

MODEL

1338

After serial number 1989

Parts List and

Manual Bandsaws
Built better to work stronger and last longer

Operating & Maintenance Manual



REV 220426



Wellsaw®
Made In The USA

Quality Metal Cutting Bandsaws

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FORWARD

The Model 1118, 1338 and 1348 Wellsaw bandsaws have been designed and manufactured to conform to Wellsaw's recognized high standards of quality and performance. Each saw must pass a series of final inspection tests, including actual metal cutting operations, before it is shipped. For this saw to provide satisfactory service, it is necessary that it be properly installed, operated and maintained. This manual has been prepared to assist you in carrying out these functions. We urge you to study this manual and follow its suggestions.

RECEIVING AND INSTALLATION

Carefully remove the wrap and skid so the saw and its parts are not marred or otherwise damaged. In the event of damage in transit, notify the carrier and file a Proof of Loss Claim immediately.

Shortages

Inspect the complete shipment carefully against the itemized packing list. Make sure that all items are present and in good condition. In the event of any shortage, notify the distributor from whom you purchased the saw and the carrier who made final delivery.

Utility Hook-Up

The use of a qualified electrician is always recommended when connecting the saw to the main power supply. Electrical codes differ from area to area and it is the customer's responsibility to ensure that their saw complies with applicable codes. Your Wellsaw is pre-wired at the factory for a specified voltage. Always check the motor and electrical panel to ensure that they are both wired to correspond to your electrical power supply.

One Year Limited Warranty

This Wellsaw is warranted against defects in material and workmanship installed or performed at our factory. Within one year from the date of purchase, we will, free of charge, at our option, either repair or replace any part of the Wellsaw which our examination discloses to be defective because of workmanship or a defect in material, and to make any necessary service adjustments as required. This warranty does not apply if the Wellsaw has been subject to accident, alteration, abuse, misuse or which fails due to lack of care or as the result of inadequate power supply and specifically does not apply to normal wear of moving parts such as bearings, gears, pinion or blade. *There is no warranties beyond the description on the face hereof.* Wellsaw shall not be liable for consequential or incidental damage suffered or incurred with respect to defective material or workmanship.

All transportation costs or parts submitted to Wellsaw under this warranty must be paid by the saw's owner. No products or parts are to be returned to our factory without first obtaining written permission.

NOTE: Be sure to fill out and return the Warranty Card provided with this Wellsaw.

WARNING

- 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 operator's and parts manual.

When setting up machine:

- Always avoid using machine in damp or poorly lighted work areas.
- Always be sure machine is securely anchored to the floor.
- Always keep machine guards in place.
- Always put start switch in "OFF" position before plugging in machine.

When using machine:

- Never operate with machine guards missing.
- Always wear safety glasses with side shields (See ANSI Z87.1)
- Never wear loose clothing or jewelry.
- Never overreach - you may slip and fall into the machine.
- Never leave machine running while away from it.

- Always shut off the machine when not in use.

When servicing the machine:

- Always unplug machine from electrical power while servicing.
- Always follow instructions in operators and parts manual when changing accessory tools or parts.
- Never modify the machine.

Read and follow these simple rules for best results and full benefits from your machine. Used properly, Wellsaw'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 Operators and Parts manual as well as all 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. Special electrics should be used when working on flammable materials.
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. 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.
11. Never brush away chips while the machine is in operation.
12. Keep work area clean. Cluttered areas invite accidents.
13. Remove adjusting keys and wrenches before turning the machine back on.
14. Use the right tool. Don't force a tool or attachment to do a job it was not designed for.
15. Use only recommended accessories and follow manufacturers instructions pertaining to them.
16. Keep hands in sight and clear of all moving parts and cutting surfaces.
17. All visitors should be kept at a safe distance from the work area. Make workshop completely safe by using padlocks, master switches, or by removing starter keys.
18. Know the tool you are using - its application, limitations, and potential hazards.

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

-Lead from lead based paint

-Crystalline silica from bricks and cement and other masonry products, and

-Arsenic and chromium from chemically treated lumber

20. Your risk from those 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 specifically designed to filter out microscopic particles.

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.

Wire sizes:

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:

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

1. Always wear leather gloves when handling a saw blade. The operator shall not wear gloves when operating the machine.

2. All doors shall be closed, all panels replaced, and all other safety guards in place prior to the machine being started or operated.

3. 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 to full speed before bringing the workpiece into the saw blade.

4. Keep hands away from the blade area. **See figure A.**

5. Remove any cut off piece carefully while keeping your hands free from the blade area.

6. 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.

7. Remove all loose items and any unnecessary work pieces from the area before starting machine.

8. Bring adjustable saw guides and guards as close as possible to the work piece.

9. Always wear protective eye wear when operating, servicing or adjusting machinery. Eye wear 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.**

10. Non-slip footwear and safety shoes are recommended. **See figure C.**

11. Wear ear protectors (plugs or muffs) during extended periods of operation. **See figure D.**

12. The workpiece, or part being sawed, must be securely clamped before the saw blade enters it.

13. Remove cut off pieces carefully, keeping hands away from saw blade.

14. Saw must be stopped and electrical supply cut off or machine unplugged before reaching into cutting area.

15. Avoid contact with coolant, especially guarding your eyes.

Figure A



Figure B



Figure C



Figure D



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Specifications

Capacity:

Rectangular 13" high x 38" wide

Round 13"

at 45° 11" high x 21" wide

blade size 1" x .035 x 15'6" (186")

Blade Speeds Infinitely Variable, 70-375 SFPM

Blade Guides Carbide Guides with Rollers

Blade Tension Manual Rite-Tension

Electrical Options 3hp - 208-230-460/60/3
2hp - 115-208-230/60/1

Coolant System 8 gallon tank capacity
Submersible pump / 3GPM

Vise Control Quick Acting Manual Screw

Swivel Vise to 45°

Feed Control Variable Hydraulic

Band Wheels 15" Diameter Cast Iron

Floor Area: 40" W x 102" L

Shipping weight: 1195 Lbs.

Standard Features

- Spring-Loaded Carbide Guides with Rollers
- Combination Reduction Gearbox and Ring & Pin-ion Blade Drive
- Baldor® Motor
 - 3hp motor 3 phase TEFC
 - 2hp single phase ODP
- Infinitely Variable Blade Speeds
- Rite-Tension® Blade Tensioning Device
- Wet Cutting System
- Powered Blade Brush
- 110 Volts at Controls
- Overload and Undervoltage Protection
- Precision Ground Bed and Vise Jaws
- Quick Acting Vise
- Adjustable Stock Stop
- Auto Shut-Off at End of Cut
- OSHA Blade Guarding
- Tiger-Tooth® Bi-Metal Blade
- Coolant for Initial Start-Up

Available Factory Options

Flush Hose with 8.5 GPM Pump | Powered Frame
Raise and/or Powered Vise | Laser Line Pointer |
Casters (Set of 4, 2 Locking) | NFPA Electrics (with
Disconnect) | Work Light with Transformer | Stock
Stand, 18" | 5' Non-Powered Roller Conveyor | 10'
Non-Powered Conveyors

Please Contact Factory for Additional Options

Other Models in the 1338 Family

Model 1318 with 18" Width Capacity
Model 1316S Swivel Head Miter Saw to 60°
All Models Available with PLC Controlled
Semi-Automatic Operation

Notes on Sawing

It is widely recognized that a proficient operator is a key to optimum bandsawing. He makes certain the machine is properly maintained and adjusted for dependable operation. He carefully sets up each cutting job to prevent damage to the machine and obtain the best performance from the equipment.

Experienced blade dealers can be very help-ful in selecting the grade and proper tooth blade for each sawing job. All blades should be straight, have sharp teeth with uniform set, and be “broken in” at a reduced feed rate to obtain good cutting performance and blade life.

Every cutting situation has special characteristics requiring some experimentation to determine which blade, speed and feed rate will achieve the most satisfactory result. Cutting charts indicate a good starting point, but must be modified by direct experience if optimum performance is desired.

Here are some helpful pointers for adjusting speed and feed for good cutting performance.

1. Make sure the saw is cutting a good chip from the workpiece.
2. Watch for blue chips or excessive “smoke” indicating heat in the cut which could damage the blade or work harden the material being cut
3. Watch for excessive vibration or chatter marks on the cut-off piece indicating possible damage to the saw teeth by “hammering”.
4. Check the cut-off piece for flatness. A dull blade or excessive feed will produce a “belly” in the cut.
5. Inspect the blade for worn, rounded or shiny cutting edges. Avoid force cutting which will allow chips to “weld” to saw teeth and eventually cause the teeth to be stripped off the blade.
6. When experimenting, start with a slow speed and feed rate. Gradually increase blade speed and then feed pressure by small amounts until adverse effects are noted. You can then set the speed and feed at a reasonable level for continuous cutting. Remember that blade speed and feed pressure must be balanced to keep cutting a good chip.

Trouble Shooting

Premature Dulling of Blade Teeth

1. Feed rate too high or low. Check pages 30-31.
2. Blade speed too slow or too fast.
3. Faulty material; heavy scale, hard spots, etc.
4. Verify type of material.
5. If coolant flow is not covering saw teeth, increase coolant flow rate.
6. If saw is vibrating in cut, reduce blade speed or increase feed rate.
7. Chipped or broken tooth may be lodged in cut.
8. “Chip welding” caused by improper feed and speed.
9. Incorrect coolant mixture.
10. Incorrect blade selection
11. Improper break-in of new blade. New blades should be run initially with reduced feed pressure for approximately 50 to 100 square inches.
12. Saw blade teeth may be hitting blade guides. Check for proper blade size.

Saw Blade Vibration

1. Incorrect blade speed for material.
2. Blade tension insufficient.
3. Back-up bearing may be worn.
4. Incorrect choice of saw tooth pitch.
5. Incorrect coolant mixture.
6. Incorrect feed setting. Increase feed.
7. Workpiece not firmly clamped in vice.
8. Worn or improperly adjusted saw guides. Check and make necessary adjustments.

Blade Teeth Chipping or Ripping Out

1. Blade pitch too coarse. Use a fine pitch saw blade on thin work sections.
2. Improper break-in of new blade. Do not start a new blade in an old cut.
3. Work piece not held firmly enough. Clamp work securely.
4. Introduce cooling if it is not being used.
5. Faulty material; scale or hard spots.
6. Blade gullets may be loaded. Use higher viscosity lubricant or coolant.
7. Blade speed and feed may need adjustment.

Premature Blade Breakage

1. Poor weld in the blade.
2. Feed rate set too high. Reduce it.
3. Excessive blade speed. Adjust it.
4. Blade guides set too tight or misaligned.
5. Blade tension set too high.
6. Blade running against flange on wheels. Adjust wheel pitch.

Blade Squeal

1. Feed rate too light for blade speed. Increase feed rate and/or reduce blade speed.

Blade Slips Off Band Wheels

1. Blade not tensioned correctly.
2. Wheel pitch not set properly.
3. Guides set too tight.

Gullets of Blade Teeth Loading

1. Blade pitch too fine. Review blade selection.
2. Incorrect blade speed. Consult cutting chart.
3. If not using coolant, apply it.

Chips Welding to Blade Teeth

1. Cutting rate too high.
2. Chip brush may be out of adjustment.
3. Check coolant and application.

Blade Becoming Scored

1. Saw guides may be worn. Check and replace if necessary.
2. Too much pressure on saw guides. Adjust.
3. Guides may be out of alignment.

Blade Making Belly-Shaped Cut

1. Blade tension too light. Increase it.
2. Saw guides too far from work piece.
3. Blade pitch too fine. Use larger pitch and positive rake tooth form.
4. Excessive feed. Decrease it.
5. Dull blade.

Inaccurate Cut-Off

1. Is conveyor or stock stand level with saw bed?
2. Insufficient blade tension.
3. Blade guides too far apart. Always set blade guides as close to the piece as possible.
4. Blade may be dull. Check and replace if

necessary.

5. Feed pressure too high. Reduce it.
6. Blade guides loose, worn or out of alignment.
7. Too many teeth-per-inch. Blade not cutting freely.
8. Chip brush not cleaning teeth properly.
9. Dirty coolant.
10. Check for loose fasteners.

Rough Cut / Poor Finish

1. Excessive feed rate. See recommendations.
2. Blade too coarse. Use finer blade pitch.
3. Inadequate cutting fluid. Replace.

Blade Stalls in Work

1. Insufficient blade tension.
2. Excessive feed pressure.
3. Blade tooth spacing too coarse.
4. Motor worn or defective.
5. Guides too tight against blade.

Blade Does Not Track Properly

1. Set wheel pitch so that blade runs to wheel flange but not against it.
2. Is blade tension correct?
3. Is back of blade riding against backup bearing? If not, adjust it.

