HIGHLAND PARK Lapidary Co.™

Owner's Manual and Operating Instructions

MODEL 16

16-INCH SLAB SAW

Caution: **Read** and **Understand** all Safety and Operating Instructions before using this equipment

Introduction

THANK YOU for selecting the Highland Park Lapidary Model 16 Slab Saw! Our dedicated team is confident that you will be pleased with your purchase. Highland Park Lapidary takes pride in producing top quality, highly dependable products for both hobby and commercial lapidary users throughout the world.

Your new slab saw is fully assembled, aligned and tested. **IMPORTANT NOTE: Lapidary saws MUST have coolant added prior to operation. Your saw is not shipped with cutting oil in the saw box for obvious reasons, as it would spill everywhere during shipping. You must add this according to these instructions prior to operation.**

Operated correctly, your Model 16 Slab Saw will provide you with years of quality service, and mountains of beautiful rocks. To help familiarize you with the features, maintenance and safe operation of the machine, we have included this owner's manual.

Please take the time to acquaint yourself with the Model 16 Slab Saw by reading and understanding this manual. If you have questions concerning your Model 16 Slab Saw, our customer service staff is waiting to help you - call 512-348-8528.

Table Of Contents

Product Safety 1
Highland Park Model 16 Specifications 3
Checking And Preparing Your Machine 4
Setting Up Your Machine 5
- Uncrating the Saw 5
- Installing the Casters 5
- Leveling the Saw 5
- Checking the Feed Gear Box 6
- Install the Drain Cap or Ball Valve 6
- Putting Coolant in the Tank 6
- Powerfeed Speed Selection 8
- Connect to Power 8
- Testing the Controls 10

Preparing To Run Your Machine 10
- Loading a Stone in the Vise 10
- Alternative Holding Clamps 12
- Setting the Trip Chain 13
- Setting the Crossfeed Position 14
- Feed Rate and Cutting Times 15

Starting and Running the Saw 17
Maintaining Your Machine 19
- Electrical Cords 19
- Blade Sharpening 19
- Checking Fasteners 19
- Checking the Feed Nut 19
- Carriage Adjustment 19
- Arbor Alignment 20
- Checking for Bent or Dished Blade 20
- Checking the Blade Flanges 20
- Inspecting the V-Belts 20
- Wood Vise Jaws 20
- Keeping the Coolant Clean 20
- Checking Blade Life 21
- Changing the Blade 21
- Greasing the Arbor Bearings 22
- Maintaining the Feed Gears 23
- Changing The Oil 23

Warranty 25
Troubleshooting Your Machine 26
Exploded Views And Parts Lists 28

Safety Precautions

The beautifully engineered Highland Park Lapidary Model 16 Slab Saw has an improved overall design. Improvements include a heavy gauge steel main body, a precision arbor system with heavy duty cast iron pillow block bearings and adjustable arbor mount assembly. The carriage has easily adjustable roller bearings that maintain smooth movement on the precision stainless steel rails producing precise smooth cuts. All of our slab saws have our Interlock Control Box, which ensures that the saw cannot accidentally start and cause injury or throw oil all over your work area. Also, the saw has a large drain port in the machine tank for easy cleaning. The Model 16 was built with the lapidarist in mind, designed to give comfort, high performance, and convenience to the user.

Used incorrectly, all electrical equipment carries some risk. To eliminate danger to either yourself or the machine, please read and follow all safety, operating and maintenance instructions! Failure to *read, understand and follow* these instructions could result in injury or death to you or others, or result in damage and/or reduced equipment life.

EYE PROTECTION

Safety glasses should always be worn when operating this machine. Regular eyeglasses do not provide proper protection and may not prevent eye injury.

HEARING PROTECTION

To reduce the possibility of hearing loss, always use hearing protection when operating this machine.

PROTECT YOUR LUNGS

An NIOSH certified dual cartridge respirator for dust and oil (P95) should be always worn when running the machine, because oil mist and rock dust can be hazardous to your health.

WARNING: *Some materials contain minerals or metals that can be more toxic. For instance, metallic ores may contain some toxic materials, so before grinding and polishing any unfamiliar material, make certain that it will not produce toxic fumes or dust. Extra protection may be necessary for more toxic materials.*

AVOID LOOSE CLOTHING AND HAIR

Do not wear loose clothing, gloves, neckties, rings, bracelets or other jewelry that may be caught in moving parts. Wear protective hair covering to contain long hair. Non-slip footwear is also recommended.

DO NOT OPERATE MACHINE WITH GUARDS REMOVED

To prevent injury, never operate the saw without the guards in place.

CONNECTING AND DISCONNECTING POWER

- **DISCONNECTING** The machine should always be disconnected (unplugged) before servicing or changing the oil or the blade.
- **CONNECTING - REDUCE THE RISK OF UNINTENTIONAL STARTS** Make sure the ON/OFF switch is in the OFF position before plugging in the machine.

ELECTRICAL SAFETY

Never touch electrical wires or motor components while the motor is running. Exposed, frayed or worn electrical wiring and plugs can be sources of electrical shock that could cause severe injury or burns.

- If an extension cord is used, it must not be longer than 12 feet and must be at least 14 gauge wire with a ground.
- Use this tool only with the proper power source 120V 60 Hz.
- If the wiring becomes damaged or frayed, replace it immediately.
- Do not allow water to come in contact with electrical components, and do not connect or disconnect the power with wet hands.

ROTATING OR MOVING PARTS

Keep hands, feet, hair, and clothing away from all moving parts to prevent injury. Never operate the motor with covers, shrouds or guards removed.

KEEP WORK AREA CLEAN

- Cluttered work areas invite accidents. **Keep your work area clean and organized.**
- **DO NOT USE IN DANGEROUS OR HAZARDOUS ENVIRONMENTS** Do not operate equipment in dangerous or hazardous environments. Do not use power tools in damp or wet locations nor expose them to rain. Always keep the work area well lighteVd. Always work in a well-ventilated area.
- **KEEP CHILDREN AWAY** All visitors and children should be kept at a safe distance from the work area.

WORK METHOD

- **DO NOT PRESS TOO HARD AGAINST THE WHEELS:** Your machine will do a better job, and the wheels will last longer, if you use the appropriate degree of pressure against the wheels. Pressing too hard can damage the wheels, especially the higher grit resin wheels.
- **USE THE RIGHT TOOLS TO SERVICE THE CABBING MACHINE:** Do not force a tool or an attachment when servicing or operating this power tool. Use the correct tools for service or adjustments.
- **DO NOT OVERREACH:** Keep proper footing and balance at all times by not overreaching.
- **DO NOT OPERATE A TOOL WHEN TIRED:** When tired, take a break and relax.
- **NEVER LEAVE A TOOL RUNNING UNATTENDED – TURN POWER OFF:** Always turn the tool off when leaving the work area or when work is finished.

MAINTAINING THE MACHINE

- **CHECK FOR DAMAGED OR WORN PARTS** Before using the machine, check for damaged parts or wires. A guard or any other part that is damaged or worn should be replaced. Regularly check moving parts for proper alignment or binding.
- **USE RECOMMENDED ACCESSORIES AND PARTS** Consult the owner's manual for recommended accessories and parts. Using improper parts and accessories may increase the risk of personal and/or bystander injury.

Specifications

Slab Saw Model	Model 16
Machine Weight	255 lbs
Motor Horsepower	3/4 HP
Motor Voltage	110V 50/60Hz Single Phase
Motor RPM	1725 RPM
Arbor Shaft	¾" diameter with ⅝" blade mounting
Blade Capacity	16" (304 mm) diameter
Workpiece Size	6 x 6-1/8 inch Cross Section
Crossfeed Length	4.125 inches
Height (closed)	47 inches
Height (open)	64 Inches
Width	23.8 inches
Length	34.75 inches

Highland Park Model 16 Specifications:

ARBOR SHAFT – Cold rolled steel machined to 3/4-inch bearing diameter. 5/8 inch diameter for diamond saw arbor (All Highland Park slab saws come ready to run from the factory precision aligned)
BLADE FLANGES – Aluminum 3¾ inch outside diameter
AUTOMATIC CUT-OFF SWITCH – Adjustable for length of cut
POWERFEED – 3 speeds. Approximate workpiece infeed rates: 16 inches per hour, 20.5 inches per hour, 27 inches per hour
SPLIT NUT DRIVE – Engages carriage with powerfeed screw. Released by a flip of the handle for quick carriage return

ROLLER BEARING CARRIAGE – Carriage rides on precision roller bearings instead of metal on metal slides typical to round rail saws, resulting in accurate operation that will never wear out.
MAIN GUIDE RAILS – 1-inch precision square stainless steel structural tubing

- Welded 10 gauge steel. Inside dimensions 19 ½ inches wide x 10¼ inches deep x 29¼ inches long.

VISE – Cast iron jaws; 5 inches high x 5.75 inches wide

- Maximum workable jaw opening 6 inches
- Lateral travel of vise assembly 4.125 inches

V-BELTS – Connect the motor to the saw blade and powerfeed screw
MOTOR – 110 volts 3/4 H.P. motor with start and run capacitors
POWER REQUIREMENTS - Motor pulls 8.2 amps, 15 amp circuit recommended.
ACCESSORIES - Stainless drain cap and heavy-duty locking casters included
SHIPPING WEIGHT – 425 lbs. (No extra charge for crate or packing) 42 x31 x50 in

Checking And Preparing Your Machine:

Your new slab saw will arrive assembled and precision aligned.

IMPORTANT NOTE: Lapidary saws MUST have coolant added prior to operation. Your saw is not shipped with cutting oil installed in the saw box. You must add this according to these instructions prior to operation.

Prior to operation please do a quick check to confirm all the necessary items are included. This will also serve to begin to familiarize you with the various operating parts of the saw.

INCLUDED PARTS:

- 4 casters, 2 locking, 2 non-locking
- Bolts, flat washers and lock washers for mounting the casters
- Stainless Steel Drain Cap
- Blade (Installed)

☐ Check for any shipping damage to the shipping box or saw itself. If none is found proceed with verification checks. If physical damage is found to the saw please contact us immediately and note it when you are signing for the receipt of shipment.

☐ Visually inspect your saw for any loose fasteners or damage. Your saw was carefully assembled and quality

checked prior to shipment. However, during shipment and handling sometimes rough treatment can cause loosening of fastener. It is a good practice to visually inspect your machine as you are using it periodically to notice any potential issues.

- ☐ Please read this operating manual thoroughly prior to operation of the saw. It is very important that you understand the operation of your new saw, safeguards, and proper operation before proceeding to actual use of the machine. Failure to read and understand the operating instructions could result in unsafe operation and damage to the machine and may result in voiding your warranty. Properly used, your new slab saw will deliver many years of worry-free service.

Setting Up Your Machine

1. UNCRATE THE SAW

The Model 16 Slab Saw weighs approximately 255 lbs. (116 kg).
Your Highland Park Model 16 Slab Saw has been shipped from the factory thoroughly tested and inspected. Choose a place in your workspace for your saw that allows adequate working space and has a convenient power outlet. Avoid using an extension cord; it's much safer to connect the machine directly to a wall power outlet. All Highland Park Lapidary Slab Saws are packed in heavy-duty shipping crates. Crates can be easily opened using a large screw driver to remove the spring clamps and a 10mm socket driver to remove the bolts holding the crate sides to the crate bottom. Four ¼-20 bolts are holding the legs of the saw onto the crate base, they can be unbolted using a 7/16" socket to remove each bolt from under the foot plate of each leg.

2. INSTALL CASTERS

There are two casters with locks and two without locks. The casters should be installed with the two locking casters placed on the front two legs of the saw so they can be locked and unlocked easily. The casters and mounting bolts are located in the box inside the shipping crate.

3. POSITION THE SAW ON A LEVEL SURFACE

Select a level surface in your work area to place the saw. When you have it in position, then lock the casters and check to see that the hood is closing evenly and that you can hear the hood switch clicking when you close the hood. Sometimes if the workspace floor is very uneven it can cause the hood switch to not make contact properly when the hood is closed, this doesn't happen often but it can be easily remedied by putting a couple of shims under the right front caster. When you see

the hood closing evenly and the hood switch clicking as you close the hood, then you are ready to move to the next step.

4. CHECK THE DRIVE GEAR BOX

Important: Check the front gear box to be sure that it is ⅓ to ½ full of 80-90W gear oil. Using a small flashlight can make it easier to see the oil level. The unit comes from the factory with the gear box oil properly filled but it's a good idea to confirm that the oil level is correct in case something happened in shipment. If needed, this oil is available in every local auto parts store.

5. INSTALL DRAIN CAP OR BALL VALVE

Use Teflon tape, Permatex Ultra Black or pipe sealant to prepare the threads. We have the best results using the Permatex Ultra Black, but it's better if it cures overnight before adding oil. Thread the cap onto the drain port making sure to not cross thread the fitting then tighten with channel locks or a pipe wrench. It is not necessary to tighten excessively because the fitting may be tightened more if the cap has a small leak. NOTE: We recommend installing a 2"NPT ball valve SKU FT0162 on the drain port to make oil changes easier.

5. FILL WITH CUTTING OIL

OIL SELECTION - Low Viscosity Pure Mineral Oil is Best!

Mineral Oil - When running a powerfeed slab saw the best choice for cutting fluid is a viscosity of 6-7cst @40deg C, pure mineral oil. HP CoolcutTM Oil (SKU: CC0501) is the optimal cutting oil based on our extensive research and testing. While there are many other sources for mineral oil to be found, most of these are in the 15-20cst range, which is much thicker and will increase the heat generated in the cutting process. This increased heat and friction will cause the blade to get dull more quickly and if not sharpened more frequently, may cause dishing and will put more stress on the feed components and bearings.

