

Parts List and

Operating & Maintenance Manual

MODEL

1318-SA
(formerly model 1118-SA)

Semi Automatic Bandsaw
Built better to work stronger and last longer



Rev 190912



WellSaw®
Made In The USA

Quality Metal Cutting Bandsaws

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Specifications

Capacity:		
Rectangular	13" high x 18" wide	
Round	13" diameter	
Flat	18" wide	
45°Angle	13" high x 9-1/2" wide	
Blade Speed	Infinitely variable, 70-375 SFPM	
Motor		
3hp	208-230-460/60/3 6.5 - 6.2 - 3.1 amps	
2hp	115-230/60/1 24 - 12 amps	
Drive	V-Belt	
Blade Size	1" x .035 x 12'6"	
Blade Tension	Manual Rite-Tension®	
Band Wheel	15" Diameter, Cast Iron	
Swivel Vise	to 45°	
Height to top of Bed	35"	
Width of Bed	101/2"	
Coolant Tank Capacity	8 gallons	
Feed Rate Control	Variable Hydraulic with Positive Downfeed Control	
System Logic	PLC/Non-Volatile Memory	
Air Requirements	5CFM @ 90 PSI	
Stock Stop Projection	Standard 12"	
Floor Space	40" wide x 84" long	
Shipping Weight	1200 lbs	

FORWARD

The Model 1318SA Wellsaws 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

Un-crating

Carefully remove the protective crating 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.

Parts Order

For your convenience:

When contacting your Wellsaw Supplier or the Company for parts or service, it is essential that you have your Model and Serial Numbers and Purchase Date available. Jot them down here for handy reference.

Model: 1318SA Serial Number: _____ Purchase Date: _____

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, brushes or blades. *There is no warranty 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.

Wellsaw Semi-Automatic Bandsaw

Set-up and Operation

Items needed:

1. Electrical power
2. 7 gallons of water
3. Compressed air, 5 CFM @ 100 PSI
4. Air tool oil for air lubricator.

Prior to start-up

Warning! Do not lift saw frame with your hand! Saw frame is raised with a powered system.

1. The saw should be placed on a level surface. This insures correct coolant flow. Leveling pads should be used if needed.
2. Have qualified electrician make the electrical connections.
3. Remove the shipping plug from the inlet port of the primary regulator (on left end) and attach shop air to the inlet. The primary regulator should be adjusted to 90-100psi. The air pressure is used to raise the saw head and power the vise.
4. The downfeed air regulator (on the top of the lifting cylinder) should be adjusted to 10 psi. See notes on Power Downfeed.
5. The upper spring anchor must be set to 10 inches from the saw frame.
6. The oil level in the air system lubricator bowl (next to the primary air regulator) should be checked . Add air tool oil to the reservoir and adjust to a minimum setting.
7. The sample coolant is shipped in the reservoir. The coolant pump needs to be removed from its packing box. Mix ½ gallon of coolant with 7 gallons of water and pour into coolant pan.

Sequence of Operation

Automatic Sequence:

1. Saw frame will descend through the cut.
2. Blade motor will stop at end of the cut.
3. Saw frame will raise to the pre-set position.
1. Vise will open. This is the end of the automatic cycle. At this point the saw is ready for either automatic or manual control.

Note: Saw can be operated in either the Manual mode or the Automatic Mode.

Conditions for Automatic Cutting Cycle:

1. Press the Frame Raise button to bring frame up to limit switch.
2. Adjust Vise Jaw, while in the open position, to allow the part to slide through without resistance.
3. Blade motor running. Press the Blade Start button.
4. Press the green Auto button. Vise will close and frame will descend.

Operation

1. Pull the Emergency Stop button up to power the saw. Be sure the air system is charged and is set to proper pressure.
2. Press the Frame Raise button so that the blade clears the stock by 2". Adjust the collar on the control rod of the lifting cylinder so that it is just below the roller on the limit switch. Press the

Raise button until limit switch stops frame. (Repeat this adjustment at a later time until frame is in the desired position above stock.)

3. Turn the Vise Control knob to "Open". Pick up the lift handle on adjustable vise and pull the vise open enough to move stock into place. Adjust to allow part to move through without resistance.
4. When making repeated cuts of the same length, adjust the stock stop (back gauge) to desired cutoff length.
5. Push the vise close to the stock. The Lift Handle will fall into position. Turn vise hand wheel until vise is approximately 1/8" from stock.
6. Turn the Vise Control knob to "Close".
7. Press the Blade Start button and adjust the desired band speed (250 SFPM for mild steels.) Make this adjustment only with motor running.
8. Open the Coolant valves and note coolant flow to the blade. Slowly adjust coolant flow to the Idle End blade guide so that coolant just hangs off of the blade. Adjust coolant flow to the Drive End to a heavy flow but not to splash out of machine.
9. With blade motor running press Frame Lower button. Open feed control knob to the appropriate feed rate. Note saw head descend and begin cutting. Keep cutting rate low during set-up. Cut only at a rate enough to produce good chips.

To Raise the saw frame while part way through a cut.

1. While in Auto Mode saw is feeding down. Blade motor is running and vise is closed.
2. To raise the head
 - a. Do not stop the blade motor. It must clear the chip load.
 - b. Do not open the vise. The vise can and should remain closed.
 - c. Press Frame Stop button. This takes the saw out of the Auto mode and stops the feed.
 - d. Press and HOLD the Frame Raise button. In the Manual Mode this button will now function only as a MOMENTARY switch. It will only work if you continue to push it down. The frame will stop rising when you let go of the button.

Additional Notes on Cutting Pressure Control

The cutting pressure is controlled by three features:

1. **The Frame Weight crank handle.** The primary cutting force comes from gravity. The **counterbalance spring(s)** compensates for the change in the weight of the saw frame as it moves from top to bottom. For the set-up position, turn the crank handle about forty turns so that the upper spring anchor tube is about 10 inches from the saw frame. If needed, fine adjustments can be made at the lower spring anchor by turning the adjusting screw in or out.
2. **The Power Downfeed air pressure regulator.** This provides positive downforce to the saw frame in addition to the force of gravity. Set at 10 PSI for set-up.
3. **The Feed Control knob.** This adjusts the rate that the head will fall. Make set-up test cut at position 1.

These forces combine to put controlled cutting force on the blade. It is important to keep these forces in balance. Excessive Downfeed pressure will shorten the life of the blade or increase the risk of blade damage. Increasing any of these pressures will increase blade cutting force and should only be done in small increments. Always inspect the chips from the cut. Measure the cutting times and compare against known cutting rates.

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

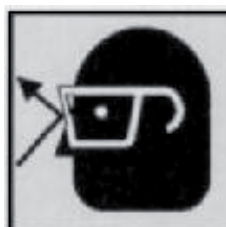


Figure C



Figure D



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 helpful 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 36-37.
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

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 (Y2) turn. Tighten the opposite two cap screws one-half (Y2) 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 (Y2) turn. Tighten the opposite cap screws one-half (Y2) 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 (Y2) turn. Tighten the two set screws on the same end one-half (Y2) 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

The Model 1118SA is 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° 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 Brush

The brush should be cleaned frequently in kerosene and reversed to extend effectiveness. For efficient cutting and blade life, keep blade brush adjusted so it has contact with the blade teeth at all times. Replace it as needed.

Motor Overload

The motor starter has a voltage overload to de-energize the circuit if an overload occurs. To restart the motor, you need to push the reset button.

*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 for Insurance Against Downtime

1 year		
100133-004	Rotary Blade Brush	1 reqd.
2 year		
100416-001	Bearing	4 reqd.
105454-005	"VS" Belt	1 reqd.
100133-004	Rotary Blade Brush	1 reqd.
100166-450	Blade Brush "V" Belt	1 reqd.
106317	Fixed Carbide Guide	4 reqd.
152153	Carbide back up Guide	2 reqd.

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, Pivot Bar, Ring Gear, Drive Pinion

1. Inspect Monthly.
2. Use Extreme Pressure open gear lube.
3. Viscosity at 100°F: SUS750-800.
4. Military Specification: Mil-G-46003.

Gear Case

1. Inspect after 3 years (6,000 hours).
2. Use Mobilgrease XHP 220 or equivalent.
3. Viscosity: Heavy Grease, drop point 550°F
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 100°F: 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 219°C.
4. Military Specification: None.

Instructions to Bleed Hydraulic System

Wellsaw models: 1118SA, 1318-SA, 1316S-SA,

Also saws with Powered Frame Lift Option

- Air can enter the system through a leak or if the system is run with low oil level. Also, if the saw head is lifted manually air can enter the system. Air will accumulate under the lifting piston and can be bled at the fitting at the bottom of the lifting cylinder with the piston at the bottom of its stroke. This procedure is done with two technicians.

To fill the Air/Oil Reservoir:

1. Move saw head to "down" position.
2. Disconnect the air line from the primary regulator.
3. Locate the fill port on the leg of the saw. There is a square head pipe plug in the port. Remove the plug. The reservoir is inside the leg.
4. Locate the air line (black rubber hose) at the top of the Air/Oil Reservoir (inside the saw leg). Remove this line from the fitting. This will allow you to add oil in the fill port without the oil flowing down into the control valve assembly. When you have this line off you cannot overfill the system. Add as much oil as it will take.
5. Slowly pour oil into the fill port until it will take no more.
6. Re-install plug and attach air line to top of the reservoir.
7. Re-attach shop air at regulator.

To bleed the air from the hydraulic system:

