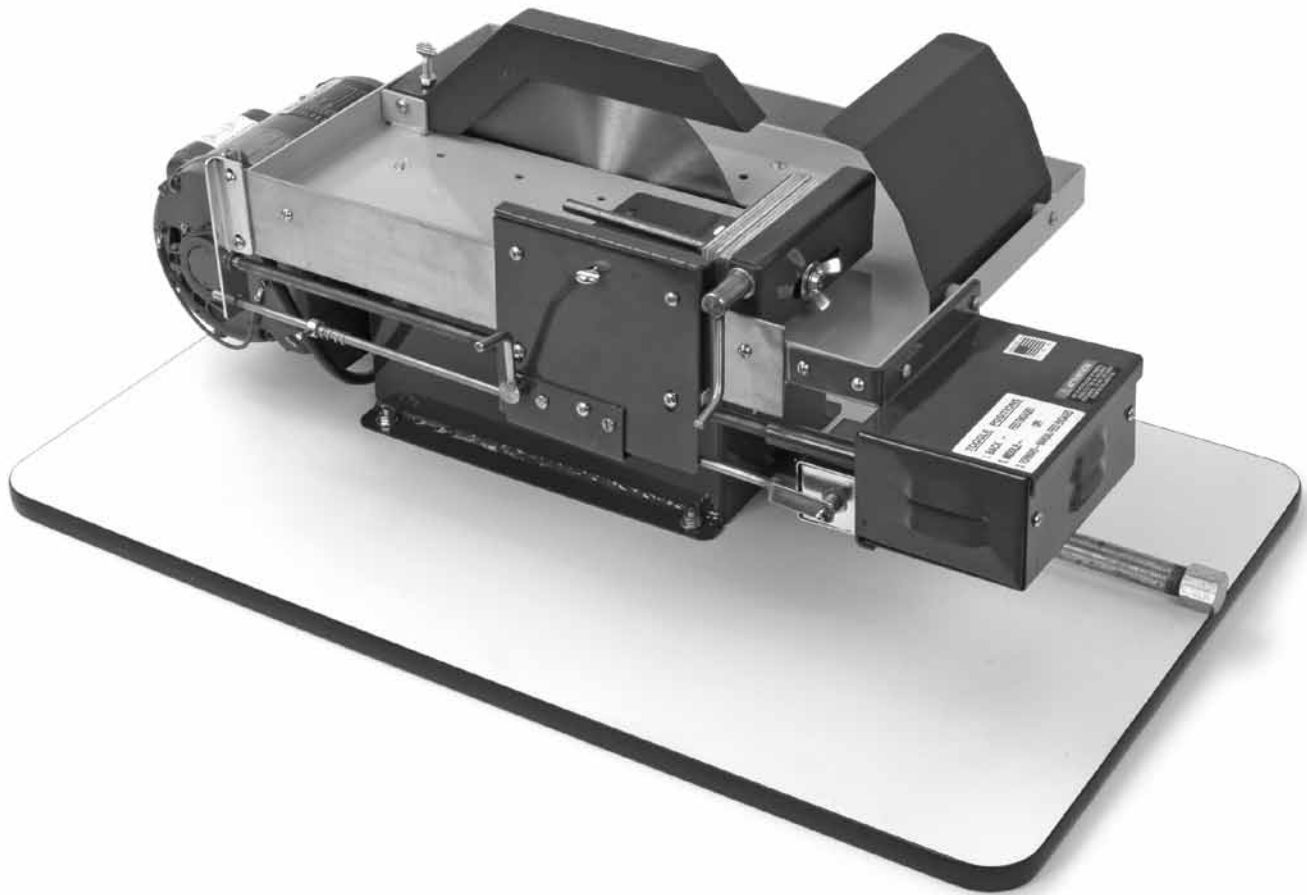




BARRANCA DIAMOND

PF10 Power Feed Trim Saw

Owner's Manual and Operating Instructions



Revision 105	07.2013
Manual Part No. 161090	

Caution: Read all safety and operating instructions before using this equipment. This manual **MUST** accompany the equipment at all times.

Barranca Diamond Products, Inc.
1315 Storm Parkway
Torrance, CA 90501
Toll-Free: (800) 630-7682
Phone: (310) 523-5867
Fax: (310) 257-3063
www.barrancadiamond.com

Thank you for selecting the Barranca Diamond PF10 Trim Saw. We are certain that you will be pleased with your purchase. Barranca Diamond takes pride in producing top quality products for hobby and commercial lapidary users throughout the world.

This owner's manual contains information necessary to operate and maintain your PF10 Trim Saw safely and correctly. Operated correctly, your PF10 Trim Saw should provide you with years of service. Please take the time to familiarize yourself with the PF10 Trim Saw by reading and reviewing this manual.

If you should have questions concerning your PF10 Trim Saw, please call Barranca Diamond at: (310) 523-5867 or Toll Free: (800) 365-0085.

TABLE OF CONTENTS

SAFETY

Safety Precautions	3-6
California Proposition 65 Warning	6
Electrical Requirements & Grounding Instructions	7-8
Product Specifications	9

OPERATION, ADJUSTMENT & MAINTENANCE

Oil/Coolant	10
Setup	11
Inspection	12
Start Up	13-15
Slab Sawing Mode	16-17
Trim Sawing Mode	18
Maintenance	19-22
Diamond Blade	23
Installation & Removal	24

EXPLODED VIEW AND PART LIST

Exploded View	26-27
Part List	28-30
Service and Warranty	32-34

SAFETY PRECAUTIONS

Read and follow all safety, operating and maintenance instructions. Failure to read and follow these instructions could result in injury or death to you or others. Failure to read and follow these instructions could also result in damage and/or reduced equipment life. In order to prevent injury, the following safety precautions should be followed at all times!

READ OWNERS MANUAL BEFORE USE

Before using this equipment, ensure that the person operating this machine has read and understands all of the instructions in the manual. Precaution is the best insurance against accidents. Read and understand all safety precautions, messages, warnings and hazard symbols. You are responsible for your own safety.

ALWAYS USE SAFETY GLASSES

Safety glasses should always be worn when working around power tools. In addition, a face, dust mask or respirator should be worn if a cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses and may not prevent eye injury—they are NOT safety glasses.

USE PROPER APPAREL

Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that may be caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair. Hand protection (plastic gloves) and a shop bib are recommended during sawing to prevent stains to clothing. Avoid prolonged exposure of skin to the sawing lubricant and wash skin immediately after contact. Do not touch the work material until the motor is off and the machine has come to a complete stop.

ALWAYS USE HEARING PROTECTION

To reduce the possibility of hearing loss, always use hearing protection when operating power equipment.

KEEP GUARDS IN PLACE

In order to prevent injury, never operate the saw with out the guards in place!

REMOVE ADJUSTING KEYS AND WRENCHES

Form a habit of checking to see that keys and adjusting wrenches are removed from the power tool before it is turned on.

DO NOT USE IN DANGEROUS PLACE

Do not use power tools in damp or wet locations nor expose them to rain. Always keep the work area well lighted.

ELECTRICAL SHOCK

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.

DISCONNECT TOOLS

Power tools should always be disconnected before servicing or when changing accessories, such as blades, bits, cutters, and the like.

REDUCE THE RISK OF UNINTENTIONAL STARTS

Make sure the ON/OFF switch is in the OFF position before plugging in a power tool.

ROTATING OR MOVING PARTS

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

MAINTAIN TOOLS WITH CARE

Keep tools clean for the best and safest performance. Always follow maintenance instructions for lubricating, and when changing accessories.

KEEP WORK AREA CLEAN

Cluttered work areas and benches invite accidents.

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 lighted. Always work in a well ventilated area.

KEEP CHILDREN AWAY

All visitors and children should be kept a safe distance from the work area. Keep power cords disconnected when tool is not in use.

MAKE THE WORKSHOP KID PROOF

Make the workshops kid proof by using padlocks, master switches and by disconnecting all power cords.

USE THE RIGHT TOOL

Do not force a tool or an attachment, to do a job that it was not designed to do.

SECURE WORK

Clamps or a vise should be used to hold work whenever practical. Keeping your hands free to operate a power tool is safer.

DO NOT FORCE THE TOOL

A power tool will do a job better and safer operating at the rate for which it was designed.

USE THE RIGHT TOOL TO SERVICE THE SAW

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.

DIRECTION OF FEED

Always feed work into a blade or cutter in the direction shown in this manual. All blades, grinding wheels or polishing belts should always be installed such that rotation is in the direction of the arrow imprinted on the blade, wheel or belt.

ONLY OPERATE AT THE PROPER SPEED

Severe personal injury and damage to the motor or equipment can result if operated at speeds above maximum.

NEVER LEAVE A TOOL RUNNING UNATTENDED – TURN POWER OFF

Do not leave a tool until it comes to a complete stop. Always turn the tool off and disconnect the power cord to its source when leaving the work area or when work is finished. Do not leave extension cords attached to the power cord or power receptacle (wall outlet) when leaving the work area.

CHECK FOR DAMAGED OR WORN PARTS

Before using a power tool, check for damaged parts. A guard or any other part that is damaged should be carefully checked to determine if it would operate properly and perform its intended function. Always check moving parts for proper alignment or binding. Check for broken parts and mountings and all other conditions that may affect the operation of the power tool. A guard, or any damaged part, should be properly repaired or replaced.

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.

USE THE PROPER EXTENSION CORD

If using an extension cord make sure it is in good condition first. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage that will result in a loss of power and overheating. TABLE 1, shows the correct AWG size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

USE THE PROPER POWER SOURCE

This tool is only to be used with a 120 volt 60 HZ power source. Insure power source is at least 15 amps and 110 to 120 volts. Low voltage current can adversely effect electric motor performance and overall life.

USE THE RECOMMENDED COOLING AND LUBRICATING FLUIDS

Never operate a tool that requires coolant or lubricate dry. This can lead to shortened tool life, tool damage and personal injury.

