

Owner's Manual XT-3



Electrostatic
Spraying Systems

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OWNER'S MANUAL

ESS XT-3

Electrostatic Spraying Systems, Inc.
62 Morrison St. · Watkinsville, GA 30677-2749

CE certification applied for

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CONGRATULATIONS!

You have just purchased one of the most advanced spraying systems on the market today. Electrostatic Spraying Systems, Inc.¹ (ESS) is committed to providing you with powerful spraying systems that are easy to operate and maintain.

The products of ESS are the result of the efforts and creativity of many people. In addition to input from engineering, marketing and manufacturing personnel, suggestions from our customers have been implemented into the design of our equipment. We would like to hear your ideas also! If you have any suggestions or comments regarding the products or service of ESS write or call us at:

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Please take time to read this manual before operating your new ESS XT-3 Sprayer™. The manual contains important instructions for the safe operation of this equipment. It also includes helpful suggestions to maximize productive use of the XT-3. Essential cleaning instructions should be followed to maintain your sprayer at peak efficiency. Please carefully read and follow all instructions for your own safety and the safety of others around you.

Thank you!

We appreciate your business and are proud that you have selected an ESS sprayer for your operation.

Your new sprayer has been thoroughly tested and calibrated at the factory. If you have any problems with it, please get in touch with us immediately. We will be glad to answer any questions you have concerning our equipment or service. ESS intends to support its customers with efficient, helpful and friendly service. We appreciate your business and sincerely hope that Electrostatic Spraying Systems can meet your present and future spraying equipment needs.



We encourage you to make copies of the "Spray Gun Yearly Service" form in the back of this manual. Use this form every year you send your gun in for maintenance and when we service the gun, your warranty will renew for another year. The service will replace the nozzle base, replace air and liquid hoses inside gun housing, replace filters, and recalibrate the gun and thoroughly cleaning the entire spray gun.

¹ ESS XT-3 Sprayer™, XT™, MaxCharge™, and the ESS logo are copyrights or registered trademarks of Electrostatic Spraying Systems, Inc.

For your personal records

Please record the model and serial numbers of your new sprayer here.

XT-3

Model #

Serial #

Spray gun serial number

Date of purchase.

Notes

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Notes

Overview of the ESS Model XT-3 Air-Assisted Electrostatic Sprayer

Air-assisted electrostatic sprayers produce electrically charged spray drops that are carried to the plant canopy or onto the target in a low pressure, gentle, air stream. The heart of the XT-3 Sprayer is the patented MaxCharge™ nozzle.

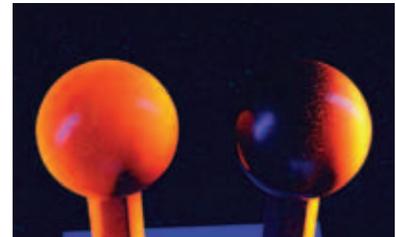
Air and liquid enter separately at the rear of the nozzle. Just before leaving the nozzle, the air hits the liquid stream to make many thousands of tiny spray droplets that pass through the charging ring. An electrical charge is applied to the spray droplets by the charging ring. Then the charged spray droplets are blown out of the nozzle and move into the plant canopy where they are attracted to plant material by electrostatic forces. The electrostatic charge induced by the MaxCharge™ nozzle is strong enough to allow the droplets to move in any direction to cover all plant surfaces, even defying gravity to coat the underside of leaves and the back side of fruits, vegetables, and objects. The result is uniform spray coverage on hidden surfaces that other sprayers miss. Air-assisted electrostatic sprayers give more than twice the deposition efficiency of hydraulic sprayers and non-electrostatic types of air-assisted sprayers. The grower benefits in terms of significant reductions in application costs and optimized insect and disease control, sanitization of beef or other coverage.

The MaxCharge™ nozzle is easy to clean and corrosion-proof. The interior ceramic outlet resists wear three times better than stainless steel outlets. These features combine to give the best spray coverage on the market. This quality product is virtually maintenance-free, and assures you of savings in the application of chemical.

The comparison of air-assisted electrostatic spraying versus conventional spraying is dramatic.

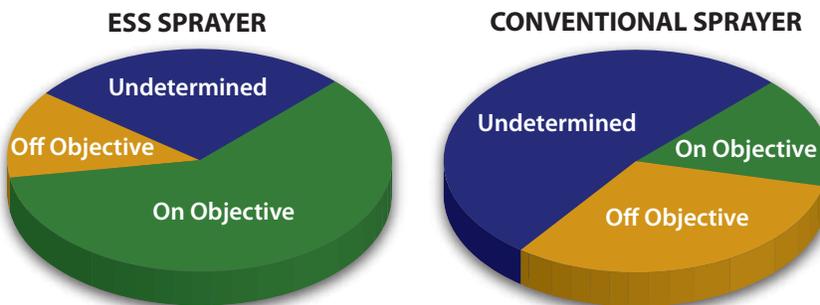


Electrostatically charged droplets are attracted to plant surfaces.



A picture worth a thousand words...
In this test, fluorescent dye has been sprayed on two round knobs. The left knob was sprayed with the electrostatic system ON; the right knob was sprayed with the same sprayer, but with the electrostatic system OFF. Note how even the coverage is on the electrostatic knob.

Where Does the Spray Go?



The University of California completed a series of tests to investigate what happens to spray liquid after it leaves the nozzle.

Conclusion: ESS technology places over 4 times the amount of spray onto the plant surface using ½ the amount of chemicals. Furthermore, they also reported that ESS sprayers send ⅔ less chemicals to the ground and into the air. Less chemical used overall, less waste and less drift than conventional equipment.

Imagine the environmental benefit!

OPERATOR'S RESPONSIBILITY

Read the Owner's Manual.

It is the responsibility of the user to read the Owner's Manual, to understand the safe and correct operating procedures which pertain to the operation of the product, and to maintain the product according to the Owner's Manual. It is the owner's responsibility to ensure that all who are using this equipment read this manual.

The user is responsible for inspecting the equipment and for repairing and replacing damaged or worn parts to prevent damage or excessive wear to other parts. It is the user's responsibility to deliver the machine for service or replacement of defective parts which are covered by the standard warranty.

Lack of attention to safety can result in reduction of efficiency, accident, personal injury, or death. Watch for safety hazards and correct deficiencies promptly. Use the following safety precautions as a guide when using this machine.

