U.S.SAWS™

U.S. English

U.S.SAWS POLYMER PUMP OPERATING MANUAL

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9-10-2026

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1.0 INSTRUCTIONS FOR USE OF MANUAL SECTIONS

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Foreword/Introduction

This manual outlines the maintenance and operation of the Two-Man Polymer Pump. This is a professional tool and is intended for use by trained and experienced operators. To get maximum benefit from your tool and to ensure maximum safety, be sure to read this manual thoroughly. You should also periodically review safety instructions. Keep all manuals provided with your equipment in a safe place at all times.

The information and specifications included in this publication were in effect at the time of approval for printing. U.S.SAWS reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation.

The U.S.SAWS Polymer Pump was designed to be an effortless way to fill joints. It is equipped with two 6.5-gallon tanks to allow you to add a full 5 gallons of joint fill material and still have a reserve left in the containers.

Read this entire operations and maintenance manual before using your new tool. Pay close attention to the Safety Instructions which is the heading on page 4,

Disclosure

By purchasing/renting/borrowing/using the Dual Component Polymer Pump, you agree to release US SAWS of any and all liability. Under no circumstances will US SAWS be held liable for incidental or consequential damages resulting from the use of this product and/or defective parts or products associated with this product.

- It is the responsibility of the owner/user to verify correct mixing ratio and proper cure before each use including after stoppage as explained in the operating instructions and in accordance to the material manufacturers guidelines and specifications.
- It is the responsibility of the owner/user to ensure that the operating instructions have been read and understood by the operator before the operation of the equipment begins.
- It is the responsibility of the owner/user to understand and perform the maintenance and storage procedures as explained in the operating instructions.

⚠WARNING

Failure to do any of these things could result in improper mixing ratio.

U.S.SAWS makes no endorsement of any brand or type of material (polyurea, epoxy, polyurethane, or any other product that can be dispensed with this equipment) as to its suitability and/or performance for any use or service.

2.0 SPECIFICATIONS

DUAL COMPONENT POLYMER PUMP SPECIFICATIONS	
Part Number	SX20150
Drive System	1/2 HP Electric Motor
Power Requirements	110V, 60 Hz
Other Power Options	Gas Generator or Deep Cycle Marine Battery with Power Inverter
Frame	Steel
Tanks	6.5 Gallon Polyethylene or Stainless
Manifold	Re-Buildable, One-Piece, Aluminum Dispensing Manifold
Compatible Materials	Polyurea and Epoxy Joint Fillers
Weight	200 lbs

3.0 SYMBOLS & DECALS

For Safe Operation

You must be qualified for safe operation of the U.S.SAWS Two-Man Polymer Pump machine. You must clearly understand the written instructions supplied by U.S.SAWS, be trained - including actual operation - & know the safety rules & regulations for the job site. It is a safety practice to point out & explain safety signs & practices to others & to make sure they understand the importance of following these instructions.

Be Safe

Human error is the result of many factors: carelessness, fatigue, sensory overload, preoccupation, unfamiliarity with the machine or attachments, or drugs or alcohol, to name a few. You can avoid serious injury or death caused by these & other unsafe work practices. Be safe and never assume accidents cannot happen to you.

For your safety and the safety of others, act safely and encourage your fellow workers to act safely as well.

Dangers, Warnings and Cautions.

The purpose of safety symbols and explanations are to attract your attention to possible hazards and how to avoid them. The safety symbols and explanations do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

⚠ DANGER

DANGER: Indicates an imminently hazardous situation that if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.

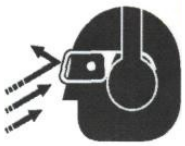
⚠ WARNING

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION: Indicates a potentially hazardous situation that, if not avoided may result in minor or moderate injury. It may also be used to alert against unsafe practices that may cause property damage.

Read and understand operator's manual before using this machine. Failure to follow operating Instructions could result in injury or damage to equipment.



Always wear protective glasses or full face protection

Wear Head Protection, breathing protection, and the use of hearing protection is mandatory

Wear safety boots when operating this machine

Wear appropriate clothing

Wear hand protection

Wear proper electrostatic grounding equipment at all times.

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4.0 SAFETY INSTRUCTIONS

4.1 KNOW THE RULES & YOUR EQUIPMENT.

Most job sites have rules governing equipment use & maintenance. Before starting at a new work location, check with the supervisor or safety coordinator. Ask about any rules or regulations you need to abide.

OSHA enforces federal laws within the United States that apply to the safe operation, application, & maintenance of equipment on job sites. It is the employer's responsibility to comply with these laws.

Do not operate this machine unless you have read the operations and maintenance manual carefully.

4.2 RECEIVE PROPER TRAINING.

Do not operate this machine unless you have received operational and maintenance training from a U.S. SAWS representative or from an authorized distributor for U.S.SAWS.

4.3 PROTECT YOUR FEET.

Observe all applicable local, state and federal safety regulations. Wear OSHA approved foot protection.

4.4 PROTECT YOUR EYES.

Observe all applicable local, state and federal safety regulations. Wear OSHA approved safety glasses.

4.5 PROTECT YOUR LUNGS.

Breathable silica may be generated by use of this product. Silica can cause severe and permanent lung damage, cancer, and other serious diseases. Do not breath the dust. Do not rely on your sight or smell to determine if the dust is in the air. Silica may be in the air without a visible dust cloud. If air monitoring equipment for silica is not provided by your employer at your work site, you MUST wear appropriate respiratory protection when using or servicing the machine. Consult your employer and OSHA regarding the appropriate respiratory protection.

4.6 PROTECT YOUR HEARING.

Observe all applicable local, state and federal safety regulations. Wear OSHA approved hearing protection.

4.7 DRESS PROPERLY.

Do not wear loose clothing or jewelry that can be caught in moving parts. Wear protective hair covering to contain long hair. Keep hair away from motor air vent. Rubber gloves and non-skid footwear are recommended when working outdoors.

4.8 AVOID A DANGEROUS ENVIRONMENT.

Do not expose machine to rain. Do not use machine in wet conditions. Water entering a power tool will increase the risk of electric shock. Keep work area well lit. When working at an elevated location, pay attention to articles and persons below. If operating the power tool in damp locations is unavoidable, use a Ground Fault Circuit Interrupter (GFCI) protected supply. Use of an GFCI reduce the risk of electric shock.