MAINTAIN TOOLS WITH CARE

Keep the diamond blade sharp, the sawing lubricant clean and reservoir filled to the correct level for the best and safest performance. Always follow the maintenance instructions for sharpening the blade, lubricating and servicing the PF10.

WARNING

Sawing, grinding and drilling generates dust. Excessive airborne particles may cause irritation to eyes, skin and respiratory tract. To avoid breathing impairment, always employ dust controls and protection suitable to the material being sawed, ground or drilled; (See OSHA 29 CFR Part 1910.1200). Diamond Blades improperly used are dangerous. Comply with American National Standards Institute Safety Code, B7.1 and Occupational Safety and Health Act covering Speed, Safety Guards, Flanges, Mounting Procedures, General Operating Rules, Handling, Storage and General Machine Conditions.

CALIFORNIA PROPOSITION 65 WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contain chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead, from lead-based paints
- Crystalline silica from bricks, cement and other masonry products
- Arsenic and chromium, from chemically treated lumber

For further information, consult the following sources:

<http://www.osha.gov/dsg/topics/silicacrystalline/index.html>

<http://www.cdc.gov/niosh/docs/96-112/>

<http://oehha.ca.gov/prop65/law/P65law72003.html>

<http://www.dir.ca.gov/Title8/sub4.html>

Your risk from these exposures varies depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles. Where use of a dust extraction device is possible, it should be used. To achieve a high level of dust collection, use an industrial vacuum cleaner.

ELECTRICAL REQUIREMENTS AND GROUNDING INSTRUCTIONS

In order to prevent potential electrical shock and injury, the following electrical safety precautions and symbols should be followed at all times!

In case of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

- Do not modify the plug provided – if it will not fit the outlet; have the proper outlet installed by a qualified electrician
- Improper connections of the equipment-grounding conductor can result in a risk of electric shock. The equipment-grounding conductor is the insulated conductor that has an outer surface that is green, with or without yellow stripes. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal
- Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded
- Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug
- Repair or replace a damaged or worn cord immediately

This tool is intended for use on a circuit that has an outlet that looks like the one shown in Sketch A of Figure 1. The tool has a grounding plug that looks like the plug illustrated in Figure 1. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in Sketch B, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, and the like, extending from the adapter, must be connected to a permanent ground such as a properly grounded outlet box.

Note: Use of a temporary adapter is not permitted in Canada

To reduce the risk of electrocution, keep all connections dry and off the ground.

A Ground Fault Circuit Interrupter (GFCI) should be provided on the circuit(s) or outlet(s) to be used for this power tool. Receptacles are available having built-in GFCI protections and may be used for this measure of safety.

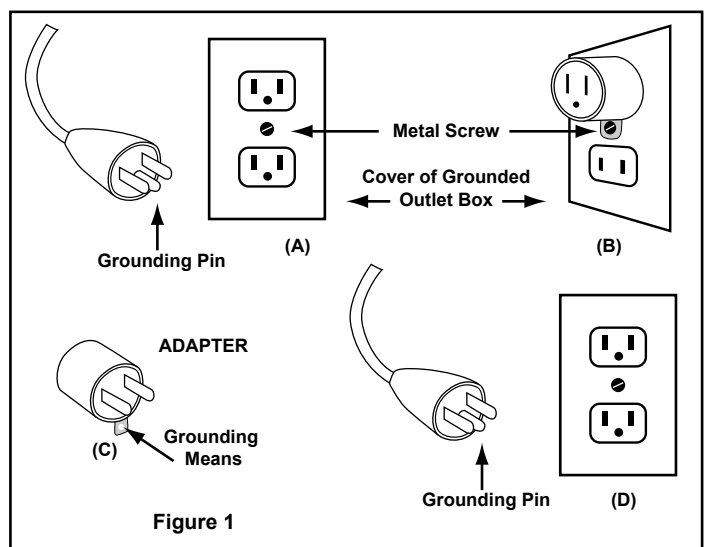


Figure 1

To avoid the possibility of the appliance plug or receptacle getting wet, position the saw to one side of a wall mounted receptacle. This will prevent water from dripping onto the receptacle or plug. A “drip loop,” shown in FIGURE 2, should be arranged by the user to properly position the power cord relative to the power source.

The “drip loop” is that part of the cord below the level of the receptacle, or the connector, if an extension cord is used. This method of positioning the cord prevents the travel of water along the power cord and coming in contact with the receptacle.

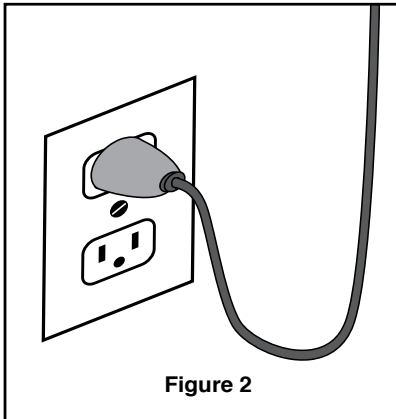


Figure 2

If the plug or receptacle gets wet, DO NOT unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the tool. Then unplug and examine for presence of water in the receptacle.

Use only extensions cords that are intended for outdoor use. These extension cords are identified by a marking “Acceptable for use with outdoor appliances; store indoors while not in use.” Use only extension cords having an electrical rating not less than the rating of the product. Do not use damaged extension cords. Examine extension cords before using and replace if damaged. Do not abuse extension cords and do not yank on any cord to disconnect. Keep cords away from heat and sharp edges. Always disconnect the extension cord from the receptacle before disconnection the product form the extension cord.

To reduce the risk of electrocution, keep all connections dry and off the ground. Do not touch the plug with wet hands.

Use of under size extension cords result in low voltage to the motor that can result in motor burnout and premature failure. Barranca Diamond warns that equipment returned to us showing signs of being run in a low voltage condition, through the use of undersized extension cords will be repaired or replaced totally at the customers expense. There will be no warranty claim.

To choose the proper extension cord,

- Locate the length of extension cord needed in TABLE 1 below.
- Once the proper length is found, move down the column to obtain the correct AWG size required for that length of extension cord.

EXTENSION CORD LENGTH							
Nameplate Amperes	115V	25'	50'	75'	100'	150'	200'
	250V	50'	100'	150'	200'	300'	400'
0 - 5		16	16	16	14	12	12
5.1 - 8		16	16	14	12	10	•
8.1 - 12		14	14	12	10	•	•
12.1 - 15		12	12	10	10	•	•
15.1 - 20		10	10	10	•	•	•

Table 1

Shipping Weight	95 lbs. (115 lbs. crated)
Main Motor	Baldor Model 17K017W470
Horsepower	1/3 HP
Motor Voltage	110 volt/60Hz
Amperage	5.8 Amps
Motor RPM	1725 RPM Fixed
Motor Arbor Diameter	1/2"
Duty	Continuous
Motor Arbor Bearings	Ball Bearings, permanently sealed
Blade Capacity	8", 9" or 10" diameter

Power Feed Motor	Dayton Shaded Pole AC Gear motor (Model 3M098)
Horsepower	1/250 HP
Motor Voltage	110 volt/60Hz
Motor RPM	4 RPM (full load) Fixed
Torque	18 inch-lbs.
Rotation	Clockwise facing the shaft
Motor Arbor Diameter	5/16"
Motor Arbor Bearings	Sleeve-bushing type, permanently sealed

Power Feed Toggle Switch Control Positions:

1. BACK/POWER FEED Position (toward operator)– Provides power from the main motor to the blade arbor and power feed motor.
2. MIDDLE/OFF Position – Both power feed and main motors off.
3. FORWARD/MANUAL FEED Position (away from operator) Provides power from the main motor to the blade arbor only.

Blade Arbor Bearings: Permanently sealed 5/8" OD shaft ball bearings press fit into aluminum housing (must be ordered with aluminum housing as an arbor assembly when bearings are worn out.)

Blade Arbor Flanges: Aluminum, 2" OD x 5/8" bore.

Power Feed Threaded Rod: 1-1/2" long x 3/8"-24 fine thread stainless steel rod.

Power Feed Clutch Block: Two piece: lower silicon bronze half-threaded 3/8"-24 fine thread and upper brass friction block (unthreaded).

Rock Vise Capacity: 4" .

Cross Feed Index Movement per Revolution of Handle: 1/16".

Power Feed In-Feed Vice Advancement Rate: approximately 3/16 of an inch per minute.

Blade Lubricant Requirements: 1/2 gallon of oil to adequately cover the bottom of a 10" blade and 3/4 gallon for an 8" blade.

RECOMMENDED CUTTING OILS

Never run a diamond blade dry as this can immediately damage your blade. Use one of the oils/coolants recommended below. Coolant should be kept clean and below 100° F. Sludge should be removed periodically and replaced with fresh coolant so that your cuts will be clean and your blades will not be damaged.

Shell Diala Ax and Amber Neutral 100

Non-hazmat replacement oil for electrical transformer cooling. Excellent lubricating properties for blades and saw parts. Flushes sludge from rock easily, degreases easily, and sludge settles in saw tank well. In Southern California, Shell Diala Ax can be purchased from Dion and Sons, Inc (www.dionandsons.com).

Chevron Texaco Bright-Cut

A chlorine-free cutting oil with reduced sulfur and fat content. Light in color and low in odor.

Hyvolt II

Electrical transformer cooling oil. A highly refined petroleum product, available from some non-Shell oil distributors, typically only in 55 gallon drums. Same properties and performance as Shell Amber Neutral 100.

Chevron Superla #5

Food grade mineral oil. Non-hazardous lubricating oil for bakeries, breweries and food processing machinery. Good lubricating properties, degreases and settles sludge well. Can go rancid over time (1 year or less).

AVATEC 80

Food grade mineral oil, excellent for slab sawing in all our slab saws.

Texaco ALMAG

Pure petroleum based machining cutting oil. Good for slab sawing but very strong odor. Often the cheapest priced oil available but odor is tough to eliminate.

Roc Cut

Roc Cut from Diamond Pacific is a new synthetic water soluble cutting additive with rust inhibitors. Mix 30 to 1 (water to Roc Cut).