- ◆ Read the Owner's Manual. Failure to read the manual is considered a misuse of the equipment.
- ◆ Use the XT-3 sprayer ONLY for its intended use as described in this manual.
- ◆ Use the XT-3 sprayer indoors only.
- ◆ Do not allow a child to operate the XT-3 sprayer. Do not allow adults to operate the sprayer without proper instruction.
- ◆ Use extra care when spraying on stairs. Do not place sprayer on stairs.
- ◆ Do not use without tank in place.
- ◆ Always empty tank after use and before transporting the sprayer.
- ◆ Store sprayer in a dry place. Do not expose to freezing temperatures.

CAUTION: SHOCK HAZARD

The XT-3 sprayer has been engineered to be very safe during normal operation. However, as with all line-powered electrical equipment and tools, certain safety procedures need to be followed.

- ◆ Use a GFCI (Ground Fault Circuit Interrupter) power outlet whenever possible.
- ◆ If an extension cord is necessary, use a three-wire extension cord with a 3-prong grounding type plug.
- ◆ Turn off sprayer before unplugging.
- ◆ Unplug sprayer when not in use.
- ◆ Always unplug by grasping the plug. Do not unplug by pulling on the cord.
- ◆ Never pull plug with wet hands.
- ◆ Do not pull or carry the sprayer by its power cord. Do not crimp the cord or cause it to be damaged by straining it around sharp edges. Keep power cord away from heat sources.
- ◆ Do not use the XT-3 sprayer with a damaged power cord. Call ESS for a replacement.

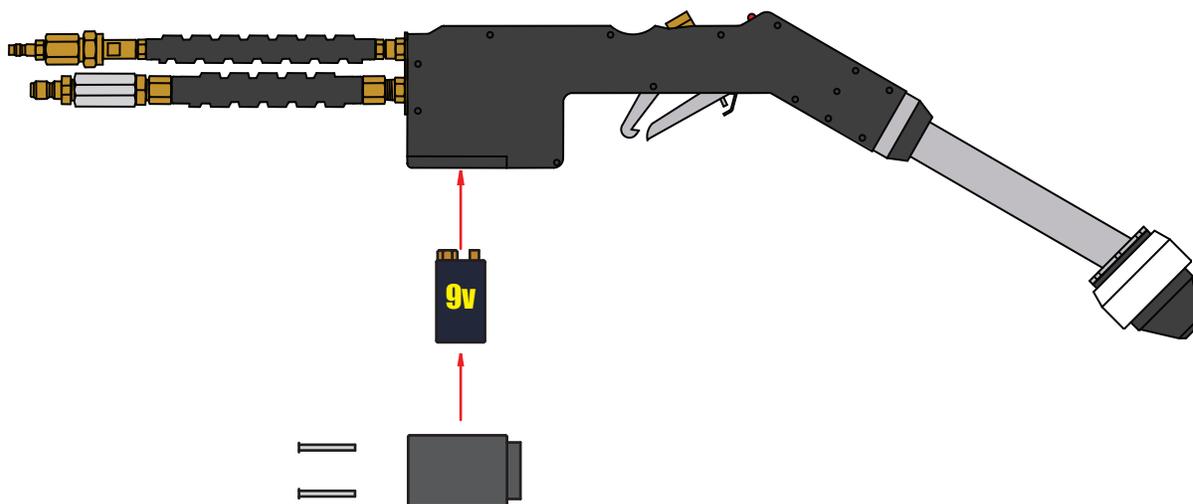
CHEMICAL SAFETY PRECAUTIONS

Read and follow all instructions on the chemical or pesticide manufacturer's label.

- ♦ Use protective clothing, eye protection and gloves when mixing chemicals to be sprayed with the XT-3 sprayer.
- ♦ Always use a respirator and eye protection when spraying with the XT-3.
- ♦ Follow the chemical manufacturer's recommendations in handling, mixing, applying, storing and disposing of chemicals.
- ♦ Be aware of decontamination methods in case a person, clothing, or equipment is accidentally sprayed.
- ♦ Be aware of poisoning symptoms and know the appropriate first aid.
- ♦ Know the length of time needed to pass before allowing people and pets to go back into the sprayed area.

About the low-voltage system of the MaxCharge Spray gun

For operator safety, the power supply for the MaxCharge spray gun is entirely separate from the power supply for the sprayer's compressor. The spray gun is powered by 9-volt batteries in the handle of the XT-3 sprayer. This low-voltage charge is not enough to harm people. Some people report feeling a "tingle" or a slight stinging sensation when the spray from the spray gun falls on their bare skin.



Safety Decals

ESS places several decals¹ on the ESS XT-3 sprayer to remind the operators of safety and proper techniques. Always follow good, safe practices when operating this machinery. Note the locations on the equipment where these decals may be found. Replace them if they become worn or damaged and can no longer be read.

! WARNING!	! ¡PRECAUCIÓN!
<p>AGRICULTURAL CHEMICALS CAN BE DANGEROUS. IMPROPER SELECTION OR USE CAN SERIOUSLY INJURE PERSONS, ANIMALS, PLANTS, SOIL OR OTHER PROPERTY.</p> <p>BE SAFE:</p> <ul style="list-style-type: none"> • SELECT THE RIGHT CHEMICAL FOR THE JOB. • HANDLE IT WITH CARE. • FOLLOW THE INSTRUCTIONS ON THE CHEMICAL MANUFACTURER'S LABEL. 	<p>LOS PRODUCTOS QUÍMICOS AGRÍCOLAS PUEDEN SER PELIGROSOS. LA SELECCIÓN O EL USO INAPROPIADOS PUEDEN LESIONAR SERIAMENTE A LAS PERSONAS, LOS ANIMALES, LAS PLANTAS, LA TIERRA U OTRA PROPIEDAD.</p> <p>TENGA CUIDADO:</p> <ul style="list-style-type: none"> • SELECCIONE EL PRODUCTO QUÍMICO CORRECTO PARA EL TRABAJO. • MANÉJELO CON CUIDADO. • SIGA LAS INSTRUCCIONES DE LA ETIQUETA DEL FABRICANTE DEL PRODUCTO QUÍMICO.