Bad Ideas

Bad Ideas - Unfortunately there are still bad recommendations to be found on social media: Diesel oil, kerosene, hydraulic oil, antifreeze, water soluble oils and viscosity thinners are all a bad idea and will void your warranty. Most of these are both health risks and many are fire risks. We personally know of a number of people who lost their entire shops to fire due to running the wrong coolant.

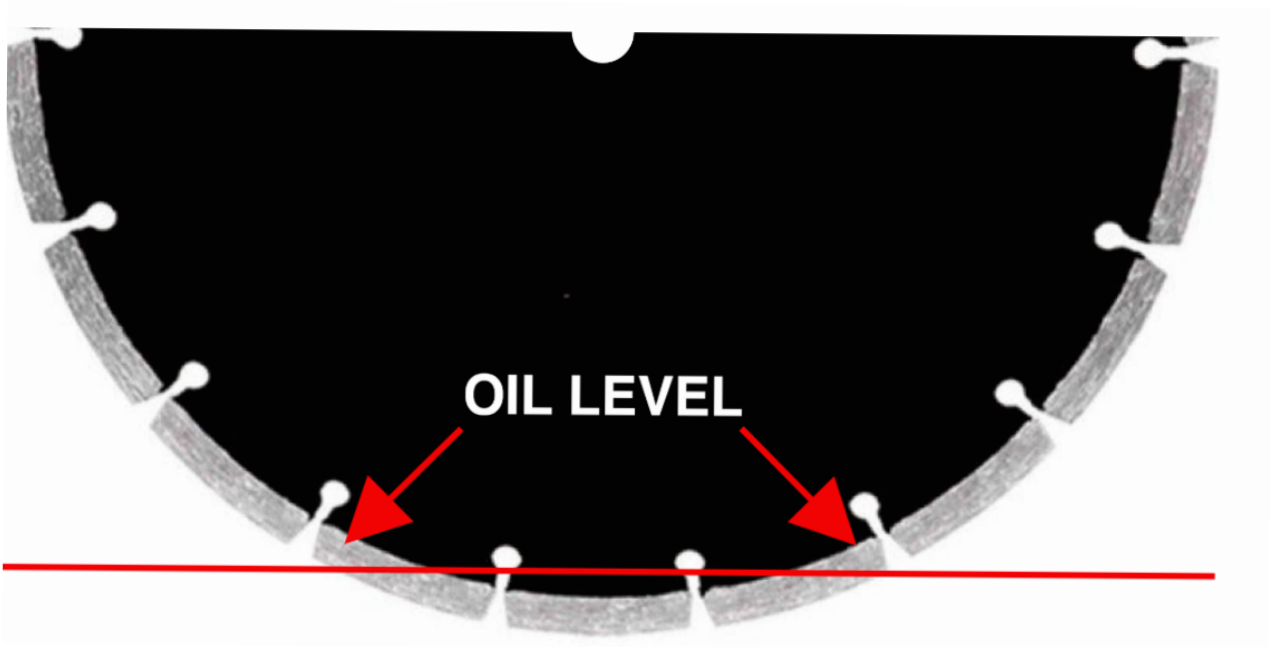
We do not recommend the use of a water soluble oil or plain water, using either of these will void warranty and can cause premature component failure. Dirty coolant/lubricant should be replaced. Fresh coolant should be added until the blade is immersed approximately ½"-⅝". Adding the Highland Park Lapidary EverClean II oil cleaning system to your saw is an excellent solution for keeping your oil clean, eliminating the disposal of oil, and keeping your

saw sludge free while reducing component wear.

Your saw will require approximately 3 ¼ gallons of cutting oil for the initial fill. As you operate the saw, some oil will be lost in normal operation, as some of it will cling to the stones as they are removed from the saw after cutting. For this reason it is important that you periodically check the level of oil on the saw blade to confirm proper oil depth is present.

You may want to install a ball valve on your drain first because it will make it much easier to drain the oil when you are changing the oil in the future.

Oil is added by simply pouring it into the saw box. (Make sure that the drain plug is in place or that the drain valve is closed before adding oil) Slowly add oil while monitoring the level on the blade to get to the desired level.



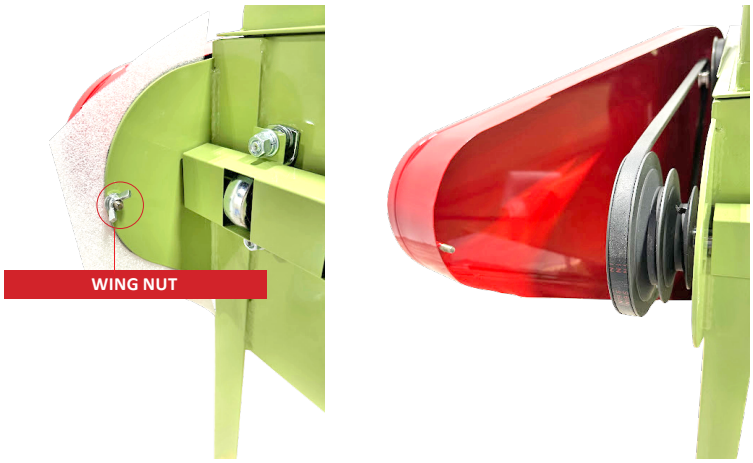
Your target is to have the bottom of the blade immersed about ½”-⅝” into the oil initially and to MAINTAIN THIS LEVEL during the use of the saw. If you do not have sufficient oil, it can cause the blade and the stone to get over-heated and damage one or both. Additionally, it is not good to overfill the saw too much as this can cause excess oil mist and possibly to leak out onto the floor.

You may find it helpful to carefully turn the blade a bit by hand to confirm the oil level.

> ***Caution!*** *Even with the Highland Park SAFE START SYSTEM which prevents accidental start-up of the saw, we recommend that you unplug the unit prior to adding oil.*

7. POWER FEED - V-BELT SPEED SELECTION

Open the belt guard by removing the wing nut that secures the guard. Remove and discard the white foam sheet that protects the paint during shipping. Highland Park Lapidary 16 inch Slab Saw power feed systems are equipped with a three step pulley to provide three in feed speeds to accommodate various rock hardnesses.

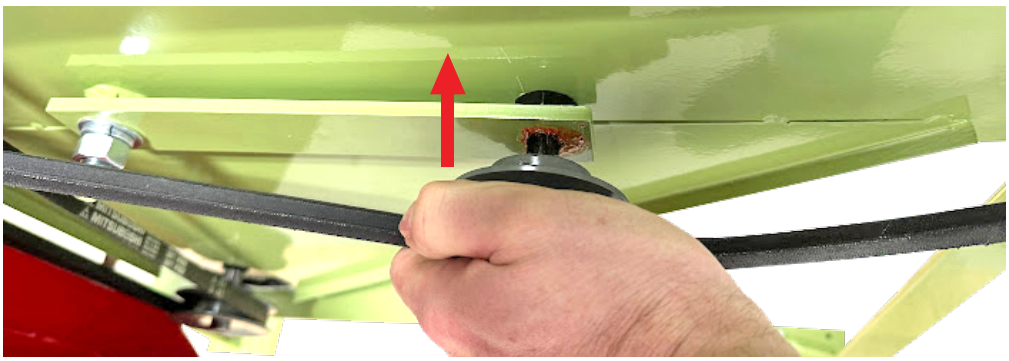


Use the table below for selection of in feed speed. Generally for cutting the biggest pieces you would want to run on the larger pulley (the slowest feed speed) where cutting smaller pieces or softer materials the fastest feed speed can be selected (smallest pulley)

Pulley Selection	Rock Hardness (MOHS)	Materials
Largest (slowest)	7 or harder	Agate, Quartz, Topaz, Jasper
Middle (mid speed)	6	Orthoclase, Feldspar, Onyx
Smallest (fastest)	5 or less	Apatite, Fluorite, Calcite

To set feed speed and tension on the Feed V-belt, proceed with the following steps.

- Pull up on the idler arm to reduce the tension on the v-belt.



- Select the desired step pulley in accordance with rock hardness (see above table).
- Place V-belt on selected pulley and push the Idler arm down until there is light tension on the belt. 1-1.5” deflection is acceptable (see photo below).

8. CONNECTION TO ELECTRICAL OUTLET

Make sure you place your slab saw on a sturdy dry level floor near a grounded power outlet.

IT IS CRITICAL TO USE A GROUNDED OUTLET FOR SAFE OPERATION

9. VERIFYING CONTROL BOX OPERATION

Now that everything is set up, get familiar with the control box operation:

There are 4 switches on the control box

1. Estop Button
2. Start Switch
3. Automatic Toggle shutoff switch
4. Hood Switch

Close the hood, and release the Estop button by turning it counterclockwise allowing it to pop out about ½". Turn the toggle switch to the "ON" position, then press the green button and the saw should start. If the saw doesn't start, then check to make sure that the hood switch is being actuated. As we mentioned earlier in the manual, if the saw is not on a level surface, it can cause the hood to not fully close and actuate the hood switch.

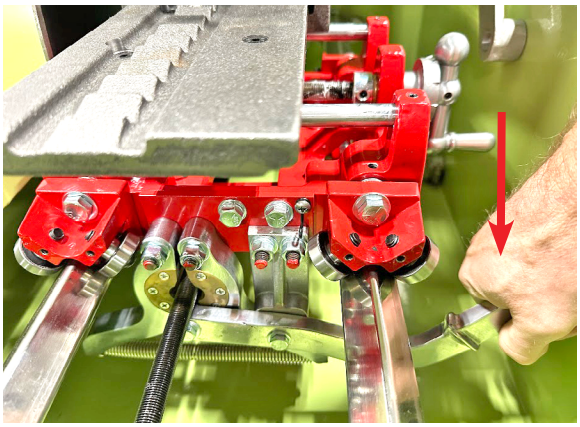
PREPARING TO RUN YOUR MACHINE

1. Position the Carriage to Load a Rock

The Carriage Release Lever engages or disengages the split nut from the feed screw which operates the power feed system.

A For manual positioning of carriage for loading a rock, push release lever down and move carriage to desired position towards the front of the saw

B To engage the power feed system (automatic feed), pull the release lever to up position. This will make it easier to load the workpiece, not allowing the carriage to move as you are clamping the stone.



2. Position the workpiece in the Vise

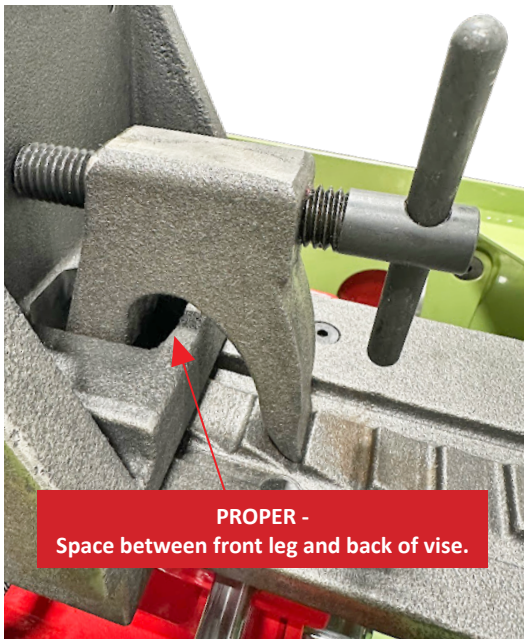
Putting the workpiece in the Vise it's important to get more than two points of contact with the wood jaws of the vise. This will prevent the workpiece from trying to slip or rotate during the cut.

PRO TIP:

It is helpful to have on hand a variety of wood shims to assist in clamping rocks in any slab saw vise. Carpenter's wood shim material works very well for this as it provides "crush" to assist in conforming rocks to the saw vise and providing more contact area between the vise surfaces and the rock. Such shim material should be cut in shorter than supplied lengths for use in shimming rocks for slabbing.

3. Tighten the Vise and check that workpiece is secure

Once your workpiece is positioned to where you desire to cut it, then you can tighten the Vise Tee handle to clamp the workpiece securely. When you are doing this, it's very important to make sure that the vise lock is positioned properly. The vise jaw must be able to move as you tighten the Tee Handle.

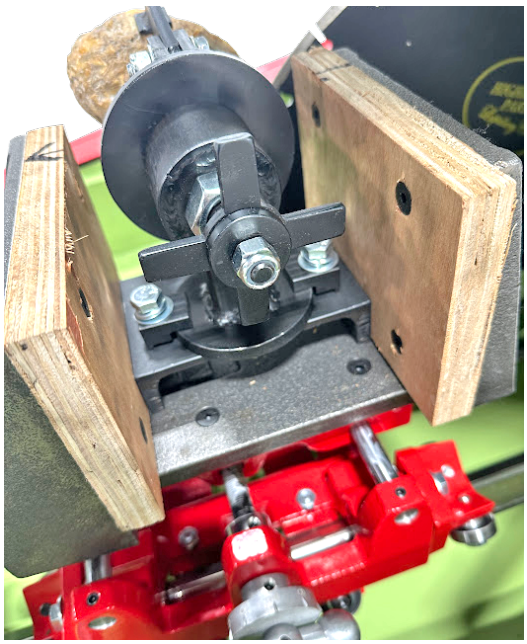


4. Check that the workpiece is not below the Vise deck.

If the workpiece is loaded improperly, then it may extend below the deck surface of the vise. In this case, this can cause the workpiece to collide with the blade flanges in the middle of the cutting process.

