

# SM18 PORTABLE SAWMILL



## Operator's Manual

***MechMaxx***

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## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b>	<b>1</b>	<b>SAWMILL SET-UP PROCEDURES</b>	<b>25</b>
<b>SPECIFICATIONS</b>	<b>2</b>	BELT TENSION	25
<b>SAFETY SIGNS</b>	<b>3</b>	BLADE TRACKING	25
<b>SAFETY</b>	<b>4</b>	ADJUSTING THE RIGHT HAND SIDE	26
WORK AREA	4	ADJUSTING THE LEFT HAND SIDE	27
PERSONAL SAFETY	4	MOVING THE BLADE FORWARD	27
TOOL USE AND CARE	4	MOVING THE BLADE REARWARD	27
START UP PROCEDURE – EQUIPMENT OPERATION	5	BLADE GUIDE ADJUSTMENT	28
GENERAL MAINTENANCE INFORMATION	5	BLADE TENSION	28
<b>ASSEMBLY</b>	<b>7</b>	<b>SAWMILL MAINTENANCE</b>	<b>31</b>
TRACK	7	CHANGING THE BLADE	31
RAILS & CENTRE BUNK	8	REPLACING BELTS	31
MID & END BUNKS	9	<b>TROUBLE SHOOTING</b>	<b>33</b>
SQUARING THE TRACK AND SETTING THE WIDTH	9	<b>DIAGRAM(A)--BAND WHEEL HOUSEING</b>	<b>35</b>
FEET	10	<b>PARTS LIST(A)--BAND WHEEL HOUSEING</b>	<b>36</b>
LIMIT PLATE	11	<b>DIAGRAM(B)--CARRIAGE</b>	<b>39</b>
LOG CLAMPS	11	<b>PARTS LIST(B)--CARRIAGE</b>	<b>40</b>
SAWMILL HEAD ASSEMBLY	12	<b>DIAGRAM(C)</b>	<b>42</b>
STANDING THE SAWHEAD UPRIGHT	15	<b>PARTS LIST(C)</b>	<b>43</b>
CROSS BEAM & HEAD STOPS	15		
LIFTING SYSTEM AND WATER TANK	17		
LOG SCALE	18		
THROTTLE HANDLE	20		
LIFT CABLE ROUTING	20		
TRANSPARENT WATER PIPE	20		
ELECTRIC WIRE CONNECT	23		
ENGINE	24		

## SPECIFICATIONS

Model	SM-18
Engine	Ducar
Engine Displacement	212cc
Horsepower	7 hp
Engine Type	Single cylinder, 4 stroke, air-cooled, OHV
Start	Recoil
Log Diameter	18"
Max Live Edge Width	15"
Standard Cutting Length	8' 1"
Max Board Thickness	7"
Blade Engagement System	Centrifugal Clutch
Cast Iron Bandwheel Diameter	14"
Blade Wheel Engagement	Belt drive
Blade Guide	By roller
Blade Tension	By adjustable lever
Blade Size	108 x 0.7 in
Blade Pitch	7/8 in
Blade Lubrication	Water lube - manual valve
Lubricant Tank Size	2.6 gal
Track Width	22.4 in
Track Length	10 ft
Track Extension Length	4 ft 9 in
Levelling Feet	12
Log Rests	4
Log Clamps	2x Quick Lock
Track Bunks	1.2*3 in
4 Post Head Design	Yes
Finish	Powder Coat Paint Galvanized Steel
Packing Size	62*21*30"
N.W./G.W.	335/463 lbs



## SAFETY SIGNS

The rating plate on your machine may show symbols. These represent important information about the product or instructions on its use.



**! DANGER**

**TO AVOID INJURY**

Keep all people out of the path of moving equipment and logs when operating sawmill or loading or turning logs.

Failure to do so may result in serious injury.



**! WARNING**

**BURN HAZARD**

Avoid contact with any part of hot engine.

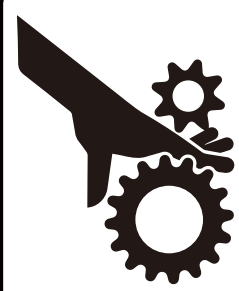
Failure to do so may result in serious injury.



**! DANGER**

**To Prevent Serious Injury or Death:**

Keep hands away from the blade. Keep clear of discharging sawdust.



**! DANGER**

**MOVING PARTS CAN CRUSH AND CUT**

Make sure all guards and covers are in place and secure before operating this machine.

Failure to do so may result in serious injury.

**! CAUTION !**

**DO NOT OPERATE WITHOUT GUARDS**

## SAFETY



**Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.**



**The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.**

### WORK AREA

- Keep work area clean, free of clutter and well lit. Cluttered and dark work areas can cause accidents.
- Do not use your sawmill where there is a risk of causing a fire or an explosion; e.g. In the presence of flammable liquids, gasses, or dust. Power tools create sparks, which may ignite the dust or fumes.
- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control, so visitors should remain at a safe distance from the work area.
- Be aware of all power lines, electrical circuits, water pipes and other mechanical hazards in your work area, particularly those hazards below the work surface hidden from the operator's view that may be unintentionally contacted and may cause personal harm or property damage.
- Be alert of your surroundings. Using power tools in confined work area may put you dangerously close to cutting tools and rotating parts.

### PERSONAL SAFETY

- Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts. Air vents often cover moving parts and should be avoided.
- Use safety apparel and equipment. Use safety goggles or safety glasses with side shields which comply with current national standards, or when needed, a face shield. Use as dust mask in dusty work conditions. This applies to all persons in the work area. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate.
- Do not over reach. Keep proper footing and balance at all times.
- Remove adjusting keys or wrenches before connecting to the power supply or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.
- Never make blade guide adjustments, remove or install blades or conduct any other maintenance or make any other adjustments when the engine is running.

### TOOL USE AND CARE

- Always be sure operator is familiar with proper safety precautions and operation techniques before using machine.
- Avoid "kick-back" by knowing what conditions can create it.
- Do not force the tool. Tools do a better and safer job when used in the manner for which they are designed.
- Never use the sawmill with a malfunctioning switch. Any power tool that cannot be controlled with the switch is dangerous and must be repaired before using.
- Turn off the engine and place the switch in the locked or off position before servicing, adjusting, installing accessories or attachments, or storing. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Secure logs with the log screw clamping device instead of with your hand or another individual's help. This safety precaution allows for proper tool operation using both hands.

- Storing sawmill. When the sawmill is not use, store it in a dry, secure place or keep well covered and out of the reach of children. Inspect the sawmill for good working condition prior to storage and before re-use.
- Maintain your sawmill. It is recommended that the general condition of the sawmill be examined before it is used. Keep your sawmill in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. If any abnormal vibrations or noise occurs, turn the sawmill off immediately and have the problem corrected before further use.
- Keep saw blades sharp and clean. Properly maintained band saw blades are less likely to bind and are easier to control.
- Cleaning and Lubrication. Use only soap and a damp cloth to clean your sawmill. Many household cleaners are harmful to plastic and rubber components on the sawmill.
- Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for another sawmill may create a risk of injury when used on the sawmill.
- Always operate machine with all safety devices and guards in place and in working order. DO NOT modify or make changes to safety devices. DO NOT operate machine if any safety devices or guards are missing or inoperative.
- Never leave sawmill running unattended.
- Coiled blades can spring apart with considerable force and unpredictably in any direction. Always deal with coiled blades, including those packaged in boxes, with the utmost care.
- Never use the equipment to cut anything other than lumber or for any purpose other than cutting lumber as described in this manual.

## START UP PROCEDURE – EQUIPMENT OPERATION

1. Wear heavy-duty work gloves, ANSI-approved goggles behind a full face shield, steel-toed work boots, and a dust mask.
2. Operate only with assistance.
3. Ensure guide blocks are tight and track is level.
4. Fill the lubrication tank with clean water and washing up detergent.

5. Start and operate the engine.
6. Cut branches off the lumber to be processed.
7. WARNING: To avoid death or serious injury, Do not cut lumber with foreign objects in it such as nails, any metal pieces, etc.
8. Place the lumber to be cut on the supports.
9. WARNING: The operator and any assistants must stay clear of the front and back of the blade whenever the engine is ON.
10. Move the saw head slowly along the track and against the lumber to make the cut.
11. Trim off the rounded sides of the log.
12. When the log is squared-off, boards or posts can be cut to custom specifications.

## GENERAL MAINTENANCE INFORMATION

Proper and routine maintenance is critical to operator safety, achieving good milling results and to prolonging the life of your investment.

1. Band Wheel Bearing --- Should be inspected before use to ensure they are not worn. Bearing are sealed and do not need to be greased.
2. Blade Guide Bearing --- Inspect before use for excessive grooves or scoring in the bearing case. Replace if necessary.
3. Blade Tension --- Grease threads of tensioning "T" handle when dry or as required. Use multi-purpose, extreme-pressure grease.
4. Log Screws --- Grease frequently.
5. Belts --- Periodically check the condition and wear of the drive and idler belt. Ensure that the blade does not ride on the bandwheels.
6. Drive Belt --- Periodically check the tension of the drive belt. It should deflect by no more than 1/2".
7. Sawhead Locking Cam Handles --- Grease assembly every 30 days or as required.
8. Sawhead Vertical Posts --- Spray posts before use with a silicone spray lubrication such as 3-in-1 or Jig-A-Loo.
9. Bandwheel Guards --- Routinely remove any build-up of sawdust that may collect inside the bandwheel guards.
10. Lubrication Tank --- Only fill with a water/washing up detergent mixture (one to two caps) or in winter months, use windshield washer fluid. Do not leave lubricant in tank if temperatures fall below 0 degrees Celsius.

11. Blade Lubricant --- Never use diesel fuel or kerosene as blade lubricant. These substances lead to premature wear of your belts and poor sawing performance. For winter operations, replace the water lubricant with windshield washer fluid.

12. Sawhead Lifting Cables --- Regularly before, during and after operations, inspect the cables for any wear or kinks. Ensure that the cables are in perfect condition. Oil coiled part of cable often to prevent premature wear. Replace with new cables as necessary.

## ASSEMBLY

During several of the assembly steps, more than one socket or wrench of the same size may be required to assemble the hardware. A socket or box wrench in combination with an adjustable wrench can be utilized if multiple same size tools are in limited supply.

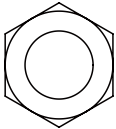
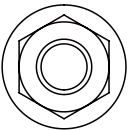
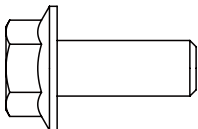


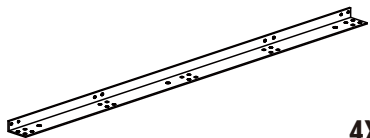
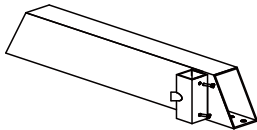
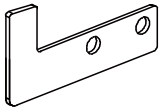
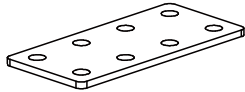
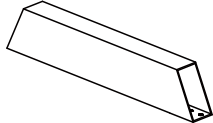
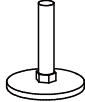
**When assembling the sawmill, do not torque the bolts to hardware Class/Grade specifications. Snug the hardware, then tighten a further ¼–½ turn. Tightening bolts to torque spec can crush metal tubing, ruining the components.**

### TRACK

Assemble the track with the provided components and hardware listed in the table below. It is important to assemble and level the track on a firm foundation before tightening all of the hardware and should ideally be 3-½—4 in [90—100 mm] off the ground. This will allow for easy cleanout of sawdust and log support height adjustments.

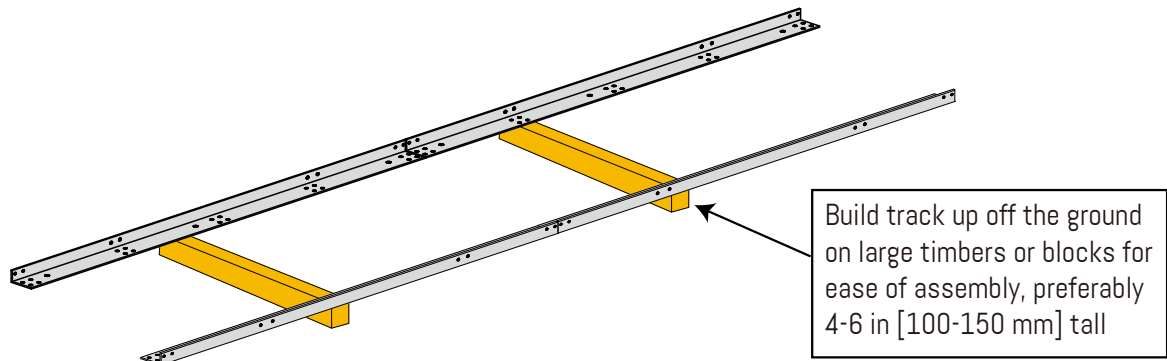
Assemble one of the bunk assemblies over the joint between both pairs of track rails using the components and hardware listed in the table below.

<b>Hex Nut M16</b>	 <b>24X</b>
<b>Flanged Lock Nut M10</b>	 <b>52X</b>
<b>Flanged Hex Bolt M10 X 25 mm</b>	 <b>52X</b>

<b>Track Rail</b>	 <b>4X</b>
<b>Bunk Assembly</b>	 <b>4X</b>
<b>Limit Plate</b>	 <b>4X</b>
<b>Reinforcement Plate</b>	 <b>2X</b>
<b>End Bunk</b>	 <b>2X</b>
<b>Feet</b>	 <b>12X</b>

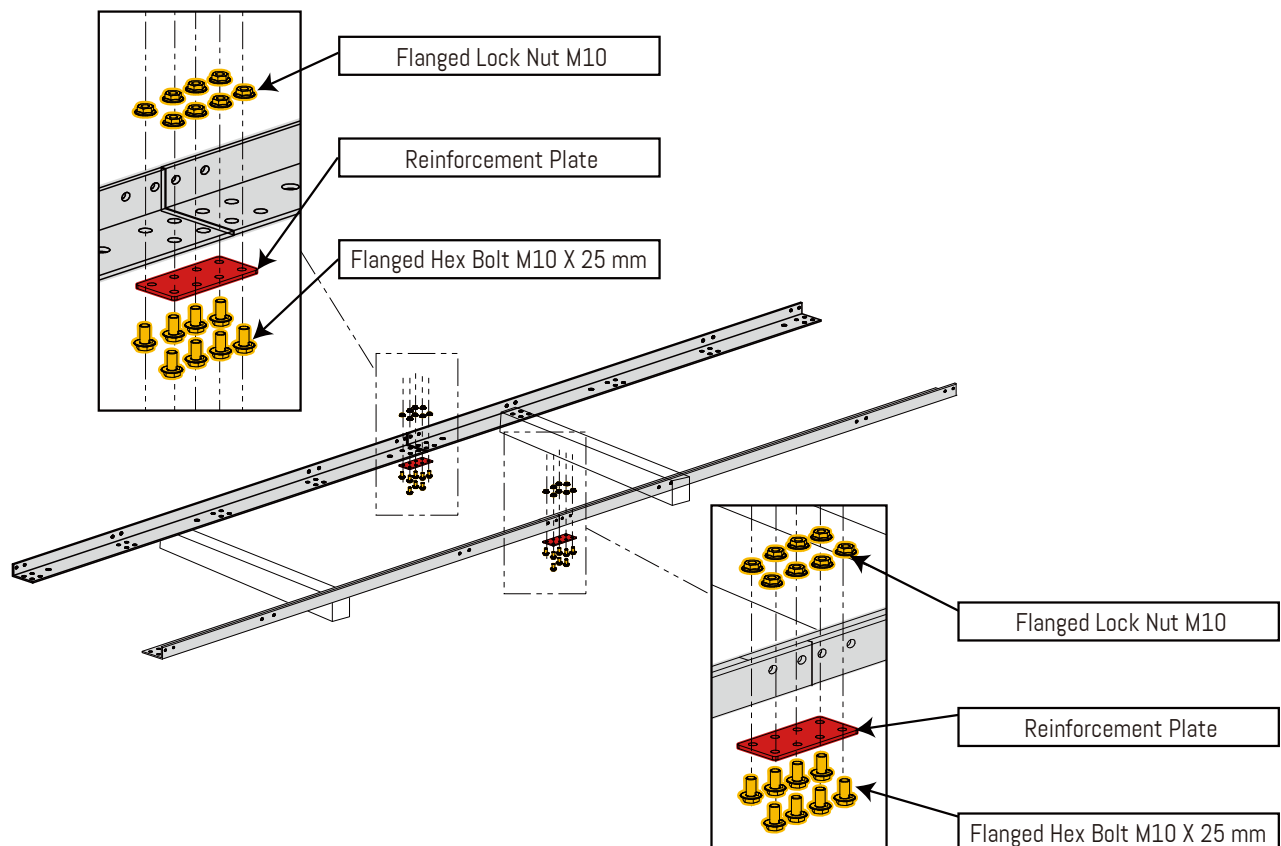
## RAILS & CENTRE BUNK

First, set the four (4) track rails on top of four pieces of lumber of equal height. It is ideal to keep the rails at least 4-6 in [100-150 mm] off the ground for ease of assembly.