This decal is on the back of the 3-gallon stainless steel tank. Be aware that many chemicals are harmful if they are not used properly. **Read** all instructions and warnings on the chemical label. **Make sure** that the sprayer operator has the appropriate clothing and respiratory gear. **Clear the area** before spraying and **do not** allow people to return until it is safe. **Do not** leave leftover chemicals where children or animals may find them.

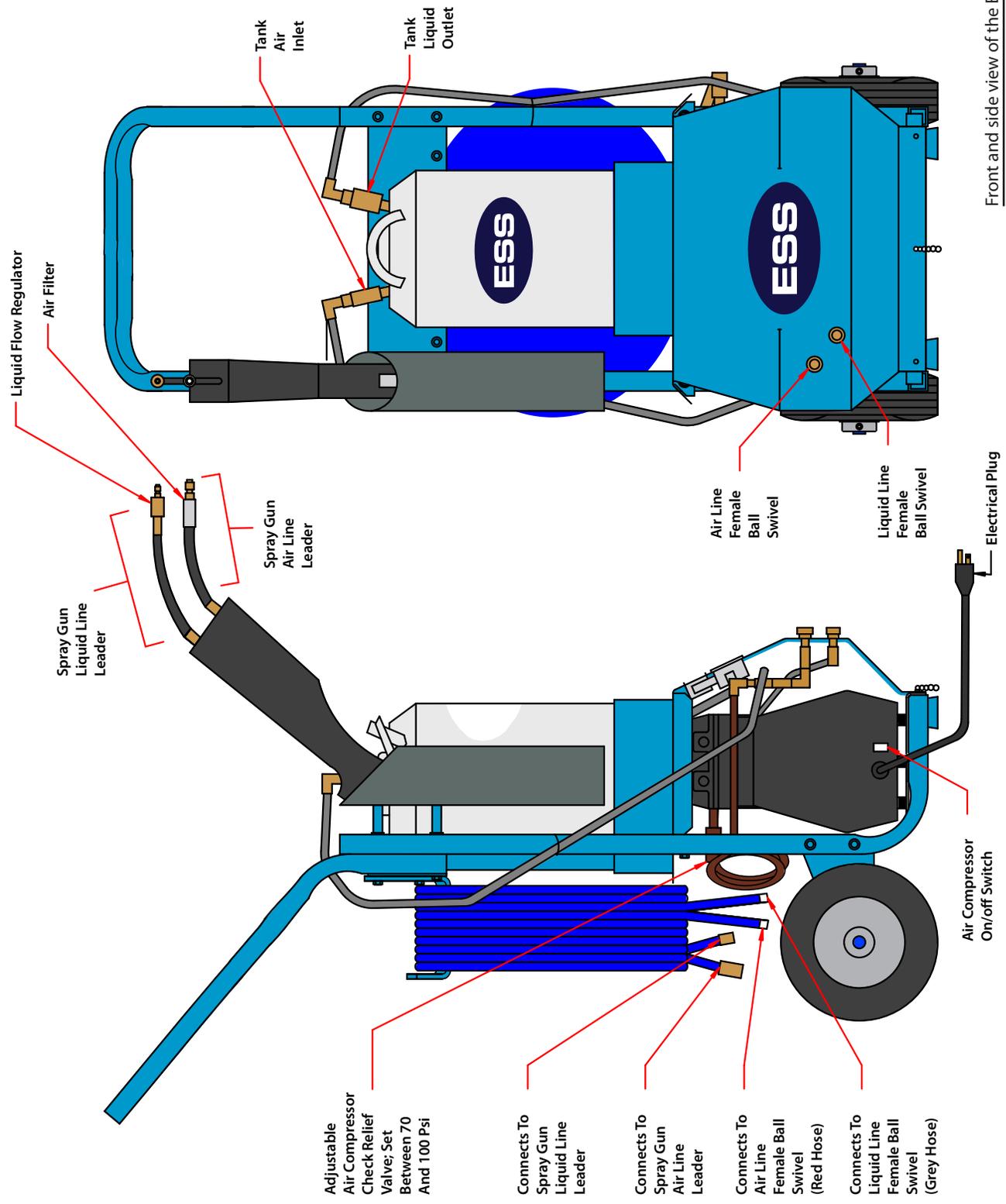
! WARNING!	! ¡PRECAUCIÓN!
<ul style="list-style-type: none"> • DO NOT REMOVE TANK LID OR RELEASE TANK PRESSURE WHILE COMPRESSOR IS RUNNING. • RELEASE TANK PRESSURE BEFORE REMOVING LID OR TANK HOSE CONNECTIONS. • KEEP FACE AWAY WHEN RELEASING PRESSURE AND WHILE REMOVING TANK LID. • DO NOT OVERFILL TANK. • FILL TO 4 INCHES (10 CM) FROM TOP OF TANK WHEN USING TANK AGITATOR SYSTEM. 	<ul style="list-style-type: none"> • NO RETIRE LA TAPA DEL TANQUE NI LIBERE LA PRESIÓN DEL TANQUE MIENTRAS LA COMPRESORA ESTÉ FUNCIONANDO. • LIBERE LA PRESIÓN DEL TANQUE ANTES DE RETIRAR LA TAPA O LAS CONEXIONES DE LA MANGUERA DEL TANQUE. • MANTENGA EL ROSTRO ALEJADO CUANDO LIBERE LA PRESIÓN Y MIENTRAS RETIRA LA TAPA DEL TANQUE. • NO SOBRELLENE EL TANQUE. • LLÉNELO HASTA 10 CENTÍMETROS (4 PULGADAS) DE LA PARTE SUPERIOR DEL TANQUE CUANDO USE EL SISTEMA AGITADOR DEL TANQUE.

This decal is also on the back of the 3-gallon stainless steel tank. The contents of the XT's tank are under pressure. Please take care when releasing pressure and when removing the tank lid.



This label is wrapped around the hose to remind you to clean the filters regularly. The number one cause of poor sprayer performance is a clogged or dirty filter.

¹ ESS is currently redesigning the warning labels for the sprayers. There may be minor changes in the layout and/or wording of the warning decals on your sprayer.



Front and side view of the ESS XT-3™



SAFETY FIRST!

Observe all label warnings when handling chemicals. Always use Personal Protective Equipment (PPE) when spraying.