Motor Overheating

1. Check for correct voltage supply. Check voltage at motor. Check magnetic starter heaters.
2. Check for loose electrical connections.
3. Does motor amp reading correspond to rating on motor specifications tag?
4. Is internal motor wiring correct?
5. Is drive belt over tightened?

Automatic Stop

When the blade has completed a cut through the material, the saw frame drops onto a limit switch actuator which shuts the motor off.

When changing a blade or doing any other maintenance or repair, *be sure the automatic stop is engaged and disconnect the main power supply.*

It is necessary to raise the saw frame to clear the limit switch actuator before the saw can be started.

PLACING THE BLADE ON SAW

WARNING: When uncoiling a new blade, use gloves and eye protection.

To insert a new blade, turn the Adjusting Knob (item 17 in the parts diagram) on the blade guide Counter Clockwise (CCW) until it stops. Insert the new blade and turn the Adjusting Knob Clockwise (CW) until it stops. The spring loaded carbide guides will then be in proper contact with the sides of the blade. The back of the blade should just touch the carbide back up guide (15 in the parts drawing). The side bearings should have a gap of .038 for the .035 thickness blade.

Wheel Pitch Adjustment

If the saw blade runs too low, runs off the wheels, or runs too high and rubs the wheel flange, a wheel adjustment must be made.

Loosen the blade before making the following adjustments.

Idler Wheel:

Blade running too low or off the wheel- adjust the idler wheel block. Loosen the two cap screws in the block, opposite the take up screw end, one-half turn. Tighten the opposite two cap screws one-half turn. Repeat if necessary.

Blade running too high and against the idler wheel flange- The blade can become distorted, its top edge rolled over and wheel flange will wear excessively.

To correct this, loosen the two cap screws closest to the take up screw one-half turn. Tighten the opposite cap screws one-half turn. Repeat if necessary.

Drive Wheel:

Blade running too low or off the drive wheel- Loosen the two cap screws opposite the outside end of the wheel plate one-half turn. Tighten the two set screws on the same end one-half turn. Repeat if necessary.

Blade running too high, and against the drive wheel flange- Loosen the cap screws closest to the outside end of the wheel plate and loosen the two set screws at the same time by the same amount. Repeat if necessary.

Make certain all screws are tight after adjustments have been made.

Variable Speed Drive

Models 1118, 1338, 1348 and 1316S are equipped with variable speed pulleys providing infinite speed selection between 70 and 375 feet-per-minute. See Cutting Speed Chart for settings.

To vary blade speed, rotate handwheel clockwise to increase speed or counter-clockwise to decrease speed. Do not adjust the speed unless the pulley system is in operation (spinning). The handwheel drag is set at the factory during assembly. This drag prevents handwheel “creep” during operation but still permits easy adjustment. Due to normal wear and environment, the drag setting may change. To readjust, tighten set screw in thrust nut.

Gear Box Repair

1. Remove gear box from saw.
2. Remove four machine screws holding gear box together.
3. Separate gear box by carefully prying castings apart at a location near pulley shaft. *Caution: Do not use excessive force.*
4. Once the gear box is open, the internal parts may be inspected for wear.
5. Liquid plastic gasket is used to seal the gear case, Loctite No. 51580 or equivalent.
6. Grease, Mobilgrease XHP 220 or equivalent is recommended. The grease must have excellent clinging characteristics. (See Lubrication).

Fixed Vise Jaw

The two pins in the fixed vise jaw should be kept in place in order to ensure square cuts. For cutting angles, the pins must be removed and the turned to the desired position and tightened with clamp bolts. These pins enable operators to quickly relocate the fixed vise jaw for approximate 90 degree cutting. For final, accurate cutting, the fixed vise jaw should be squared with the blade. (See Guide Alignment)

Sliding Vise Jaw

The sliding vise jaw is fitted with a lift plate and ratchet dog for quick action. A hand wheel tightens the vise on the workpiece. *Excessive pressure is not required to hold workpiece securely.*

Hydraulic Feed Control

The feed rate is hydraulically controlled with a needle valve located on the side of the saw bed. *Caution: Do not attempt to loosen or remove hoses until the saw frame is supported in its “Down” position.*

Feed Pressure Adjustment

Maximum feed pressure is obtained with the frame spring adjusted as close to the end of the saw frame as possible. To *decrease* pressure, turn handle on opposite end of frame counterclockwise. To *increase* pressure turn handle in a clockwise direction. Use lighter feed pressure when cutting thin-wall material or irregular shapes.

Blade Brushes

Brushes should be cleaned frequently in kerosene. For efficient cutting and blade life, keep blade brushes adjusted so they are contacting blade teeth and replace them when worn.

Motor Switch

The “Start-Stop” motor starter is provided with heater coils to de-energize the circuit if an overload occurs. Allow the coil to cool before trying to restart the motor.

Low/No Voltage Control also de-energizes the circuit and prevents automatic restarts after power is restored. Allow the coil to cool.

*To stop the saw at any time,
press the stop button or
press down on the limit switch actuator*

Servicing the Blade Guides Blade Guide Adjustment

To properly align the saw blade for a straight and accurate cut, do the following:

1. Square the stationary vise jaw. Make sure it is square to the front of the vise slot. Check by placing a combination square against the front of the vise slot in the saw bed. Slide the square toward the stationary vise. Make any necessary adjustment to the vise jaw to bring it into square. Set the combination square so that one leg is along the face of the stationary vise and check to see that the blade is square to the vise jaw. If it is not square, follow the instructions for horizontal adjustment.

2. Vertical Adjustment. The back of the saw blade should just touch the carbide back up guide (item 15 in the parts drawing) when the saw is running but not cutting. To adjust, loosen the two cap screws 8 [A] and move the block up or down as required.

(Before making this adjustment, be sure the back of the blade is properly contacting the flange on both the drive and idle wheels).

3. Horizontal Adjustment. Loosen the two cap screws 8 [B] securing the horizontal adjusting block (items 11 & 12 of the parts drawing). Turn the top adjusting bolt (item 13 of the parts drawing) to move the blade either in, toward the saw bed, or out, away from the saw bed.

Normally, the blade comes off the Drive Wheel with a minimum amount of adjustment needed in the Horizontal Adjusting Block. The Idle End adjusting block is more likely to require adjustment.

4. Blade Tilt. To ensure the blade is perpendicular to the bed of the saw, loosen the two cap screw 8 [C] holding the Guide Support (28 & 29 of the parts drawing) and turn the bottom adjusting bolt (13 of the parts drawing).

Set the combination square on the saw bed with the end of the rule butted against the blade *above the set of the teeth*. Use a 1-1/2 thousandths (.0015”) shim and slide it along the top and bottom edge of the rule where it meets the saw blade. If the shim slides between the blade and the rule at either the top or bottom, the blade guides must be adjusted.

5. Safety. Ensure that all bolts are properly tightened and that all guards are in place before using the saw.

Recommended Service Kits

1 year

100133-004 Rotary Blade Brush 1 required

2 years

100416-001 bearing 4 required

152153 top carbide guide 2 required

106317 side carbide guide 4 required

105454-005 VS belt 1 required

100133-004 Rotary Blade Brush 1 required

100166-450 Blade brush belt 1 required

Maintenance

Caution: *Disconnect the electrical supply and press emergency STOP button before performing any maintenance. DO NOT service the Frame Hydraulic Cylinder or Down Feed Valve unless the frame is in the DOWN position or resting on a mechanical stop, such as a block of wood.*

Daily

1. Keep the saw clean and free of chips.
2. Maintain the coolant level and keep the coolant tank and filter clean of chip accumulation or sludge.

Monthly

1. Check, adjust and replace blade brush as needed.
2. Lubricate drive gears
3. Inspect carbide guides and bearings.
4. Inspect drive belt.
5. Clean coolant tank and filter as needed.

Annually

1. Check hydraulic oil level.
2. Replace guide rollers and carbide inserts.
3. Inspect gear box. Lubricate as needed.

Lubrication

Correct and adequate lubrication is a very important factor in determining the life and service of your Wellsaw. It is essential that all dust, dirt, chips, [etc. be](#)

thoroughly removed before lubricating the saw. The following lubrication recommendations cover usual saw applications. Heavy use and hostile environments may indicate more frequent lubrication for best saw performance.

Vise Screw, Ring Gear, Drive Pinion

1. Inspect Monthly.
2. Use Anti-Seize on Vise Screw.
3. Use Extreme Pressure Open Gear Lube sparingly on Ring Gear and Drive Pinion

Gear Case

1. Inspect after 3 years (6,000 hours).
2. Use Mobilgrease XHP 220 or equivalent.
3. Viscosity: Heavy Grease, drop point 550EF
4. Military Specification: None

Hydraulic Cylinder

1. Inspect annually. Fill to top of plug. Drain and replace every 5 years (10,000 hours).
2. Fill with Mobil Velocite Oil #6 or equivalent.
3. Viscosity at 100EF: SUS 57-61.
4. Military Specification: None.

Motor

1. Inspect annually. Re-lubricate every 2 years (4,000 hours) 1 to 2 full strokes.
2. Use Shell Dolium R or equivalent.
3. Viscosity: Heavy Grease, drop point 219EC.
4. Military Specification: None.

Parts Ordering

For your convenience:

When contacting your Wellsaw supplier or the Company for parts or service, it is essential that you have your saw Model, Serial Number and Purchase Date available.

Jot them down here for handy reference.

Model:

Serial Number:

Purchase Date:

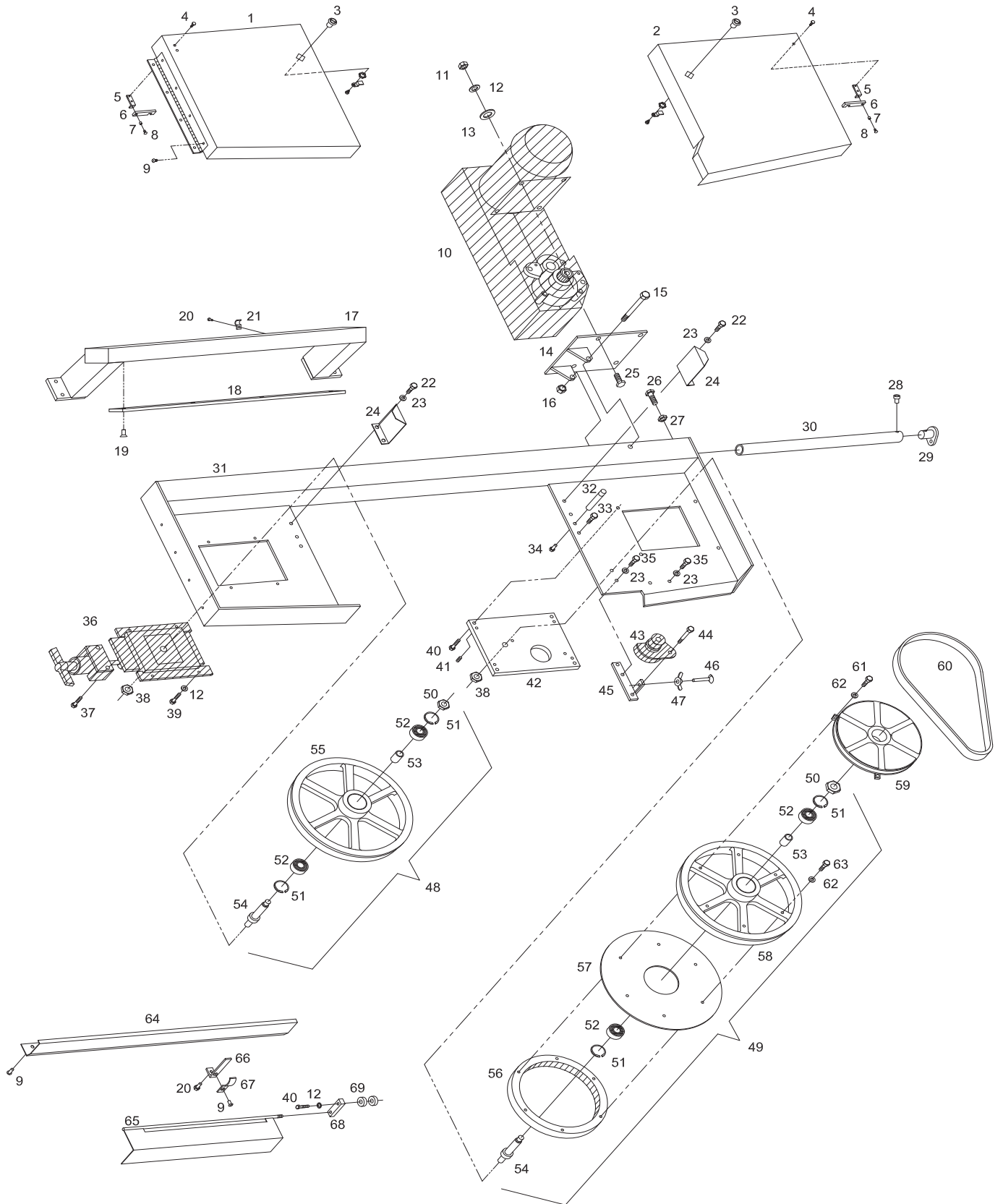
Wellsaw model 1338

Sequence of Operation

Pushbutton Feed Control for manually raised saws.

