

# METAL CUTTING BAND SAW MACHINE



## MODEL 916S,916SV INSTRUCTION MANUA

916S-916SV-080624-R2



# WARNING !

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

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

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 those dust masks that are specially designed to filter out microscopic particles.

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**CAUTION**

Install saw blade and blade guard before use. Set proper blade tension to prevent any danger caused by damaged saw blade or work piece.

**1. WARNING: FAILURE TO FOLLOW THESE RULES  
MAY RESULT IN SERIOUS PERSONAL INJURY**

As with all machinery there are certain hazards involved with operation and use of the machine. Using the machine with respect and caution will considerably lessen the possibility of personal injury. However, if normal safety precautions are overlooked or ignored, personal injury to the operator may result.

This machine was designed for certain applications only. We strongly recommends that this machine NOT be modified and/or used for any application other than for which it was designed. If you have any questions relative to its application DO NOT use the machine

until you contact with us and we have advised you

**Your machine might not come with a power socket or plug. Before using this machine, please  
Do ask your local dealer to install the socket or plug on the power cable end**

**2. SAFETY RULES FOR ALL TOOLS**

**A. USER:**

(1). **WEAR PROPER APPAREL.** No loose clothing, gloves, rings, bracelets, or other jewelry to get caught in moving parts.

Non-slip foot wear is recommended. Wear protective hair covering to contain long hair.

(2). **ALWAYS WEAR EYE PROTECTION.** Refer to ANSLZ87.1 standard for appropriate recommendations.

Also use face or dust mask if cutting operation is dusty.

(3). **DON'T OVERREACH.** Keep proper footing and balance at all times.

(4). **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted.

(5). **NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.** Don't leave tool until it comes to a complete stop.

(6). **DRUGS, ALCOHOL, MEDICATION.** Do not operate tool while under the influence of drug, alcohol or any medication.

(7). **MAKE SURE TOOL IS DISCONNECTED FROM POWER SUPPLY.** While motor is being mounted, connected or reconnected.

(8). **ALWAYS** keep hands and fingers away from the blade.

(9). **STOP** the machine before removing chips.

(10). **SHUT- OFF** power and clean the BAND SAW and work area before leaving the machine.

**B. USE OF MACHINE:**

(1). **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it "on".

(2). **DON'T FORCE TOOL.** It will do the job better and be safer at the rate for which it was designed.

(3). **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.

(4). **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand frees both hands to operate tool.

(5). **MAINTAIN TOOLS IN TOP CONDITION.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

(6). **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause hazards.

(7). **AVOID ACCIDENTAL STARTING.** Make sure switch is in "OFF" position before plugging in power cord.

(8). **DIRECTION OF FEED.** Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.

(9). **ADJUST AND POSITION** the blade guide arm before starting the cut.

(10). **KEEP BLADE GUIDE ARM TIGHT,** A loose blade guide arm will affect sawing accuracy .

(11). **MAKE SURE** blade speed is set correctly for material being cut.

(12). **CHECK** for proper blade size and type.

(13). **STOP** the machine before putting material in the vise.

(14). **ALWAYS** have stock firmly clamped in vise before starting cut.

(15). **GROUND ALL TOOLS.** If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate atwoprong receptacle, the adapter lug must be attached to a known ground. Never removed the third prong.

### C. ADJUSTMENT :

MAKE all adjustments with the power off. In order to obtain the machine. Precision and correct ways of adjustment while assembling, the user should read the detailed instruction in this manual.

### D. WORKING ENVIRONMENT:

- (1). **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite accidents.
- (2). **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well-lighted.
- (3). **KEEP CHILDREN AND VISITORS AWAY.** All children and visitors should be kept a safe distance from work area.
- (4). **DON'T** install & use this machine in explosive, dangerous environment.

### E. MAINTENANCE:

- (1). **DISCONNECT** machine from power source when making repairs.
- (2). **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.
- (3). **DISCONNECT TOOLS** before servicing and when changing accessories such as blades, bits, cutters, etc.
- (4). **MAKE SURE** that blade tension and blade tacking are properly adjusted.
- (5). **RE-CHECK** blade tension after initial cut with a new blade.
- (6). **TO RPOLONG BLADE LIFE ALWAYS** release blade tension at the end of each work day.
- (7). **CHECK COOLANT DAILY** Low coolant level can cause foaming and high blade temperatures. Dirty or week coolant can clog pump, cause crooked. Cast, low cutting rate and permanent blade failure. Dirty coolant can cause the growth of bacteria with ensuing skin irritation.

## General

### Specifications

The Wilton Model 7014 Horizontal Cut-off Band Saw is designed for high production cut-off work. Four cutting speeds and a hydraulic feed control allow the efficient cutting of virtually any material.

The Model 7014 Horizontal Cut-off Saw is equipped with a coolant system that can greatly extend blade life and speed the cutting of a variety of materials that best cut with cutting fluids and coolants.



# Specifications

Model Number.....	7014
Capacity	
Rectangular Stock.....	8 x 10 Inches
Round Stock.....	8 Inches
Flat Stock .....	14 Inches Wide x 4 Inches High
At 45 Degrees .....	8 Inches High
Speeds .....	82, 132, 170, 235 FPM
Motor .....	1 1/2 Horsepower, Capacitor Start, 1725 RPM, 1 Phase, 115/220V
Blade Size .....	1 x 0.035 x 114.5 Inches
Blade Guides.....	Tungsten carbide tip & ball bearing, eccentric shaft on rear
Material.....	Tungsten carbide inserts
Sides .....	Ball bearing
Rear.....	Eccentric shaft, ball bearings
Blade Wheel.....	12 Inches diameter, cast iron
Dimensions (LWH)	
Length .....	64 Inches
Width .....	26Inches
Height.....	41 Inches (cutoff position)
Shipping Weight.....	Approximately 620 pounds
Vise .....	Rapid acting, screw tightening vise
Coolant Pump .....	1/8 Horsepower, 1 gpm, 1Phase 115/220V



## Warnings

- Misuse of this machine can cause serious injury.
- For safety, machine must be set up, used and serviced properly.
- Read, understand and follow instructions in the Operating Instructions and Parts Manual which was shipped with your machine.

### When Setting up Machine:

- Always avoid using machine in damp or poorly lighted work areas.
- Always be sure the machine support is securely anchored to the floor or the work bench.

### When Using Machine:

- Always wear safety glasses with side shields (see ANSI Z87.1)
- Never wear loose clothing or jewelry.
- Never overreach – you may slip and fall.

### When Servicing Machine:

- Always disconnect the machine from its electrical supply while servicing.

- Always follow instructions in Operating Instructions and Parts Manual when changing accessory tools or parts.
- Never modify the machine without consulting Wilton Corporation.

### You – the Stationary Power Tool User – Hold the Key to Safety.

Read and follow these simple rules for best results and full benefits from your machine. Used properly, Wilton's machinery is among the best in design and safety. However, any machine used improperly can be rendered inefficient and unsafe. It is absolutely mandatory that those who use our products be properly trained in how to use them correctly. They should read and understand the Operating Instructions and Parts Manual as well as labels affixed to the machine. Failure in following all of these warnings can cause serious injuries.

## Machinery General Safety Warnings

1. Always wear protective eye wear when operating machinery. Eye wear shall be impact resistant, protective safety glasses with side shields which comply with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection.
2. Wear proper apparel. No loose clothing or jewelry which can get caught in moving parts. Rubber soled footwear is recommended for best footing.
3. Do not overreach. Failure to maintain proper Working position can cause you to fall into the machine or cause your clothing to get caught pulling you into the machine.
4. Keep guards in place and in proper working order. Do not operate the machine with guards removed.
5. Avoid dangerous working environments. Do not use stationary machine tools in wet or damp locations. Keep work areas clean and well lit.
6. Avoid accidental starts by being sure the start switch is OFF before plugging in the machine.
7. Never leave the machine running while unattended. Machine shall be shut off whenever it is not in operation.
8. Disconnect electrical power before servicing. Whenever changing accessories or general Maintenance is done on the machine, electrical power to the machine must be disconnected before work is done.
9. Maintain all machine tools with care. Follow all maintenance instructions for lubricating and the changing of accessories. No attempt shall be made to modify or have makeshift repairs done to the machine. This not only voids the warranty but also renders the machine unsafe.
10. Machinery must be anchored to the floor.
11. Secure work. Use clamps or a vise to hold work, when practical. It is safer than using your hands and it frees both hands to operate the machine.
12. Never brush away chips while the machine is in operation.
13. Keep work area clean. Cluttered areas invite accidents.
14. Remove adjusting keys and wrenches before turning machine on.
15. Use the right tool. Don't force a tool or attachment to do a job it was not designed for.
16. Use only recommended accessories and follow manufacturers instructions pertaining to them.
17. Keep hands in sight and clear of all moving parts and cutting surfaces.
18. All visitors should be kept at a safe distance from the work area. Make the workshop completely safe by using padlocks, master switches, or by removing starter keys.
19. Know the tool you are using – its application, limitations, and potential hazards.

## General Electrical Cautions

This saw should be grounded in accordance with the National Electrical Code and local codes and ordinances. This work should be done by a qualified electrician. The saw should be grounded to protect the user from electrical shock.

**Caution:** For circuits which are far away from the electrical service box, the wire size must be increased in order to deliver ample voltage to the motor.

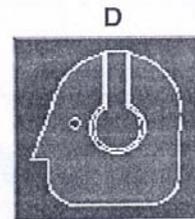
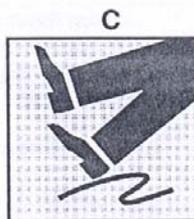
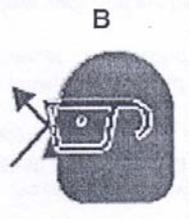
To minimize power losses and to prevent motor overheating and burnout, the use of wire sizes for branch circuits or electrical extension cords according to the following table is recommended.

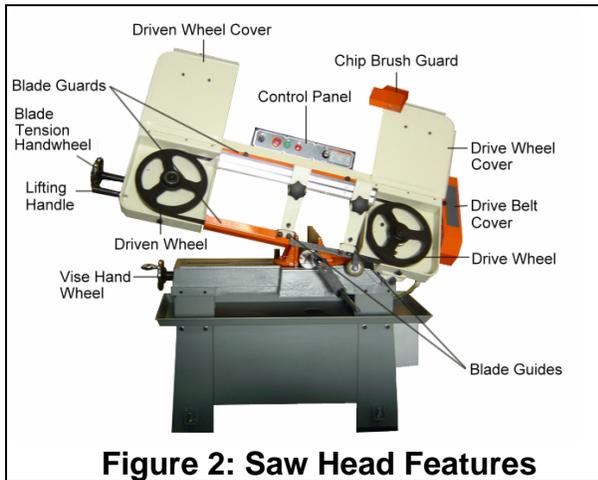
### Wire Sizes

Conductor Length	AWG (American Wire Gauge) Number	
	240 Volt Lines	120 Volt Lines
0 - 50 Feet	No. 14	No. 14
50 - 100 Feet	No. 14	No. 12
Over 100 Feet	No. 12	No. 8

## Safety Instructions on Sawing Systems

- Always wear leather gloves when handling saw blade. The operator shall not wear gloves when Operating the machine.
- All doors shall be closed, all panels replaced, and other safety guards in place prior to the machine being started or operated.
- Be sure that the blade is not in contact with the workpiece when the motor is started. The motor shall be started and you should allow the saw to come up to full speed before bringing the saw blade into contact with the workpiece.
- Keep hands away from the blade area. **See Figure A.**
- Remove any cut off piece carefully while keeping your hands free of the blade area.
- Saw must be stopped and electrical supply must be cut off before any blade replacement or adjustment of blade support mechanism is done, or before any attempt is made to change the drive belts or before any periodic service or maintenance is performed on the saw.
- Remove loose items and unnecessary workpieces from area before starting machine.
- Bring adjustable saw guides and guards as close as possible to the workpiece.
- Always wear protective eye wear when operating, servicing, or adjusting machinery. Eyewear shall be impact resistant, protective safety glasses with side shields complying with ANSI Z87.1 specifications. Use of eye wear which does not comply with ANSI Z87.1 specifications could result in severe injury from breakage of eye protection. **See Figure B.**
- Nonslip footwear and safety shoes are recommended. **See Figure C.**
- Wear ear protectors (plugs or muffs) during extended periods of operation. **See Figure D.**
- The workpiece, or part being sawed, must be securely clamped before the saw blade enters the workpiece.
- Remove cut off pieces carefully, keeping hands away from saw blade.
- Saw must be stopped and electrical supply cut off or machine unplugged before reaching into cutting area.
- Avoid contact with coolant, especially guarding your eyes.