Roc-Oil

Roc-Oil from Diamond Pacific is an oil coolant for heavy duty cutting. Provides excellent blade protection and will not cause rust to your blade or saw.

Under NO circumstances should any of the following fluids be used in any of our lapidary saws:

Automotive Antifreeze Coolant

Ethylene glycol based automotive antifreeze and its vapors are considered hazardous and toxic. Propylene glycol based antifreeze is nontoxic but has practically no lubricating properties; it functions as a coolant only and its use will lead to rapid blade wear and dulling.

Automotive Transmission Fluid

Does not have adequate lubricating properties for our saws; vapors are considered hazardous and toxic.

Water

A good coolant but has no lubricating properties and causes rust and degradation of exposed iron and steel parts. Causes rapid blade dulling and premature wear. Use of water voids the warranty on all Barranca Diamond saws.

CNC Machining Fluids

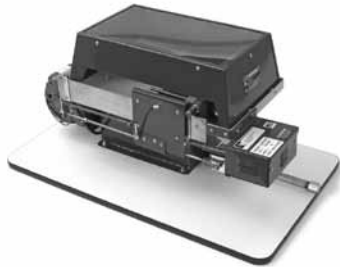
Water soluble synthetic coolants (i.e. Valenite or Cimtool) are often mixed in a 20:1 blend with water. Fluid vapors are considered hazardous. These fluids do not have adequate lubricating or rust inhibiting properties for the cast iron and steel parts in our slab and trim saws.

Diesel, Heating Oil and Kerosene

Very flammable with a low flash point. At least 3 of our commercial cutting customers in Arizona and Pacific Northwest have burned down their shops using these fluids. Can be very tough to degrease the residue and aroma out of the cut slabs. These fluids are cheap, but very hazardous to use. Diesel is a benzene compound which is carcinogenic. All these fluids can cause severe skin rashes and other ailments.

CONTENTS

In the shipping crate, you will find one Barranca Diamond PF10 Trim Saw assembly (saw, motor, baseboard, spray hood and 10" x 0.040 x 5/8 303 Pro diamond blade). One package of six rubber feet and mounting screws, and one 1" x 1" x 6" sharpening stick.



Saw Assembly



*Rubber Feet and
Mounting Screws*



Sharpening Stick

UNPACKING AND ASSEMBLY

Your PF10 Trim Saw has been shipped from the factory thoroughly inspected and tested. Remove the crating material (wood and plastic) from the baseboard and around the saw with a Phillips and standard screwdriver and box cutter knife. Remove the spray hood from the saw and remove the protective covering from either side of the acrylic window.

Once removed from the crate, locate the six rubber feet and screws in a zip-lock plastic bag. Each rubber foot mounts to the underside of the baseboard in predrilled mounting holes. This step should be performed before sawing lubricant is added to the oil reservoir. To mount the feet, first remove the two Phillips-head machine screws that secure the belt guard to the saw table. Then, while supporting the left (vise) side of the saw table, remove the four flat-head machine screws (fig 1) that secure the saw table to the reservoir tank and remove the saw table. Please note: the saw table will fall off the reservoir if not supported once the final mounting screw is removed! . At this point you can reattach the saw table and belt guard, or continue to the start up section of this manual (page 9).

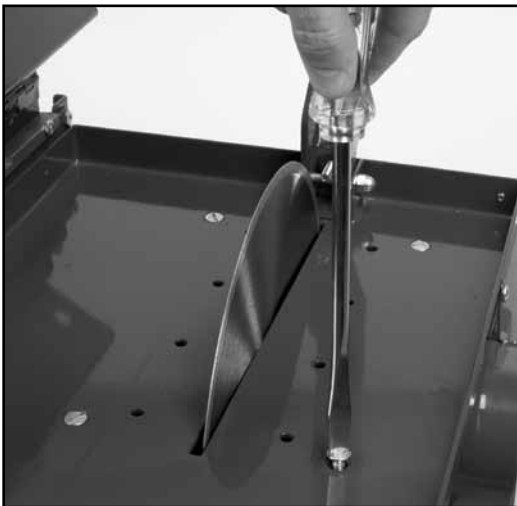


Fig 1. Removing the saw table from the reservoir tank

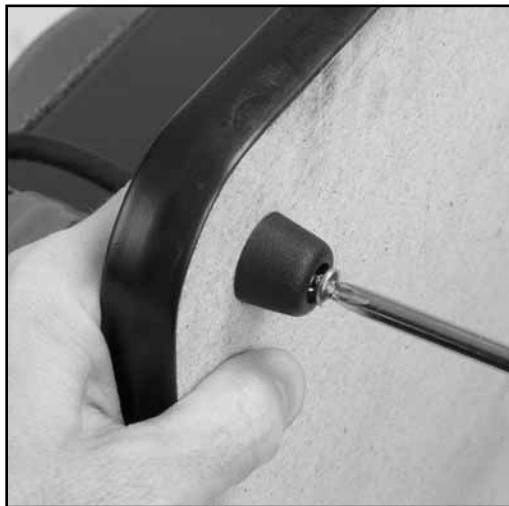


Fig 2. Installing the rubber feet

TRANSPORT

For ease of transport, place the hood window over the saw table and tape the hood to the table to prevent vibration from scraping the paint off both the table and hood during travel. All sawing lubricant should be removed from the reservoir during transport of the saw.

PRESTART INSPECTION

Place the PF10 Trim Saw on a flat surface such as a bench top or table. Set the toggle power switch to the MIDDLE/OFF position (fig 3).

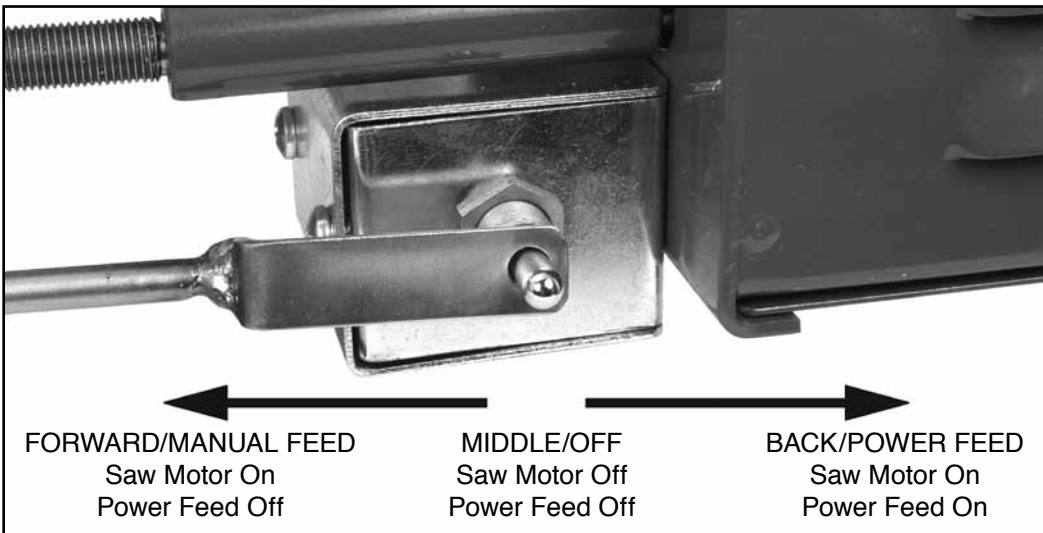


Fig 3. Toggle power switch positions and functions

Prior to operating the PF10 Trim Saw, you must fill the oil reservoir so that the lubricant fluid covers the bottom 1/4" of the blade (fig 4). 1/2 gallon of oil will adequately cover the bottom of a 10" blade and 3/4 gallon will be sufficient for an 8" blade. Do not overfill the oil reservoir as excess fluid will result in unnecessary spraying of fluid while sawing and possibly cause damage to the arbor and motor.

To add lubricant, first remove the two Phillips-head machine screws that secure the belt guard to the saw table. Then, while supporting the left (vise) side of the saw table, remove the four flat-head machine screws (fig 5) that secure the saw table to the reservoir tank and remove the saw table. Please note: the saw table will fall off the reservoir if not supported once the final mounting screw is removed!

The 303 Pro blade is manufactured to cut in either a petroleum, mineral or synthetic water soluble oil saw lubricant. Although water can be used with the PF10 Trim Saw, it is not recommended as the steel arbor shaft can rust. In addition, poor sawing performance and short blade life can result. If water must be used, it is recommended that a rust inhibitor such as Tool Cool (8 oz. Tool Cool to 1 gallon water) be added.



Fig 4. Coolant level should cover the bottom 1/4" of the blade

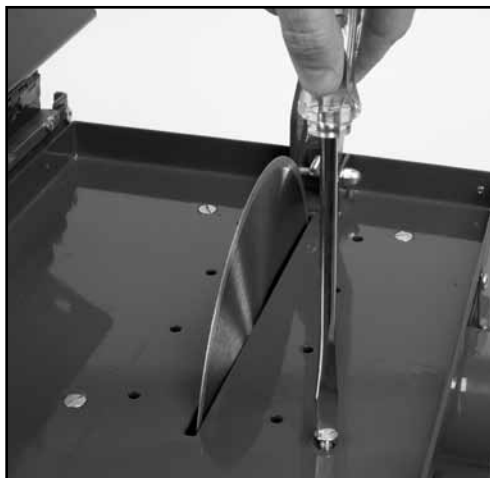


Fig 5. Removing saw table from reservoir tank

START UP

With the table removed from the reservoir, inspect the motor mounts and belt tension. Check the four motor mounting nuts (fig 6) to insure they are tight and the motor is secure. The V-belt is adjusted and tensioned at the factory. However, if the motor mounts should become loose during shipping or usage readjust the motor mounting nuts so that no more than 1/2" of belt deflection occurs when the belt is depressed by fingertip pressure (fig 7).