Alternative Holding Tool:

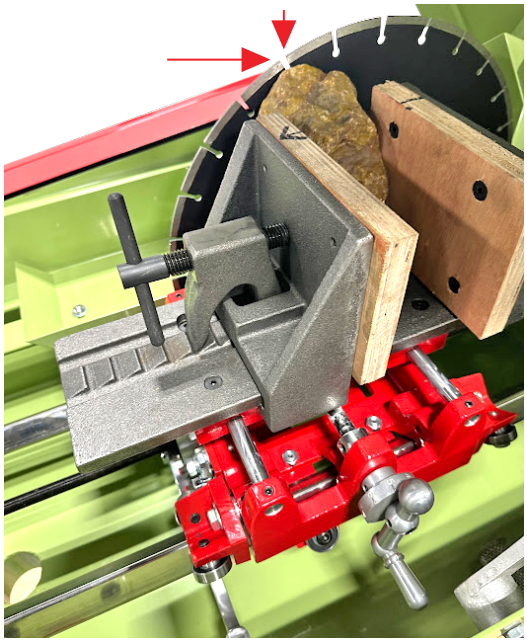
The Small Gripper (SKU GRIP SG) - This is a three jaw gripper that can handle some of the most unusual shapes and can be rotated or turned on an angle to accommodate many different cutting positions.

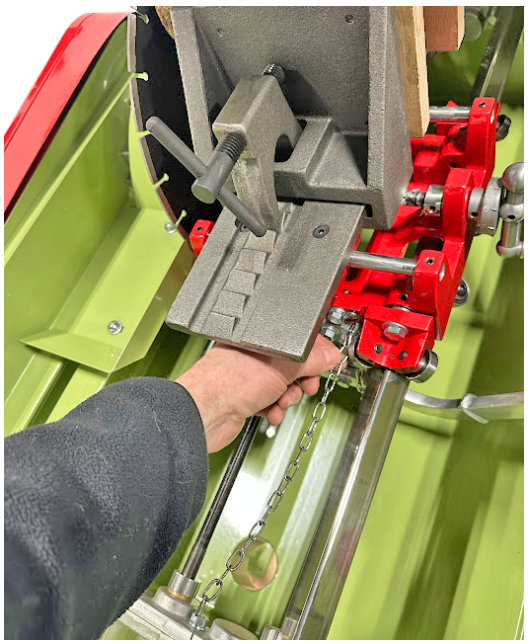


Set the Trip Chain

The trip chain, when properly adjusted, will shut off the saw upon completion of the cut. To adjust the chain for automatic cut off, proceed with the following steps.

- With the workpiece secured in the vise, position the vise so that the workpiece will clear the blade.





- With the workpiece secured in the vise, position the vise so that the workpiece will clear the blade.
- Move the vice carriage forward on the main rails until the front edge of the rock is just behind the front edge of the saw. This will allow you to set the cut-off chain, which turns off the saw after your cut is finished. Remove slack from the chain and hook the chain on the switch wire.
- Move the carriage into position for the first cut.

5. Set the Crossfeed Position


A

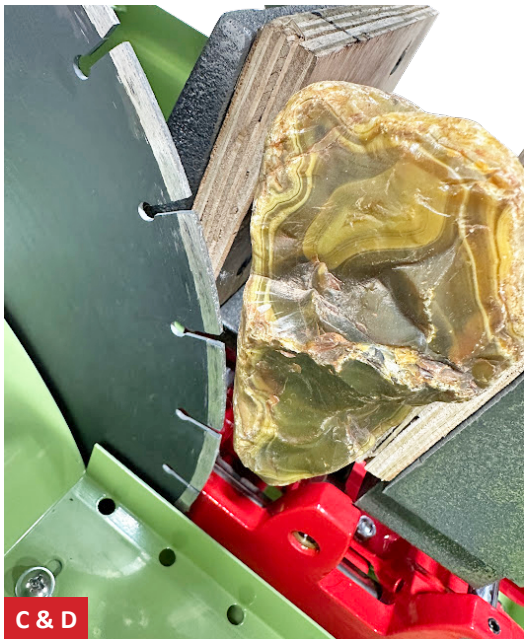

B

A Press the carriage release lever to move the carriage closer to the blade, but not allowing the workpiece to touch the blade.

B Turn the Crossfeed handle to position the workpiece to where you want to make the first cut in your workpiece.

C Move the carriage forward until the workpiece is about ¼" away from the blade. Then raise the carriage release lever to engage the feed mechanism.

D Turn the blade by hand to make sure that the rock is not touching it , if the rock is dragging on the blade, then move the carriage back another ¼" away from the blade and then check again. When the blade turns freely, then you are ready to begin the cut.


C & D

DETAIL ON THE OPERATION OF THE CARRIAGE CROSS FEED

The carriage assembly includes a cross feed handle which moves the vise towards or away from the blade.

- Turn handle counterclockwise to move vise towards the blade; clockwise to move the workpiece away from the blade.
- The crossfeed screw has 20 threads per inch, so turning the handle 20 revolutions will move the vise assembly by 1 inch.

For cutting multiple parallel slabs to precise thicknesses. To cut slab to desired thickness:

1. Be certain the workpiece is positioned in the vise protruding enough to the left of the vise so several slabs can be cut without having to reposition the work piece in vise.

2. Make the first cut and return the carriage.
3. Turn the handle counterclockwise until desired thickness is set using the tables below.
4. Make the next cut. The two tables below will help you in understanding exactly how many turns to get the desired slab thickness.

COMMON SLAB THICKNESSES

Slab Thickness	16 Inch Saw
½ Inch	10 turns
3/8 Inch	7 ½ turns
¼ Inch	5 turns
3/16 Inch	3 ¾ turns
1/8 Inch	2 ½ turns

NOTE:

To achieve precise thicknesses, the material removed by the blade must also be compensated for by adding the blade rim thickness to the slab thickness desired. Therefore (using the table below) you must turn the crank (counterclockwise) an additional amount to compensate for the thickness of the rim of the blade being used.

Rim Thickness	½”-20 thread
.032	0.6 additional turns
.040	0.8 additional turns
.050	1 additional turns
.060	1.2 additional turns
.065	1.3 additional turns
.070	1.4 additional turns
.075	1 ½ additional turns
.085	1.7 additional turns
.090	1.8 additional turns
.100	2.0 additional turns

Ready to Run Checklist:

- ☐ The cutting oil level is correct
- ☐ The workpiece is properly positioned and secured in the Vise
- ☐ The Feed Speed is correct for the size and hardness of the Stone being cut
- ☐ Automatic shutoff trip chain is adjusted for the workpiece
- ☐ Workpiece is not touching blade, blade turns freely
- ☐ Close hood.
- ☐ Confirm power switch in off position.
- ☐ Plug in electrical cable.

STARTING AND RUNNING YOUR SAW

1. **Start the Saw** - Now, close the hood and ensure that the power cord is plugged into the power source. Your saw is equipped with the "Safe Start System" that reduces the risk of accidental start up of the saw. Before starting the saw, always make sure that the blade turns freely and is not touching the stone. To start the saw, set the auto shutoff toggle switch in the on position (photo 1a) and release the EStop button (photo 1b) and then push and release the green start button (photo 1c).


1a


1b


1c

The saw will start and run as long as the toggle switch is in the on position and the EStop is not pressed. When the toggle switch is turned off manually or by the auto shut off chain the saw will stop. It won't restart until the green button is pushed again. This feature protects against accidental starting of the saw when you are loading or unloading your cutting piece.

2. **Stopping the Saw -** To stop the saw at any time, you simply turn off the toggle switch or press the EStop button.

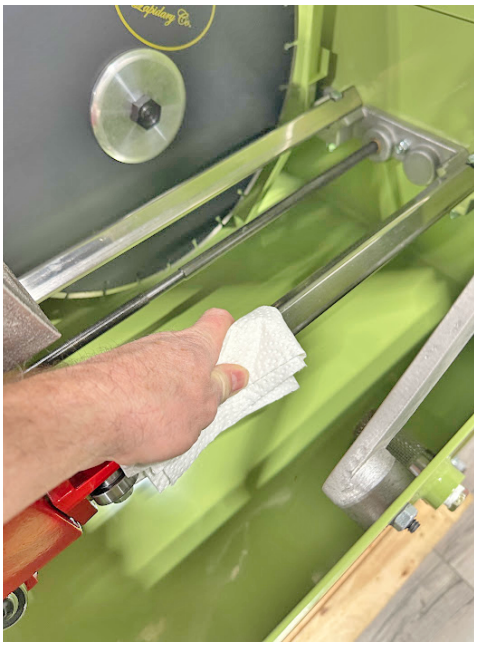
PRO TIP: Premature Stop

If you happen to stop the saw prematurely, and wish to restart the saw to finish the cut, then check to be sure that the blade turns easily and then close the hood, reset the toggle switch and press the green button to start the saw. Be mindful that if the blade has too much drag on it, that it may be necessary to back the carriage up about ¼" to allow the blade to spin freely. If the motor just hums and cannot turn the blade, then shut the machine off immediately and move the carriage back!

3. **Listen!** - Get accustomed to the sound of your saw running. When the saw is cutting well you won't hear the motor laboring and the sound of the blade in the cut will be consistent and smooth. In most cases when something goes wrong the sound of the saw will change; If the rock slips in the vise, it may change the tone of the cutting sound and if you are attentive this can help prevent damage to the blade or the stone. Some stones have internal fractures and sometimes the rock will come loose in the vise and jam the blade to a dead stop and unattended this can cause damage or destroy the motor. We recommend that you do not leave your saw unattended while cutting.
4. **The cut is finished** -When the cut is finished, you can either switch off the saw using the toggle switch, the ES-top Button, or the trip chain when set properly will do this automatically. It's good to allow a couple minutes to allow the oil mist to settle inside the saw, but when you open the saw you should be wearing a respirator to avoid breathing any oil mist.
5. **Pull the carriage back to the front of the saw**- After the initial cut is finished the set up process is reversed. The carriage feed lever is disengaged and the carriage withdrawn to the front of the saw. If you wish to cut a second slab, then the crossfeed is used to move the workpiece toward the blade in order to produce a slab of the desired thickness. By noting the number of turns of the cross feed it is possible to produce successive slabs of almost identical thickness, or by using a small ruler to measure the distance from the face of the stone to the left side of the blade. Refer to the slab thickness table shown earlier in this section of the manual.

PRO TIP: Keep the Rails Clean

It's a good idea to wipe any chips or grit that might accumulate on the main carriage rails as this can restrict the ability of the bearings to roll easily.



MAINTAINING YOUR MACHINE

To ensure peak performance of your machine doing some routine maintenance checks is recommended. A simple inspection of the machine can reveal small problems before they become bigger issues and thus prevent down time.

1. **Electrical cords:** Check for damaged insulation or any exposed wires and replace any damaged wiring immediately.
2. **Keep Your Blade Sharp:** Video: SHARPENING YOUR BLADE
   As you are cutting hard materials your diamond blade can become dull and you may hear the saw working harder to complete each cut. As a preventative measure, sharpening your blade each week of regular use, will help prevent blade dishing and will reduce the wear on your feed components. If you are running a higher viscosity Mineral oil such as vet grade or food grade mineral oil, it will cause the blade to dull more quickly and will require more frequent sharpening.
3. **Loose Fasteners:** Check the machine for any loose screws or bolts, if any are found to be loose, tighten them but don't overtighten as this may damage the threads.
4. **Feed Nut (Feed Dogs):** Listen for the feed nut slipping, if you can hear the feed loading up and then dropping out, this is an indication that the feed nut is worn and is slipping. Don't keep operating the machine if this starts to occur as it will wear out the feed screw prematurely if you continue to run it when it's slipping. The Feed Nut is a wear part and is normal to be replaced routinely. The life of the Feed Nut can be extended by keeping the blade sharp and by running low viscosity mineral oil.
5. **Carriage Adjustment:** Video: Carriage Adjustment
   When you receive your saw, it's a good idea to check the carriage adjustment. We make a big effort to package our gear with the most durable packaging to protect the equipment as much as possible. Unfortunately, it's not unusual for the machine to receive some rough treatment in the shipping process. Also, as the saw is used some wear will occur and cause the carriage to become a little loose, this is easily corrected.

   A Check each of the four bearings that ride on the lower side of the carriage way rails. With your finger, try to rotate the bearing and you should feel it dragging on the lower side of the carriage rail. If it turns too freely or is not touching the underside of the rail, then it's time to adjust your carriage.

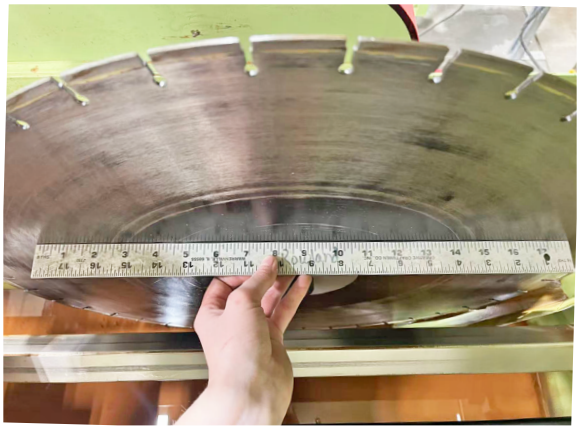
   B Get a 1/2” open end wrench and ½” socket on a ratchet, loosen the nut on the carriage retainer and then turn the bolt slightly until

you feel the bearing rolling consistently as you move the carriage forward and back.Make small adjustments to tighten or loosen how the bearings contact the carriage rail. DO NOT just tighten the screw without turning the bearing with your finger as you are adjusting the screw as this can result in damage to the carriage retainer. (The screw can generate a lot of force on this if its turned without checking the tightness of the bearing)

C The ideal adjustment is when you feel the bearing dragging against the rail as you turn it with your finger but not so tight that you cannot turn it.

D When the carriage is adjusted properly, you can move it smoothly up and down the rails, but will feel no side to side or up and down movement. Tighten each nut on the 4 carriage retainer bolts..

