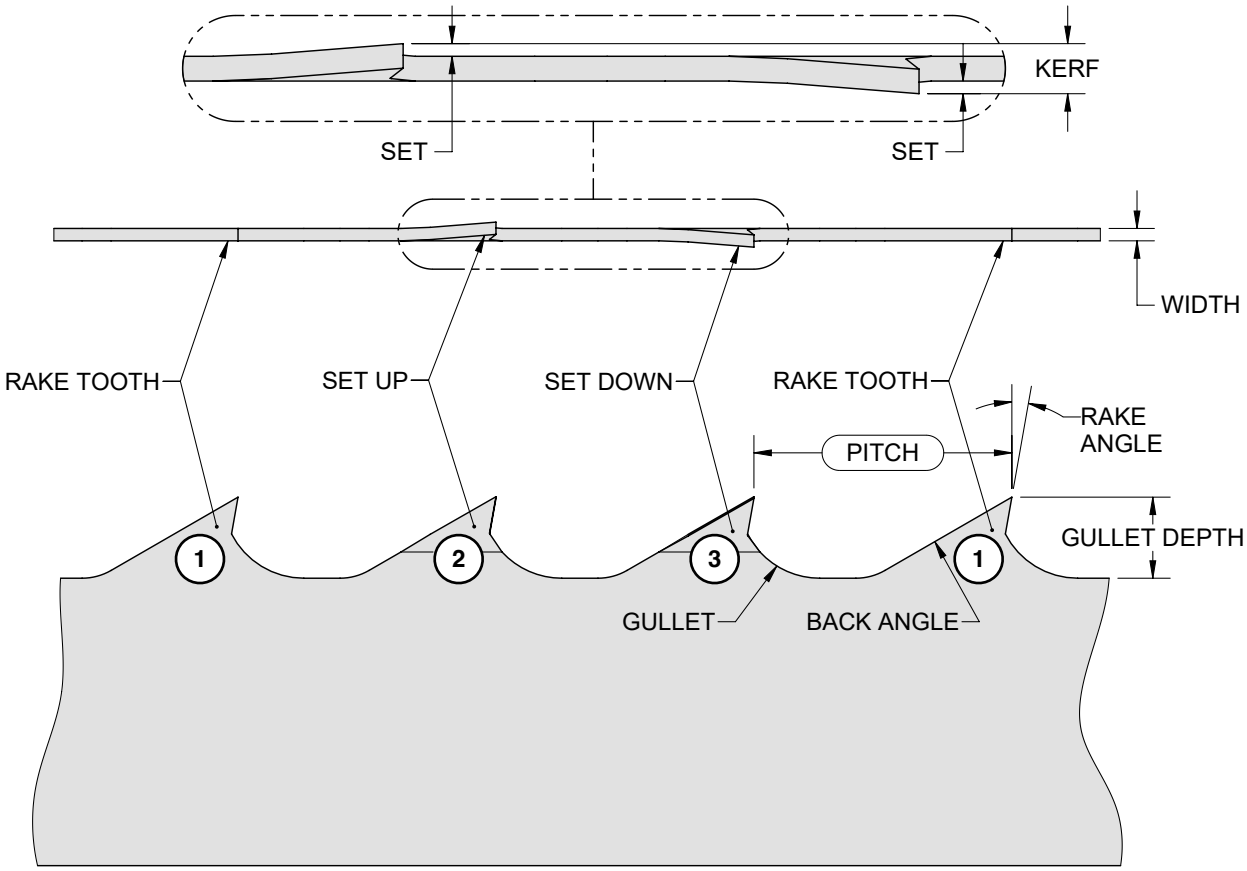
WARNING!
The bandsaw blade is sharp and can cause injury. Always wear protective gloves when handling the bandsaw blade.

WARNING!
Never use a damaged bandsaw blade.

SAW BLADE GEOMETRY

Saw blade tooth geometry follows a particular "set" pattern where the first tooth is straight (rake tooth) ①, the second tooth is set up ②, and the third tooth is set down ③. This 3-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.

SHARPENING GUIDELINES

The more accurate the sharpening, the straighter and smoother the bandsaw blade runs when milling logs.

GULLET RADII

The radius in the gullet area "**R**" (**FIG 2**) should be 0.04 to ⅛ in [1 to 3 mm].

A radius under 0.04 in [1 mm] increases the risk of cracking. A radius over ⅛ in [3 mm] runs the risk where the wood chips may not be broken.

BACK AND HOOK ANGLES

The back angle is normally between 10-12° (**FIG 3**) and the hook angle "**A**" (**FIG 4**) varies depending on the species of wood as shown in the table below:

Hardwoods/Frozen Timber	7°
General	10°
Softwoods	14°

WARNING!
The bandsaw blade is sharp and can cause injury. Always wear protective gloves when handling the bandsaw blade.

FIG 2

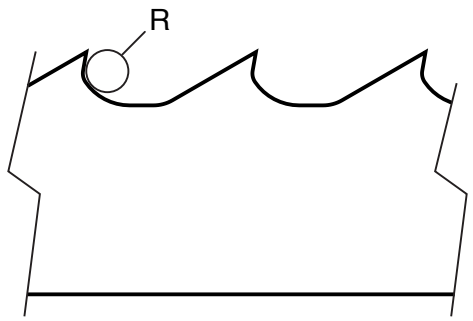


FIG 3

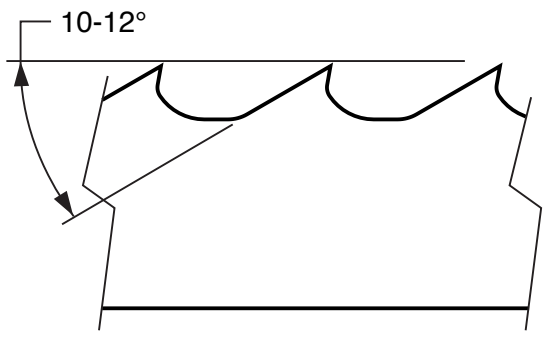
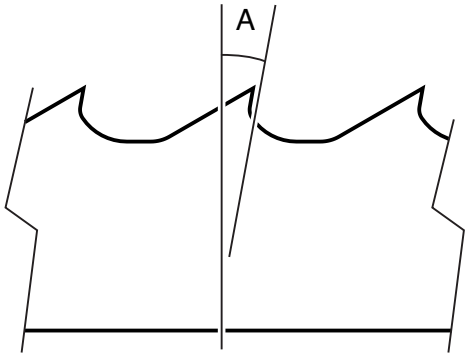


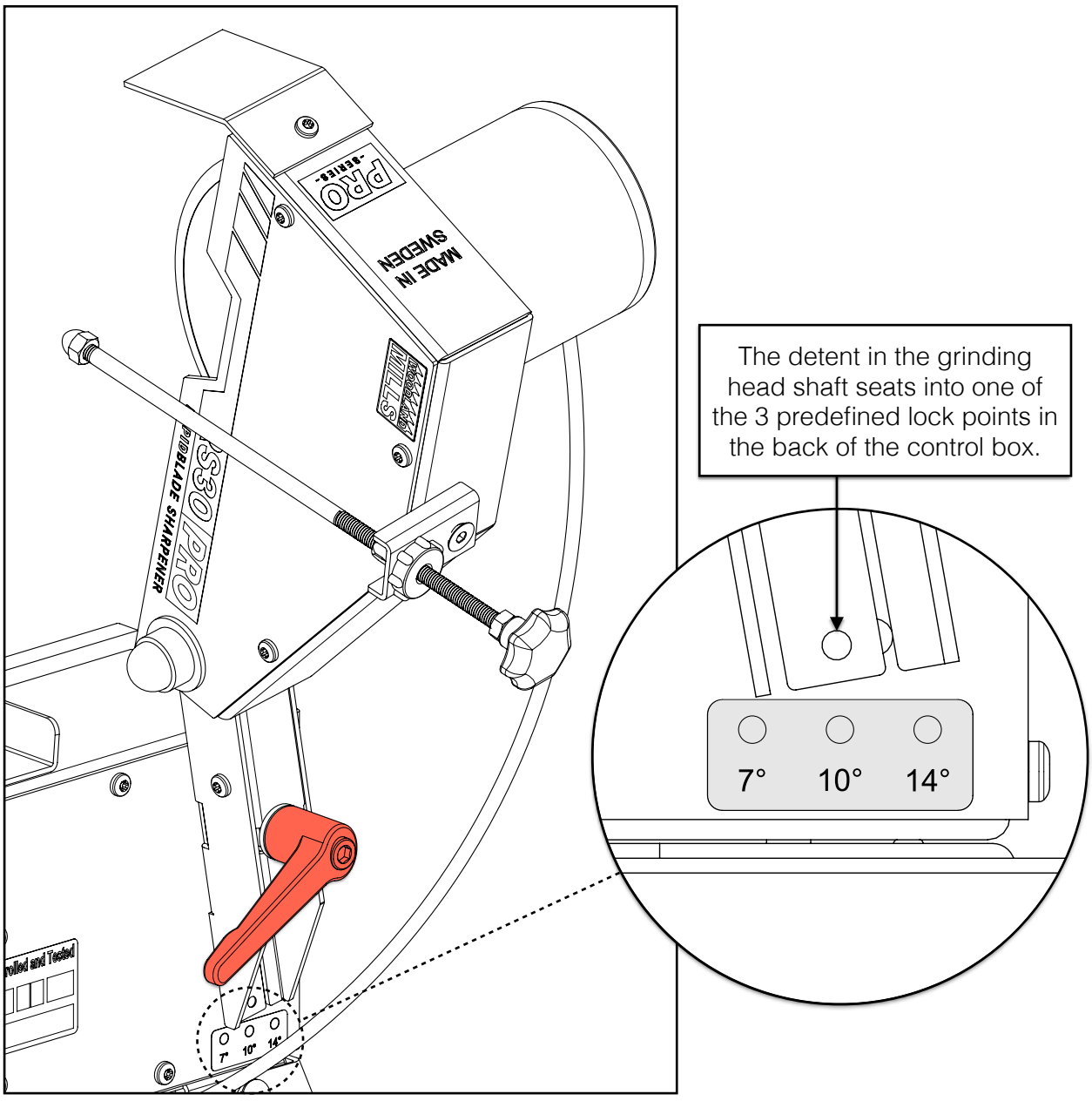
FIG 4



OPERATION

1. SETTING THE HOOK ANGLE

Loosen the adjustable handle on the back of the control box and rotate the grinding head to set the appropriate hook angle for the blade to be sharpened. Once set, tighten the handle.

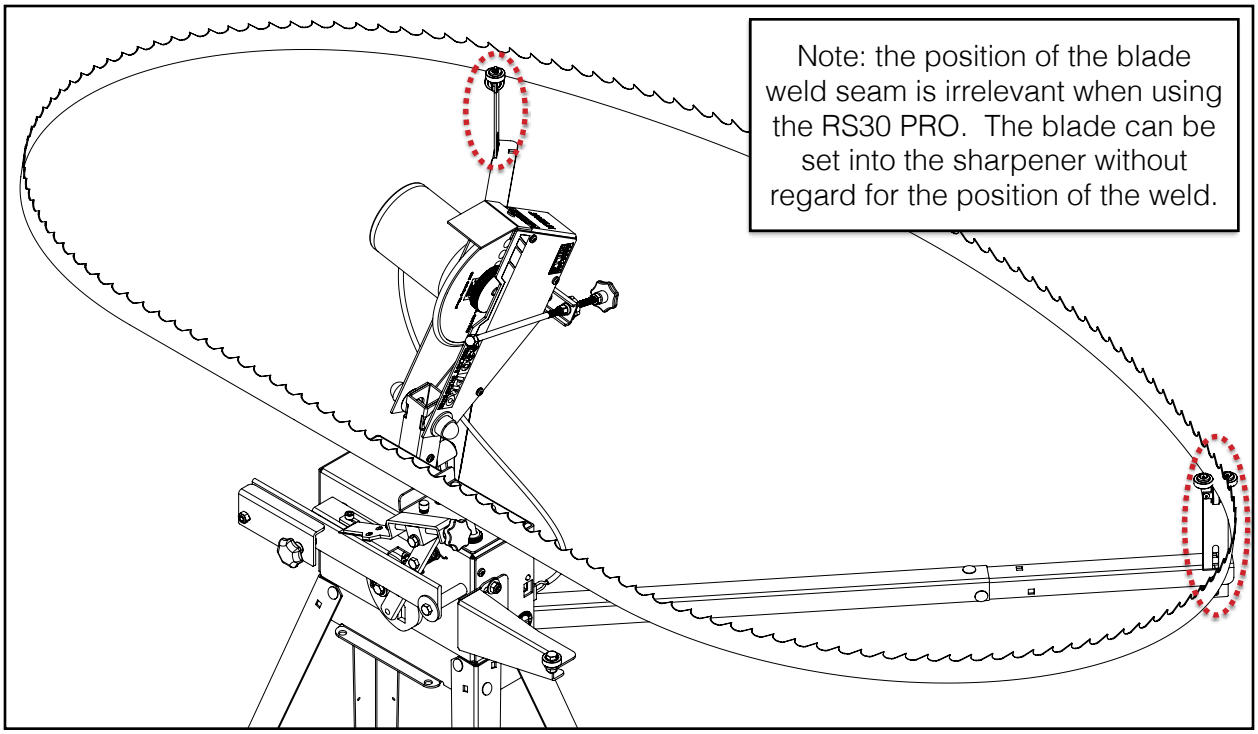


****Note: the grinding head can be set to custom angles other than the three (3) predefined angles shown. Simply rotate the head as desired and lock it in place with the handle.****

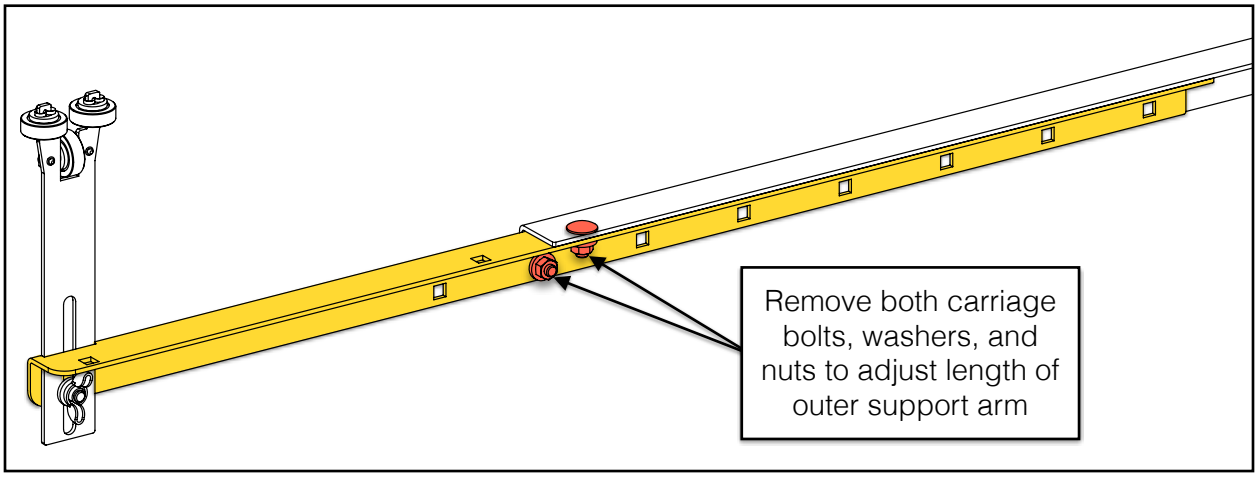
2. INSTALLING THE BLADE

A. BLADE SUPPORTS

First, seat the far side of the blade into the spaces between the bearings in each of the blade supports.