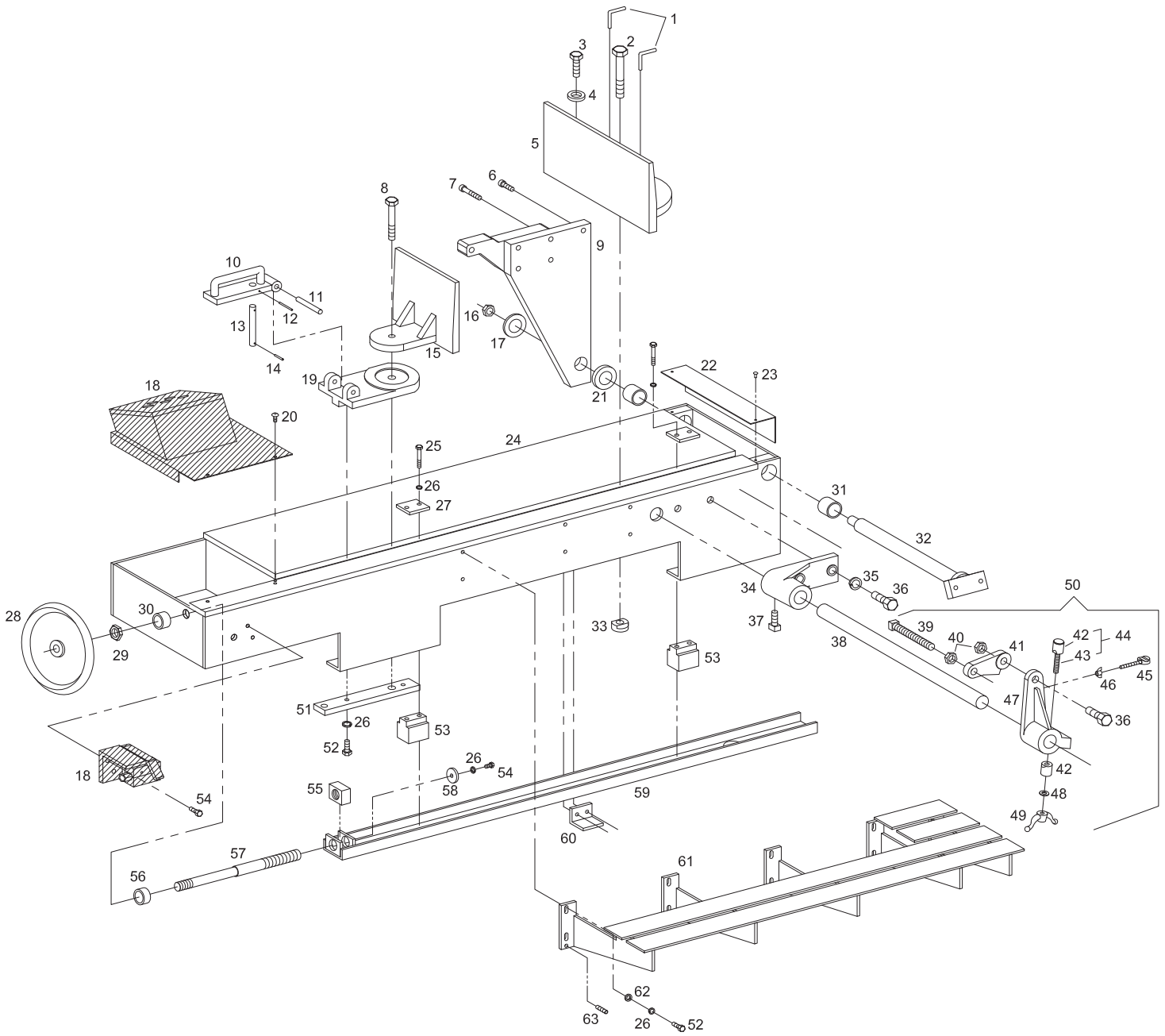
1. At the finish of the cut the blade motor will stop. Be sure to wait until the motor has stopped before removing the cut piece.
2. The saw frame can be lifted to the desired height. There is no need to turn the **Cutting Speed** handwheel (feed rate control). The saw will hold in the up position at any point.
3. The vise can now be opened and the next cut can be positioned. The vise can be close.
4. If the blade is quite high above the material the saw frame can be lowered quickly by pressing the **Fast Approach** button. This has a momentary operation. Be careful not to allow the blade to touch the material.
5. Start the blade motor with the green **Start** button.
6. The **Frame Lower** button is used to start the cut. After the blade motor is running the **Frame Lower** button can be pushed and the blade will feed into the cut. If the blade motor is not running the **Frame Lower** button will have a momentary action, the head will drop only while the button is held down and at a slower rate than the **Fast Approach**.
7. The **Cutting Speed** handwheel is used to adjust the rate that the saw head comes down (Feed Rate). It can be adjusted for each job as needed but does not require attention during the sawing cycle. Best results will come when this knob is adjusted only in small amounts and only when needed. Avoid adjusting this knob during the cutting cycle.
8. The red **Stop** button will stop the blade motor and the feed cycle. To resume sawing both the blade **Start** and the **Frame Lower** buttons must be pushed.
9. The saw required electrical power to lower the saw frame. The saw is equipped with a **By-Pass Valve** which allows the saw head to be lowered when there is no electrical power available. The valve is located under the saw bed at the Vise Handwheel end.
10. **NOTE:** The saw is shipped with the **By-Pass Valve** in the **open** position. The valve must be closed before operating the saw. Gently turn the knob clockwise until the valve seats.

Frame Assembly



1	150146SERV	Idle Wheel Guard			
2	150147SERV	Drive Wheel Guard			
3	100135-002	1/4 Turn Fastener w/cam			
4	100013-008	Machine Screw, Button Head 1/4-20 x 3/8			
5	150095	Door Catch Mtg Block			
6	150096	Door Catch			
7	150182	Door Catch Sleeve			
8	100013-006	Machine Screw, BH 10-32 x 1/2			
9	100013-006	Machine Screw, BH 1/4-20 x 1/2			
10		Motor & Gear Box Assy. (page26)			
11	100017-002	Hex Nut, 5/16-18			
12	100025-002	Lock Washer, 5/16			
13	100029-003	Flat Washer, 5/16			
14	150248	Motor Mount Bracket			
15	100004-116	Cap Screw, HH 1/2-13 x 4-1/2			
16	100023-004	Nylon Lock Nut, 1/2-13			
17	150318	Guide Beam Ass'y			
18	150320	Guide Arm Track			
19	100009-013	Cap Screw, FH 5/16-18 x 1/2			
20	100013-005	Machine Screw, BH 10-32 x 3/8			
21	100218-010	Clamp			
22	100004-076	Cap Screw, HH 3/8-16 x 1			
23	100025-003	Lock Washer, 3/8			
24	155152	Door Catch Support			
25	100004-016	Cap Screw, HH 5/16-18 x 7/8			
26	100004-030	Cap Screw, HH 3/8-16 x 1-1/2			
27	100019-004	Hex Nut, 3/8-16			
28	100008-018	Cap Screw, Soc Hd 5/16-18 x 3/4			
29	150336	Counter Balance Spring Attach			
30	150105-001	Counter Balance Tube			
31	150316	Saw Frame			
32	150160-002	Door Latch Stud			
33	100165-007	Shoulder Bolt, 3/8 x 3/8			
34	100004-015	Cap Screw, HH 5/16-18 x 3/4			
35	100004-076	Cap Screw, HH 3/8-16 x 1			
36		Rite Tension® Blade Tension & Slide Block Ass'y (see page 18)			
37	100004-055	Cap Screw, HH 3/8-16 x 2-1/4			
38	100065-007	Hex Nut, 5/8-18			
39	100004-013	Cap Screw, HH 5/16-18 x 5/8			
40	100004-020	Cap Screw, HH 5/16-18 x 1-1/4			
41	100034-005	Set Screw, 5/16-18 x 3/4			
42	150022	Wheel Plate, Drive End			
43		Blade Brush Ass'y (page 21)			
44	100165-011	Shoulder Bolt, 3/8-16 x 1-3/4			
45	150369	Blade Brush Arm			
46	100042-003	Thumb Screw, 1/4-20 x 2			
47	100024-002	Wing Nut, 1/4-20			
48	150088	Idle Wheel Ass'y for 1" Blades (includes 38 & 51-55)			
49	150087	Drive Wheel Ass'y for 1" Blades (includes 38, 50-54, 56-58 & 61-63)			
50	100019-016	Hex Jam Nut, 5/8-18			
51	100068-002	Snap Ring (2 req'd/ wheel)			
52	100414-003	Ball Bearing (2 req'd/ wheel)			
53	105415	Spacer (1 req'd/ axle)			
54	105420	Wheel Axle			
56	150060-001	Idle Wheel for 1" Blade (includes items 50 - 53)			
57	B-086	Internal Ring Gear			
58	150405	Shield			
59	150059-001	Drive Wheel for 1" Blade (includes items 50 - 53)			
60	150144	Pulley, Large			
61	100166-450	V- Belt			
62	100004-094	Cap Screw, HH 1/4-20 x 1-1/2			
62	100025-001	Lock Washer, 1/4			
63	100004-068	Cap Screw, HH 1/4-20 x 1-1/4			
64	150314	Blade Guard, upper			
65	150321	Blade Guard Lower			
66	150154	Blade Guard Support			
67	150414	Clamp			
68	150158	Blade Guard Mounting Block			
69	105537	Spacer (2 req'd)			