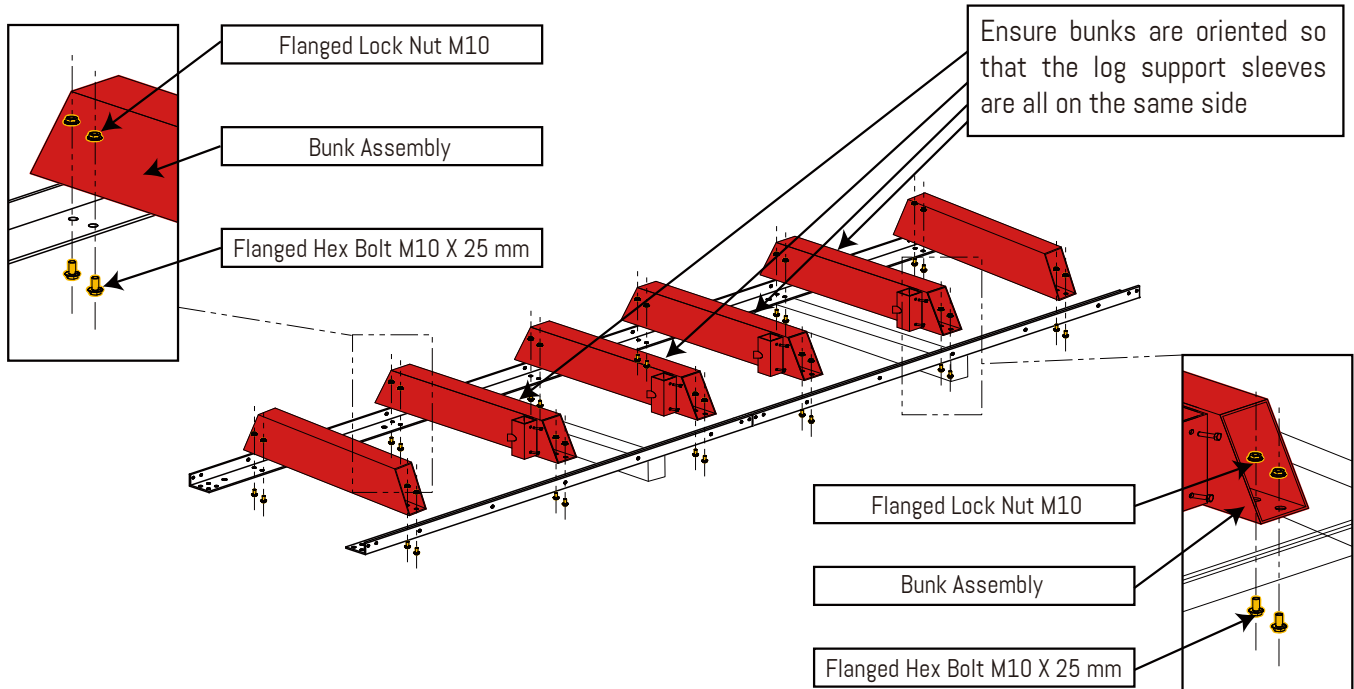
Next, assemble the bunk assembly over the rail joints with a reinforcement plate under the rails on both the left and right sides. Use eight M10 X 25 mm flanged hex bolts and M10 flanged lock nuts per side.

Keep the outer faces of the rails 22.4 in apart but do not fully tighten the hardware. Snug the bolts enough so that minor adjustments to the track width can be made once all the bunks are assembled to the rails.



## MID & END BUNKS

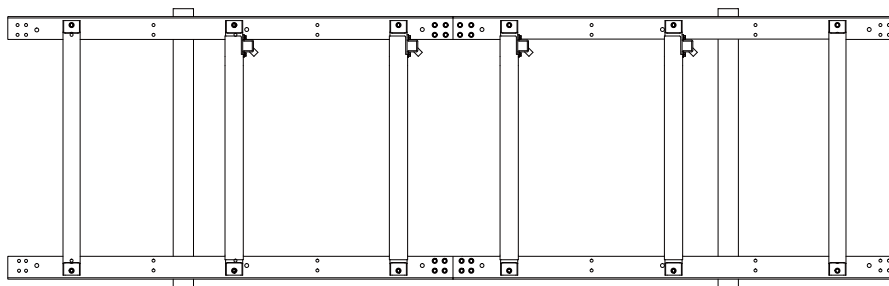
Use M10 X 25 mm flanged hex bolts and M10 flanged lock nuts at all end & mid bunk locations. Snug the hardware in the same manner as the centre bunk.



## SQUARING THE TRACK AND SETTING THE WIDTH

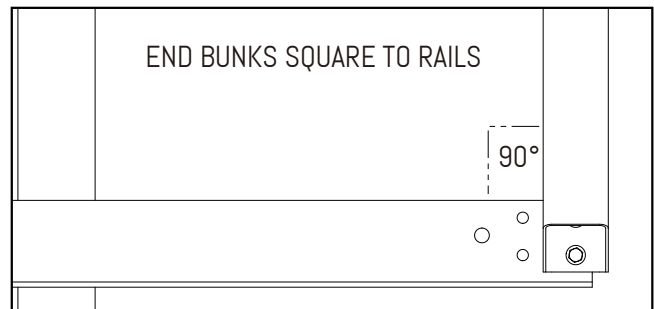
With the bunk hardware connections only snug-tight, the rails can be moved in or out as needed until the proper width is achieved along the entire length of the track.

When the width is uniform along the full length of the track, check its square by measuring diagonally from the railroad tip to the railroad tip.



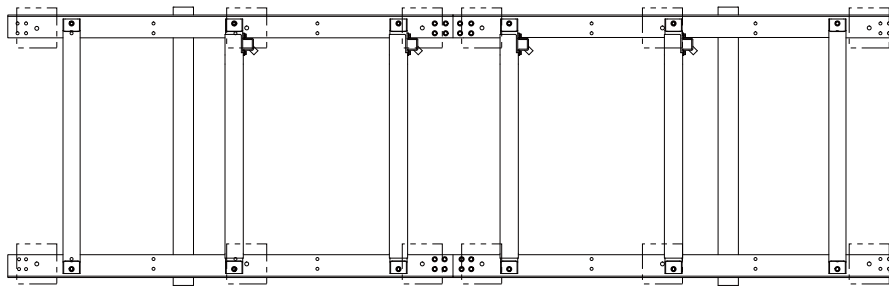
Ensure the end bunks are square to the rails.

Once the width is correct and the rails are square, tighten all M10 x 25 mm flange hex bolts and their nuts, working from the center toward the end, as shown above with the black arrow. Check the width and square of the track again after tightening. Readjust if necessary.

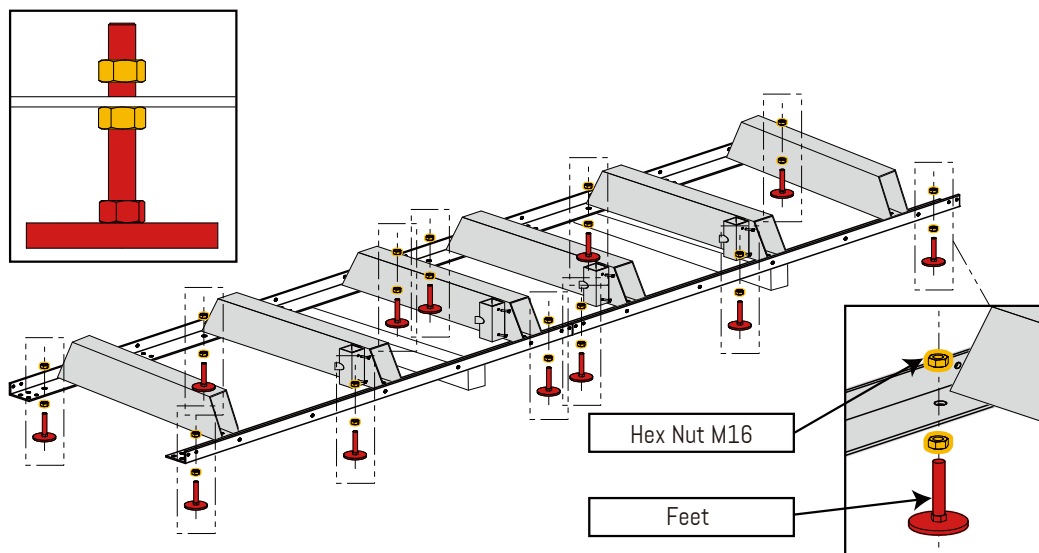


## FEET

Attach the levelling feet assemblies to the rails at the locations shown below.

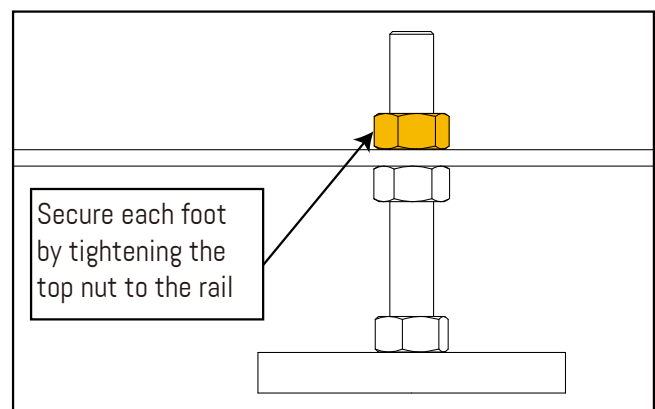
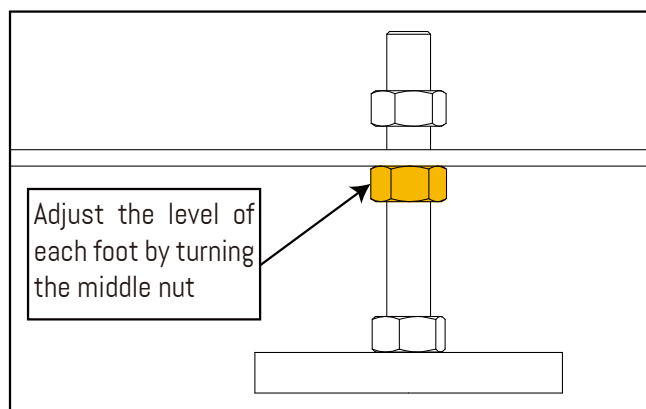


Assemble the leveling feet up through the bottom of the guide rail and thread the M16 hex nut to each foot. Do not tighten the nut. Leave it loose enough so that there is a noticeable gap between the nut and the track to allow the track level in later steps.



With the feet loosely assembled to the rails, remove the timber/block supports so the full weight of the track is resting on middle nuts of the levelling feet.

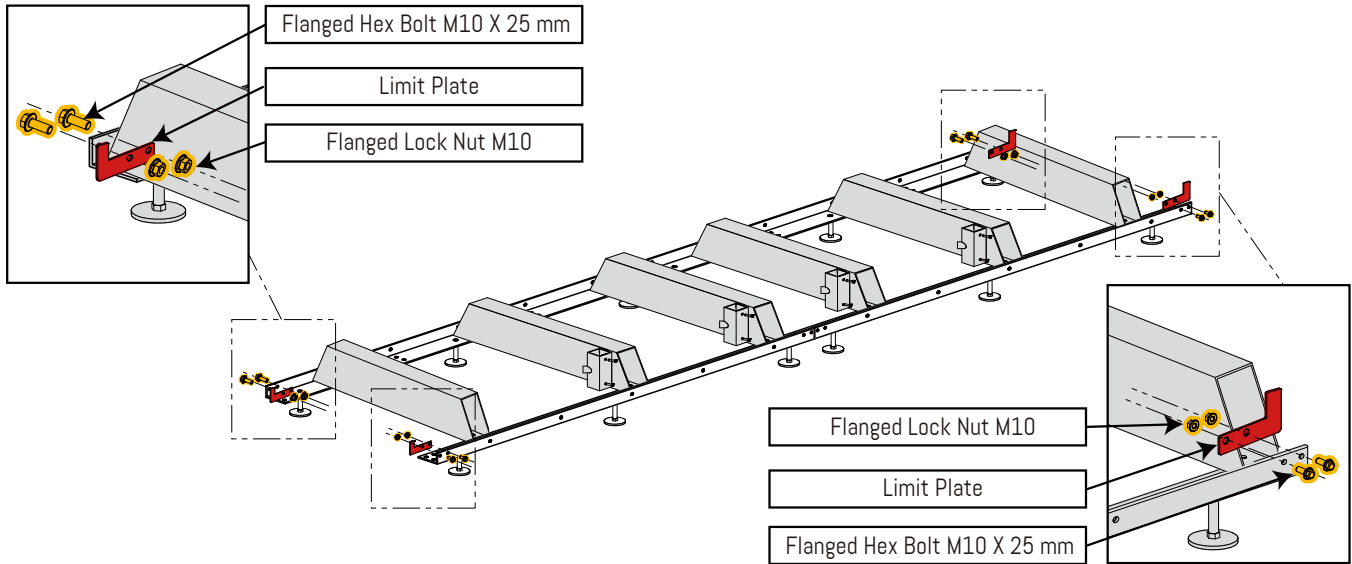
Turn the middle nut on each foot to fine-tune the level. Once level, secure each foot to the rail by tightening the M16 top nut.





## LIMIT PLATE

Use two (2) M10 X 25 mm flanged hex bolts and M10 flanged lock nuts to assemble each carriage stop to the inside of the track rails.



## LOG CLAMPS

Assemble log dog pieces as shown below and use water proof grease on threaded handle and "T" handle.



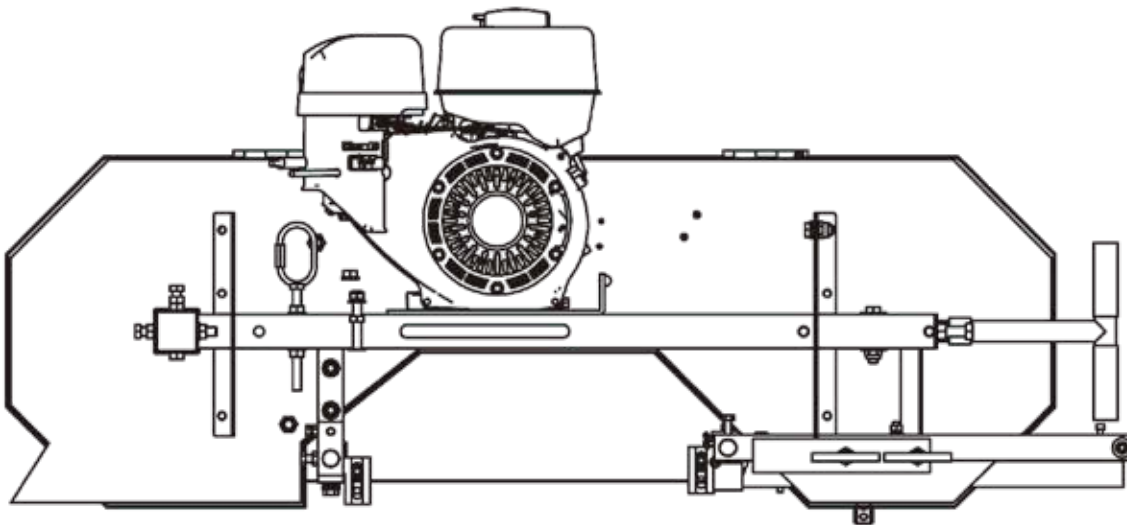
Attach assembly to the track using the provided nuts & bolts and tighten. Attach log dog assembly to track as shown below with the 4 nuts and bolts provided. Note that there are various locations along the track where this assembly can be bolted. Depending on how many track sections are being used, select a log clamp position that will secure the log firmly against the log supports.