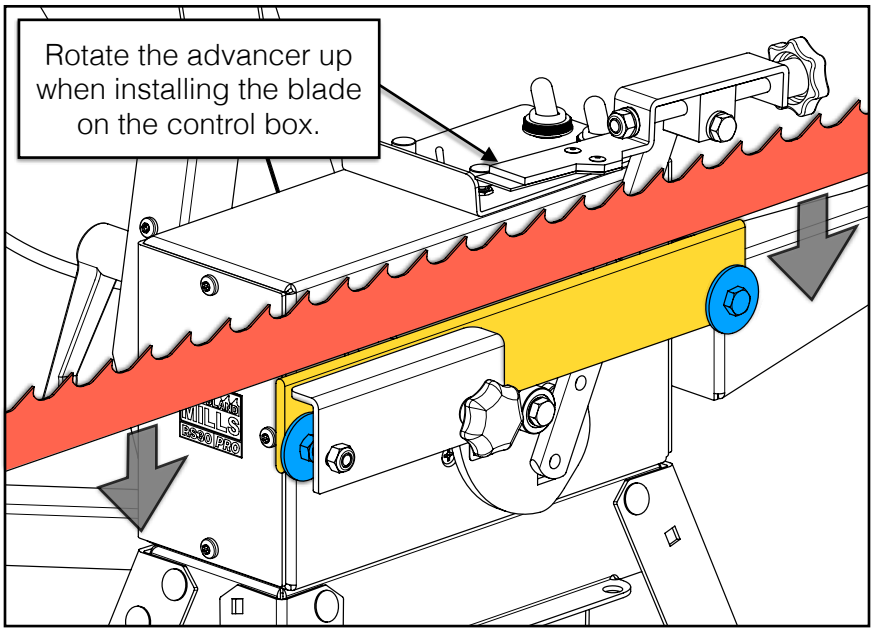


Note: adjust the position of both the outer support arms to suit the blade length as necessary. The blade should ride smoothly between the bearings in each blade support. See section, ***ADJUSTABLE OUTER SUPPORT ARMS***, for more information.



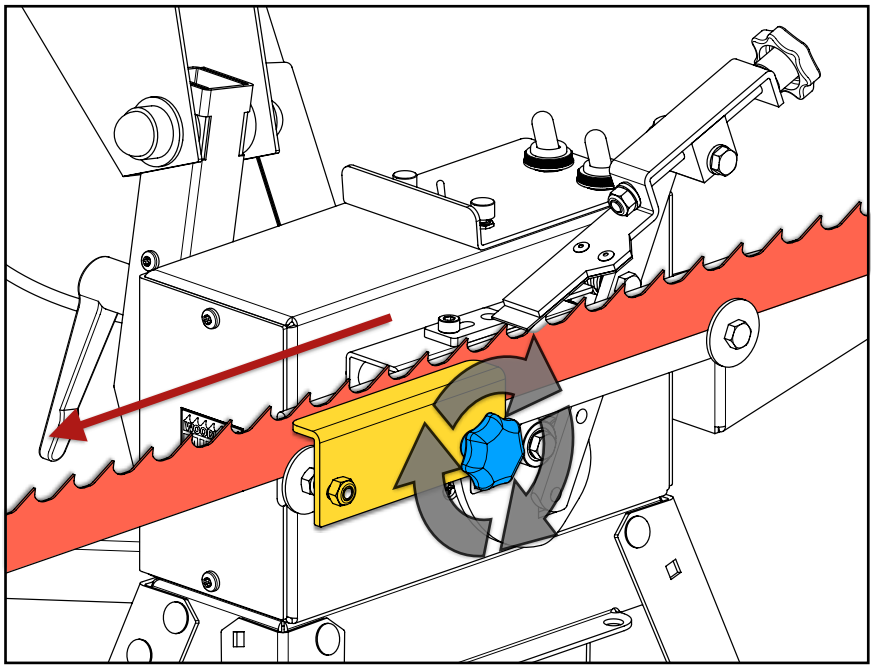
B. BACK REST

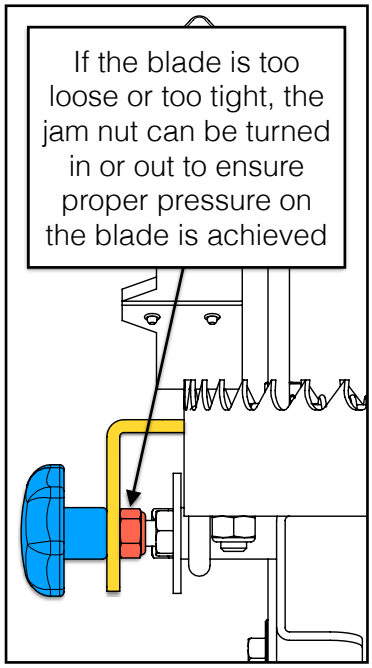
Position the near side of the blade so that it slides down between the back rest and the large fender washers.



C. PRESSURE PLATE

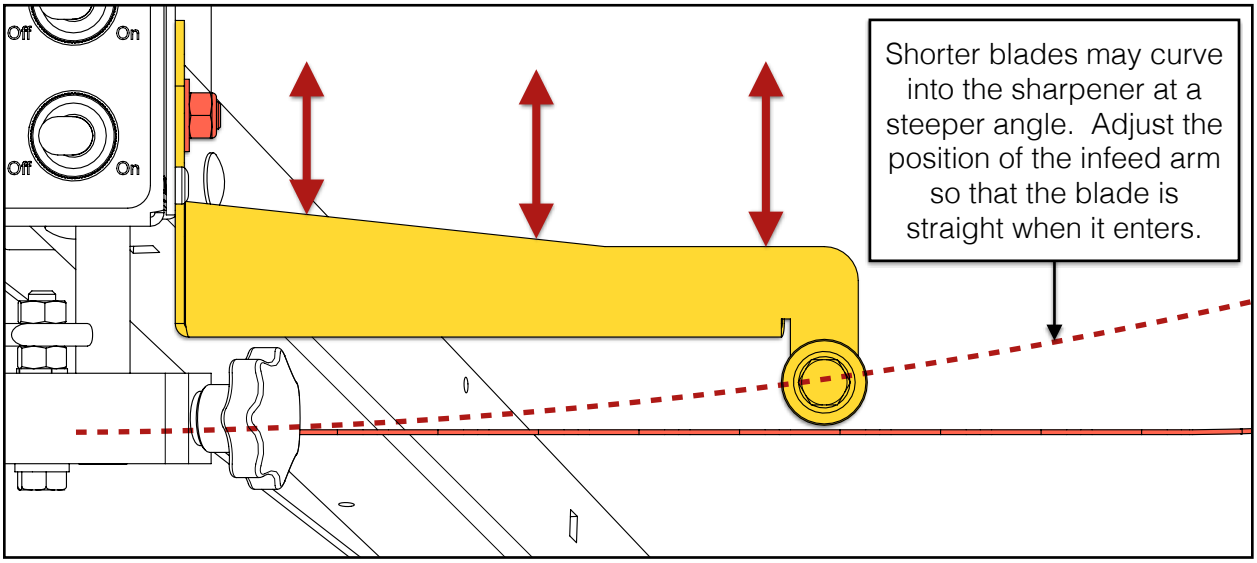
Tighten the knob on the pressure plate until it bottoms out. The blade should smoothly slide to the left but not move in or out (forwards or backwards).



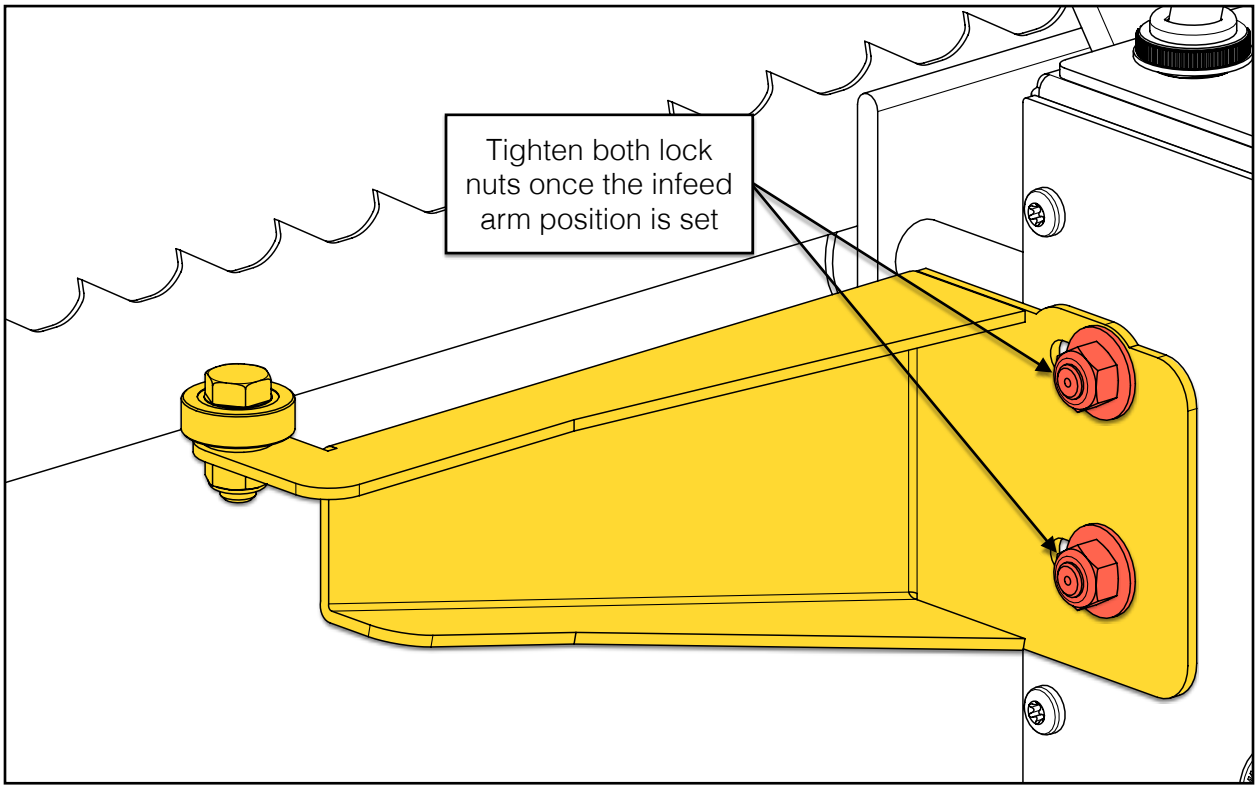


D. INFEED ARM

Adjust the infeed arm so that the blade enters the sharpener straight. Shorter blades are more likely to enter the sharpener at a steeper angle which may strain the motor.



Tighten the two (2) lock nuts on the side of the control box once the infeed arm position is ideal.

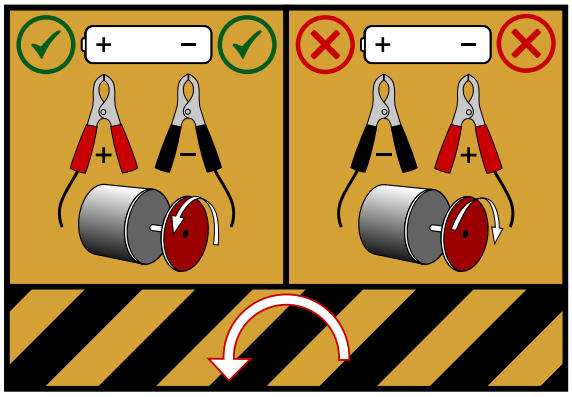


3. CALIBRATING THE ADVANCEMENT

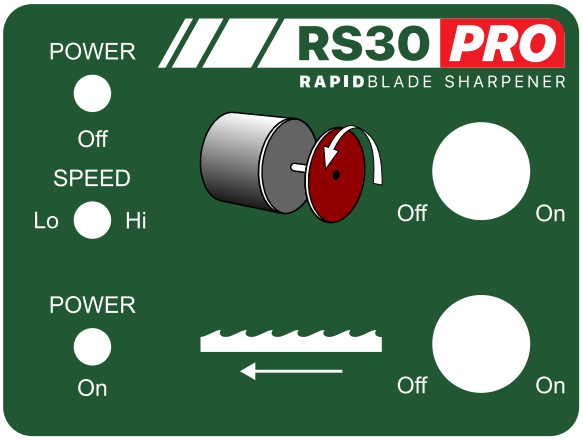
A. CONNECT THE BATTERY

Before connecting the battery, ensure both the advance and grinding head toggle switches are set to **OFF**.