**Figure 2: Saw Head Features**

## Introduction

This manual includes the operating and maintenance instructions for the Wilton 8-Inch by 13-Inch Horizontal Cut-Off Band Saw, Model 7014. It also includes parts listings and illustrations of replaceable parts.

## Machine Features

Figures 2 depict the main features of the Model 7014 Horizontal Cut-Off Band Saw. The machine consists of a machine base onto which is installed a saw head.

### Machine Base

The machine base consists of a coolant collection pan mounted on two panels that form the legs of the machine. A shelf is provided under the collection pan that supports a coolant tank.

The machine bed mounts on the top of the collection pan. The bed supports the vise and the vies-tightening lead screw.

The coolant tank is equipped with a pump/motor assembly. The pump/motor circulates coolant through tubing to cool and lubricate the saw blade, the baldeguides, and the workpiece.

A drainpipe is provided to connect the collection pan to the coolant tank. A screen is provided in the collection pan to screen-out cutting debris as the coolant drains into the coolant tank. Coolant is added to the tank by pouring coolant into the collection pan. The tank is easily removed from its shelf for cleaning and maintenance.

### Saw Head

The saw head (**Figure 3**) consists of a drive motor, drive pulleys, gearbox, blade wheels, blade guides and supports, control panel, blade tension/blade

tracking mechanism, wire brush, and the saw blade.

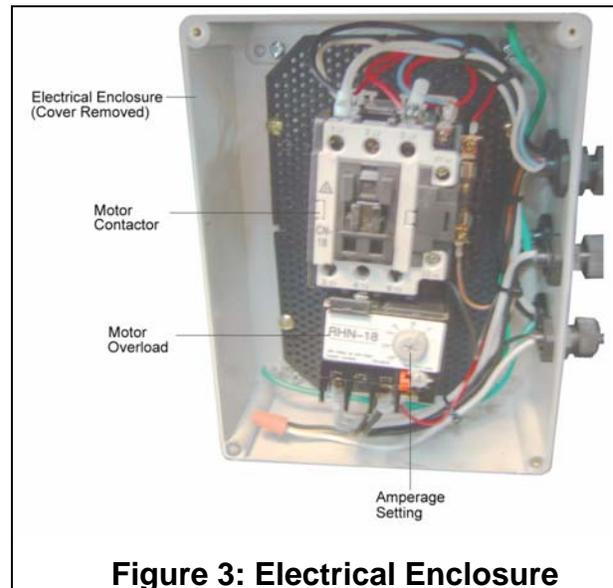
The drive motor is mounted on a pivoting plate that swings outward to provide V-belt tension. The motor is fitted with a step pulley; the V-belt connects to a second step pulley that is mounted on the input shaft of the gearbox.

A speed-reducing gearbox is mounted on the back side of the blade wheel box on the right side of the machine. The blade wheel (drive wheel) is installed on the output shaft of the gearbox.

A second blade wheel is located in a blade wheel box on the left of the machine. The blade wheel (driven wheel) is mounted on a shaft that is part of the blade tension/tracking mechanism. The blade tension mechanism is used to tighten the saw blade on the blade wheels.

The mechanism also has adjustment screws that enable the saw blade to “track” evenly on the bland wheels. The adjustment screws change the angle of the driven blade wheel shaft so the wheels are aligned. Tracking adjustments are generally made after the saw blade is changed but may be required periodically due to wear over time.

An electrical enclosure is attached to the leg panel on the right side of the machine. The enclosure contains the switches and fuses required for



**Figure 3: Electrical Enclosure**

operation and protection of the drive motor (refer to **Figure 2**).

### Work Stop

A work stop is provided with the machine to allow cutting multiple pieces of identical length (refer to

**Figure 10).** The stop consists of a rod onto which is installed a stop bracket, a tapered stop, a clamping knob and a locking handle. The rod is installed in a bore in the front of the saw bed. The stop bracket is positioned on the rod with the tapered stop toward the end of the workpiece. The bracket is moved in or out on the rod to establish the length of the workpiece.

## Control Panel

The control panel is mounted on the top of the saw head. Refer to **Operating Instructions** section for a description of the controls.

# Set-up and Operation

## Machine Setup

The cut-off saw has been pre-adjusted at the factory and several test pieces have been cut to verify cutting accuracy. Setup of the machine is limited to uncrating the machine, securing it to the shop floor, and connecting it to the electric power source.

Remove the saw from the shipping skid; discard any hole-down devices. Place the saw on the shop floor; secure the saw to the floor using mounting anchors secured through four holes in the machine base. If the saw will be used to cut long pieces of stock, allow plenty of room for the length of the stock.

## Electrical Connection

**WARNING: ELECTRICAL CONNECTION MUST BE MADE BY A LICENSED ELECTRICIAN. THE WIRING METHODS AND PRACTICES MUST COMPLY WITH LOCAL ELECTRICAL CODES.**

**WARNING: THE MACHINE USES HIGH VOLTAGE ELECTRICAL POWER THAT POSES A SIGNIFICANT RISK OF SERIOUS INJURY OR DEATH IF PROPER PRECAUTIONS ARE NOT OBSERVED.**

Connect the machine to the electrical power branch circuit (refer to the Wiring Data section). Observe the following guidelines when connecting the saw to the power source.

1. Make sure the saw is disconnected from the electrical power branch circuit (trip the required circuit breakers or remove the required fuses).
2. Place a warning placard or tag on the service panel to prevent accidental electrical shock.

3. When installing the motor power cord into a receptacle, make sure the plug is compatible with the receptacle.
4. When using hard-wired connections, connect the wires as shown in the **Wiring Data** section.
5. Install the fuses or reset the breakers.
6. Check operation of the saw.

# Operating Instructions

## Controls and Indicators

The operating controls for the cut-off saw are located on the saw head at the front of the machine (refer to Figure 4).

## Power-on Indicator

The indicator on the left is the power-on indicator.

## Motor On/Off Switches

The drive motor switch is located to the right of the power indicator. The drive motor off switch is the emergency stop (E-stop) button to the right of the on switch.

## Coolant Pump Selector

The coolant pump selector (on/off) switch is located on the right side of the panel.

## Feed Control Knob

The knob at the far right is the hydraulic cylinder feed control valve. This knob is used to set the amount of downward force that is applied to the saw blade. The feed rate is proportional to the opening of the valve. Increasing the valve opening, increases the feed rate; decreasing the valve opening, reduces the feed rate.

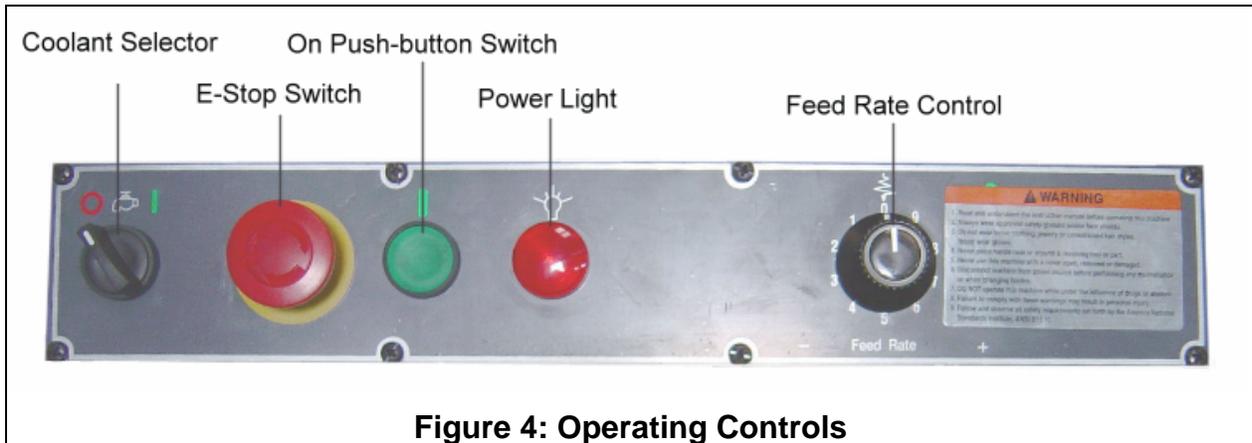
## Blade Speeds

The Model 7014 horizontal cut-off band saw has four blade speeds. The different speeds are obtained by changing the position of the motor drive V-belt on step pulleys. Change blade speeds as follows:

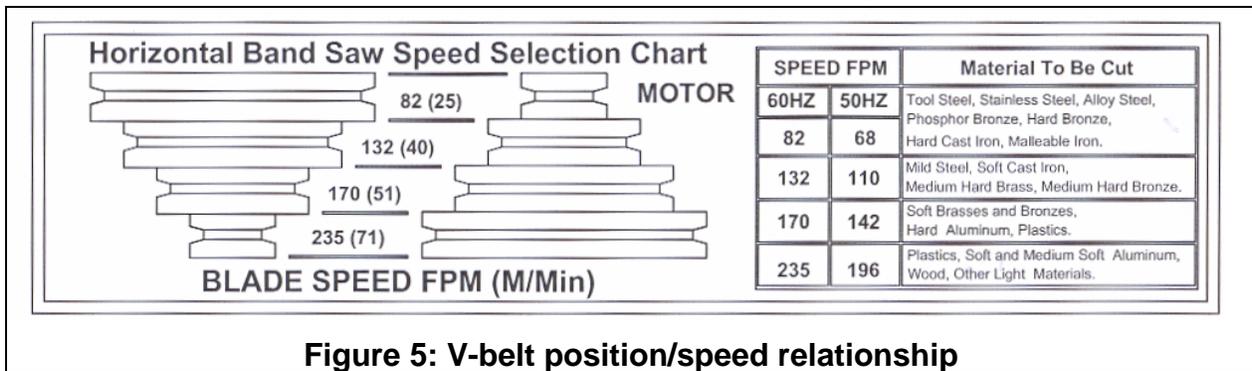
1. Disconnect the electrical power from the cut-off saw branch circuit to prevent accidental motor start-up.
2. Set the saw head at the fully down position.
3. Remove the knob from the drive belt cover. Swing cover out and downward to expose the V-belt and pulleys.
4. Loose the drive motor locking handle. Pivot the motor inward to slacken the belt.
5. Select the speed using the placard on the cover. Put the V-belt in the pulley grooves of the pulley for the desired speed (refer to **Figure 5** for belt locations and the speeds available).
6. Pivot the motor outward to tighten the V-belt. Tighten the locking handle.

7. Check V-belt tension by pushing the V-belt firmly downward; press down about midway between the pulleys. When properly tightened,

the V-belt should depress no more than the width of the belt.