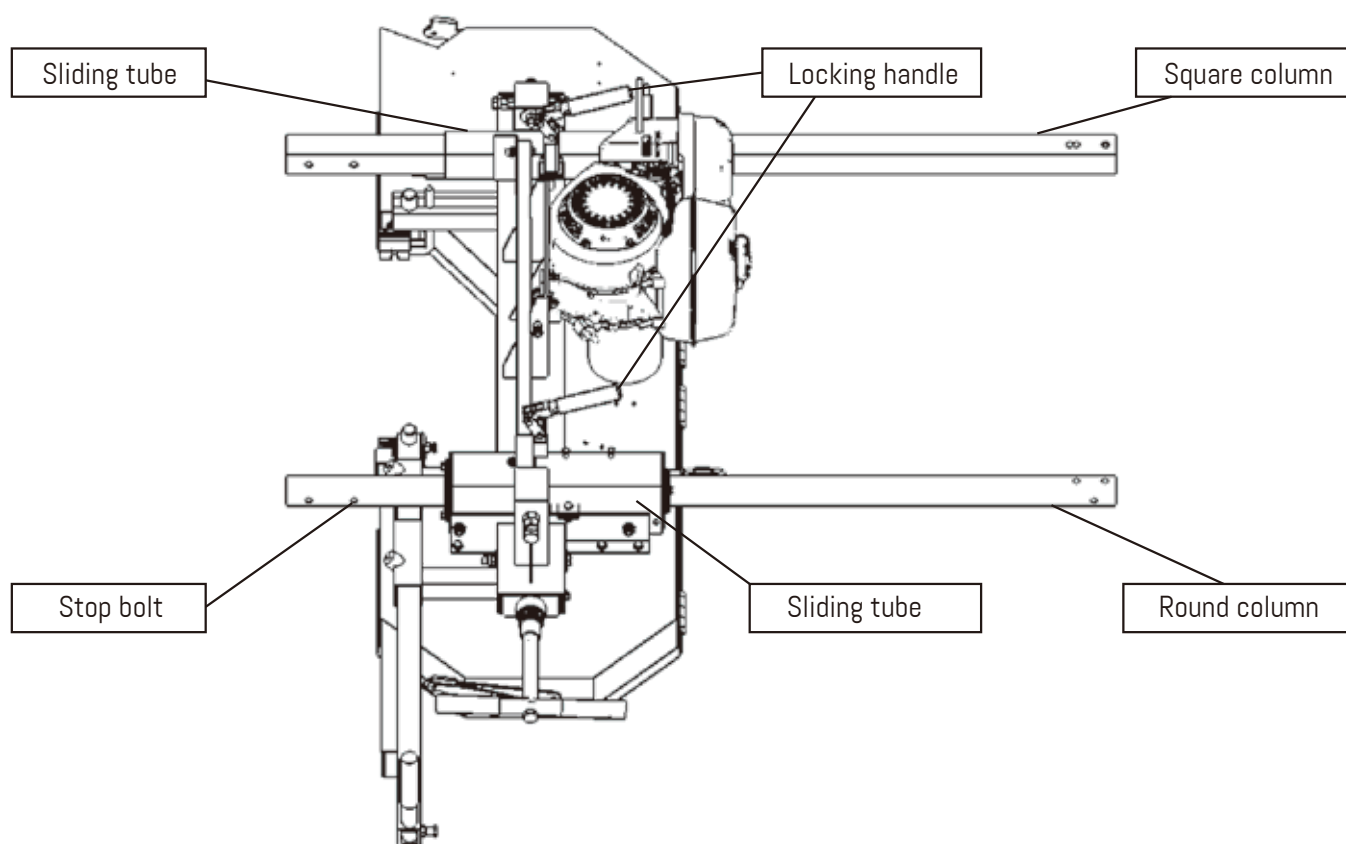
Ensure the log clamp tilts towards the log when clamping. If it tilts away from the log, remove the log clamp from the receiver, loosen the T-bolt, reverse the receiver on the shaft by rotating it 180°, and retighten the T-bolt. Insert the log clamp back into the receiver.

## SAWMILL HEAD ASSEMBLY

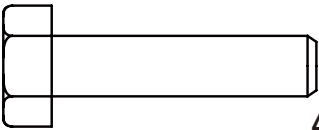

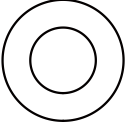
Place a moving blanket on the shipping pallet that the sawmill crate was strapped to. The blanket will prevent the blade guard covers from becoming scratched. Using a minimum of two people or a mechanical advantage system, remove the head assembly from the sawmill crate and place face down on the blanket. The head assembly is very heavy, proper technique must be used to avoid injury or damage.

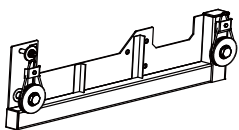

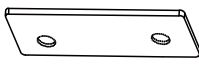



Find the square and round columns, and insert the round one into the sliding tube close to blade tension system, and insert square one into the sliding tube on the other side, and fix two vertical post by the locking handle. Attention to the stop bolt on the square column.

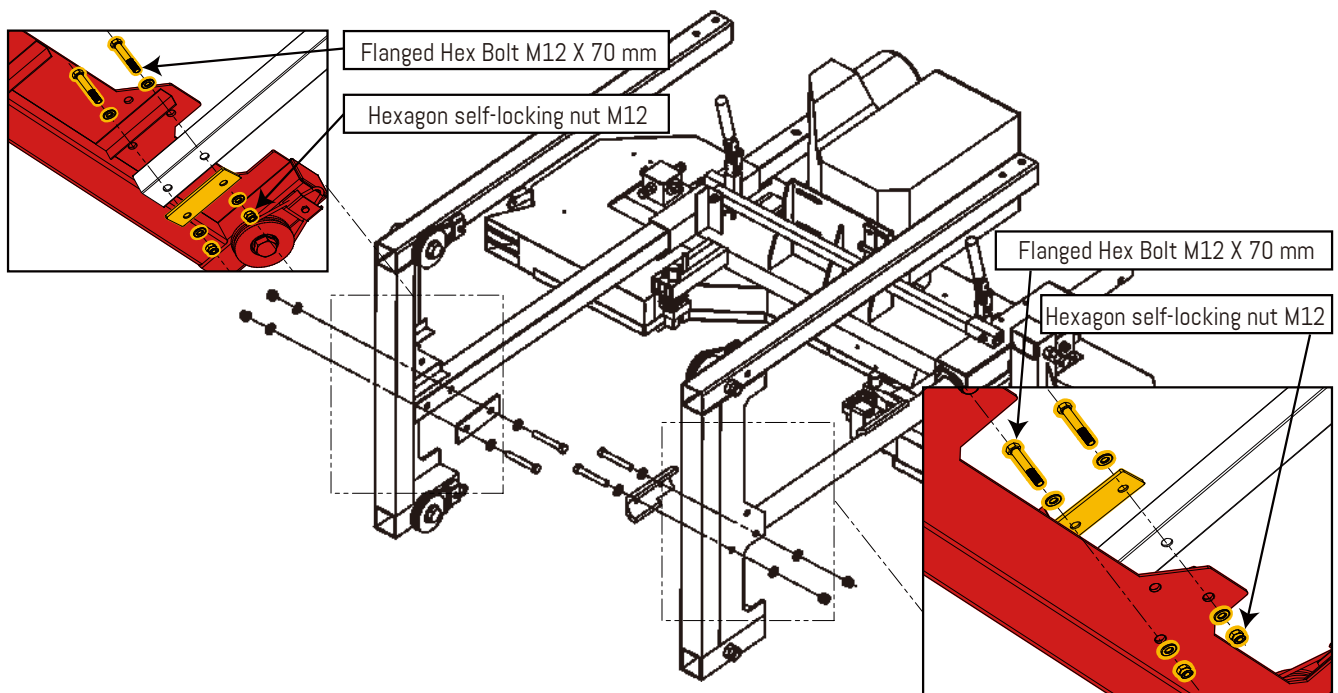


The sawmill head assembly is built in multiple steps. Follow the sub-sections below using the parts table at the top of each sub-section to gather the necessary components for each step.

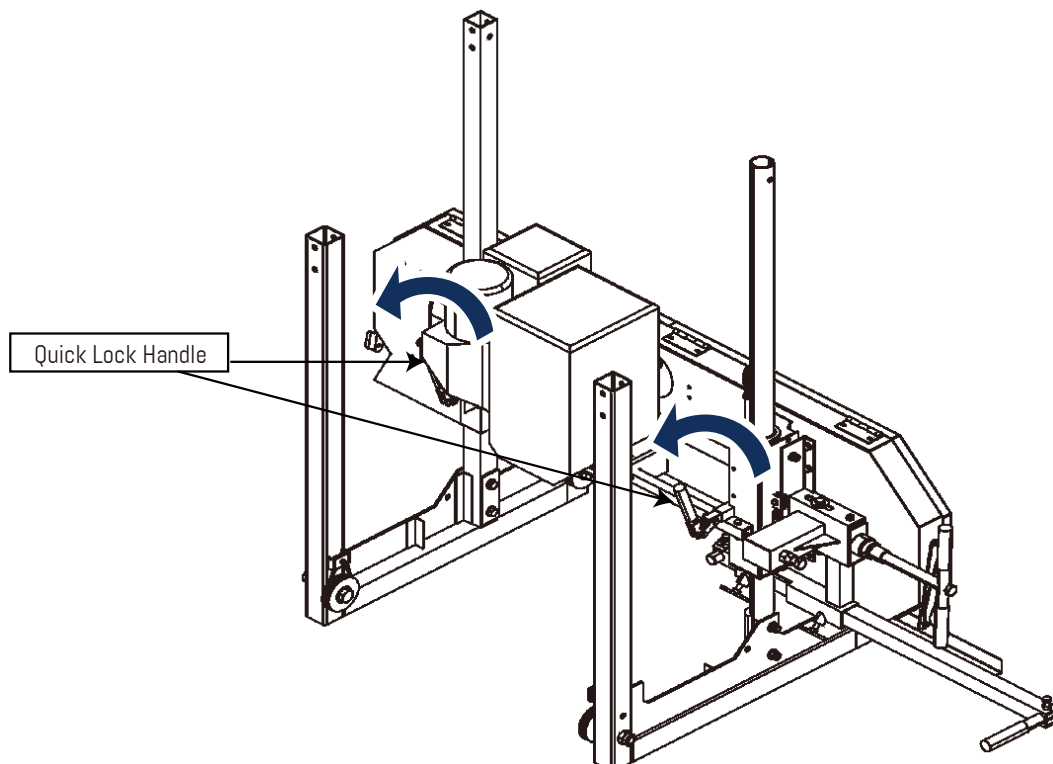
<b>Hexagon head bolt M12x70</b>		<b>4X</b>
<b>Hexagon self-locking nut M12</b>		<b>4X</b>
<b>Flat washer 12</b>		<b>8X</b>

<b>Wheel assembly</b>		<b>2X</b>
<b>Front Post</b>		
<b>Clamping piece</b>		<b>2X</b>
<b>Rear Post</b>		

Assemble front vertical post to wheel assembly using the two bolts and back plate. Repeat same step for the other front vertical post assembly.

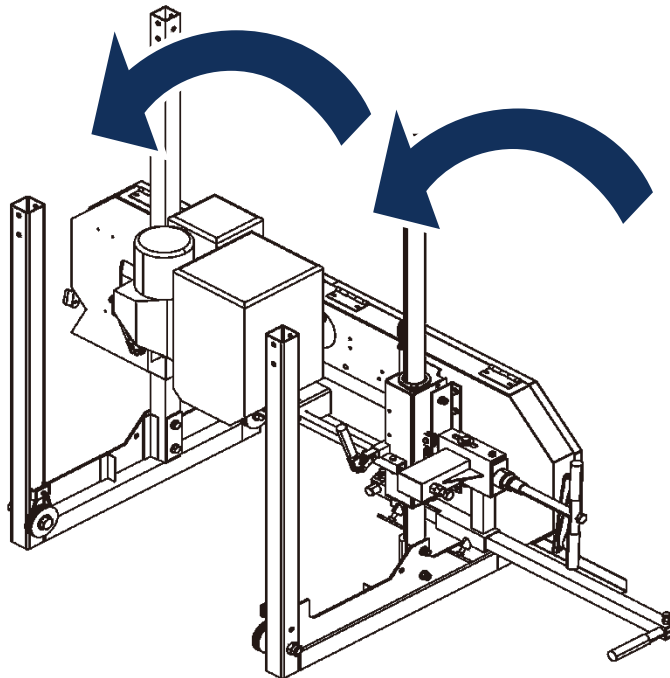


.Lock the cam handles on both the square post to prevent the head from moving when it is stood up in the coming steps. Ensure that when activating the cam handles, the clamps securely lock on the square vertical post.



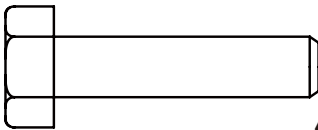
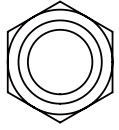
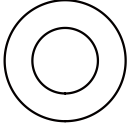
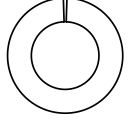
## STANDING THE SAWHEAD UPRIGHT

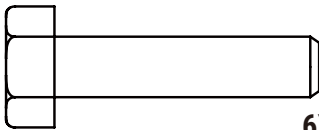
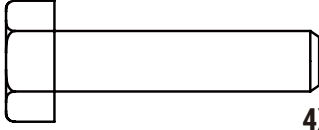
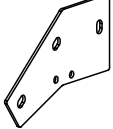
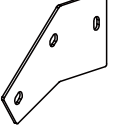
With the help of another person, stand the sawhead upright by rotating it around the rounded profiles at the front of the carriage legs. Do not set the sawhead on the track until instructed to do so later in the assembly process.

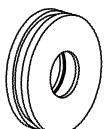
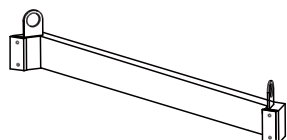




## CROSS BEAM & HEAD STOPS

With the hardware listed below, assemble the cross beam to the carriage posts.