Follow the battery polarity label on top of the control box: connect the **POSITIVE** clamp (**+** red) to the positive battery terminal and the **NEGATIVE** clamp (**—** black) to the negative battery terminal.

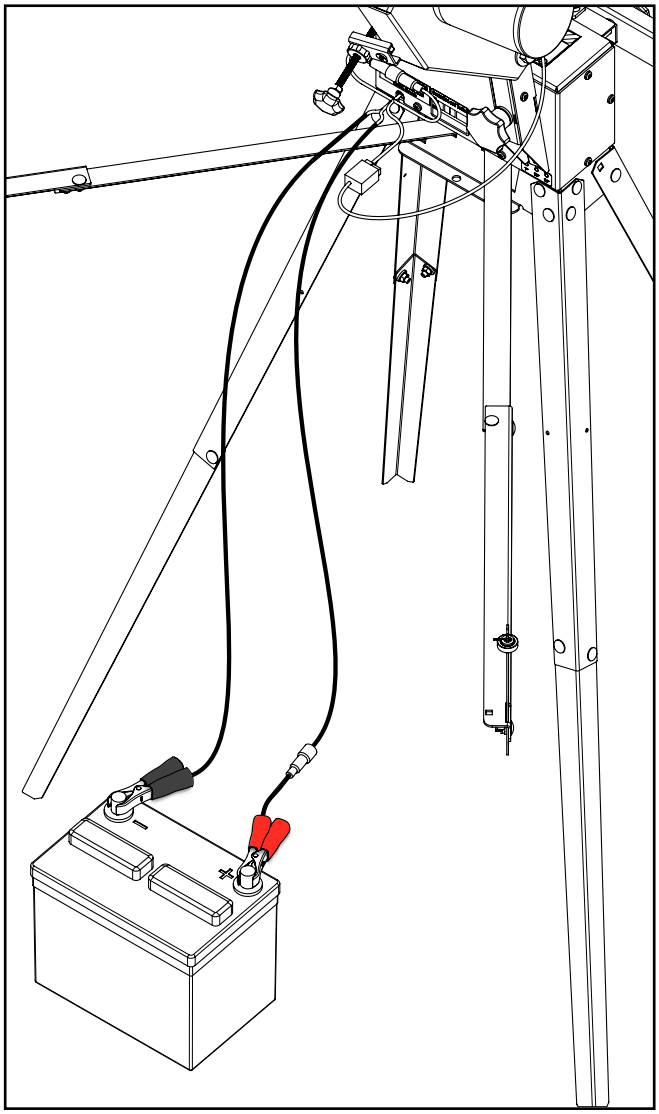


BATTERY POLARITY LABEL



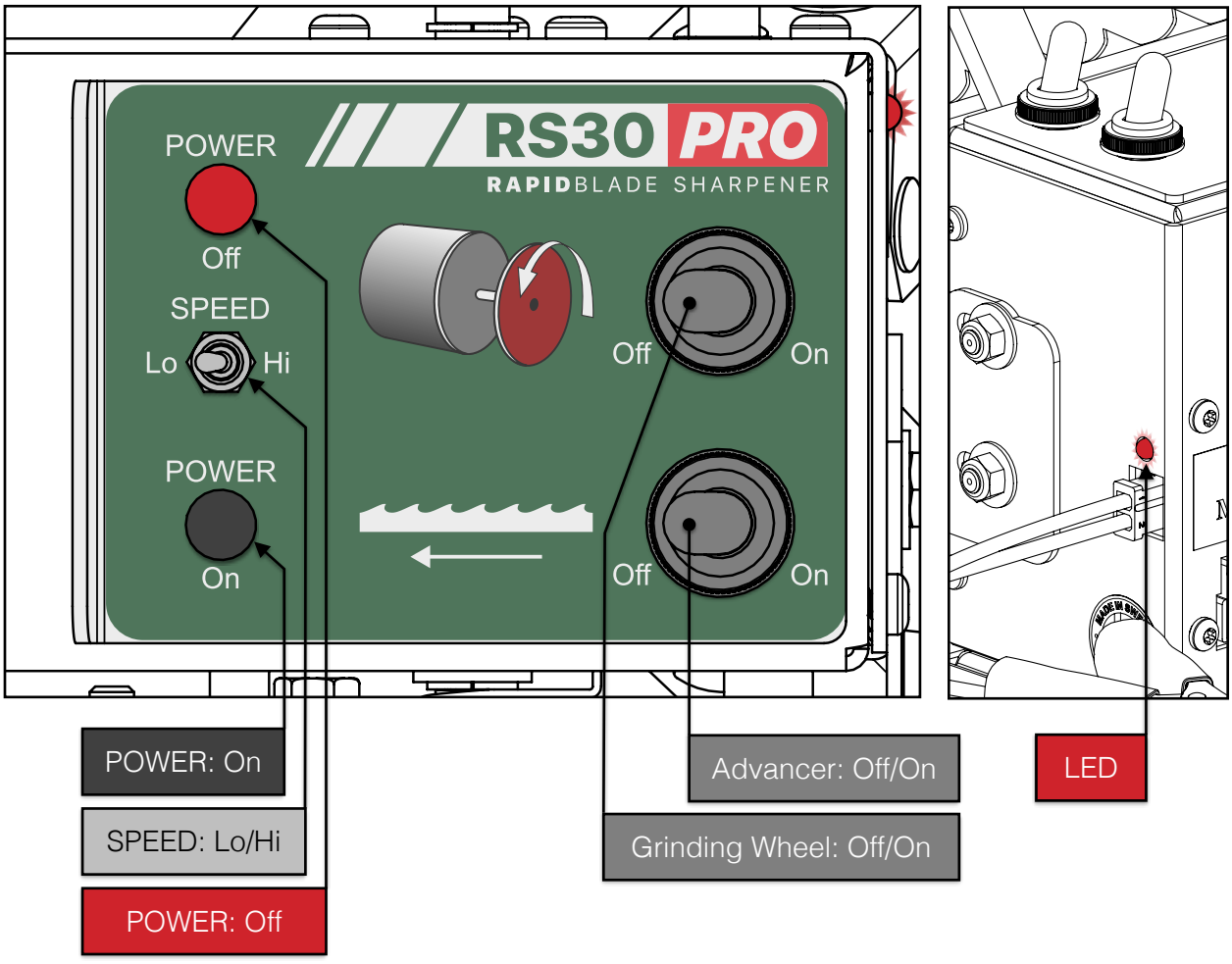
TOGGLE SWITCH LABEL

****Always remember to check that the toggle switches are in the OFF position before connecting the battery.****



B. POWER THE SHARPENER ON (CONTROLS)

With the sharpener connected to a battery, the unit will not power up until the black **POWER On** button is pressed. Once pressed, the red LED on the side of the control box will light up indicating there is power going to the sharpener.

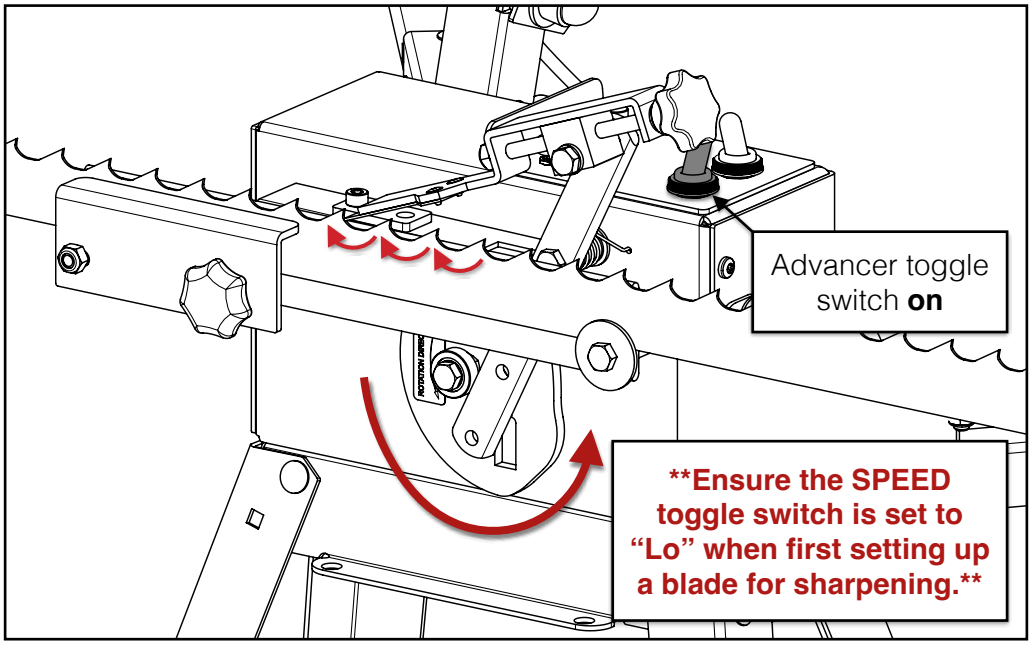


POWER On: Pushbutton switch that powers the sharpener on.
POWER Off: Pushbutton switch that powers the sharpener off.
SPEED Toggle: Toggle switch that changes the speed of the advancer.
Advancer Toggle: Toggle switch that starts the advancer.
Grinding Wheel Toggle: Toggle switch that starts the grinding wheel.
LED: Power indicator light. If the light is on, the sharpener is powered on.

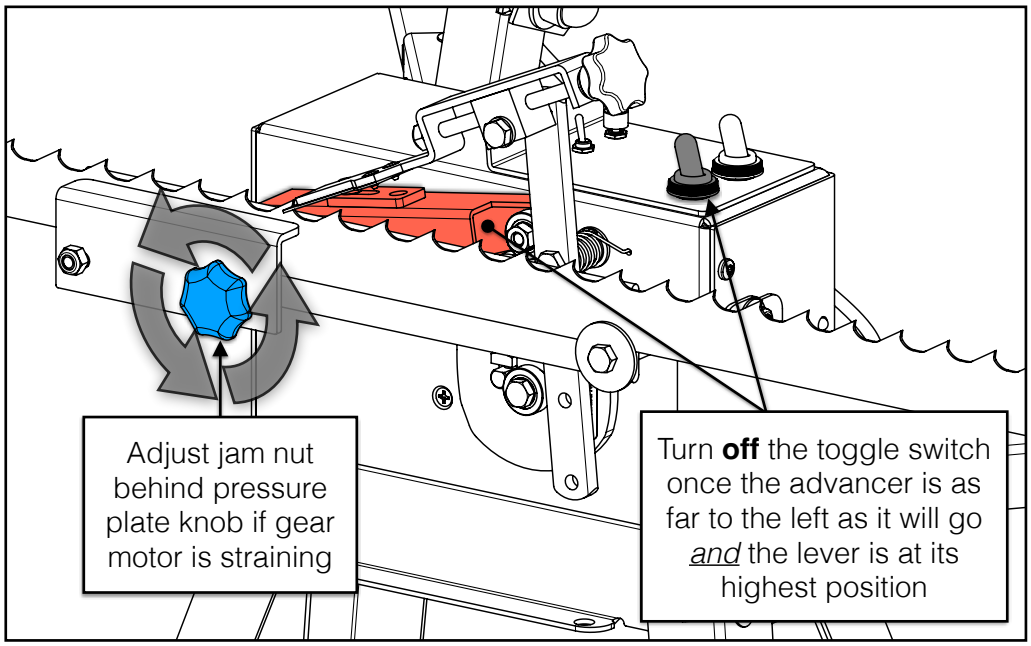
Ensure both the Advancer and Grinding Wheel toggle switches are in the *Off* position and then press the **POWER On** button. The **LED** will light up once the sharpener is powered on.

C. ADVANCE THE BLADE

Turn *on* the advancer toggle switch and allow the advancer to move the blade a couple teeth. Ensure the **SPEED** toggle switch is set to "**Lo**".



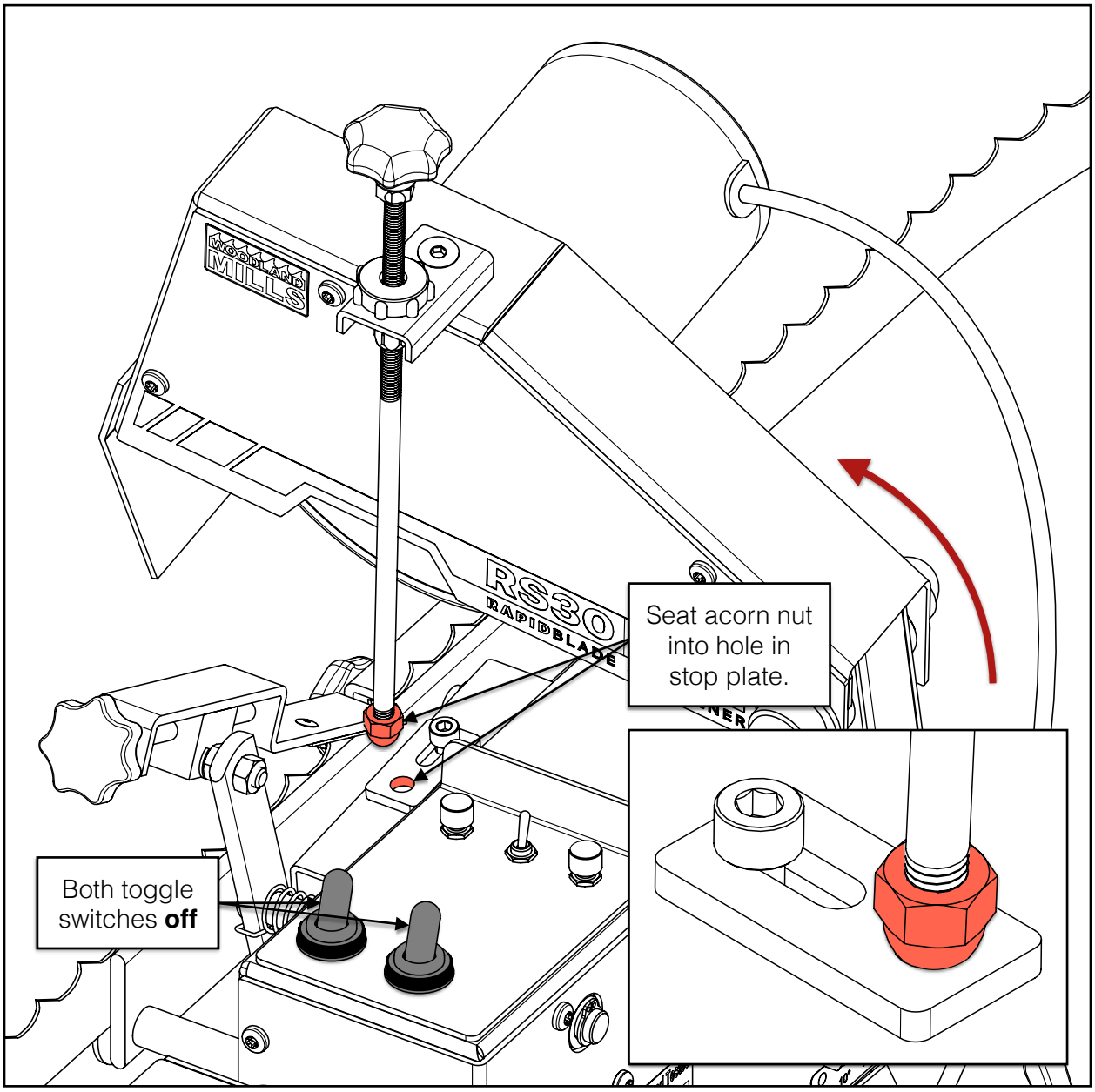
Turn *off* the advancer toggle switch once the advancer is as far to the left as it will go *and* the lever is at its highest position.