4.9 ELECTRICAL SAFETY

Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock. Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.

4.10 ELECTRICAL CORD MANAGEMENT

Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock. When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

4.12 AVOID ANY AREAS OR ACTIONS THAT EXPOSE YOU TO CARBON MONOXIDE.

Do not operate in areas where exhaust fumes could accumulate without wearing appropriate respiratory protection. Consult your employer and OSHA regarding use of appropriate respirator for dangerous carbon monoxide gases.

4.13 KEEP WORK AREA CLEAN. DO NOT RUN OVER ANYTHING.

Loose objects could be thrown from crack. Make sure area to be cut is clear from people and any loose objects, nuts, bolts, etc. Never run over any loose objects.

4.14 KEEP CHILDREN AND VISITORS AWAY.

Do not let children or visitors contact machine or extension cord. Keep children and visitors away from the work area.

4.15 KEEP FIRM GRIP ON MACHINE.

During normal operation, keep a firm hold on the handle grips and maintain control of the machine.

4.16 SHUT OFF MACHINE.

When not in use, before servicing and when changing accessories shut off engine. Release the lever switch and move the on/off switch to the OFF position.

4.17 STORE IDLE EQUIPMENT.

The machine and tools should be stored in a dry and secure location when not in use. Keep equipment out of reach of children.

4.18 OBTAIN SAFETY DATA SHEET (SDS) FOR ALL WORK SURFACE MATERIALS.

This includes primers, all coatings, adhesives, tile and crack filling materials, etc. Do not attempt to cut, clean out or remove material without SDS information. Consult SDS sheet for hazards information. Be aware that some materials are explosive as a dust.

4.19 DO NOT OVERREACH.

Keep proper footing and balance at all times.

4.20 MAINTAIN MACHINE WITH CARE.

Keep machine clean and follow maintenance procedures for better and safer performance. Keep handles dry, clean, and free from oil and grease. Follow instructions for lubricating and changing accessories.

4.21 REMOVE ADJUSTING TOOLS.

Form a habit of checking to see that tools such as adjusting wrenches are removed from the machine and properly stored before starting the engine.

4.22 STAY ALERT.
Watch what you are doing. Use common sense. Do not operate machine when you are tired or fatigued.

4.23 DO NOT USE DRUGS, ALCOHOL, MEDICATION.
Do not operate machine while under the influence of drugs, alcohol, or any medication.

4.24 KEEP THE RIGHT PARTS IN THE RIGHT POSITIONS.
Do not operate machine with parts missing or improperly mounted.

4.25 CHECK DAMAGED PARTS.
Verify all machine guards are in good condition and will function properly before using the machine. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect machine operation. A guard, power switch or other part that is damaged should be properly repaired or replaced by an authorized service center unless indicated elsewhere in this instruction manual. Do not operate machine if lever or engine on/off switch does not function properly.

4.26 SECURELY MOUNT ACCESSORIES TO THE MACHINE.
Extra care must be taken an elevated location to prevent injury to someone on a lower level in the event the tool or accessory should drop. Do not operate without fall protection for operator and debris protection for public.

4.27 NEVER TOUCH THE MOVING PARTS.
Never touch moving parts such as blades, belts and others.

4.28 STOP OPERATION IMMEDIATELY IF ANY ABNORMALITY IS DETECTED.
Stop using machine immediately if any abnormalities are observed during operation. Examples of abnormalities include unusual noise and vibration.

4.29 WHEN REPLACING A PART, USE THE SAME TYPE AND QUALITY.
When replacing a component part with a new one, use only the same type and quality of new part. Never attempt to repair a machine if you are unfamiliar with proper procedures and techniques required.

4.30 LOAD AND UNLOAD SAFELY.
Use proper heavy lifting procedures. Read & understand manuals before loading & unloading.

4.31 SAVE THESE INSTRUCTIONS.
Refer to this operations and maintenance manual as well as any additional instructions included from other manufacturers and organizations such as Honda® and the Masonry and Concrete Saw Manufacturers Institute®. Never permit anyone to operate the machine without proper instructions.

⚠WARNING

DUST WARNING

Cutting, especially when DRY cutting, generates dust that comes from the material being cut, which frequently contains silica.

Silica is a basic component of sand, quartz, brick clay, granite and numerous other minerals and rocks. Exposure to excessive amount of such dust can cause:

- Respiratory diseases (affecting your ability to breath), including chronic bronchitis, silicosis and pulmonary fibrosis from exposure to silica. These diseases may be fatal;
- Skin irritation and rash; and
- Cancer according to NTP* and IARC*

* National Toxicology Program, International Agency for Research on Cancer

Take precautionary steps

- Avoid inhalation of and skin contact with dust, mist and fumes;
- Wet cut when feasible, to minimize dust;
- Wear and ensure that all bystanders wear appropriate respiratory protection such as dust masks designed to filter out microscopic particles. (See OSHA 29 CFR Part 1910.1200)

California Prop 65 Warning: Use of this product can cause exposure to materials known to the State of California to cause cancer and/or birth defects or other reproductive harm.

5.0 OPERATION CHECKLIST

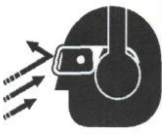
Figure 3 - Warning label - read and understand manual

5.1 Clean tanks, pumps, lines, and manifold
No cross contamination,
Proper mixing ratio = proper material cure

TO PREVENT SERIOUS INJURY DO NOT OPERATE SAW WITHOUT PROPER TRAINING AND. UNDERSTANDING OF THE OWNERS MANUAL WHEN OPERATING THIS MACHINE

Wear proper electrostatic grounding equipment at all times.

Wear Head Protection, breathing protection, and the use of hearing protection is mandatory



Flying debris and loud noise hazards. Wear ear and eye protection

Wear hand protection

WARNING: Improperly maintaining the Polymer Pump failing to correct a problem before operation could cause a malfunction resulting in a serious injury. Always perform a pre-operation inspection before each operation and correct any problem.