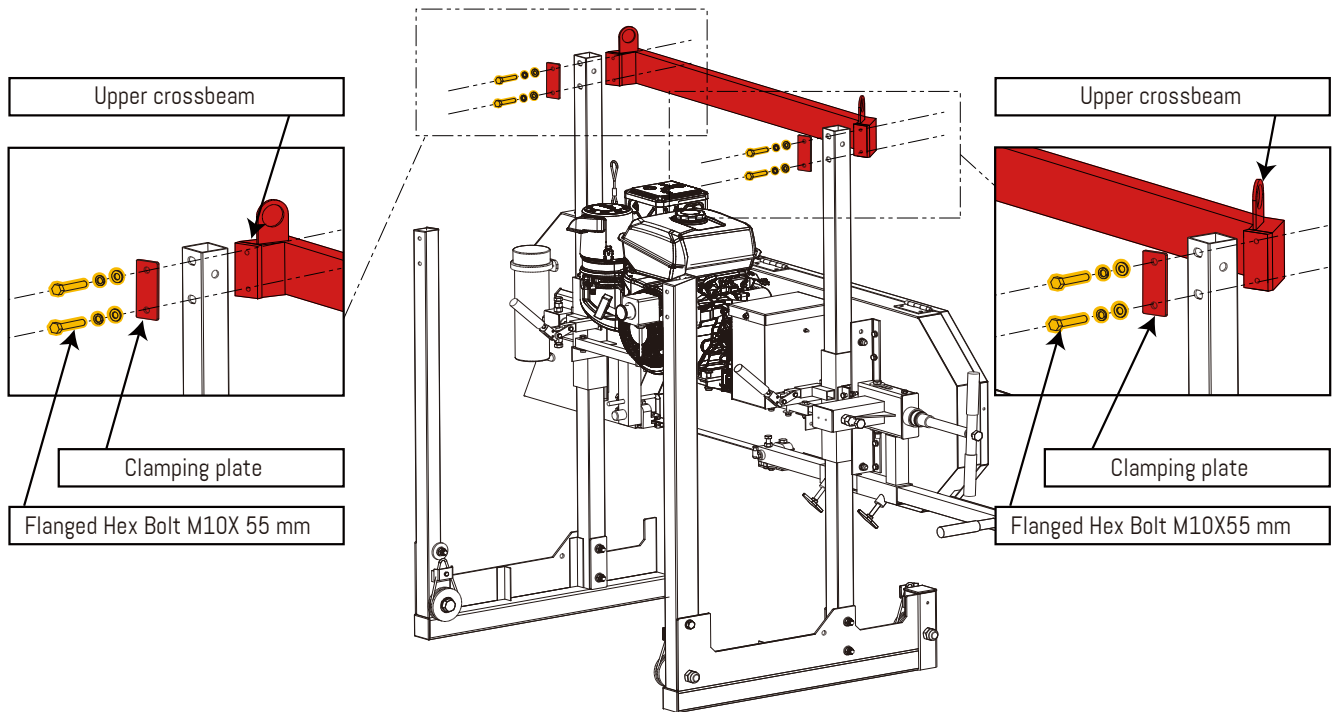
<b>Hexagon head bolt M10X55</b>	 4X
<b>Hexagon self-locking nut M10</b>	 14X
<b>Flat washer 10</b>	 14X
<b>Spring washer 10</b>	 14X

<b>Hexagon head bolt M10x70</b>	 6X
<b>Hexagon head bolt M10x65</b>	 4X
<b>Connecting plate</b>	 1X
<b>Connecting plate</b>	 3X

<b>Bottom wheel</b>		<b>2X</b>
<b>Upper crossbeam</b>		<b>1X</b>

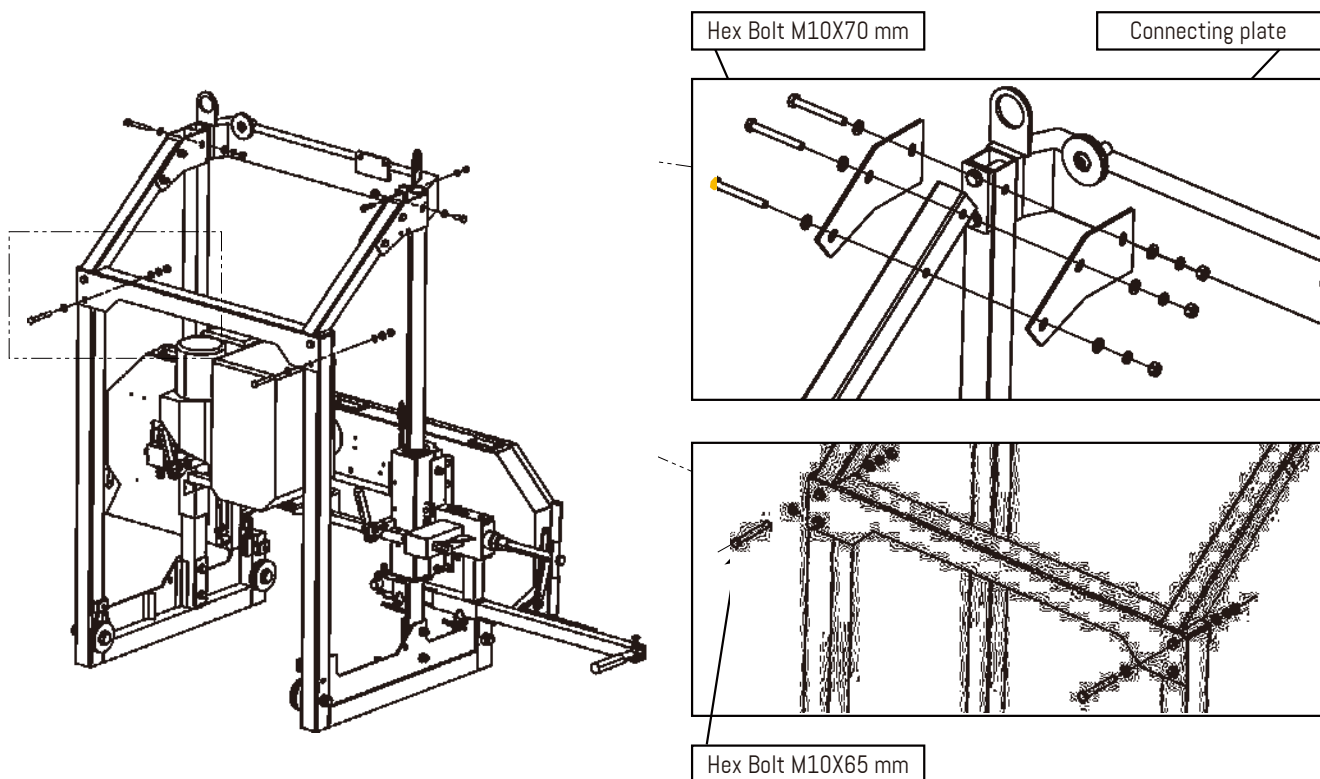
<b>Bottom wheel spacer</b>		<b>2X</b>
<b>Clamping plate</b>		<b>2X</b>

Slide the cross beam into the two square tube post. Bolt the top of the square tube post and the cross beam.



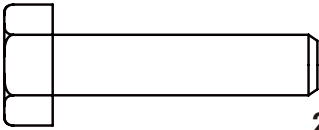
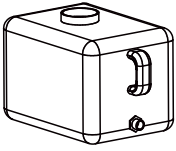

Install upper welding bracket, align the post holes with the corresponding black top cross support holes. using wrench to hold the nut, tighten the bolt.

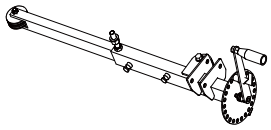
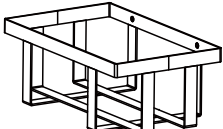
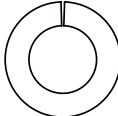
Install the connecting clamping plate, upper arch and steel cable roller, using wrench to hold the nut, tighten the bolt.



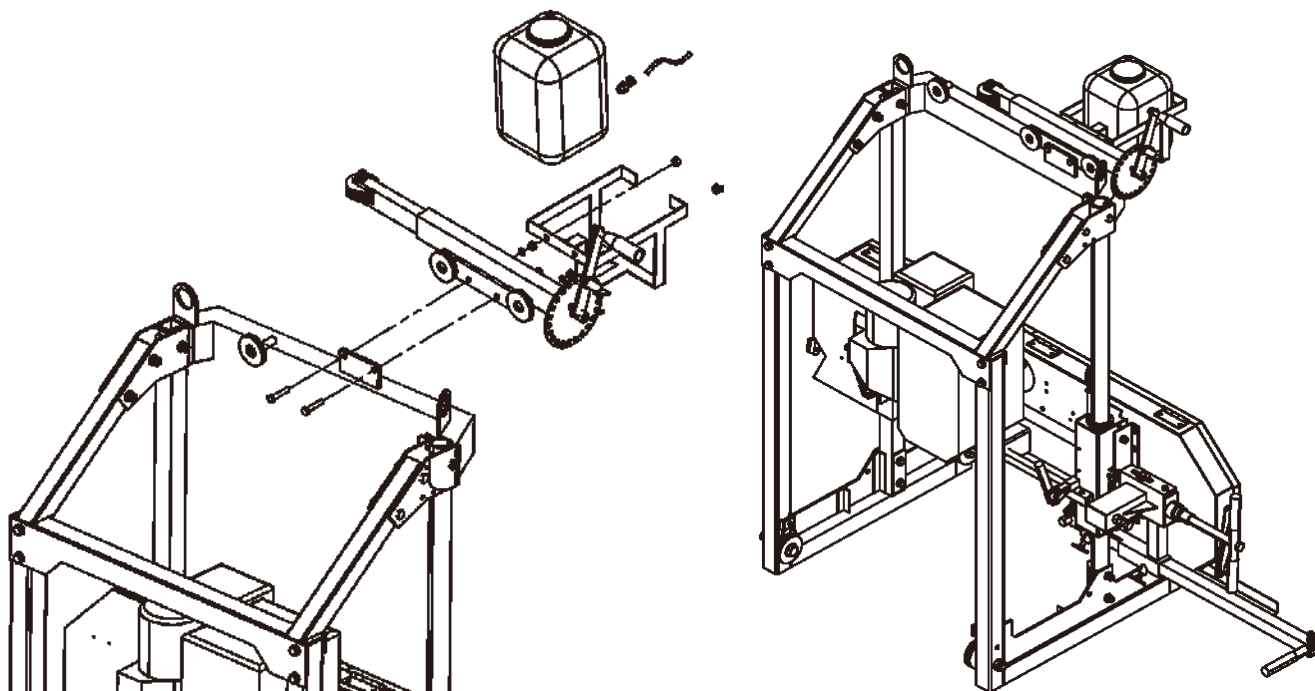
## LIFTING SYSTEM AND WATER TANK

Use the hardware listed below.

<b>Hexagon head bolt M10x80</b>	 2X
<b>Bucket</b>	 1X
<b>Hexagon nut M10</b>	 4X

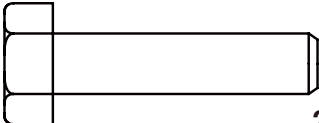

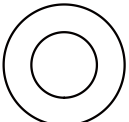
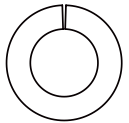
<b>lifting system</b>	 1X
<b>Bucket frame</b>	 1X
<b>Spring washer 10</b>	 4X

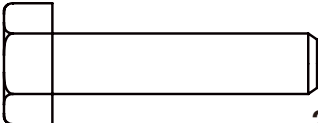

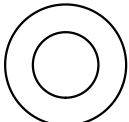
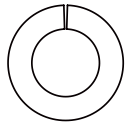
Install the lifting system and cooling box bracket on the beam, using wrench to hold the nut, tighten the bolt. Then put the water tank into the bracket.



## LOG SCALE

Use the hardware listed below.

<b>Hexagon head bolt M8x16</b>	 2X
<b>Hexagon nut M8</b>	 2X
<b>Flat washer 8</b>	 2X
<b>Spring washer 8</b>	 2X

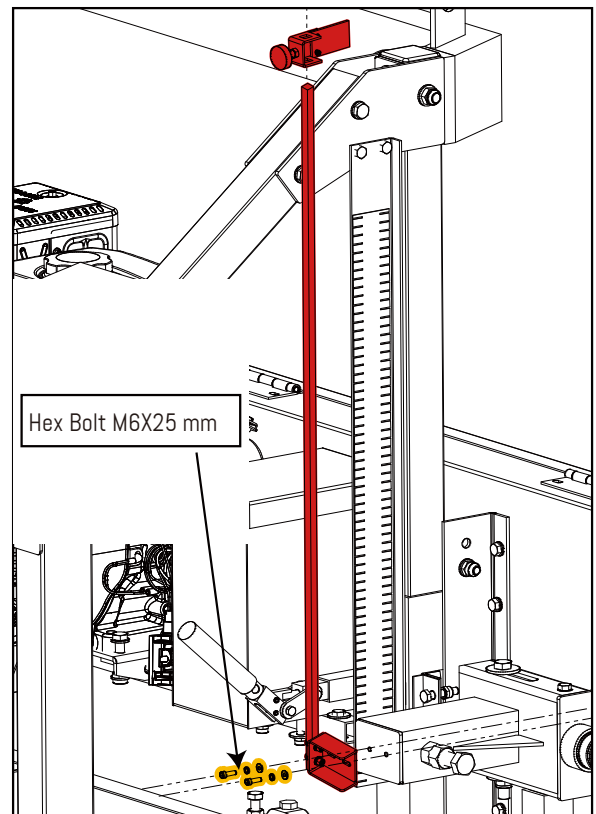
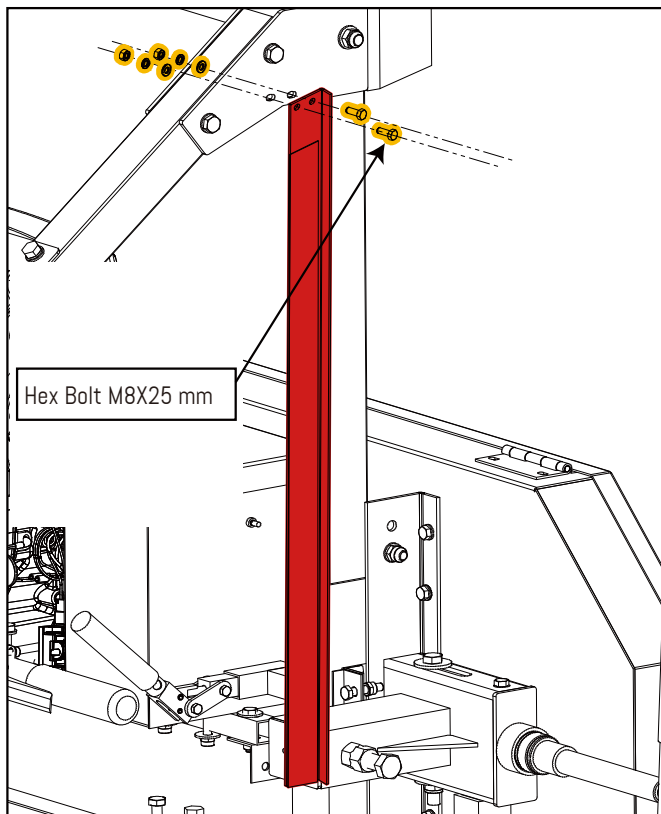
<b>Hexagon head bolt M6x25</b>	 2X
<b>Hexagon nut M6</b>	 2X
<b>Flat washer 6</b>	 2X
<b>Spring washer 6</b>	 2X

Place the measuring scale assembly, the assembly include ruler and height indicator.