**Figure 4: Operating Controls**



**Figure 5: V-belt position/speed relationship**

## Blade Selection

The cut-off saw is delivered with a saw blade that is adequate for a variety of cut-off jobs on a variety of common materials. A 10-tooth, general-purpose blade is provided as standard equipment with the machine. An optional 8-tooth blade and an optional 14-tooth blade are available from Wilton. (Refer to the Replacement Parts section for saw blade part numbers.)

Refer to **Figure 6** for the speeds recommended for various materials. These speeds, while appropriate for many common shop cutting needs, do not encompass the wide variety of special blade configurations (tooth pitch and set) and special alloys for cutting unusual or exotic materials.

Material	Speed	Drive Pulley Belt Groove (Groove No. 1 at Top)
Tool Steel, Stainless Steel, Alloy Steels, or Bearing Bronze	68 FPM	4
Medium to High Carbon Steels, Hard Brass or Bronze	132 FPM	3
Low to Medium Carbon Steels, or Soft Brass	1 FPM	2
Aluminum, Plastics	205 FPM	1

**Figure 6: Blade Speed Selection**

A coarse blade could be used for a solid steel bar, but a finer tooth blade would be used on a thin-wall steel tube. In general, the blade choice is determined by the thickness of the material; the thinner the materials; the finer the tooth pitch.

A minimum of three teeth should be on the workpiece at all times for proper cutting. The blade and workpiece can be damaged if the teeth are so far apart that they straddle the workpiece.

For very high production on cutting of special materials, or to cut hard-to-cut materials such as stainless steel, tool steel, or titanium, you can ask your industrial distributor for more specific blade recommendations. The supplier that provides the workpiece material should be able to provide you with very specific instructions regarding the best blade (and coolant or cutting fluid, if needed) for the material or shape supplied.

## Controlling the Cut

### Hydraulic Feed Control

The weight of the saw head provides the force needed to cut through the workpiece. The cut-off saw has a hydraulic cylinder that controls the feed rate of the saw (refer to **Figure 7**).

The hydraulic feed control circuit consists of a single-acting hydraulic cylinder and a flow-control valve. The feed control cylinder resists motion in the downward direction to control the feed rate. The control cylinder offers no resistance when raised upward.

A knob on the control panel controls the rate at which the saw head is lowered. The control knob (needle valve) controls the rate at which the hydraulic fluid is released from the hydraulic cylinder. When the needle valve is closed, cylinder is locked. With the needle valve slightly open, the cylinder permits slow, or light, downward force.

Opening the needle valve further increases the feed rate and applies more weight to the saw blade and workpiece.

The needle valve is adjusted until the saw is operating efficiently. The efficiency of operation is usually evaluated by observing chip formation. (Refer to **Evaluating Blade Efficiency** for more information on cutting efficiency.)

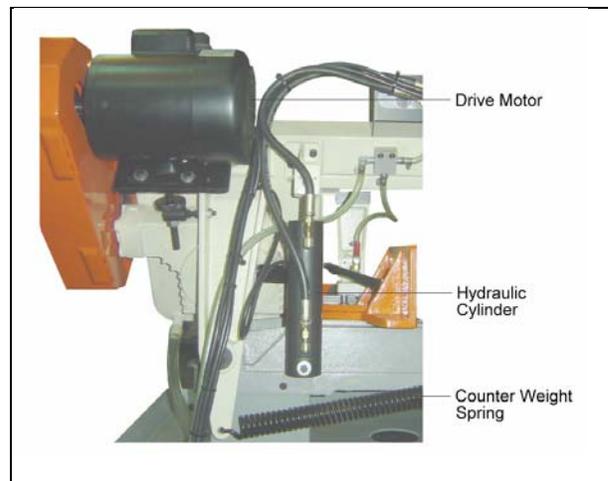
## Evaluating Cutting Efficiency

Is the blade cutting efficiently? The best way to determine this is to observe the chips formed by the cutting blade.

If the chip formation is powdery, then the feed is much too light, or the blade is dull.

If the chips formed are curled, but colored-blue or straw colored from heat generated during the cut-then the feed rate is too high.

If the chips are slightly curled and are not colored by heat-the blade is sufficiently sharp and is cutting at its most efficient rate.

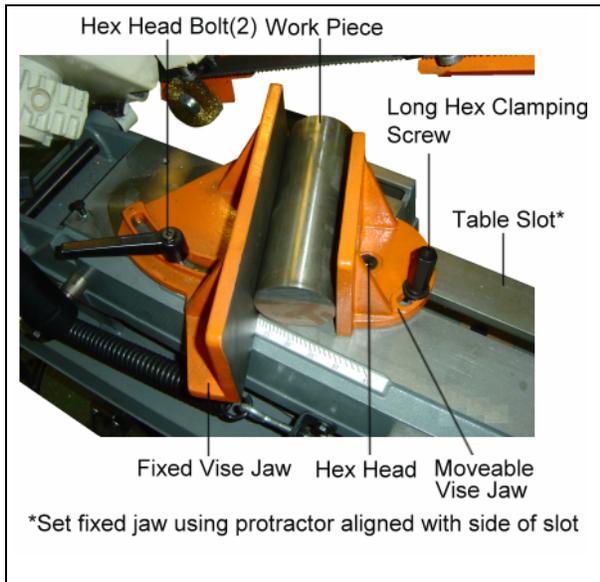


**Figure 7: Hydraulic Feed Control Cylinder**

### Blade Break-in Procedures

New blades are very sharp and, therefore, have a tooth geometry that is easily damaged if a careful break-in procedure is not followed. Consult the blade manufacturer's literature of break-in of specific blades on specific materials. However, the following procedure will be adequate for break-in of Wilton-supplied blades on lower alloy ferrous materials.

1. Clamp a section of round stock in the vise. The stock should be 2 inches or larger in diameter.
2. Operate the saw at low speed. Start the cut with a very light feed rate.
3. When the saw has completed 1/3 of the cut, increase the feed rate slightly and allow the saw to complete the cut.
4. Keep the hydraulic cylinder needle valve in the same position and begin a second cut on the same or similar workpiece.



- When the blade has completed about 1/3 of the cut, increase the feed rate. Watch the chip formation until cutting is at its most efficient rate and allow the saw to complete the cut (refer to **Evaluating Blade Efficiency**). The blade is now considered ready for use.

### Work Setup

- Raise the saw head to the vertical position.
- Turn the vise hand wheel counterclockwise enough to free the moveable vise. Then pull the moveable vise jaw away from the fixed vise jaw.
- Place the workpiece on the worktable. For long workpieces, provide support at the other end. If necessary, provide additional downward clamping to hold the workpiece securely on the worktable.
- Clamp the workpiece in the vise by first pushing the moveable vise jaw against the workpiece. Then rotate the hand wheel clockwise to secure the workpiece.

### Adjusting The Vise For Angle Cuts

The vise can be adjusted through a 45-degree arc (Refer to **Figure 8**). Adjust as follows:

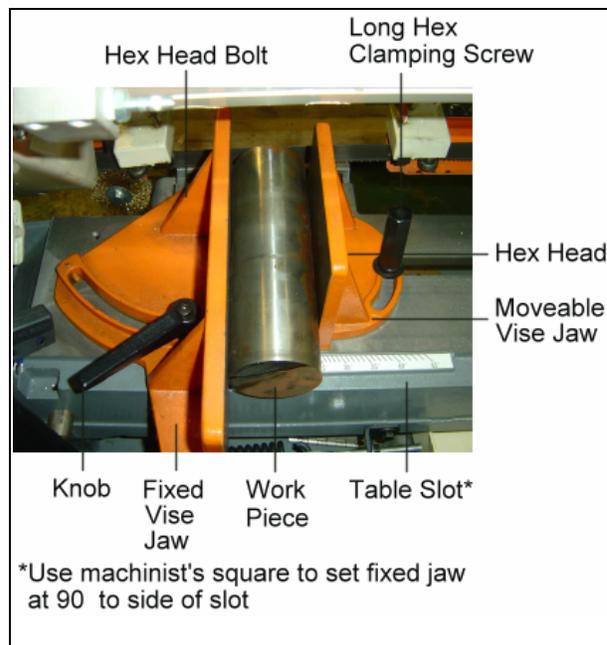
- Loosen the two hex head bolts (one in the slot and at the pivot point of the fixed vise jaw).
- Rotate the fixed vise jaw to the desired angle. For accurate cuts, use a variable protractor to set the position of the jaw (align one side of the protractor with the one side of the slot in the table).
- Tighten both screws on the fixed vise jaw.
- Loosen the hex head bolt and the long hex clamping screw on the moveable vise jaw. Adjust the position of the moveable vise jaw so it is parallel to the fixed vise jaw.
- If the workpiece has non-parallel sides, set the moveable vise jaw against the side of the

workpiece. Tighten the bolt and the clamping screw on the moveable vise jaw to secure the jaw.

**Figure 8: Adjusting Vise for Angle Cuts**

### Setting the Vise for Square Cuts

The procedure for setting the vise for square cuts is identical to setting for angle cuts (above) except that a machinist's square is used to position the fixed vise jaw (align one side of the square with the side of the slot in the table). (Refer to **Figure 9**).



**Figure 9: Adjusting Vise for Square Cuts**

### Setting the Work Stop

The work stop is used to setup the saw for making multiple cuts of the same length (Refer to **Figure 10**).

Set the work stop as follows:

- Loosen the knob in the work stop arm.
- Adjust the work stop rod to the desired length.
- Adjust the work stop rod so it contacts the end of the workpiece. Locate the work stop rod as close to the bottom of the cut as possible.
- Tighten the knob.

**CAUTION:** DO NOT ALLOW THE BLADE TO REST ON THE WORKPIECE WHEN THE SAW IS NOT CUTTING.

## 12. Blade Guide Bracket Setting

The cut-off saw has an adjustable blade guide bracket (Refer to **Figure 11**). The blade guide bracket allows you to set the blade guide for varying widths of workpieces.

To make accurate cuts and prolong blade life, the blade guide bracket should be set close to the workpiece. The blade guide bracket should be set so it just clears the piece to be cut. Adjust the bar position as follows:

1. Place the workpiece in the vise and clamp tightly.
2. Loosen the locking knobs on the back of the guide brackets.
3. Slide the guide brackets to the desired position.
4. Tighten the locking knobs to secure the guide brackets.

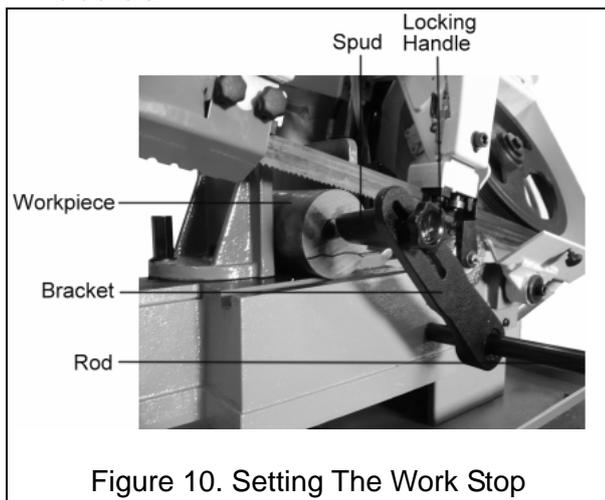


Figure 10. Setting The Work Stop

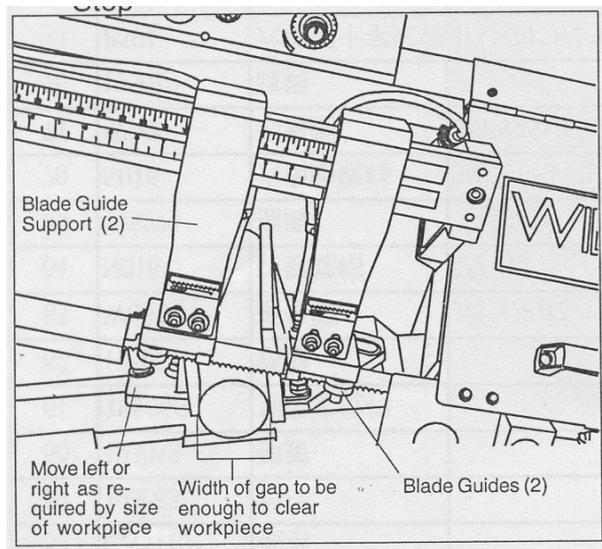


Figure 11. Blade Guide Bracket Setting

## Starting the Saw

**WARNING:** NEVER OPERATE THE SAW WITHOUT BLADE COVERS IN PLACE.

**CAUTION:** MAKE SURE THE BLADE IS NOT IN CONTACT WITH THE WORKPIECE WHEN THE MOTOR IS STARTED. DO NOT DROP THE SAW HEAD ON THE WORKPIECE OR FORCE THE SAW THROUGH THE WORKPIECE.