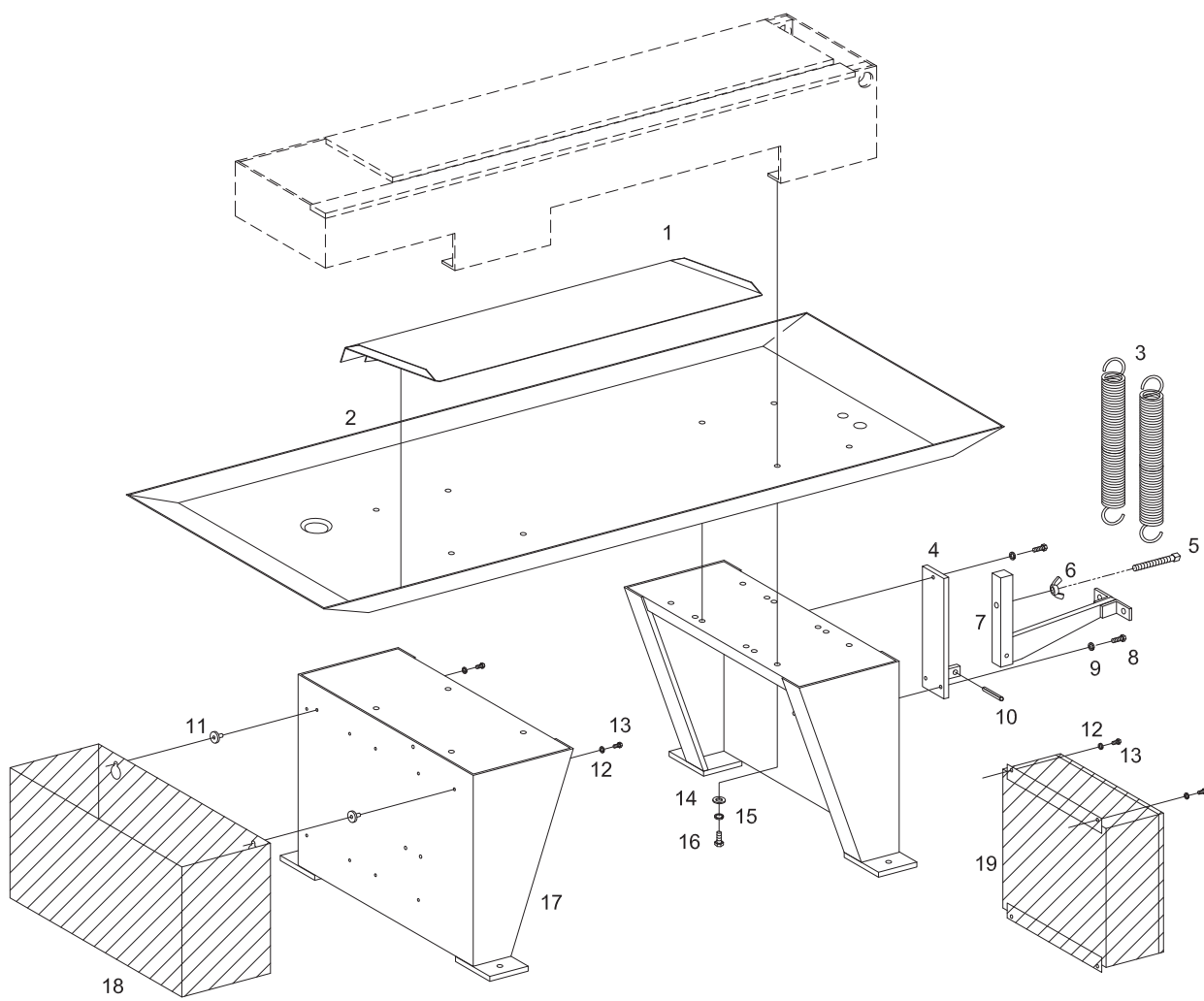
Bed Assembly



Bed Assembly

1	M-065	Locating Pin	46	100024-002	Wing Nut, 1/4-20
2	100004-043	Cap Screw, HH 5/8 x 2-1/2	47	M-451SERV	Stock Stop Arm (fixed)
3	100004-070	Cap Screw, HH 1/2-13 x 1-3/4	48	100030-005	Washer, 3/8
4	155107	Washer	49	155205-002	Wing Nut
5	B-215	Stationary Vise Jaw	50	B-344	Stock Stop Ass'y
6	100008-006	Cap Screw, SH, 3/8-16 x 1			(includes items 36, 39 - 43 & 45 - 49)
7	100008-016	Cap Screw, SH, 3/8-16 x 1-3/4 (4 req'd)	51	150099	Slide Block Plate
8	100004-044	Cap Screw, HH 5/8 x 3	52	100004-022	Cap Screw, HH 5/16-18 x 1-1/2
9	150517	Pivot Arm	53	150098	Slide Block
10	150091	Lift Plate	54	100004-015	Cap Screw, HH 5/16-18 x 3/4
11	100053-002	Roll Pin, 3/8 x 2-1/2	55	M-061B	Vise Screw Nut
12	100053-008	Roll Pin, 1/8 x 1-3/8	56	100402	Thrust Collar
13	150094	Vise Drive pin before sn 1994	57	150286-001	Vise Screw
	150094-001	Vise Drive pin sn 1994 and later	58	M-041	Vise Ratchet Spacer
14	100053-009	Roll Pin, 1/8 x 5/8	59	150311	Vise Push Channel
15	B-003	Movable Vise Jaw	60	150419	Vise Push Channel Support
16	100017-007	Hex Nut, 5/8-11	61	150382	Tip Off Table
17	100029-008	Flat Washer, 5/8	62	100029-002	Flat Washer, 1/4
18		Control Switch Ass'y (see page28)	63	100039-004	Set Screw, Half Dog 3/8-16 x 1
19	B-077	Vise Slide Block			(5 req'd- use w/tip-off table)
20	100000-018	Machine Screw, Rd Hd, 10-32 x 3/8			
21	150021-001	Pivot Bar Collar			
22	150539	Cover			
23	100049-001	#4 Drive Screw			
24	150305	Saw Bed			
25	100004-024	Cap Screw, HH 5/16-18 x 2-1/2			
26	100025-002	Lock Washer, 5/16			
27	150097	Clamp Plate			
28	B-093	Hand Wheel			
29	100019-008	Hex Jam Nut, 3/4-10			
30	102886	Set Collar			
31	100419-041	Bushing (2 req'd)			
32	150276	Pivot Bar			
33	B-151	Clamp Nut			
34	B-082	Stop Bar Bracket			
35	100025-007	Lock Washer, 5/8			
36	100004-041	Cap Screw, HH 5/8-11 x 1-1/2			
37	100033-015	Set Screw, Sq Hd 5/8-11 x 1			
38	B-460	Stock Stop Bar			
39	100033-016	Sq. Hd. Set Screw, 5/8-11 x 4			
40	100019-007	Hex Jam Nut, 5/8-11 (2 req'd)			
41	M-452	Stock Stop Arm (hinged)			
42	155190	Wedge			
43	155204	Carriage Bolt, Ribbed Neck			
44	155203	Wedge & Bolt Assembly			
		(includes items 40 & 41)			
45	100042-003	Thumb Screw, 1/4-20 x 2			

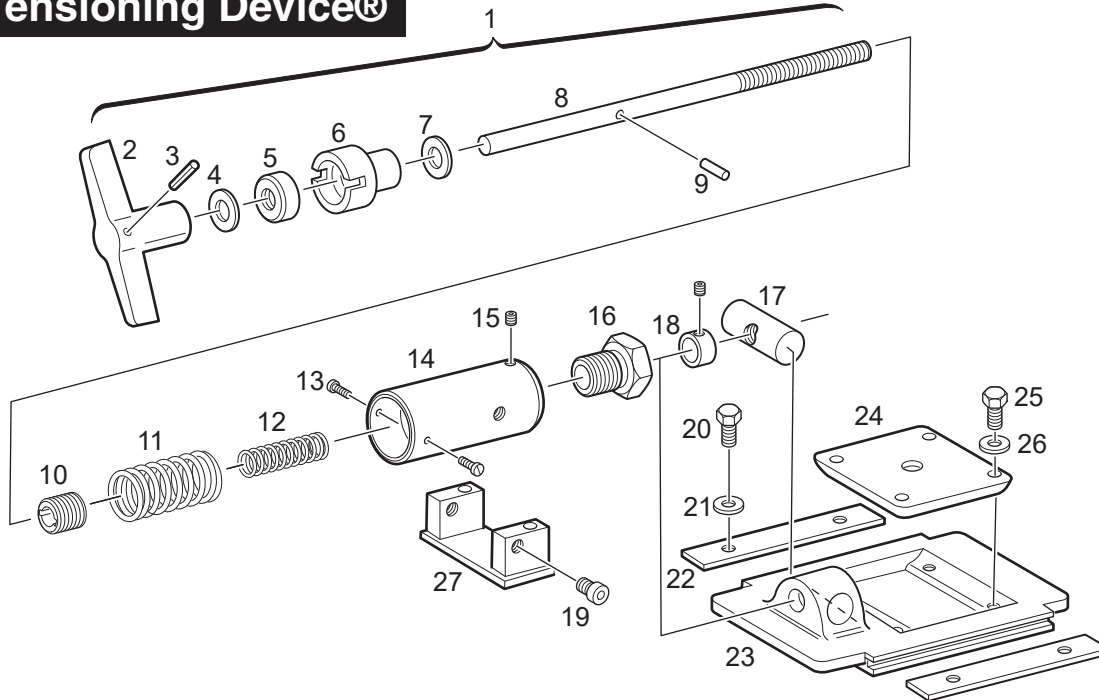
Leg & Chip Pan



Leg & Chip Pan

1	F-228	Splash Guard
2	150303	Chip Pan
3	150466	Counter Balance Spring (2 required)
4	155016-001	Spring Anchor Weldment
5	100033-025	Square Head Set Screw, 1/2-13 x 4
6	100024-004	Wingnut, 1/2-13
7	150334-001	Spring Adjuster Weldment
8	100004-018	Cap Screw, HH, 5/16 - 18 x 1 (3 required)
9	100025-002	Lock Washer, 5/16
10	100053-040	Roll Pin, 3/8 x 1-3/4
11	150078	Coolant Tank Hanger (2 required)
12	100025-001	Lock Washer, 1/4
13	100004-003	Cap Screw, HH, 1/4-20 x 1/2
14	100029-004	Flat Washer, 3/8
15	100025-003	Lock Washer, 3/8
16	100004-027	Cap Screw, HH, 3/8-16 x 1
17	155106	Leg (2 required)
18		Coolant Tank Assembly (see page 20)
19		Electric Panel Assembly (see page 28)

Rite Tensioning Device®



Calibrating the WELLSAW RITE-TENSION ® Blade Tensioning Device

The Rite-Tension® device is a simple turn counter that is activated by blade tension and can be easily adjusted in the field.

Please review the operation instructions before making any adjustment:

1. LOOSENING

When replacing a worn or broken blade always turn the "T" handle out at least six (6) turns (counter-clockwise).

This will reset the device. **Always push-in** on the handle when loosening, this will insure that the internal counter is engaged.

2. TIGHTENING

Always pull out on the "T" handle when tightening the device (clockwise). After a number of turns the "T" handle will come to a hard stop.

At this point the blade will be properly tensioned. Do not force the unit beyond this point.

Note: If the mechanism does not seem to come to a hard stop but continues to tighten, stop and repeat steps one and two.

Check to make sure the blade is properly positioned on the band wheels and is not binding in the guides during the tightening process.

Calibration

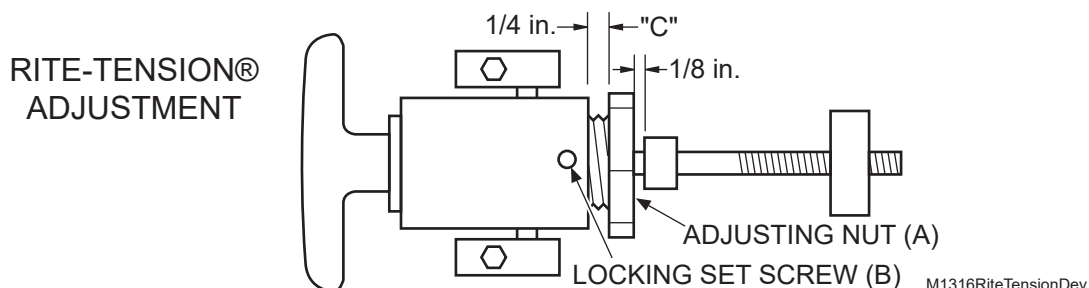
The final tension is determined by the Adjusting Nut, pn 150070 (see "A" in drawing). The "rough" position can be checked by measuring the clearance between the nut and the Tensioning Housing, pn 150067, (see "C").

A clearance of 1/4" will be within a safe range of the correct tension. When a tension guage becomes available the device should be calibrated as follows: Loosen the set screw (B) one turn.

-If the band tension needs to be *increased* the adjusting nut should be turned out, one flat at a time, then the set screw tightened and the device rechecked.

-If the tension needs to be *decreased* the adjusting nut should be turned in, one flat at a time and rechecked.

The device must be in the "loosened" or "open" position to make this adjustment.



Rite Tensioning Device®

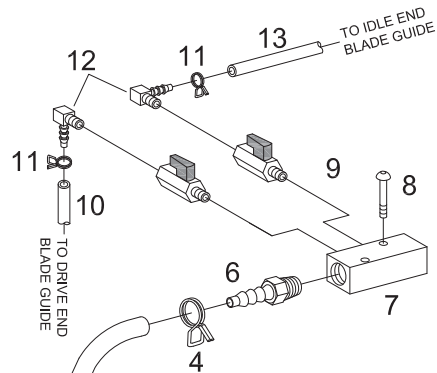
Caution:

The Rite Tension ® blade tensioning device has been factory calibrated for your saw.

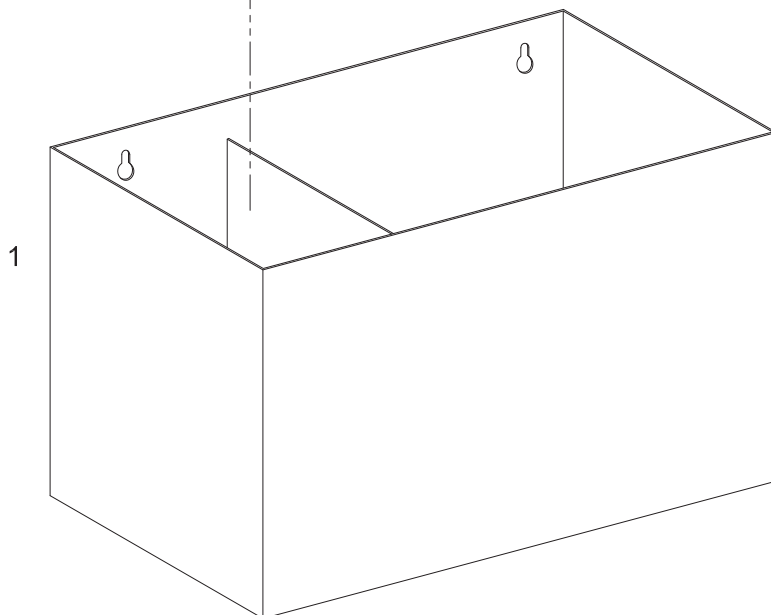
When re-tightening or replacing a blade, the 'T' handle must be turned counter-clockwise at least six turns to reset the Rite Tension ® mechanism.