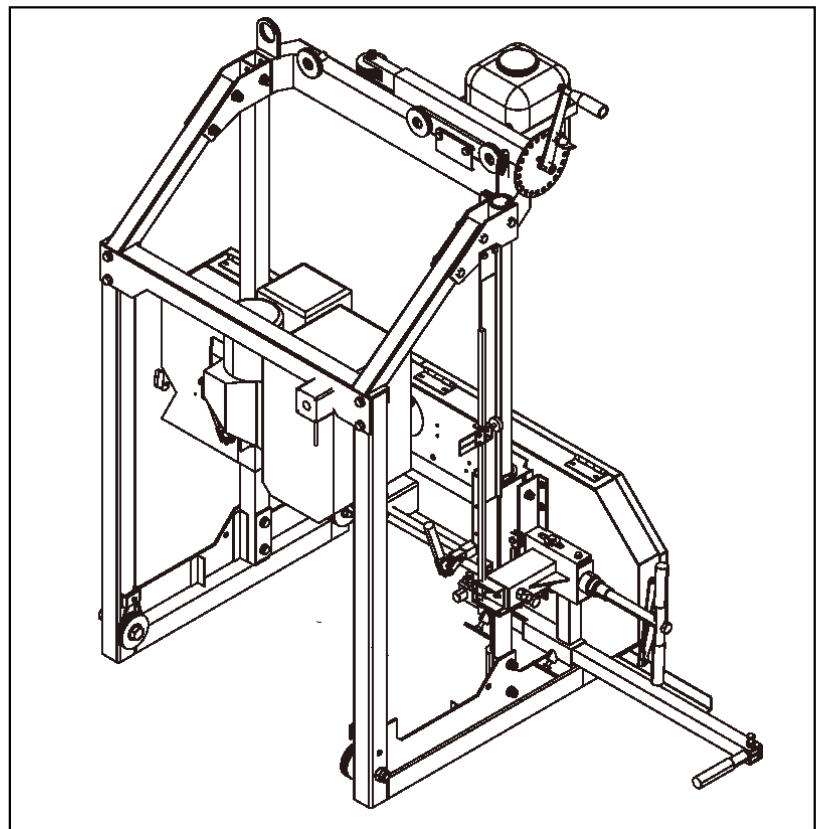
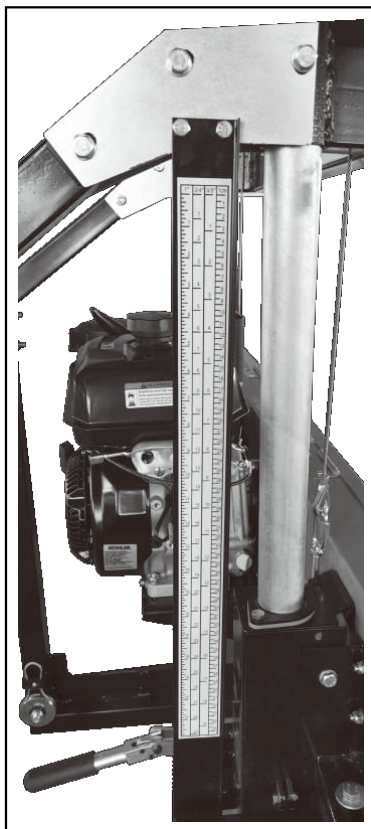
a- install ruler,using wrench to hold the nut ,tighten the bolt.

b- Install the square indicator rod to the sawmill using the two bolts and tighten. Slide the scale indicator over the square rod and tighten.



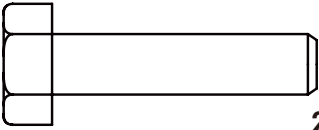
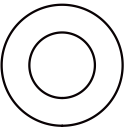

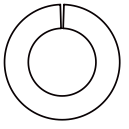


c- It is important to alternate tightening of the nuts (top then bottom) to ensure the black round clamp begins to compress evenly on both the top and bottom until flanges meet at outer edge.

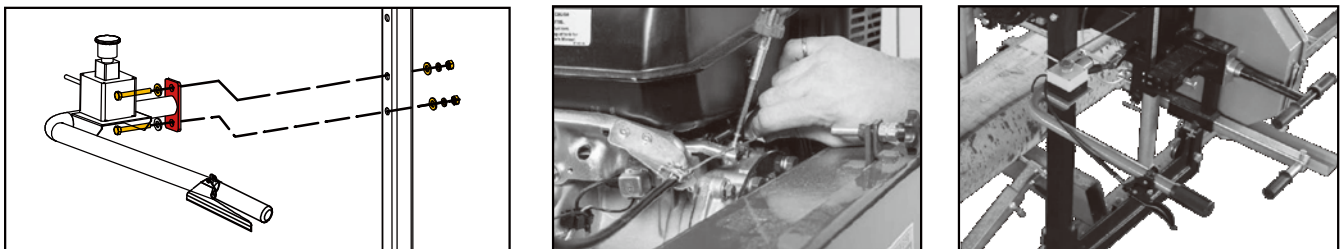


## THROTTLE HANDLE

Assemble the throttle handle to the post using the hardware listed below.

<b>Hexagon head bolt M10x65</b>	 2X	<b>Flat washer 10</b>	 2X
<b>Hexagon nut M10</b>	 2X	<b>Spring washer 10</b>	 2X

Install throttle handle and emergency switch on square rod as shown.

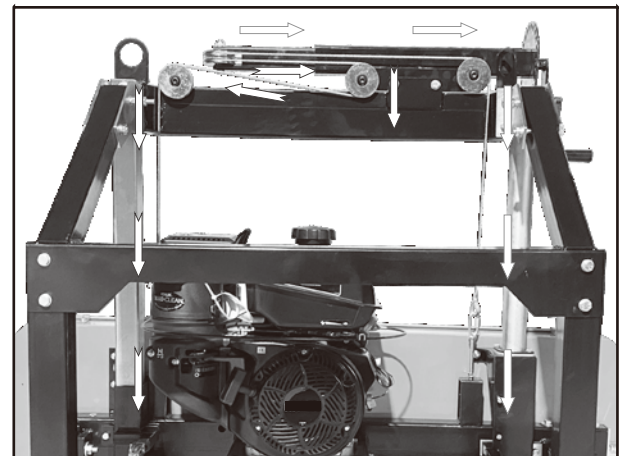
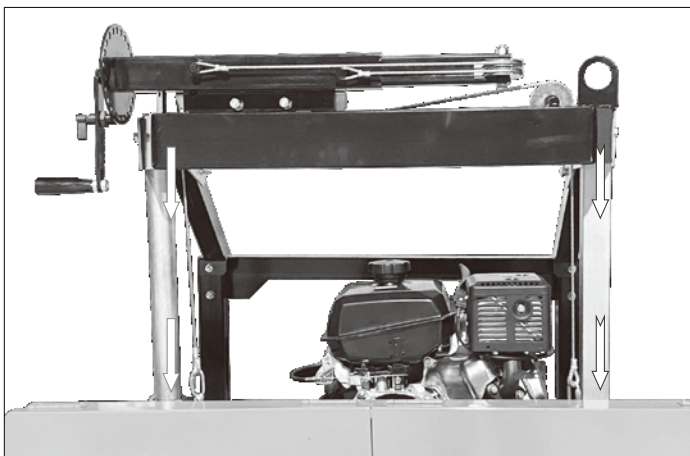


The idler screw needs to be wound fully out failure to do this will result in the engine not running at its full RPMs' which will result a poor cut.

## LIFT CABLE ROUTING

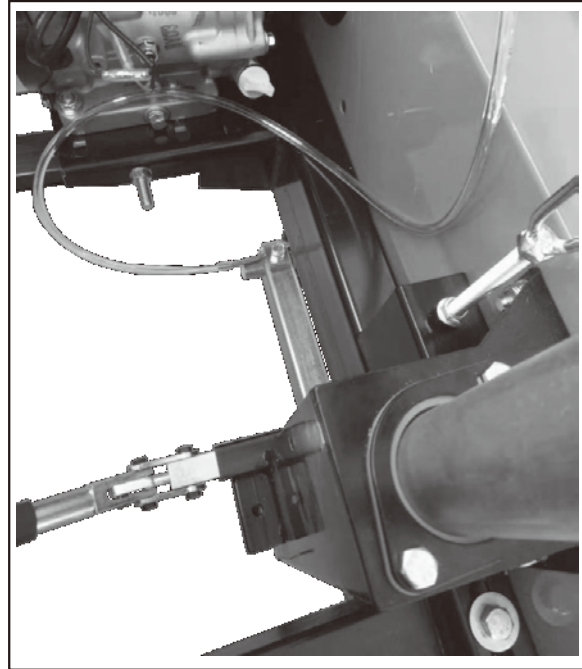
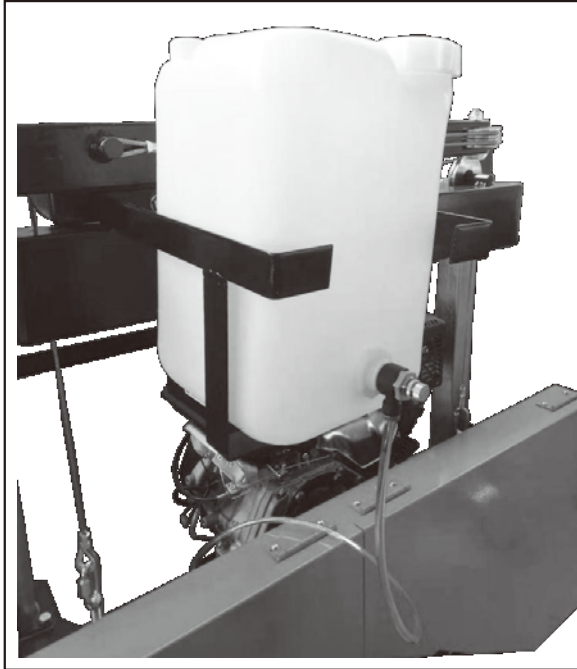
Route the cables on both sides as shown in the below image.

→ down cable    → Long cable



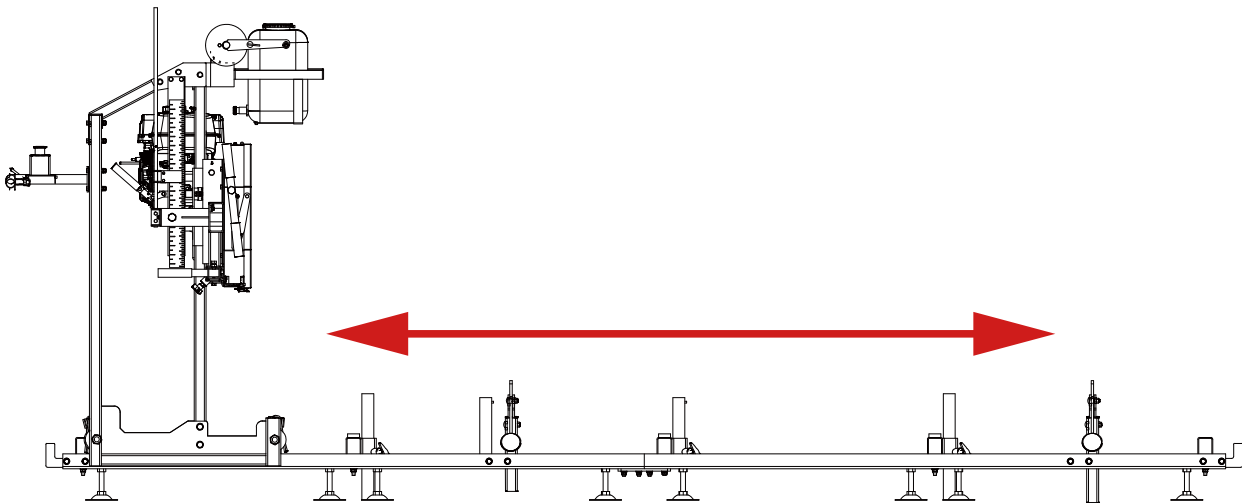
## TRANSPARENT WATER PIPE

Connect the water pipe. After the connection is completed, check to ensure that there is no water leakage at the joints.

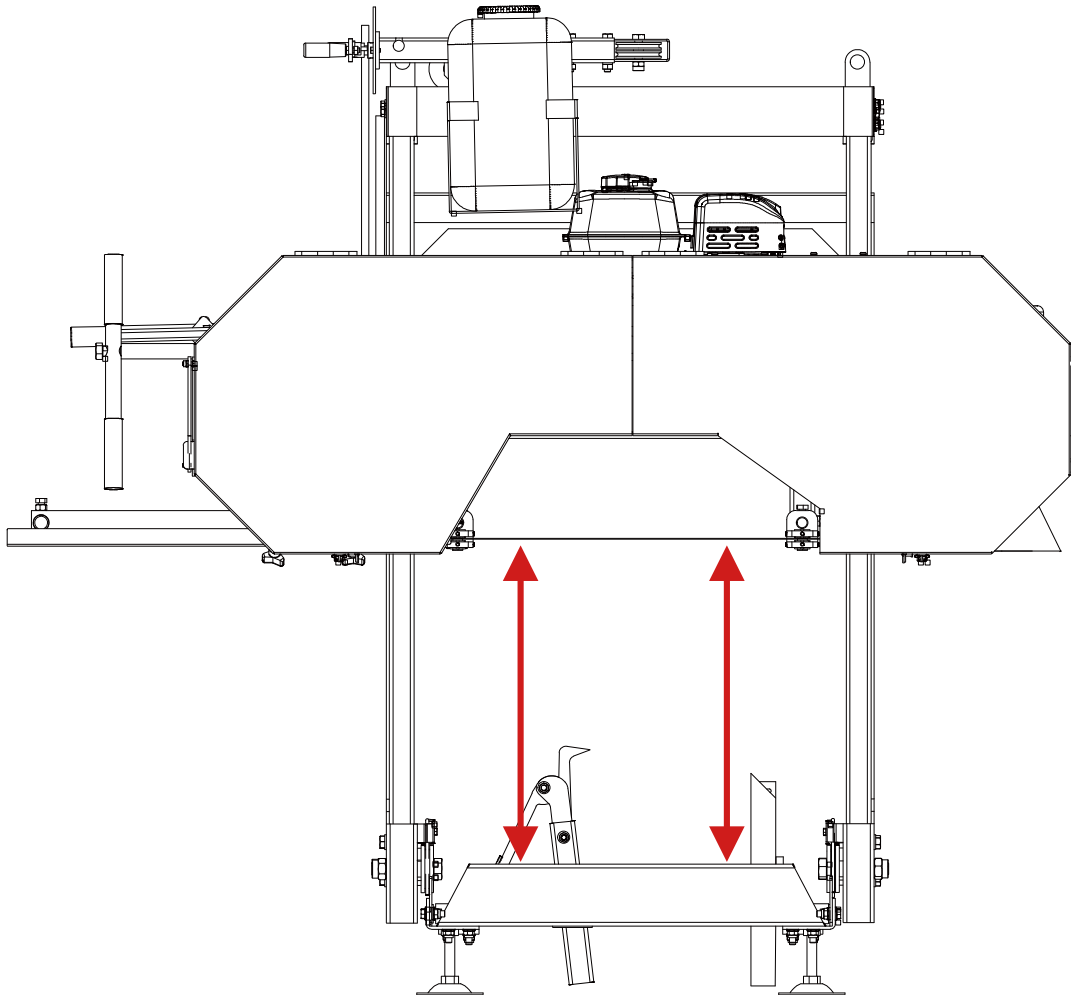


Please Note: We recommend adding some dish washing liquid to the tank to help lubricate the wood - two to three capfuls.

Push the saw head up and down, the track system to ensure that the width of the track allows for the saw head to move freely. If it binds, the "L" rails will need to be set further or closer together to achieve a consistent width along the entire track system. Once the desired width is achieved, all nuts and bolts can be tightened to the log bunks



Using a tape measure, take a measurement from the blade to the top of the log bunk on both the left and right side. The distance should be equal on both sides. If it isn't, you will need to adjust the cable ends at the rear handle to either raise or lower one side.