Operating Instructions

Steps for Operation

1. Prepare the tank mix.
2. Connect the twin line hose to the front panel.
3. Connect the twin line hose to the liquid and air leaders on the handgun.
If using the plastic bottle, connect the gray hose of the plastic bottle hose assembly instead of the gray hose of the twin line hose to the liquid leader.
4. Plug the power cord into an appropriate receptacle.
Turn on the XT-3 air compressor.
5. Engage the trigger and spray.



Cautions:

ESS recommends that you use an outlet with a Ground-Fault Circuit Interrupter (GFCI).

Do not operate the XT-3 in standing water.

Do not immerse the XT-3 compressor.

To clean the XT-3 after operation:

1. Clean the exterior of the sprayer.
2. Clean the tank and/or the plastic bottles.
3. Disconnect the twin line hose from the handgun air line and liquid line leaders.
4. Disassemble and clean the liquid filter. Be careful not to lose the flow disk.
5. Unthread the quick connect plug from the handgun liquid line leader. Use a $\frac{7}{16}$ " wrench on the plug and an $\frac{1}{16}$ " wrench on the $\frac{1}{8}$ " NPT body.
6. Connect the quick connect plug to the grey hose of the twin line hose.
7. Fill the tank with 2 gallons of clean water.
8. Turn on the air compressor to flush the line with 1.75 gallons of water. Turn off the air compressor.
9. Disconnect the quick connect plug from the twin line hose. Re-thread it into the handgun liquid line leader.
10. Reassemble the liquid filter.
11. Turn on the air compressor and engage the trigger to flush the handgun lines with the remaining water. Check the nozzles for a good spray pattern while flushing. Allow air to flow for 30 seconds after the water has been sprayed.
12. Apply silicone spray or similar lubricating oil to all quick connect fittings.

Cooling Fan

Check the cooling fan on the back of the unit to make sure that debris does not clog inside, blocking air flow into the heat exchanger. It may be necessary to use pressurized air to clean debris out, remove the fan with screwdriver and clean the coils if necessary.



Detailed cleaning instructions for each component are found in the reference section of this manual.



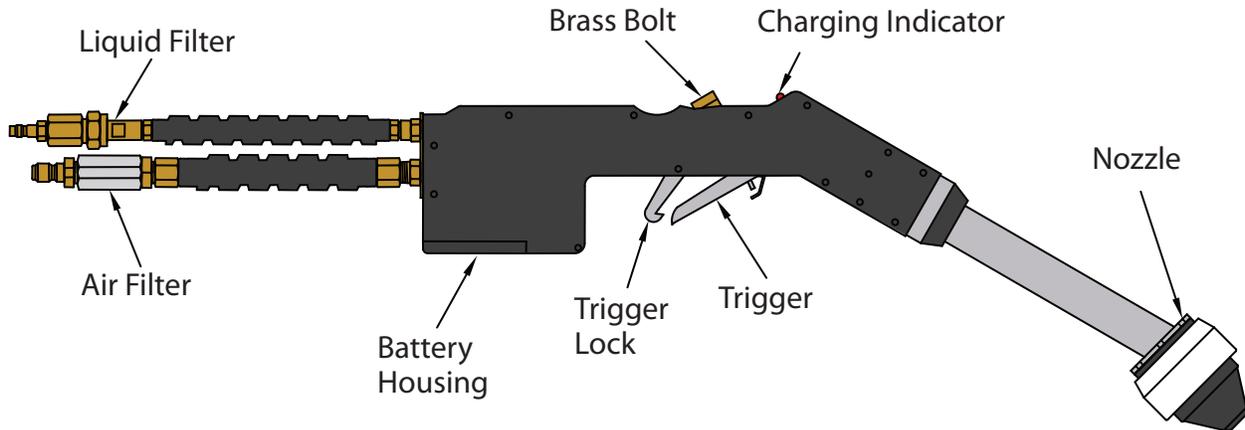
Sil-Glyde is an excellent silicone-based protective lubricant. You may purchase it directly from ESS.

REFERENCE

Spray gun

The spray gun is held by the operator during spraying. Activation of the trigger causes liquid to spray. The Spray gun has the following user-serviceable parts: the air filter, the liquid filter assembly, the nozzle assembly, and the batteries. Except for the batteries, which are accessed by removing the battery cover, nothing inside the Spray gun shell is user-serviceable. **Do not open the spray gun shell**; doing so will void the warranty on the spray gun.

NOTE



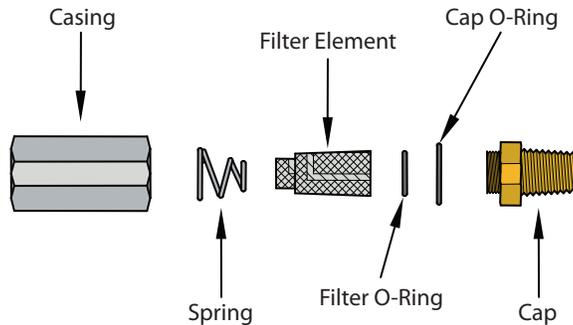
See also: Changing the batteries
Yearly Spray gun Service
Spray technique

The Spray Gun

Air filter

Note: XT-3 units manufactured after March 2009 do not require an air filter on the spray gun air leader.

For XT-3 units manufactured before March 2009, there is an in-line air filter located outside the base of the spray gun in the air hose. It filters dirt out of the air lines. It's easy to tell the Air Filter from the Liquid Filter Assembly because the Air Filter is in a silver-colored casing. Replacement parts for the air filter assembly are available as a kit. The kit includes a filter, and large and small o-rings. Order using ESS part number 231.



The Air filter assembly

To clean the air filter:

1. Unthread the casing from the cap using a $\frac{3}{4}$ " wrench on both parts. Be careful not to lose the spring or the air filter inside of the casing.
2. Check inside each part for debris. Clean any dirt out with compressed air or warm, soapy water.
3. Reassemble the air filter, making sure to put it together as shown above.

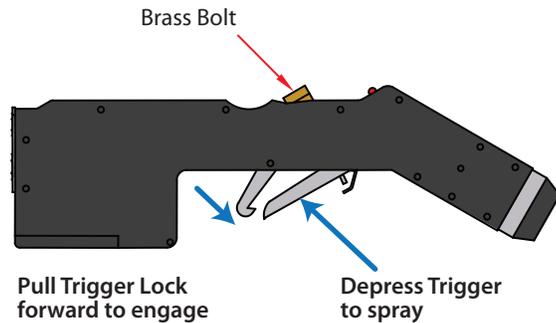
Cleaning the air filter on the base unit

To clean the air filter for the compressor, pull off the filter cap, located inside the front panel. Inside, remove filter and blow off to clean.