6. **Arbor Alignment: Video:** Arbor Alignment
   The ability to perfectly align your arbor with the carriage travel is very important to proper saw function and to getting good quality cuts. Additionally a poorly aligned arbor will eventually cause the blade to become dished and result in it eventually becoming unusable.



7. **Bent or Dished Blade:** With use your diamond blade can become bent by a rock slipping in the saw or if a small piece of the rock comes loose and damages the blade. It's a good idea to check the blade for flatness with a metal straightedge and that it's running true. If you find that you are getting tapered slabs it may be an indication that the blade has become dished. A dished blade should be replaced.
8. **Damaged Flanges:** Inspect the Blade Flanges regularly, if you loaded a workpiece too low, then it will run into the flanges and this can cause blade runout, wobble or dishing. Damaged Flanges should be replaced.
9. **Check V-Belts Routinely:** Checking the Vbelts regularly for proper tension and wear will preve nt belt failure and down time. A slipping belt will wear out prematurely.
10. **Vise Wood Jaws:** Replace vise wood jaws when the wood becomes worn out, worn out wood won't hold the workpiece as securely and may result in blade damage if the workpiece comes loose.
11. **Maintain Clean Cutting Coolant:** Change coolant when dirty or use an Everclean to maintain the oil cleanliness. Running very dirty oil will increase the cutting blade force which increases the risk for the workpiece to come loose or the blade to deflect and dish during the cutting process. Additionally, having a lot of dirt in the oil is

much more abrasive on the moving components of the saw and will decrease component life.

12. **Worn out Blade:** With many hours of use eventually a Diamond Saw Blade will be worn out. This is easy to see when the blade segments are worn down until they are nearly gone. It's wise to not try to use 100% of the blade segments used up completely as the blade pressure will increase rapidly once there are no more diamonds left and this can damage the saw feed mechanism and/or the workpiece. Once a blade is worn out, replace it with a new quality Lapidary Blade. Diamond Blades that are designed for Tile or Concrete are not suitable for cutting Lapidary materials. Hard Agates and Jaspers require a different diamond matrix formula to cut properly.
13. **Changing the Blade:** Changing the blade is done easily on your Highland Park Lapidary Model 16 Slab Saw. Unplug the saw before changing the blade!

A Remove the Blade by using a wrench to unscrew the Arbor Nut. Usually you can hold the blade with your left hand and loosen the arbor nut (counterclockwise) pulling the wrench toward yourself as you hold the blade.

B After you take the nut off, then the outer flange can be removed, then the blade and the inner flange.

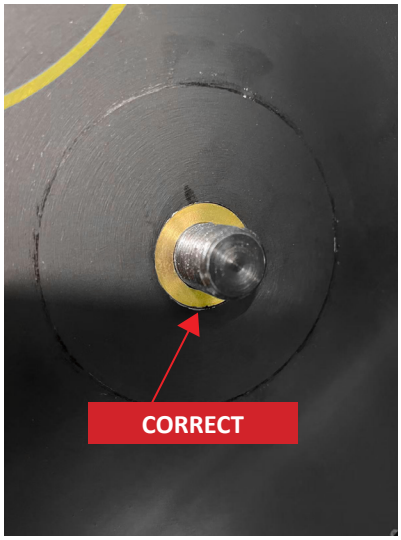
C Inspect the flanges for any damage and replace any damaged parts.

D Carefully clean both arbor flanges and the exposed end of the arbor shaft and wipe both sides of the new blade off carefully.

E Be certain the blade bushing stays in place in the center of the blade, and does not slip.

F. Put the blade bushing on. Locate the blade properly on the bushing.

G. Put the second flange on with the recess towards the blade. Slide it on, not allowing the blade to move, until the flange is against the face of the blade. Hold it firmly while putting the arbor nut in place, not letting the blade wobble.

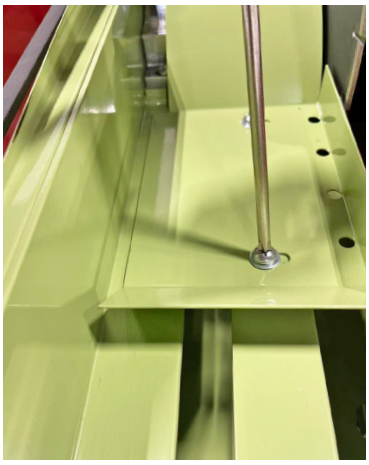


H. Rotate the blade by hand to verify that the blade is turning true, not wobbling either front to back or side to side. If it isn't turning true, take the arbor nut and flanges back off

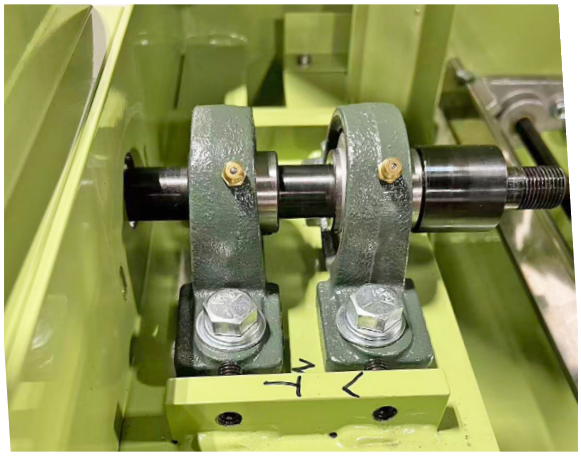
and make sure that the blade and blade bushing are in the correct position.

I. Once the blade is running true, make sure that the arbor nut is tight. Don't over-tighten the arbor nut, because doing so may damage the flanges and cause the blade to not run true.

14. **Greasing your Bearings:** Your slab saw has two heavy duty pillow block bearings that support the arbor shaft. These bearings come lubricated with a NLGI-2 general purpose lithium grease from the factory. If you are using your machine daily then you should grease your bearings once every 1500 hours of operation. To access the bearings you will need to remove the catch tray, the blade and blade flanges, and then the 6 screws that hold on the arbor cover.



A The arbor cover can be lifted on the left side and then slid to the right to come off the end of the arbor shaft.



B The grease fitting is on the top of each bearing; grease them and then wipe off the excess grease.

C Clean the cover and side of the saw carefully and remove any oil so when you seal the cover. Replace the arbor cover and install all the screws but DO NOT tighten them yet! Tighten the two screws that go into the left side of the arbor cover first so the Oring seal on the left side will make a good seal, once those two screws are tight, then you can tighten the 4 screws that hold the arbor cover down.

D If you get an oil leak after servicing the arbor bearing, then you will need to loosen all the screws and check the Oring seal, then repeat this procedure to make sure that the Oring seal is being compressed properly. Reinstall the catch tray aligning it closely with the side of the blade so slabs cannot drop into the gap.

14. **Maintaining the Gears:** The feed gears will last a long time if the oil level in the gear box is maintained 1/3 to ½ full of 80-90 weight gear oil. Never run the gears in grease! Additionally, the feed screw is pushing the carriage forward and this will eventually wear out the front feed screw bushing, as the bushing wears it will allow the worm gear to move out of alignment with the worm. By checking the front to rear movement of the feed screw and adjusting the feed screw lock collar to eliminate the front to rear movement, the wear in the bushing can be compensated for. When the flange on the front bushing becomes thin or if the bushing starts to develop up and down slop, then it's time to replace the bushing before damage or wear occurs to the gears. https://www.youtube.com/watch?v=2dSZ9sYYh0I&t=1s

CHANGING THE OIL

1. When does the oil need to be changed? As you are cutting over a few weeks, you will gradually begin to see the oil getting more and more stone particles accumulate in the oil. At first it will just change the color of the oil, and then over time you will see the oil begin to get thicker. If you delay too long, the oil will become like pudding. When it gets this thick, then the job of cleaning out the saw will be much more difficult. When the oil is starting to get thicker - before it turns to pudding - is a good time to change the oil. If you change it at this point, it is also easier to filter the oil out of the dirt too.
2. Prepare your supplies - It's best to get a couple of buckets and put on some work clothes and rubber gloves.

Eye protection is also important in case some of the oil splashes when you are draining it.

3. Drain the Oil - Position the 5 gallon bucket under the drain and open the drain valve or remove the drain plug to allow the oil to flow into the bucket. When the flow slows down, lift the back of the saw and place something under the tank so the oil flows more easily into the bucket. When most of the thinner oil has drained into the first bucket, switch to your second bucket. The thinner oil is easier to filter, so keeping the thin and thick oil separated is a good idea.
4. Scrape out the tank - Use a plastic putty knife to begin to remove any caked mud from the bottom of the tank. Sometimes it's necessary to remove the blade to clean the tank under that area if there is a lot of mud caked in that area. If you remove the blade, then be sure to clean the blade and flanges before reassembling. Don't lose the blade bushing!
5. Final wipe down - Use some rags to wipe off the sides and bottom of the tank and as much of the internal mechanism as you can. In this part of the cleaning process you will see that if you don't wait too long to change the oil that this will be much easier.
6. Close the drain - Once you are satisfied with how clean the saw is, either replace the drain cap using teflon tape on the threads, or close the ball valve if you have one installed. If you still have something under the back of the saw, remove it and make sure the saw is still stable and level.
7. Reinstall the blade - If you removed your blade during the cleaning process now make sure the blade and flanges are clean and reinstall the blade according to the section on Installing the Blade shown earlier in the manual.
8. Put fresh oil in the tank - Add 3 gallons of oil and then watch closely until the blade is submersed in the oil according to the section on Putting Coolant in the Tank shown earlier in the manual.
9. Filtering the Oil - By getting two 5 gallon pails and one lid, you can create an inexpensive filter. Use a ⅜"-½" bit and drill holes in the bottom of one bucket (it will be your filtration bucket) spacing them about ¾' apart, the exact position of the holes is not important, just that there are enough of them to allow the oil to get thru. Next, cut the center out of the lid where the filtration bucket can sit on the lid with the lid on the bottom bucket. Then place a large paper grocery bag inside the filtration bucket and with it sitting on top of the lower bucket, you can now slowly pour the oil into the bag and the oil will seep through the bag into the lower bucket. Highly-refined pure mineral oil doesn't go bad so it can be used over and over if it is filtered. When the oil has been filtered out, then the remaining mud should be disposed of in accordance with your local regulations.

Warranty Coverage

Machines, Polishers, Diamond Blades & Core Bits and Motors
Highland Park warrants to the original purchaser for a period of one year except as noted, from the date of purchase all products covered by this Warranty to be free of defects in materials and workmanship. This warranty is non-transferable and applies only to the original purchaser.

This Warranty shall not apply to any parts that have been subjected to misuse or improper service, that had been damaged in transit or handling, or that have been altered or repaired by unauthorized representatives. This Warranty does not cover defects caused by or resulting from misuse, abuse, neglect, or damage caused by accident or the failure to provide reasonable maintenance. This Warranty is void if the product or any of its individual components is altered or modified by the purchaser or if the product is used in a manner or with a blade not recommended by the manufacturer.

Any claim arising under this Warranty must be submitted by the original purchaser within the warranty period specified above and shall include proof of purchase. During said warranty period Highland Park shall, at its option, either replace or repair, at no charge to the original purchaser, any parts or components that are found to be defective by Highland Park. Highland Park shall not be responsible for or obligated to pay for freight or other transportation-related costs or expenses in connection with any defective products or components that are either returned to Highland Parks facility or any authorized repair station and/or any replacement products or components that are shipped from Highland Park pursuant to this Warranty.

Parts and labor needed to maintain products and the replacement of components due to normal use are the purchaser's responsibility and are not covered by this Warranty. All products or components replaced under warranty become the property of Highland Park. All replacement parts will be considered to be part of the original product and any warranty on such parts will expire coincidentally with the original Warranty. Replacement part(s) installed by anyone else will be provided without a charge for such replacement part(s), but this Warranty will not apply to labor charges in connection therewith.

IN NO EVENT SHALL ANY LIABILITY UNDER THIS WARRANTY EXCEED THE REPLACEMENT COST OF ANY DEFECTIVE PRODUCT OR COMPONENT THEREOF, AND HIGHLAND PARK SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR ANY OTHER DAMAGE OR LOSS NOT EXPRESSLY ASSUMED AS SET FORTH HEREIN.

The foregoing constitutes an expressed warranty on the terms set forth above and is the only warranty or warranties applicable to the products it covers. All other warranties, including, without limitation, the implied warranty of merchantability and/or fitness for a particular purpose or use being denied. This limited warranty is expressly in lieu of all other warranties, whether expressed or implied.