1. Clamp the workpiece in the vise. (Refer to **Figure 12** for examples of workpieces in the vise.)
2. Be sure the blade is not in contact with the workpiece when the motor is started.
3. Start the motor and allow the saw to come up to speed.
4. Slowly set the saw down onto the workpiece and adjust cutting speed with the flow control valve.
5. **DO NOT DROP THE SAW HEAD OR FORCE THE CUT.** Let the weight of the saw head provide the cutting force.
6. The saw will automatically shut off at the end of the cut.

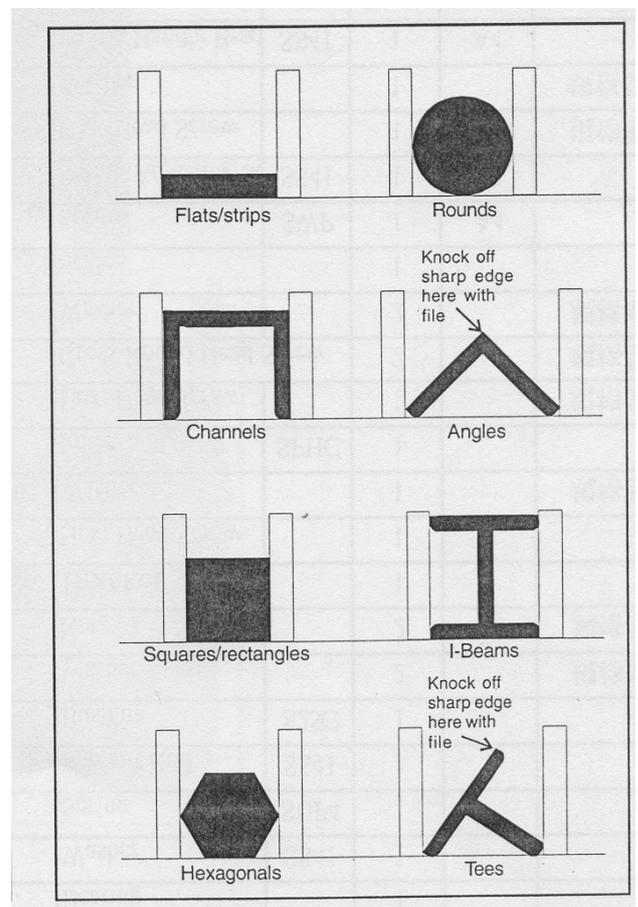


Figure 12. Placing Workpieces in the Vise

## Coolant Flow and Nozzle Position

**CAUTION:** THE COOLANT PUMP MUST BE SUB-MERGED BEFORE OPERATING TO PREVENT DAMAGE TO THE PUMP.

1. Set the nozzle so the coolant is drawn into the workpiece by the saw blade. Position the nozzle approximately one inch away from the front side of the workpiece. NOTE: Placing the coolant on the saw blade rather than the workpiece is the most effective method of cooling the blade.
2. Adjust the coolant flow shut-off valve at the top of the saw head weldment. The flow should be no more than the saw blade can draw into the workpiece by the movement of the blade.
3. The coolant flow can be stopped in two ways:
  - 1) by the coolant pump switch on the control box (the preferred method), or
  - 2) by closing the shut-off valve.

NOTE: The coolant pump is self-circulating when the shut-off valve is closed.

## Coolant Mixture and Quantity

The general-purpose coolant is a mixture of water-soluble oil and water. Mix one part of soluble oil to ten parts of water (one quart of oil to ten quarts water).

The eleven quarts of coolant is the amount required for the coolant pump to operate properly.

There are numerous coolants on the market that are formulated for special applications. Consult your local distributor for details in the event you have a long range production task, or are required to cut some of the more exotic materials.

## 13. Maintenance

### Adjustments

The efficient operation of the cut-off saw is dependent upon the condition of the saw blade. If the performance of the saw begins to deteriorate, the first item that you should check is the blade.

If a new blade does not restore the machine's cutting accuracy and quality, refer to the troubleshooting

guide (or the blade manufacturer's guide) for conditions to consider and adjustments that can be made to increase the life of the blade.

To change the blade, refer to the blade changing procedures in the Maintenance section. To adjust the blade, refer to the following procedures.

### Blade Tracking Adjustment

Blade tracking has been tested at the factory. Adjustment is rarely required when the blade is used properly or if the blade is correctly welded. (Refer to **Figure 13** for location of blade tracking adjustment setscrew.)

### Factory or Field Procedure

1. Put the saw head in the vertical position. Open the wheel guards.
2. Remove both of the blade-guide bearing bracket assemblies.
3. Make sure the blade is properly tensioned. NOTE: Keep proper tension at all times using blade tightening assembly.
4. Loosen the hex jam nut in the top head weldment until it is snug against the slide casting.

**CAUTION:** WHILE PERFORMING THE FOLLOWING, KEEP THE BLADE FROM RUBBING EXCESSIVELY ON THE SHOULDER OF THE WHEEL. EXCESSIVE RUBBING WILL DAMAGE THE WHEEL AND/OR THE BLADE.

5. Start the saw. Turn the setscrew to tilt the idler wheel until the blade is touching the shoulder of the idler wheel.
6. Turn the setscrew so the blade starts to move away from the shoulder of the wheel-then immediately turn the setscrew in the other direction so the blade stops-then moves slowly toward the shoulder.

**WARNING: KEEP FINGERS CLEAR OF THE BLADE AND WHEEL TO AVOID INJURY.**

7. Turn the setscrew to stop motion of the blade on the wheel as it gets closer to the wheel shoulder. Put a 6-inch length of paper between the blade and the wheel as shown in **Figure 14**. The paper should not be cut as it passes between the wheel shoulder and the blade.
8. Turn the setscrew a small amount. Repeat the insertion of the paper between the wheel shoulder and the blade until the paper is cut in two pieces.

NOTE: You may have to repeat the check with the paper several times before the blade and the shoulder cut the paper into two pieces. Do not hurry the adjustment. Patience and accuracy here will pay off with better, more accurate, quieter cutting and much longer machine and blade life.

9. When the paper is cut, turn the setscrew slightly in the counterclockwise direction. This assures that the blade is not touching the shoulder of the wheel.
10. Shut off the saw.
11. Tighten the hex jam nut against the setscrew and casting.
12. Install the top and bottom blade guide assemblies. Position the guides so the top bearing just touches the blade.
13. Install the wheel covers.

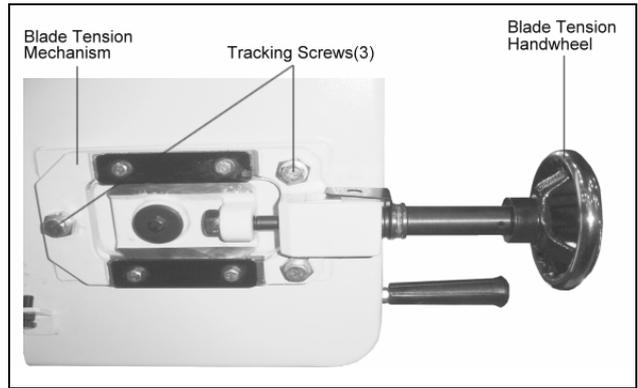
**Blade Guide Bearing Adjustment**

Proper adjustment of the blade guide bearings is critical to efficient operation of the cut-off saw. The blade guide bearings are adjusted at the Factory. They should rarely require adjustment. When adjustment is required, readjust immediately. Failure to maintain proper blade adjustment may cause serious blade damage or inaccurate cuts.

It is always better to try a new blade when cutting performance is poor. If performance remains poor after changing the blade, make the necessary adjustments.

If a new blade does not correct the problem, check the blade guides for proper spacing. For most efficient operation and maximum accuracy, provide 0.001-inch clearance between the blade and the guide bearings. The bearings will still turn freely with

this clearance. If the clearance is incorrect, the blade



may track off the drive wheel.

Figure 13. Blade Tracking Adjustment Setscrew

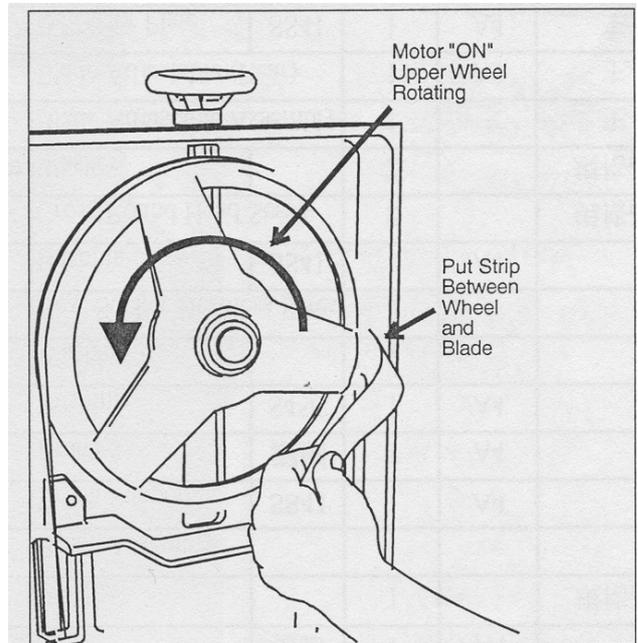


Figure 14. Checking blade-to-wheel clearance

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

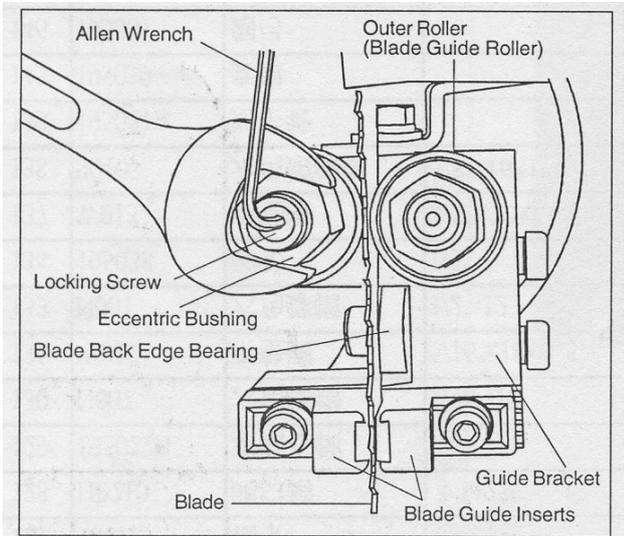
**CAUTION: CHECK THE BLADE TO MAKE SURE THE WELDED SECTION THE SAME THICKNESS AS THE REST OF THE BLADE. IF THE BLADE IS THICKER AT THE WELD, THE GUIDE BEARINGS MAY BE DAMAGED.**