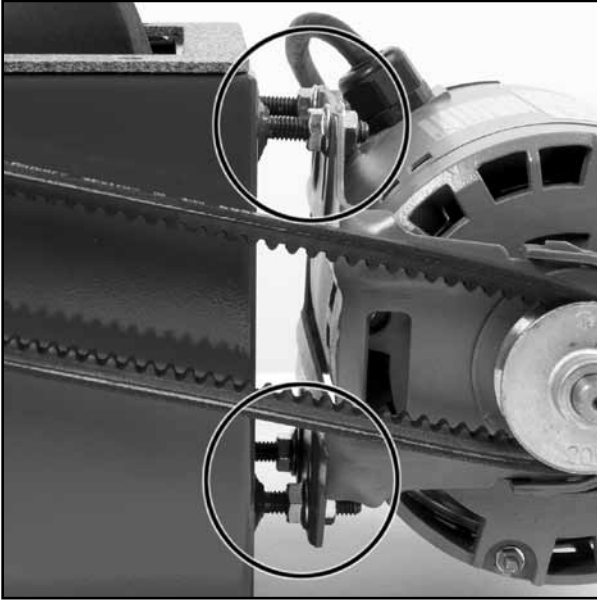


Fig 6. Motor mount adjustment points

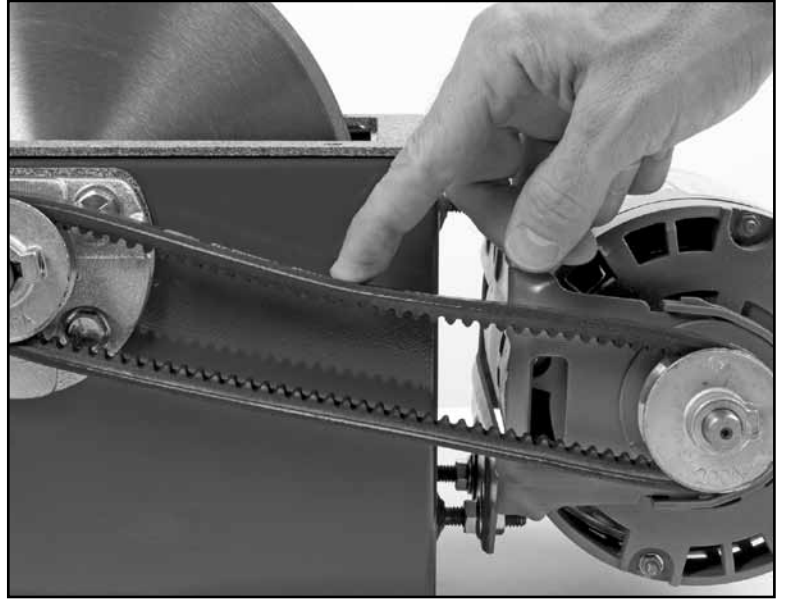


Fig 7. V-belt correctly tensioned

When you have confirmed that the belt is properly tensioned and the motor mounting nuts are secured, reattach the saw table with the four mounting screws. Be sure the cork tank gasket is correctly positioned between the saw table and coolant reservoir (fig 8) and the proper amount of lubricant is in the reservoir before reattaching the saw table.

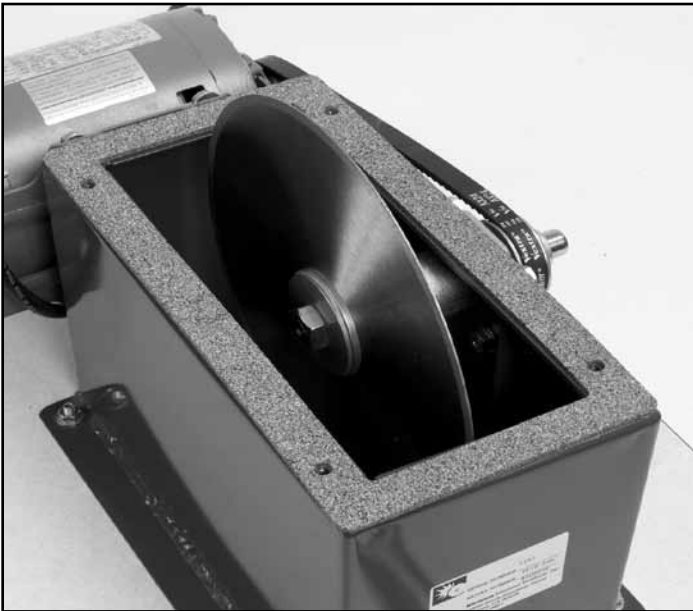


Fig 8. Cork gasket in place

START UP (continued)

Check to ensure that the toggle power switch is in the MIDDLE/OFF position. Plug the power cord from the motor into the power feed receptacle (fig 9) on the power feed box (located on the front of the saw). The power cord from the power feed box should be attached to GFCI receptacle.



Fig 9. Motor cord attached to the power feed box receptacle

If an extension cord is used to attach to the PF10 Trim Saw, use an extension cord that is at least 14 gauge wire and no longer than 25 feet.

To perform a power up test on the PF10, first disengage the vise clutch by turning the clutch handle to the 12 o'clock position (fig 10) and then move the rock vise to the front (operator's) end of the saw table (fig 12).

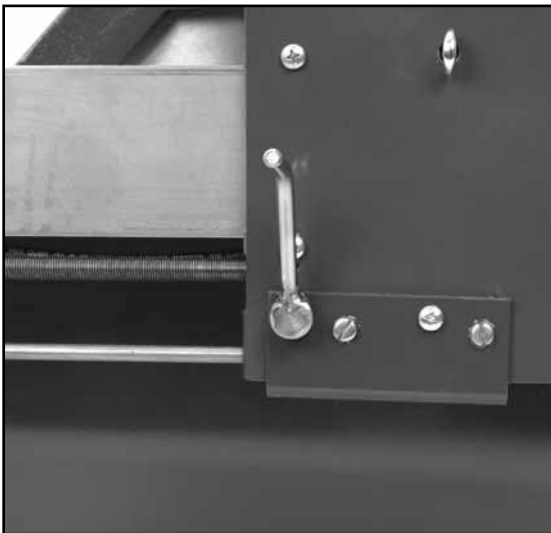


Fig 10. Clutch handle in disengaged (12 o'clock) position

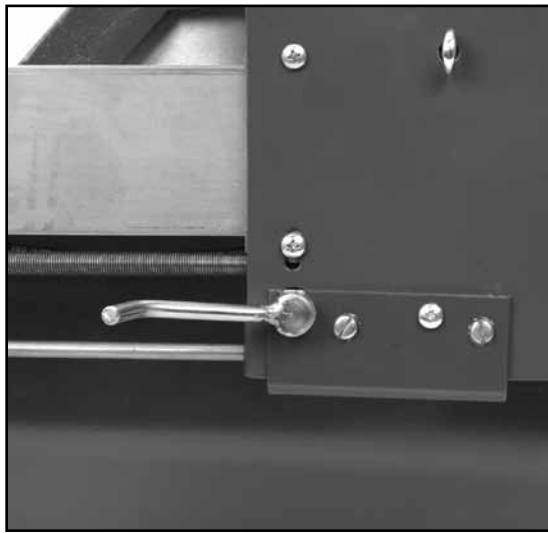


Fig 11. Clutch handle in engaged (9 o'clock) position

START UP (continued)

Once the rock vise is placed in the far back position, lock the clutch handle in the 9 or 3 o'clock position (fig 11). Now engage the power feed and main motor to begin advancing the vise and rotating the blade by pushing the toggle to the rear or to the BACK/POWER FEED position (fig 3). The 4 RPM power feed motor (fig 13) will slowly move the vise toward the blade (approximately 3/16 of an inch per minute). The saw hood does not need to be placed over the saw table during this power test. Once you have confirmed the vise is moving toward the blade and the blade is turning, this indicates the saw is functioning properly. The saw can be turned off by flipping the toggle switch to the MIDDLE/OFF position.



Fig 12. Rock vise positioned at front of saw



Fig 13. Power feed motor and screw feed rod

SLAB SAWING MODE

To begin slabbing of rock material, turn the toggle switch to the MIDDLE/OFF position (fig 3) and secure the material in the rock vise by opening the vise jaws wide enough to fit the material to be cut. Retighten the jaws with the wing nut screws on the rock vise (fig 14). The vise should be positioned close to (but not touching) the diamond blade by placing the clutch lever in the disengaged 12 o'clock position (fig 10) and moving the vise forward toward the blade (fig 15).