5.2 Inspect tanks for evidence of loose particles or debris.

AVOID STATIC ELECTRICITY RISK WHEN FUELING
WARNING: Maintaining a discharge strap must be connected to any U.S.SAWS vacuum at all times when equipment is being used.

Wear proper electrostatic grounding equipment at all times. Static discharge during fueling can cause explosion

PRIOR TO USE:

5.3 Inspect manifold (located at the end of the dispensing wand where both hoses attach. The static mixing element attaches to the manifold with a 7/8" static mixer nut) - Inspection should be performed at the start of each day's work and consists of the following:

a. Remove hoses connected to manifold and remove 90 degree fitting.
b. Inspect for and remove any debris or contamination that might clog the exit hole. A 1/4" drill bit can generally be used to clean the exit hole.
c. Reconnect lines to manifold.

5.4 If hydraulic fluid remains in the tank (used for flushing and pump storage and should be left at least a couple inches deep in the tanks when not in use) plug in power supply and trigger applicator gun to dispense fluid.

a. Watch fluid flow out of manifold and inspect for clog or uneven flow.
b. Using graduated measuring cups, dispense fluid into con tainers to check for proper ratio.

5.5 After confirming ratio is correct and that no contamination re mains in the lines or in the manifold, dispense remaining hydraulic fluid to empty the tanks.

5.6 The unit is now ready for use.

DISPENSING FILLER:

5.7 Prior to filling tanks, premix the Part A Polyol (gray component).

5.8 Ensure that Part A material is placed in the Polyol tank and Part B ISO material is placed in ISO tank. DO NOT CROSS CONTAMINATE. It is advised to keep the lid on the tank that is not being filled.

5.9 After filling tanks, dispense polyurea through manifold assem bly watching flow. An errant stream out of one or both sides of the manifold will generally indicate that there is a restric tion in the manifold and disassembly and cleaning should be performed.

5.10 If flow is even and equal, attach static mixing tip to end of manifold.

5.11 Dispense a small amount of material through the tip into waste container to ensure thorough mixing in the tip. Then dispense small amount of material onto cardboard or other disposable sheet to monitor cure. Allow to set for 10-15 minutes or until significant cure has been achieved prior to commencing. This will ensure proper ratio and cure of future material.

OPERATION CHECKLIST

5.12 While waiting on test material to cure, remove static mixing tip and discard.

5.13 Pump grease (white lithium supplied with pump) into fittings on manifold to prevent cross contamination.

5.14 Upon confirmation of test sample cure, install new static mixing tip.

5.15 Install filler into joint of crack per product installation guidelines.

WORK INTERRUPTION:

5.16 If work is stopped for short term (5 minutes or so, to move pump, etc.) periodically trigger applicator wand to dispense material every 30-45 seconds to ensure material in static mixing tip does not set.

5.17 If dispensing is stopped for longer term (lunch break, etc.) remove static mixing tip and discard. Pump Grease into fittings on the manifold as described above. Upon commencement, re-install a new static mixing tip.

NOTE: Do not leave polyurea in the tanks or within the system (tanks, pumps, lines, manifold) if material placement will not be performed the following day.

END OF DAY

POLYMER PUMP CLEANING INSTRUCTIONS:

5.18 **WHAT YOU NEED**

- 1-1/2 gallons of solvent (Xylene or equivalent)
- 2 Gallons of Hydraulic Oil (AW-32 is a common type)
- Solvent proof gloves
- Waste buckets
- Rags or Paper towels
- Splash proof goggles
- (optional) 2 toilet bowl brushes

5.19 **Cleaning and storage process if the machine will not be used for more than 24 hours.**

5.19.1 **POLYUREA**

Step 1.
Dispense all remaining material out of the machine by running it straight through the manifold with a static mixer in place. Disposing of cured material is safer than disposing of the liquid. If there is a large amount (more than a gallon) left in the tanks, the material may be pumped back into a storage bucket for later use. Remove the lines from the back of the manifold to make this easier. It is advisable to do Polyol and ISO separately to avoid cross contamination.

Step 2.
When the tanks and lines are empty, pour ½ gallon of Xylene (or other type of solvent used for thinning oil-based paints) Products like Metzger McGuire M-Flush may also be used. Use a separate toilet bowl brush to clean each tank with the solvent in the tanks. Turn the pump on about half speed and pump into a waste bucket until all the polyurea is pumped out and the solvent just starts coming out.

Step 3.
Stop the pump and remove the lines from the back of the manifold. Put the A line into the Polyol tank and the B line into the ISO tank and cycle the solvent through for a minimum of 5 minutes.

Step 4.
Re-attach the lines to the back of the manifold and pump the solvent into a container and dispose of it properly. Do not reuse it.

Step 5.
Pour ¼ gallon of new solvent into the tanks and pump this through the system. It should be coming out clear when it runs out.

Step 6.
Pour ½ gallon of hydraulic oil into each tank. Turn on the pump about half speed and pump into a waste bucket. Run until all the residual solvent is pushed out by the hydraulic fluid and clean hydraulic oil is coming out.

Step 7.
Stop the pump. Grease the zerk fittings on the manifold until grease comes out the holes in the tip. This will help prevent oil from leaking. Install the Nightcap and Retainer nut.

5.19.2 **EPOXY**

DO NOT USE SOLVENT

Step 1.
Dispense all remaining material out of the machine by running it straight through the manifold with a static mixer in place. Disposing of cured material is safer than disposing of the liquid. If there is a large amount (more than a gallon) left in the tanks, the material may be pumped back into a storage bucket for later use. Remove the lines from the back of the manifold to make this easier. It is advisable to do part A and part B separately to avoid cross contamination.

Step 2.
Pour 1 gallon of hydraulic oil into each tank. Turn on the pump about half speed and pump into a waste bucket. Run until all the epoxy is pushed out by the hydraulic fluid and clean hydraulic oil is coming out.

Step 3.
Stop the pump. Grease the zerk fittings on the manifold until grease comes out the holes in the tip. This will help prevent oil from leaking. Install the Nightcap and Retainer nut.