If required, adjust the guide bearings as follows:

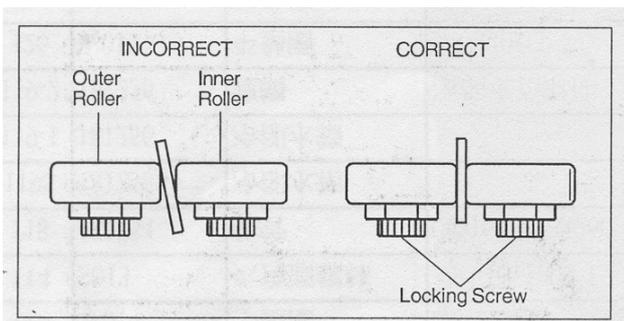
1. The inner guide bearing is mounted on a straight shaft and cannot be adjusted.
2. The outer guide bearing is mounted in an eccentric bushing and can be adjusted.
3. Hold the bushing with a 3/4-inch wrench and

loosen the locking screw with an Allen wrench. (Refer to **Figure 15.**)

- Position the bearing by turning the bushing. Set the clearance at approximately 0.001 inch. (The blade should be in a vertical position between the bearings. Refer to **Figure 16.**)



**Figure 15. Adjustment of Guide Bearings**



**Figure 16. Blade-To-Blade Guide Orientation**

- Tighten the locking screw with the Allen wrench while holding the bushing in position with the 3/4-inch wrench.
- Use the same procedure to adjust the other blade guide bearing.
- When the adjustment is correct, the guide bearings should rotate freely with slight pressure of the finger (blade stopped).

#### 14. Test Cutting to Verify Adjustment Accuracy

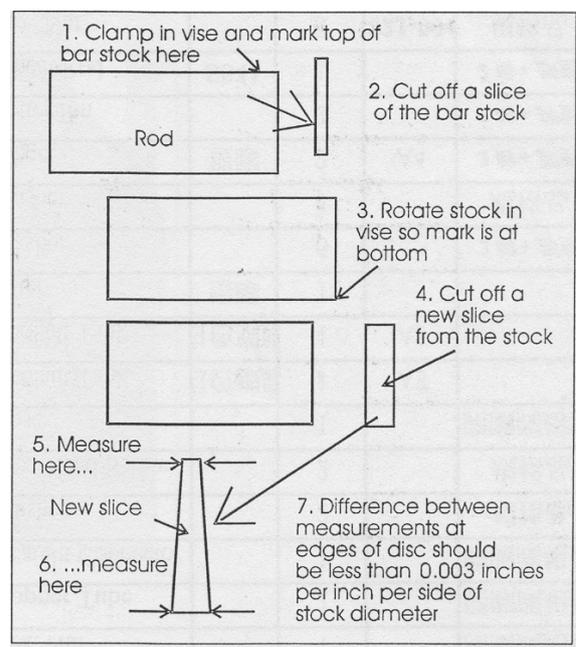
Test cuts can be used to determine whether or not you have adjusted the blade accurately. Use 2 inch round bar stock to perform these test cuts, as follows:

- With the bar stock securely clamped in the vise, make a cut through the bar stock. (Refer to

#### Figure 17.)

- Mark the top of the bar stock.
- Move the bar stock about 1/4 inch past the blade so you can begin a second cut.
- Rotate the bar stock 180 degrees so the mark you made is now at the bottom of the cut.
- Make a cut through the bar stock.
- Use a micrometer to measure the thickness variation between the top and bottom of the disk you have cut from the bar stock.

The saw blade can be considered correctly adjusted when the variation measured is no more than 0.012 inch across the face of the disk. If you do not have a piece of 2-inch bar stock available for a test cut, use a larger diameter test workpiece rather than a smaller one. The maximum thickness variation on any test piece should be no more than 0.003 inch, per side, per inch of stock diameter.



**Figure 17. Cutting a Test Disc**

#### 15. Switch Adjustment

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

Adjust the switch activator screw so that the switch will actuate to the off position when the saw has cut through the workpiece. (Refer to **Figure 18.**)

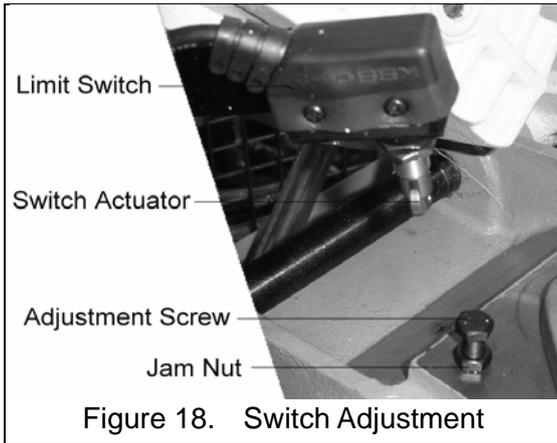


Figure 18. Switch Adjustment

## Adjusting the Counterbalance Spring

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

The counterbalance spring is located on the rear of the saw table. The counterbalance spring is used to compensate for the weight of the saw head.

1. Raise the saw arm to its full upright position and lock it in position.
2. The spring is held in tension with an eyebolt and nut (refer to **Figure 24**).
3. Tighten the spring tension nut until 1-1/4 to 1-1/2 inches of the threads of the eyebolt are exposed.
4. The saw can now be used.

## Cleaning

1. Clean off any preservative on machine surfaces.
2. After cleaning, coat machined surfaces of the cut-off saw with a medium consistency machine oil. Reapply the oil coating at least every six months.
3. Clean up accumulated saw cuttings after use. Make sure the lead screw and rapid nut are kept free from saw cuttings and other material that would cause damage.
4. Clean the chip sludge from the coolant tank. The frequency should be determined by how often the saw is used.

## 16. Lubrication

Lubricate the following components at the specified frequencies and using the lubricants defined as follows:

1. Ball bearings: the bearings are lubricated and sealed-periodic lubrication is not required.
2. Blade guide bearing: the bearings are lubricated and sealed-periodic lubrication is not required.
3. Upper wheel bushing-six to eight drops of oil

each week.

4. Pivot points, shafts, and bearing areas-six to eight drops of oil each week.
5. Change coolant on a frequency appropriate to the type of coolant being used. Oil based coolants can sour. Refer to the coolant supplier's instructions for change frequency.

## 17. Component Replacement

### Changing Blades

**WARNING: USE LEATHER GLOVES WHEN CHANGING THE SAW BLADE TO PROTECT YOUR HANDS FROM CUTS AND SCRATCHES. USE PROTECTIVE EYE WEAR THAT MEETS ANSI SPECIFICATION Z87.1.**

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Raise the saw head to vertical position. Lock the hydraulic cylinder to hold the saw head in place.
2. Remove the wheel quards from the back side of the saw head (guard at the drive assembly end is removable; the quard at the idler and is hinged).
3. Remove the left blade guard. Remove the column blade cover.
4. Turn the blade tension handle until the blade hangs loose.
5. Use leather gloves to prevent cuts and scratches. Pull the blade off the drive wheels and out of the blade guides. Store the removed blade carefully before proceeding.
6. Slide the new blade into the blade guides, then loop the blade over the upper and lower drive wheels. Install the new blade so the vertical side of the teeth contacts the workpiece first. (Refer to **Figure 19**.)

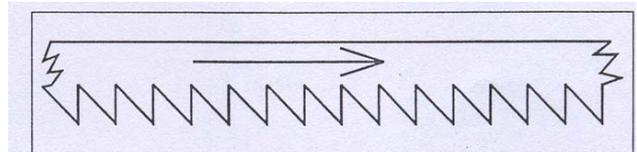


Figure 19. Blade (Tooth) Orientation

7. Push the blade so it is seated against the shoulders of the wheels. When it is seated against the shoulder & turn the blade tension handle clockwise to increase the tension. Do not over-tension the blade; tighten it just enough so it does not slip while cutting (refer to placard in **Figure 20**).
8. When the blade is properly tensioned, reconnect

- the saw to electrical power source.
9. Check and adjust the tracking of the blade. Refer to Blade tracking adjustment.
  10. Install the wheel guards and the blade covers.
  11. Put 2 to 3 drops of oil on the blade.



Figure 20. Saw Blade Tension Placard

### Changing Drive Motor V-Belt

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Set the arm at the full horizontal position.
2. Remove the knob from the belt cover. Open the drive belt cover to expose the V-belt and pulleys (refer to **Figure 21**).
3. Loosen the knob on the front of the drive assembly. Pivot the motor inward to loosen the belt.
4. Remove the worn V-belt.
5. Put the replacement V-belt in the pulley position for the speed you require. (Refer to **Figure 5** for belt locations and the speeds available).
6. Tighten the V-belt by pivoting the motor outward. Tighten the knob on the front of the drive assembly. Press down firmly on the V-belt midway between the pulleys. When properly tightened, V-belt will depress no more than the width of belt.
7. Reinstall drive belt cover and 8 install knob.

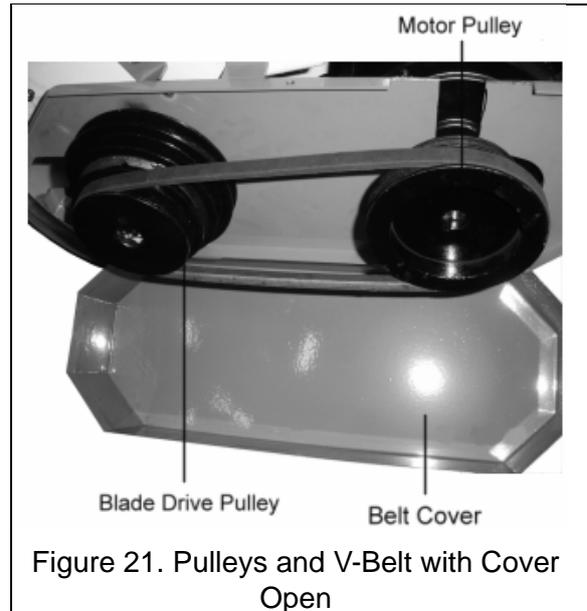


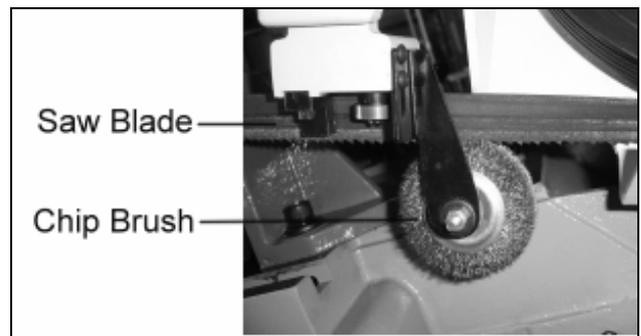
Figure 21. Pulleys and V-Belt with Cover Open

### Chip Brush Replacement

The chip brush is a circular wire brush that is mounted in a bracket at the right-hand side of the saw arm (refer to **Figure 22**). The purpose of the brush is to remove chips from the saw teeth and off of the blade so excessive amounts of chips don't get into the wheel guard section of the saw.

The brush shaft rotates on a shaft during operation. With extended use, this brush will become worn and will require replacement.

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**



1. Remove the nut and screw. Remove the worn brush and spacer.
2. Install the spacer and replacement brush.
3. Install the screw and nut.
4. Adjust the bracket, if necessary, so the brush makes slight contact with the saw blade.