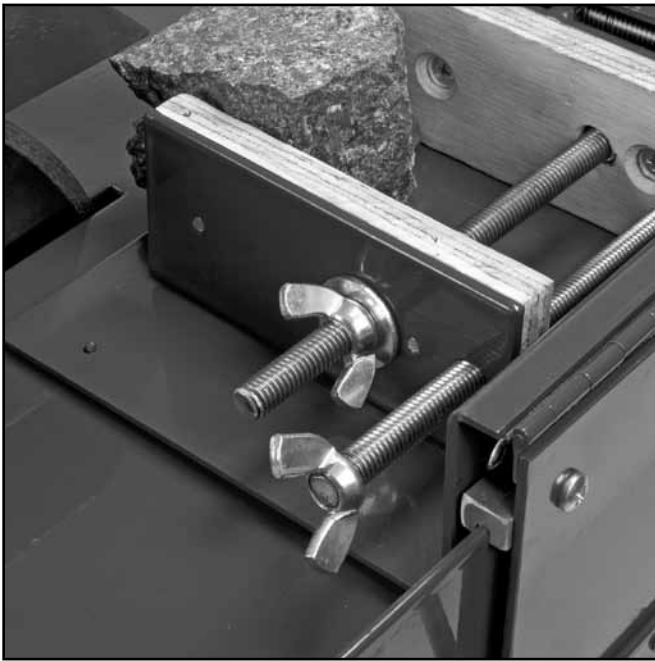


Fig 14. Rock vise wing nut screws

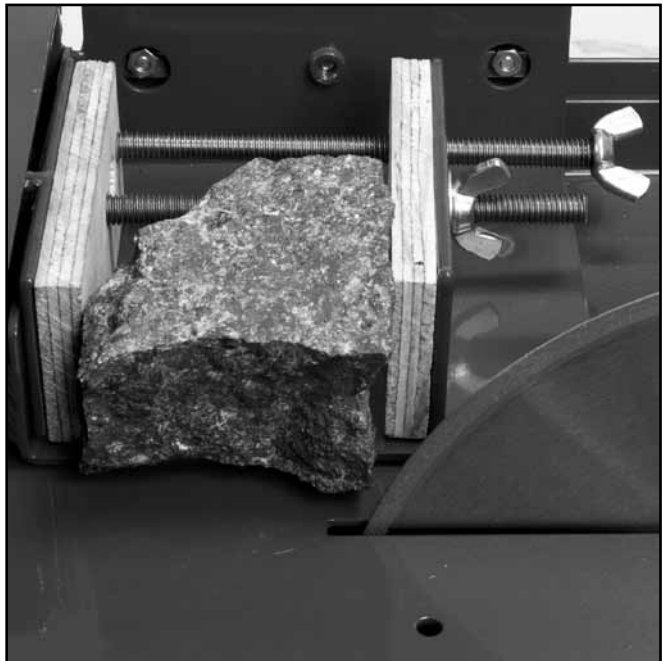


Fig 15. Material positioned in vise near blade prior to cutting

Once the vise is positioned close to the blade, loosen the wing nut on the front of the vise (fig 16) and laterally move the vise to the desired slab thickness to be cut by turning the cross-feed handle (fig 17) clockwise or counterclockwise. Retighten the wing nut on the vise.



Fig 16. Vise cross-feed locking wing nut



Fig 17. Cross-feed handle

SLAB SAWING MODE (continued)

At this point, the clutch handle should be engaged by turning it to the 3 or 9 o'clock position (fig 11). Slabbing of material can now be initiated by engaging the power feed and blade by moving the toggle switch to the BACK/POWER FEED position (fig 3). The rock vise and material will move forward into the blade and the slab will be cut from the vised material. The vise will proceed to move along the power feed rail until the automatic feed shut-off collar is engaged by the rock vise and the shut off collar on the 1/4" rod located under the rail (fig 18). Once the shut-off-collar is encountered, the saw will shut off by moving the toggle to the MIDDLE/OFF position.

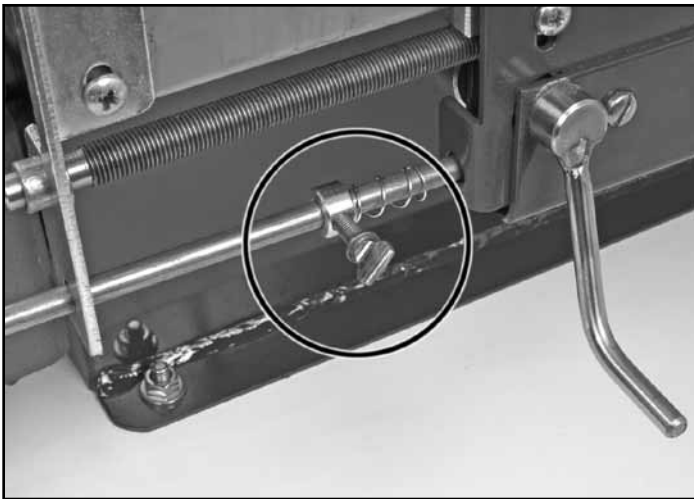


Fig 18. Automatic feed shut-off collar

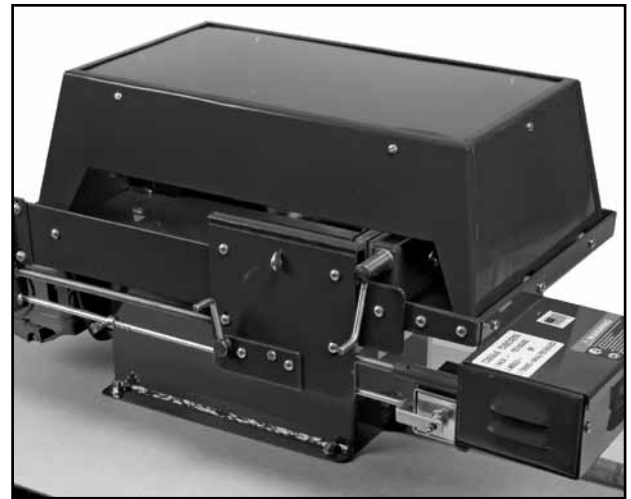


Fig 19. Metal splash hood in place on cutting table

The shut-off collar can be adjusted to any position along the length of the 1/4" rod by loosening the thumb screw attached to the collar and sliding the collar to the desired position and retightening. After the slab has been cut and the power feed is shut down automatically, the user can reposition the rock vise to the next position in front of the blade. Adjust the vise to begin the next slab cut by disengaging the clutch and sliding the rock vise to a position in front of the blade again. Once the clutch is reengaged by turning the handle to the 3 or 9 o'clock position, the next slab can be cut.

Place the metal splash hood on the table (fig 19), so that spray from the cutting fluid (oil or water) during sawing will be contained and drain back into the reservoir. Excess cutting fluid that builds up on the table during slab or trim sawing will drain back into the reservoir through the blade slot and eight drain holes adjacent to the slot. Rock chips and debris from sawing should be removed from the table area periodically to prevent interfering with free movement of the vise over the table during automatic or manual feeding.

TRIM SAWING MODE

Slabbing of rock material to uniform thicknesses using the PF10 Trim Saw is best performed using the automatic power feed mode. However, manual trimming of slabs to desired shapes (preforming) can be achieved using the saw in the FORWARD/MANUAL FEED position (fig 3).

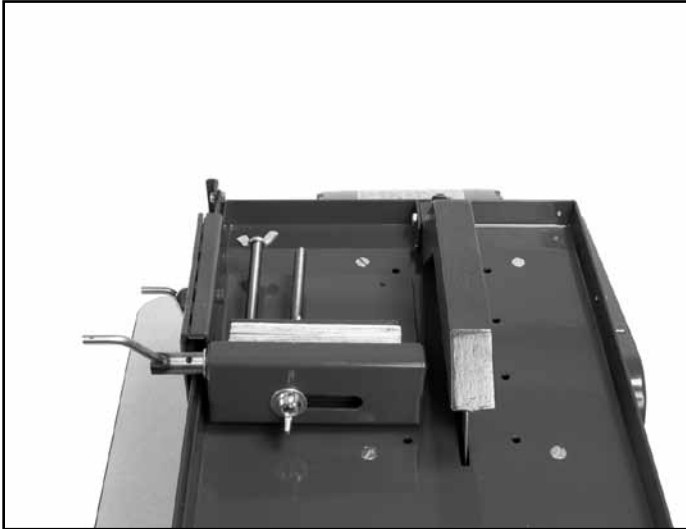


Fig 20. Rock vise on table for power feed operation

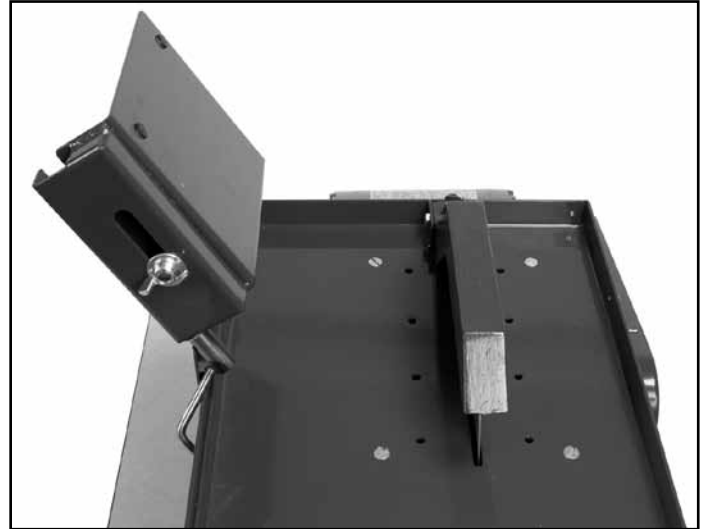


Fig 21. Rock vise in raised position for manual slabbing

To use this mode, first place the toggle in the MIDDLE/OFF position (fig 3) and flip the vise assembly over the power feed rail by loosening the thumb screw on hinged portion of the vise (fig 22) and rotating the vise so that it pivots off the saw table (fig 21). At this point the saw is ready to be used in the manual mode (with only the blade motor activated) for manual trimming of slabs by placing the toggle in the FORWARD/MANUAL FEED position (fig 3).



Fig 22. Vise lock thumb screw

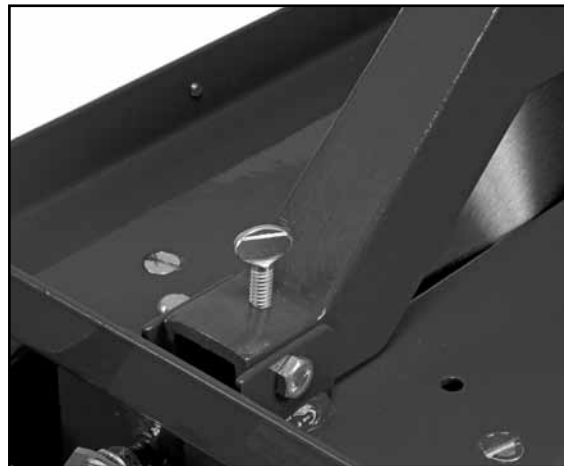


Fig 23. Blade guard thumb screw

The rock slab to be trimmed should rest flat and firmly on the saw table in front of the blade prior to moving the toggle switch to the FORWARD/MANUAL FEED position. The user should use light but firm pressure to cut the slab in the manual mode letting the blade do the work and not force the slab into the blade.