SAFETY PRECAUTIONS

5.20 Perform this operation in a well-ventilated area

5.21 Do NOT smoke when cleaning the pump

5.22 Do NOT clean the pump near open flames or welders

5.23 Wear splash proof goggles

5.24 Wear solvent proof gloves

5.25 Dispose of all waste in accordance with local laws

The purpose of cleaning the pump thoroughly is so that it works properly the next time you need to use it. U.S.SAWS highly recommends the following practices:

- Test the pump several days before you need it, especially if it's been sitting for more than a month.
- Keep spare parts on hand
- Don't cross contaminate polyurea and epoxy
- Make sure the polyol and isocyanate are going into the cor rect tank. Not all manufacturers use the same A&B pattern.

END OF DAY
INSTRUCCIONES DE LIMPIEZA DE LA BOMBA DE POLÍMERO

5.26 QUE NECESITAS

- 1-1 / 2 galones de solvente (xileno o equivalente)
- 2 galones de aceite hidráulico (AW-32 es un tipo común)
- Guantes a prueba de disolventes
- cubos de basura
- Trapos o toallas de papel

5.27 Proceso de limpieza y almacenamiento si la máquina no se utilizará durante más de 24 horas.

5.27.1 POLIUREA

Paso 1.
Dispense todoel material restante fuera de la máquina ejecu tándolo directamente a través de lacolector con un mezclador estático en su lugar. La eliminación del material curado es más segura que la eliminacióndel líquido. Si queda una gran canti dad (más de un galón)en los tanques, elEl material puede ser bombeado nuevamente dentro de un cubo de almacenamiento para su uso posterior. Quitar las lineasdesde la parte posterior del colector para hacer esto más fácil. Es recomendable hacer parte A y parte Bpor separadopara evitar la contaminación cru zada.

Paso 2.
Cuando los tanques y las líneas estén vacíos, vierta ½ galón de xileno (u otro tipo de disolvente)utilizados para adelgazar pintu ras a base de aceite) Productos como Metzger McGuire M-Flush también pueden serusado. Use un cepillo de inodoro separado para limpiar cada tanque con el solvente en los tanques.Enci enda la bomba aproximadamente a la mitad de la velocidad y la bomba en un cubo de residuos hasta que toda la poliureaSe bombea y el solvente simplemente comienza a salir.

Paso 3.
Detenga la bomba y retire las líneas de la parte posterior del colector. Pon la línea A enel tanque Polyol y la línea B en el tanque ISO y realice un ciclo del disolvente a través de un mínimo de5 minutos.

Paso 4.
Vuelva a colocar las líneas en la parte posterior del colector y bombee el disolvente en un recipientey deséchelo adecuada mente. No lo reutilices.

Paso 5.
Vierta ¼ galón de disolvente nuevo en los tanques y bombee esto a través del sistema. EsoDebe salir claro cuando se agote.

Paso 6.
Vierta ½ galón de aceite hidráulico en cada tanque. Encienda la bomba a la mitad de la velocidad ybomba en un cubo de residuos. Ejecutar hasta que todo el disolvente residual es expul sado por elEl fluido hidráulico y el aceite hidráulico limpio están saliendo.

Paso 7.
Detener la bomba. Engrase los accesorios Zerk en el colector hasta que salga grasa delAgujeros en la punta. Esto ayudará a evitar que el aceite se escape. Instalar el Nightcap y Retainer nuez.

5.27.2 EPOXY

NO USE SOLVENTE

Paso 1.
Dispense todo el material restante de la máquina haciéndolo pasar directamente a través del colector con un mezclador estático en su lugar. Desechar el material curado es más seguro que desechar el líquido. Si queda una gran cantidad (más de un galón) en los tanques, el material se puede bom bear de nuevo a un cubo de almacenamiento para uso poste rior. Quite las líneas de la parte posterior del colector para fa cilitar esto. Es recomendable hacer la parte A y la parte B por separado para evitar la contaminación cruzada.

Paso 2.
Vierta 1 galón de aceite hidráulico en cada tanque. Encienda la bomba a la mitad de la velocidad ybomba en un cubo de residuos. Corre hasta que todo el epoxi sea expulsado por el 78fluido hidráulico.y el aceite hidráulico limpio está saliendo.

Paso 3.
Detener la bomba. Engrase los accesorios Zerk en el colec tor hasta que salga grasa delAgujeros en la punta. Esto ayudará a evitar que el aceite se escape. Instalar el Nightcap y Retainernuez.

PRECAUCIONES DE SEGURIDAD

5.28 Realizar esta operación en un área bien ventilada
5.29 NO fume cuando limpie la bomba
5.30 NO limpie la bomba cerca de llamas abiertas o soldadores
5.31 Use gafas a prueba de salpicaduras
5.32 Use guantes a prueba de solventes
5.33 Eliminar todos los residuos de acuerdo con las leyes locales.

El propósito de limpiar la bomba a fondo es para que funcione correctamente la próxima vezNecesitas usarlo. US Saws recomienda encarecidamente las siguientes prácticas:

- Pruebe la bomba varios días antes de que la necesite, es pecialmente si ha estado sentada durantemás de un mes.
- Mantenga las piezas de repuesto a mano
- No contamine la poliurea y el epoxi
- Asegúrese de que el poliol y el isocianatovayan al tanque correcto. No todoNos fabrica el mismo patrón A&B.

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TROUBLESHOOTING

6.0 PROBLEMS DURING DISPENSING POLYUREA JOINT FILLER:

6.1 Material flowing slowly:

A. May occur when material temperature is cool and in the case of cooler/freezer environments. Preheat material and/or store outside of cooler/freezer area. For freezer installations, tank heaters should be used to maintain a "pumpable" viscosity.

B. May occur if static mixing manifold has buildup or restriction in the outlet orifice. Remove pump lines from the manifold, remove fittings, plastic washer, check ball, and spring and ensure no buildup or restriction is present. Inspect outlet orifice for restriction and drill out if buildup is present.

C. May occur if mixed material begins to "gel" inside of the static mixing element (tip). This typically will occur when jumping from joint to joint allowing mixed product to set inside the plastic mixer without purging. Purging the static mixing element should be done approximately every 45 seconds with most M/M products.