Figure 22. Chip Brush

## Replacing Guide Bearings

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Remove the blade (Refer to **Changing Blades**).
2. Remove the locking screw and remove the damaged bearing and bushing.
3. Separate the damaged bearing from the bushing.
4. Install the replacement bearing on the bushing.
5. Install the locking screw.
6. Install the blade (Refer to **Changing Blades**).
7. Adjust bearing clearance (Refer to **Adjusting Guide Bearings**).

## Replacing Drive Motor

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Remove the drive V-belt (Refer to **Changing Drive Motor V-Belt**).
2. Loosen the set screw which holds the motor pulley to the shaft and pull the pulley off the shaft.
3. Open the motor junction box and disconnect the power core wires from their terminals.
4. Remove the nuts, washers and bolts that secure the motor to the mounting plate.
5. Installation of a new motor is a reversal of the above steps. Also, complete steps 6 through 8 in Changing blade speed, page 19, to complete tensioning of the V-belt to the correct tension-use a straight edge to be certain the motor pulley is correctly aligned with the speed reducer pulley.

## Adjusting or Replacing the Counterbalance Spring

The counterbalance spring is located on the rear of the saw table (refer to **Figure 23**). The counterbalance spring is used to adjust the amount of down force the saw arm puts on the workpiece when the hydraulic control cylinder is fully open.

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Raise the saw arm to its full upright position and lock it in position.
2. The spring is held in tension with an eyebolt and nut. To remove the spring, release tension on the eyebolt until the spring can be taken off its mount on the arm.
3. To install a spring, hook it to the mount on the arm and put the eyebolt into its mount.

4. Tension the spring until all slack is taken up.
5. After the slack in the spring is removed, tighten the spring until 1-1/4 to 1-1/2 inches of thread are exposed on the right side of the eyebolt mount.
6. The saw can now be returned to service.

## Replacing the Drive Wheel

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Remove the blade (Refer to **Changing Blades**).
2. Loosen the setscrew in the wheel hub.
3. Pull the wheel from the speed reducer shaft.
4. Inspection: Examine drive edge and shoulder of the wheel for damage. Replace wheel if damaged.
5. Reinstall the wheel.
6. Tighten the setscrew in the wheel hub.
7. Install the blade (Refer to **Changing blades**).

## Replacing Idler Wheel or Bearings

**WARNING: DISCONNECT THE CUT-OFF SAW FROM ITS ELECTRICAL POWER SOURCE.**

1. Remove the saw blade (Refer to **Changing Blades**).
2. Remove the retaining ring and shim from shaft.
3. Remove the wheel and bronze bearing.
4. Inspection: Examine the drive edge and shoulder of the wheel for damage. Replace the wheel if damaged.
5. Install the bearing and the idler wheel.
6. Install the retaining ring and shim on the shaft.
7. Install the blade (Refer to **Changing Blades**).

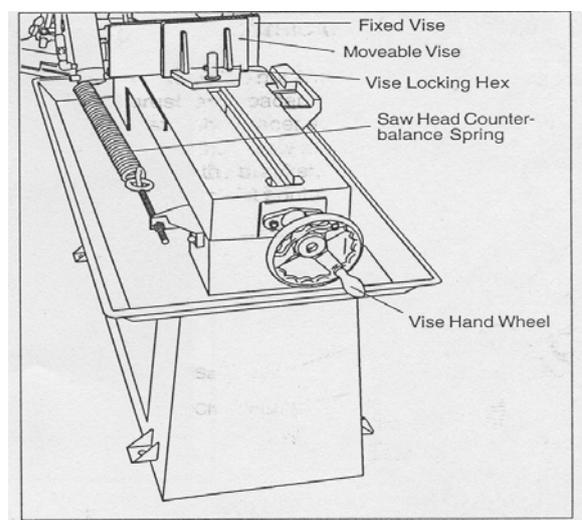


Figure 23. Counterbalance Spring Adjustment

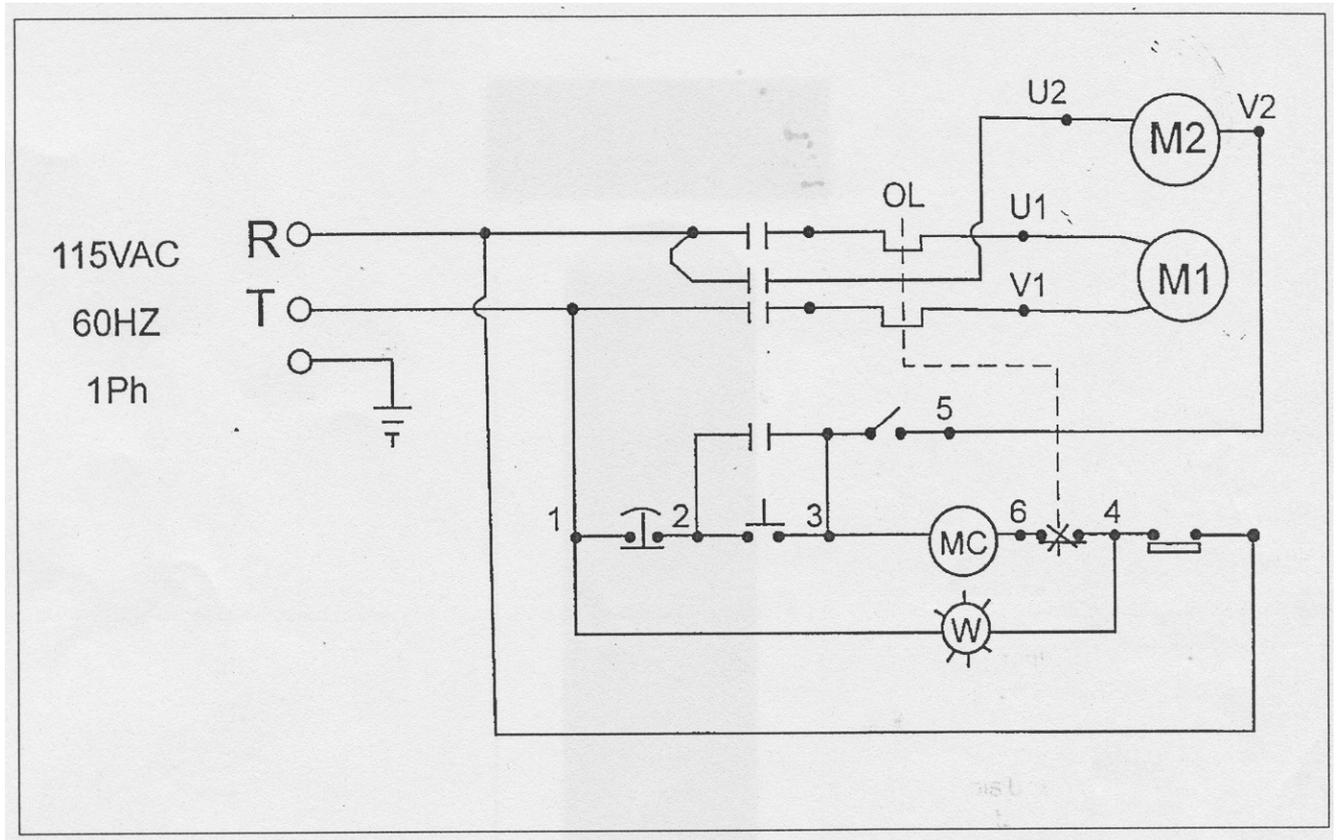
## 18. Troubleshooting

Fault	Probable cause	Suggested remedy
Excessive blade Breakage	<ol style="list-style-type: none"> <li>1. Material loose in vise.</li> <li>2. Incorrect speed or feed.</li> <li>3. Teeth too coarse for material.</li> <li>4. Incorrect blade tension.</li> <li>5. Saw blade is in contact with workpiece before the saw is started.</li> <li>6. Blade rubs on the wheel flange.</li> <li>7. Misaligned guides.</li> <li>8. Cracking at weld.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clamp work securely.</li> <li>2. Check Machinist's Handbook for speed/feed appropriate for the material being cut.</li> <li>3. Check Machinist's Handbook for recommended blade type.</li> <li>4. Adjust blade tension to the point where the blade just does not slip on the wheel.</li> <li>5. Start the motor before placing the saw on the workpiece.</li> <li>6. Adjust blade tracking.</li> <li>7. Adjust guides.</li> <li>8. Longer annealing cycle.</li> </ol>
Premature blade Dulling	<ol style="list-style-type: none"> <li>1. Blade teeth too coarse.</li> <li>2. Blade speed too high.</li> <li>3. Inadequate feed pressure.</li> <li>4. Hard spots in workpiece or scale on/in workpiece.</li> <li>5. Work hardening of material (especially stainless steel).</li> <li>6. Insufficient blade tension.</li> <li>7. Operating saw without pressure on workpiece.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a finer tooth blade.</li> <li>2. Try a lower blade speed.</li> <li>3. Decrease spring tension.</li> <li>4. Increase feed pressure (hard spots). Reduce speed, increase feed pressure (Scale).</li> <li>5. Increase feed pressure by reducing spring tension.</li> <li>6. Increase tension to proper level.</li> <li>7. Do not run blade at idle in/on material.</li> </ol>
Bad cuts (crooked)	<ol style="list-style-type: none"> <li>1. Workpiece not square with blade.</li> <li>2. Feed pressure too fast.</li> <li>3. Guide bearings not adjusted properly.</li> <li>4. Inadequate blade tension.</li> <li>5. Span between the two blade guides too wide.</li> <li>6. Dull blade.</li> <li>7. Incorrect blade speed.</li> <li>8. Blade guide assembly is loose.</li> <li>9. Blade guide bearing assembly loose.</li> <li>10. Blade track too far away from wheel flanges.</li> <li>11. Guide bearing worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust vise so it is square with the blade. (Always clamp the workpiece tightly in the vise.)</li> <li>2. Decrease pressure.</li> <li>3. Adjust guide bearing clearance to 0.001 inch (0.002 inch maximum).</li> <li>4. Gradually increase blade tension.</li> <li>5. Move blade guide bracket closer to work.</li> <li>6. Replace blade.</li> <li>7. Check blade speed (refer to <b>Figure 5</b>).</li> <li>8. Tighten blade guide assembly.</li> <li>9. Tighten blade guide bearing assembly.</li> <li>10. Adjust blade tracking.</li> <li>11. Replace worn bearing.</li> </ol>

## Troubleshooting (Continued)

Fault	Probable cause	Suggested remedy
Bad cuts (rough)	<ol style="list-style-type: none"> <li>1. Blade speed too high for feed pressure.</li> <li>2. Blade is too coarse.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce blade speed and feed pressure.</li> <li>2. Replace with finer blade.</li> </ol>
Blade is twisting	<ol style="list-style-type: none"> <li>1. Blade is binding in the cut.</li> <li>2. Blade tension too high.</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease feed pressure.</li> <li>2. Decrease tension on Blade.</li> </ol>
Unusual wear on side/ back of blade	<ol style="list-style-type: none"> <li>1. Blade guides worn.</li> <li>2. Blade guide bearings not adjusted.</li> <li>3. Blade guide bearing bracket is loose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace blade guides.</li> <li>2. Adjust blade guide bearings.</li> <li>3. Tighten blade guide bearing bracket.</li> </ol>