The blade guard height can be adjusted by turning the thumb screw at the rear mounting position of the guard (fig 23). Under no circumstances should the blade guard be removed. While the blade guard will reduce excessive splash and spray of cutting fluid during rock trimming, it is advised to wear personal protective gear (safety glasses, gloves and a shop bib) during manual mode trimming.

CUTTING LUBRICANT REPLACEMENT

The PF10 Trim Saw requires periodic routine maintenance to remove the build up of rock mud (sludge) and dirty lubricating fluid from the reservoir. It will be apparent to the user that the lubricating fluid is dirty and needs to be changed if the oil residue on the saw table after cutting is thick and dark with rock sludge build up. The oil liquid can be removed rapidly using the drain pipe attached to the bottom drain hole at the base of the oil reservoir (fig 24).



Fig 24. Drain pipe

A five gallon bucket or collection container can be placed under the outlet cap of the pipe and the cap removed with an adjustable wrench to let the free oil flow into the bucket for proper disposal. It may be necessary to hold the pipe with gripping pliers to prevent it from unthreading from the reservoir when removing the cap. The sludge residue will likely not flow through the drain pipe and will remain inside the oil reservoir. Therefore, the sludge should be removed when the slab saw oil lubricant is drained by removing the belt guard, saw table and blade, and extracting the sludge with a spatula or spoon. Once the sludge is removed, wipe clean the inside of the tank with a disposable towel and refill the cutting lubricant to cover the bottom 1/4" of the blade (fig 4). Dispose of the used oil and sludge properly. Be sure to check the fluid level of the cutting lubricant inside of the oil reservoir after every 3 to 5 hours of use as the fluid will be absorbed onto the rock material, combine with rock mud (sludge) and be lost due to heat and evaporation.

V-BELT

The PF10 Trim Saw blade arbor is powered by an AX-24 rubber V-belt from the electric motor. The V-belt is correctly tensioned at the factory. However if it is necessary to service the belt, unplug the PF10 Trim Saw from its power source and remove the fasteners which secure the belt guard housing to the saw table and motor. If the belt tension should become too loose, poor sawing performance or slipping will result. The belt tension should be checked periodically by removing the guard and depressing the belt in the middle between the motor and blade pulleys.

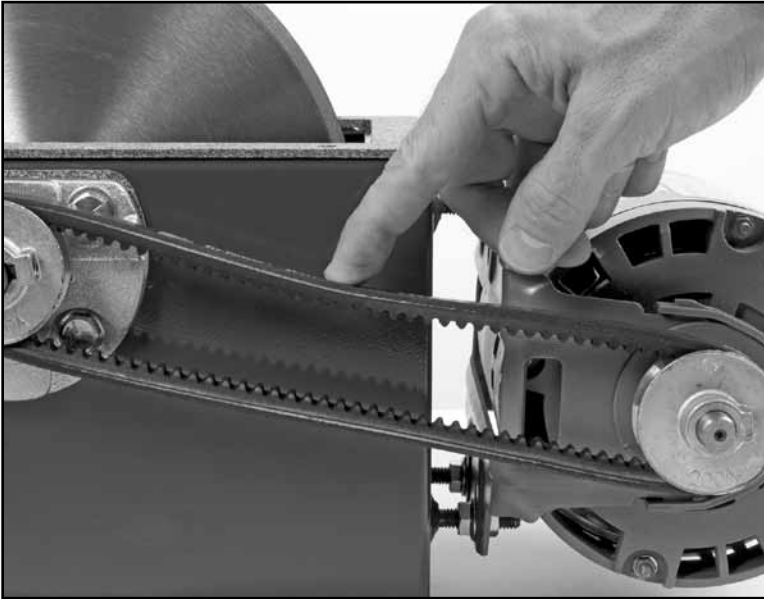


Fig 25. V-belt correctly tensioned

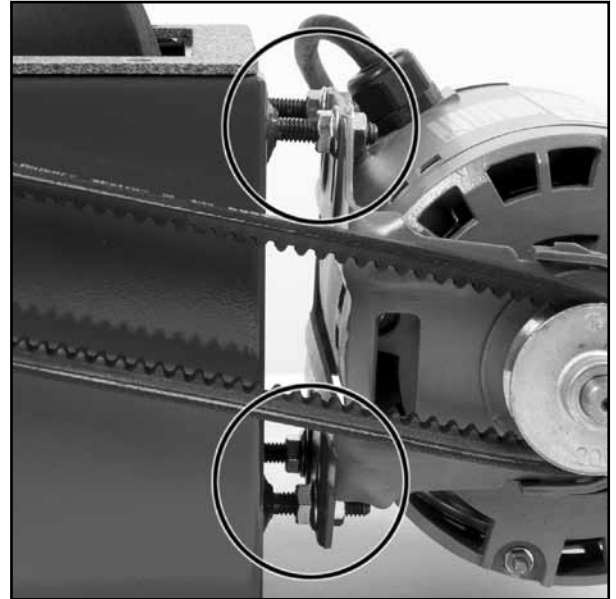


Fig 26. Motor mount adjustment points.

There should be 1/2" of deflection once the belt is pushed down (fig 25). If the belt is too tight (i.e. no deflection) the electric motor and blade arbor bearings may be overheated and wear out prematurely or the motor may shut off due to overheating. Belt tension can be adjusted by loosening the four mounting nuts (fig 26) attached to the four studs welded to the rear of the oil reservoir and sliding the motor cradle base up or down to increase or decrease belt tension. Be sure to adequately retighten the motor mount nuts and replace and attach the belt guard to the saw table.

POWER FEED SYSTEM AND VISE

The power feed system utilizes a 4 RPM AC gear motor mounted inside of the rectangular box attached to the front of the PF10 Trim Saw (fig 27). There is no need to service or lubricate the power feed motor unless the motor fails and the screw feed rod fails to rotate when the feed is engaged. If the set screw that fastens the power feed motor to the feed rod (fig 28) loosens during use or shipping, the rod will not rotate and move the vise toward the blade. This rod set screw can be tightened with a US standard Allen/hex wrench should it loosen.

POWER FEED SYSTEM AND VISE (continued)

Fig 27. Power feed gear box and screw feed rod



Fig 28. Power feed coupling

Periodically the user should apply a thin coat of lubricating grease (wheel bearing or lithium grease) to the 3/8"-24 screw feed rod under the rails to prevent the screw feed rod threads from becoming prematurely worn. If the threads on both the stainless steel screw feed rod and bronze clutch block should become worn or "flattened" the clutch block will not securely engage with the screw rod and it may disengage from the clutch block and not automatically advance the rock vise. A replacement bronze clutch can be obtained from Barranca Diamond. The rock vise assembly has cross feed threads attached to an indexing or crank handle to laterally adjust the vise so that slab thickness is accurately controlled before each slab cut. These threads should be lubricated periodically with wheel bearing or lithium grease to allow for ease of rotation of the cross feed crank.

Should the wooden jaws on the vise become worn or start delaminating, replacement jaws can be made from 1/2" plywood.

BLADE ARBOR ASSEMBLY AND PULLEYS

The PF10 Trim Saw is equipped with a 5/8"-18 left-hand fine threaded arbor shaft with sealed ball bearings mounted in an aluminum bearing arbor housing. A 2" OD x 5/8" bore die cast zinc coated pulley is mounted on the shaft outside the oil reservoir. Unusual noises emanating from the saw tank or arbor area, slower than normal cutting speeds and overheating of the shaft or belt are indications of arbor/bearing wear. Using the saw with a worn arbor/bearing assembly can result in permanent damage to other components of the saw. A new arbor/bearing assembly can be purchased from Barranca Diamond. It is sold only as a complete unit as the bearings are installed in the aluminum housing by the factory.

BLADE ARBOR ASSEMBLY AND PULLEYS (continued)

Fig 29. Arborng bolts

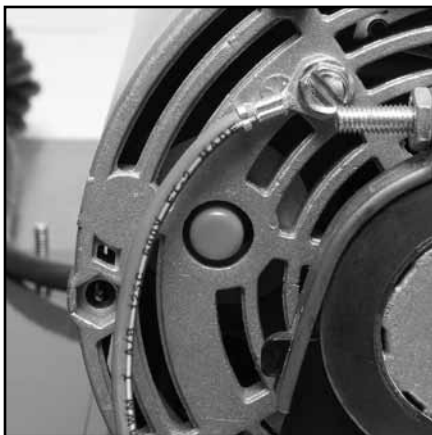


Fig 30. Pulley set screw

Periodically, check the tightness of the four blade arbor housing mounting bolts (fig 29) to make sure they are securely tightened to the oil reservoir. Should the 2 inch OD die cast pulleys on either the motor or blade arbor shaft need to be removed or replaced, loosen the set screw on the hub (fig 30) of each pulley with a US standard Allen/hex wrench to remove the pulley from the shaft.

MAIN MOTOR

The Cab Combo is equipped with a Baldor 1/3 HP 1725 RPM single-phase 120 volt 60 Hz 8 amp motor. The motor shaft has sealed ball bearings and requires no lubrication. The motor is protected from thermal damage (overheating) with an automatic shut-off switch. If the motor overheats it will automatically shut off and restart once its internal components cool down and the motor is restarted manually (red button). Be sure to shut off the main motor by placing the switch lever to the OFF position and disconnecting the power source. After allowing the motor to cool (2 to 3 hours), push the red reset button on the side of the motor (fig 31) and restart the unit by turning the switch to ON. If the motor does not restart after a cool down period, remove the motor and have an authorized repair service center for Baldor inspect the motor. Barranca Diamond can refer you to an authorized motor repair service center in your area.



Please note: On PF10 trim saws prior to serial number 1260, the motors do not have reset switch. Therefore it is imperative that if the saw motor should stop during operation that the power to the main motor be shut off by placing the toggle switch in the MIDDLE/OFF position as the motor will restart automatically once cooled down.

Fig 31. Motor reset button.