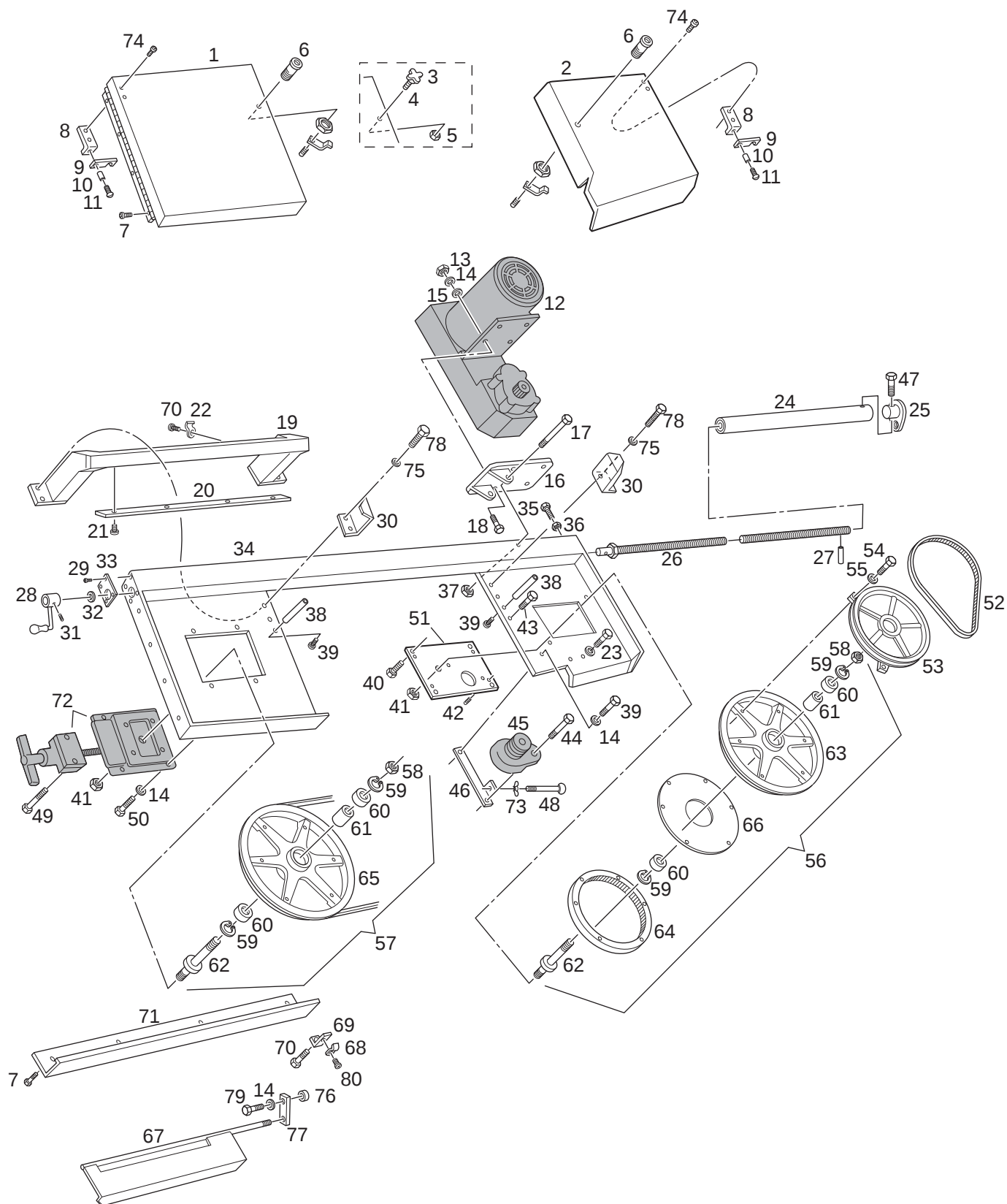
1. Remove air pressure from primary regulator.
2. Fill the hydraulic system through the fill elbow on the front of the saw.
3. Lower saw head to the rest and leave the feed control knob at position 2 or more.
4. Find the flats on the top of the cylinder rod. With an open end wrench, turn the rod down (out of the clevis) until the piston bottoms in the cylinder. You will see the saw head begin to raise when the piston bottoms out.
5. Re-connect shop air pressure. Adjust the primary air regulator (mounted on the saw leg) to 10psi. The pressure should be adjusted high enough to bleed the line *but not enough to raise the saw head*.
6. On Semi-Automatic saws, set the vise to the close position.
7. Saws with **Feed Selector Switch** should be set with selector at FEED.
8. Have one technician press and hold the Frame Raise button. The second tech will slightly open the hydraulic line at the bottom of the lifting cylinder to bleed oil until it is clear of air bubbles.
9. Tighten fittings.
10. Refill the reservoir as needed.
11. Repeat until no air appears at fitting
12. Adjust the cylinder rod back up into the clevis and tighten.

For saws with sight gauge

To check the oil level with the sight gauge,

1. Lower the saw head
2. Disconnect the shop air
3. Open the ball valve at the top of the gauge (handle will be parallel with the tube)
4. The oil fill port is the brass fitting at the top of the gauge. It has a small pipe plug
5. The oil level should be near the top of the sight gauge
6. When done close the ball valve (return the lever to the horizontal position)
7. Reconnect the shop air

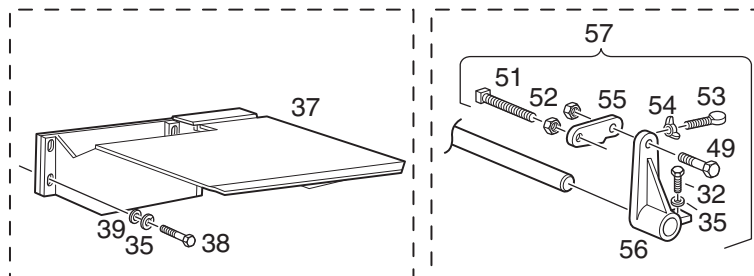
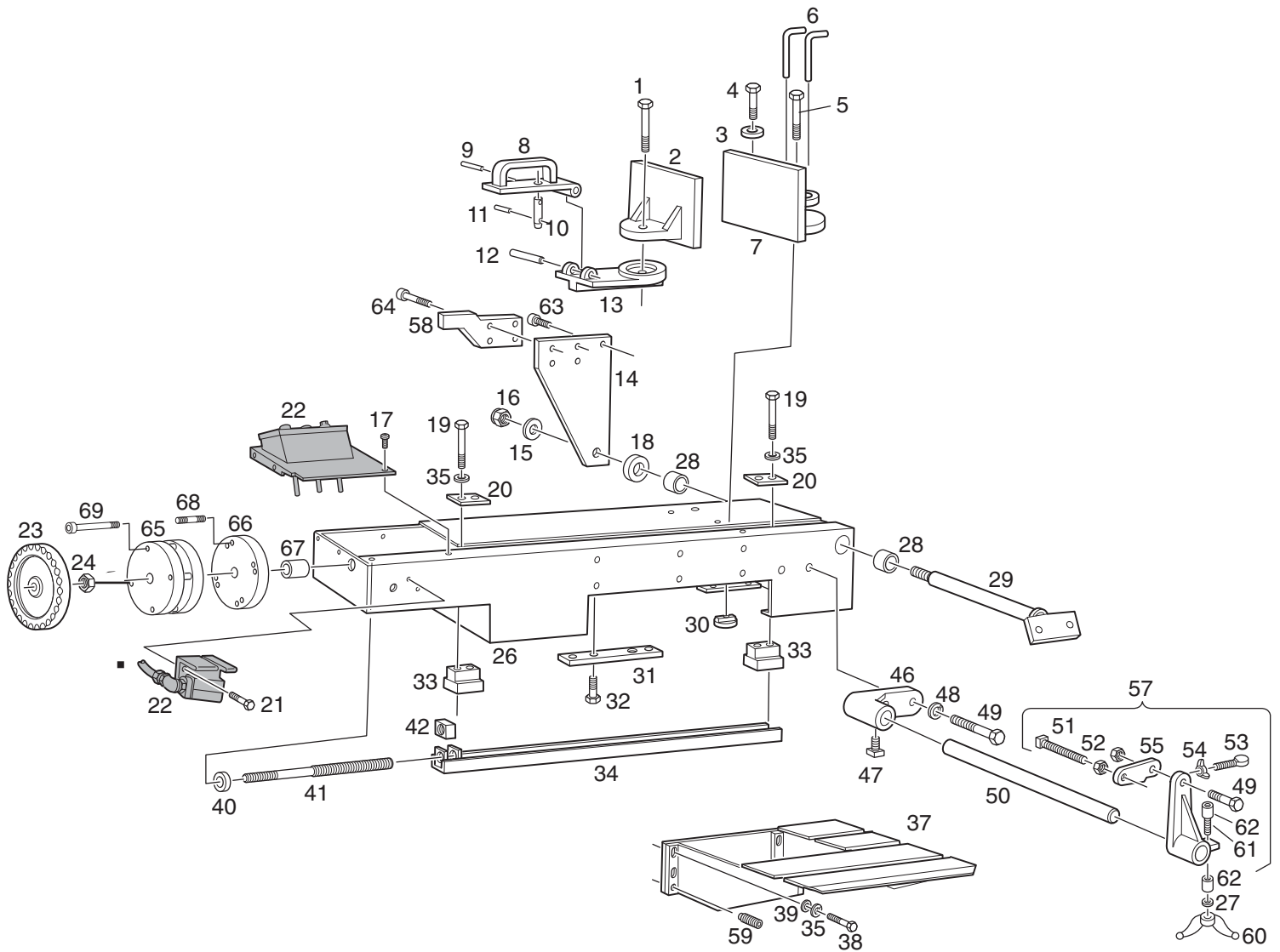
Frame Assembly



Frame Assembly

1	150146SERV	Idle Wheel Guard	55	100025-001	Lock Washer, 1/4
2	150147SERV	Drive Wheel Guard	56	150087	Drive Wheel Ass'y for 1" Blades (includes 41,54,55,58-64, & 66)
3	100139-003	Knob	57	150088	Idle Wheel Ass'y for 1" Blades (includes 41,58-62 & 65)
4	100034-045	Set Screw, 1/4-20 x 1-1/4	58	100019-016	Hex Jam Nut, 5/8-18
5	150150	Retainer Nut	59	100068-002	Snap Ring (2 req'd/ wheel)
6	100135-002	1/4 Turn Fastener w/cam (after S/N 2583)	60	100414-003	Ball Bearing (2 req'd/ wheel)
7	100013-006	Machine Screw, BH 1/4-20 x 1/2	61	105415	Spacer (1 req'd/ axle)
8	150095	Door Catch Mtg Block	62	105420	Wheel Axle
9	150096	Door Catch	63	150059-001	Drive Wheel (includes items 59 thru 61)
10	150182	Door Catch Sleeve	64	B-086	Internal Ring Gear
11	100013-009	Machine Screw, BH 10-32 x 1/2	65	150060-001	Idle Wheel (includes items 59 - 61)
12		Motor & Gear Box Assy. (page 30)	66	150405	Shield
13	100017-002	Hex Nut, 5/16-18	67	150157	Blade Guard Lower
14	100025-002	Lock Washer, 5/16	68	150414	Clamp
15	100029-003	Flat Washer, 5/16	69	150154	Blade Guard Support
16	150248	Motor Mount Bracket	70	100013-005	Machine Screw, BH 10-32 x 3/8
17	100004-116	Cap Screw, HH 1/2-13 x 4-1/2	71	150273	Blade Guard, Upper
18	100004-016	Cap Screw, HH 5/16-18 x 7/8	72		Rite Tension® Blade Tension & Slide Block Ass'y (see page 24)
19	150280	Guide Beam Ass'y	73	100024-002	Wing Nut, 1/4-20
20	150124	Guide Arm Track	74	100013-008	Machine Screw, Button Head 1/4-20 x 3/8
21	100009-013	Cap Screw, FH 5/16-18 x 1/2	75	100025-003	Lock Washer, 3/8
22	100218-010	Clamp	76	105537	Spacer
23	100004-076	Cap Screw, HH 3/8-16 x 1	77	150158	Blade Guard Mounting Block
24	150104	Counter Balance Arm & Sleeve (not used sn 8057 and later)	78	100004-076	Cap Screw, HH 3/8-16 x 3/4
25	150411	Counter Balance Spring Attach. (not used sn 8057 and later)	79	100004-010	Cap Screw, HH 5/16-18 x 1-3/4
26	150114	Counter Balance Screw (not used sn 8057 and later)	80	100013-006	Cap Screw, BH 1/4-20 x 1/2
27	100053-021	Roll Pin, 3/16 x 7/8			
28	150476	Crank (not used sn 8057 and later)			
29	100049-001	Drive Screw #4			
30	155152	Door Catch Support (after S/N 2583)			
31	100053-015	Roll Pin, 1/8 x 1"			
32	100030-007	Flat Washer, 1/2 SAE			
33	150231	Cutting Pressure Label			
34	150281	Saw Frame sn 8056 and earlier			
	150281-005	Saw Frame sn 8057 and later			
35	100004-030	Cap Screw, HH 3/8-16 x 1-1/2			
36	100019-004	Hex Nut, 3/8-16			
37	100023-004	Nylon Lock Nut, 1/2-13			
38	150160-001	Door Latch Stud before s/n 2583			
	150160-002	Door Latch stud after s/n 2583			
39	100004-015	Cap Screw, HH 5/16-18 x 3/4			
40	100004-020	Cap Screw, HH 5/16-18 x 1-1/4			
41	100065-007	Hex Nut, 5/8-18			
42	100034-005	Set Screw, 5/16-18 x 3/4			
43	100004-015	Cap Screw, HH 5/16-18 x 3/4			
44	100165-015	Shoulder Bolt, 3/8-16 x 1-3/4			
45		Blade Brush Ass'y (page 29)			
46	150369	Blade Brush Arm			
47	100008-018	Cap Screw, Soc Hd 5/16-18 x 3/4			
48	100042-003	Thumb Screw, 1/4-20 x 2			
49	100004-055	Cap Screw, HH 3/8-16 x 2-1/4			
50	100004-013	Cap Screw, HH 5/16-18 x 5/8			
51	150022	Wheel Plate, Drive End			
52	100166-450	V- Belt			
53	150144	Pulley, Large			
54	100004-068	Cap Screw, HH 1/4-20 x 1-1/4			