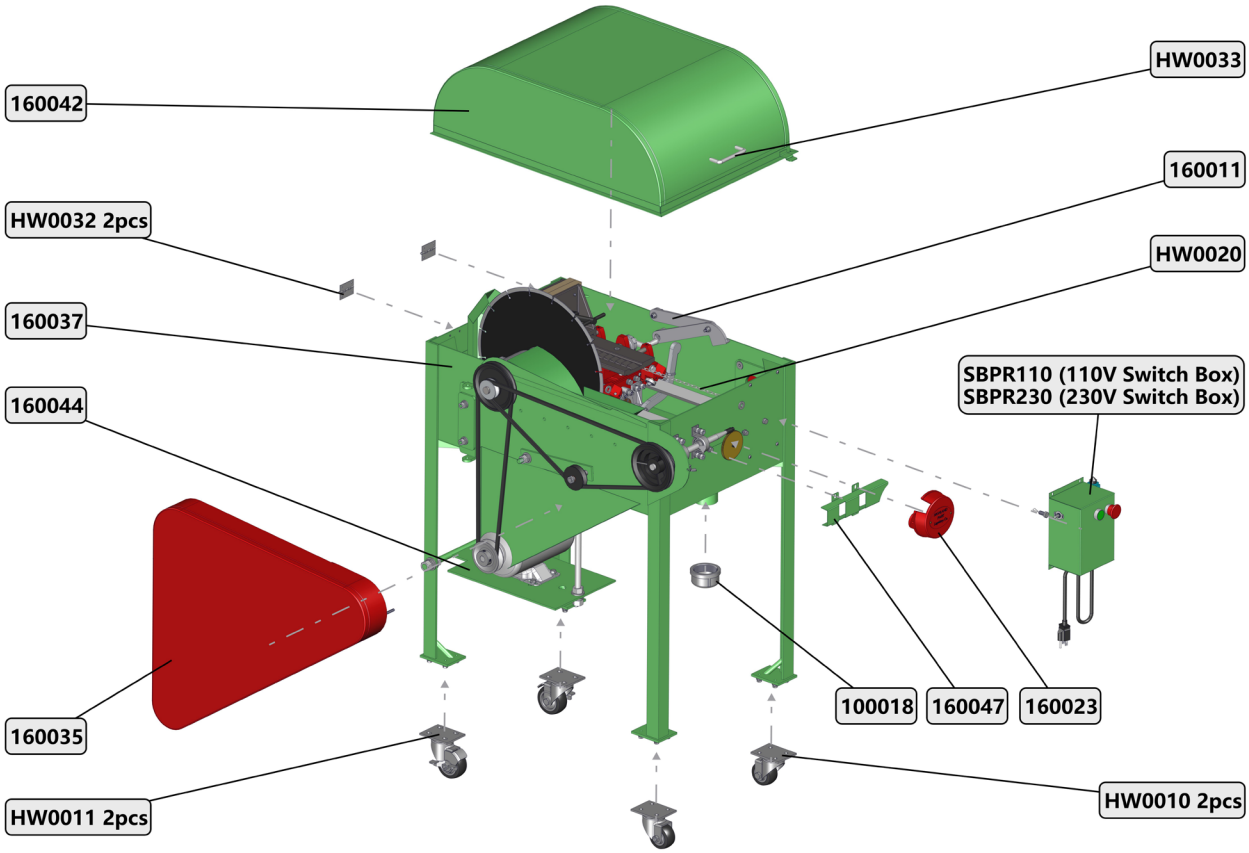
Troubleshooting

ISSUE	SOLUTION
Parts are missing or something was damaged during shipment.	Contact us directly at 512-348-8528.
Motor wont start	Check to see that the outlet or extension cord you are plugged into has power. Plugging a lamp into the power source is a good way to check this.
Motor wont start	Make sure that: • The hood switch clicks when you close the hood and then leave the hood closed • The Estop Button is released and pops out • the toggle switch is turned on • Push the Green Start Button
Motor won't start and control box makes rattling sound	This occurs most often when using an extension cord that is either too long or insufficient for running the saw. There is too much voltage drop to actuate the contactor. Plug the saw directly into the outlet and see if the problem stops.
Motor Won't Start	Check the fuse inside the control box, If it is blown, then look for a loose wire that could cause the fuse to blow.
Machine doesn't start, motor hums	Turn off the machine immediately and make sure the blade rotates freely. If the machine is left humming and not running, it WILL damage the motor. If your machine is new, contact your Highland Park Lapidary sales representative. Machines are covered under warranty for one year.
Belt squeals when starting up	Belt tension may need to be adjusted
Carriage won't feed forward	Make sure that the feed dog lever is in the up position allowing the feed dogs to clamp on the feed screw.
Carriage won't feed forward	Make sure that the feed belt is on the pulleys properly
Carriage won't feed forward	Check the split nut assembly to make sure that the threads are not worn out.

Carriage wont feed forward	Check the front bushing and lock collar to make sure that they are both in good condition. If the collar has slipped, or if the bushing flange has worn away, then the feed gears wont mesh properly.
Carriage won't feed forward	Check the feed gears for missing or damaged teeth, this can be caused by lack of 80-90W oil in the gearbox or by the gears running for a long time with improper alignment.
Rough cut or blade marks on cut.	Check for blade runout, this can be caused by either a bent blade or by damaged flanges. Sometimes this is caused by a part of the workpiece coming off during the cut and dropping into the blade. If the flanges are damaged, then it's best to replace them. Depending on the severity of the bend in the blade, it may be able to be repaired.
Rough cut or blade marks on cut	If the feed is slipping or if the carriage is a bit sloppy on the rails, it can cause poor quality cuts. Check and resolve any issues that are found.
Cut is a bit wider at the beginning of the cut	Blade wobble will cause the blade to cut a bit wider at the beginning of the cut. This can be caused by a very small amount of blade runout and can easily be resolved using an indicator and following our video
Workpiece breaks off early in the cut	This is almost always caused by using high viscosity oil and not sharpening the blade enough. The blade pressure gets too high and puts stress on the workpiece causing it to break off early. Sharpen the blade and use a good low viscosity 6-7cst mineral oil. SKU: CC0501
Slabs are not of consistent thickness when cutting	The crossfeed handle is turning during the cut. Adjust the crossfeed screw jam nuts to eliminate the crossfeed screw from turning during the cut.
Slabs are wedge shaped	This can be caused by either the blade becoming dished or by the arbor being out of alignment. Use a metal straightedge and lay it on the blade to check for dishing. Using our Blade Alignment kit BA0001 or equivalent, and watch our arbor alignment video.
Slabs are wedge shaped or the cut surface is not perfectly flat	This is most often caused by the bearings becoming worn out and loose, use the Blade Alignment kit BA0001 to check for Axial (side to side) or Radial (up/down or front/back) movement. It is better to check this after removing the motor belt.

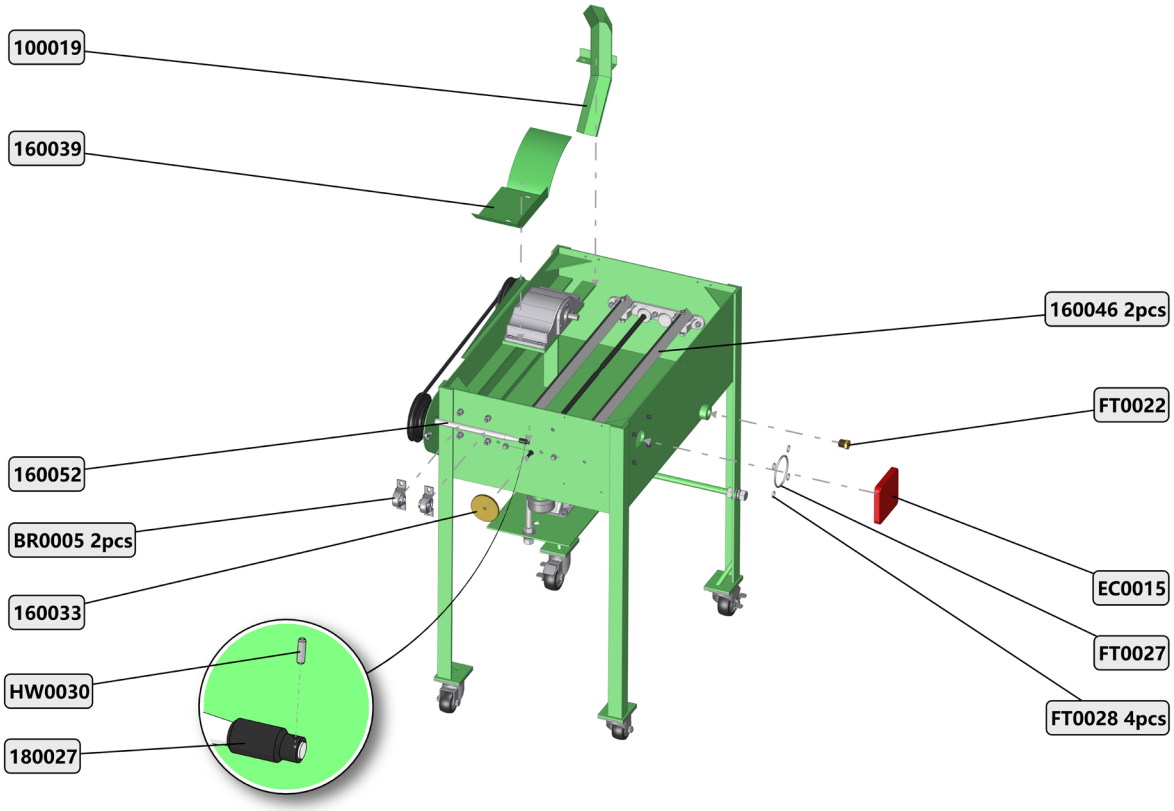
EXPLODED VIEWS & PARTS LISTS

MODEL 16 MAIN COMPONENTS #1



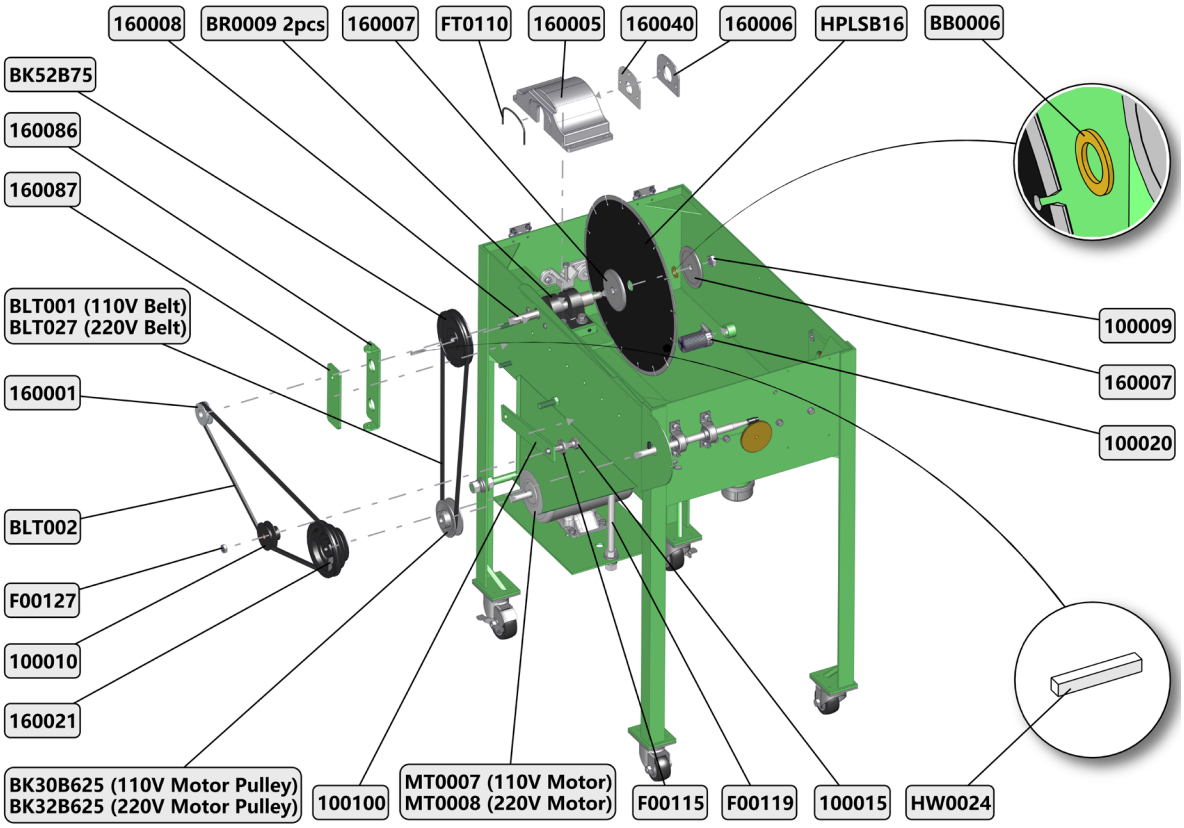
Part Number	Description	Quantity
100018	2 inch Stainless Steel Drain Cap	1
160011	Hood Support Assembly	1
160023	Gear Cover	1
160035	Belt Guard Assembly	1
160037	Tank Assembly	1
160042	Hood Assembly	1
160044	Motor Mount Assembly	1
160047	Feed Drive Shaft Guard	1
HW0010	Swivel Caster	2
HW0011	Locking Swivel Caster	2
HW0020	Carriage Power Switch Chain	1
HW0032	Hood Hinge	2
HW0033	Stainless Hood Handle	1
SBPR110	Switch Box Assembly 110V	1
SBPR230	Switch Box Assembly 230V	1

MODEL 16 MAIN COMPONENTS VIEW #2



Part Number	Description	Quantity
100019	Blade Spray Guard Assembly	1
160033	Ring Gear	1
160039	Catch Tray	1
160046	Stainless Steel Rail	2
160052	Feed Drive Shaft	1
180027	Powerfeed Worm Gear	1
BR0005	Pillow Block Powerfeed Drive Shaft Bearing	2
EC0015	Saw Blank Out	1
FT0022	1/2 inch NPT Drain Plug	1
FT0027	Everclean Bulkhead Mounting Center Oring	1
FT0028	Everclean Bulkhead Mounting Bolt Oring	4
HW0030	3/32-3/8’’ Roll Pin	1