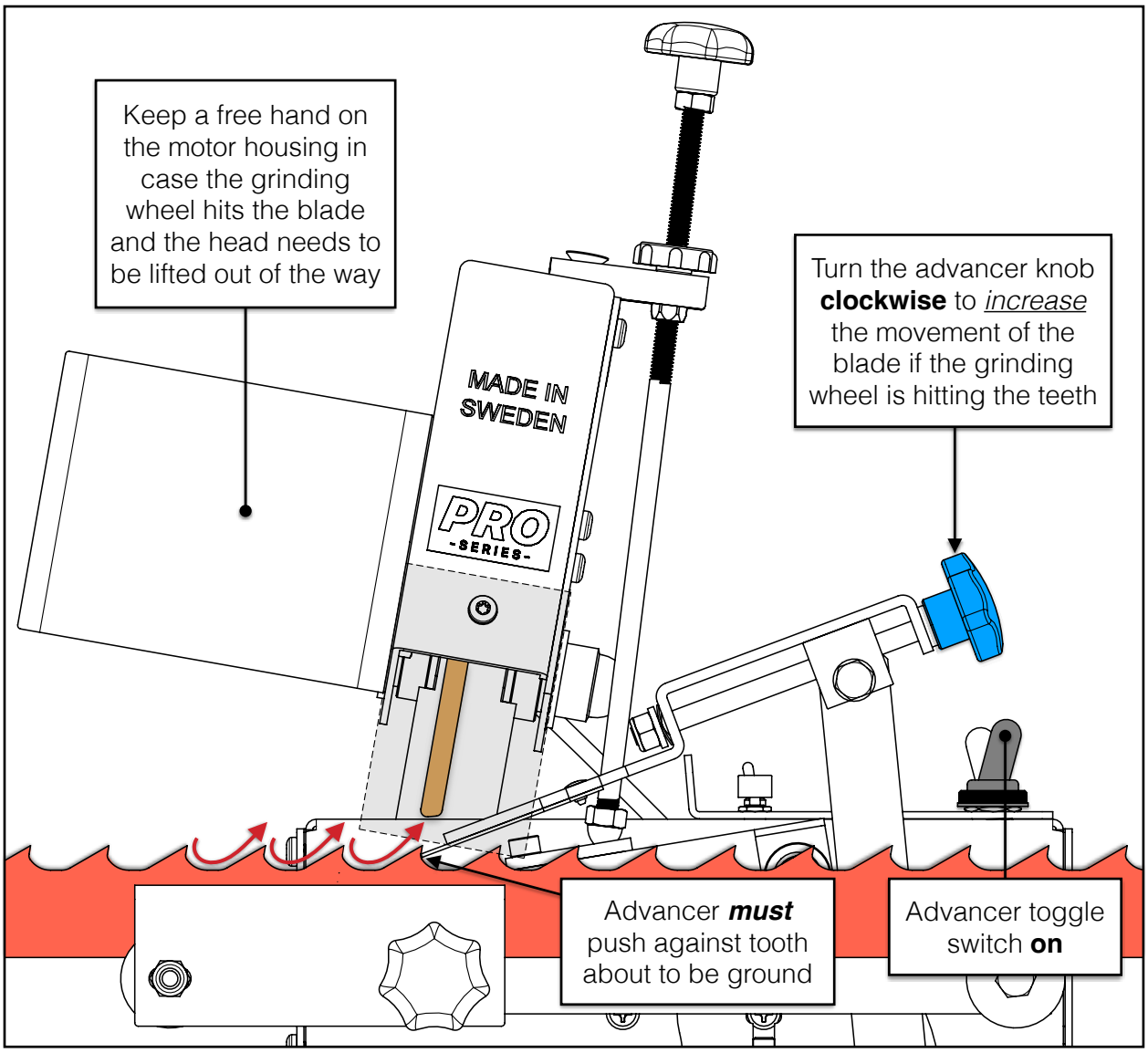
Listen to the gear motor as the blade advances. If it gets loud and sounds like it is straining, the blade is too tight. Adjust the jam nut behind the *pressure plate knob*.

D. ROTATE THE GRINDING HEAD DOWN

Manually rotate the grinding head down—but do not turn it on. Seat the acorn nut at the end of the depth adjustment rod into the hole in the stop plate.



Turn on the advancer toggle switch and observe the movement of the grinding wheel relative to the tooth profile. Do not turn the grinding head on.



****Keep a free hand on the motor housing and be ready to lift the grinding head if it looks like the grinding wheel will hit the blade.****

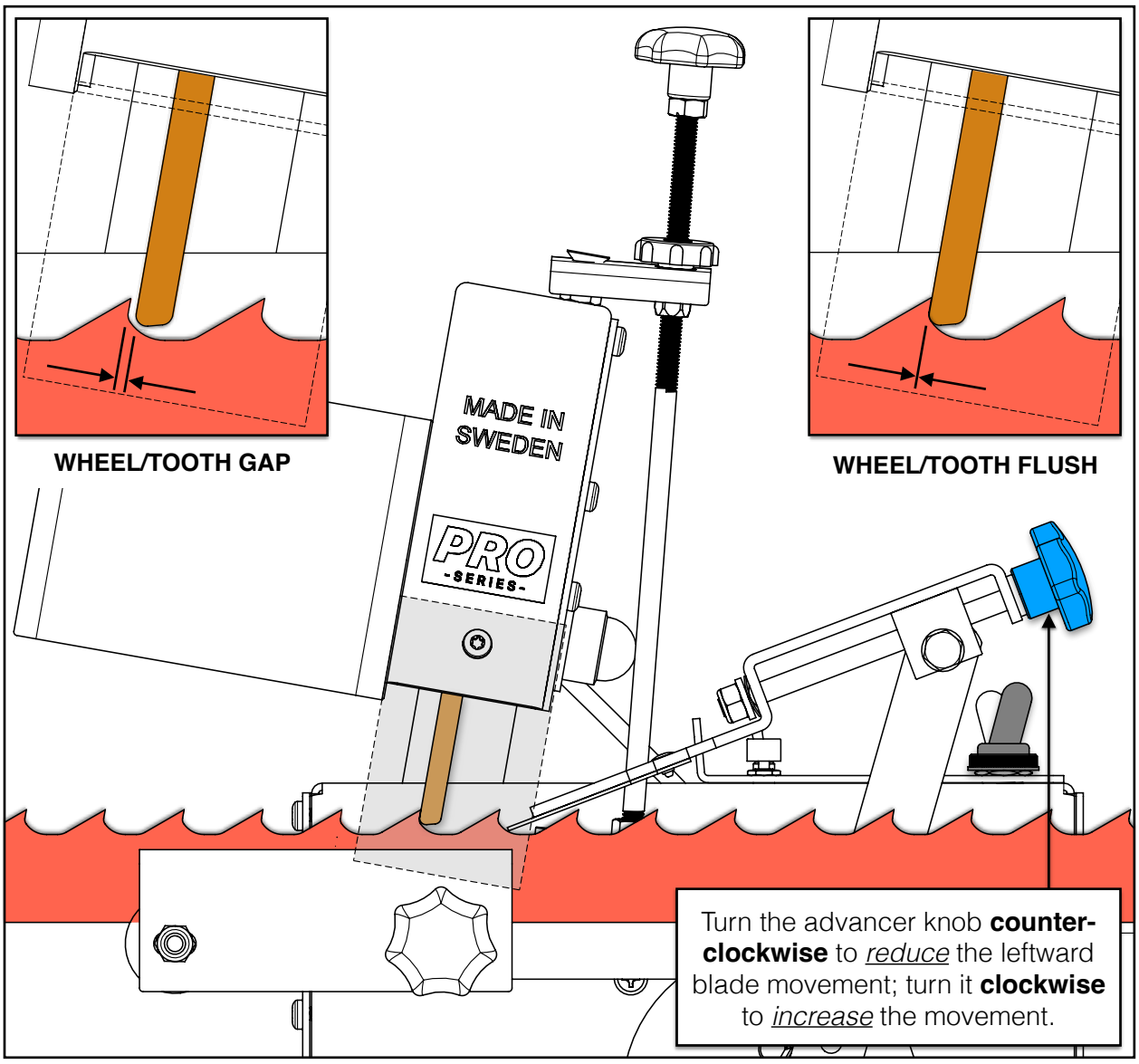
PUSH AGAINST THE TOOTH ABOUT TO BE GROUND!

The advancer ***must*** always push against the tooth about to be ground. If the advancer pushes one or more teeth in front of the tooth being ground, the irregular tooth spacing at the blade's weld seam could offset the remaining teeth relative to the grinding wheel, potentially damaging the blade.

E. FINE-TUNE THE ADVANCEMENT

One half of the adjustment setting is fine-tuning the advancement so that the left face of the grinding wheel is flush with the hook face of the tooth.

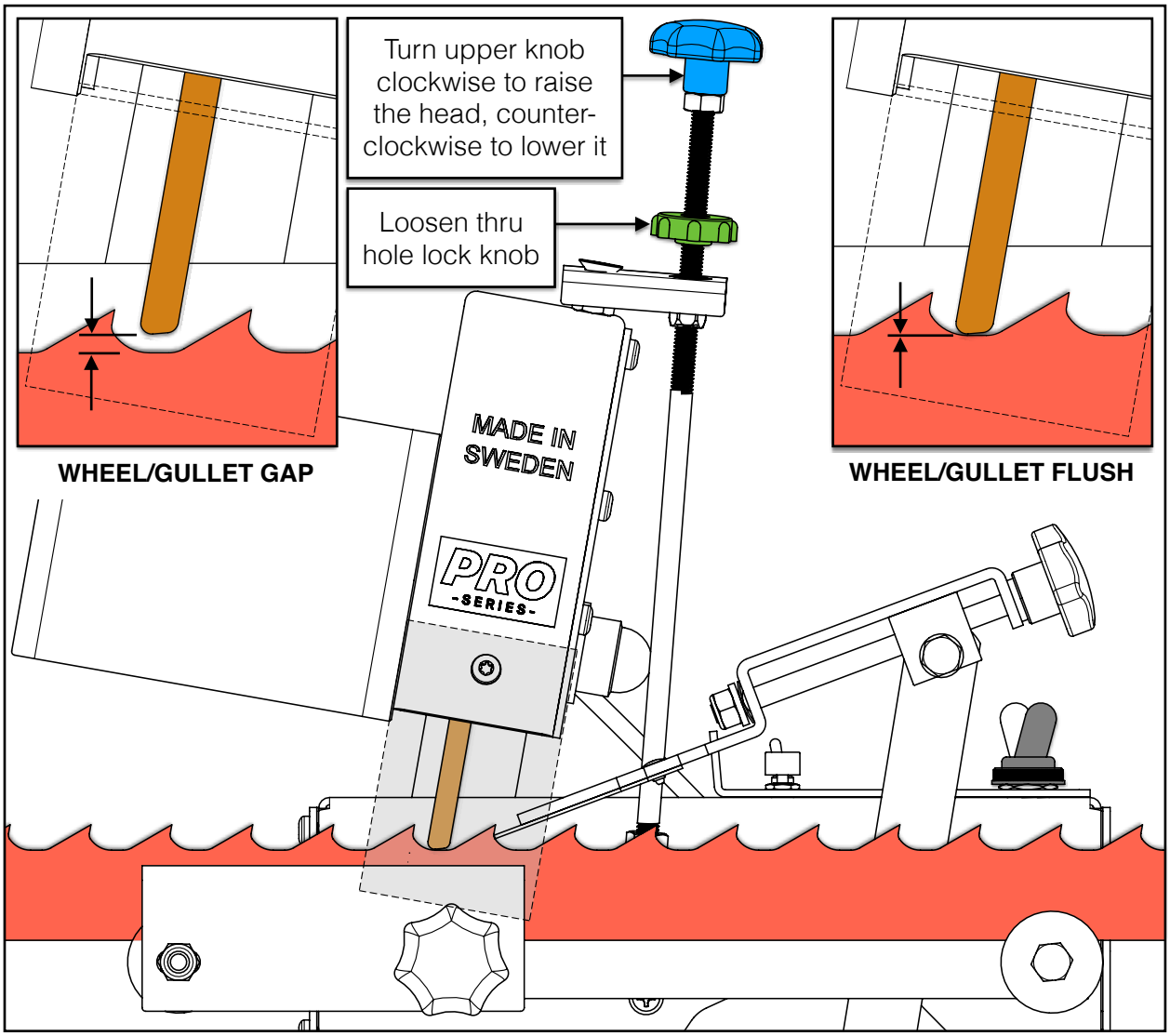
Use the advancer knob to adjust how far the blade is pushed to the left. Turning it *clockwise* will push the blade farther to the left while *counter-clockwise* will back off the advancer and reduce the blade's leftward movement.