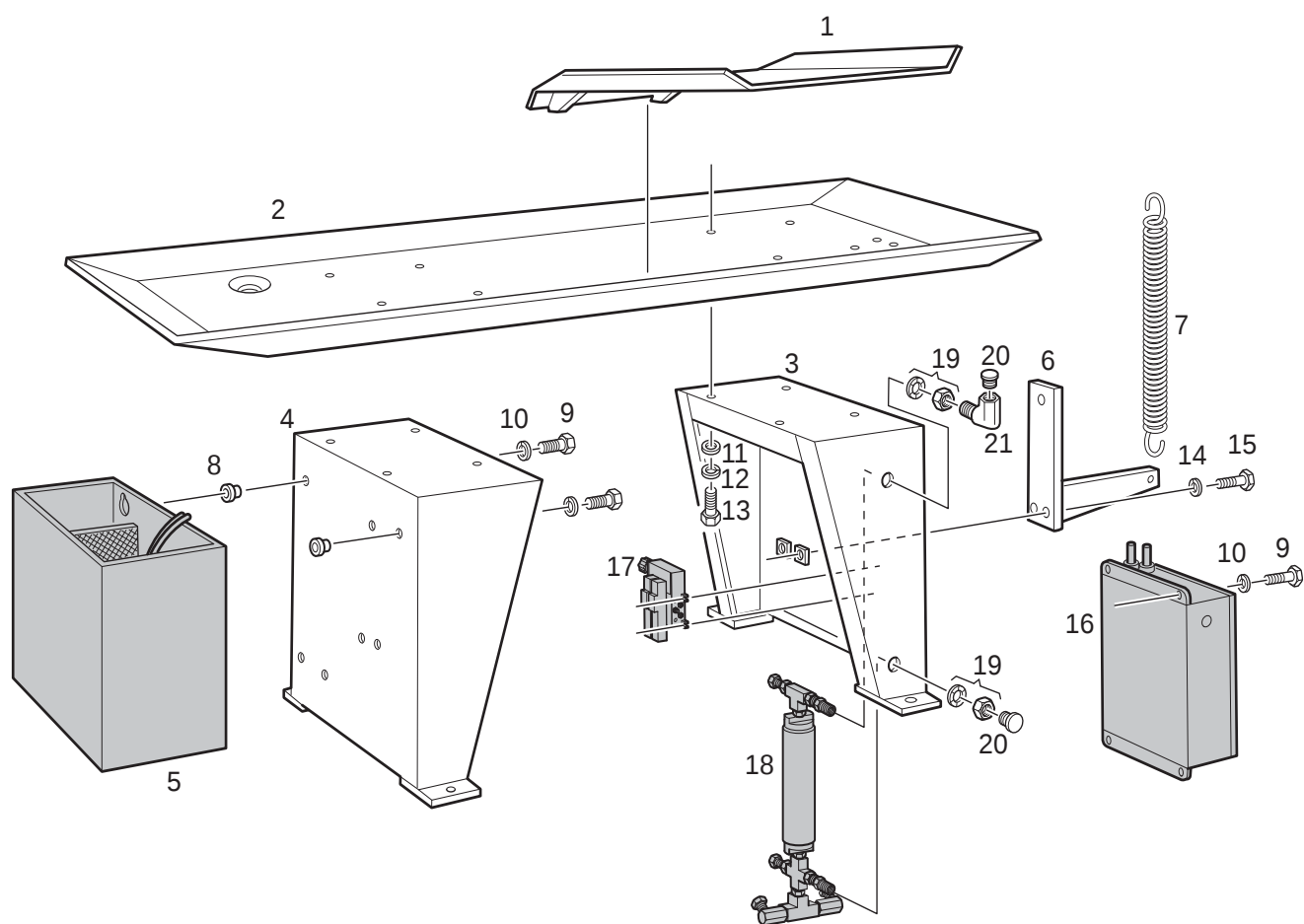
Bed Assembly



Bed Assembly

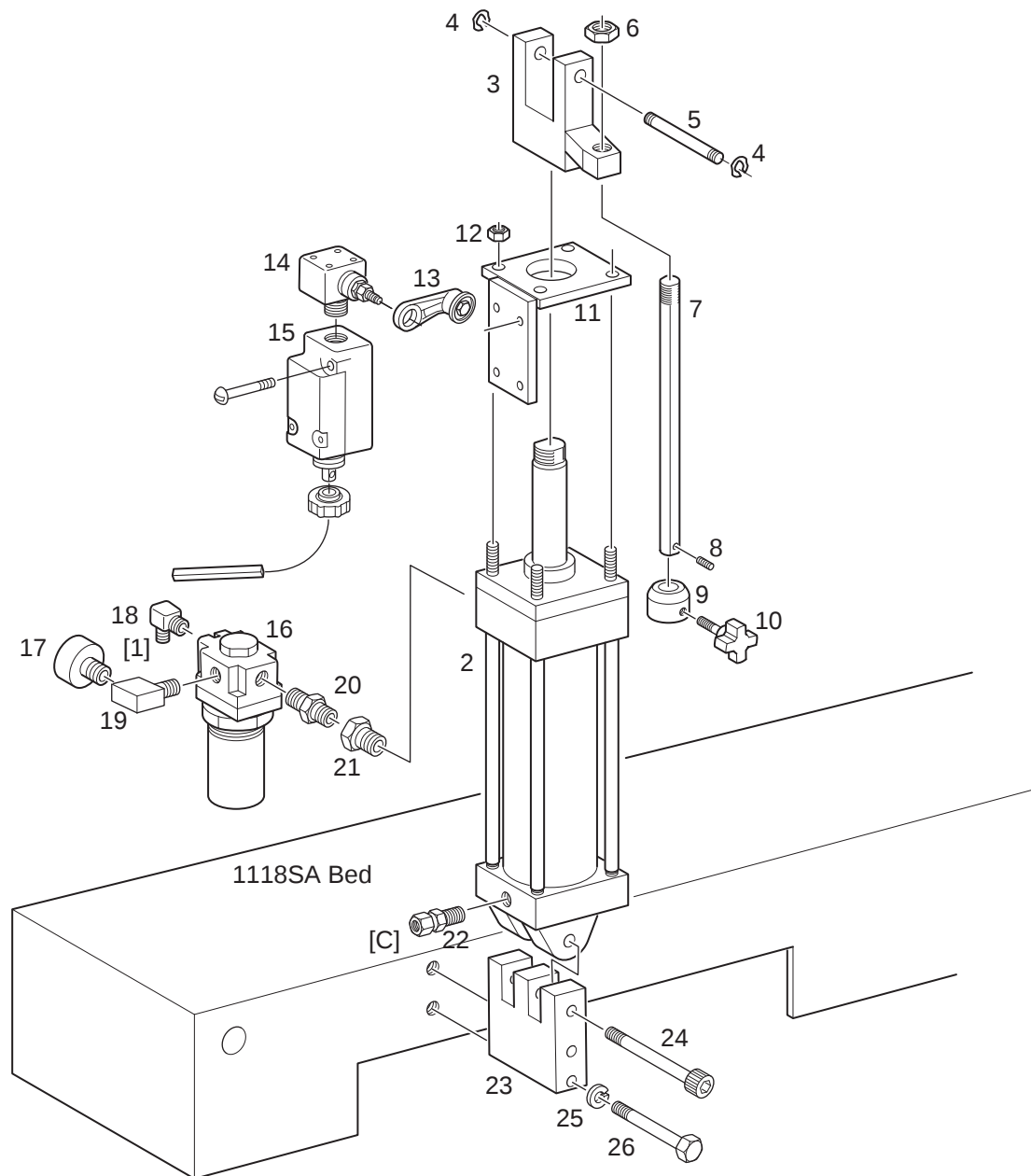
1	100004-044	Cap Screw, HH 5/8 x 3	46	B-082	Stop Bar Bracket
2	B-003	Movable Vise Jaw	47	100033-015	Set Screw, Sq Hd 5/8-11 x 1
3	155107	Washer	48	100025-007	Lock Washer, 5/8
4	100004-070	Cap Screw, HH 1/2-13 x 1-3/4	49	100004-041	Cap Screw, HH 5/8-11 x 1-1/2
5	100004-043	Cap Screw, HH 5/8 x 2-1/2	50	B-460	Stock Stop Bar
6	M-065	Locating Pin	51	100033-016	Sq. Hd. Set Screw, 5/8-11 x 4
7	B-215	Stationary Vise Jaw	52	100019-007	Hex Jam Nut, 5/8-11 (2 req'd)
8	150091	Lift Plate	53	100042-003	Thumb Screw, 1/4-20 x 2
9	100053-008	Roll Pin, 1/8 x 1-3/8	54	100024-002	Wing Nut, 1/4-20
10	150094	Vise Drive Pin before 8037	55	M-452	Stock Stop Arm (hinged)
	150094-001	Vise Drive Pin sn 8037 and later	56	M-451SERV	Stock Stop Arm (fixed)
11	100053-009	Roll Pin, 1/8 x 5/8	57	B-344	Stock Stop Ass'y
12	100053-002	Roll Pin, 3/8 x 2-1/2			(includes items 27,49, 51-56, & 60 - 62)
13	B-077	Vise Slide Block before sn 8037	58	150274	Upper Cylinder Mount
	B-077-001	Vise Slide Block sn 8037 & later	59	100039-004	Set Screw, Half Dog 3/8-16 x 1
14	150275	Pivot Arm			(3 req'd- use w/tip-off table)
15	100029-008	Flat Washer, 5/8	60	155205-002	Wing Nut
16	100017-007	Hex Nut, 5/8-11	61	155204	Carriage Bolt, Ribbed Neck
17	100000-018	Machine Screw, Rd Hd, 10-32 x 3/8	62	155190	Wedge
18	150021-001	Pivot Bar Collar		155203	Wedge and Bolt Assembly
19	100004-024	Cap Screw, HH 5/16-18 x 2-1/2			(includes items 61 & 62)
20	150097	Clamp Plate	63	100008-006	Cap Screw, SH, 3/8-16 x 1
21	100004-015	Cap Screw, HH 5/16-18 x 3/4	64	100008-016	Cap Screw, SH, 3/8-16 x 1-3/4 (4 req'd)
22		Control Switch Ass'y (see page 32)	65	107317	Vise Cylinder
23	B-093	Hand Wheel	66	152105	Cylinder Mounting Plate
24	100019-028	Hex Jam Nut, 3/4-10	67	152104	Spacer
26	155176	Saw Bed	68	100009-006	Cap Screw, Flat SH 3/8-16 x 1
27	100030-005	Washer, 3/8	69	100008-056	Cap Screw, SH, 5/16-18 x 2-1/2
28	100419-041	Bushing (2 req'd)			
29	150276	Pivot Bar			
30	B-151	Clamp Nut			
31	150099	Slide Block Plate			
32	100004-022	Cap Screw, HH 5/16-18 x 1-1/2			
33	150098	Slide Block before sn 8037			
	150098-001	Slide Block sn 8037 and later			
34	150285	Vise Push Channel			
35	100025-002	Lock Washer, 5/16			
36	100017-002	Hex Nut, 5/16-18			
37	150383	Tip Off Table before sn 8037			
	150284-001	Tip off table sn 8037 and later			
38	100004-018	Cap Screw, HH 5/16-18 x 1			
39	100029-002	Flat Washer, 1/4			
40	100402	Thrust Collar			
41	150286	Vise Screw			
42	M-061B	Vise Screw Nut			