## ELECTRIC WIRE CONNECT



Step. 1: Find the BLACK connect(2pcs)



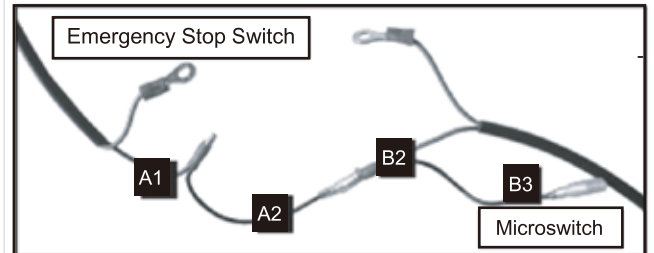
Step. 2: Disconnect BLACK(1and3) wire



Emergency Stop Switch(A)

Microswitch (B)

Step. 3: Find the Emergency Stop Switch(A) and the Microswitch (B)



Step. 4: Connect the A2 and B2



Step.5: Connect the A1 and 1 (Female) Connect the B3 and 3 (Male)



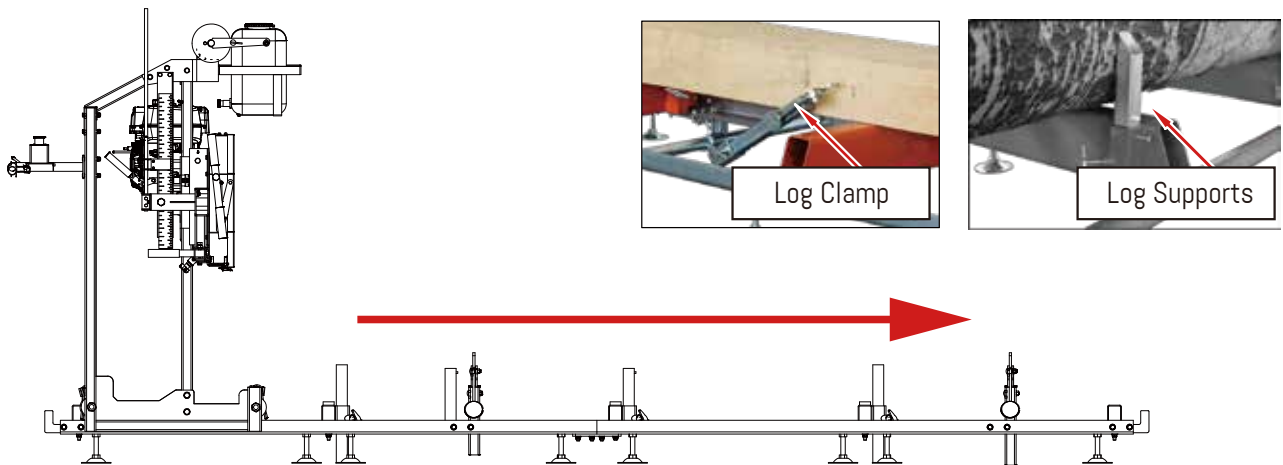
Step.6: Connect chassis



## ENGINE



Refer to the engine manual before using your sawmill. Please note that the engine does not contain any petrol or engine oil when it is shipped. Furthermore, the engine is equipped with an oil alert system, meaning that if the crankcase oil level is low or empty, the power is cut to the spark plug and it will not start.



Always cut in the direction shown above. The log clamp should always be on the right side of the log and the log supports should always be on the left. Failure to cut in this direction can cause the log to come loose and possibly even cause damage or injury.

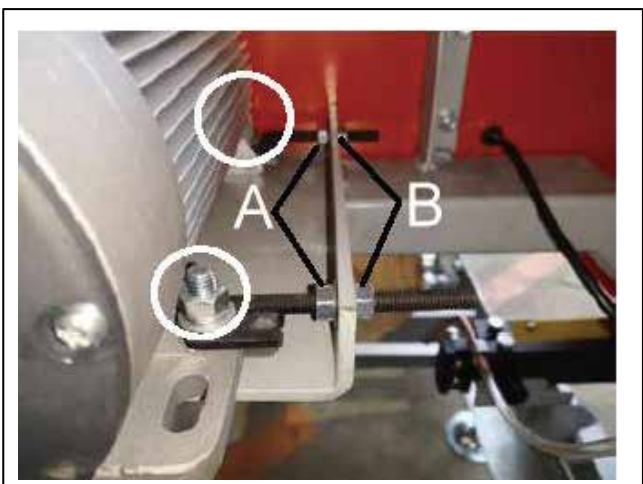
**\*Now that your sawmill is assembled, please run through the "SAWMILL SET-UP PROCEDURES" in the following section. Failure to do so may result in poor sawing performance, damage or injury. See next page.\***

## SAWMILL SET-UP PROCEDURES

### BELT TENSION



To check the belt tension, with your hand, firmly try to deflect the belt up and down. These should be no more than 1/4" of deflection in both directions (1/2" total). If the belt deflects more than this, it will need to be tightened as described below.

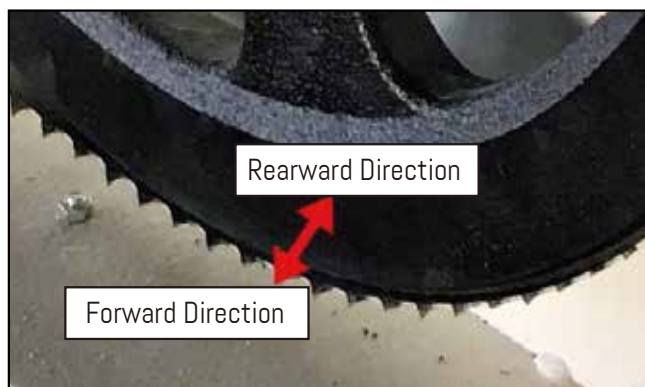
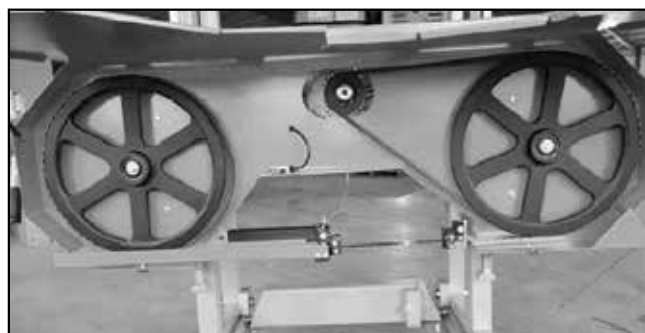


To change the drive side belt, loosen the four bolts that secure the engine to the engine mount using a 16mm wrench.

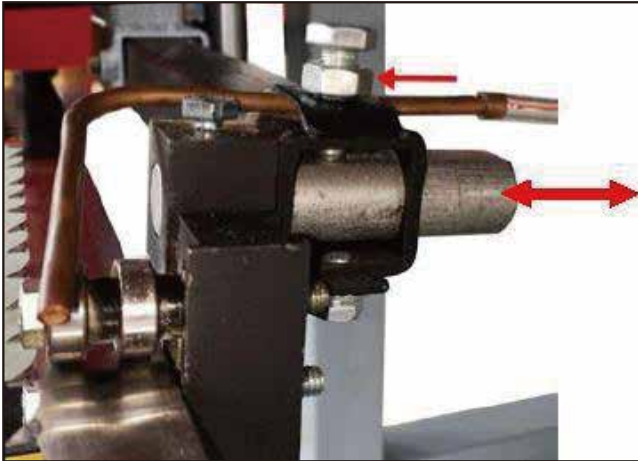
Now that the motor is free to slide on the motor mounting plate, turn the 13mm nut(A) on the horizontal stud in the anticlockwise direction, push the motor towards the stud and apply more tension on the belt. Do this step incrementally while checking the belt for proper deflection. It is also important to ensure that the motor remains perpendicular to the drive belt. Over tightening can cause the motor to twist on the mounting plate, resulting in belt alignment issues and premature wear. Once the desired belt tension is set, tighten the four engine bolts. Alternatively, if the drive belt is too tight, turn the 13mm nut(B) on the horizontal stud anticlockwise direction, push the motor away from the stud.

### BLADE TRACKING

Never attempt the below action when the engine running. As a safety precaution, remove the spark plug cap. It is also advised to wear gloves and safety glasses when working with the blades as it is extremely sharp.



The blade should run with the same tooth to bandwheel face distance on both sides. Measure the distance from the tip of the blade tooth to the front face of the bandwheel on both sides. If an adjustment on either side is required, the below steps will detail this procedure.



Loosen the blade guide assembly bolt with a 13mm socket. The round shaft should now be free to slide rearward and out of the way. Perform this step on both guide assemblies. This will ensure that the guide bearing do not influence tracking of the blade while adjusting.



Take some tension off of the blade by turning the "T" handle in the counter-clockwise direction one full turn from full tension position.

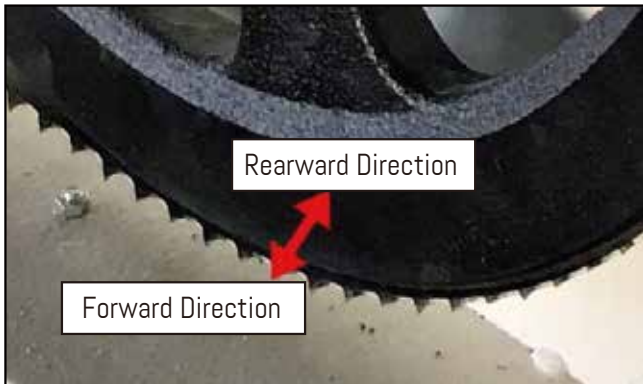
## ADJUSTING THE RIGHT HAND SIDE



Loosen the tracking alignment bolt with an adjustable wrench. The alignment bolt can now be turned to change the angle of the bandwheel and track the blade. To move the blade more rearward on the bandwheel, this bolt will need to be turned clockwise. Alternatively, turning the bolt in the counter-clockwise direction would force the blade to run more forward on the bandwheel.



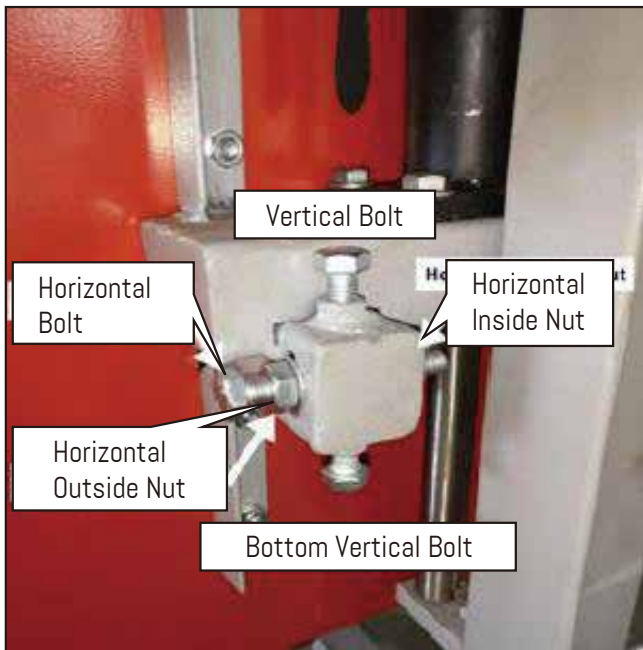




Wearing gloves, spin the banwheel with your hand and observe how the blade has changed tracking. Measure the distance again and repeat the above step to further compensate if required.

## ADJUSTING THE LEFT HAND SIDE

To adjust the left side of the sawmill, again start by taking the tension off of the blade by turning the "T" handle one turn in the counter-clockwise direction. Using a 16m wrench, loosen both "vertical bolts" a 1/2 turn. This will take the clamping force off of the bandwheel shaft cause by these two bolts and allow it to move freely in the following steps.

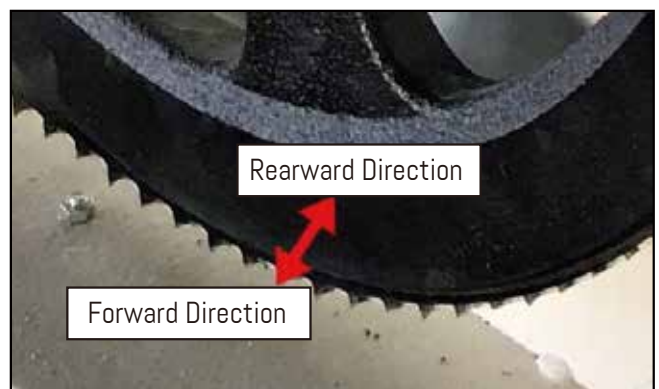


## MOVING THE BLADE FORWARD

Using a 16mm wrench, hold the "horizontal bolt" stationary with a wrench and turn the "horizontal inside nut" counter-clockwise a 1/2 turn. Still holding the "horizontal bolt" stationary, turn the "horizontal outside nut" clockwise a 1/2 turn. This has now shifted the "horizontal bolt" and bandwheel shaft, causing the blade to track more forward.

## MOVING THE BLADE REARWARD

Using a 16mm wrench, hold the "horizontal bolt" stationary with a wrench and turn the "horizontal outside nut" counter-clockwise a 1/2 turn. Still holding the "horizontal bolt" stationary, turn the "horizontal inside nut" clockwise a 1/2 turn. This step has now shifted the "horizontal bolt" and banwheel shaft, causing the blade to track more forward. Tighten the vertical bolts, then nuts to clamp the bandwheel shaft into the vertical position.

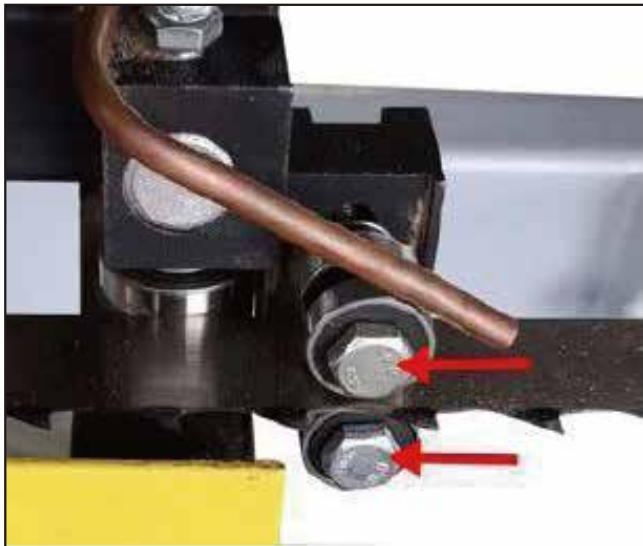


Re-tension the blade by turning the "T" handle a full turn in the clockwise direction. Wearing gloves, spin the banwheel with your hand and observe how the blade has changed tracking. Measure the distance again and repeat the above step to further compensate if required.

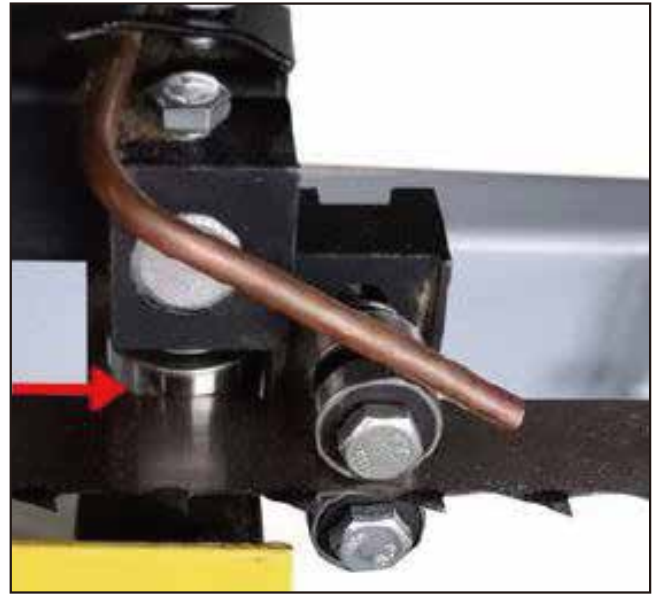
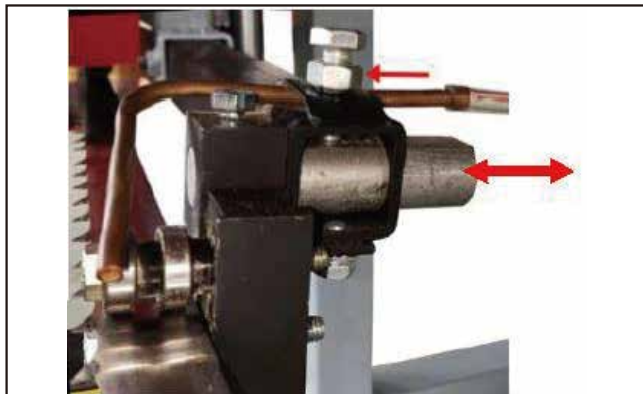
Once the blade is tracking true, bring the blade guide assemblies back up to the blade. Keep a paper width distance between the blade guide bearing and the back of the blade. More information on this set up can be found in the next section – "BLADE GUIDE ADJUSTMENT"

## BLADE GUIDE ADJUSTMENT

Never attempt the below action when the engine running. As a safety precaution, remove the spark plug cap. It is also advised to confirm that the blade is tracking properly before performing the below. Blade tracking is covered in the previous page.