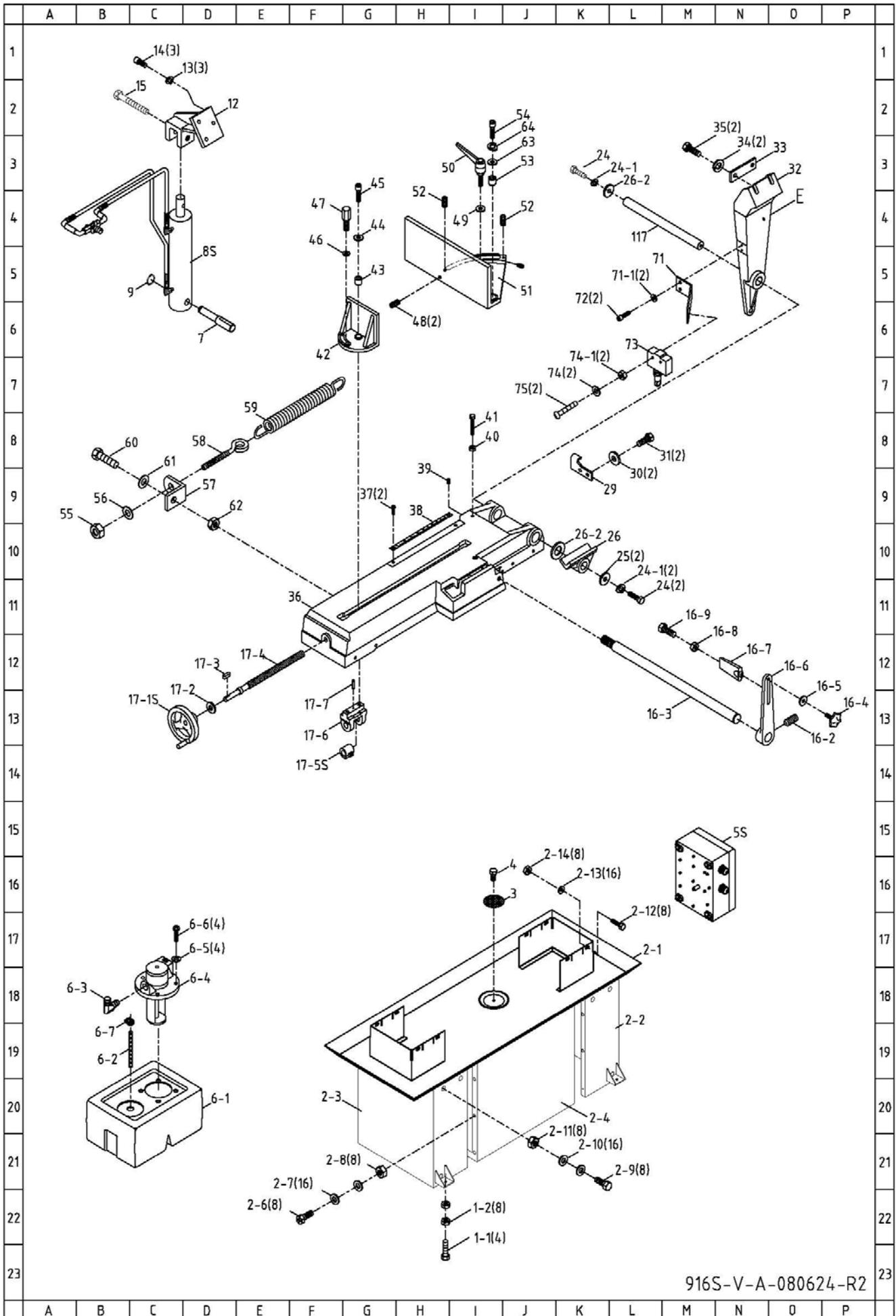
## 19. Wiring Diagram



## Replacement Parts

Identify the replacement part by the part number shown in the parts listing. Be sure to include the model number and serial number of your machine when ordering replacement parts to assure that you will receive the correct part.





916S-V-A-080624-R2

**PARTS LIST**

**MODEL NO. 916S / 916SV**

<b>CODE NO</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>	<b>NOTE</b>
1-1	HS093	Hex. Head Screw	M12-1.75P*50L	4.00	
1-2	HN007	Hex. Nut	M12-1.75P	8.00	
2S	189001S	Stand Complete Assembly		1.00	
2-1	189001C1	Coolant Pan		1.00	
2-2	189001C2	Leg(Right)		1.00	
2-3	189001C3	Leg(Left)		1.00	
2-4	189001C4	Panel		1.00	
2-6	S204	Cross Hex. Head Screw	1/4"-20*3/4"L	8.00	
2-7	W005	Washer	1/4"x16xt1.5	16.00	
2-8	N003	Hex. Nut	1/4"-20	8.00	
2-9	S010	Hex. Head Screw	3/8"-16*1"L	8.00	
2-10	W013	Washer	3/8"x20xt2	16.00	
2-11	N005	Hex. Nut	3/8"-16	8.00	
2-12	HS050	Hex. Head Screw	M8-1.25Px40L	8.00	
2-13	W016	Washer	5/16"x23x2mm	16.00	
2-14	HN005	Hex. Nut	M8	8.00	
3	191106A	Filter		1.00	
4	HS033	Hex. Head Screw	M6-1.0Px15L	1.00	
5S	ET1924S	Control Box		1.00	
6S	MB240FS	Pump Set	1/8HP 115/230V 1PH/ 130MM	1.00	
6-1	181256	Coolant Tank		1.00	
6-2	189061	Hose	13x19-350mm	1.00	
6-3	103125-4	Coupler	PT1/2x3/8	1.00	
6-4	MB240	Pump	1/8HP/110V/220V/1PH	1.00	
6-5	W004	Washer	1/4"x19xt1.5mm	4.00	
6-6	S717	Cross Round Head Screw	1/4"-20*5/8"L	4.00	
6-7	103125-5	Hose Clamp	ϕ 19	1.00	
7	189036	Pivot Shaft		1.00	
8S	189065BS	Cylinder Assembly		1.00	
9	HCS07	C-Retainer	S18	1.00	
12	189025	Cylinder Upper Bracket		1.00	
13	W205	Spring Washer	5/16"-2.0t	3.00	
14	HS244	Hex. Head Cap Screw	M8-1.25Px30L	3.00	
15	HS064	Hex. Head Screw	M10-1.5Px50L	1.00	
16S	189037S	Length Stop Set		1.00	
16-2	HS422	Hex. Headless Screw	M6-1.0Px10L	1.00	
16-3	189037	Distance Set Rod		1.00	
16-4	196213	Plum Screw		1.00	

**PARTS LIST**

**MODEL NO. 916S / 916SV**

<b>CODE NO</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>	<b>NOTE</b>
16-5	W004	Spring Washer	1/4"x19xt1.5mm	1.00	
16-6	189038	Support Rod		1.00	
16-7	1966008	Distance Set Bracket		1.00	
16-8	HN006	Hex. Nut	M10-1.5P	1.00	
16-9	HS059	Hex. Head Screw	M10-1.5Px25L	1.00	
17S	1966002AS	Screw Set		1.00	
17-1S	189055S	Handwheel		1.00	
	189055	Handwheel		1.00	
	189055R	Knob		1.00	
	HS422	Hex. Headless Screw	M6-1.0P6x10L	1.00	
17-2	W029	Washer	7/16"x30xt3mm	1.00	
17-3	HK007	Key	5x5x15L	1.00	
17-4	1966002A	Acme Screw		1.00	
17-5S	181604S	Acme Nut Assembly		1.00	
	181604	Acme Nut		1.00	
	181605	Button		1.00	
	191206	Retainer		1.00	
	HF519	Cross Round Head Screw	M5-0.8Px10L	8.00	
	HW103	Spring Washer	ø5.1-1.3t	1.00	
17-6	181138B	Bracket		1.00	
17-7	181610	Pin		1.00	
24	HS059	Hex. Head Screw	M10-1.5Px25L	2.00	
24-1	HW106	Spring Washer	§ 10.2-3t	2.00	
25	198037	Prive Shaft Washer		2.00	
26	189013	Gap Ring		1.00	
26-2	189085B	Washer		2.00	
29	196228	Position Set Bracket		1.00	
30	W018	Washer	5/16"x23xt3mm	2.00	
31	HS046	Hex. Head Screw	M8-1.25Px20L	2.00	
32	189012	Rear Pivot Bracket		1.00	
33	191219	Bushing		1.00	
34	HW106	Spring Washer	§ 10.2-3t	2.00	
35	HS061	Hex. Head Screw	M10-1.5Px35L	2.00	
36	189002	Base		1.00	
37	HE501	Cross Tablet Head Screw	M5-0.8Px8L(Washer)	2.00	
38	189064	Degree-Meter		1.00	
39	HS430	Hex. Headless Screw	M8-1.25Px10L	1.00	
40	HN005	Hex. Nut	M8-1.25P	1.00	

PARTS LIST

MODEL NO. 916S / 916SV

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
41	HS051	Hex. Head Screw	M8-1.25Px45L	1.00	
42	196208	Vise Jaw Bracket		1.00	
43	191209	Bushing		1.00	
44	HW023	Washer	ø10.5*ø21Xt2mm	1.00	
45	HS261	Hex. Head Screw	M10-1.5Px35L	1.00	
46	HW025	Washer	ø10.5*ø27Xt3mm	1.00	
47	189067	Fixed Bolt		1.00	
48	HS434	Hex. Headless Screw	M8-1.25Px30L	2.00	
49	HW025	Washer	ø10.5*ø27Xt3mm	1.00	
50	191210	Knob		1.00	
51	1966003	Vise Jaw Bracket(Rear)		1.00	
52	HS422	Hex. Headless Screw	M6-1.0Px10L	2.00	
53	1966004	Bushing		1.00	
54	HS261	Hex. Head Screw	M10-1.5Px35L	1.00	
55	N005	Hex. Nut	3/8"	1.00	
56	W014	Washer	3/8"x23xt2	1.00	
57	181115	Spring Handle Bracket		1.00	
58	181118	Spring Adjusting Rod		1.00	
59	181117-1	Spring		1.00	
60	S022	Hex. Head Screw	5/16"x3/4"L	1.00	
61	W016	Washer	5/16"x23xt2	1.00	
62	N007	Hex. Nut	5/16"-18	1.00	
63	HW023	Washer	ø10.5*ø21Xt2mm	1.00	
64	HW106	Spring Washer	§ 10.2-3t	1.00	
71	189034	Limit Switch Support		1.00	
71-1	HW004	Washer	ø6.5Xø18Xt1.5mm	2.00	
72	HS334	Hex. Head Screw	M6-1.0PX12L	2.00	
73	ET1617	Switch (For CE Only)		1.00	
74	HW002	Washer	ø4.3Xø9Xt0.8mm	2.00	
74-1	HN002	Hex. Nut	M4-0.7P	2.00	
75	HS513	Cross Round Head Screw	M4-0.7P*30L	2.00	
117	189035	Pivot Shaft		1.00	
133	HW004	Washer	ø6.5Xø13Xt1mm	4.00	
134	HW104	Spring Washer	M6	4.00	
200	189023J	Blade Guard (Front)		1.00	
201	196504	Saw Direction Label		1.00	
202	HT003	Bulton Head Screw	M6-1.0P*10L	2.00	
202	103127	Knob	M6-1.0Px10L	2.00	