Leg and Chip Pan



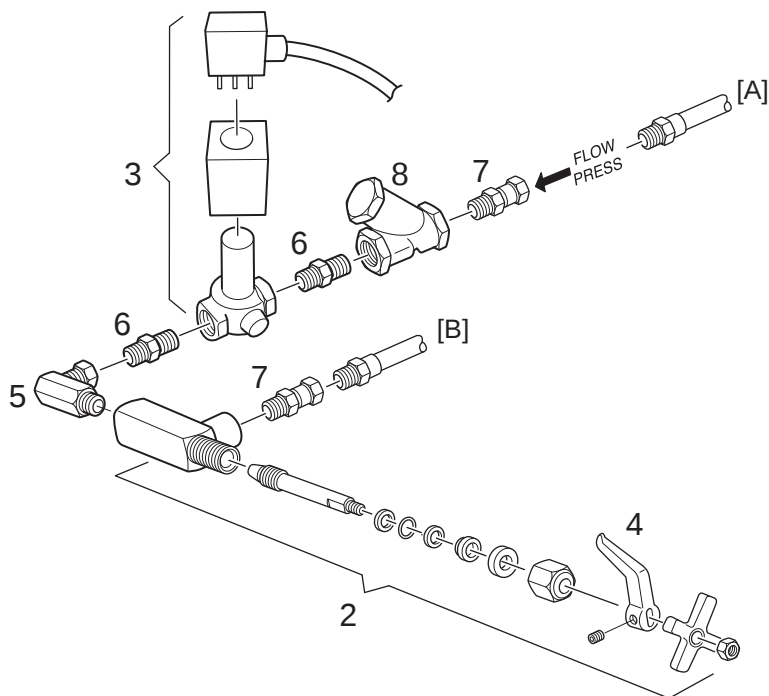
1	F-228	Splash Guard
2	155169	Chip Pan
3	152005	Leg, Drive End
4	155177	Leg, Idle End
5		Coolant Tank Assembly (see page 28)
6	150081	Spring Anchor
7	150466	Counter Balance Spring
8	150078	Coolant Tank Hanger (2 req'd)
9	100004-003	Cap Screw, HH 1/4-20 x 1/2 (2 req'd)
10	100025-001	Lock Washer, 1/4 (2 req'd)
11	100029-004	Flat Washer, 3/8
12	100025-003	Lock Washer, 3/8
13	100004-027	Cap Screw, HH 3/8-16 x 1
14	100025-002	Lock washer, 5/16
15	100004-018	Cap Screw, HH 5/16-18 x 1 (3 req'd)
16		Electrical Control Ass'y (see page 32)
17		Manifold Assembly (see page 22)
18		Volume Chamber Assembly (see page 22)
19	210334	Bulkhead Coupling, 1/4
20	100211-011	Plug, 1/4 NPT
21	100334-002	Street Elbow, 1/4 NPT

Frame Lift

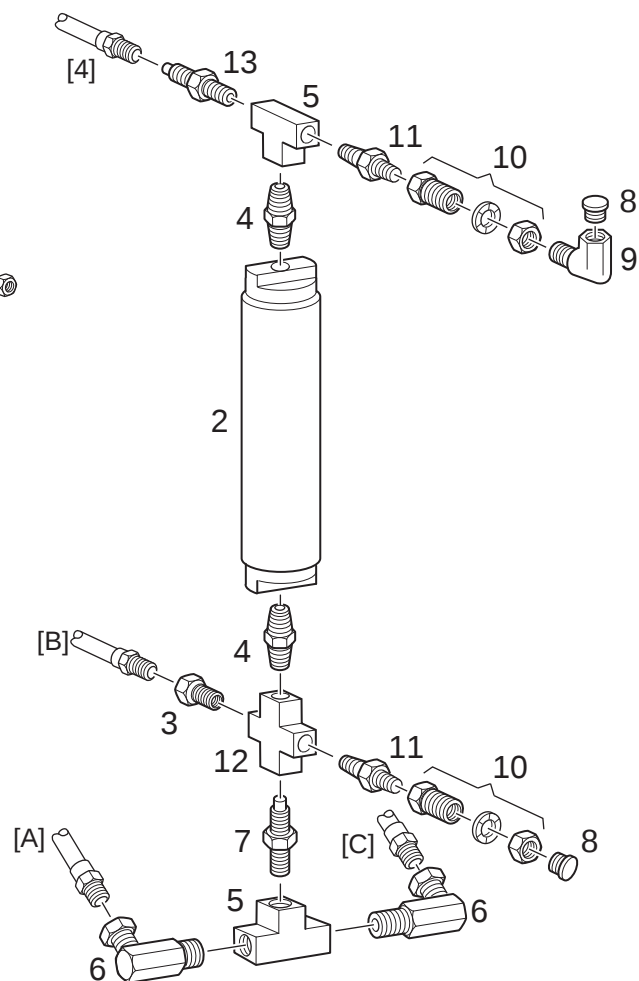


- 1 155218 Cylinder Assembly (includes items 2 - 24)
- 2 099000-008 Cylinder, 7.5" Stroke, 2.5" Bore
- 3 152096 Clevis
- 4 100069-019 Snap Ring (2 req'd)
- 5 152164 Clevis Pin
- 6 100019-016 Hex Nut, Jam, 5/8-18
- 7 152097 Switch Trip Rod
- 8 100053-021 Roll Pin, 3/16 x 7/8
- 9 152098 Switch Trip Collar
- 10 100139-003 Knob, Black, 4 Prong, 1/4-20
- 11 152093 Switch Bracket Plate
- 12 100019-025 Hex Nut, Jam, 5/16-24
- 13 100782-015T Limit Switch Lever
- 14 100782-017T Limit Switch Head
- 15 100782-016T Limit Switch Body
- 16 100259-019 Regulator w/Guage (item 17)
- 17 100259-026 Guage
- 18 100256-001 Angle Adapter, 90° Male NPT
- 19 100334-004 Street Elbow, 1/8 NPT
- 20 100332-001 Pipe Nipple, Close, 1/4 NPT
- 21 100208-003 Reducing Bushing, 3/8 x 1/4
- 22 100329-005 Female Pipe Swivel
- 23 152092 Lower Cylinder Bracket
- 24 100165-006 Shoulder Bolt, SH, 1/2 x 3
- 25 100025-003 Lock Washer, 3/8 (2 req'd)
- 26 100004-033 Cap Screw, HH, 3/8-16 x 1-1/4 (2 req'd)

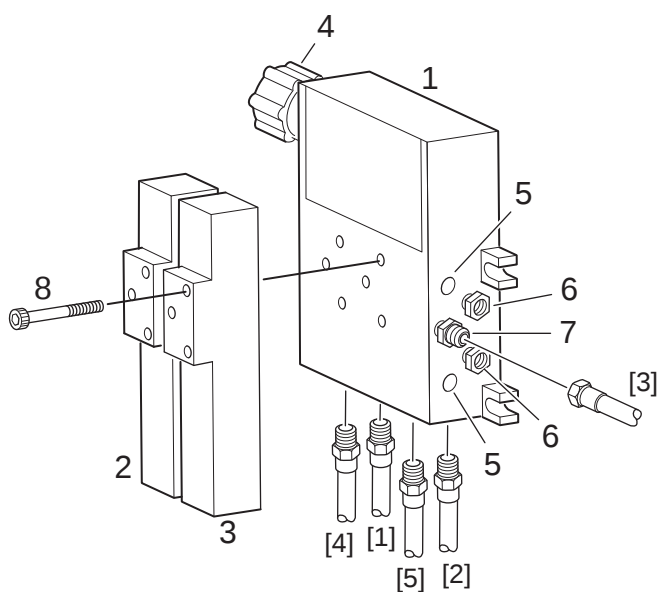
Flow Control



Cylinder Assembly



Manifold Assembly



Flow Control

- 1 **155216-001** **Flow Control Assembly (includes items 2 - 8)**
- 2 100238-001 Feed Control Valve
- 3 100673-034 Solenoid Valve
- 4 150278 Pointer
- 5 100334-002 Street Elbow, 1/4 NPT
- 6 100203-018 Nipple, 1/4 close, NPT, Black
- 7 100329-001 Swivel Fitting, Straight, 1/4 x 1/4 NPT
- 8 100237-002 Strainer