DIAMOND BLADE

Periodically, the diamond blade on the PF10 Trim Saw will need to be resharpened should slow or poor sawing performance occur. Dull or “glazed over” diamonds will either not cut thus stalling the saw and shutting off the motor, or the rock vise and rock material will ride up the blade and possibly damage the blade or “dish” the core. Once the saw begins to labor or struggle to cut gemstones, the user is advised to use the provided sharpening stick and resharpen the blade. Resharpener can be performed either with the automatic power feed (stick secured in vise) or manually with the power feed disengaged and a few slabs cut from the sharpening stick. If no sharpening stick is available, the user could use an abrasive material such as cinder block or brick to remove the glazing over the diamonds on the rim of the blade.

Eventually all diamond blades wear out and must be replaced with a new blade. New continuous rim diamond blades (303 Pro for example) should be mounted on the blade arbor so that the arrow marked on the steel core is pointing in the direction of blade rotation while in use. If the arrow cannot be found, use a hand lens or magnifying glass to inspect the rim and see the head and tail of any individual diamond. To correctly mount the blade, the head of the diamond must cut first into the rock with the tail trailing behind. For notched rim diamond blades (297 or 301 models for example), it does not matter which way the blade is orientated on the arbor shaft.

DIAMOND BLADE INSTALLATION AND REMOVAL



Fig 32. Blade arbor and inner flange



Fig 33. Blade arbor, blade, outer flange and jam nut

To access the diamond blade for inspection or replacement, loosen the four flat-head screws (fig 1) that secure the saw table to the reservoir tank and remove the saw table. The blade is mounted on the 5/8" blade arbor (fig 32) between two aluminum blade flanges. A 5/8"-18 left-handed jam nut secures the flanges and blade to the arbor shaft (fig 33). Hold the blade with one hand and use a 15/16" wrench to tighten or loosen the jam nut (fig 34). The jam nut has left handed threads and is turned counterclockwise to tighten and clockwise to loosen. **DO NOT OVER TIGHTEN THE JAM NUT!** Note: blade flanges must always be installed with their concave or recessed side (fig 35) facing the blade.

DIAMOND BLADE INSTALLATION AND REMOVAL (continued)

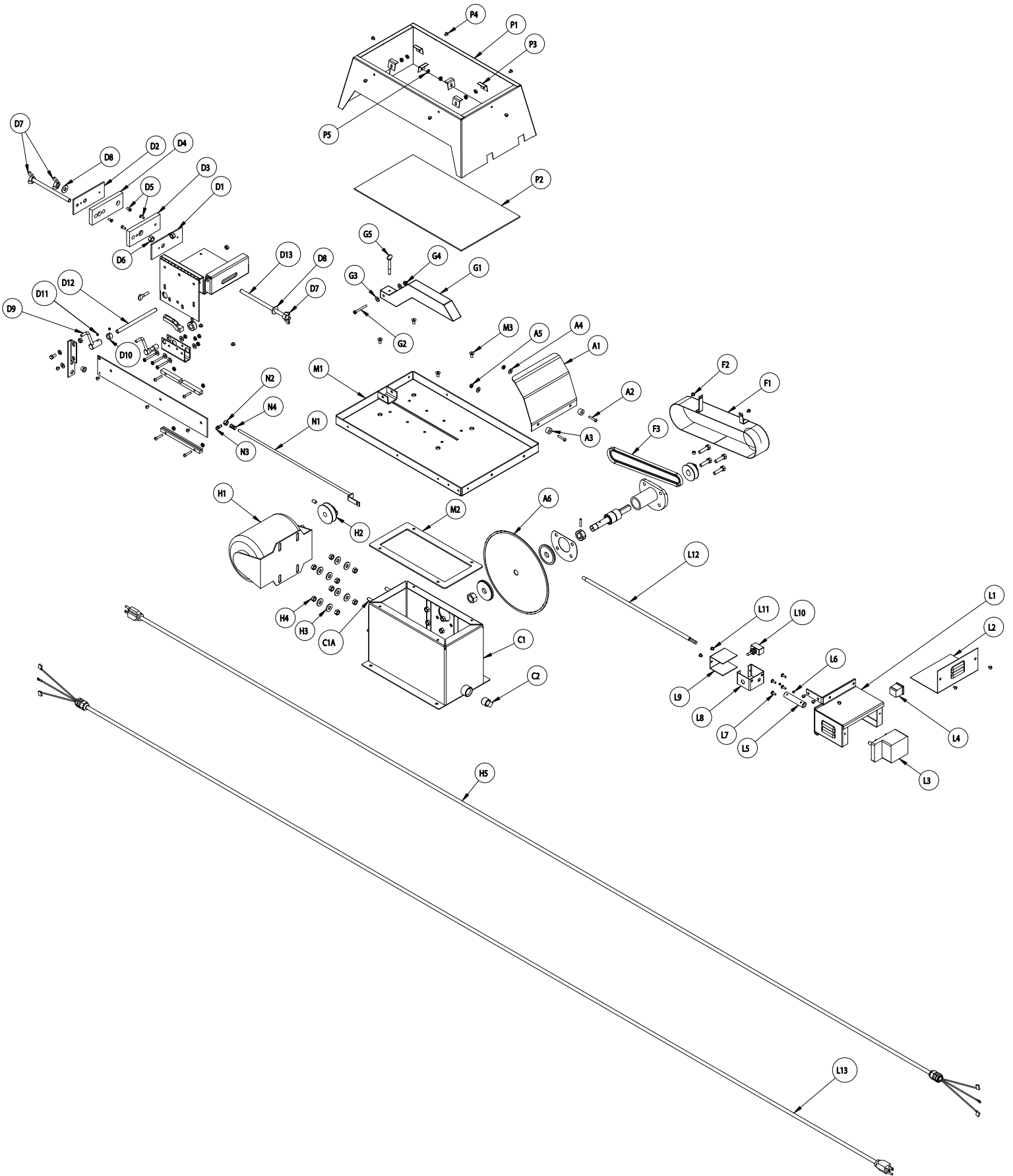
Reattach the saw table with the four mounting screws. Be sure the cork tank gasket is positioned correctly between the saw table and coolant reservoir and that the proper amount of lubricant is in the reservoir before attaching the saw table.

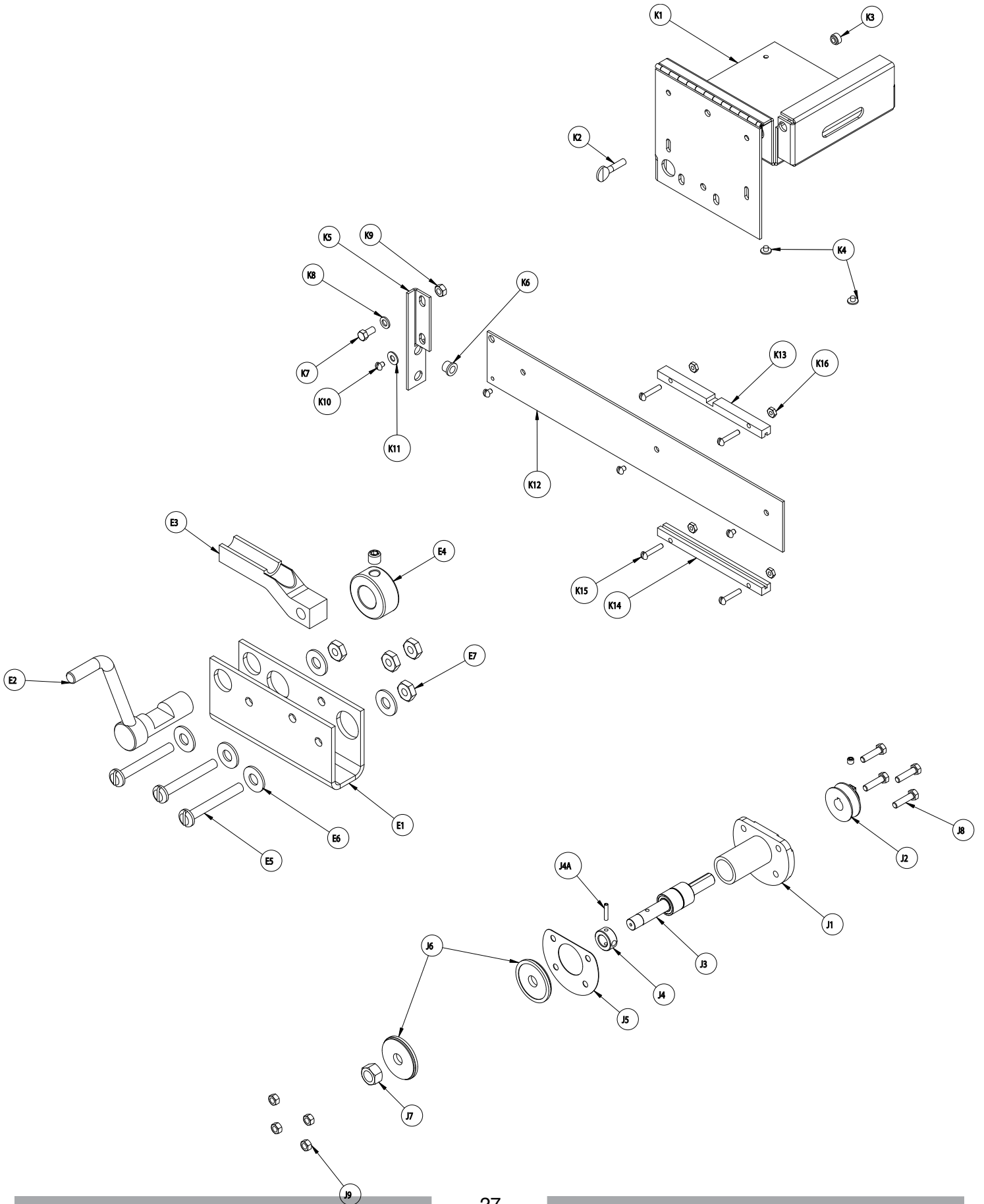


Fig 34. Hold the blade with one hand use a 15/16" wrench to turn the jam nut. Do not over tighten