1	150075	Blade Tensioning Ass'y (includes items 2 thru 18)
	150075-001	Blade Tensioner for model 1348 after sn 4843 (ask factory for diagram)
2	101184	Take Up Screw Handle
3	100053-005	Roll Pin, 3/16 x 1
4	100030-007	Flat Washer, 1/2
5	100410-001	Thrust Bearing
6	150068	Bearing Housing
7	100116-007	Belleville Washer (2 req'd)
8	150074	Take Up Screw (includes items 2 & 9)
9	100052-026	Dowel Pin, 3/16 x 11/16
10	150069	Turn Counter
11	100136-006	Spring, Large Diameter
12	100136-001	Spring, Small Diameter
13	100000-010	Machine Screw, 8-32 x 5/16 (2 req'd)
14	150067	Blade Tension Housing
15	100034-008	Set Screw, 1/4-20 x 1/4
16	150070	Tension Adjuster
17	155068	Swivel Nut
18	098030-004	Collar, w/set screw
19	100008-072	Cap Screw, HH 5/16-18 x 3/8 (2 req'd)
20	100004-013	Cap Screw, HH 5/16-18 x 5/8 (4 req'd)
21	100025-002	Lock Washer, 5/16 (4 req'd)
22	B-046	Slide Block Guide, (2 req'd)
23	101164	Slide Block
24	B-010	Wheel Adjusting Block
25	100004-019	Cap Screw, HH 5/16-18 x 1-1/8 (4 req'd)
26	102360	Spacer (4 req'd)
27	150190	Tensioner Support

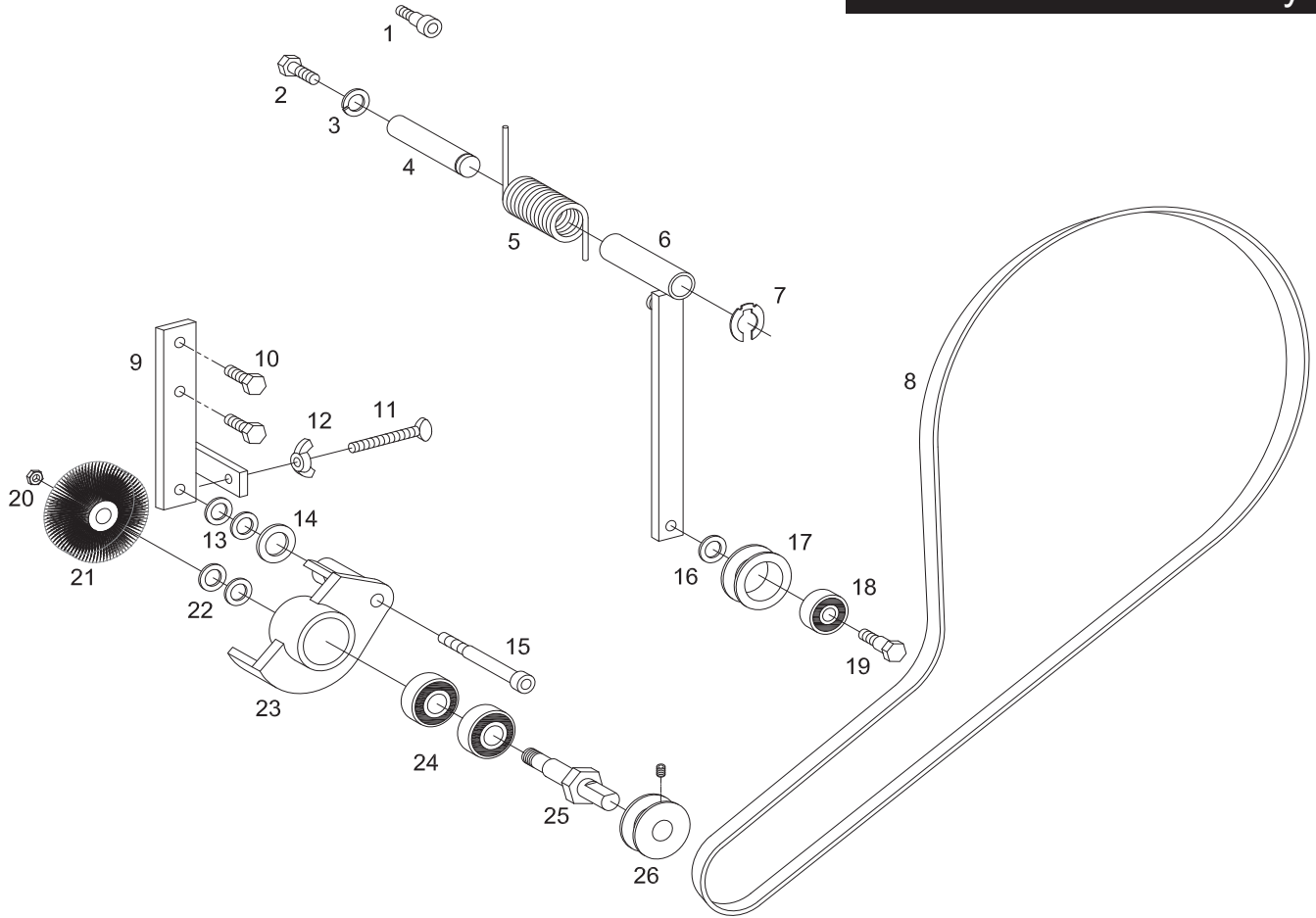
Coolant System



- | | | |
|----|-------------------|--|
| 1 | 150066 | Coolant Tank w/Filter |
| 2 | 100249-010 | Coolant Pump |
| 3 | 102617 | Adapter |
| 4 | 100219-001 | Tubing Clamp |
| 5 | 100220-043 | Coolant Hose, $\frac{3}{8}$ " X 142" |
| 6 | 100324-003 | Hose Barb Fitting |
| 7 | 152167 | Coolant Manifold |
| 8 | 100008-068 | Cap Screw, BH, 10-32 X 1-1/4 |
| 9 | 100226-004 | Miniature Ball Valve |
| 10 | 100350-018 | Coolant Hose, D.E. $\frac{1}{4}$ " X 18" |
| 11 | 100219-002 | Tubing Clamp |
| 12 | 100324-009 | Hose Barb Fitting, 90° |
| 13 | 100350-068 | Coolant Hose, I.E. $\frac{1}{4}$ " X 68" |
| 14 | 152177-002 | Coolant Manifold Assembly
(includes items 6, 7, 9, & 12) |



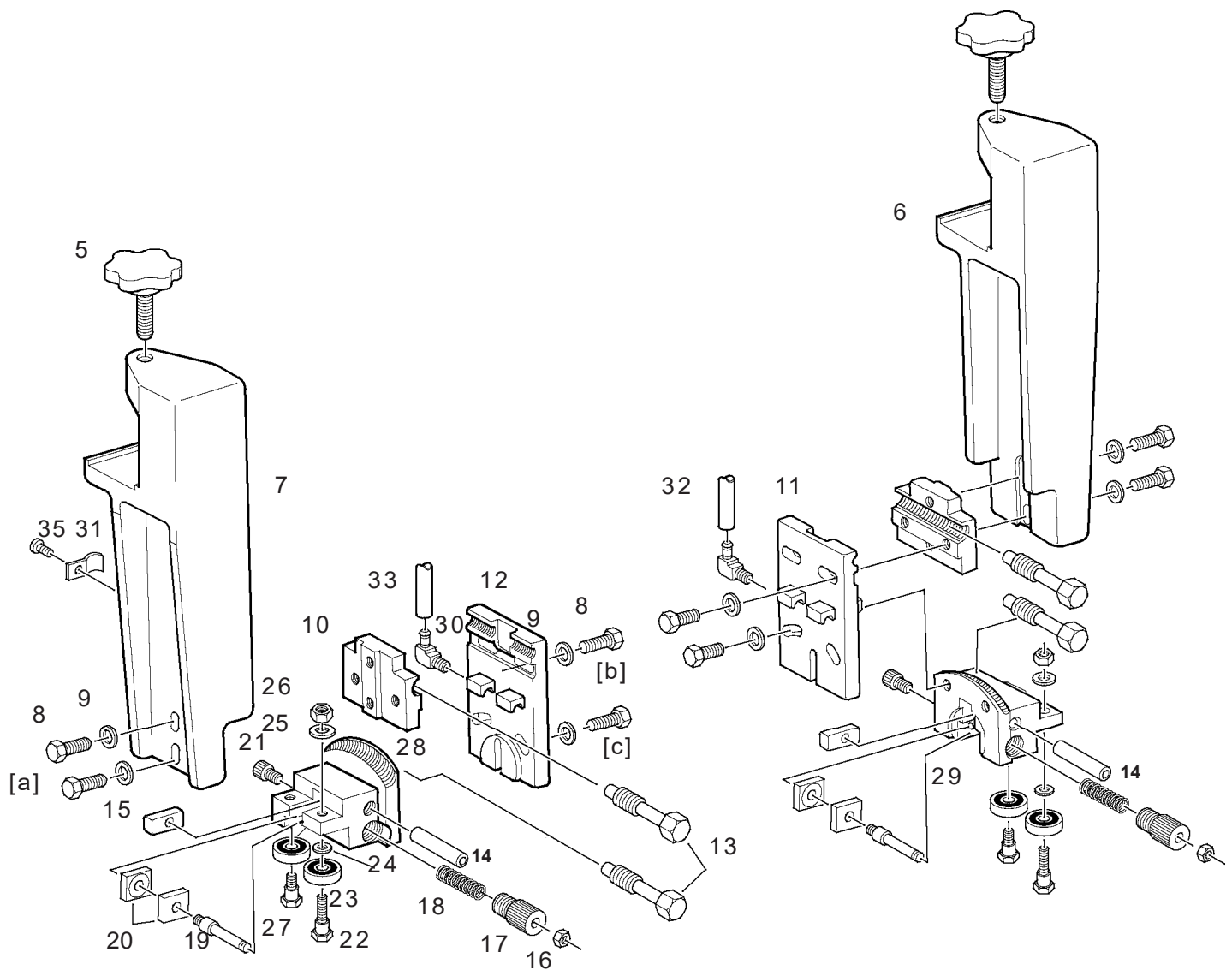
Blade Brush Assembly



Note: Adjust thumb screw (11) so that the brush makes light contact with the blade. This avoids dulling the blade and prevents premature brush wear.

1	100165-007	Shoulder bolt, 3/8 x 3/8	15	100165-015	Shoulder bolt 3/8 x 1-3/4
2	100004-018	Cap screw HH, 5/16-18 x 1	16	100097-001	Washer
3	100025-002	Lockwasher 5/16	17	150361	Pulley, belt idler
4	150160-002	Door latch stud	18	100416-001	Bearing
5	150360	Spring	19	B-043	Axle
6	150364	Belt tension arm	20	100019-005	Hex jam nut 1/2-20
7	100069-003	Snap Ring	21	100133-004	Brush
8	100166-450	V-belt	22	100030-007	Flat washer 1/2 USS (2 required)
9	150369	Blade brush arm	23	150257	Brush housing
10	100004-015	Cap screw hh 5/16-18 x 3/4	24	100404-001	Bearing (2 required)
11	100042-003	Thumb screw 1/4-20 x 2	25	150126	Brush arbor
12	100024-002	Wing nut 1/4-20	26	100167-003	Small Pulley w/ set screw
13	100029-002	Flat washer 1/4 USS (2 required)	27	150272	BLADE BRUSH ASSEMBLY
14	100030-005	Flat Washer 3/8 SAE			(includes items 20-26)