****Setting up a blade for sharpening requires a combination of both the advancement adjustment and the grinding head movement steps. Read and understand both sections before starting to fine-tune the sharpener.****

F. FINE-TUNE THE GRINDING HEAD MOVEMENT

The other half of the adjustment setting is fine-tuning the grinding head height so that the bottom of the grinding wheel touches the bottom of the tooth gullet.



Loosen the thru hole lock knob counter-clockwise so the depth adjustment rod can move freely. This knob acts as a locking mechanism for the rod once the proper depth has been set.

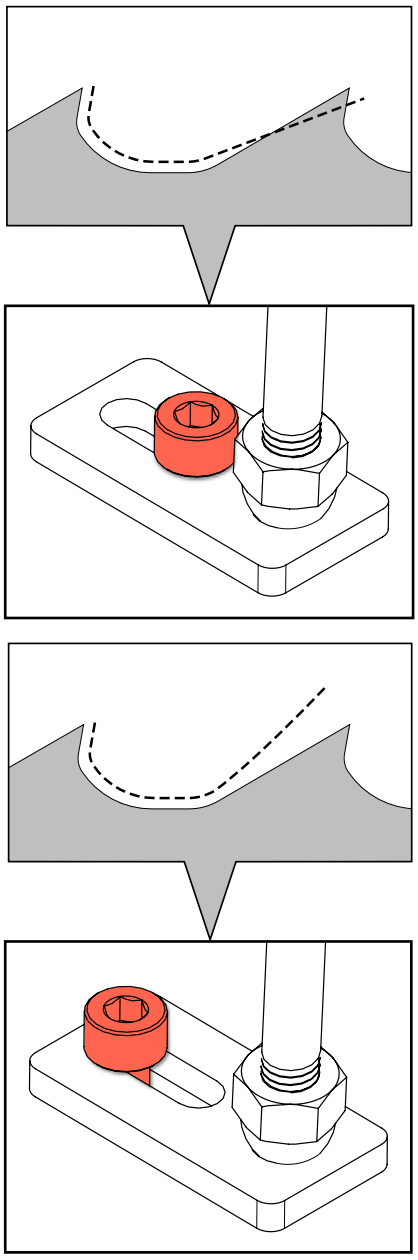
Turn the upper knob to adjust the depth of the grinding head. Clockwise raises the head; counter-clockwise lowers it. Tighten the lock knob once the depth has been set.

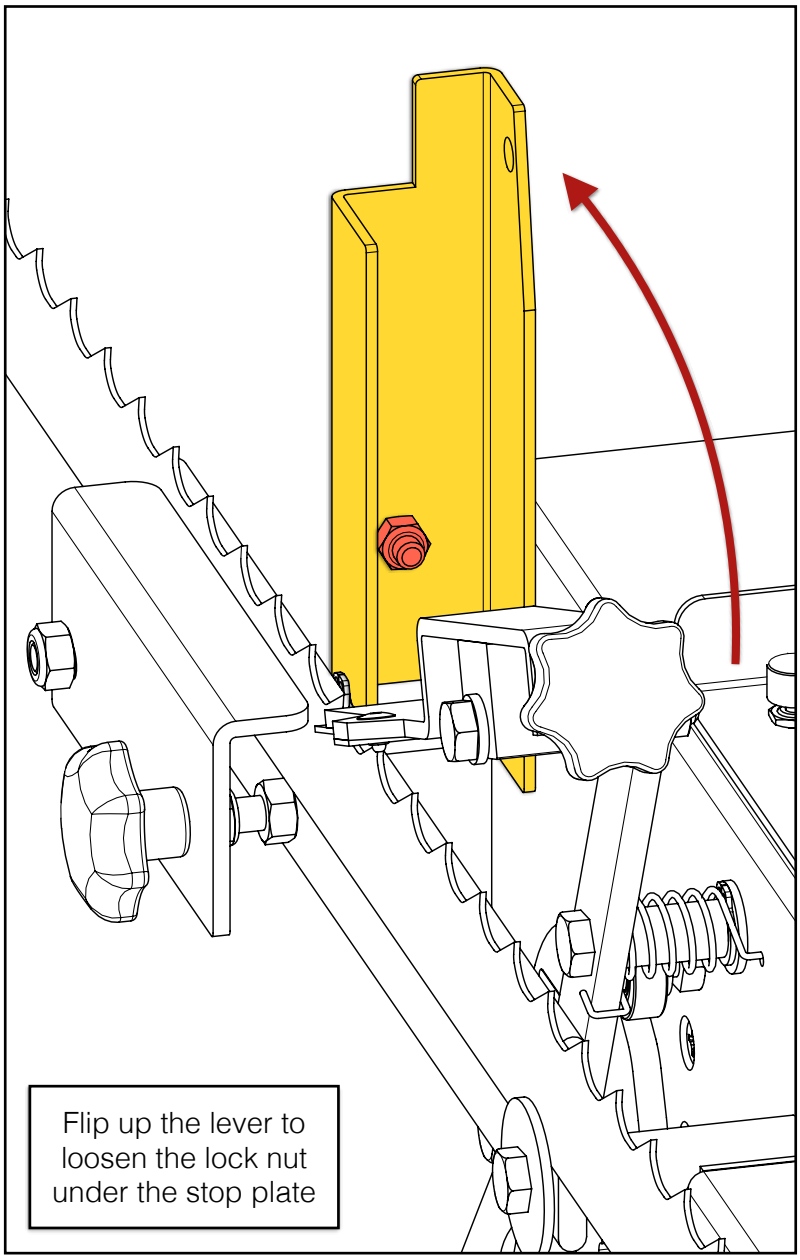
****Setting up a blade for sharpening requires a combination of both the advancement adjustment and the grinding head movement steps. Read and understand both sections before starting to fine-tune the sharpener.****

As the wheel leaves the gullet it should completely clear the next tooth's back angle profile.

If the blade tooth profile has a steep back angle, adjust the position of the stop plate by flipping up the lever and loosening the M5 socket head cap screw and lock nut. This adjustment will allow the grinding wheel to clear the tooth as it exits the gullet.

Retighten the cap screw and lock nut after moving the stop plate.





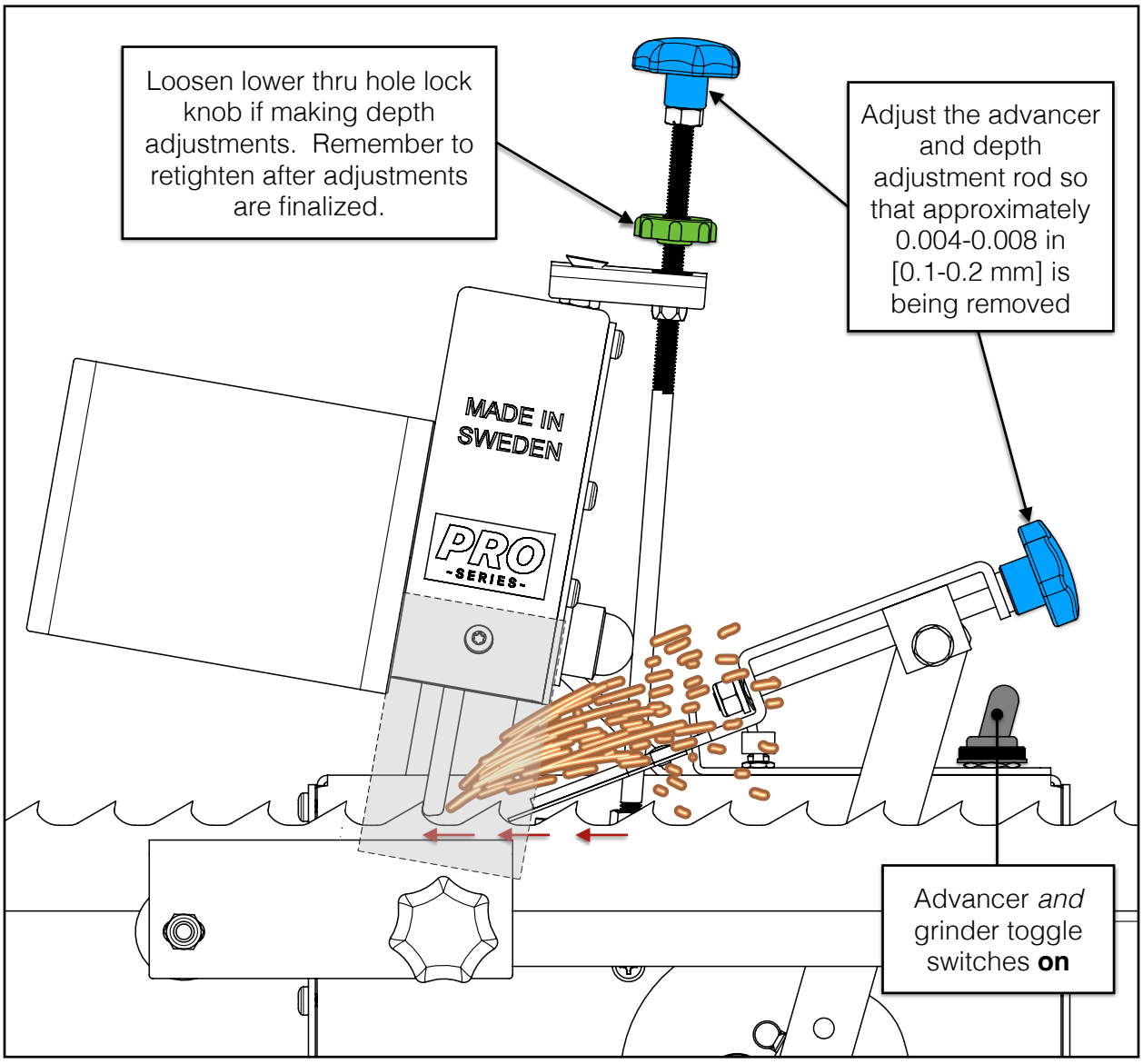
4. SHARPENING

With the machine now setup for the blade to be sharpened, follow the steps below to begin sharpening the teeth.

A. SET GRIND DEPTH

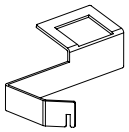
Rotate the grinding head down and seat the acorn nut in the stop plate hole. Turn on both the advancer *and* grinder toggle switches.

Make small adjustments to the advancer and depth adjustment rod to achieve a light grinding sound where approximately 0.004-0.008 in [0.1-0.2 mm] is being removed.



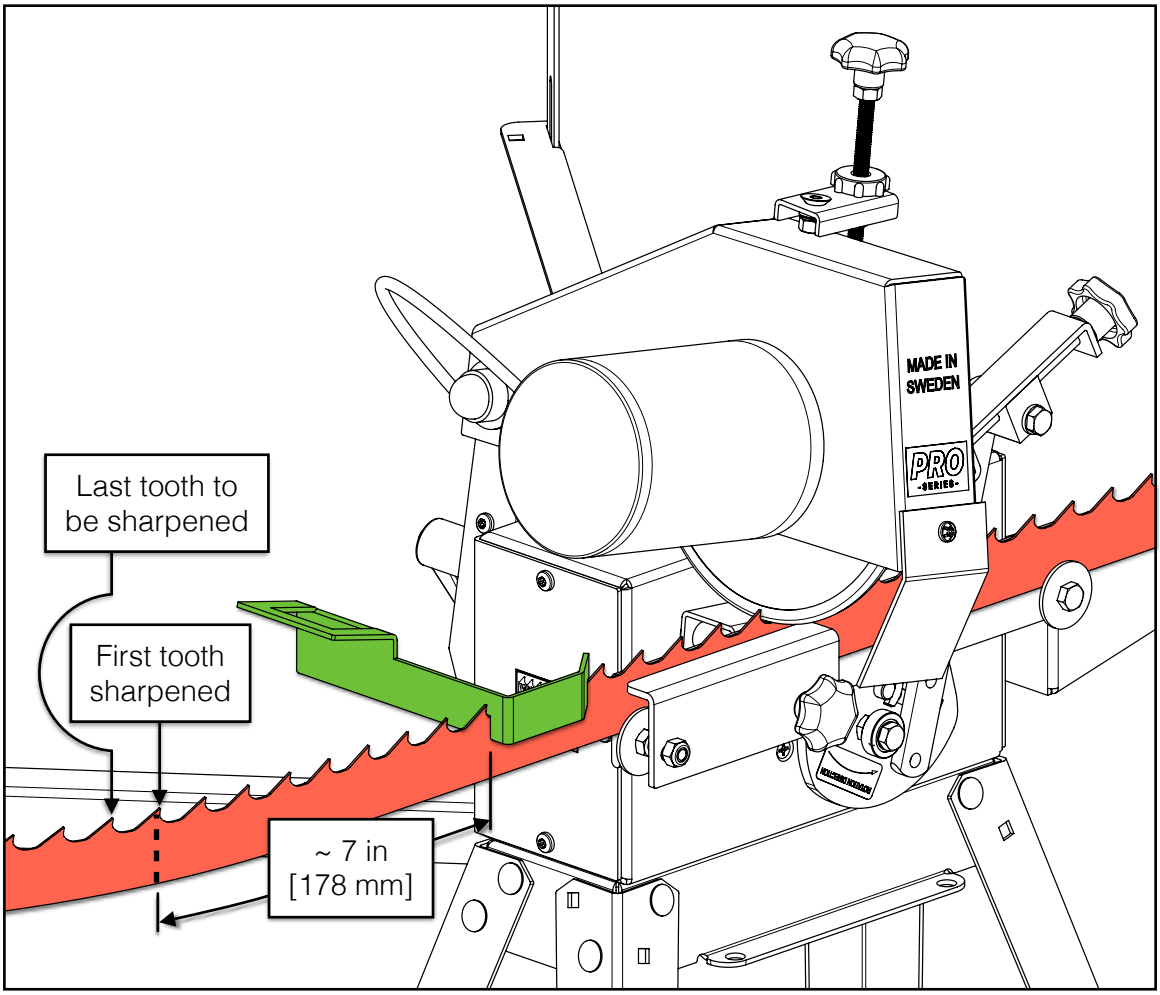
B. POSITION THE AUTO-STOP

Attach the auto-stop to the blade to automatically stop the sharpener once all the teeth have been ground.