6.2 Material STOPS flowing:

A. Check main power supply to ensure voltage is entering the speed control unit. Inside the control box cover located on the face of the circuit board a GREEN LED light should be illuminated when proper voltage is present. If indicator light is off (switch is on), check main power supply cord to ensure power is being supplied to the control box. Correct if necessary. If control box is receiving power and the light on the front is OFF, check 12A ceramic fuse behind the control box cover (left side of electrical panel). Replace if necessary.

B. If control box is receiving power and the LED light on the circuit board is ON, check 8A MDL (slow burn) fuse behind the control box cover (right side of electrical panel). DISCONNECT POWER before removing or testing fuses! Replace if necessary. Burnt 8A MDL fuses will be the primary cause for NO FLOW situations and will typically occur when the motor is being placed under excess strain. Most common to occur when dispensing in cold environments or freezer/cooler installations.

C. If control box fuses are not "blown", check trigger switch mechanism on dispensing wand. A trigger switch malfunction is not common, but does occur from time to time. In this instance, the green LED light will be illuminated indicating the circuit board is receiving power.

6.2 Material does not cure or cures "soft":

A. Always test cure of previously placed materials as you move from section to section. Most M/M polyurea products, even in freezer environments, should reach significant cure within 1 hour.

B. ALWAYS confirm that the proper pump pulleys or sprockets are being used. Equal sized pulleys/sprockets for 1:1 ratio.

C. If uncured or soft cure is found, an off ratio mixture is most always caused by a restriction or buildup inside of the mixing manifold. Disconnect lines, inspect and clean mixing manifold. Prior to reassembly, test material flow and ratio check directly from the pump lines. After confirming proper ratio from the lines, connect mixing manifold, attach static mixing element and dispense test material to monitor for full cure.

D. If OFF ratio dispensing is found when testing directly from the pump lines (without the manifold attached), check each hose line for contamination or restriction. Ultimately, it will be VERY difficult to visually find a restriction inside the hose line. Generally, hose lines should be replaced before starting a project.

E. If hose lines are clear, buildup or restriction will likely be within one or both pump units. Disassemble, clean thoroughly, and reassemble. Attach hose lines and test flow ratio.

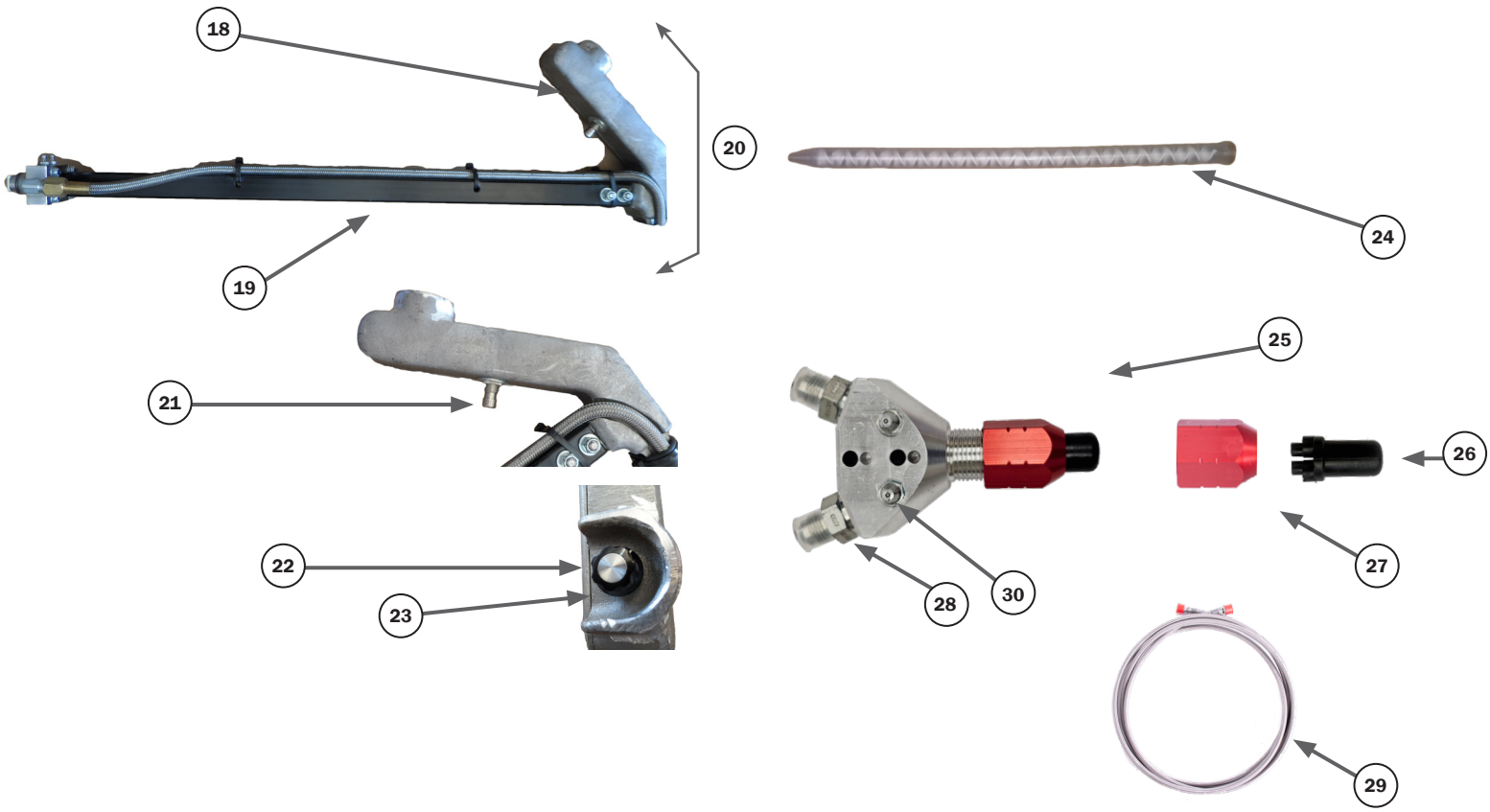
6.3 **Figure 1 - Two Man Pump and Accessories**