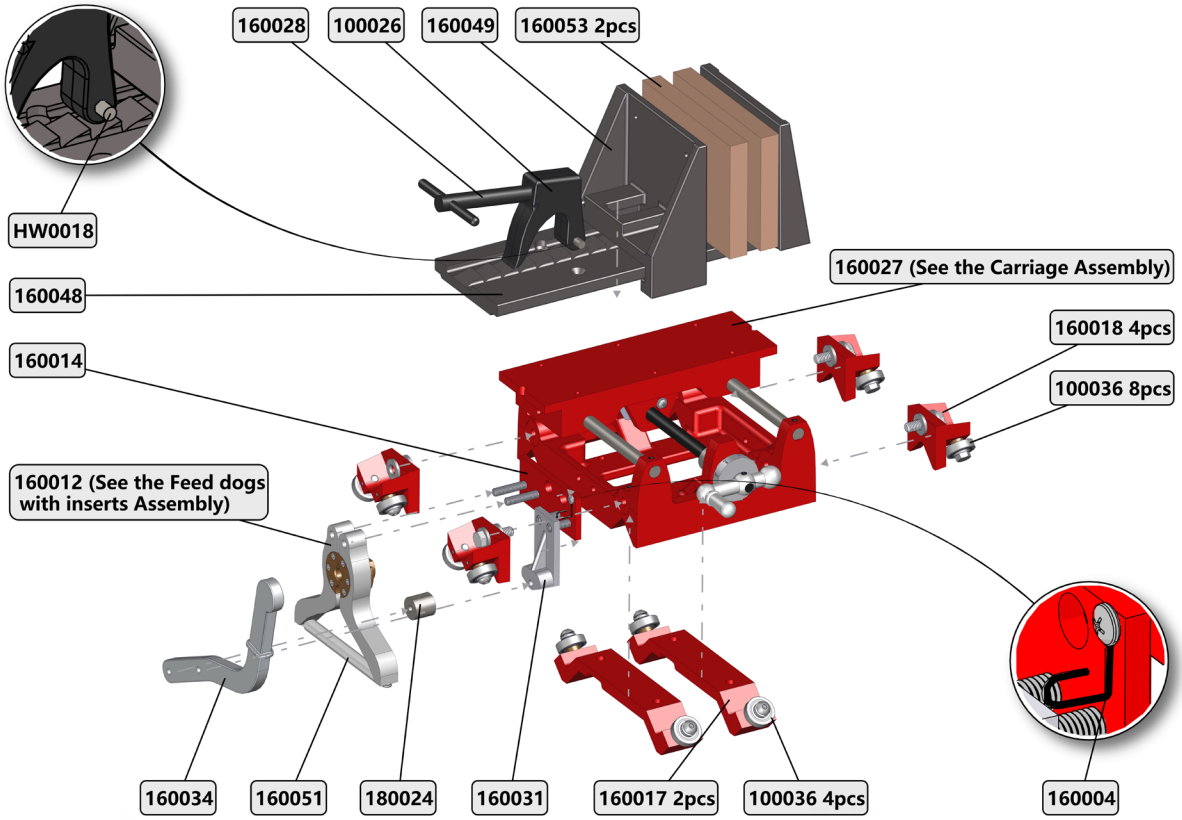
MODEL 16 MAIN COMPONENTS VIEW #3



Part Number	Description	Quantity
100009	5/8-18 Arbor Nut	
100010	BK25 Idler Pulley with Bushing	
100015	Idler Pulley Tension Arm Pin	
100020	EC Intake Screen Kit	
100100	Idler Arm	
160001	Feed Pulley	
160005	Arbor Cover	
160006	Arbor End Cap	
160007	Arbor Flange	
160008	Arbor Shaft	
160021	3-4-5 inch Cast Iron Step Pulley with 5/8 (.625) inch bore	

160040	Felt Arbor Cover End Cap Gasket	1
160086	Belt Guard Hinge Base	1
160087	Belt Guard Hinge Strap	1
BB0006	Blade Bushing	1
BK30B625	BK30 cast iron motor pulley with 5/8 (.625) inch bore	1
BK32B625	BK32 cast iron motor pulley with 5/8 (.625) inch bore	1
BK52B75	BK52 cast iron pulley with 3/4 (.75) inch bore	1
BLT001	A47 Motor Belt 110V	1
BLT002	A55 Power Feed Belt	2
BLT027	A48 Motor Belt 220V	1
BR0009	Pillow Block Arbor Bearing with 3/4 (.75) inch bore	1
F00115	5/8 Flat Washer	1
F00119	5/8-11 Threaded Rod	1
F00127	7/16-20 Jam Nut	1
FT0110	80mm OD x 4mm Oring	1
HPLSB16	HPL16 inch Precision Segmented Diamond Blade	1
HW0024	3/16 Key Stock	1
MT0007	1725 RPM 3/4 HP 110V 60 Hz Electric Motor	1
MT0008	1440 RPM 3/4 HP 220V 50 Hz Electric Motor	1

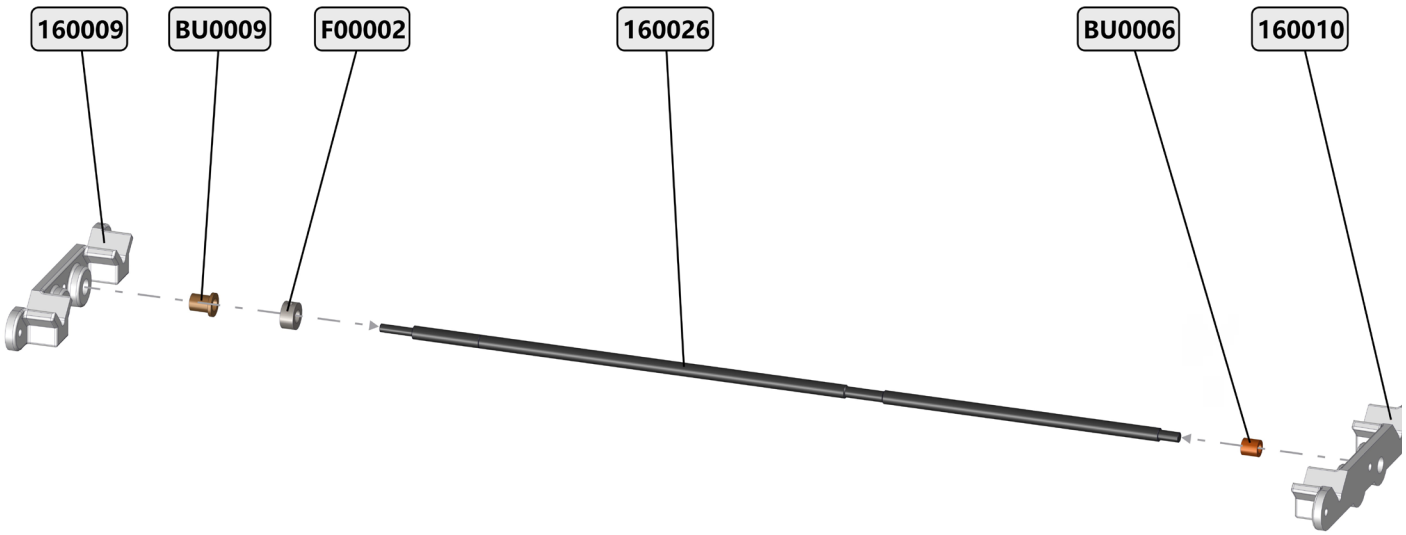
MODEL 16 MAIN COMPONENTS VIEW #4



Part Number	Description	Quantity
100026	Vise Lock	1
100036	Roller Bearing with Bushing	12
160004	Carriage Switch Chain Hook	1
160012	Feed Dogs with inserts Assembly	1
160014	Feed Dog Plate Assembly	1
160017	Carriage Retainer	2
160018	Roller Block	4
160027	Carriage Assembly	1
160028	Vise T-handle Assembly	1
160031	Handle Pivot	1
160034	Feed Dog Handle	1
160048	Fixed Vise Jaw	1
160049	Movable Vise Jaw	1

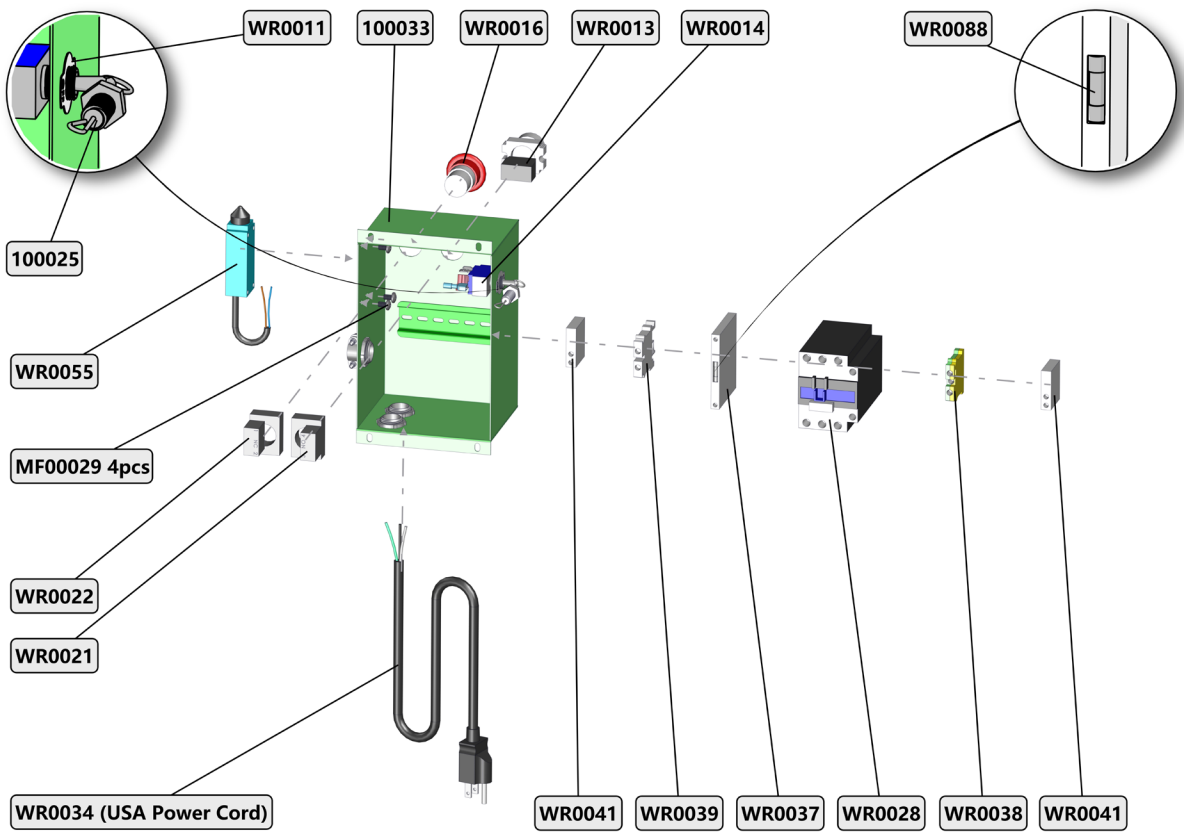
160051	Feed Dog Spring	1
160053	Vise Wood Jaw	2
180024	Feed Dog Splitter	1
HW0018	5/16 X 1-3/4 inch Vise Lock Dowel Pin	1

MODEL 16 MAIN COMPONENTS VIEW #5



Part Number	Description	Quantity
160009	Front Bracket	1
160010	Rear Bracket	1
160026	Feed Screw	1
BU0006	Rear Powerfeed Screw Bushing	1
BU0009	Front Powerfeed Screw Bushing	1
F00002	1/2 Lock Collar	1

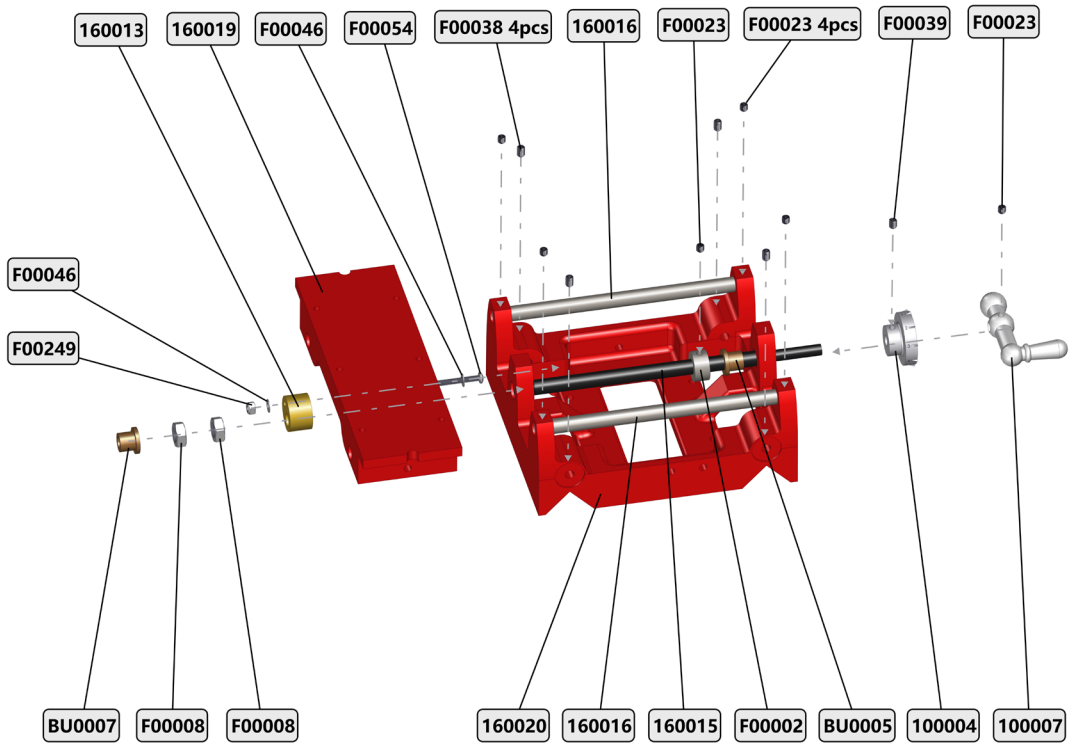
MODEL 16 SWITCH BOX



Part Number	Description	Quantity
100025	Switch Tank Through Bolt with Trip Wire	1
100033	Switch Box Sheet Metal Assembly	1
MF00029	M5-0.8 x 8mm PHP Pan Head Phillips SS304	4
WR0011	On Off Switch Plate	1
WR0013	Push Button Switch Telemecanique	1
WR0014	Heavy Duty Toggle Switch Through Hole Drilled Switch	1
WR0016	Emergency Stop Button Switch Telemecanique	1
WR0021	Normally Open (NO) Telemecanique Switch	1
WR0022	Normally Closed (NC) Telemecanique Switch	1
WR0028	110V Control Relay Contactor	1
WR0034	USA Power Cord	1
WR0037	DIN Rail Fuse Holder	1
WR0038	DIN Rail Ground Terminal	1
WR0039	DIN Rail Terminal Block	1