Trigger

The trigger turns the spray on and off. It can be continuously held for operation or it can be locked in place.



To engage/disengage the trigger:

1. Depress the trigger up towards the body of the spray gun to start spraying.
2. To keep spraying, either keep holding the trigger or lock it in place by pulling up the lock and hooking the trigger.
3. To stop spraying when the trigger is not locked, let go of the trigger.

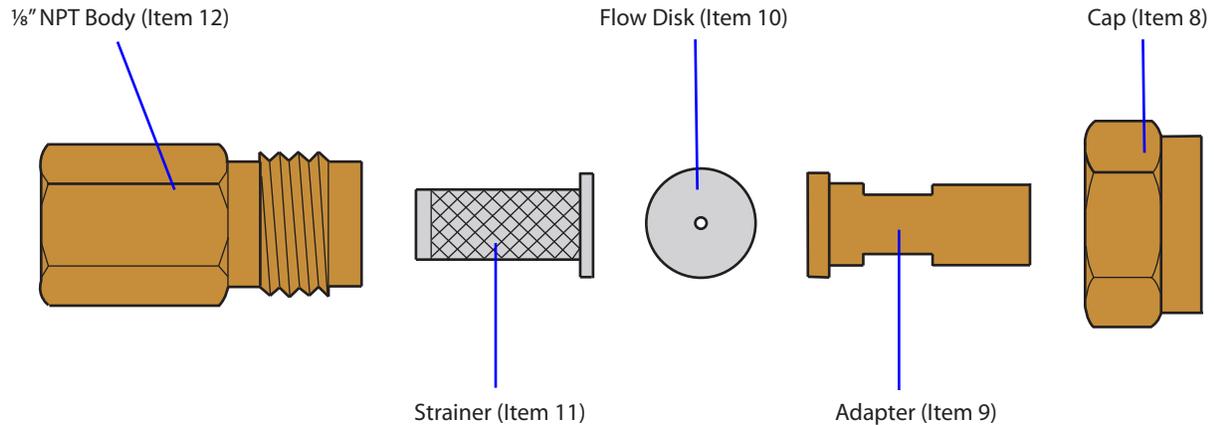
To clean the trigger:

1. Unthread the brass bolt on the top of the spray gun with a $\frac{5}{8}$ " socket wrench. Be careful not to lose the spring, plunger, copper washer, and small brass bushing inside the trigger. Note how they fit inside so they may be replaced properly.
2. Check inside the trigger for blockage. Clean out any debris with compressed air or warm, soapy water.
3. Replace the spring and plunger; rethread the brass bolt into the top of the spray gun until tight.

Liquid filter assembly

The liquid filter assembly is located outside the base of the spray gun. It is composed of these parts: a $\frac{1}{8}$ " NPT body (Item 12), a strainer (Item 11), a flow disk (Item 10), an adapter (Item 9) and a cap (Item 8). The strainer is the active filtering element in the volume of liquid that flows through the line. There is an extra flow disk and an extra strainer in the XT-3 Parts Kit in case the originals are lost or damaged.

You may have to clean the liquid filter more frequently if the XT-3 is being used to spray high-particle density solutions.



Liquid Filter Assembly

To disassemble, clean and reassemble the liquid filter (see labeled drawing above):

1. Using a $\frac{13}{16}$ " wrench on the cap (Item 8) and an $\frac{11}{16}$ " wrench on the $\frac{1}{8}$ " NPT body (Item 12), unthread them.

Note: When you disassemble the liquid filter assembly, notice how the parts fit together in order to reassemble them properly. Be careful not to lose any parts, particularly the flow disk (Item 10) which is inside the cap. The sprayer will not function correctly without the flow disk.

2. Remove the strainer (Item 11) from the $\frac{1}{8}$ " NPT body.
3. If the $\frac{1}{8}$ " NPT body contains residue, clean it with compressed air or clean water.
4. Clean the strainer with compressed air or clean water. If residue still remains in the 50 mesh screen, disassemble the strainer. Unscrew the top brass part from the bottom brass part. The 50 mesh screen slides off the brass body and can be cleaned with compressed air or clean water. If residue still remains, soak the 50 mesh screen and screw the top brass part back on the lower brass part.
5. If the flow disk is still in the cap, remove it. Check the aperture of the flow disk for blockage. If there is any, clean it with compressed air or water. Replace the flow disk so that the numbers on the disk face the strainer.
6. Replace the strainer in the $\frac{1}{8}$ " NPT body.
7. Rethread the $\frac{1}{8}$ " NPT body and the cap.

Nozzle assembly

It is very important to follow all the maintenance and cleaning procedures to ensure that the electrostatic sprayer will function properly. Although the MaxCharge™ nozzle will outperform all electrostatic spray technology on the market, regular cleaning will ensure peak operating performance.

The nozzle assembly is located at the end of the spray gun wand. It is composed of a nozzle body, internal o-ring, Teflon ring, cover, external o-ring, and a hood (see labeled drawing at right). To access the nozzle components, just unscrew the nozzle cover by hand.

Cleaning the spray gun

Always rinse the spray gun out with clean soapy water after every day's spraying. That is the most important thing you can do to ensure trouble free operation of your XT-3 sprayer. By cleaning after each and every working day you will avoid the long-term chemical buildup that eventually causes clogs, poor spray patterns and shortens nozzle life.

Establish maintenance intervals to disassemble and clean the nozzle. Your nozzle maintenance schedule will vary depending on the types of chemicals used and adherence to pre- and post-spray checks. In general it is sufficient to thoroughly clean nozzles every 50 hours. If heavy loads of wettable powers are used, the cleaning schedule should be sooner.



To clean the nozzle assembly

1. Slide the hood over the nozzle cover.
2. Unscrew the cover from the nozzle base and remove the Teflon ring. Clean any debris from around the nozzle tip.

Note: There is a small o-ring in the nozzle around the base of the tip – take care that it doesn't fall off. If it does, clean it and press back into place. Also, take care not to damage the nozzle tip when the cover is removed.