Figure 2 - Two MAN PUMP Back View

ITEM	QUANTITY	PART NUMBER	DESCRIPTION
1	2	SX20005-6	TANK LID
2	2	SX20005-5ISO/SX20005-5POLYOL	TANK
3	1	SX20305-4	ELECTRIC 1/2 HP MOTOR
4	1	SX20123	FLOOR BASE
5	1	SX20150	PUMP FRAME
6	2	SX20121	5” CASTER WHEEL
7	1	SX20401	20 TOOTH PUMP SPROCKET
8	1	SX20402-32	32 TOOTH MOTOR SPROCKET
9	1	US30048-1	10” WHEEL
*	1	SX20332	TECO BOARD FUSE 20A

PARTS BREAKDOWN

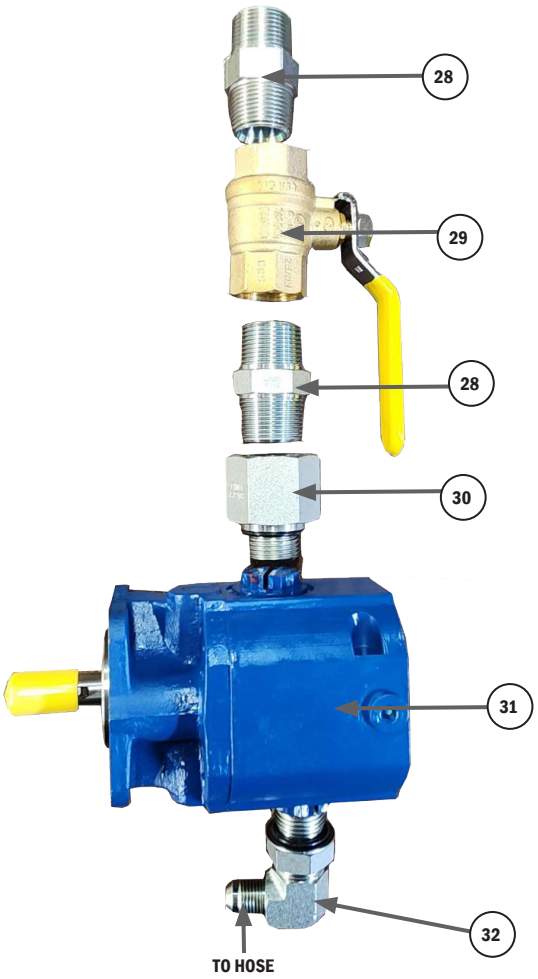
One Man Pump and Accessories



ITEM	QUANTITY	PART NUMBER	DESCRIPTION
18	1	SX20103	PUMP WAND AND COVER CASTINGS MACHINED
19	1	SX20003-1	PUMP WAND WITH STRAIGHT FITTINGS
20	1	SX20114 SX20002	PUMP WAND (BUILT BEFORE 2019) PUMP WAND (WHITE MOTOR BUILT AFTER 1/1/19)
21	1	SX20304	PUSH SWITCH
22	1	SX20313	SPEED CONTROL KNOB
23	1	SX20306-2	SPEED CONTROL POTENTIOMETER
24	1	SX20010	STATIC MIXING TIP
25	1	SX20113-1	DIAMOND HEAD MANIFOLD
26	1	SX20012	NIGHT CAP
27	1	SX20111	STATIC MIXER RETAINING NUT
28	2	SX20424	STRAIGHT FITTING
29	1	SX20410	STEEL BRAIDED HOSE
30	2	SX20202	GREASE FITTINGS

PARTS BREAKDOWN

One Man Pump and Accessories



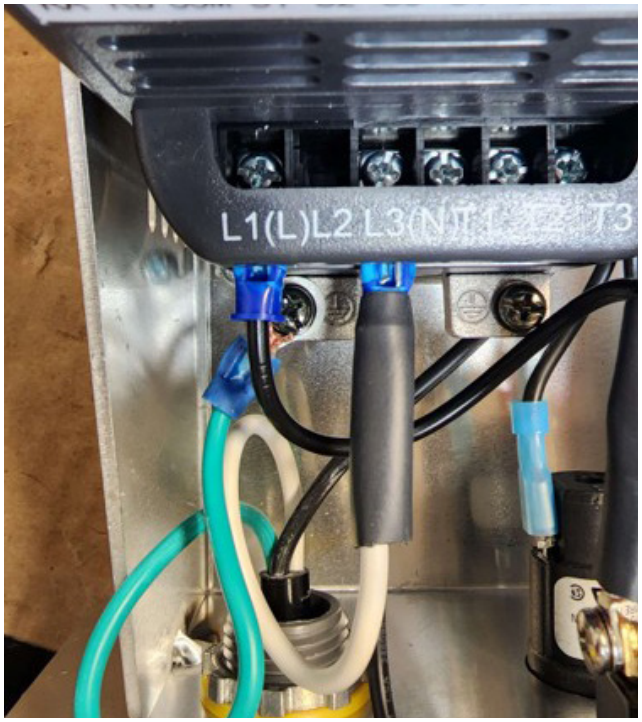
ITEM	QUANTITY	PART NUMBER	DESCRIPTION
28	1	SX20417	MP HEX 3/4" NIPPLE
29	1	SX20411	3/4" T-1001 BALL VALVE
30	1	SX20421	7/8-14 TO 3/4 NPT FEMALE STRAIGHT CONNECTOR
31	1	SX20205	FLUID PUMP A OR B REPLACEMENT
32	1	SX20419	90 DEG PUMP, 7/8-14 TO #6 ELBOW
33	1	SX20410	STEEL BRAIDED HOSE

8.0 TECO L510

Hz/RPM FWD REV
MODE
ENT
FREQ. SET
RUN
STOP
RESET
L510
L510-1P5-H1-U
DANGER / DANGER
Cut-off the power and wait for 5 minutes before inspecting components.
Couper l'alimentation et attendre 5 minutes avant d'inspecter composants.
CAUTION / ATTENTION
See manual before operation.
Consultez le manuel avant l'opération.
RA RB COM S1 S2 S3 S4 S5 10V AVI ACI AO AGND
L1(L)L2 L3(N)T1 T2 T3