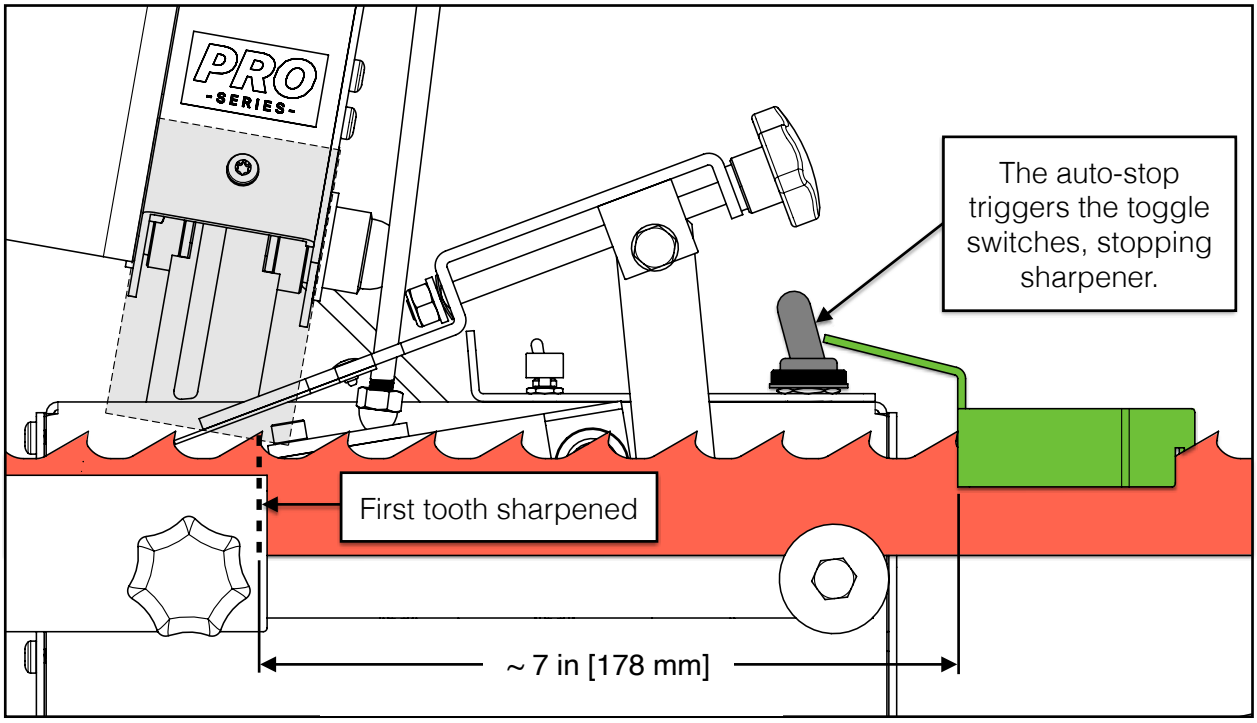
1x	Auto-Stop	

It is important to correctly position the auto-stop so that the sharpener does not regrind previously sharpened teeth. See "***Auto-Stop Activated***" graphic on next page.

Position the auto-stop approximately 7 inches [178 mm] or 6-10 teeth behind the first sharpened tooth (the number of teeth is dependant on the blade pitch). Example: position the auto-stop 8 teeth from the first sharpened tooth on a ⅞ in [22 mm] pitch blade.



When the auto-stop is positioned correctly, it shuts off the toggle switches before the first tooth sharpened reaches the grinding wheel.

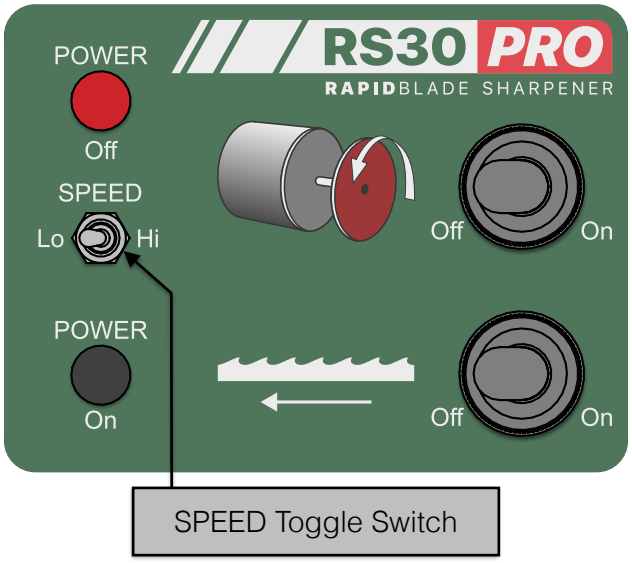


AUTO-STOP ACTIVATED

C. SHARPENING SPEED

With the blade sharpening process started and running smoothly, the **SPEED** toggle can be switched from "**Lo**" to "**Hi**". This will significantly reduce the total sharpening time needed to process a blade.

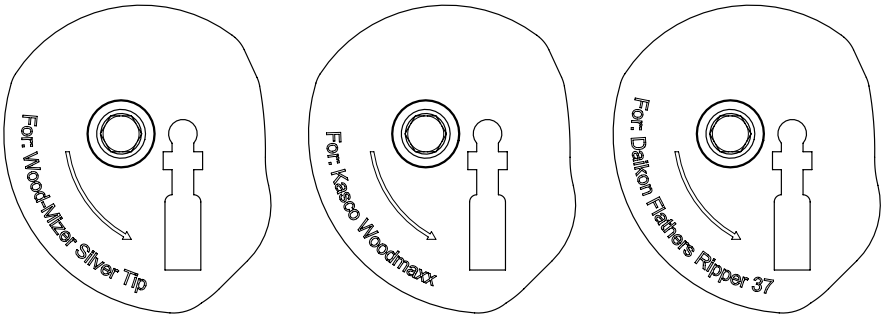
Lo: 8 teeth per minute (approx.)
Hi: 28 teeth per minute (approx.)



BLADE PROFILE CAMS

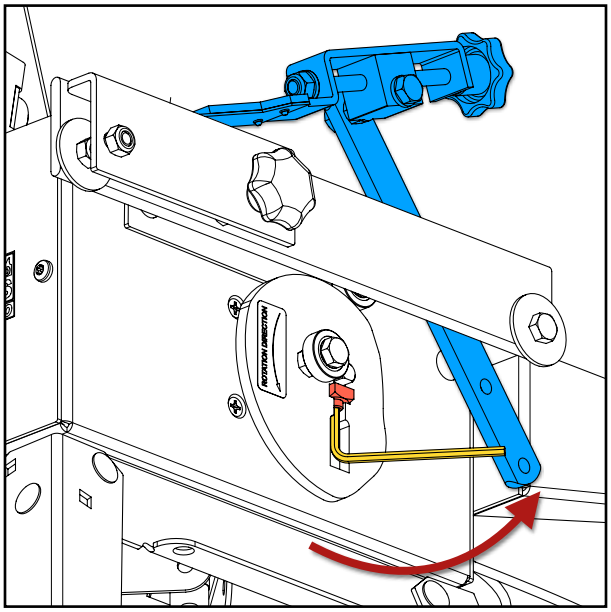
The RS30 PRO Sharpener includes three (3) additional blade profile cams to accommodate blades from different manufacturers:

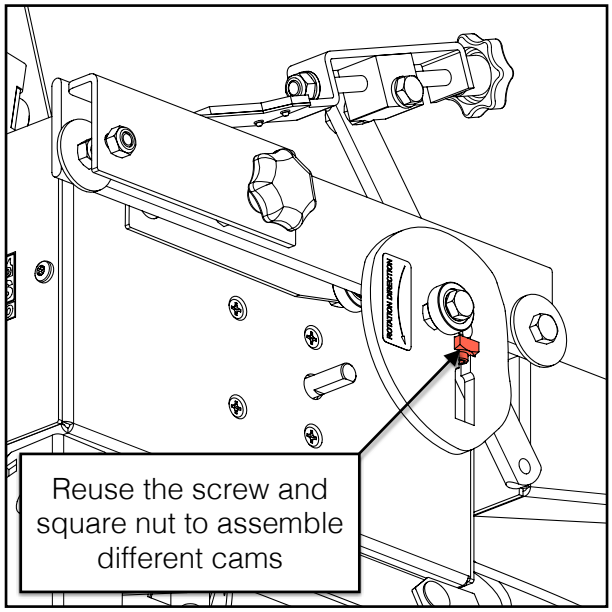
- Wood-Mizer Silver Tip
- Kasco Woodmaxx
- Daikon Flathers Ripper 37



REPLACING A PROFILE CAM

Using one hand, rotate and hold the connecting arm attached to the advancer all the way to the right. Then using the other hand, take a 3 mm hex key and loosen the socket head cap screw just enough so that the cam can be pulled off.





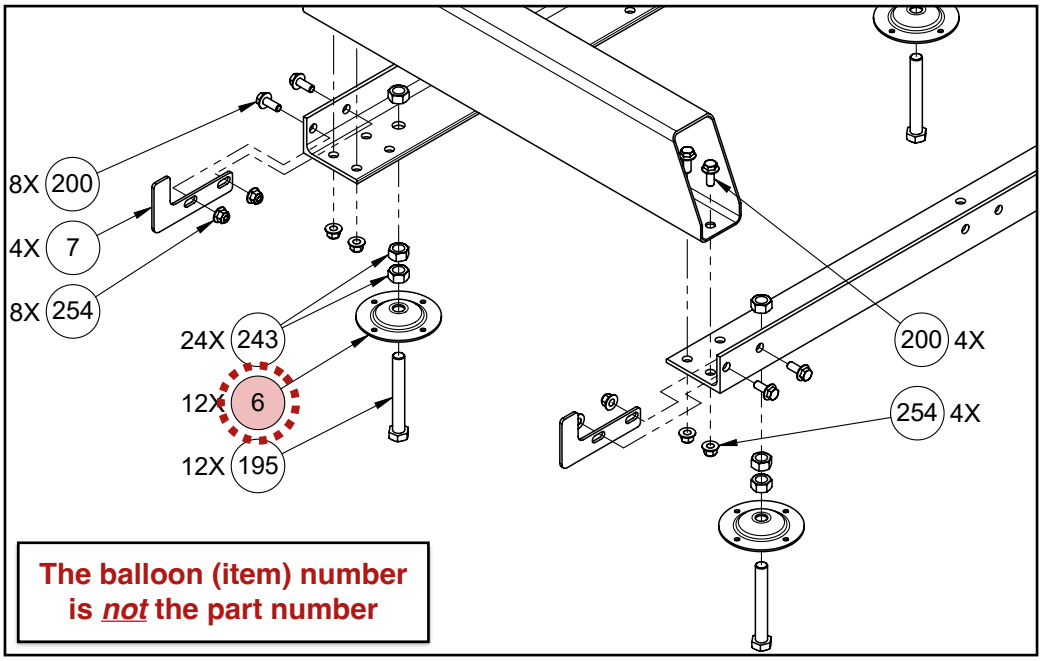
The manufacturer-specific cams come assembled with bearings. However, the socket head cap screw and square nut will need to be reused when replacing cams. Assemble a cam to the gear motor shaft in opposite the manner it was removed.

TROUBLESHOOTING

Problem/Issue	Possible Causes	Resolution Options
No power	1. Battery cables not connected. 2. Battery cable polarity reversed. 3. Black POWER On button not pressed.	1. Connect the sharpener to a 12 Volt battery. Refer to page 29. 2. Ensure the polarity is correct or the sharpener will not power on. Refer to page 29. 3. Press the black POWER On button to power the sharpener on. Refer to page 38.
Advancer not rotating	1. Nut between advancer and connecting arm is too tight against the advancer instead of being tight against the connecting arm.	1. Ensure the advancer is assembled to the connecting arm properly where the two (2) jam nuts are tight around the connecting arm and not tight to the advancer. Refer to page 18.
Blade not advancing smoothly	1. Advancer is over-tight. 2. Pressure plate is too tight against blade.	1. Ensure the advancer is assembled to the connecting arm properly where the two (2) jam nuts are tight around the connecting arm and not tight to the advancer. Refer to page 18. 2. Jam nut behind pressure plate knob may require adjustment. Refer to page 35 and page 39.
Gearmotor straining	1. Pressure plate is too tight against blade. 2. Blade getting hung up on support arm brackets. 3. Blade is not feeding straight into the sharpener.	1. Jam nut behind pressure plate knob requires adjustment. Refer to page 35 and page 39. 2. The blade is pushing out or pulling in against the support arm bracket bearings. Adjust the support arm lengths to suit the length of blade. Refer to pages 24 and 25. 3. Adjust the infeed arm assembly. Refer to page 36.
Grinding head not moving smoothly up and down during sharpening	1. Depth adjustment rod bracket screw on top of grinding head too tight.	1. Loosen the screw on top of the grinding head enough to allow controlled movement of the bracket but not so loose that it is affected by gravity. Take care to ensure the two (2) jam nuts securing the bracket to the grinding head housing are tight.