3. Soak the ring, cover, and hood in a mild detergent solution. Use a small brush (soft or mild bristle) to clean the inside of the cover and the hole through it. Also, be sure to clean the hood. It is important to clean inside the hood and the two cavities. Rinse thoroughly.
4. Scrub the nozzle base with the detergent solution using a soft bristle brush. Clean the ceramic outlet. Be sure to thoroughly clean the base cavity and take care not to damage the nozzle tip. Rinse and make sure the small o-ring is in place.
5. Reassemble nozzle by placing the Teflon ring on the base and screwing the cover on **hand tight**. Next, slide the hood over the nozzle and seat it securely against the external o-ring. Wipe clean the exterior of all hoses and fittings connected to the nozzle.

The electrode cover should be hand tight. Never use pliers or other tools to tighten it. The insulating ring should be loose.

You may wish to purchase Nutrasol Tank Cleaner from ESS (S/N# 1566), which cuts hard water scale and chemical deposits from the electrode and internal component of the spray gun. The regular use of Nutra-Sol will keep your equipment operating at peak performance. The recommended mixing ratio is 4 ounces in 12.5 gallons of water (113 grams in 47 liters of water).

Pre-Spray Check

I. Inspect Nozzles

Check nozzle cover to make sure it is on hand tight (do not over tighten or use a wrench). Make sure the hood is seated firmly to the nozzle base and against the external o-ring.

II. Preparing the Tank Mix

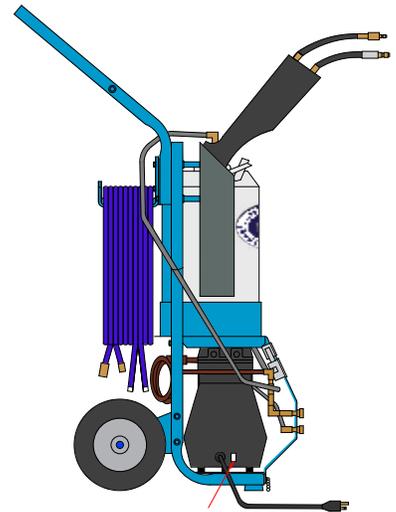
If you will be spraying wettable powders it is a good idea to use a compatibility agent with the water and tank mix. Compatibility agents are chemicals mixed with the water that make mixing easier and keep heavy concentrations uniformly in suspension. Some brand name additives are COMPLIMENT™, UNITE®, and BALANCE™. Check with your local chemical supplier for others that are available.

Post-Spray Check

After each spray it is essential that hoses and spray gun be flushed with clean soapy water. This will help prevent chemical build-up that can clog lines and nozzles. Also, it is recommended that the nozzle exterior (black portion of nozzle) and nozzle hoods be cleaned with soapy water at this time.



ESS recommends the use of NUTRA-SOL cleaner which can be purchased from ESS.
Order S/N#1566.



Location of the XT-3 power switch.

The air & liquid delivery system

Air compressor

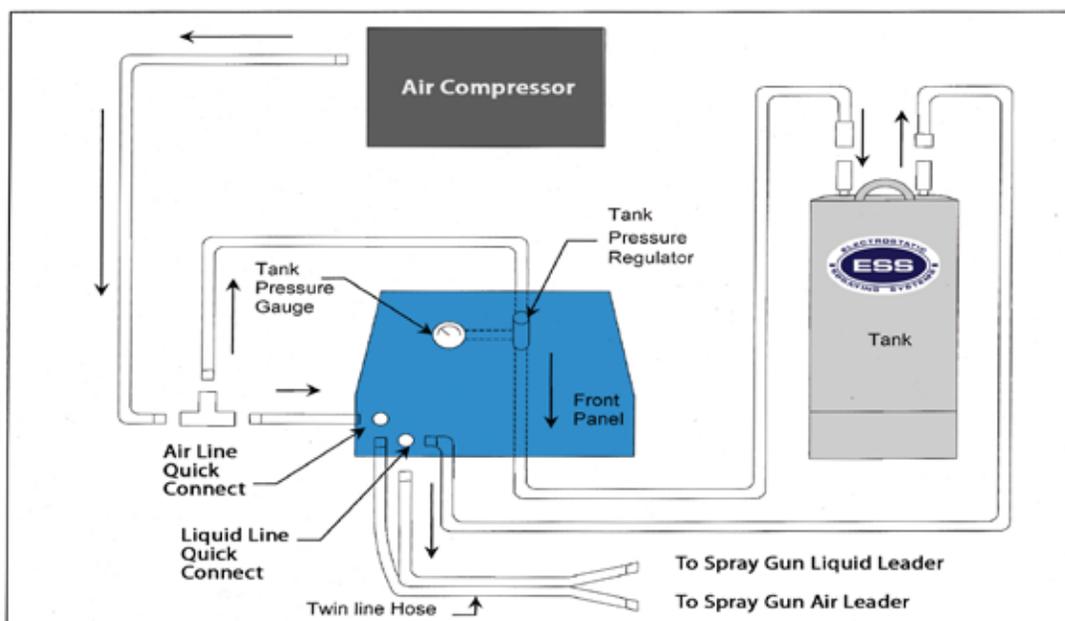
The air compressor produces compressed air which atomizes and propels the liquid. It plugs into a 110 volt electrical source. Use the XT-3™ with a three-pronged extension cord of no more than 50 feet and rated for no less than 15 amp service. The On/Off switch is on the side of the air compressor.

The XT-3 is also available with a 220-volt compressor.

Tank pressure regulator

As of January 1, 2010, the XT model no longer has a regulator and gauge. If you have a model after that date, you can no longer regulate the tank pressure. Once you turn the sprayer on, the tank will fill with pressure and the sprayer will function as it did before. If you have a model before, see the paragraph below.

There is a pressure regulator to control air pressure to the tank. It corresponds with the pressure gauge on the left side of the front panel. This regulator is operated by pulling out the dial and turning it clockwise to increase pressure or counter-clockwise to decrease pressure in the tank. This regulator controls the air pressure going to the tank not to the spraygun. Generally tank pressure should be 15 psi. There are two purposes for the tank pressurization: first, to push the liquid solution from the tank to the spraygun, and second, to agitate the liquid in the tank, so that the chemical stays in solution. Once the desired pressure is achieved, push in the dial to lock it in place. Some chemicals have a tendency to foam. If you see any foam coming out the pressure release tank valve, either reduce the tank air pressure or add an "anti-foaming" agent to the solution. In some occasions, it may be necessary to lower tank pressure to avoid foaming, to even as low as 5 psi. When adjusting tank pressure, one should dial pressure up to desired setting, rather than down. Two air lines run from the tank pressure regulator. One line runs to the tank pressure gauge on the front panel. The other runs to the inlet quick connect on the tank.