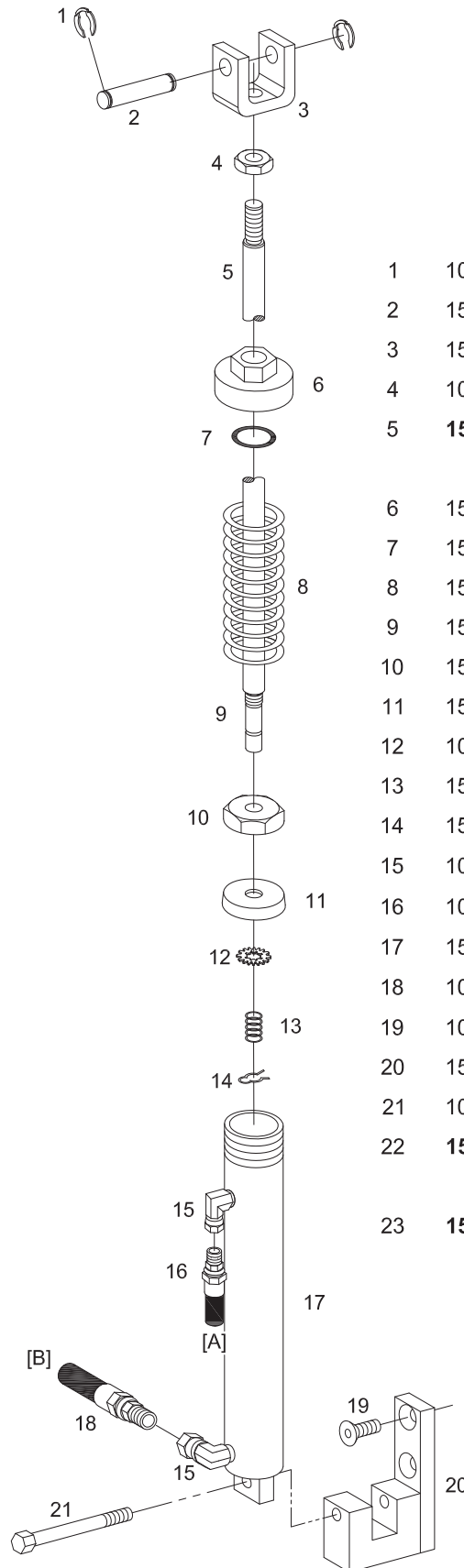
Blade Guides for 1" Blades



Blade Guides for 1" Blades

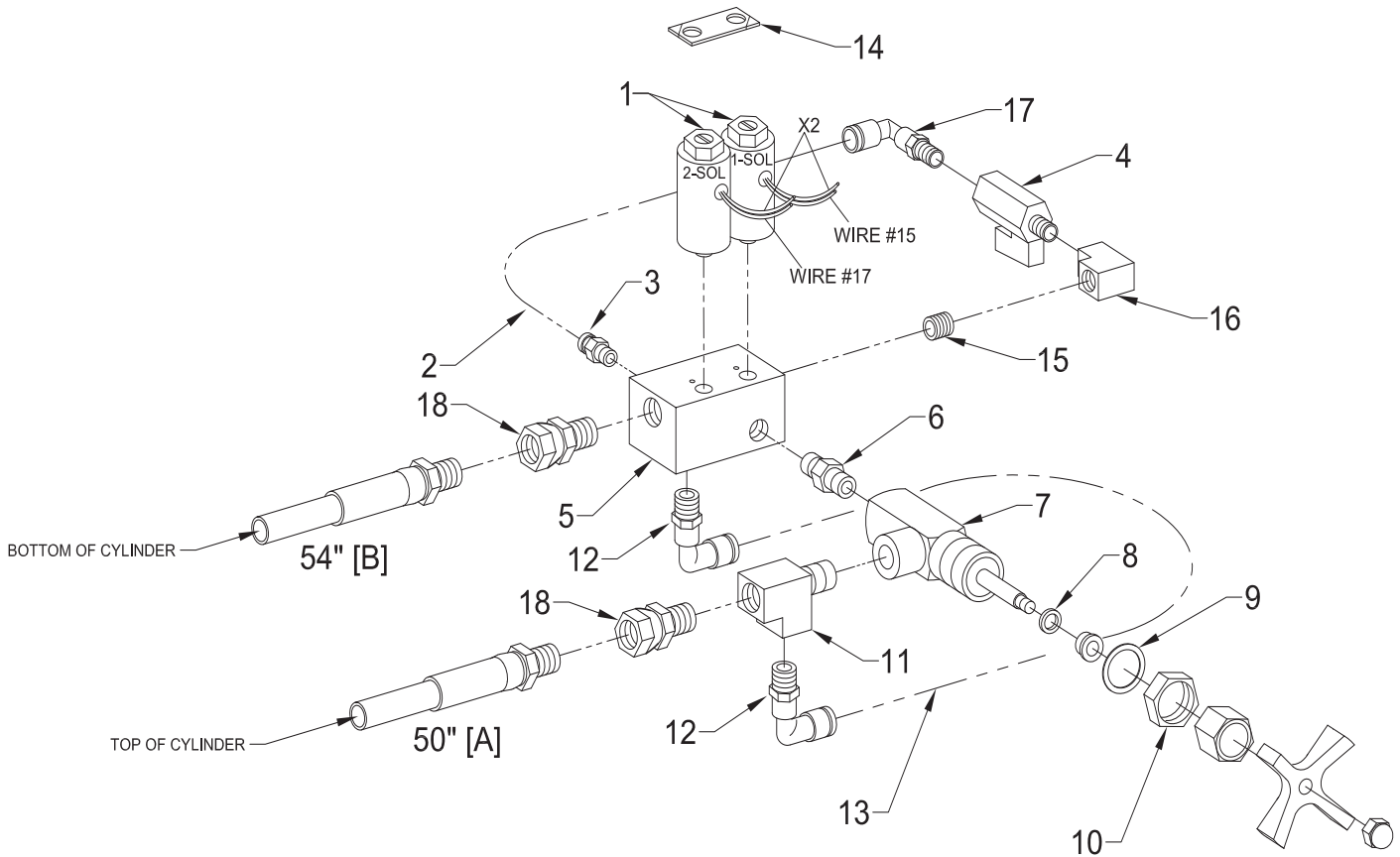
1	152158-001	Blade Guide Ass'y, D.E. (includes items 5 - 31& 35 - 37, minus 7,12,& 28)
2	152159-001	Blade Guide Ass'y, I. E. (includes items 5 thru 31& 35 - 37 minus 6,11& 29)
3	152160-001	Guide Support Ass'y, D.E. (includes items 13 - 27 plus 29)
4	152161-001	Guide Support Ass'y, I.E. (includes items 13 - 28)
5	105335-001	Hand Wheel & Screw
6	152117	Roller Guide Bracket, D.E.
7	152118	Roller Guide Bracket, I.E.
8	100004-018	Cap Screw, HH 5/16-18 x 1
9	100029-002	Flat Washer, 1/4
10	152155	Vertical Adjusting Block
11	152121-003	Horizontal Adjusting Block, D.E.
12	152121-002	Horizontal Adjusting Block, I.E.
13	152151	Adjusting Bolt
14	100053-036	Roll Pin, 1/4 x 2
15	152153	Carbide Back up Guide Block
16	100023-006	Nylon Lock Nut, 1/4-20
17	152156	Adjusting Knob
18	100136-009	Spring
19	152157	Stud
20	106317	Fixed Carbide Guide
21	100008-004	Cap Screw, HH 5/16-18 x 5/8
22	B-109	Eccentric Roller Axle
23	100416-001	Bearing
24	100097-001	Roller Guide Washer
25	100027-005	Lock Washer, Shakeproof
26	101300	Hex Nut, 5/16-18
27	B-043	Roller Axle
28	152120	Guide Support, I.E.
29	152119	Guide Support, D.E.
30	100324-009	Hose Barb, 1/4" hose, 90 deg
31	100218-018	Tubing Clamp, 3/8
32	100350-018	Coolant Hose, 1/4" X 18" D.E.
33	100350-040	Coolant Hose, 1/4" X 40" I.E.
34	100013-005	Machine Screw, BH 10-32 x 3/8

Hydraulic Cylinder



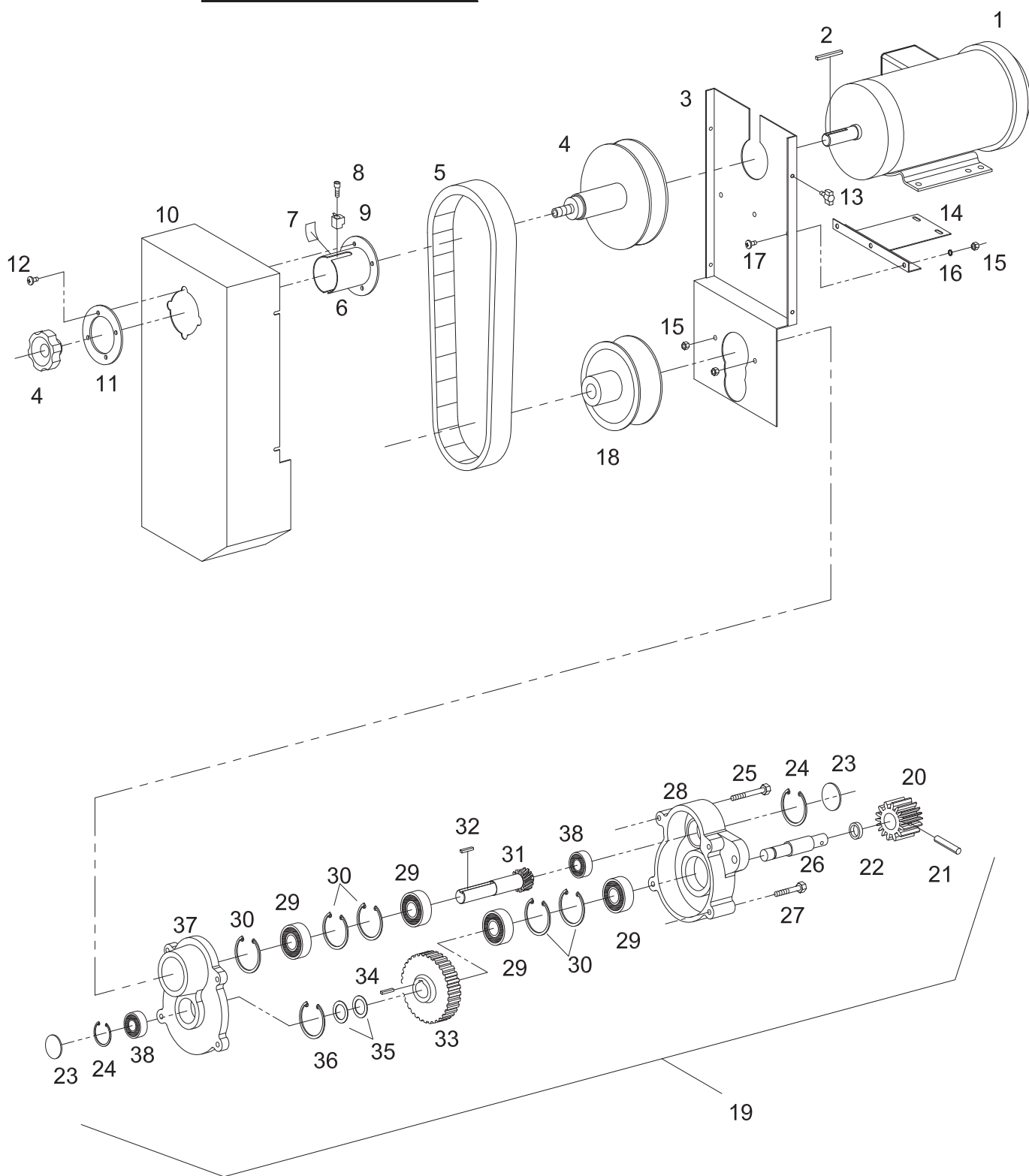
1	100069-019	Snap Ring (2 required)
2	150279	Clevis Pin
3	150218	Clevis
4	100019-026	Heavy Hex Jam Nut, 1/2-20
5	155221	Piston Rod Assembly (includes Rod and items 9 - 14)
6	155157	Cylinder Cap
7	155156	O-Ring, Buna N2-208
8	155159	Spring
9	155182	Piston Rod
10	155160	Aluminum Washer
11	155161	Piston Cup
12	100028-006	Shake Proof Washer
13	155163	Spring
14	155164	External Hitch Pin
15	100313-001	90° Swivel Fitting, $\frac{1}{4}$ "
16	100331-034	Hose Assembly, top $\frac{1}{4}$ x 50"
17	155181	Cylinder
18	100331-052	Hose Assembly, $\frac{1}{4}$ x 54"
19	100008-006	Socket Head Cap Screw, 3/8-16 x 1
20	150277	Lower Cylinder Mount
21	100004-052	Cap Screw, Hex Head, 3/8-16 x 3-1/2
22	155256	Hydraulic Cylinder Field Service Kit (Includes Items 7,11-14)
23	155180	Hydraulic Cylinder Assembly (includes Items 5-15 & 17)

Flow Control Assembly



1	100673-044	SOLENOID VALVE
2	100358	TUBING FLEXIBLE NYLON
3	100357-002	PUSH IN FITTING, STRAIGHT
4	100226-004	MINIATURE BALL VALVE
5	150530	MANIFOLD
6	100332-001	1/4 NPT HEX PIPE NIPPLE
7	100238-005	FEED CONTROL VALVE ASSY
8	107065	NYLON WASHER
9	100238-003	WASHER
10	100238-004	PANEL NUT
11	100359-001	1/4 NPT STREET "T"
12	100357-003	PUSH IN FITTING 90°
13	100358	TUBING, FLEXIBLE NYLON
14	150541	LOCKING TAB
15	100203-001	PIPE NIPPLE 1/8" CLOSE
16	100335-003	90° FEMALE ELBOW 1/8"
17	100357-007	PUSH IN FITTING 90°
18	100329-001	SWIVEL FITTING, STRAIGHT
	155216-004	FLOW CONTROL ASSY