WR0041	DIN Rail Retainer Bracket	2
WR0055	Standard Hood Switch	1
WR0085	230V Control Relay Contactor	1
WR0088	Fuse	1
WR0139	Europe Power Cord	1
WR0141	Australia Power Cord	1

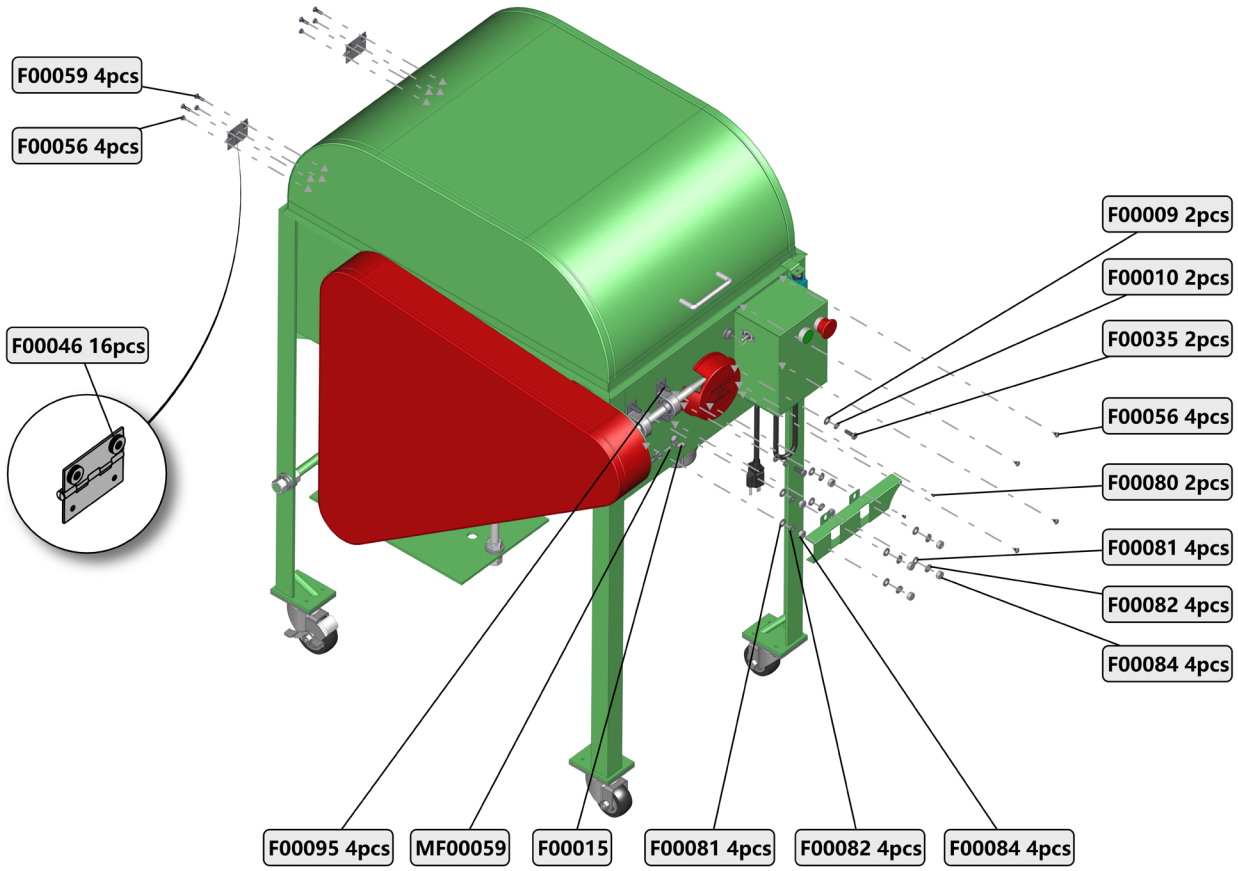
MODEL 16 FULL CARRIAGE ASSEMBLY



Part Number	Description	Quantity
100004	Carriage Crossfeed Dial	1
100007	Carriage Crossfeed Handle	1
160013	Carriage Crossfeed Nut	1
160015	Crossfeed Screw	1
160016	Crossfeed Rail	2

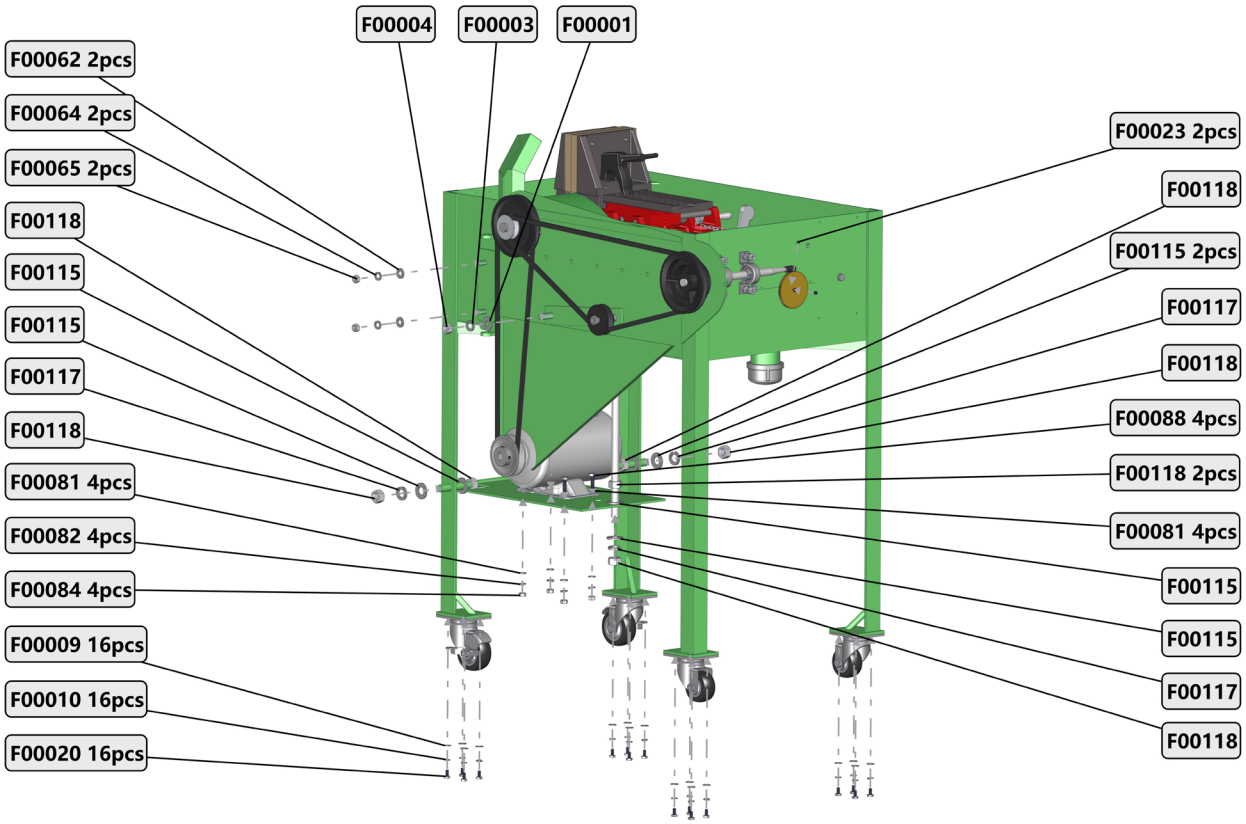
160019	Vise Base	1
160020	Carriage	1
BU0005	Right Carriage Crossfeed Bushing	1
BU0007	Left Carriage Crossfeed Bushing	1
F00002	1/2 Lock Collar	1
F00008	1/2-20 Jam Nut	2
F00023	1/4-20 x 1/4 Black Set Screw	6
F00038	1/4-20 x 3/8 Black Set Screw	4
F00039	1/4-20 x 5/16 Set Screw	1
F00046	10-32 Flat Washer 304SS	2
F00054	10-32 x 2 PHP Pan Head Phillips SS304	1
F00249	10-32 Nylon Lock Nut	1

MODEL 16 SCREWS & FASTENERS #1



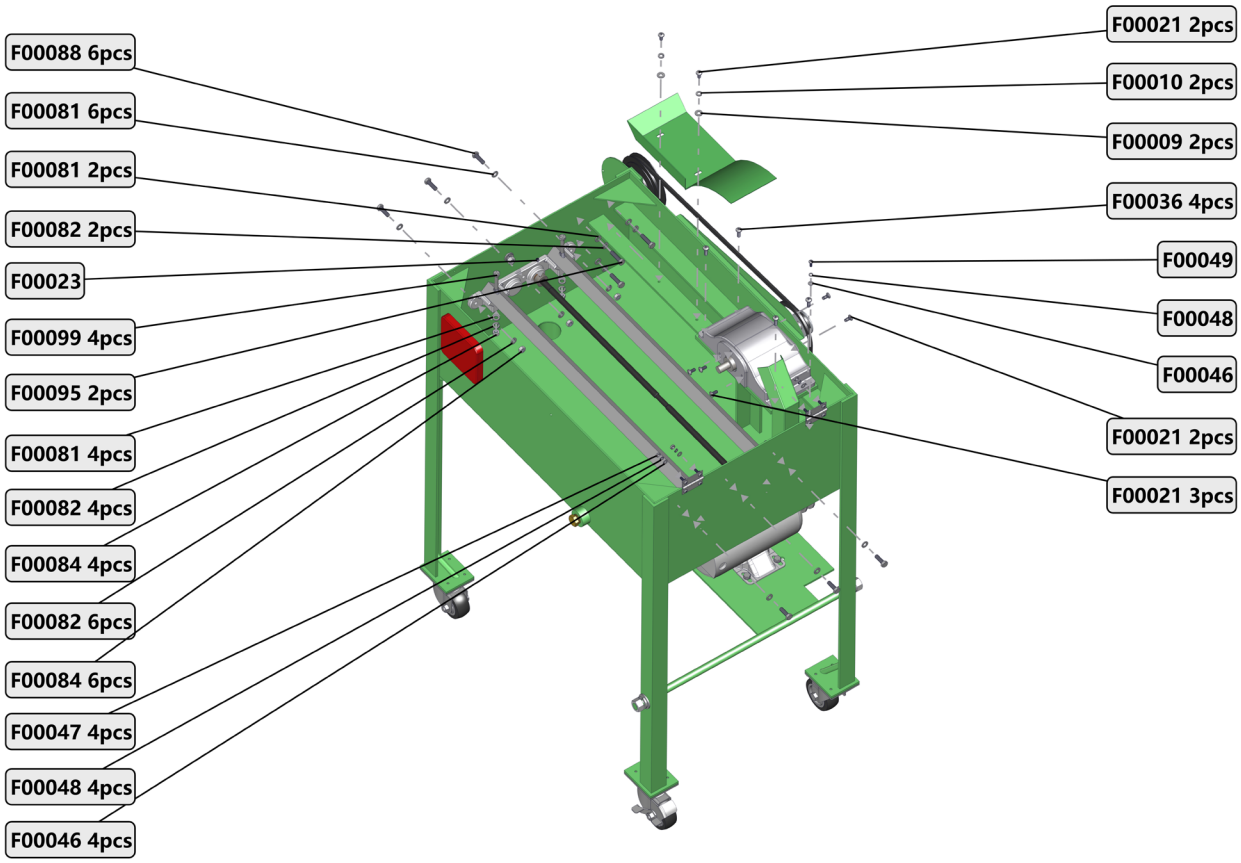
Part Number	Description	Quantity
F00009	1/4-20 Flat Washer	2
F00010	1/4-20 Lock Washer	2
F00015	1/4-20 wing nut	1
F00035	1/4-20 x 3/4 HHCS Hex Bolt	2
F00046	10-32 Flat Washer 304SS	16
F00056	10-32 x 3/16 PHP Pan Head Phillips SS304	8
F00059	10-32 x 5/8 PHP Pan Head Phillips SS304	4
F00080	4-40 3/16 PHP Pan Head Phillips Brass	2
F00081	5/16-18 Flat Washer	8
F00082	5/16-18 Lock Washer	8
F00084	5/16-18 Hex Nut	8
F00095	5/16-18 x 1-1/4 HHCS Hex Bolt	4
MF00059	M6-1.0 Flat Washer SS304	1