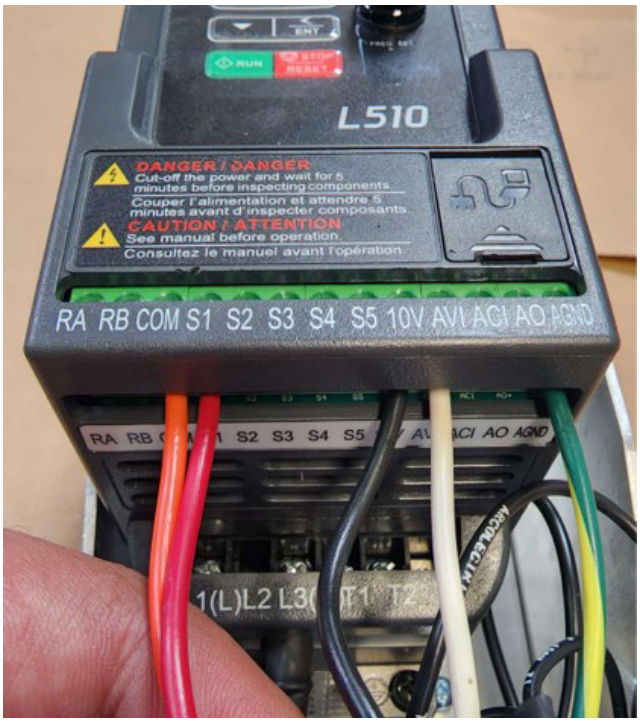
8.2 WIRE CONNECTION

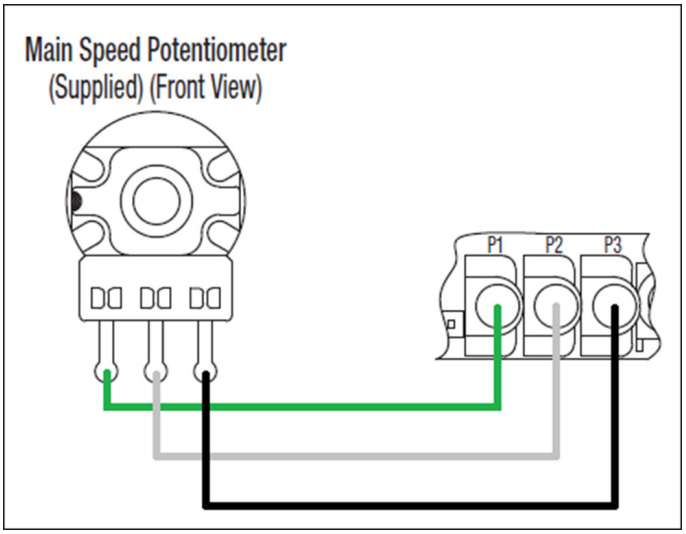
- ORANGE WIRE INTO (COM) PORT
- RED WIRE INTO THE (S1) PORT
- BLACK WIRE INTO THE (10V) PORT
- WHITE WIRE INTO THE (AVI) PORT
- GREEN WIRE INTO THE (AGND) PORT



- GREEN WIRE TO THE GROUND TERMINAL
- BLACK JUMPER WIRE INTO THE L1 PORT
- WHITE WIRE AND BLACK (GREEN LIGHT LEAD) INTO THE L3 PORT