Fig 35. Convex or recessed side of blade flange





Item	Description	Qty	Part #
A	Assembly, Accessories		
A1	Guard, Splash	1	161023
A2	Screw, Round Head Machine 10-32 x 1"	2	161042
A3	Spacers, Splash Guard	2	161076
A4	Washer, Flat SAE # 10	2	154369
A5	Nut, Hex 10-32	2	156269
A6	Blade, MK-303 10 x 040 x 5/8"	1	153696
C	Assembly, Tank		
C1	Tank, Oil or Water	1	161016
C1A	Screw, Hex HD 5/16"-18 x 1-1/4"	4	153950
C2	Plug, Drain 1/2"	1	161021
D	Assembly, Holding Vise		
D1	Vise, Front Jaw	1	161027
D2	Vise, Rear Jaw	1	161028
D3	Wood Liner, Front Jaw	1	161031
D4	Wood Liner, Rear Jaw	1	161032
D5	Screw, Flat HD 10-32 x 1/2"	4	154541
D6	Nut, Hex 3/8"-16	1	101188
D7	Nut, Wing 3/8"-16	3	161037
D8	Washer, Flat SAE 3/8"	2	150923
D9	Handle, Cross Feed	1	161044
D10	Collar, Side Feed	1	161077
D11	Screw, Set 10-32 x 3/16"	2	161038
D12	Rod, Threaded 3/8"-16 x 6"	2	161034
D13	Rod, Threaded 3/8"-16 x 7"	1	161081
E	Assembly, Engage		
E1	Bracket, Clutch	1	161060
E2	Handle, Clutch Engage	1	161061
E3	Clutch	1	161062
E4	Collar, Clutch Engage	1	161063
E4A	Screw, Set 8-32 x 1/4"	1	161086
E5	Screw, Rnd Head Machine 10-32 x 1-1/2"	3	161064
E6	Washer, Flat SAE # 10	5	154369
E7	Nut, Hex 10-32	4	156269
F	Assembly, Belt Guard		
F1	Guard, Belt 16 GA. (steel)	1	161072

F2	Screw, Round Head Machine 10-32 x 1/4"	2	161041
F3	Belt, Micro-V	1	161085
G	Assembly, Blade Guard		
G1	Guard, Blade	1	161068
G2	Screw, Pan Head Machine 10-32 x 1-3/4"	1	161039
G3	Washer, Flat SAE # 10	2	154369
G4	Nut, Acorn 10-32	1	161040
G5	Thumbscrew, Blade Guard Adj. 1/4-20 x 1/2"	1	161025
H	Assembly, Motor		
H1	Motor, 3/4 hp, 120V, 60Hz	1	161069
H2	Pulley, Motor	1	161070
H2A	Screw, Set 10-32 x 1/2"	1	161087
H3	Washer, Flat SAE 5/16"	8	151754
H4	Nut, Hex 5/16"-18	8	101196
H5	Cord, Power 14/3 SJTWX5-15PX10	1	158205
J	Assembly, Shaft		
J1	Shaft, Casting	1	161075
J2	Pulley, Shaft	1	161020
J2A	Screw, Set 10-32 x 5/16"	1	161088
J3	Shaft, Blade PF10 Bearing, Shaft PF10	1	162562
J4	Collar, Shaft Pin	1	161017
J4A	Collar Shaft	1	161089
J5	Gasket, Shaft	1	161043
J6	Flange, Blade 2-1/4" OD X 5/8" Arbor	2	135830
J7	Nut, 5/8"-18 UNF	1	135848
J8	Screw, Hex HD 5/16"-18 x 1-1/4"	4	153950
J9	Nut, Hex 5/16"-18	4	101196
K	Assembly, Sliding System		
K1	Vise, Platform	1	161026
K2	Screw, Shoulder Thumb 1/4"-20 x 1	1	160461
K3	Nut, Pem 1/4"-20	1	161078
K4	Guides, Nylon	2	161033
K5	Bracket, Drive Screw	1	161057
K6	Bushing, Shoulder Bronze 5/16"ID, 18/32"OD	1	161058
K7	Screw, Hex HD 1/4"-20 x 3/4"	1	161036
K8	Washer, Flat SAE 1/4"	1	151915
K9	Nut, Hex 1/4"-20	1	151893
K10	Screw, Round Head Machine 10-32 x 1/4"	4	161041

K11	Washer, Flat SAE # 10	1	154369
K12	Slide Plate, Vise	1	161035
K13	Slider, Upper Brass	1	161029
K14	Slider, Lower Brass	1	161030
K15	Screw, Round Head Machine 10-32 x 1"	4	161042
K16	Nut, Hex 10-32	4	156269
L	Assembly, Linear Feed		
L1	Housing, Gear Motor	1	161046
L2	Cover, Gear Motor Housing	1	161047
L3	Motor, Gear	1	161050
L4	Receptacle, Electric	1	161051
L5	Coupling, Drive Screw	1	161059
L6	Screw, Set 10-32 x 3/16"	2	161038
L7	Screw, Truss Hd. 8-32 x 1/2"	4	161055
L8	Bracket, Switch	1	161048
L9	Cover, Switch Bracket	1	161049
L10	Switch, Feed	1	161052
L11	Screw, Round Head Machine 10-32 x 1/4"	6	161041
L12	Screw, Drive 3/8"-24	1	161056
L13	Cord, Power 14/3 SJTWX5-15PX10	1	158205
M	Assembly, Table		
M1	Table, Saw	1	161022
M2	Gasket, Table	1	161019
M3	Screw, Flat HD 1/4"-20 x 1/2"	4	155812
N	Assembly, On-Off System		
N1	Rod, On/Off Switch	1	161065
N2	Collar, Rod	1	161066
N3	Screw, Thumb 10-32 x 1/2"	1	161067
N4	Spring, Rod	1	161082
P	Assembly, Hood		
P1	Hood, Steel 16 GA.	1	161071
P2	Window, Hood 1/8 x 9.2 x 16.6	1	161073
P3	Clip, Hood Steel 16 GA.	6	161080
P4	Screw, Round Head Machine 10-32 x 1/4"	6	161041
P5	Nut, Hex 10-32	6	156269

BARRANCA DIAMOND LIMITED WARRANTY

Please complete the warranty registration card and return. Any problems encountered should be directed to Barranca Diamond Customer Service department at (800) 630-7682 M-F 8am - 5pm PST.

NOTE THIS INFORMATION FOR FUTURE USE:

MODEL NUMBER:	
SERIAL NUMBER:	
PURCHASE PLACE:	
PURCHASE DATE:	

Barranca Diamond warrants to the original retail purchaser for a period of 1 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 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 Barranca Diamond 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 Barranca Diamond. Barranca Diamond 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 Barranca Diamond’s facility or any authorized repair station and/or any replacement products or components that are shipped from Barranca Diamond pursuant to this Warranty.

Parts and labor needed to maintain products and the replacement of components due to normal wear and tear are the purchaser’s responsibility and are not covered by this Warranty. All products or components replaced under warranty become the property of the manufacturer. 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. Barranca Diamond will pay for parts and labor in connection with warranty repairs conducted by Barranca Diamond or its authorized repair centers. 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 BARRANCA DIAMOND 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.

Specifics Applicable to Limited Warranty of Diamond Blades and Core Bits:**Laser Welded Blade and Bit Warranty:**

If the laser weld between the segment and the steel core or barrel fails during normal use, the blade or bit will be replaced free of charge. Blades and bits damaged due to careless or improper use are not covered under this warranty.

Brazed Blade, Bit, and Cup Wheel Warranty:

If the brazed bond between the segment and the core, barrel, or cup fails within the first .050 of segment wear, the blade, bit, or cup will be replaced free of charge. Blades, bits, and cup wheels damaged due to careless or improper use are not covered under this warranty.

Continuous Rim Blade Warranty:

If the bond between the rim and the core fails during normal use, the blade will be replaced free of charge. Blades and bits damaged due to careless or improper use are not covered under this warranty.

Exclusions:

Barranca Diamond does not warrant the following components, which carry their own manufacturer's warranty for the indicated periods:

Electric Motors Manufacturer's Warranty

Baldor: 1 year

Ryobi: 1 Year

Soga: 1 Year

Gas Engines Manufacturer's Warranty

Honda: 2 years

Engine Power Information

Engine power ratings are calculated by the individual engine manufacturer and the rating method may vary among engine manufacturers. Barranca Diamond Products makes no claim, representation or Warranty as to the power rating of the engine on this equipment and disclaims any responsibility or liability of any kind whatsoever with respect to the accuracy or the engine power rating. Users are advised to consult the engine manufacturer's owners manual and website for specific information regarding the engine power rating.

REPLACEMENT PARTS

Replacement parts for this tool may be ordered from your Barranca Diamond distributor or directly from Barranca Diamond. Please have the following information ready before calling:

- Model and serial number of the machine
- Date of purchase
- Description of parts being ordered (see parts list)

RETURN MATERIALS PROCEDURE

To expedite the service relative to the return of a product purchased through Barranca Diamond, please have the following information available:

- Model and serial number of the machine
- Date of purchase
- Distributor's name

Then please call Barranca Diamond at (310) 523-5867 or toll free at 800-630-7682 to obtain a Return Goods Authorization number (RGA) authorizing the return.

Please Note:

- Ensure your item(s) are prepaid to the destination
- Return items must have been purchased within the previous twelve (12) months
- Follow the packaging instructions in the following section
- Be sure to include the RGA number, return address and your phone number on or within the return shipping box.

PACKAGING INSTRUCTIONS

Ship the equipment using its original shipping crate if possible. Secure inside the shipping crate. Ensure all parts are secured in the packaging to prevent movement. Do not ship the equipment partially exposed.



BARRANCA DIAMOND

Barranca Diamond Products, Inc.
1315 Storm Parkway
Torrance, CA 90501

Toll-Free: (800) 421-5830
Phone: (310) 539-5221
Fax: (310) 539-5158
www.barrancadiamond.com