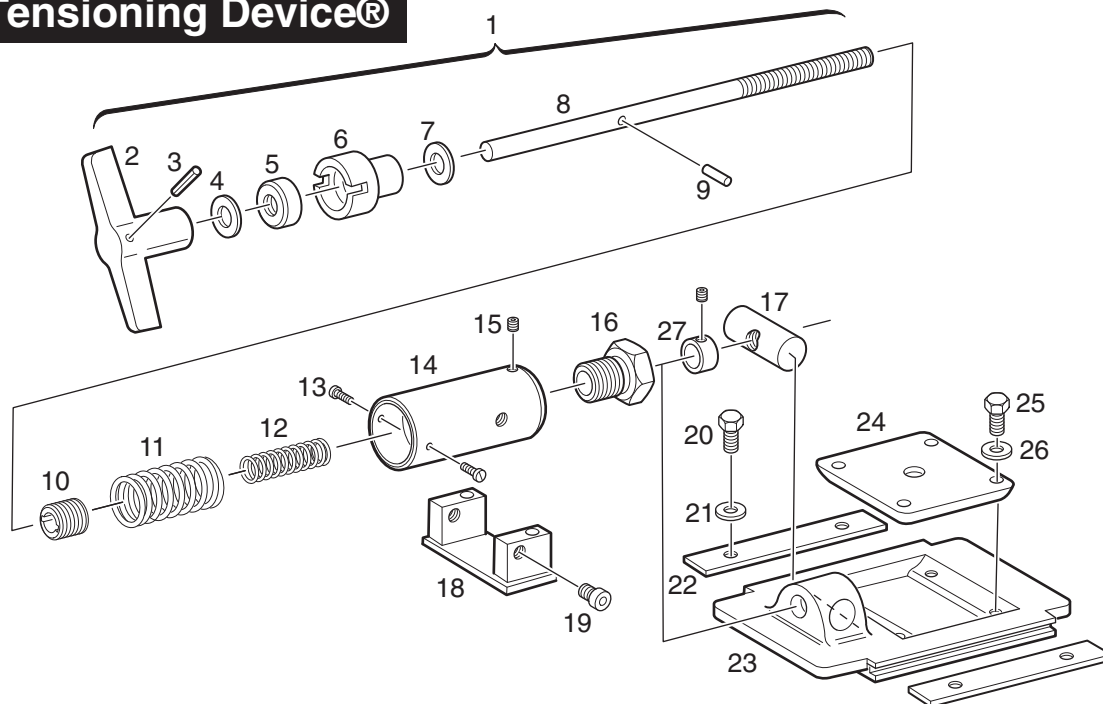
Cylinder Assembly

- 1 **155170** **Volume Chamber Assembly (includes items 2 - 13)**
- 2 099040-001 Volume Chamber
- 3 100329-001 Swivel Fitting, Straight, 1/4 x 1/4 NPT
- 4 100203-018 Nipple, 1/4 close, NPT, Black
- 5 100333-001 Tee, Brass, 1/4 NPT
- 6 100313-001 Swivel Fitting, 90°, 1/4 x 1/4 NPT
- 7 100325 Check Valve
- 8 100211-011 Plug, Socket Head, 1/4 NPT
- 9 100334-002 Street Elbow, 1/4 NPT
- 10 210334 Bulkhead Coupling, 1/4 NPT
- 11 100332-001 Nipple, 1/4 close, NPT, Brass
- 12 100302-007 Cross, 1/4 NPT
- 13 100255-001 Straight Adapter, 1/4 NPT x 1/4 SAE

Manifold Assembly

- 1 **155171** **Manifold Assembly (includes items 2 - 9)**
- 2 099004-005 Solenoid Valve, NVFS-2400-3F
- 3 099004-002 Solenoid Valve, NVFS-2200-3F
- 4 100612-019 Strain Reliever
- 5 100211-022 Plug, Socket Head, 1/8 (4 req'd)
- 6 100317-012 Muffler Vent, 1/4 (2 req'd)
- 7 100255-001 Adapter, Straight, 1/4 NPT x 1/4 SAE
- 8 3 MM x .5 x 30 Socket Head (not sold separately)
- 9 100211-011 Plug, Socket Head, 1/4 (3 req'd) (not shown)
- 10 100621-002 Wire, 18/5 (not shown)

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

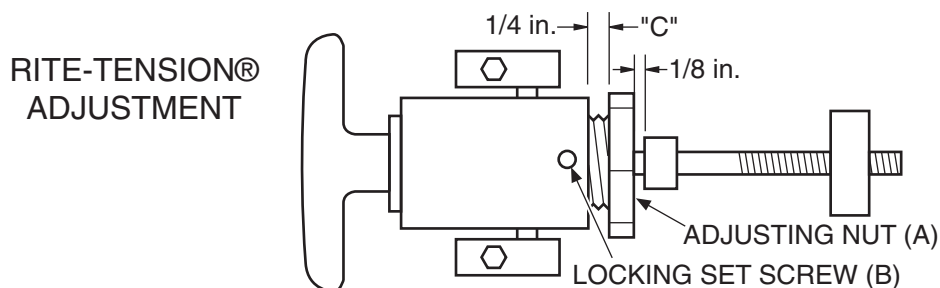
The final tension is determined by the Adjusting Nut, pn 150070 (see "A" in drawing). The "rough" position can be checked by measuring the clearance between the nut and the Tensioning Housing, pn 150067, (see "C").

A clearance of 1/4" will be within a safe range of the correct tension. When a tension gauge 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®

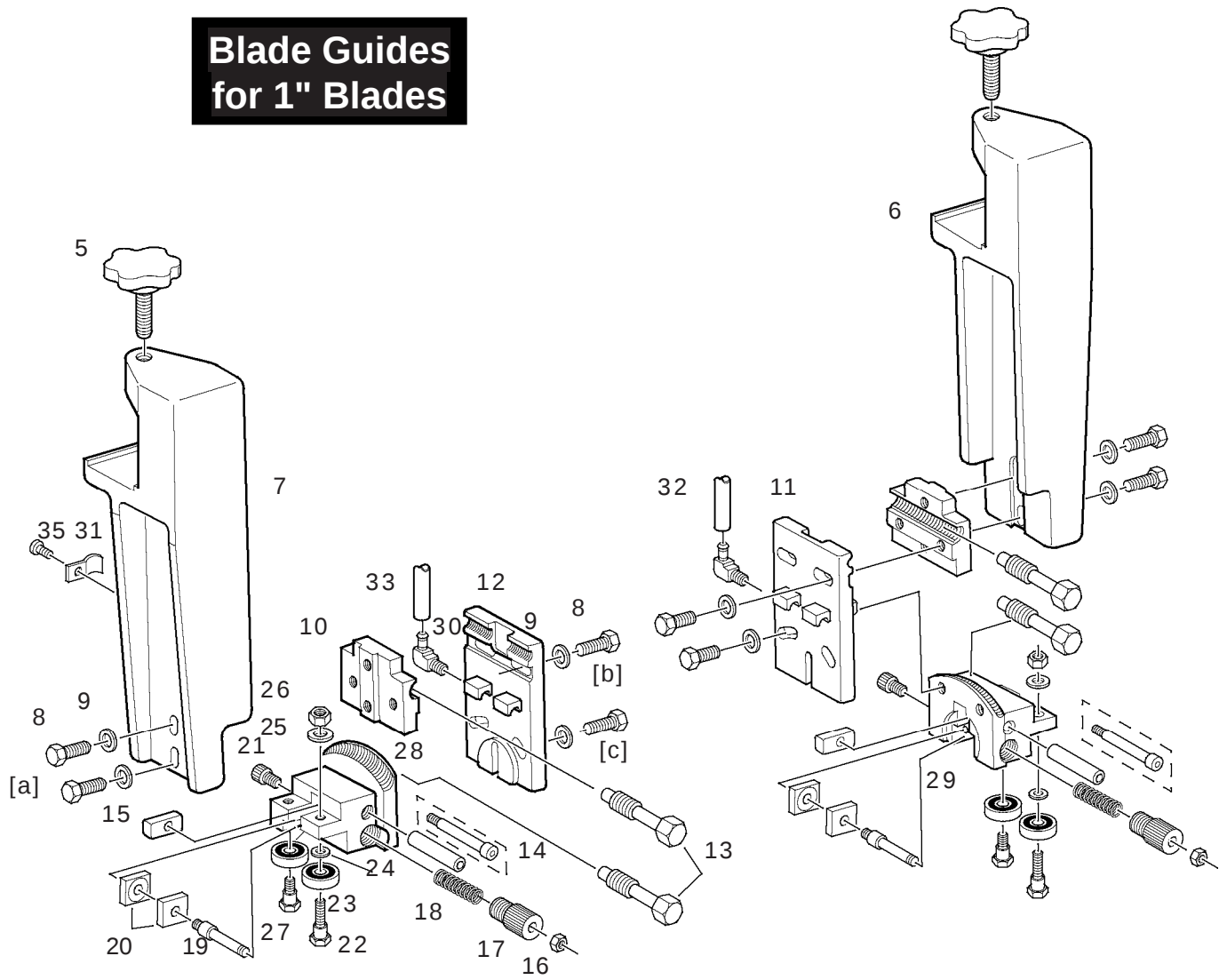
Caution:

The Rite Tension ® blade tensioner 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 17 & 27)
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