MODEL 16 SCREWS & FASTENERS #2



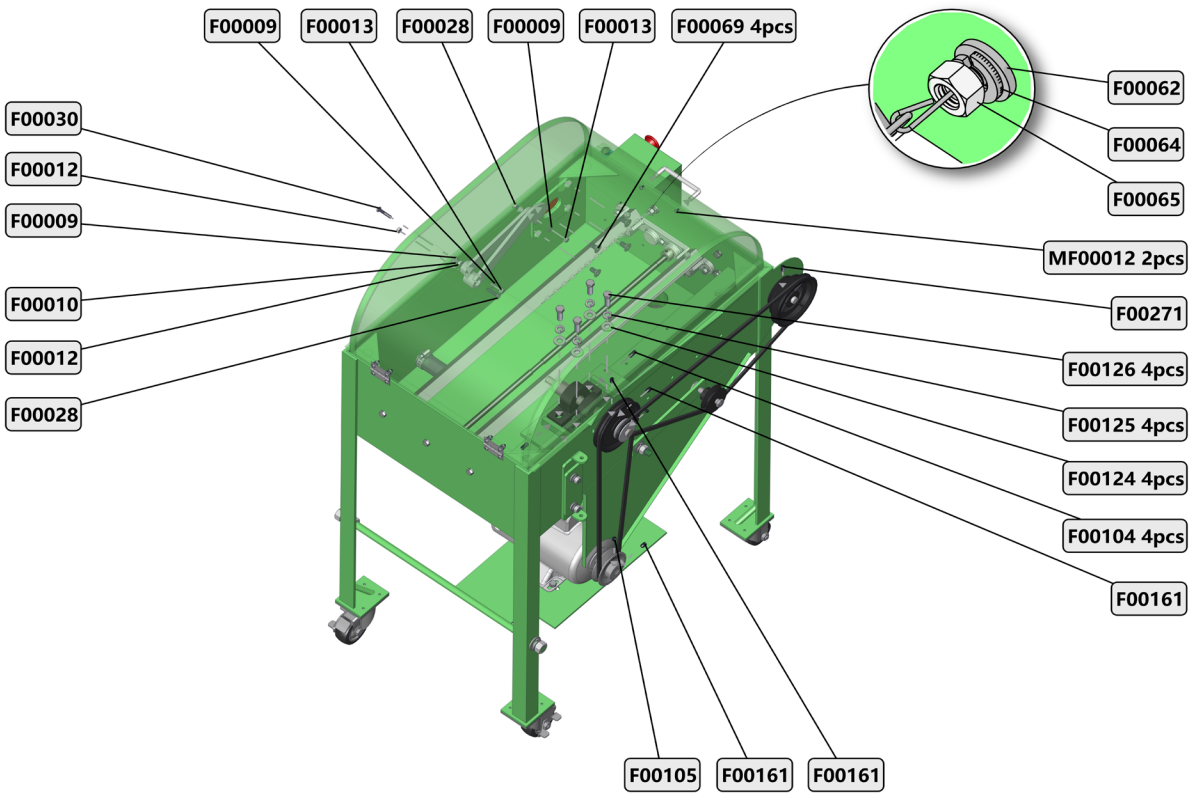
Part Number	Description	Quantity
F00001	1/2 Flat Washer	1
F00003	1/2 Lock Washer	1
F00004	1/2-13 Hex Nut	1
F00009	1/4-20 Flat Washer	16
F00010	1/4-20 Lock Washer	16
F00020	1/4-20 x 1/2 HHCS Hex Bolt	16
F00023	1/4-20 x 1/4 Black Set Screw	2
F00062	3/8 Flat Washer	2
F00064	3/8 Lock Washer	2
F00065	3/8-16 Hex Nut	2
F00081	5/16-18 Flat Washer	8
F00082	5/16-18 Lock Washer	4
F00084	5/16-18 Hex Nut	4
F00088	5/16-18 x 1 HHCS Hex Bolt	4
F00115	5/8 Flat Washer	6
F00117	5/8 Lock Washer	3
F00118	5/8-11 Hex Nut	7

MODEL 16 SCREWS & FASTENERS #3



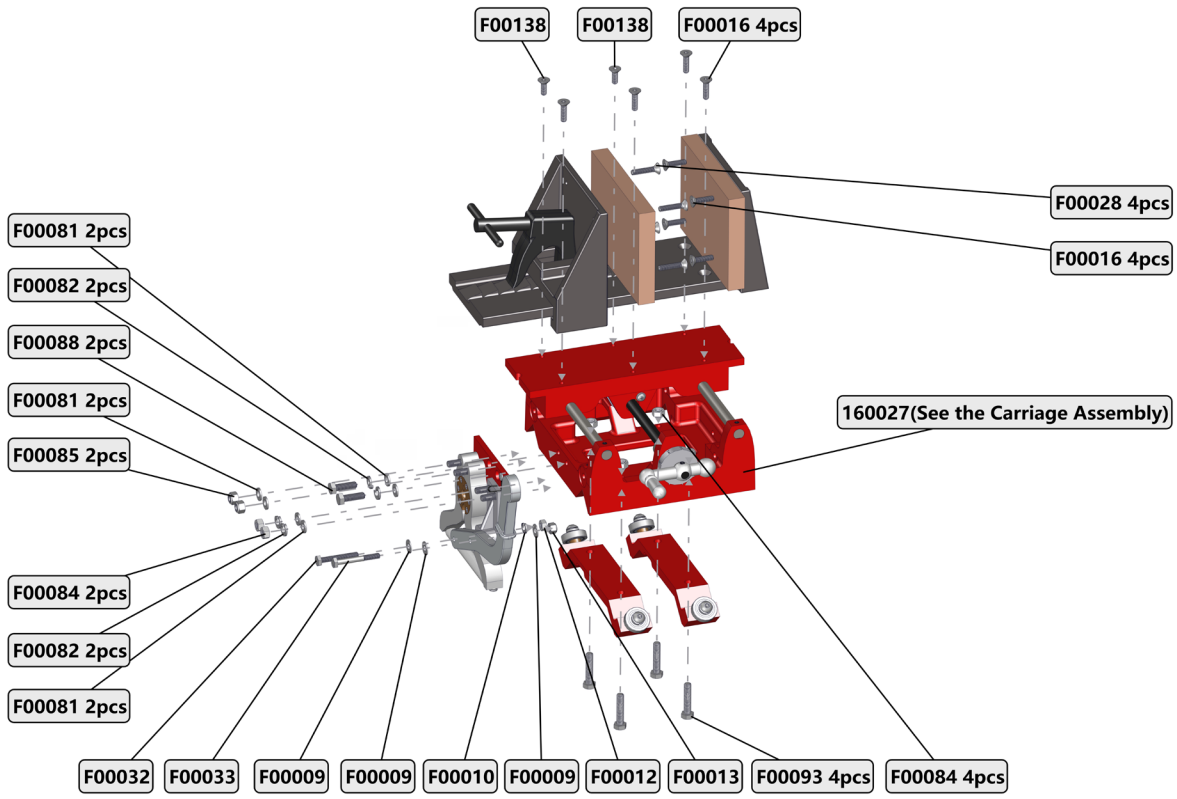
Part Number	Description	Quantity
F00009	1/4-20 Flat Washer	2
F00010	1/4-20 Lock Washer	2
F00021	1/4-20 x 1/2 PHP Pan Head Phillips SS304	7
F00023	1/4-20 x 1/4 Black Set Screw	1
F00036	1/4-20 x 3/4 PHP Pan Head Phillips SS304	4
F00046	10-32 Flat Washer 304SS	5
F00047	10-32 Hex Nut 304SS	4
F00048	10-32 Lock Washer 304SS	5
F00049	10-32 x 1/2 PHP Pan Head Phillips SS304	1
F00081	5/16-18 Flat Washer	12
F00082	5/16-18 Lock Washer	12
F00084	5/16-18 Hex Nut	10
F00088	5/16-18 x 1 HHCS Hex Bolt	6
F00095	5/16-18 x 1-1/4 HHCS Hex Bolt	2
F00099	5/16-18 x 2-1/2 HHCS Hex Bolt	4

MODEL 16 SCREWS & FASTENERS #4



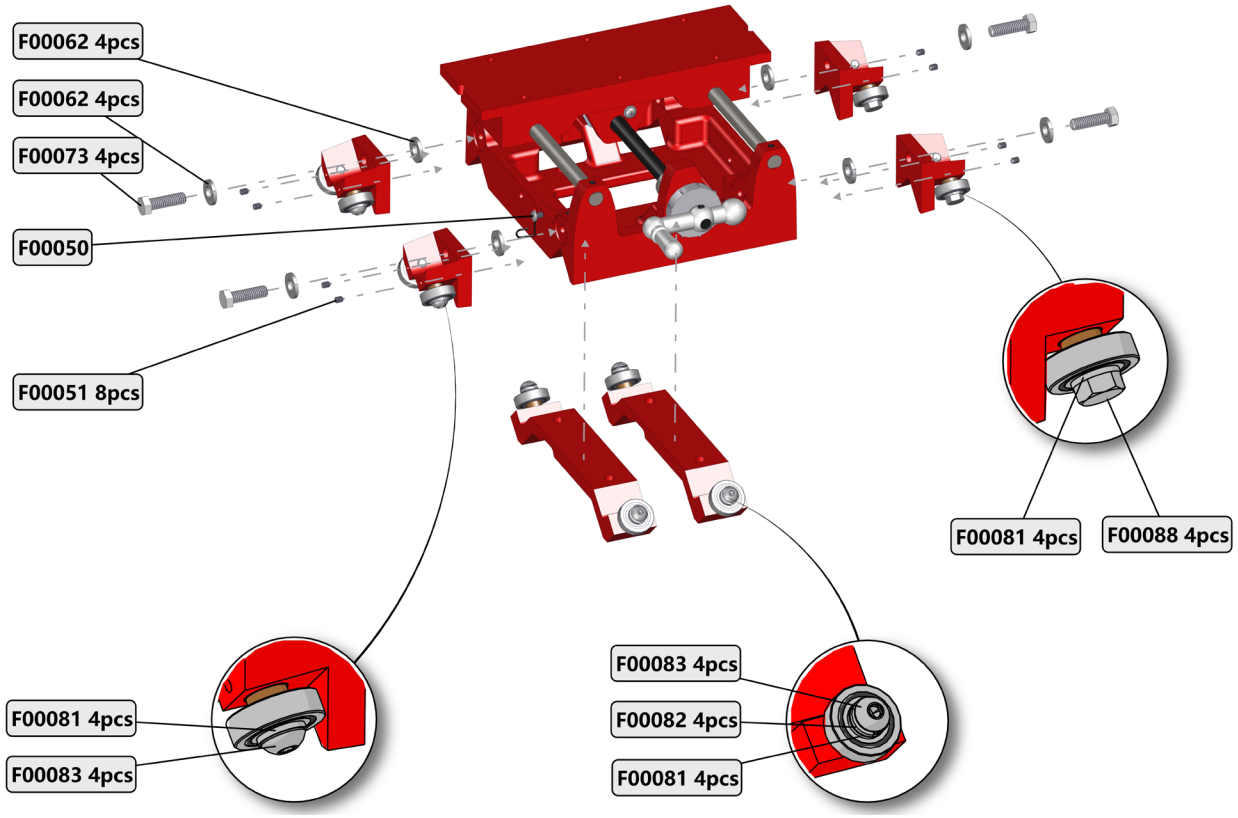
Part Number	Description	Quantity
F00009	1/4-20 Flat Washer	3
F00010	1/4-20 Lock Washer	1
F00012	1/4-20 Hex Nut	2
F00013	1/4-20 Nylon Lock Nut	2
F00028	1/4-20 x 1-1/4 FHSCS Flat Head Socket	2
F00030	1/4-20 x 1-1/4 304SS PHP Pan Head Phillip	1
F00062	3/8 Flat Washer	1
F00064	3/8 Lock Washer	1
F00065	3/8-16 Hex Nut	1
F00069	3/8-16 x 3/4 FHSCS Flat Head Socket Cap Screw	4
F00104	5/16-18 x 3/4 Black Set Screw	4
F00105	5/16-18 x 3/8 Black Set Screw	1
F00124	7/16 Flat Washer	4
F00125	7/16 Lock Washer	4
F00126	7/16-14 x 1-1/4 HHCS Hex Bolt	4
F00161	5/16-18 x 1/2 inch Set Screw	3
F00271	5/16-18 x 5/8 Black Set Screw	1
MF00012	M4-0.7 x 8mm PHP Pan Head Phillips SS304	2

MODEL 16 SCREWS & FASTENERS #5



Part Number	Description	Quantity
160027	Carriage Assembly	1
F00009	1/4-20 Flat Washer	3
F00010	1/4-20 Lock Washer	1
F00012	1/4-20 Hex Nut	1
F00013	1/4-20 Nylon Lock Nut	1
F00016	1/4-20 x 1 FHSCS Flat Head Socket	8
F00028	1/4-20 x 1-1/4 FHSCS Flat Head Socket	4
F00032	1/4-20 x 1-3/4 HHCS Hex Bolt	1
F00033	1/4-20 x 2 HHCS Hex Bolt	1
F00081	5/16-18 Flat Washer	6
F00082	5/16-18 Lock Washer	4
F00084	5/16-18 Hex Nut	6
F00085	5/16-18 Nylon Lock Nut	2
F00088	5/16-18 x 1 HHCS Hex Bolt	2
F00093	5/16-18 x 1-1/2 HHCS Hex Bolt	4
F00138	1/4-20 x 3/4 FHSCS Flat Head Socket	2

MODEL 16 SCREWS & FASTENERS #6



Part Number	Description	Quantity
F00050	10-32 x 1/4 PHP Pan Head Phillips SS304	1
F00051	10-32 x 1/4 SS Set Screw Black Oxide	8
F00062	3/8 Flat Washer	8
F00073	3/8-16 x 1-1/4 HHCS Hex Bolt	4
F00081	5/16-18 Flat Washer	12
F00082	5/16-18 Lock Washer	4
F00083	5/16 x 1 BHSCS Button Head Socket	8
F00088	5/16-18 x 1 HHCS Hex Bolt	4

Model 16 Slab Saw
Owner's Manual & Operating Instructions

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