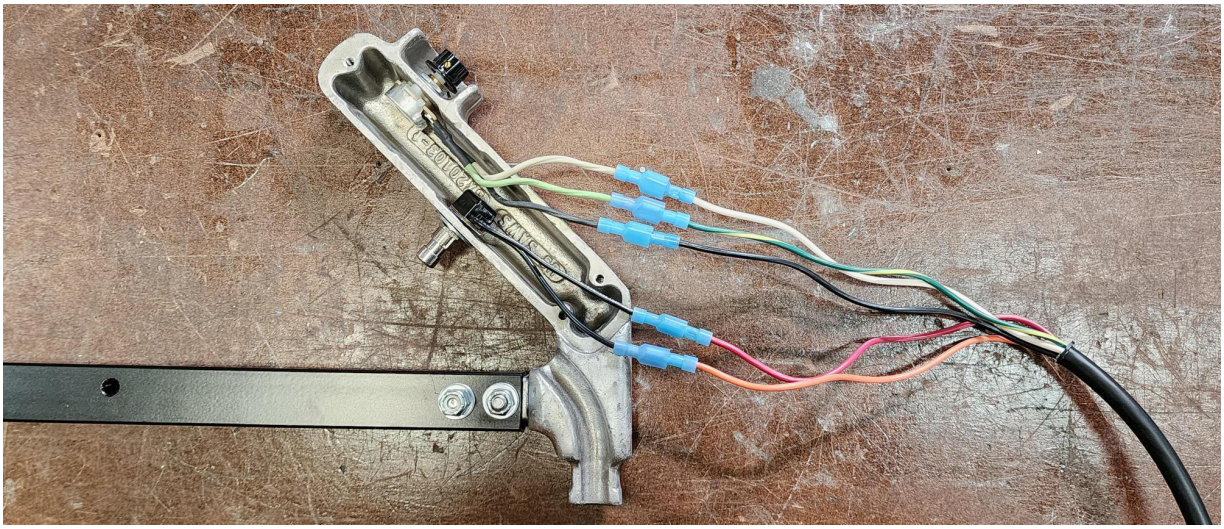
8.2 FROM WAND

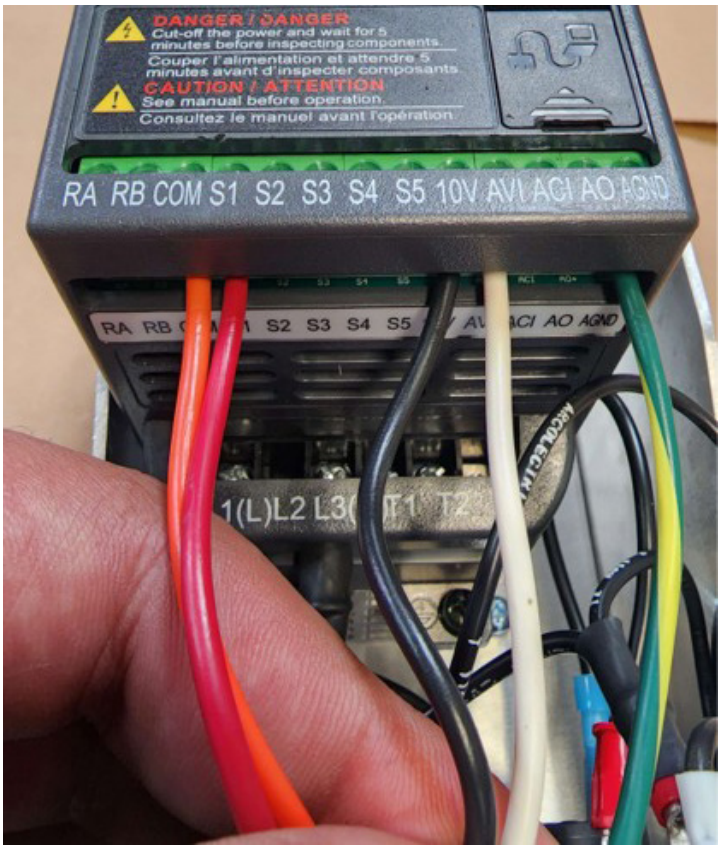




- **GREEN - (AGND)**
- **WHITE - (AVI)**
- **BLACK (10V)**

CONTROL BOARD





ORANGE WIRE INTO (COM) PORT

RED WIRE INTO (S1) PORT

U.S.SAWS™ Surface Prep Division
877-817- 6687
Visit us at www.ussaws.com
sales@ussaws.com

8.0 WARRANTY AND SERVICE

8.1.1 Warranty

This document is to be used as a guide in determining warranty policies and procedures for U.S.SAWS and its U.S.SAWS products. It is to be used in determining whether a warranty is justified and as a procedural guide in completing a U.S.SAWS warranty claim form.

8.1.2 Warranty Responsibility

The distributor or the end user must prepare a Machine Warranty Information Card when the machine is delivered. Failure to comply will make any and all warranties on this equipment null and void. Credit for warranty repairs will be given only after receipt of the WARRANTY CLAIM FORM, properly completed with all the required details. Submittal details are described later in this document.

8.1.3 Warranty Policy

8.1.3.1 U.S.SAWS warrants its U.S.SAWS products against defects in material and workmanship under normal and proper use for a period of one year (365) days from the date of delivery; in the case of Rental Fleet Machines, date of assignment to Rental Fleet. Such warranty is extended only to the buyer who purchases the equipment directly from U.S.SAWS or its authorized distributor. This warranty does not include expendable parts such as, but not limited to, plugs, cutters, blades, blast wheel, wear parts, liners and seals.

8.1.3.2 The obligation under this warranty is strictly limited to the replacement or repair, at US SAWS's option, of machines and does not include the cost of transportation, loss of operating time, or normal maintenance services.

8.1.3.3 This warranty does not apply to failure occurring as a result of abuse, misuse, negligence, corrosion, erosion, normal wear and tear, alterations or modifications made to the machine without express written consent of U.S.SAWS .

8.1.3.4 Warranty request must be submitted in writing within thirty (30) days after failure.

8.1.3.5 Written authorization to return merchandise under warranty must first be obtained from U.S.SAWS .

8.1.3.6 U.S.SAWS reserves the right to inspect and make the final decision on any merchandise returned under warranty.

8.1.3.7 U.S.SAWS offers no warranty with respect to accessories, including but not limited to, engines, motors, batteries, electrical boards, tires and any other parts not manufactured by us but which the original manufacturer warrants.

8.1.3.8 U.S.SAWS reserves the right to make product changes or improvements without prior notice and without imposing any obligation upon itself to install the same on its products previously sold.

8.1.3.9 The above warranty conditions can only be altered by US SAWS. US SAWS must confirm alterations in writing for each specific transaction.

8.1.3.10 U.S.SAWS reserves the right to establish specific warranty terms for used or demo machines on an individual transaction basis. Invoices covering such merchandise will clearly state the provisions of the applicable warranty for each specific transaction.

8.1.3.11 WE DO NOT AUTHORIZE ANY PERSON, REPRESENTATIVE OR SERVICE OR SALES ORGANIZATION TO MAKE ANY OTHER WARRANTY OR TO ASSUME FOR US ANY LIABILITY IN CONNECTION WITH THE SALE OF OUR PRODUCTS OTHER THAN THOSE CONTAINED HEREIN.

8.1.3.12 UNDER NO CIRCUMSTANCES SHALL US SAWS BE LIABLE TO CUSTOMER OR ANY OTHER PERSON FOR ANY DIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF ANY WARRANTY OR FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER, INCLUDING WITHOUT LIMITATIONS, DAMAGES FOR ANY LOSS OF GOODWILL, WORK STOPPAGE, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES.

8.1.3.13 U.S.SAWS MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE US SAWS PRODUCTS SOLD PURSUANT THERETO.

MACHINE WARRANTY INFORMATION CARD

TO ENSURE THE PROPER WARRANTY COVERAGE IS EXTENDED TO THE OWNER OF THIS MACHINE, FILL OUT THE ATTACHED CARD COMPLETELY AND ACCURATELY.

WARRANTY REGISTRATION CARD

IMPORTANT! To ensure that your U.S.SAWS machine is covered under warranty, please fill in the following information and mail or fax it to U.S.SAWS, 8004B E. Broadway Ave. Tampa, FL 33619, Fax No. (813) 621-7125

COMPANY
NAME
ADDRESS
INTENDED USE
DATE OF PURCHASE
INTENDED USE
SERIAL NUMBER

If you are not the owner of record as shown on the manual copy of the warranty registration card, do not operate this machine before contacting U.S.SAWS at 1-877-817-6687. Verify the following before operating the equipment:

CHANGE OF OWNER OR NEW ADDRESS REGISTRATION CARD

IMPORTANT! To ensure that your U.S.SAWS machine is covered under warranty, please fill in the following information and mail or fax it to U.S. SAWS, 8004B E. Broadway Ave. Tampa, FL 33619, Fax No. (813) 621-7125

COMPANY
NAME
ADDRESS
INTENDED USE
DATE OF PURCHASE
INTENDED USE
SERIAL NUMBER