**PARTS LIST**

**MODEL NO. 916S / 916SV**

<b>CODE NO</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>	<b>NOTE</b>
203	HW004	Washer	ø6.5Xø18Xt1.5mm	2.00	
204	HS243	Hex. Head Screw	M8-1.25Px25L	2.00	
205	HI105	Spring Washer	ø8.2-2.5t	2.00	
206	HW005	Washer	ø8.4*ø17Xt1.6mm	2.00	
207	1965015	Blade Adjustable Knob		2.00	
208	HW023	Washer	ø10.5*ø21Xt2mm	2.00	
209	189020	Arm (Left)		2.00	
209-1	189077	Label		2.00	
210	1965014	Gib		2.00	
211	C100	C-Retainer	§ 8	4.00	
212	CA6082RS	Bearing	608-2RS	10.00	
213	189018	Eccentric Guide		2.00	
214	189019	Eccentric Guide		2.00	
215	HS230	Hex. Head Screw	M6-1.0Px20L	4.00	
216	103120	Carbide Guide		4.00	
217	121061	Bearing Shaft		2.00	
218	HS421	Hex. Headless Screw	M6-1.0Px5L	4.00	
219	189015	Bearing Bracket (Left)		1.00	
220S	189081S	Valve Assembly		2.00	
220-1	189081	Valve		2.00	
220-2	189088	Hose	§ 6	2.00	
220-3	189083	Straight Connector		2.00	
220-4	189084	Press Board		2.00	
220-5	HW104	Spring Washer	§ 6.1*1.9	4.00	
220-6	HT016	Bulton Head Screw	M6-1.0P*12L	4.00	
220-7	103126-4	Hose Clamp	§ 12	2.00	
221	189014	Blade Adjustable (Rear)		1.00	
222S	189022S	Brush Assembly		1.00	
222-1	189022	Brush Support		1.00	
222-2	191334A	Brush		1.00	
222-3	HW004	Washer	ø6.5Xø18Xt1.5mm	2.00	
222-4	HN004	Hex. Nut	M6-1.0P	2.00	
222-5	HS037	Hex. Head Screw	M6-1.0Px35L	1.00	
223	HS032	Hex. Head Screw	M6-1.0Px10L	1.00	
223-1	HW004	Washer	ø6.5Xø18Xt1.5mm	1.00	
224	HF404	Round Head Screw	M6-1.0PX12L	2.00	
225	189021	Blade Guard II (Rear)		1.00	
226	HN004	Hex. Nut	M6-1.0P	2.00	

## PARTS LIST

### MODEL NO. 916S / 916SV

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
230	189091	Micro Switch Bracket		1.00	
230	189094	Micro Switch Bracket		1.00	
230	198150M	Micro Switch Bracket		1.00	
230-1	ET1630	Micro Switch		2.00	
232	HS032	Hex. Head Screw	M6-1.0P*10L	2.00	
233	HW004	Washer	ø6.5Xø18Xt1.5mm	2.00	
290S	189072S	infrared Assembly		1.00	
290	189074	infrared Bracket		1.00	
291	189072	infrared		1.00	
292	HS558	Cross Round Head Screw	M5-0.8P*8L	3.00	
293	HW003	Washer	ø5.3*ø10Xt1mm	2.00	
294	HS558	Cross Round Head Screw	M5-0.8P*8L	2.00	
295	189073	infrared Bracket		1.00	
300	HS241	Hex. Head Screw	M8-1.25Px15L	4.00	
301	1965052	Knob		2.00	
302	103127	Knob	M6-1.0Px10L	2.00	
302-1	HW003	Washer	ø5.3*ø10Xt1mm	6.00	
302-2	HT001	Round Head Screw	M5-0.8Px10L	6.00	
303	189027	Blade Back Cover		1.00	
303	189027E	Blade Back Cover		1.00	
303	189027F	Blade Back Cover		1.00	
304	HW105	Spring Washer	ø8.2-2.5t	4.00	
305	HN005	Hex. Nut	M8-1.25P	4.00	
306	189026	Cover		1.00	
306	189026E	Cover		1.00	
306	189026F	Cover		1.00	
307	HS046	Hex. Head Screw	M8-1.25Px20L	1.00	
308	HW027	Washer	ø30Xø16Xt3mm	1.00	
309	CA6205	Bearing	6025	2.00	
310	189017	Idler Wheel		1.00	
311	187056	Shaft		1.00	
312	189033	Handle		1.00	
313	N005	Hex. Nut	3/8"	2.00	
314	189010	Body Frame		1.00	
314-1	HD602	Pipe Connector	PT1/2"	1.00	
314-2	189060	Net Tube	Ø18*24-190mm	1.00	
314-3	189087	Screw	M8-1.25P	1.00	
314-4	HN005	Hex. Nut	M8-1.25P	2.00	

## PARTS LIST

### MODEL NO. 916S / 916SV

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
314-5	189080	Filter		1.00	
314-6	HT001	Round Head Screw	M5-0.8Px10L	1.00	
315	189030	Cover		1.00	
315-1	103127	Hex. Head Screw	M6-1.0Px10L	2.00	
316	189039	Scale		1.00	
316-1	HH001	Rivet	§ 2x5L	2.00	
317	HS278	Hex. Head Screw	M12-1.75P*20L	2.00	
318	1965011	Column		1.00	
319	HS432	Hex. Headless Screw	M8-1.25Px20L	4.00	
320	HS089	Hex. Head Screw	M12-1.75P*30L	1.00	
321	HW107	Spring Washer	ø12.2-3.6t	1.00	
322	198036	Drive Shaft Washer		1.00	
323	HK044	Key	7x7x30	1.00	
324	189063	Blade	25*0.9*2908*5/8Tmm	1.00	
325	189016	Drive Wheel	key Ø8MM	1.00	
326	HS258	Hex. Head Screw	M10-1.5Px20L	3.00	
327	HW106	Spring Washer	§ 10.2-3t	3.00	
328	19116S-3	Gear Box Assembly	1:30,,,Ø22,key=5X5 FOR Pulley Cove	1.00	
328	19116S-1	Gear Box Assembly	1:30,,,Ø22,key=7X7	1.00	
329	HN006	Hex. Nut	M10-1.5P	2.00	
330	189031	Shaft		1.00	
330-1	189032	Knob		1.00	
331	HN007	Hex. Nut	M12-1.75P	1.00	
332	HS266	Hex. Head Screw	M10-1.5Px60L	1.00	
333	105076	Shaft		1.00	
334	105050B	Motor Plate		1.00	
335	105079	Motor Bracket		2.00	
336	HW004	Washer	ø6.5Xø18Xt1.5mm	4.00	
337	HS034	Hex. Head Screw	M6-1.0Px20L	4.00	
338	M601	Motor	1KW) 110/220V 60HZ 23/11.5A POLE:4 P.	1.00	
339	HK108	Key	7x7x35L	1.00	
339	HK108	Key	8x7x35L	1.00	
340	HW005	Washer	ø8.4*ø17Xt1.6mm	4.00	
341	HS045	Hex. Head Screw	M8-1.25Px15L	4.00	
342	HS032	Hex. Head Screw	M6-1.0Px10L	3.00	
343	HW016	Washer	ø6.5Xø18Xt1.5mm	3.00	
345S	189059JS	Motor Pulley Cover Assembly		1.00	
345-1	103127	Hex. Head Screw	M6-1.0Px10L	1.00	

## PARTS LIST

### MODEL NO. 916S / 916SV

CODE NO	PART NO	DESCRIPTION	SPECIFICATION	QTY	NOTE
345-2	HW004	Washer	ø6.5Xø18Xt1.5mm	1.00	
345-3	189086	Bracket		1.00	
345-4	HS228	Hex. Head Screw	M6-1.0Px10L	1.00	
345	189059V	Pulley Cover		1.00	
345-1	189058V	Pulley Cover		1.00	
345-2	103127	Hex. Head Screw	M6-1.0Px10L	3.00	
345-3	1966018	Stopper		1.00	
345-4	HS812	Cross Tablet Head Screw	M5-0.8Px8L	2.00	
348	189029	Spindle Pulley	Ø22,key=5X5	1.00	
349	HS430	Hex. Headless Screw	M8-1.25Px10L	2.00	
350	189046	Belt	17-330(=A32)	1.00	
350	1965045	Belt	1422/V330/22x22	1.00	
351	1965050B	Motor Pulley	Ø24key=7X7	1.00	
351S	1965032S	Variable Speed Pulley Set		1.00	
351-1	1965032	Variable Speed Pulley	Ø24key=8X7	1.00	
351-2	1965033	Spindle Pulley	Ø22,key=7X7	1.00	
351-3	1965073	Speed Indicator Dial		1.00	
352	HS430	Hex. Headless Screw	M8-1.25Px10L	2.00	
352	HK093	Key	7x7x37L	1.00	
353	189040	Speed Indicator Dial		1.00	
354S	103127S	3 Way Valve Assembly		1.00	
354-1	103126-4	Hose Clamp	φ 12	3.00	
354-2	103127-6	Micro Control Block	PT1/4"x1/2"	1.00	
354-3	103127-6	Micro Control Block	PT1/4"x1/2"	1.00	
354-4	103125-5	Hose Clamp	φ 19	1.00	
354-5	103127-4	Net Tube	ID1/4"x2.2tx80cm	1.00	
354-6	105173	3 Way Valve		1.00	
354-7	103127-1	Straight Connector	PT1/4"x1/4"	1.00	
354-8	HS232	Hex. Head Screw	M6-1.0Px30L	2.00	
354-9	103127-3	Net Tube	ID1/4"x2.2tx143cm	1.00	
354-10	189062	Net Tube	ID1/4"x2.8tx32cm	1.00	
354-11	HI105	fixed support		2.00	
354-12	HS527	Cross Round Head Screw	M6*10L	2.00	
355	198051A	Blade Tension Handle		1.00	
355-1	198086	Knob		2.00	
356	CA51203	Bearing	51203	1.00	
357	189053	Tension Indication Ring		1.00	
358	198093	Spring Washer	φ ID16.3X φ 31.5X1.8t	10.00	

**PARTS LIST**

**MODEL NO. 916S / 916SV**

<b>CODE NO</b>	<b>PART NO</b>	<b>DESCRIPTION</b>	<b>SPECIFICATION</b>	<b>QTY</b>	<b>NOTE</b>
359	198026	Leadscrew		1.00	
359	187067	Leadscrew		1.00	
360	189050	Tension		1.00	
360-1	189041	Tension Scale		1.00	
361	HS423	Hex. Headless Screw	M6-1.0Px15L	1.00	
362	189051	Anchor Block		1.00	
363	HN008	Hex. Nut	M16XP2	1.00	
364	121011	Washer		1.00	
365	HS242	Hex. Head Screw	M8-1.25PX20L	1.00	
366	189054	Screw		3.00	
367	HW106	Spring Washer	ϕ 10.2-3t	3.00	
368	HS066	Hex. Head Screw	M10-1.5Px60L	3.00	
369	189052	Press Board		2.00	
370	HW105	Spring Washer	ø8.2-2.5t	4.00	
371	HS240	Hex. Head Screw	M8-1.25Px10L	4.00	
372	HF024	Hex. Head Screw	M6-1.0Px12L	2.00	
373	W005	Washer	1/4"x16xt1.5	2.00	
374	189048	Control Box		1.00	
375	HS622	Flat Cross Head Screw	M6-1.0Px12L	2.00	
376	189047	Control Plate		1.00	
376	189047A	Control Plate		1.00	
377	HE501	Cross Tablet Head Screw	M5-0.8Px8L(Washer)	8.00	
380S	198150MS	Micro Switch Assembly		1.00	
380	198150M	Micro Switch Bracket		1.00	
382	HS513	Cross Round Head Screw	M4-0.7Px30L	2.00	
383	HW005	Washer	M5	2.00	
384	HS219	Hex. Head Screw	M5X15L	2.00	
386	198170	Scale		1.00	
387	187066	disconnection		1.00	

**MANUFACTURER:**

**ADDRESS:**

**SERIAL No.:**

PLEASE WRITE DOWN THE SERIAL NO. ON THIS BLOCK FROM THE NAME  
PLATE AFTER YOU RECEIVE THIS MACHINE.