Quick connects

There are four sets of quick connects (plug and socket) on the sprayer:

- Compressor (air) outlet
- Tank (liquid) outlet,
- Spray gun air inlet
- Spray gun liquid inlet

In all cases, the plug is on the outlet side of the connection.

Air connection

The air hose is the larger of the two hoses that make up the blue twin line hose. The quick connect for the air connection is on the front panel of the XT-3 body. The air socket and plug are larger in diameter than the liquid connections – it is not possible to connect the air hose to the liquid socket. The other end of the air hose connects to the air leader of the spray gun (lower leader). It's easily recognizable because its plug is larger than the liquid connector.

Liquid connection

The liquid line is noticeably smaller than the air hose. Its quick connect socket is also on the front panel of the XT-3 body. It is smaller than the air quick connect socket – it is not possible to connect the liquid hose to the air socket. The other end of the liquid hose connects to the liquid leader of the spray gun (upper leader).

To connect the quick connects at the spray gun leaders:

1. Slide the sleeve of the quick connect socket up.
2. While holding the sleeve up, push the socket onto the quick connect plug.
3. Release the sleeve.
4. Pull on the socket body to ensure that it is properly seated and cannot be pulled off the plug when the sleeve is down.

To connect the quick connects at the front panel of the XT-3:

1. Push the liquid and air plugs into their respective sockets until you feel them latch.
2. Pull gently to make sure the connector is properly seated.

To disconnect the quick connects at the spray gun leaders:

1. Slide the sleeve on the quick connect socket up.
2. While holding the sleeve up, pull the socket off the quick connect plug.

To disconnect the quick connects at the front panel of the XT-3:

1. Push the sleeve on the quick connect socket towards the sprayer body.
2. While holding the sleeve down, pull the plug out of the quick-connect socket.



To connect or disconnect the air or liquid connections on the sprayer or spray gun, pull back the outer sleeve of the quick-connect to release.

Tank

Tank

The XT-3 has a 3-gallon (11.4 liter) stainless steel tank. When the compressor is operating and the tank pressure gauge is set between 12-15 psi, the liquid in the tank is continuously agitated. This helps prevent separation and settling of the chemical. There is a pressure release valve on the tank lid that allows the operator to release tank pressure before opening the tank. Due to agitation, you will hear a small amount of air escaping from the tank lid even when the lid is fastened. This is normal.



Latched and pressurized

Open (after being depressurized)

To open the tank:

1. Slowly open the Pressure release valve by turning it counter-clockwise (left). This depressurizes the tank.
2. Pull the tank lid's latch up.
3. Holding on to the latch, rotate the tank lid 90° clockwise.
4. Pull out the tank lid. Notice the direction of the tank lid in relationship to the tank opening.

To close the tank:

1. Slide the lid into the tank opening, using the same direction as when it was removed.
2. Rotate the lid 90° counterclockwise.
3. While pulling the lid up to seal it against the tank opening, push down on the lid latch until it is parallel with the tank lid and seals tightly.
4. Close the Pressure release valve by turning it clockwise.

Note: Do not operate the sprayer when the tank lid is not securely closed. Tank agitation is powerful and liquid may splash out if the lid is not sealed.

The tank should be thoroughly cleaned immediately after each use by triple-rinsing the tank; a commercially available tank cleaner like Nutra-Sol may be used and is recommended when the XT-3 is used to spray wettable powders on a regular basis.



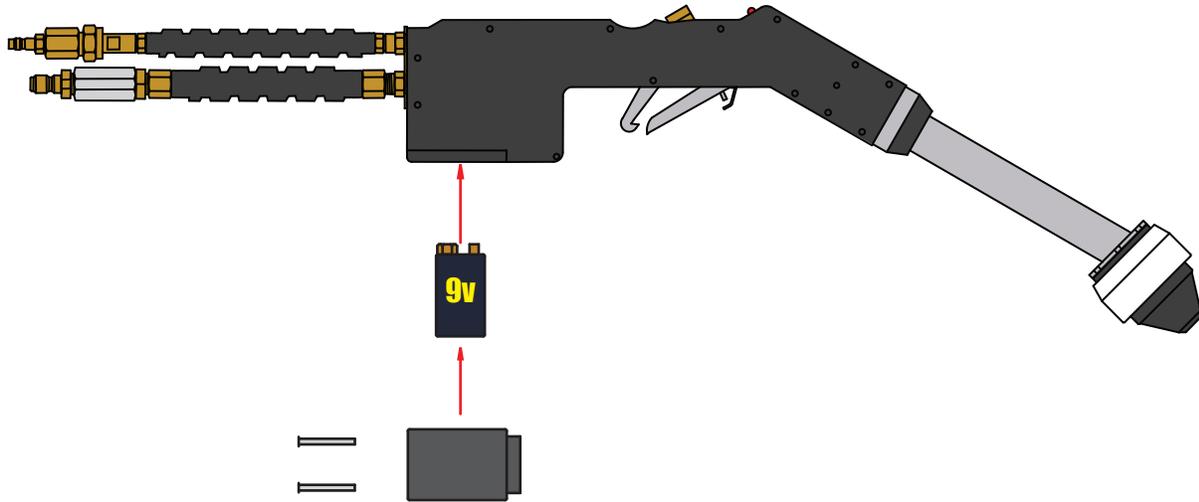
CAUTION:
TANK CONTENTS UNDER PRESSURE
Stand back when opening the
Pressure release valve.



ESS recommends the use of NUTRA-SOL cleaner which can be purchased from ESS. Order S/N#1566.

Batteries

The nozzle charging operates on two 9-volt rechargeable batteries which are located in the base of the spray gun. In average conditions, the batteries will last 10 to 15 hours of operation on a charge. They should be recharged when the charging indicator on top of the spray gun shell doesn't glow when air is going through the spray gun. After approximately 800 to 1000 hours of service the battery pack will no longer be able to hold an adequate charge and will need to be replaced. Replace with Nickel-Hydrate rechargeable batteries. Order the XT-3 Replacement Battery Pack from ESS, S/N # 4512.