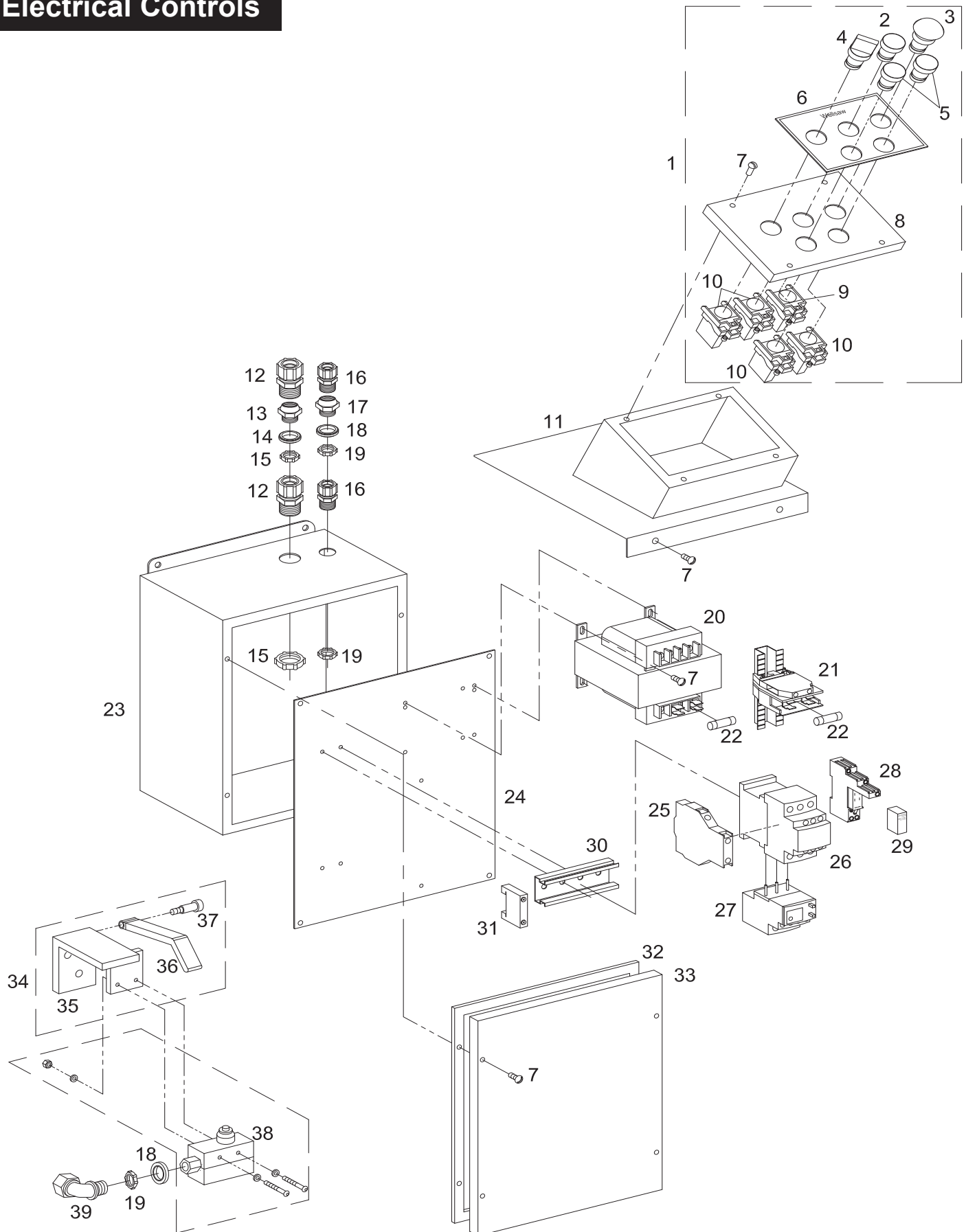
Motor & Gear Box



Motor & Gear Box

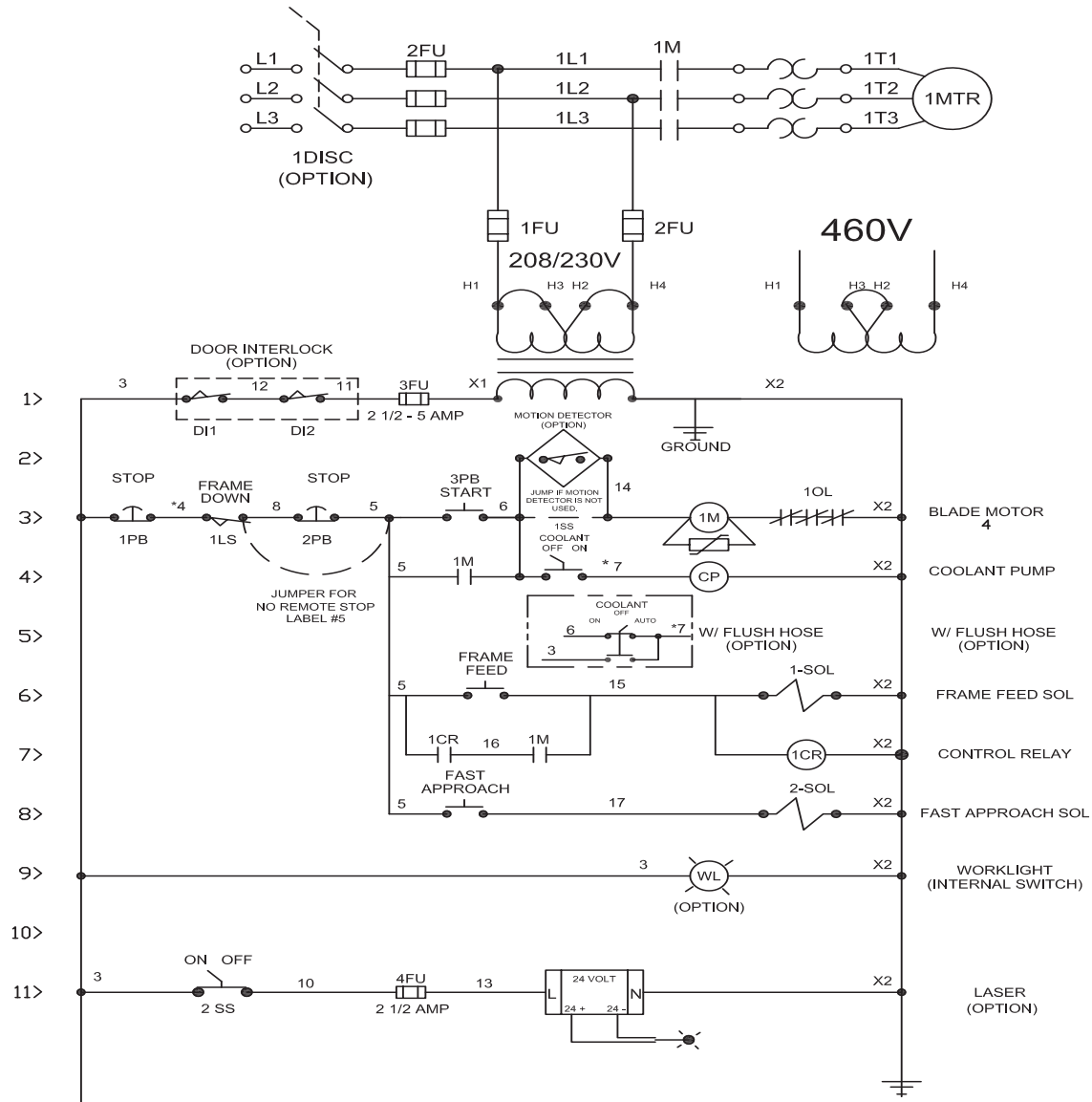
1	100835-037	Motor, 3 HP TEFC, 3/4" shaft, 230/460 3ph
	100836-030	Motor, 2 HP, ODP, 115-220/60/1phase 5/8 Shaft
2	100056-037	Key
3	150250	Belt Guard, Bottom Plate
4	105451-021	VS 3 Phase Motor Pulley, 3/4" bore (includes hand wheel 407-712)
	105451-005	VS 1Phase Motor Pulley, 5/8" bore, (includes hand wheel 407-712)
	407-712	Handle / knob only (without pulley)
5	105454-005	Variable Speed Belt
6	150252	Sleeve
7	105688	Blade Speed Label
8	100008-087	Cap Screw, SH 1/4-28 x 3/4
9	150256	Blade Speed Indicator
10	150251	Belt Guard
11	150255	Flange Clamp
12	100013-008	Cap Screw, BH 1/4-20 x 3/8
13	100063	Thumb Screw (4 req'd)
14	150249	Belt Guard Support
15	100017-001	Hex Nut, 1/4-20
16	100026-004	Shake Proof Washer, 1/4
17	100155-001	Machine Screw, 1/4-20 x 1/2
18	105451-015	VS Driven Pulley w/step key, 3/4" bore
19	150423SERV	Gear Box Ass'y (includes items 20-38)
20	101645-FP	Drive Pinion
21	100180-001	Coiled Spring Pin
22	150416	Spacer
23	100072-001	Expansion Plug
24	100068-001	Snap Ring
25	100008-086	Cap Screw, SH 1/4-20 x 2
26	150426	Drive Shaft
27	100008-061	Cap Screw, SH 1/4-20 x 1-1/2
28	150424	Gear Case (housing only)
29	100414-003	Bearing
30	100068-002	Snap Ring
31	150234	Pulley Shaft & Pinion
32	105451-017	Step Key (used w/105451-015)
33	101286S	Driven Gear (Available in Phenolic or Steel)
34	100056-001	Key
35	100097-003	Washer (shim as needed)
36	100069-003	External Snap Ring
37	150425	Gear Case Cover
38	100404-002	Ball Bearing
39	100318-005	MobilGrease XHP 220 (not shown)
40	100146-005	Loctite 609 Liquid Sealant (not shown)

Electrical Controls



1	155330	Control Switch Assembly (includes 2-10, minus 7)
2	100871-001	Push Button Start
3	100871-013	Push Button Stop **
4	100871-003	Selector Switch, Coolant **
5	100871-019	Push Button
6	150230-001	Legend Plate
7	100000-019	Machine Screw, RH 10-32 x 1/2
8	150236-001	Switch Box Cover
9	100871-005	Switch Block, Normally Closed
10	100871-004	Switch Block, Normally Open
11	150235-002	Switch Box
12	100612-004	Connector, TB-2534
13	100796-024	Hub Connector, TB-371
14	100606-002	Sealing Ring
15	100240-003	Conduit Lock Nut
16	100612-002	Connector, TB-2523
17	100796-019	Hub Connector, TB-370
18	100606-001	Sealing Ring
19	100240-001	Conduit Lock Nut
20	100869-005	Transformer, 230/460 Volts
	100869-007	Transformer, 208 Volts
	100869-006	Transformer, 575 Volts
21	155115	Fuse Block Ass'y
22	100628-017	Fuse, FNA 2-1/2 Amp
23	100870	Electrical Enclosure
24	100893	Back Panel
25	100867-016	Auxiliary Contact
26	100867-023	Magnetic Starter 115 V
	100867-029	Magnetic Starter 230,230,480 V
27	100867-012	Adjustable Overload, 4-6 amps 440-460V
	100867-014	Adjustable Overload, 7-10 amps 208-230V (3 phase)
	100867-027	Adjustable Overload, 9-13 amps 208-230v (1 phase)
	100867-022	Adjustable Overload, 16-24 amps 110-120V
28	100866-008	Relay Socket
29	100866-007	Relay
30	100717-016T4	Mounting Rail
31	100717-017T	End Clamp
32	098048-050	Gasket, 1/8 x 3/4 x 50"
33	100892	Enclosure Cover
34	155118-001	Frame Rest w/TripBar (includes 33-35)
35	105977	Frame Rest
36	150344	Switch Bar Weldment
37	100165-005	Shoulder Bolt, 5/16 x 3/4
38	100782-012	Limit Switch, 115v w/ screws
39	100612-006	Elbow, 90 deg, TB-2268

Electrical Schematic



NOTE : TRANSFORMER UPGRADE REQUIRED FOR FLUSH HOSE OPTION.



Procedure to check gear backlash on Wellsaw bandsaws.