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

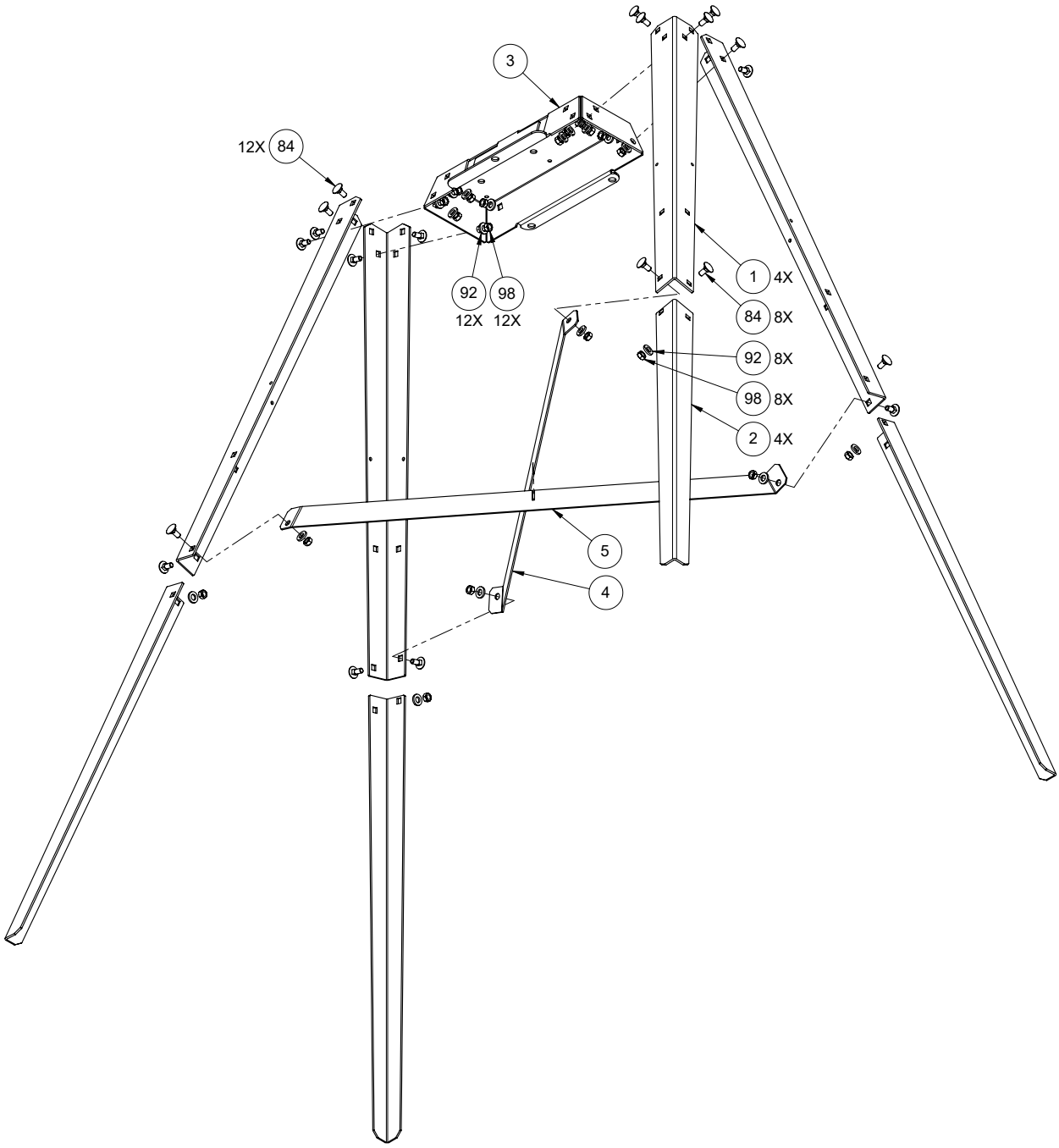
Item	Quantity		Part No.	Description
	14 hp	9.5 hp		
1	4	4	0001073	TRACK RAIL, 58.5 mm TALL
2	2	2	0001075	LOG BUNK, END
3	2	2	0001080	LOG BUNK, MID
4	1	1	0001084	LOG BUNK, CENTER
5	2	2	0001072	REINFORCEMENT PLATE, 90 X 200 mm
6	12	12	0001071	LEVELLING FOOT BASE
7	4	4	0001055	CARRIAGE STOP
8	1	1	0001062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

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

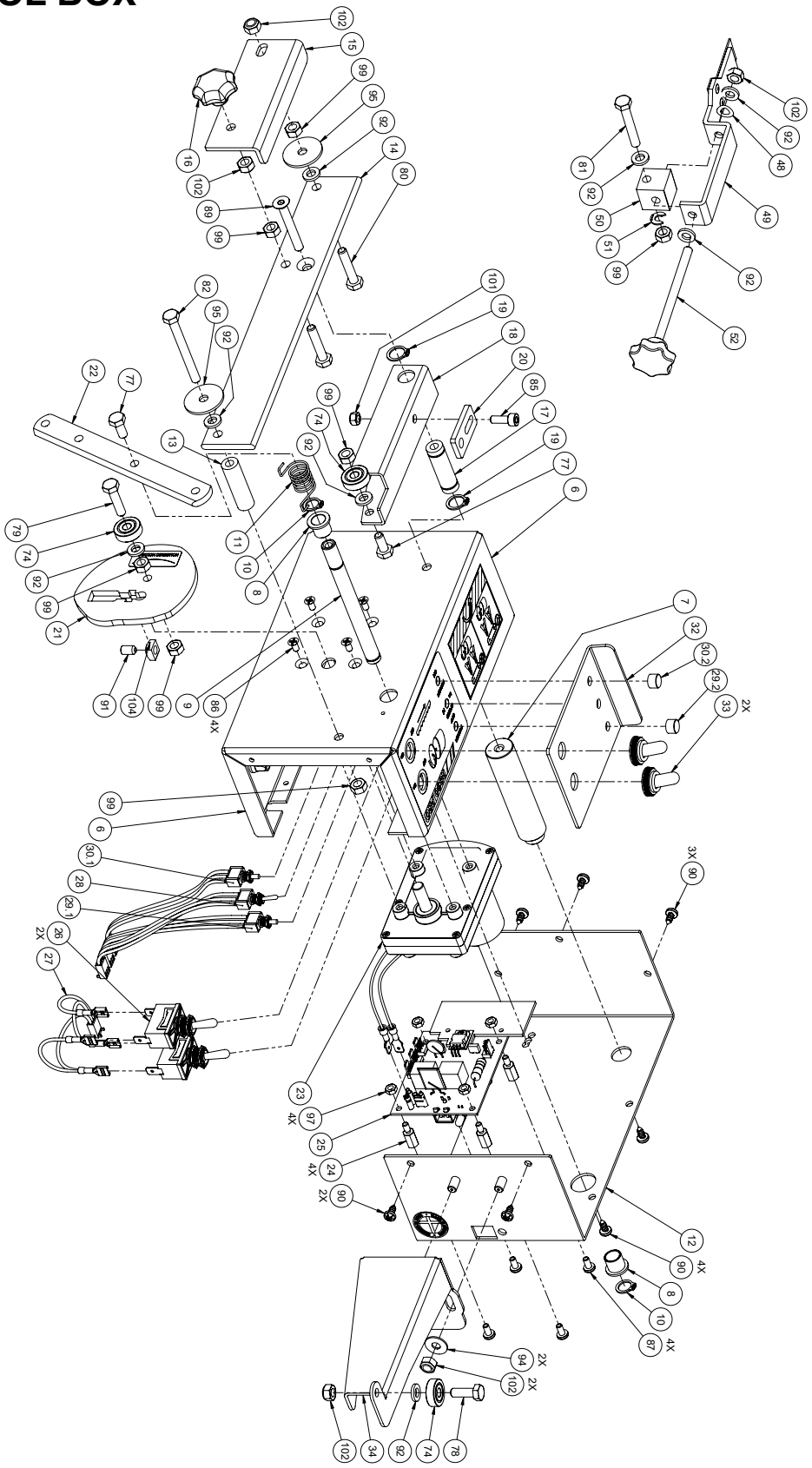
Contact Woodland Mills through the website or via phone/email. If possible, include the invoice or sales number from the purchased product so an associated account can be located. If the account has multiple addresses on file, please indicate to which address the replacement part(s) will be shipped.

EXPLODED ASSEMBLY VIEWS

STAND



CONTROL BOX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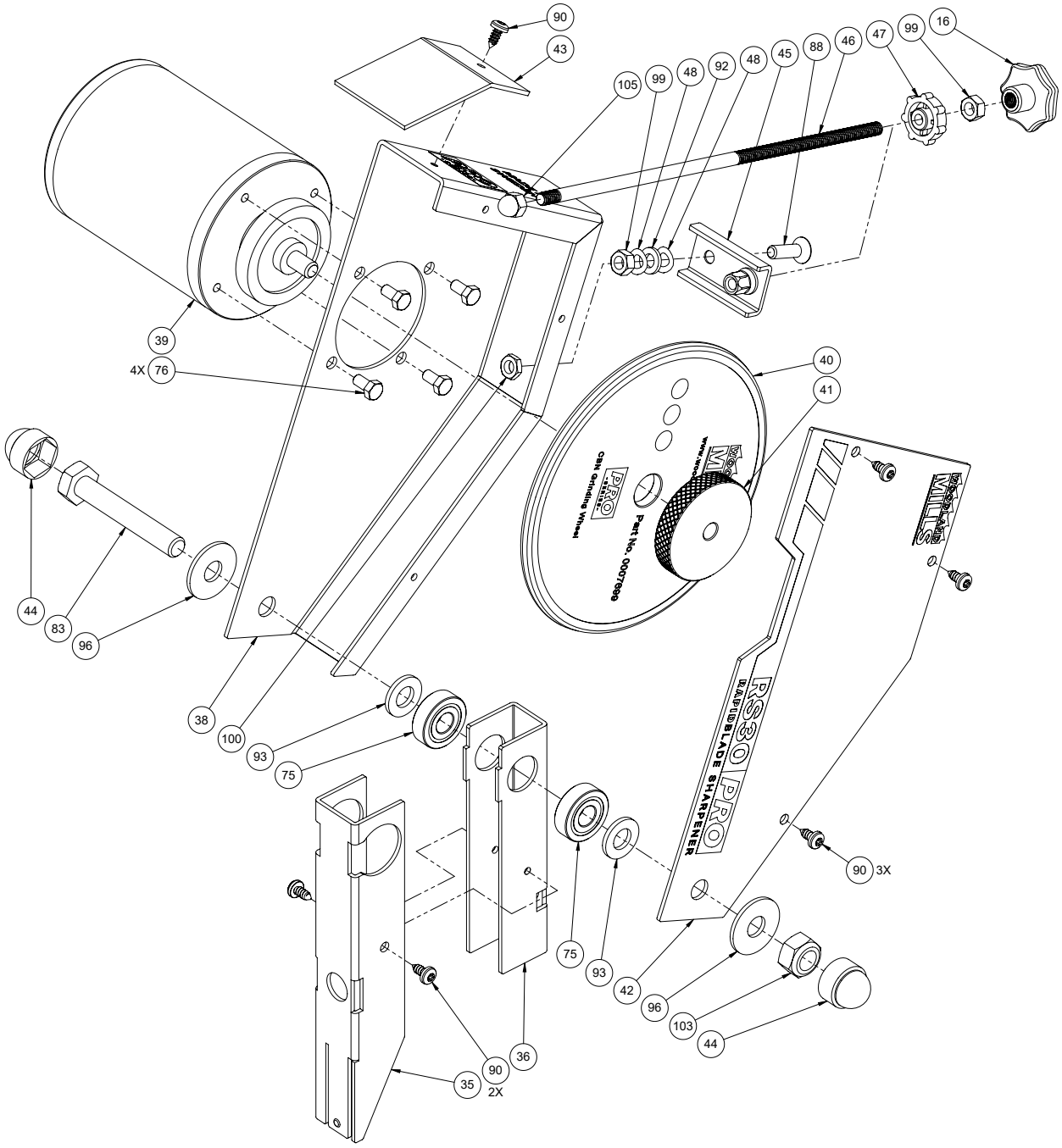
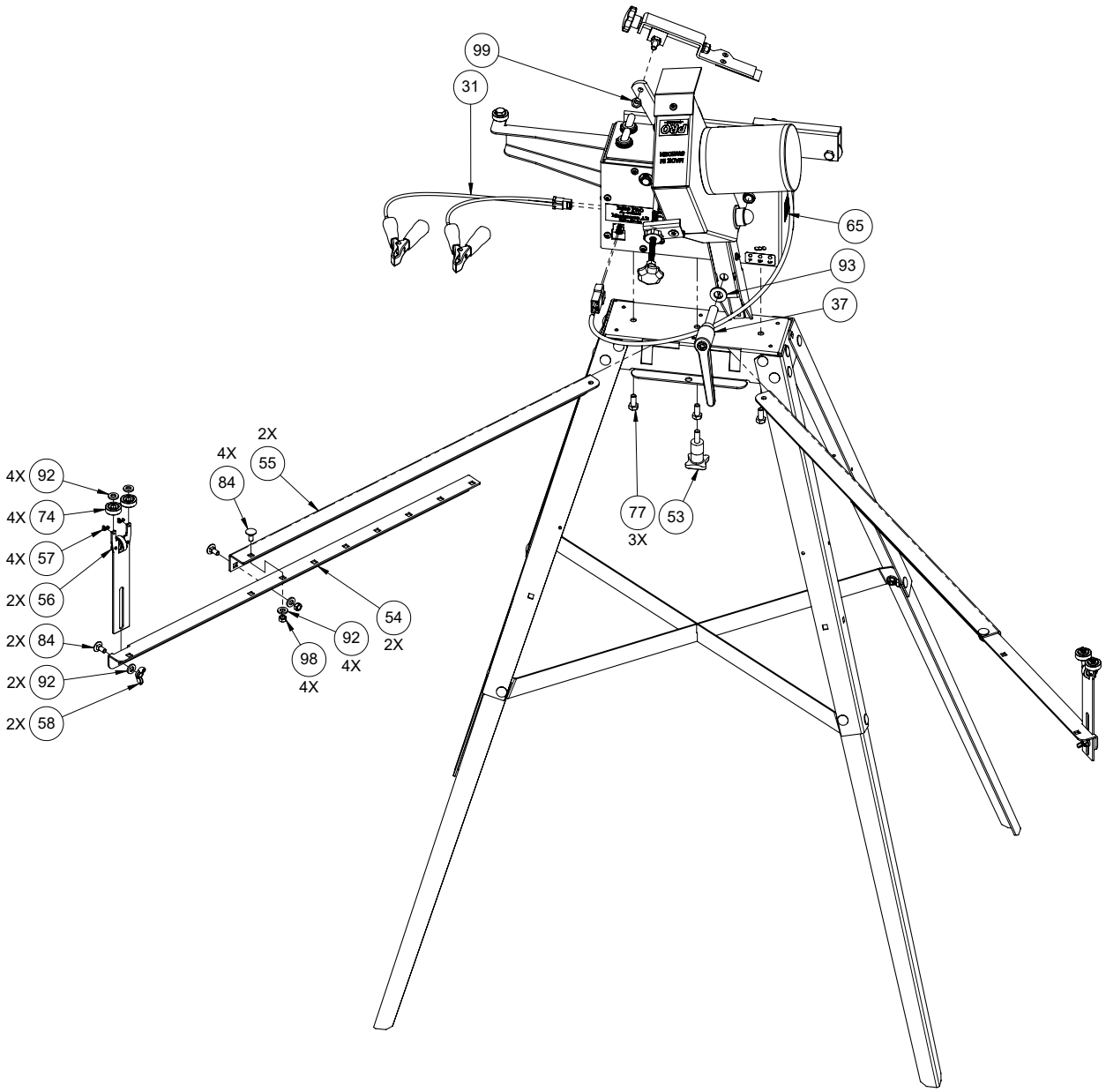
99
6
30.1
28
29.1
26
2X
27
3X
90
23
97
4X
25
24
4X
90
2X
12
90
4X
8
10
87
4X
94
2X
102
2X
102
34
92
74
78
81
92
50
51
99
48
49
92
52