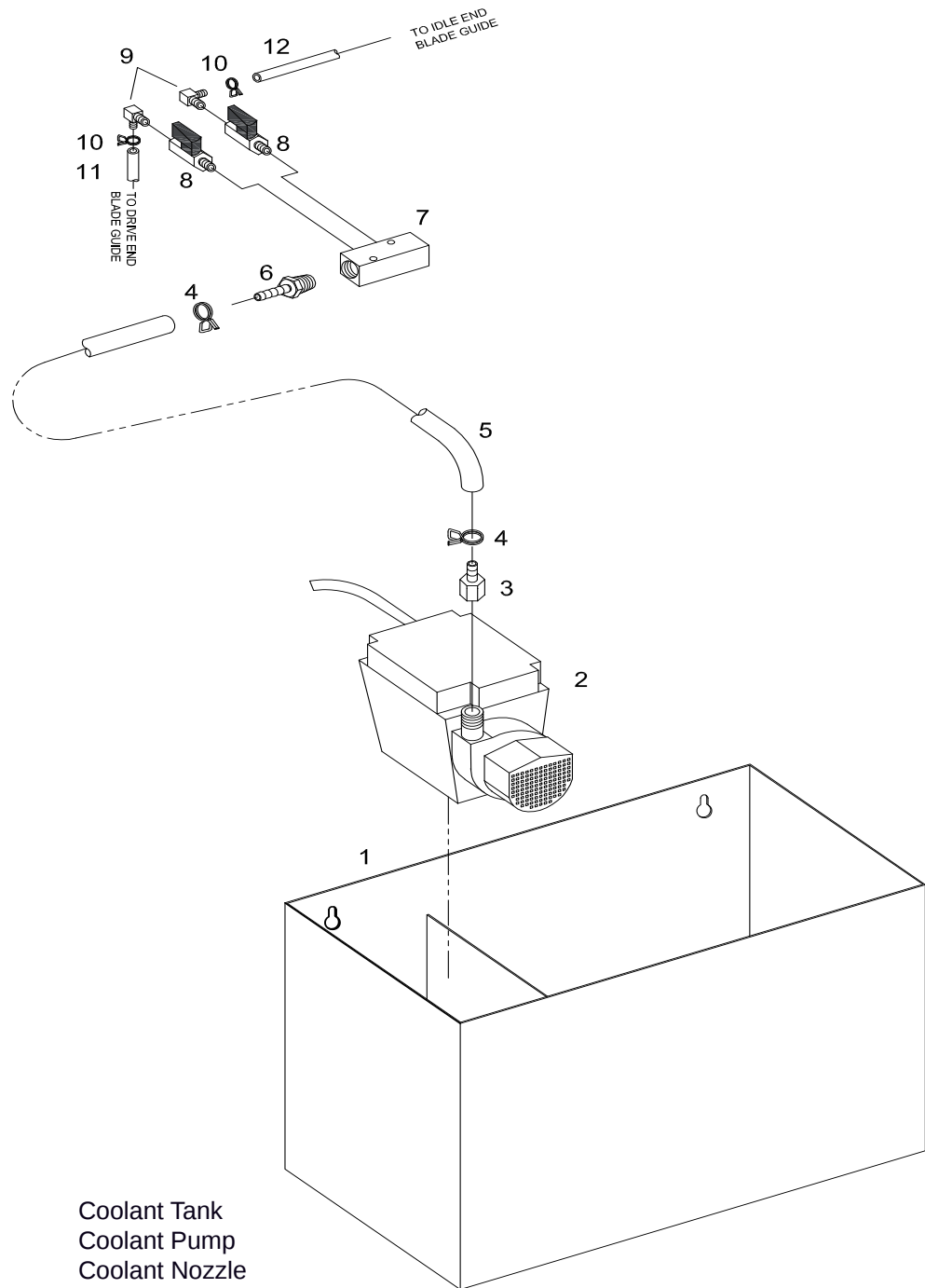
Blade Guides for 1" Blades



Blade Guides for 1" Blades

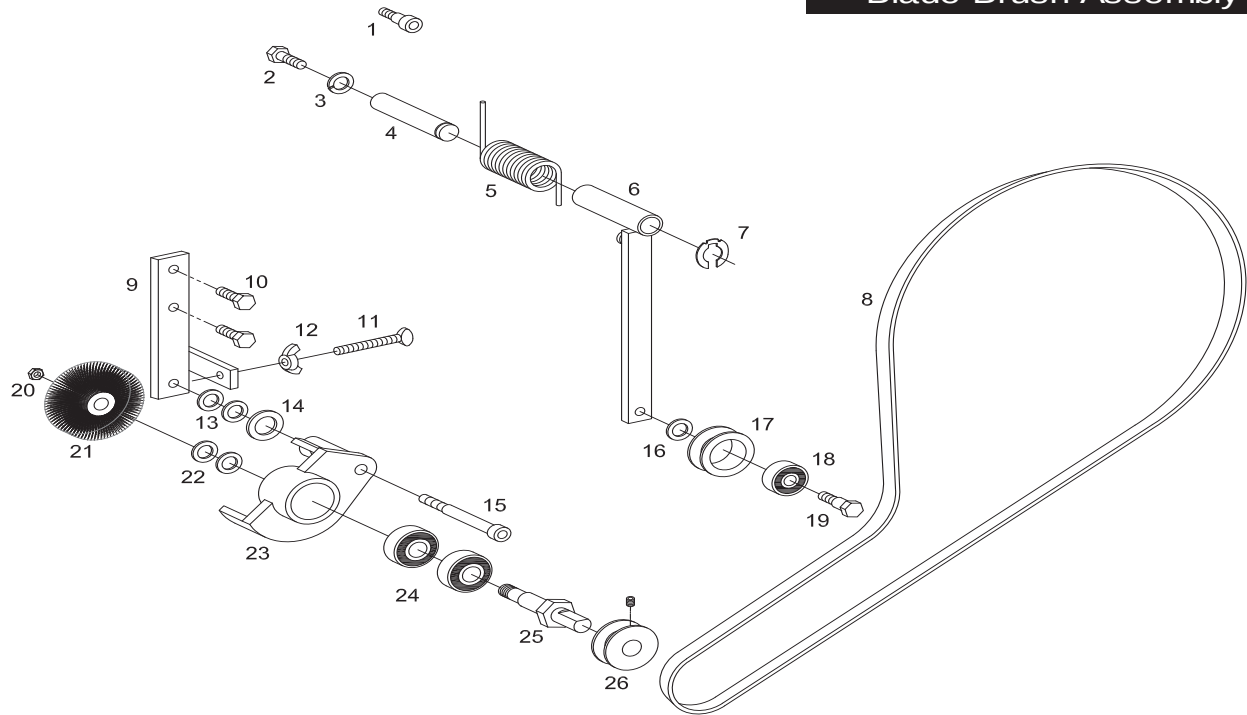
- 1 **152158-001** **Blade Guide Ass'y, D.E.**
 (includes items 5 - 31& 35 - 37, minus 7,12,& 28)
- 2 **152159-001** **Blade Guide Ass'y, I. E.**
 (includes items 5 thru 31& 35 - 37 minus 6,11& 29)
- 3 **152160-001** **Guide Support Ass'y, D.E.**
 (includes items 13 - 27 plus 29)
- 4 **152161-001** **Guide 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 (later S/N's)
- 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. for 1118, 1318
- 100350-068 Coolant Hose 1/4" x 68" for 1338
- 100350-070 Coolant Hose 1/4" x 70" for 1348
- 34 100013-005 Machine Screw, BH 10-32 x 3/8

Coolant System



- | | | |
|----|------------|--|
| 1 | 150066 | Coolant Tank |
| 2 | 100249-010 | Coolant Pump |
| 3 | 102617 | Coolant Nozzle |
| 4 | 100219-001 | Hose Clamp |
| 5 | 100220-041 | Coolant Hose from Pan 124" for 1118-SA, 1318-SA |
| | 100220-043 | Coolant Hose from Pan 142" for 1338-SA |
| 6 | 100324-003 | Hose Barb Fitting |
| 7 | 152167 | Coolant Manifold |
| 8 | 100226-004 | Needle Valve |
| 9 | 100324-009 | Hose Barb Fitting 90 degree |
| 10 | 100219-002 | Hose Clamp |
| 11 | 100350-018 | Coolant Hose, D.E. 1/4" x 18" |
| 12 | 100324-010 | Coolant Hose, I.E. 1/4" x 40" for 1118-SA, 1318-SA |
| | 100350-068 | Coolant Hose, I.E. 1/4" x 68" for 1338-SA |

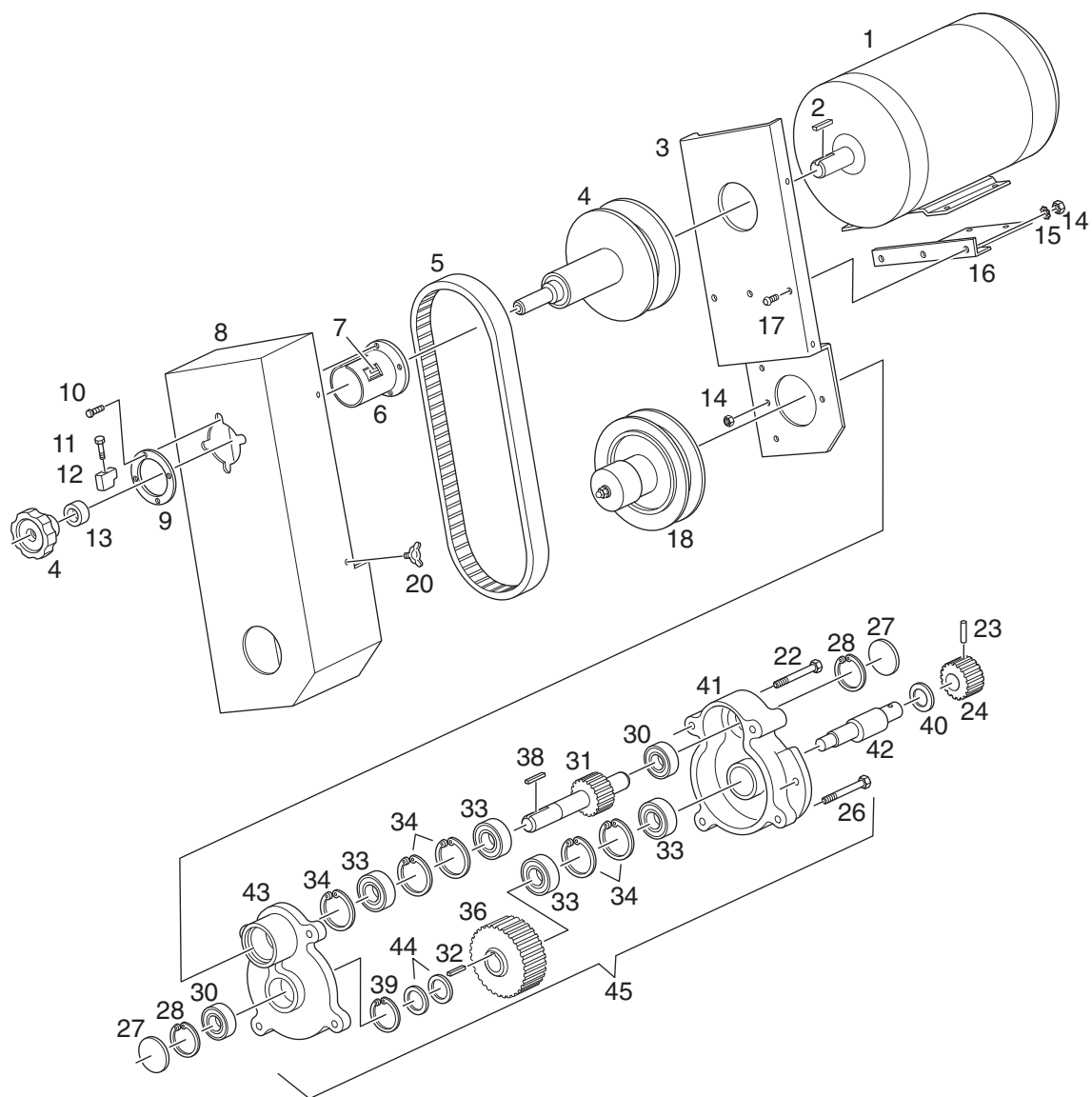
Blade Brush Assembly



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	14	100030-005	Flat Washer 3/8 SAE
2	100004-018	Cap Screw, HH 5/16-18 x 1	15	100165-015	Shoulder Bolt 3/8 x 1-3/4
3	100025-002	Lockwasher, 5/16	16	100097-001	Washer
4	150160-001	Door Latch Stud before sn 2584	17	150361	Pulley, belt idler
	150160-002	Door Latch Stud after sn 2584	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	Blade Brush
8	100166-450	V' Belt	22	100030-007	Flat Washer 1/2 USS (2 required)
9	150369	Blade Brush Arm (1118SA,1318SA after S/N 1885)	23	150257	Brush Housing
	150127	Blade Brush Arm (before S/N 1885)	24	100404-001	Bearing (2 required)
10	100004-015	Cap Screw, HH 5/16-18 x 3/4	25	150126	Brush Arbor
11	100042-003	Thumb Screw, 1/4-20 x 2	26	100167-003	Small Pulley w/ set screw
12	100024-002	Wing Nut, 1/4-20	27	150272	BLADE BRUSH ASSEMBLY
13	100029-002	Flat Washer 1/2 USS (2 required)			(includes items 20-26)