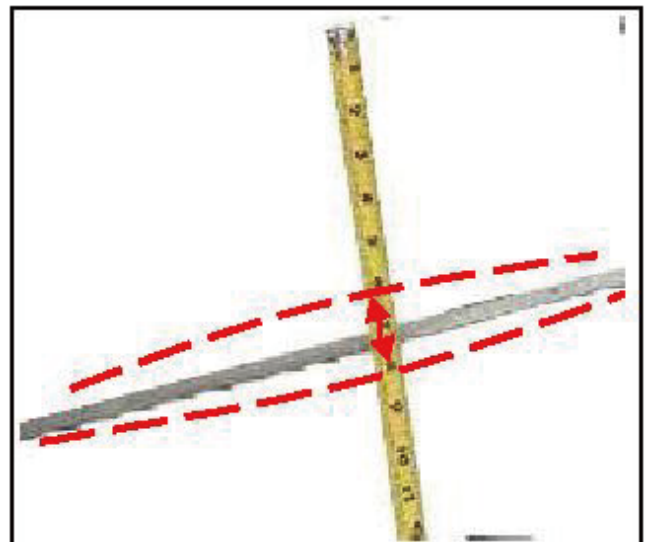
Using a 13mm wrench loosen the blade guide bolt on both the left and right sides. They should be free to slide up and down.



Loosen the blade guide assembly bolt with a 13mm socket. The round shaft should now be free to slide back and forth. Position it so that there is a paper width gap between the bearing and the back of blade. Tighten bolt against the flat on the shaft to secure assembly back in position.

Using a piece of paper in between the blade and blade guide blocks, tighten the bearing bolts.

## BLADE TENSION

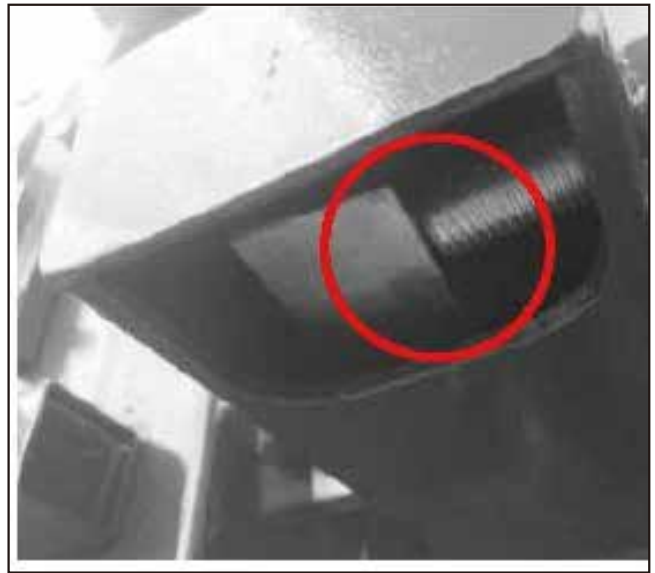




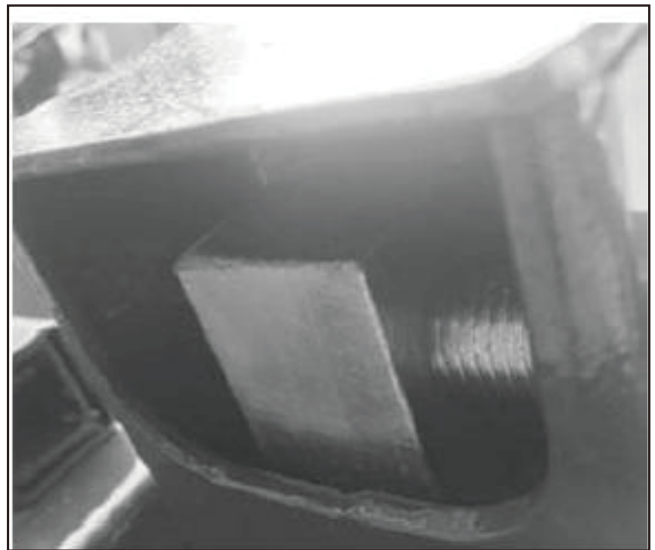
Proper blade tension is achieved when the blade deflects no more than a total of 1/8" – 1/4" up/down when it is firmly moved by hand at the center location of the blade guide blocks. Turning the blade tension "T" handle in the clockwise direction will add tension to blade.



When tensioning the blade, make sure the tracking adjustment bolt sitting behind the "T" handle (pictured) is sitting back in its recess after you have finished and before the mill is run. Failure to do this will result in the blade being thrown and possibly broken.



Tracking adjustment bolt out of recess, if it looks like this DO NOT start the mill until it is resting back in its recess.



Tracking adjustment bolt sitting in recess. It should look like this before the mill is started back up.



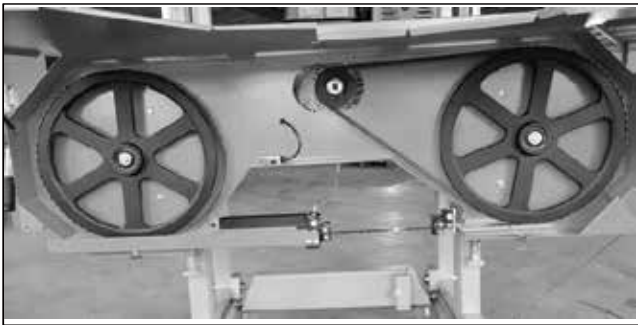
Ensure the blade support arm is locked into place after tensioning the blade.



## SAWMILL MAINTENANCE

### CHANGING THE BLADE

Never attempt the below action when the engine running. As a safety precaution, remove the power plug. Gloves and safety glasses must be worn when changing blade.



Loosen the screw and pull back the blade limit lever.



Loosen the screw and pull out the blade guard cover.



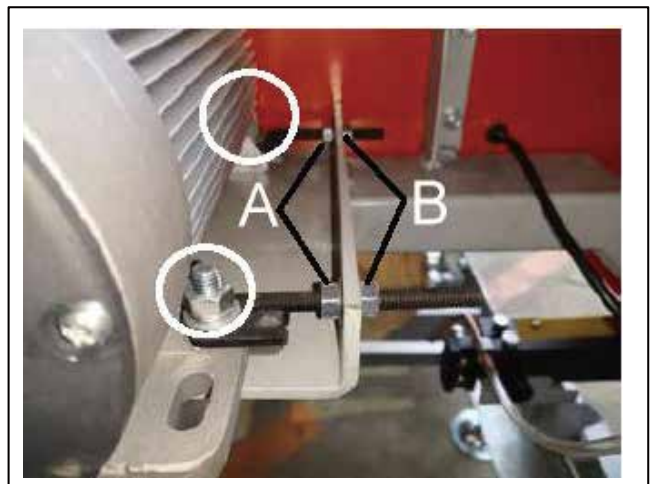
Remove the tension in the blade by turning the "T" handle in the counter-clockwise direction. The blade should now be loose and free to pull straight out the front. The new blade can now be installed, guards closed and proper blade tension set.

### REPLACING BELTS

Never attempt the below action when the engine running. As a safety precaution, remove the power plug. Gloves and safety glasses must be worn when replacing the belts.

Replacement the belt need to remove the blade firstly, please follow above steps to remove the blade.

There are two rubber "V" belt on the sawmill and they should be replaced as a set. It is not advised to replace individual belts separately. It is recommended to use a BX50 cogged belt for the drive side and a BX41 follow belt.



To change the drive side belt, loosen the four bolts that secure the engine to the engine mount using a 16mm wrench.



Now the motor is free to slide on the mounting plate, turn the 13mm nut on the horizontal stud in the counter-clockwise direction. This will allow the motor to move and will also take the tension off of the belt. The old belt can be removed and the new belt can be installed.

Tension the new belt and refer to the BELT TENSION instructions described in the sawmill set up section of the manual. The follower belt can now be changed by simply pulling it off and installing the new one.

The blade can now be re-installed, guards closed and proper blade tension set.

\* Note that blade tracking is likely to change and need adjusting when new belts are installed. Refer to "BLADE TRACKING" for more information.\*

\* Note – It is very important to take the tension off of the blade by turning the "T" handle in the counter-clockwise direction when the sawmill is not in use. Failure to do so, will result in flat spots on the rubber belts. These flat spots will cause the mill to vibrate excessively during next use.\*

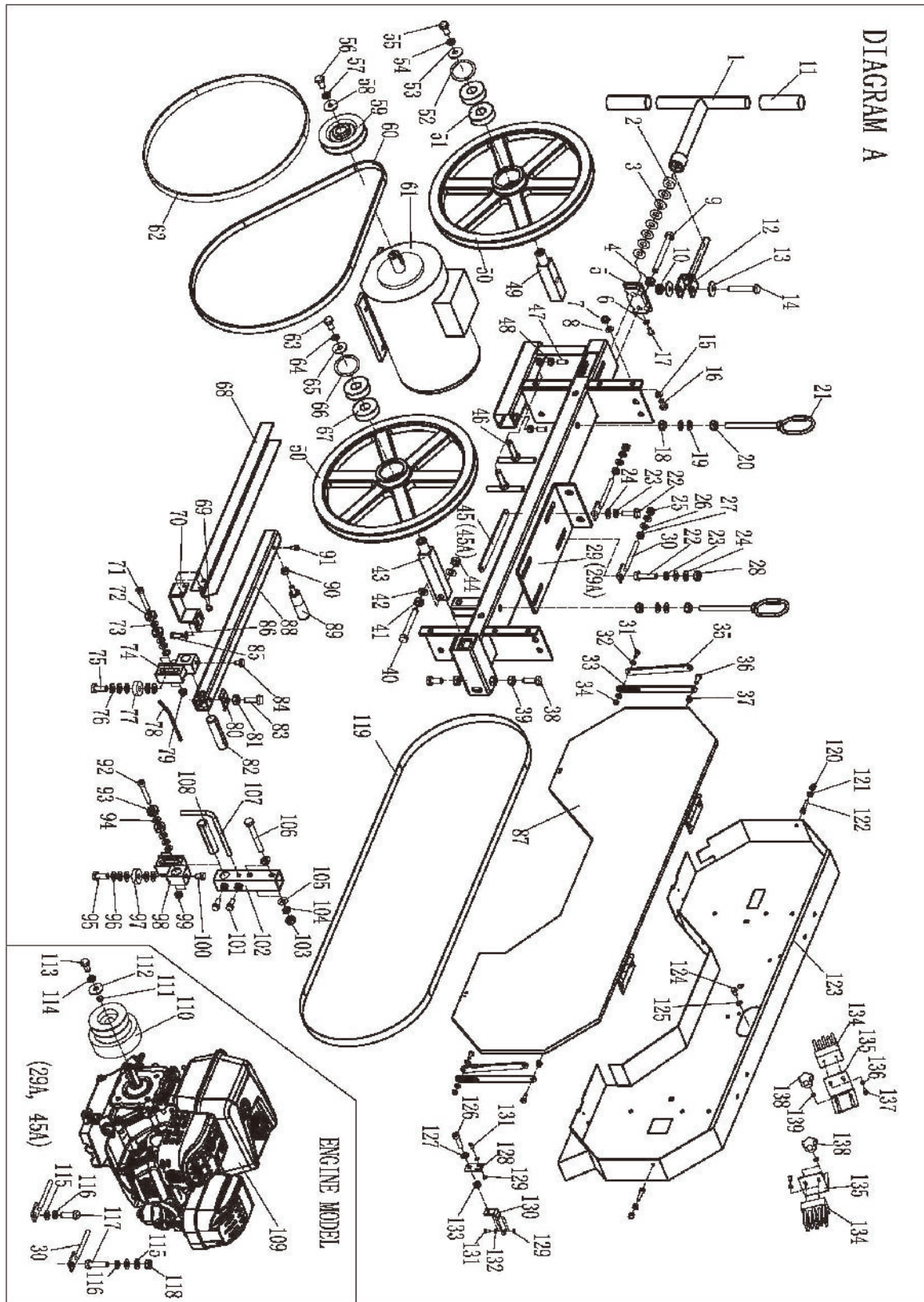
## TROUBLE SHOOTING

Problem/Issue	Possible Causes	Resolution Options
Producing wavy cuts.	<ol style="list-style-type: none"> <li>1. Inadequate blade tension.</li> <li>2. Improper blade guide set up.</li> <li>3. Improper blade tracking.</li> <li>4. Sap build up on blade.</li> <li>5. Dull blade.</li> <li>6. Pushing mill too quickly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten blade.</li> <li>2. Gap between guide blocks and blade are incorrect.</li> <li>3. Adjust blade tracking.</li> <li>4. Install new blade. Always use blade lubricant.</li> <li>5. Install new blade.</li> <li>6. Slow feed rate down and push head slower through log.</li> </ol>
Last board is tapered or narrow in middle.	<ol style="list-style-type: none"> <li>1. Tracks are not level.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tracks need to be checked with level and adjusted to be square. They also need to be set up on firm, sturdy round/base so deflection does not occur from logs or sawmill head.</li> </ol>
Blade dulls quickly.	<ol style="list-style-type: none"> <li>1. Logs are not clean.</li> <li>2. Foreign objects in log.</li> </ol>	<ol style="list-style-type: none"> <li>1. Logs may contain dirt/sand causing them to wear prematurely.</li> <li>2. Tree may contain nails, staples, old fencing etc.</li> </ol>
Blade comes off of bandwheels.	<ol style="list-style-type: none"> <li>1. Inadequate blade tension.</li> <li>2. Improper blade guide set up.</li> <li>3. Improper blade tracking.</li> <li>4. Belts are worn.</li> <li>5. Dull blade.</li> <li>6. Pushing mill too quickly</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten blade.</li> <li>2. Gap between guide blocks and blade are incorrect.</li> <li>3. Adjust blade tracking.</li> <li>4. Install new belts.</li> <li>5. Install new blade.</li> <li>6. Slow feed rate down and push head slower through log.</li> </ol>
Blades are breaking.	<ol style="list-style-type: none"> <li>1. Too many blade sharpening.</li> <li>2. Inadequate blade tension.</li> <li>3. Improper blade guide set up.</li> <li>4. Improper blade tracking.</li> <li>5. Pushing mill too quickly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace blade.</li> <li>2. Binding between guide blocks when blade is too loose. Tighten blade.</li> <li>3. Gap between guide blocks and blade are incorrect.</li> <li>4. Adjust blade tracking.</li> <li>5. Slow feed rate down and push head slower through log.</li> </ol>
Blade is slowing down or stopping when milling.	<ol style="list-style-type: none"> <li>1. Inadequate blade tension.</li> <li>2. Improper drive belt tension.</li> <li>3. Pushing mill too quickly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten blade.</li> <li>2. Belts are worn or too loose. Replace.</li> <li>3. Slow feed rate down and push head slower through log.</li> </ol>
Mill is not cutting/cutting very slowly	<ol style="list-style-type: none"> <li>1. Dull blade.</li> <li>2. Blade is on backwards.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install new blade.</li> <li>2. Remove blade and flip it inside out. The teeth should be facing in the direction of the log supports.</li> </ol>

Problem/Issue	Possible Causes	Resolution Options
Mill is vibrating excessively.	<ol style="list-style-type: none"><li>1. Log is not clamped securely.</li><li>2. Belts are deformed.</li><li>3. Bandwheel bearing issue.</li><li>4. Pushing mill too quickly.</li><li>5. Loose bolts.</li></ol>	<ol style="list-style-type: none"><li>1. Ensure log is clamped firmly resting on log bunks and against log supports.</li><li>2. Belts may have flats in them from leaving blade tension tight when not in use. Replace them.</li><li>3. Inspect and replace the bandwheel bearings if worn.</li><li>4. Slow feed rate down when milling,</li><li>5. Check all bolts to ensure they are tight.</li></ol>