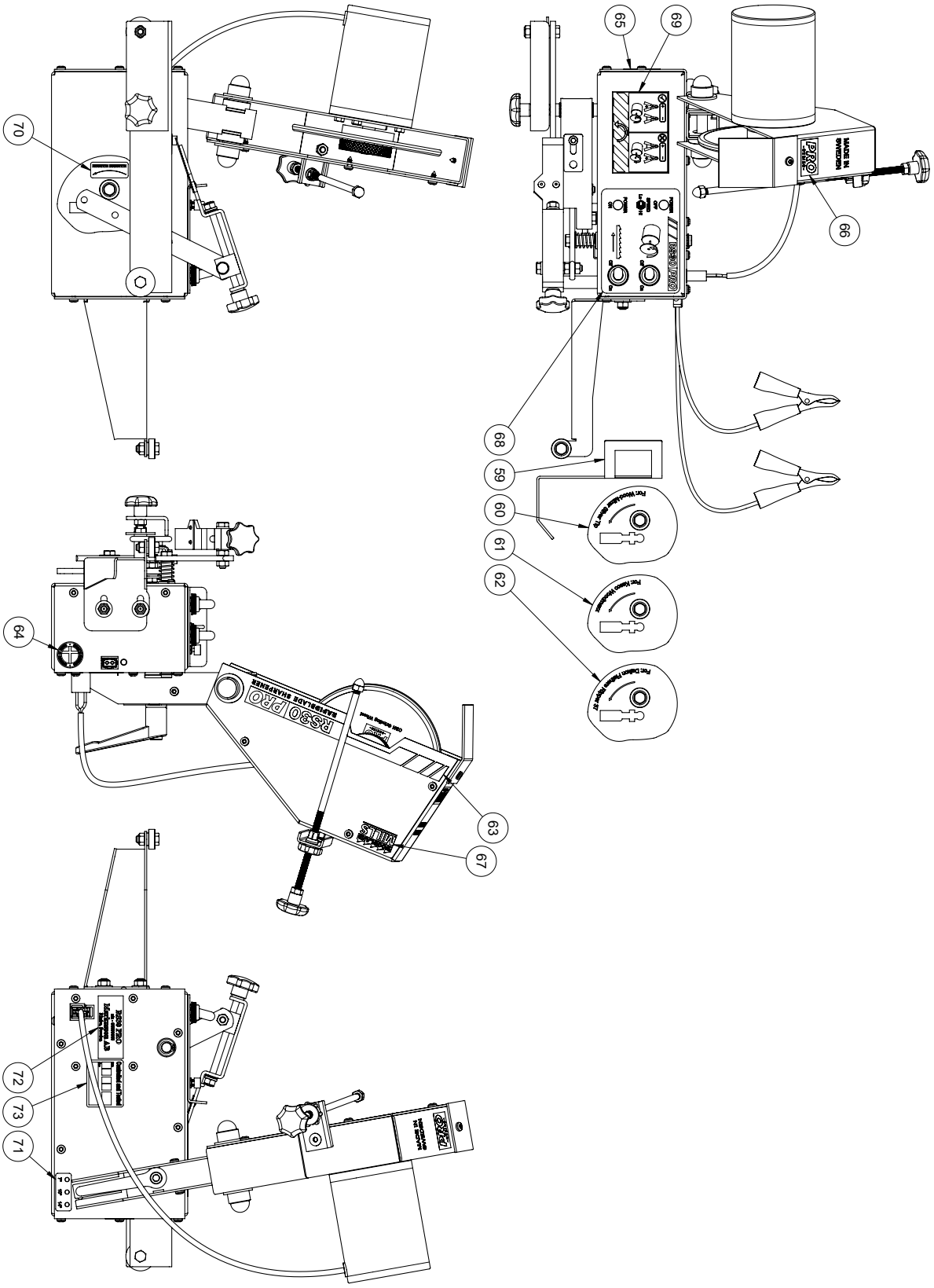
GRINDING HEAD



CONTROL HEAD TO STAND



ACCESSORIES AND LABELS



PARTS LIST

Item	Qty	Part No.	Description
1	4	0007652	UPPER LEG
2	4	0007653	LOWER LEG
3	1	0001554	MOUNTING BASE
4	1	0007654	CROSS BRACE, UPPER
5	1	0007655	CROSS BRACE, LOWER
6	1	0007662	CONTROL BOX FRONT COVER
7	1	0003816	MOUNTING ARM SHAFT
8	2	0003817	BRONZE BUSHING, 12 mm OD, 10 mm BORE
9	1	0003818	CONNECTING ARM SHAFT
10	2	0004794	RETAINING RING, EXTERNAL, 10 mm SHAFT (9.6 mm GROOVE)
11	1	0003985	TORSION SPRING, HOOK ENDS, 0.575 in OD, 0.045 in DIA WIRE, 5 COILS
12	1	0007661	CONTROL BOX REAR COVER
13	1	0001582	SPACER, 12 OD, 6 ID, 40mm LG
14	1	0001581	BLADE BACK REST
15	1	0001580	GUIDE PLATE
16	2	0003981	KNOB, MULTI-LOBE, 32 mm OD, M6 X 1, 12 mm DP
17	1	0001585	LEVER SHAFT
18	1	0001584	LEVER
19	2	0004795	RETAINING RING, EXTERNAL, 12 mm SHAFT (11.5 mm GROOVE)
20	1	0001587	STOP PLATE
21	1	0003805	BLADE PROFILE CAM, GENERAL PURPOSE
22	1	0001586	CONNECTING ARM
23	1	0007670	GEARMOTOR, HIGH-SPEED, 8 mm DIA SHAFT
24	4	0007681	STANDOFF, MALE/FEMALE, 7 mm HEX, M4 X 0.7 THD, 12 mm TALL
25	1	0007679	PCBA
26	2	0009194	TOGGLE SWITCH, OFF/ON, 20 A 125 VAC, M12 X 1
27	1	0007674	WIRE HARNESS, TOGGLE SWITCHES
28	1	0007677	WIRE HARNESS, SPEED CONTROL, TOGGLE SWITCH
29	1	0007675	WIRE HARNESS, PUSH BUTTON, RED CAP (OFF)
29.1	1	0007700	WIRE HARNESS, PUSH BUTTON, OFF/ON
29.2	1	0007683	RED CAP, SWITCH, PUSH BUTTON, 9.5 mm DIA, 3 mm STEM
30	1	0007676	WIRE HARNESS, PUSH BUTTON, BLACK CAP (ON)
30.1	1	0007700	WIRE HARNESS, PUSH BUTTON, OFF/ON
30.2	1	0007684	BLACK CAP, SWITCH, PUSH BUTTON, 9.5 mm DIA, 3 mm STEM
31	1	0007678	WIRE HARNESS, BATTERY CLAMPS
32	1	0007663	SWITCH COVER
33	2	0003806	TOGGLE SWITCH CAP, M12 THD
34	1	0007669	INFEED ARM
35	1	0003988	OUTER MOUNTING ARM
36	1	0003989	INNER MOUNTING ARM
37	1	0007690	HANDLE, ADJUSTABLE POS, 78 X 54 mm, M10 X 1.5, 40 mm LG
38	1	0007686	GRINDING WHEEL HOUSING
39	1	0003780	DC MOTOR, 12 VDC
40	1	0007699	GRINDING WHEEL, CBN, 145 mm OD, 6 mm THK, 16 mm SFT
41	1	0007689	GRINDING DISC NUT
42	1	0007687	GRINDING WHEEL COVER PLATE

Item	Qty	Part No.	Description
43	1	0001562	GRINDING SHIELD
44	2	0007691	PROTECTION COVER, M10 BOLT/NUT, 17 mm HEX
45	1	0001569	DEPTH ADJUSTMENT ROD BRACKET
46	1	0001579	DEPTH ADJUSTMENT ROD, M6 X 1 THD
47	1	0003982	KNOB, CIRCULAR KNOBBED, M6 X 1, THRU
48	3	0006220	WAVE WASHER, M6
49	1	0007666	ADVANCER
50	1	0001564	ADVANCER ADJUSTMENT BLOCK
51	1	0004791	CLIP, SIDE MOUNT, M6
52	1	0003983	KNOB, MULTI-LOBE, 32 mm OD, M6 X 1, 90 mm LG
53	1	0003980	KNOB, 4 LOBE, 33 mm OD, M6 X 1, 16 mm LG
54	2	0004158	OUTER BLADE SUPPORT ARM, ADJ, 570 mm LG
55	2	0004159	INNER BLADE SUPPORT ARM, 570 mm LG
56	2	0007658	BLADE SUPPORT, TRI-BEARING
57	4	0004752	COTTER PIN, 1/16 in DIA, 1/2 in LG
58	2	0006216	WING NUT, TYPE D / STYLE 1, SST, M5 X 0.8
59	1	0001560	AUTO STOP
60	1	0009531	BLADE PROFILE CAM ASSY, WOOD-MIZER SILVER TIP
61	1	0009533	BLADE PROFILE CAM ASSY, KASCO WOODMAXX
62	1	0009535	BLADE PROFILE CAM ASSY, DAIKON FLATHERS RIPPER 37
63	1	0007696	LABEL, RS30 PRO
64	1	0007694	LABEL, MADE IN SWEDEN, 25 mm DIA
65	1	0007693	LABEL, WOODLAND MILLS
66	1	0007697	LABEL, PRO SERIES, 35 mm
67	1	0007698	LABEL, WOODLAND MILLS LOGO, 35 mm
68	1	0007692	LABEL, TOGGLE SWITCH
69	1	0004109	LABEL, BATTERY POLARITY
70	1	0004110	LABEL, ROTATION DIRECTION
71	1	0004111	LABEL, BLADE ANGLE
72	1	0007695	LABEL, PRODUCT INFO
73	1	0004113	LABEL, QUALITY CONTROL
74	7	626-2RS	BALL BEARING, SEALED, 6 mm SFT, 19 mm HSG, 6 mm WD
75	2	6000-2RS	BALL BEARING, SEALED, 10 mm SFT, 26 mm HSG, 8 mm WD
76	4	HHB-MBA059FCJ	HEX HEAD BOLT, CLS 8.8, M5 X 0.8, 10 mm LG, FULL
77	5	HHB-MBE067FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 14 mm LG, FULL
78	1	HHB-MBE073FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 18 mm LG, FULL
79	1	HHB-MBE080FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 25 mm LG, FULL
80	2	HHB-MBE085FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 30 mm LG, FULL
81	1	HHB-MBE095FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 40 mm LG, FULL
82	1	HHB-MBE115PCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 60 mm LG, 18 mm LG THD
83	1	HHB-MBM120PCJ	HEX HEAD BOLT, CLS 8.8, M10 X 1.5, 65 mm LG, 26 mm LG THD
84	26	SNC-MBA063FCJ	CARRIAGE BOLT, SQ NECK, CLS 8.8, M5 X 0.8, 12 mm LG, FULL
85	1	SHC-MBA067FCP	SHCS, CLS 12.9, M5 X 0.8, 14 mm LG, FULL
86	4	PFH-MAW055FCM	SCREW, PFH, CLS 10.9, M4 X 0.7, 8 mm LG, FULL
87	4	TPH-MAW055FCE	SCREW, TPH, CLS 4.8, M4 X 0.7, 8 mm LG, FULL
88	1	HFH-MBE075FCM	SCREW, HFH, CLS 10.9, M6 X 1, 20 mm LG, FULL
89	1	HFH-MBE110FCM	SCREW, HFH, CLS 10.9, M6 X 1, 55 mm LG, FULL
90	15	TST-UAY011FTB	SCREW, TPH, SST, ST, NO. 8, 3/8 in LG, BLK
91	1	CPS-MBE059GR	SET SCREW, CUP POINT, GR 45H, M6 X 1, 10 mm LG

Item	Qty	Part No.	Description
92	39	FTW-MBE000AJ	FLAT WASHER, M6
93	3	FTW-MBM000AJ	FLAT WASHER, M10
94	2	FDW-MBE063000AJ	FENDER WASHER, M6, 16 mm OD
95	2	FDW-MBE077000AJ	FENDER WASHER, M6, 28 mm OD
96	2	FDW-MBM077000AJ	FENDER WASHER, M10, 28 mm OD
97	4	HXN-MAWCH	HEX NUT, CLS 8, M4 X 0.7
98	24	HXN-MBACH	HEX NUT, CLS 8, M5 X 0.8
99	10	HXN-MBECH	HEX NUT, CLS 8, M6 X 1
100	1	THN-MBECC	HEX NUT, THIN, CLS 4, M6 X 1
101	1	HLN-MBACH	LOCK NUT, CLS 8, M5 X 0.8
102	6	HLN-MBECH	LOCK NUT, CLS 8, M6 X 1
103	1	HLN-MBMCH	LOCK NUT, CLS 8, M10 X 1.5
104	1	SQN-MBACF	SQUARE NUT, CLS 5, M6 X 1, 10 mm SQ
105	1	ACN-MBEAJ	ACORN NUT, M6 X 1

NOTES


WOODLAND
MILLS