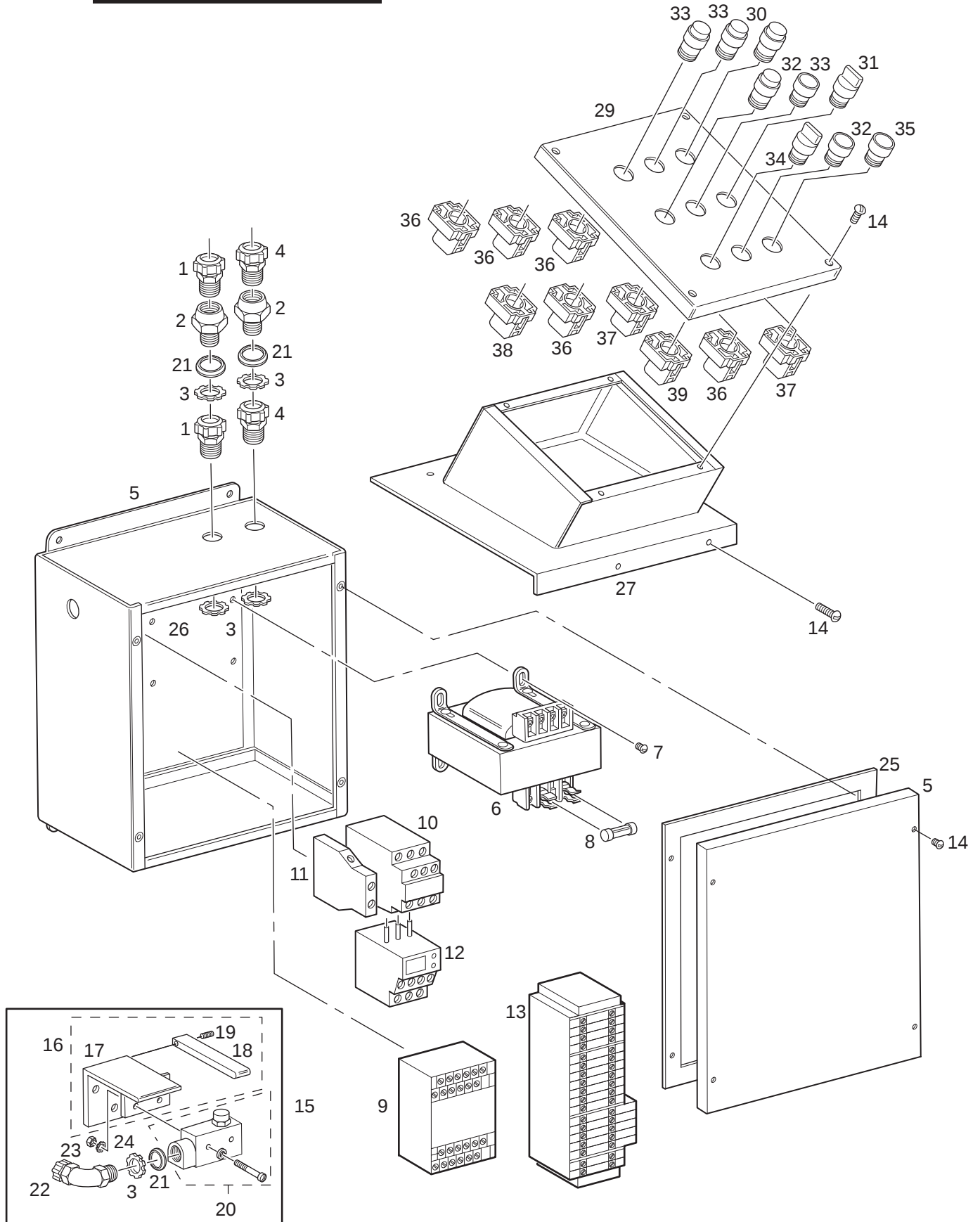
Motor & Gear Box



Motor & Gear Box

1	100835-037	Motor, 3 HP TEFC, 3/4" shaft 3 phase - for s/n before 8029, need new pulley -021 too.
	100836-030	Motor, 2 HP, 115-220/60/1
2	100056-037	Key
3	150250	Belt Guard, Bottom Plate
4	105451-008	VS Motor Pulley, 7/8" bore, 3 Ph old style (before s/n 8029)
	105451-021	VS Motor Pulley, 3/4" bore used after s/n 8030 or if replacement motor is needed.
	105451-005	VS Motor Pulley, 5/8" bore, 1 Ph (all include 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	150251	Belt Guard
9	150255	Flange Clamp
10	100013-008	Cap Screw, BH 1/4-20 x 3/8
11	100008-087	Cap Screw, SH 1/4-28 x 3/4
12	150256	Blade Speed Indicator
13	150217	Spacer
14	100017-001	Hex Nut, 1/4-20
15	100026-004	Shake Proof Washer, 1/4
16	150249	Belt Guard Support
17	100155-001	Machine Screw, 1/4-20 x 1/2
18	105451-015	VS Driven Pulley w/step key, 3/4" bore
20	100063	Thumb Screw (4 req'd)
22	100008-086	Cap Screw, SH 1/4-20 x 2
23	100180-001	Coiled Spring Pin
24	101645-FP	Drive Pinion
26	100008-061	Cap Screw, SH 1/4-20 x 1-1/2
27	100072-001	Expansion Plug
28	100068-001	Snap Ring
30	100404-002	Ball Bearing
31	150234	Pulley Shaft & Pinion
32	100056-001	Key
33	100414-003	Bearing
34	100068-002	Snap Ring
36	101286S	Driven Gear - Steel
38	105451-017	Step Key
39	100069-003	External Snap Ring
40	150416	Spacer
41	150424	Case
42	150426	Drive Shaft
43	150425	Gear Case Cover
44	100097-003	Washer (shim as needed)
45	150423	Gear Box Ass'y

Electrical Controls



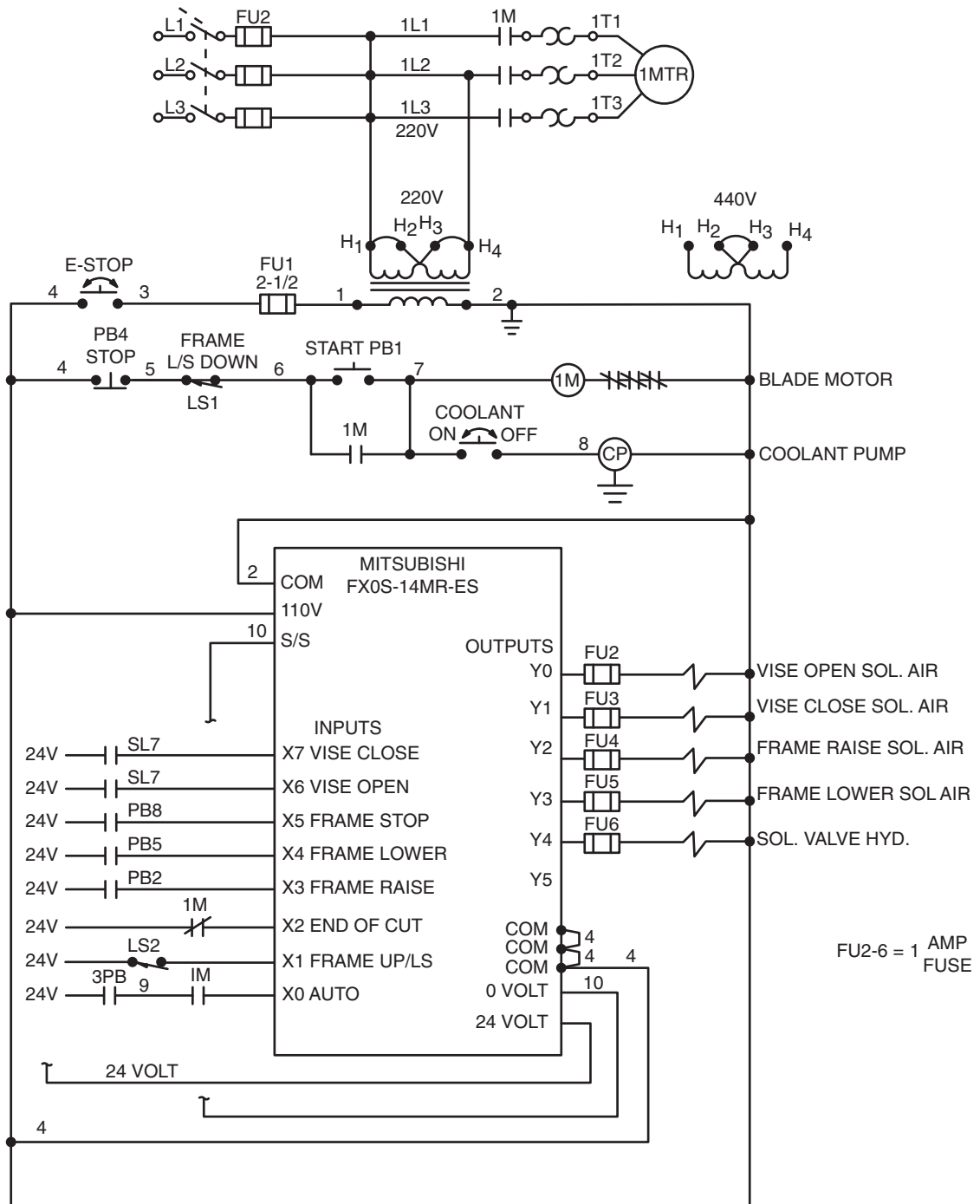
Electrical Controls

1	100612-004	Connector, TB-2534
2	100796-019	Hub Connector, TB-370
3	100240-001	Conduit Lock Nut
4	100612-002	Connector, TB-2523
5	100896	Electrical Enclosure w/Cover
6	100869-005	Transformer, 230/460 Volts
	100869-007	Transformer, 208 Volts
	100869-006	Transformer, 575 Volts
7	100000-017	Machine Screw, RH 10-32 x 1/4
8	100628-017	Fuse, FNA 2-1/2 Amp
9	100901-001	Programmable Control
10 *	100867-007	Magnetic Starter 115-230/60/1, 208-230-460/60/3 * SEE NOTE
11	100867-016	Auxiliary Contact
12	100867-014	Overload (230/60/1)
	100867-014	Overload (230/60/3)
	100867-012	Overload (460/60/3)
	100867-022	Overload (115/60/1)
	100867-014	Overload (208/60/3)
	100717-016T4	Mounting Rail
13		Terminal Block Assembly (see page XX)
14	100000-019	Machine Screw, RH 10-32 x 1/2
15	155118	Frame Rest Ass'y, w/ cord (Includes items 17 thru 24)
16	155118-001	Frame Rest w/ Trip Bar, (Includes items 17 thru 19)
17	105977	Frame Rest
18	150344	Switch Bar Weldment
19	100165-005	Shoulder Bolt, 5/16 x 3/4
20	100782-012	Limit Switch, 115v w/ screws
21	100606-001	Sealing Ring
22	100612-006	Elbow, 90 deg, TB-2268
23	100015-005	Hex Nut, 6-32 (2 req'd)
24	100026-001	Washer, Shake Proof, #6 (2 req'd)
25	098048-050	Gasket, SC 41, 1/8 x 3/4 x 50"
26	100897	Back Panel (see page X for details)
27	100899-001	Switch Box
28	155214	Control Station Ass'y (includes items 29 thru 39)
29	100900	Switch Box Cover
30	100871-001	Push Button Start, Green
31	100871-003	Selector Switch, 2 Position Coolant
32	100871-018	Push Button Stop, Red
33	100871-019	Push Button, Black
34	100871-020	Selector Switch, 3 Pos Vise open/close