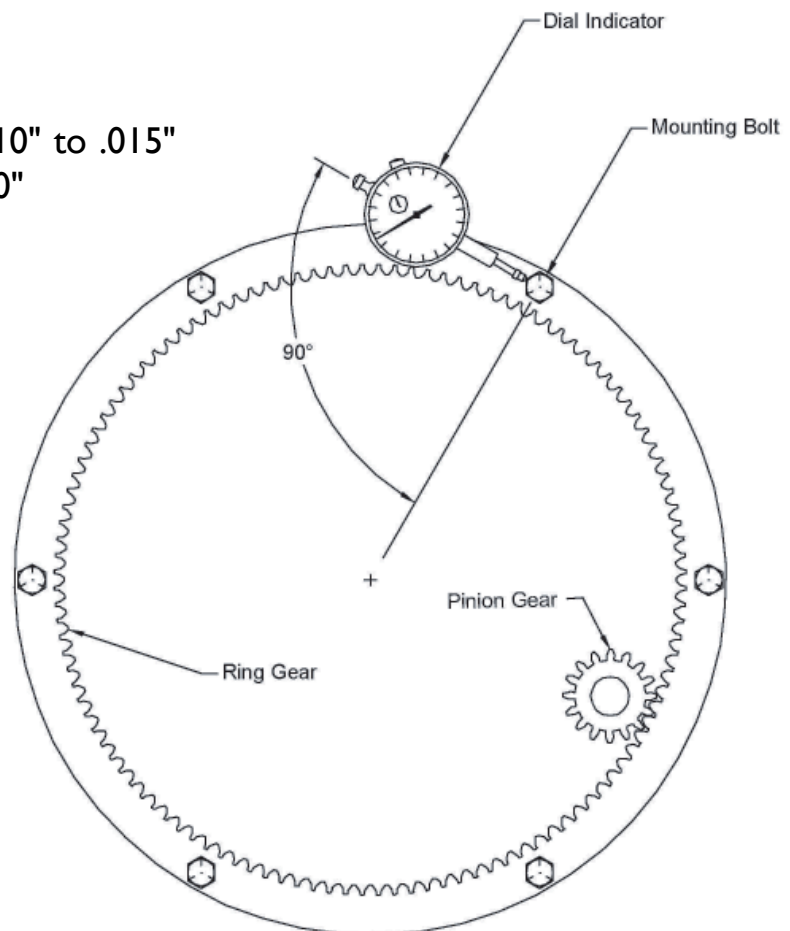
The applies to saw models with spur type ring & pinion final drive.

- Find the six bolts that hold the Ring Gear to the Bandwheel.
- Using a dial indicator with a magnetic mount, position the indicator so that the point will contact one of the bolt heads. The indicator must be 90° to the gear (see illustration).
- The Pinion Gear must be held stationary. This can be done by holding a screwdriver in the teeth and prying against the saw frame.
- Rock the bandwheel slightly by hand and note the travel on the indicator. See specifications.
- To adjust the backlash the gearbox must be repositioned. The gearbox mounting holes are oversized for this purpose. Slightly loosen the bolts that hold the gearbox to the wheel plate and push the gearbox in the desired direction. Tighten the bolts and recheck the backlash.
- If you chose to use another method to check the recommended clearance please note that too much or too little clearance will cause damage to the ring and pinion gears.

Backlash Specification:

9.5" and 11.5" Ring Gears = .010" to .015"

13.5" Ring Gear = .015" to .020"





Stock Dimensions Tooth Pitch	0 - 1" 10/14, 8/12		1" - 3" 8/12, 6/10, 5/8		3" - 6" 5/8, 4/6, 3/4, 3 Sabre		6"+ 3/4, 2/3, 2 Sabre, 1 Tooth, 3/4" T.S.	
Material (Annealed)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)
<u>Carbon Steels</u>								
1008-1013	250	8 - 10	275	9 - 12	280	12 - 15	250	9 - 12
1015-1018	250	8 - 10	275	9 - 12	250	12 - 15	230	9 - 12
1048-1065	200	5 - 7	200	5 - 7	175	8 - 10	150	6 - 8
1065-1095	200	4 - 6	200	5 - 7	150	6 - 8	120	6 - 8
<u>Free Machining Steels</u>								
1108-1111	300	9 - 11	330	12 - 14	275	13 - 15	220	11 - 14
1112-1113	300	8 - 11	330	11 - 13	275	12 - 15	220	12 - 15
1115-1132	300	7 - 11	330	10 - 13	275	13 - 16	220	11 - 14
1137-1151	275	6 - 8	250	8 - 10	250	8 - 11	200	7 - 10
1212-1213	300	8 - 10	320	11 - 13	300	13 - 15	255	11 - 14
<u>Manganese Steels</u>								
1320-1330	250	5 - 7	250	5 - 8	200	8 - 11	175	7 - 10
1335-1345	250	5 - 7	225	5 - 7	200	7 - 9	175	5 - 8
<u>Nickel Chrome Steels</u>								
3115-3130	260	4 - 6	260	5 - 7	230	5 - 7	225	5 - 7
3135-3150	220	4 - 6	200	4 - 7	180	6 - 8	150	5 - 8
3310-3315	200	3 - 4	180	4 - 5	180	5 - 7	160	4 - 6
<u>Molybdenum Steels</u>								
4017-4024	300	3 - 5	270	4 - 7	250	6 - 8	220	5 - 8
4032-4042	300	3 - 5	270	4 - 7	250	6 - 8	230	5 - 8
4047-4068	250	3 - 5	220	4 - 6	200	5 - 7	180	3 - 5
<u>Chrome Moly Steels</u>								
4130-4140	280	4 - 6	250	5 - 8	250	8 - 10	220	6 - 8
4142-4150	230	3 - 5	200	4 - 6	200	5 - 7	170	4 - 6
<u>Nickel Chrome Moly Steels</u>								
4317-4320	250	3 - 5	225	4 - 6	200	5 - 7	170	4 - 6
4337-4340	230	3 - 4	200	4 - 5	200	4 - 6	170	4 - 5
8615-8627	250	4 - 5	230	6 - 7	230	6 - 8	200	6 - 7
8630-8645	250	3 - 5	230	4 - 6	230	5 - 7	180	4 - 6
8647-8660	220	2 - 4	200	3 - 5	200	4 - 6	150	3 - 5
8715-8750	250	3 - 5	220	4 - 6	220	5 - 7	180	4 - 6
9310-9317	200	1 - 3	160	2 - 3	160	2 - 4	150	2 - 3
9437-9445	250	4 - 5	230	4 - 5	230	5 - 6	180	4 - 5
9747-9763	250	2 - 4	230	3 - 5	200	4 - 6	180	3 - 5
9840-9850	240	4 - 5	220	4 - 6	200	5 - 7	180	4 - 6
<u>Nickel Moly Steels</u>								
4608-4621	250	3 - 5	220	5 - 6	220	6 - 7	200	5 - 6
4640	220	3 - 5	200	4 - 6	200	5 - 7	170	4 - 6
4812-4820	200	3 - 5	180	3 - 5	180	4 - 6	160	4 - 5
<u>Chrome Steels</u>								
5045-5046	280	4 - 6	250	5 - 7	250	8 - 10	200	7 - 8
5120-5135	280	4 - 6	250	6 - 7	240	7 - 8	180	5 - 8
5140-5160	250	3 - 5	230	4 - 6	230	5 - 7	200	4 - 6
50100-52100	180	2 - 4	160	3 - 5	150	4 - 6	100	3 - 5
<u>Chrome Vanadium Steels</u>								
6117-6210	225	4 - 5	225	5 - 7	200	6 - 8	170	5 - 7
6145-6152	225	3 - 4	200	4 - 5	200	5 - 6	150	4 - 5
<u>Die Steels</u>								
A-2	210	2 - 3	200	3 - 4	190	3 - 4	180	2 - 3
D-2, D-3	110	1 - 2	100	1 - 2	90	1 - 2	80	1 - 2
D-7	90	1	80	1	70	1	70	1
O-1, O-2	240	3 - 4	210	4 - 5	190	5 - 6	170	4 - 5
O-6	230	3 - 4	200	4 - 6	180	5 - 7	150	4 - 6

Stock Dimensions Tooth Pitch	0 - 1" 10/14, 8/12		1" - 3" 8/12, 6/10, 5/8		3" - 6" 5/8, 4/6, 3/4, 3 Sabre		6"+ 3/4, 2/3, 2 Sabre, 1 Tooth, 3/4" T.S.	
Material (Annealed)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)	Blade Speed (SFPM)	Cutting Rate (SIPM)
<u>Silicon Steels</u>								
9255-9260	200	2 - 4	180	3 - 5	180	3 - 5	150	3 - 5
9261-9262	200	1 - 3	160	2 - 3	160	2 - 4	150	2 - 3
<u>High Speed Tool Steels</u>								
T-1, T-2	130	1 - 2	110	2 - 3	100	2 - 4	90	2 - 3
T-4, T-5	110	1 - 2	100	1 - 2	90	2 - 3	80	1 - 2
T-6, T-8	110	1 - 2	100	1 - 2	80	1 - 2	70	1 - 2
T-15	80	1	80	1	70	1	50	1
M-1	150	1 - 3	140	2 - 4	130	3 - 5	110	2 - 4
M-2, M3	120	1 - 2	110	2 - 3	100	3 - 4	80	2 - 3
M-4, M-10	100	1 - 2	90	1 - 2	80	1 - 3	60	1 - 2
<u>Hot Work Steels</u>								
H-12, H-13, H-21	150	2 - 4	125	3 - 5	125	2 - 4	125	2 - 4
H-22, H-24, H-25	150	1 - 3	125	1 - 3	125	1 - 3	125	1 - 3
<u>Shock Resisting Tool Steels</u>								
S-1	220	2 - 4	180	3 - 5	165	3 - 5	150	2 - 4
S-2, S-5	170	1 - 3	150	3 - 5	120	2 - 4	100	1 - 3
<u>Special Purpose Tool Steels</u>								
L-6	200	2 - 4	180	3 - 5	170	3 - 5	150	2 - 4
L-7	200	2 - 4	180	3 - 5	150	3 - 5	100	2 - 4
<u>Stainless Steels</u>								
201, 202, 302, 304	120	2 - 4	100	2 - 4	100	2 - 4	100	1 - 3
303, 303F	140	2 - 4	120	2 - 4	100	3 - 5	100	2 - 4
308, 309, 310, 330	90	1	70	1	60	2	60	1
314, 316, 317	90	1	80	1	70	2	60	1
321, 347	130	1 - 3	110	1 - 3	100	2 - 4	80	1 - 3
410, 420, 420F	150	1 - 3	130	1 - 3	120	2 - 4	100	1 - 3
416, 430F	200	3 - 5	180	4 - 6	170	5 - 7	150	4 - 6
430, 446	100	1 - 3	90	2 - 4	80	2 - 4	80	1 - 3
440 A,B,C	120	1 - 3	10	1 - 3	90	2 - 4	70	1 - 3
440F, 443	150	1 - 3	130	1 - 3	120	2 - 4	100	1 - 3
17-4PH, 17-7PH	100	2 - 3	90	2 - 4	80	3 - 4	80	2 - 3
A-7	100	1 - 2	100	1 - 2	100	2 - 3	100	2 - 3
<u>Beryllium Copper #25</u>								
BHN 100-120	350	4 - 6	300	5 - 7	275	6 - 8	225	5 - 7
BHN 220-250	250	2 - 4	225	3 - 5	200	3 - 4	175	3 - 5
BHN 310-340	200	1 - 2	160	1 - 2	140	2 - 3	100	1 - 2
<u>Nickel Base Alloys</u>								
Monel	100	1 - 2	100	1 - 2	80	1 - 2	60	1
R Monel	140	2 - 3	140	2 - 4	125	2 - 4	75	2 - 3
K Monel	100	1	80	1	60	1	60	1
KR Monel	100	1 - 3	90	1 - 3	80	1 - 3	60	1 - 2
Inconel	110	1 - 2	100	1 - 3	80	1 - 3	80	1 - 2
Inconel X	90	1	80	1	70	1	60	1
Hastelloy A	120	1 - 2	100	1 - 2	85	2 - 3	75	1 - 2
Hastelloy B	110	0 - 1	100	1 - 2	90	1 - 2	75	0 - 1
Hastelloy C	100	0 - 1	90	0 - 1	70	0 - 1	60	0 - 1
Rene 41	90	1	90	1	90	1 - 2	90	1 - 2
Udimit	100	1	90	1 - 2	90	1 - 2	90	1 - 2
Waspalloy	90	1	90	1 - 2	90	1 - 2	90	1 - 2
Titanium	100	1 - 2	100	2 - 3	100	2 - 3	100	2 - 3
<u>Titanium Alloys</u>								
TI-4AL-4MO	100	0 - 1	90	0 - 1	80	0 - 1	70	0 - 1
TI-140A2CR-2MO	100	0 - 1	90	0 - 1	80	0 - 1	60	0 - 1

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