## DIAGRAM(A)--BAND WHEEL HOUSEING



## PARTS LIST(A)--BAND WHEEL HOUSEING

REF	DESCRIPTION
A1	TENSION HANDLE
A2	THRUST BALL BEARING
A3	DISC SPRINGS
A4	HEX NUT M12
A5	END CAP FOR MAIN TUBE
A6	WASHER 6mm
A7	HEX NUT M8
A8	WASHER 8mm
A9	HEX BOLT M12X100
A10	HEX LOCK NUT M10
A11	HANDLE COVER
A12	TENSION PLATE
A13	BIG WASHER 10mm
A14	HEX BOLT M10X60
A15	WASHER 8mm
A16	HEX NUT M8X16
A17	HEX BOLT M5X12
A18	HEX NUT M10
A19	WASHER 10mm
A20	HEX NUT M10
A21	LIFT RING
A22	HEX BOLT M10X35
A23	SPRING WASHER 10mm
A24	WASHER 10mm
A25	HEX NUT M8
A26	WASHER 8mm
A27	HEX NUT M8
A28	HEX NUT M10
A29	MAIN BEAM

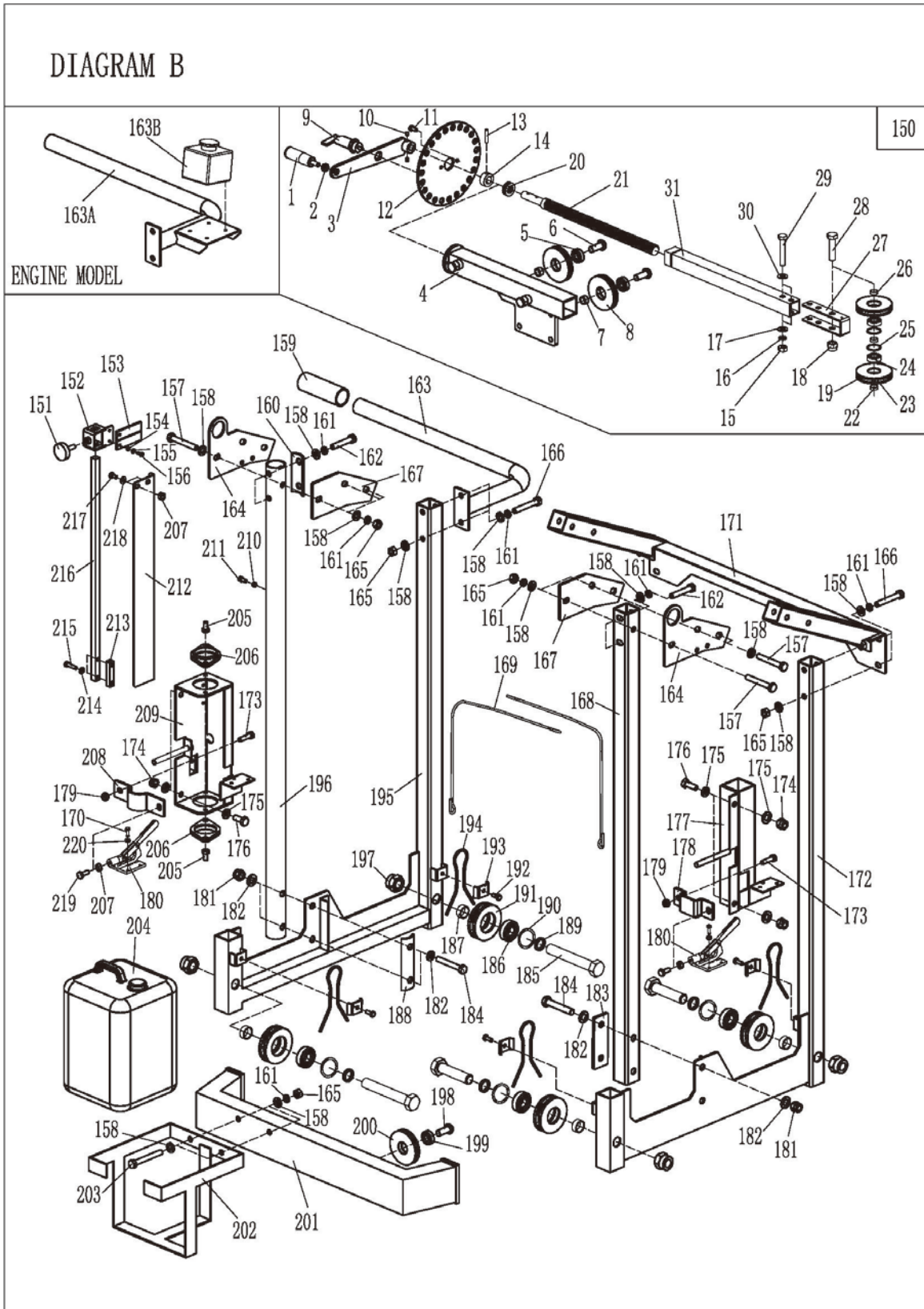
REF	DESCRIPTION
A30	HEX NUT M8
A31	HEX BOLT M5X16
A32	WASHER 5
A33	BRACKET PLATE No.2
A34	HEX LOCK NUT M5
A35	BRACKET PLATE No.1
A36	HEX BOLT M6X16
A37	HEX LOCK NUT M6
A38	HEX BOLT M10X30
A39	HEX NUT M10
A40	HEX BOLT M10X80
A41	HEX NUT M10
A42	WASHER 10mm
A43	SHAFT FOR DRIVE WHEEL
A44	HEX NUT M10
A45	HEX BOLT M10X80
A46	LOCK SCREW
A47	SET SCREW M8
A48	HEX NUT M8
A49	SHAFT FOR IDLE WHEEL
A50	SAW WHEEL
A51	BEARING 6304
A52	CIRCLIP FOR HOLE
A53	BIG WASHER 10mm
A54	SPRING WASHER
A55	HEX BOLT M10X20
A56	HEX BOLT M10X20
A57	SPRING WASHER
A58	BIG WASHER 10mm

REF	DESCRIPTION
A59	MOTOR PULLY
A60	V-BELT BX50
A61	MOTOR
A62	V-BELT BX42
A63	HEX BOLT M10X20
A64	SPRING WASHER
A65	BIG WASHER 10mm
A66	CIRCLIP FOR HOLE
A67	BEARING 6304
A68	FRONT GUARD
A69	HEX BOLT M6X8
A70	GUARD SEAT
A71	ALLEN SCREW M8X50
A72	BEARING 608
A73	WASHER 8mm
A74	GUIDR BLOCK FRONT
A75	HEX BOLT M10X25
A76	WASHER 10mm
A77	BEARING 6200
A78	COOLING TUBE
A79	HEX LOCK NUT M8
A80	CLAMP PLATE
A81	HEX NUT M8
A82	GUIDE SHAFT
A83	HEX BOLT M8X25
A84	HEX BOLT M8X12
A85	HEX BOLT M6X12
A86	WASHER 6mm
A87	SAW BLADE
A88	GUIDE PIPE
A89	HANDLE

REF	DESCRIPTION
A90	HEX NUT M10
A91	ALLEN SCREW M6X8
A92	ALLEN SCREW M8X50
A93	BEARING 608
A94	WASHER 8mm
A95	HEX BOLT M10X25
A96	WASHER 10mm
A97	BEARING 6200
A98	GUIDR BLOCK REAR
A99	HEX LOCK NUT M8
A100	HEX BOLT M8X12
A101	HEX BOLT M8X20
A102	GUIDE TUBE
A103	HEX NUT M10
A104	SPRING WASHER
A105	WASHER 10mm
A106	HEX BOLT M10X80
A107	LOCK HOOK
A108	GUIDE SHAFT
A109	ENGINE
A110	CLUTCH
A111	BUSH
A112	BIG WASHER
A113	HEX BOLT
A114	SPRING WASHER
A115	WASHER 8mm
A116	SPRING WASHER
A117	HEX BOLT
A118	HEX NUT M8
A119	SAW BLADE
A120	HEX CAP NUT M6

REF	DESCRIPTION
A121	HEX NUT M6
A122	ALLEN SCREW M6X25
A123	PROTECTIVE COVER
A124	HEX BOLT M6X12
A125	WASHER 6mm
A126	ALLEN SCREW M8X30
A127	WASHER 8mm
A128	LOCK BLOCK NO.1
A129	HEX NUT M4
A130	LOCK BLOCK NO.2
A131	PAN HEAD SCREW M4X10
A132	WASHER 4mm
A133	HEX LOCK NUT M8
A134	BRUSH
A135	BRUSH SEAT
A136	WASHER 4mm
A137	TAP SCREW ST4.2X13
A138	HANDLE M5X10
A139	WASHER 5mm

## DIAGRAM(B)--CARRIAGE



## PARTS LIST(B)--CARRIAGE

REF	DESCRIPTION
150	LIFT ASSEMBLY
1	LIFT HANDLE
2	HEX NUT
3	LIFT ARM
4	FIXED SLIDING TUBE
5	BEARING
6	ALLEN SCREW
7	SPACE BUSH
8	PULLY
9	INDEX ASM
10	SET SCREW
11	HEX BOLT
12	INDEX PLATE
13	SPRING PIN
14	FIXED BUSH
15	HEX NUT M10
16	SPRING WASHER 10
17	WASHER 10
18	HEX LOCK NUT M12
19	PAN HEAD SCREW M4X6
20	THRUST BEARING
21	THREADED SCREW
22	SPACER BUSH NO.1
23	PULLY
24	BEARING 6200
25	CIRCLIP FOR HOLE
26	SPACER BUSH NO.1
27	PULLY BRACKET
28	HEX BOLT M12X55

REF	DESCRIPTION
29	HEX BOLT M10X55
30	WASHER 10
31	INNER SLIDING TUBE
151	HANDLE M8X30
152	SLIDING PART
153	POINTER FOR HEIGHT
154	HEX NUT M4
155	WASHER 4
16	PAN HEAD SCREW M4X12
157	HEX BOLT M10X70
158	WASHER 10mm
159	HANDLE COVER
160	SPACER PLATE A
161	SPRING WASHER 10
162	HEX BOLT M10x55
163	PUSH-PULL HANDLE
164	JOINT PLATE A
165	HEX NUT M10
166	HEX NUT M10x65
167	JOINT PLATE B
168	SQUARE POST
169	STAINLESS WIRE
170	HEX BOLT M5
171	STRENGTHEN BRACKET
172	LEFT BRACKET
173	HEX BOLT M8x30
174	HEX LOCK NUT M10
175	WASHER 10mm
176	HEX BOLT M10X25



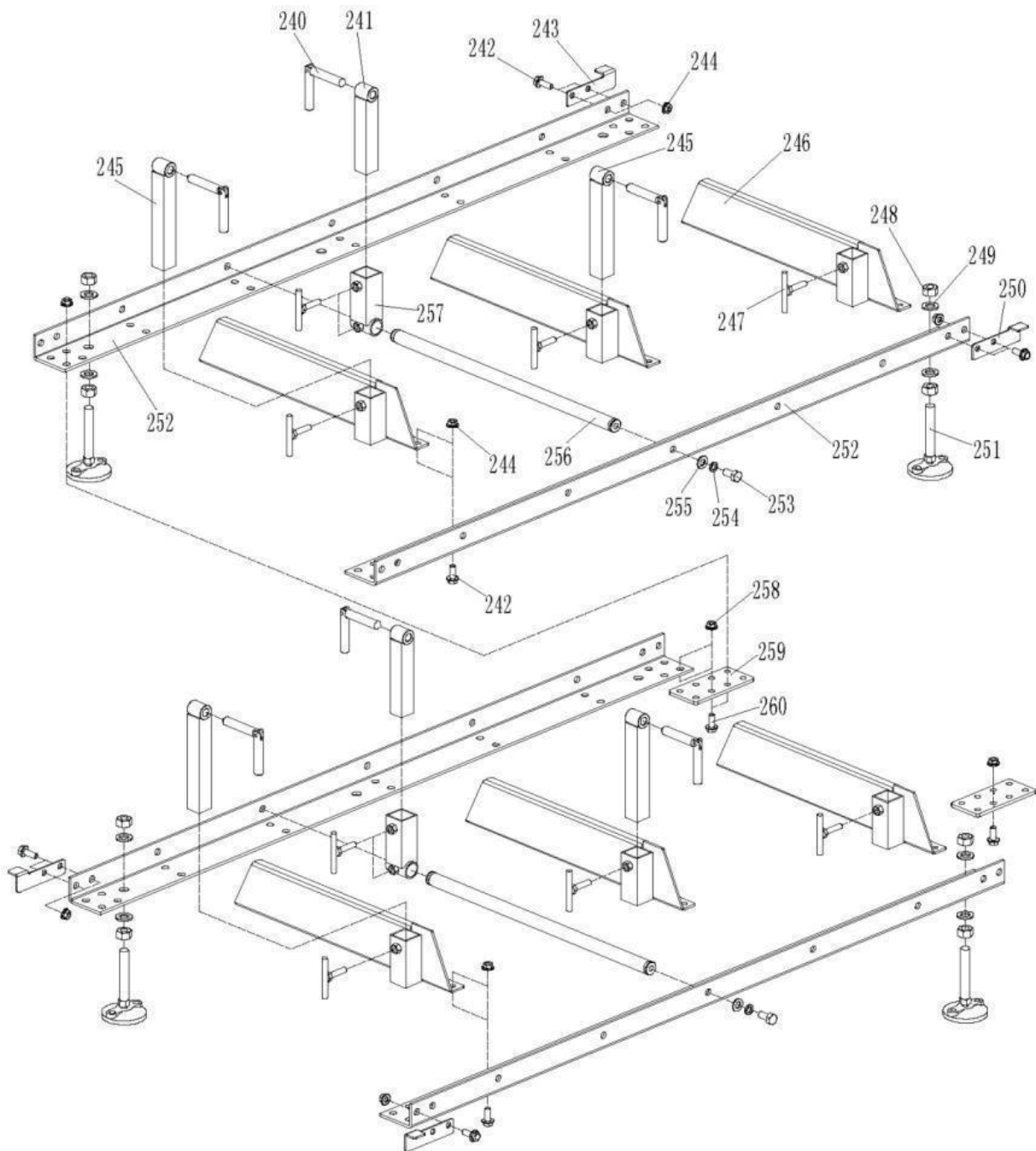
REF	DESCRIPTION
177	SLIDING BRACKET L
178	LOCK PLATE NO.1
179	HEX LOCK NUT M8
180	LOCKING ASM
181	HEX LOCK NUT M12
182	WASHER 12mm
183	SPACER PLATE B
184	HEX BOLT M12x70
185	HEX BOLT M20X100
186	BEARING
187	SPACER BUSH, WHEEL
188	SPACER PLATE C
189	SPACER BUSH NO.2
190	CIRCLIP FOR HOLE
191	WHEEL
192	HEX BOLT M6X16
193	CLAMP PLATE
194	STAINLESS WIRE (S)
195	RIGHT BRACKET
196	ROUND SUPPORT
197	HEX LOCK NUT M20
198	ALLEN SCREW
199	BEARING
200	PULLY
201	JOINT BRACKET
202	SUPPORT POST FOR TANK
203	HEX BOLT M10X80
204	COOLANT TANK
205	HEX BOLT M8X16
206	SLIDING BUSH
207	HEX NUT M8

REF	DESCRIPTION
208	LOCK PLATE NO.2
209	RIGHT BRACKET
210	SPACER BUSH NO.3
211	ALLEN SCREW M6x12
212	SCALE BRACKET
213	SPACER BLOCK
214	WASHER 6mm
215	HEX BOLT M6X25
216	SQUARE ROD
217	HEX BOLT M8X16
218	WASHER 8mm
219	HEX BOLT M8
220	HEX LOCK NUT M5



## DIAGRAM(C)

DIAGRAM C



## PARTS LIST(C)

REF	DESCRIPTION
240	FOLDING HANDLE
241	MOVABLE CLAPM
242	HEX FLANGE BOLT M10X25
243	STOPPER NO.1
244	HEX FLANGE NUT M10
245	FIXED CLAMP
246	CROSS ARM
247	LOCK SCREW
248	HEX NUT M16
249	WASHER 16
250	STOPPER NO. 2
251	FOOT PAD
252	RUNWAY
253	HEX BOLT M12X25
254	SPRING WASHER 12
255	WASHER 12
256	SLIDING BAR
257	SLIDING BLOCK
258	HEX FLANGE NUT M10
259	JOINT PLATE
260	HEX FLANGE BOLT M10X25

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