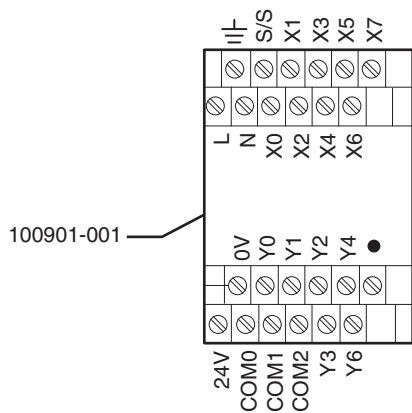
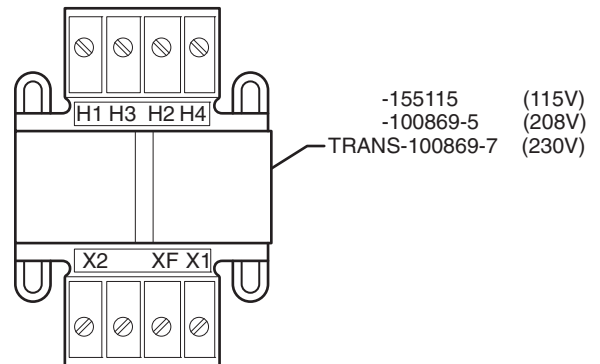
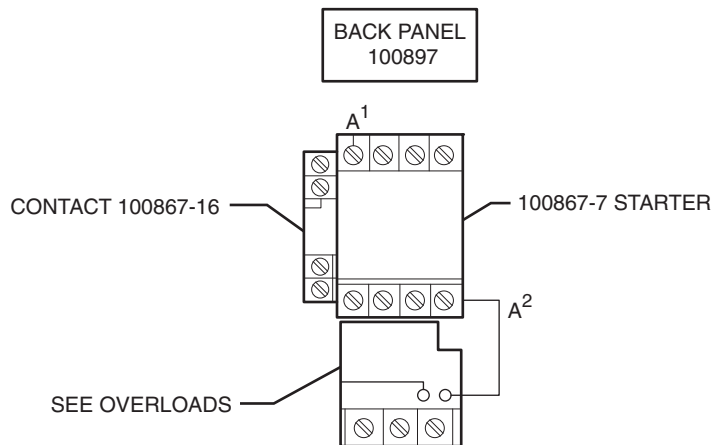
35	100871-021	Push Button, Mushroom Head, Emergency Stop
36	100871-004	Switch Block w/Base, N/O
37	100871-005	Switch Block w/Base, N/C
38	100871-022	Switch Block w/Base, N/C-N/C
39	100871-023	Switch Block w/Base, N/O-N/O

*** NOTE:** Various starters were used on this saw. to make certain you receive the correct replacement parts, contact the Wellsaw parts department with the information on *your saw's starter*.

Electrical Schematic



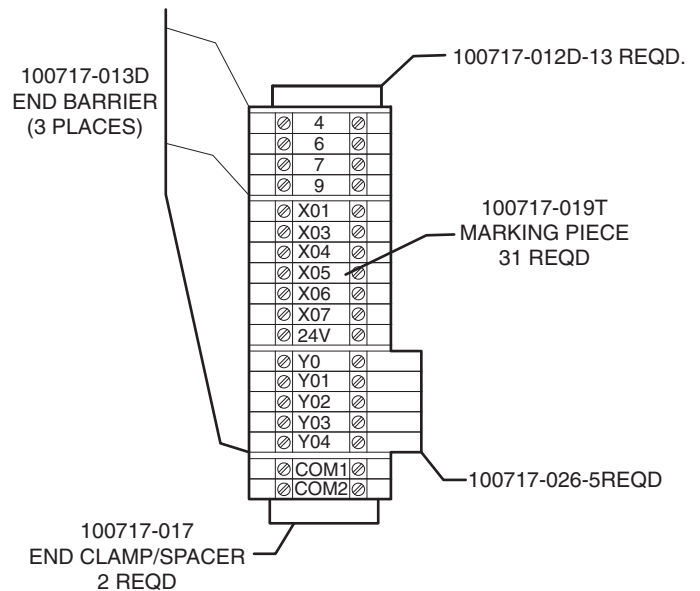
Panel Components



CHANNEL 100717-016

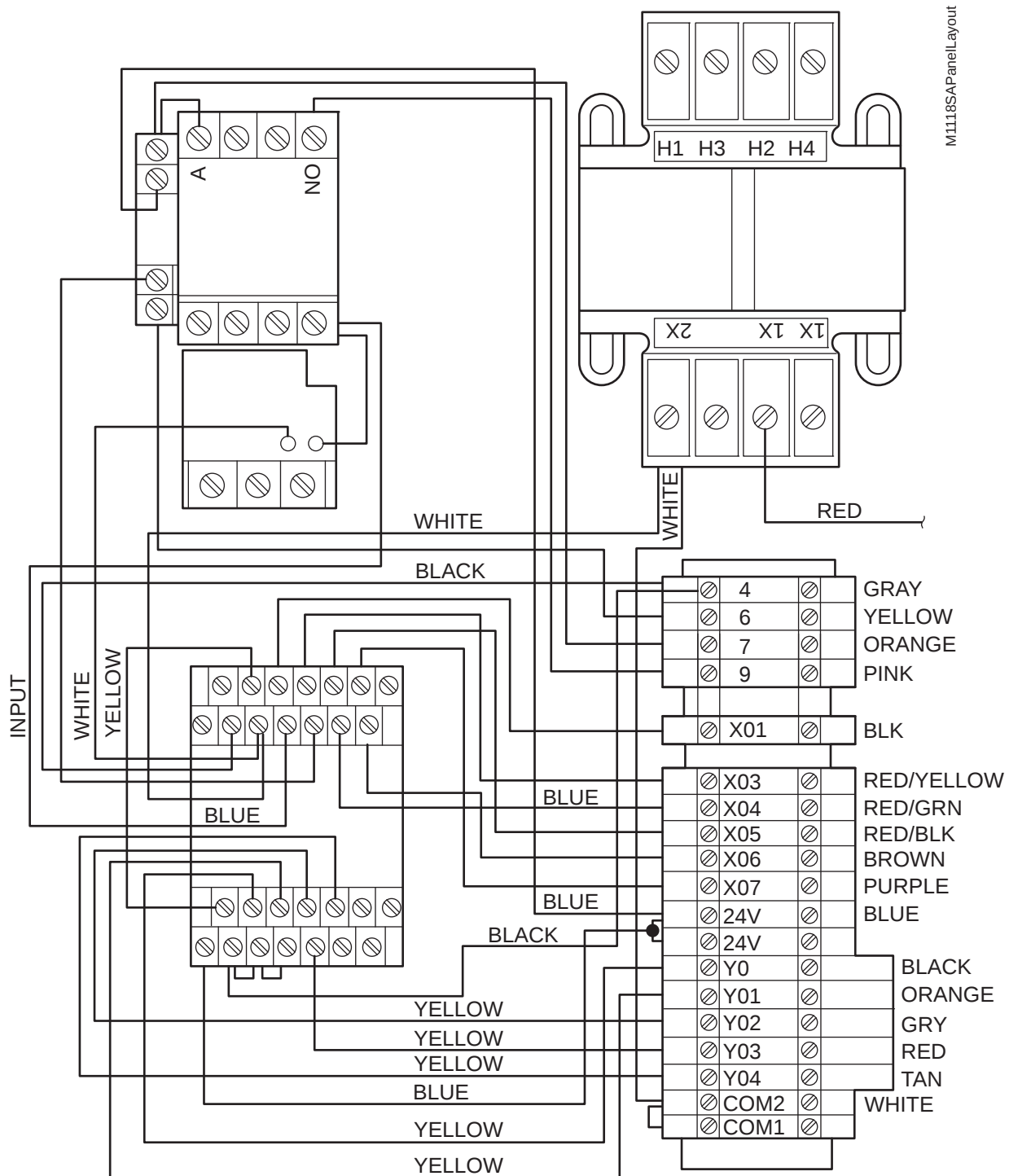
OVERLOADS

- 100867-014 (230/60/1)
- 014 (230/60/3)
- 012 (460/60/3)
- 022 (115/60/1)
- 014 (208/60/3)

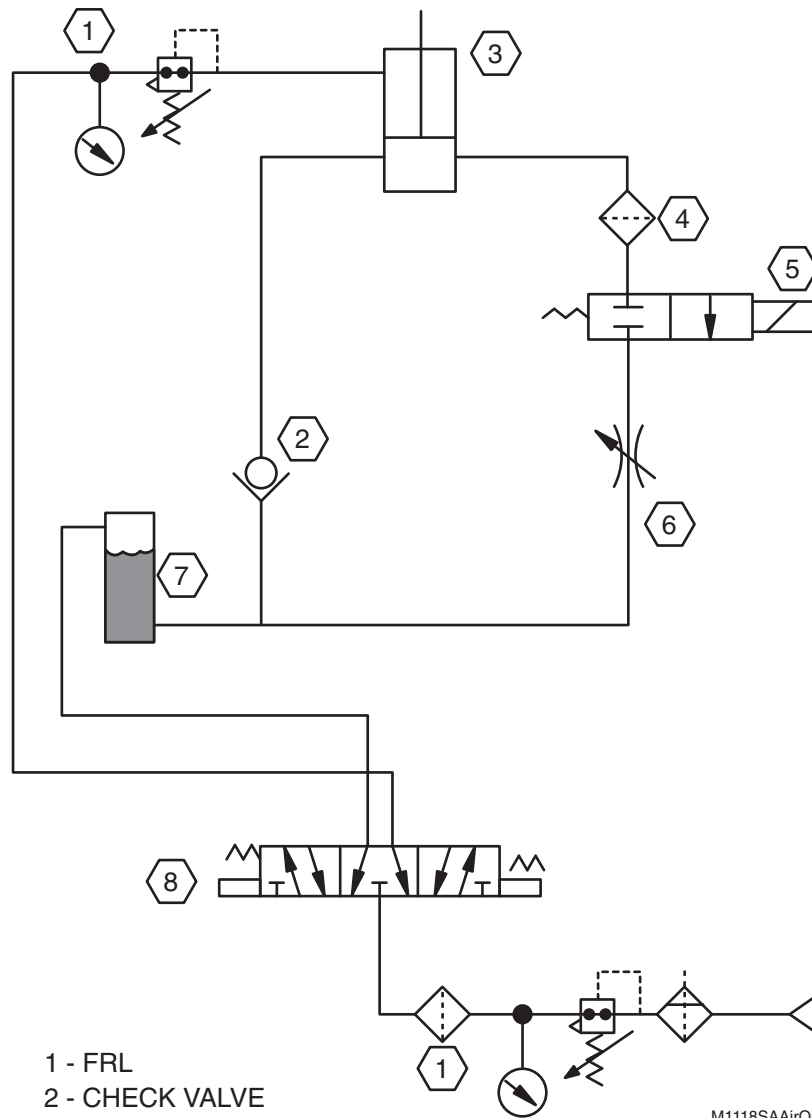


M1118SAElecSchm-2

Electrical Routing



Air/Hydraulic Schematic



- 1 - FRL
- 2 - CHECK VALVE
- 3 - FRAME LIFT CYLINDER
- 4 - SCREEN
- 5 - FEED SOL. (HYD KIP VALVE)
- 6 - FLOW CONTROL
- 7 - AIR/OIL RES.
- 8 - SMC VALVE WFS 2400

M1118SAirOil



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 (SEPM)	Cutting Rate (SIPM)	Blade Speed (SEPM)	Cutting Rate (SIPM)	Blade Speed (SEPM)	Cutting Rate (SIPM)	Blade Speed (SEPM)	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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