To change the batteries:

1. Unscrew the two 6-32 x 1/2" Phillips head machine screws which hold the battery cover in place.
2. While holding the leads in one hand, gently disconnect the batteries from the leads. Be careful not to tear the leads off the wires or tear the lead wires out of the power supply.
3. Connect the fresh battery pack to the leads.
4. Replace the battery cover. Screw the two 6-32 x 1/2" Phillips head machine screws back in to secure the battery cover.
5. Charge the spray gun before attempting to use it.

Remember to charge the spray gun batteries after every work session!

Yearly Spraygun Service

Electrostatic Spraying Systems, Inc. offers and recommends yearly services on ESS spray guns. For a nominal fee plus the cost of replacement parts, ESS will thoroughly clean the spray gun, replace any worn parts and recalibrate the electronics and nozzle. The Yearly Service also extends the spray gun warranty for another year. Consistent yearly service by ESS will increase spraying performance and prolong the life of the gun.

Contact ESS at (706) 769-0025 to schedule spray gun services. Then package the spray gun securely since it can be damaged in shipment. Ship the spray gun in its original packing material if possible. If the original packing is not available, wrap the spray gun in bubble wrap, place it in a strong cardboard box and surround the gun handle with foam packing. Include a return shipping address and a telephone number.

A form is provided for you at the back of this manual

Ship the spray gun via UPS or Parcel Post to:

Electrostatic Spraying Systems, Inc.
62 Morrison Street
Watkinsville, GA 30677

Yearly service will be conducted within one day of receipt by ESS. If any parts need to be replaced, the owner will be contacted for authorization before replacement. The spray gun will be returned via UPS, COD, or return shipping costs may be invoiced, contingent upon credit approval. ESS also accepts the following charge cards: Visa and MasterCard.

As an additional benefit, Yearly Spray Gun Service "turns back the clock" – the original 1-Year Warranty on the spray gun is renewed for another year!

Yet another good reason to send your spray gun in to ESS for factory-authorized service!



Spraying with your ESS sprayer

Note: When using unfamiliar equipment or chemicals, always test on a small area before treating the entire crop or surface. Do not use a chemical with the ESS sprayer if the label prohibits use in low-volume sprayers.

Spray Technique

As in spray painting, the goal is to achieve even coverage over the surface. The ESS MaxCharge spray gun is designed to help you do just that -- by propelling the chemical spray with a gentle air flow, you can stay well away from the target surface and let the electrostatic attraction do the rest of the work.

Please note: the spray droplets are very, very fine --- about 40 microns each. If you are used to working with a conventional sprayer, you may make the mistake of thinking the target is not wet enough because you do not see large beads of liquid. In fact, after a pass with the XT-3's MaxCharge spray gun, the surface of the target should just barely glisten with moisture. The fine droplets will evaporate quickly.

Here are some tips to achieve the best possible coverage with the ESS XT-3 sprayer.

1. Before each job, ensure that your sprayer is in good working order (see the pre-spray checklist on page 13 of this manual).
2. The optimal spraying distance is at least 18 inches away from the target surface, however 36 to 48 inches may provide a more even coating. This gives the fine mist produced by the MaxCharge nozzle room to develop into a chaotic cloud that will be attracted to the target surface.
3. Hold the spray gun at right angles to the target surface. Starting at the highest point and using zig-zag horizontal strokes about 1 meter (3 ft.) wide, spray down to the lowest point. Try to have each stroke overlap the previous stroke by about 50%.
4. You can use vertical strokes if it suits the area better. Just make sure to work in a methodical pattern and let your strokes overlap.
5. When moving to the next section, allow it to overlap the previous section by a few inches. Do not leave a gap.
6. The target surface should just barely glisten with the spray. Do not over-saturate the surface; if you see runs or puddles it means you are wasting chemicals. Do check to make sure the newly-sprayed surface is very slightly damp.
7. Be careful to keep the spray gun barrel as level as possible. If you allow the nozzle to point down too much, it may drip occasionally.
8. Unlike spray painting, you don't have to stop the spray on every return stroke. Just engage the trigger lock and concentrate on the regular pattern of spraying.
9. Periodically check to make sure the red light is illuminated on the spray gun.



Preparing a Tank Mix

The tank mix depends on two factors: water requirement and dosage. Water requirement is the amount of water needed to cover the given treatment area. Dosage is the amount of chemical which should be applied in a given treatment area.

First determine the water requirement for your sprayer over a known area. An easy way to determine water requirement is to spray a trial application with water. Put a gallon of clean water in the ESS XT-3 tank and thoroughly spray a known area. After spraying the known area, determine how much water was used from the amount left in the tank. This is the water requirement for the given area. Next measure the known area to determine how many square feet were sprayed. Write down both values for future reference.

_____ (gallons) Water Requirement
for _____ (size of known area in ft²)

Next determine the dosage. This is the amount of chemical you wish to dispense in a given area. Appropriate dosage depends upon chemical label recommendations, disinfection or sanitization goals, level of pest or disease infestation, past experience with particular chemicals, and other variables.

Because electrostatic spraying is a much more effective spraying method, ESS recommends that you experiment to find the optimum chemical concentration. Start spraying using the same chemical rate used in the past with other sprayers. Test to ensure that infective agent levels have been reduced to desired levels. At the next application, start reducing the amount of chemical used for each spray. Keeping the amount of water in the tank constant, cut the amount of chemical mixed in by 15 to 25% for each spray, testing after each experiment to see if the desired results are being accomplished. If you are planning to cut rates then it is very important to conduct these experiments to determine the optimum chemical concentration.

A note about operating temperatures

The MaxCharge nozzle should always be operated at temperatures above 10° Celsius (50° Fahrenheit). When the ambient temperature is colder than this, the evaporative cooling caused as the spray is atomized will freeze the nozzle opening.

Nozzle freeze-up can also occur when the liquid to be sprayed is colder than 10° C (50° F).

How to conduct a jar test

Needed:

Solutions of chemicals in approximate dilutions

Jar with lid

Gloves and Safety Glasses

After mixing solutions of the desired chemicals, place them in a large jar, cap it securely, and shake vigorously. Carefully observe the interaction between the chemical compounds. If the water becomes milky or cloudy, the combined solution may plug the nozzles. Let the jar sit for one to two hours. If there is precipitate on the bottom of the jar, then seek another combination of chemicals.

IMPORTANT

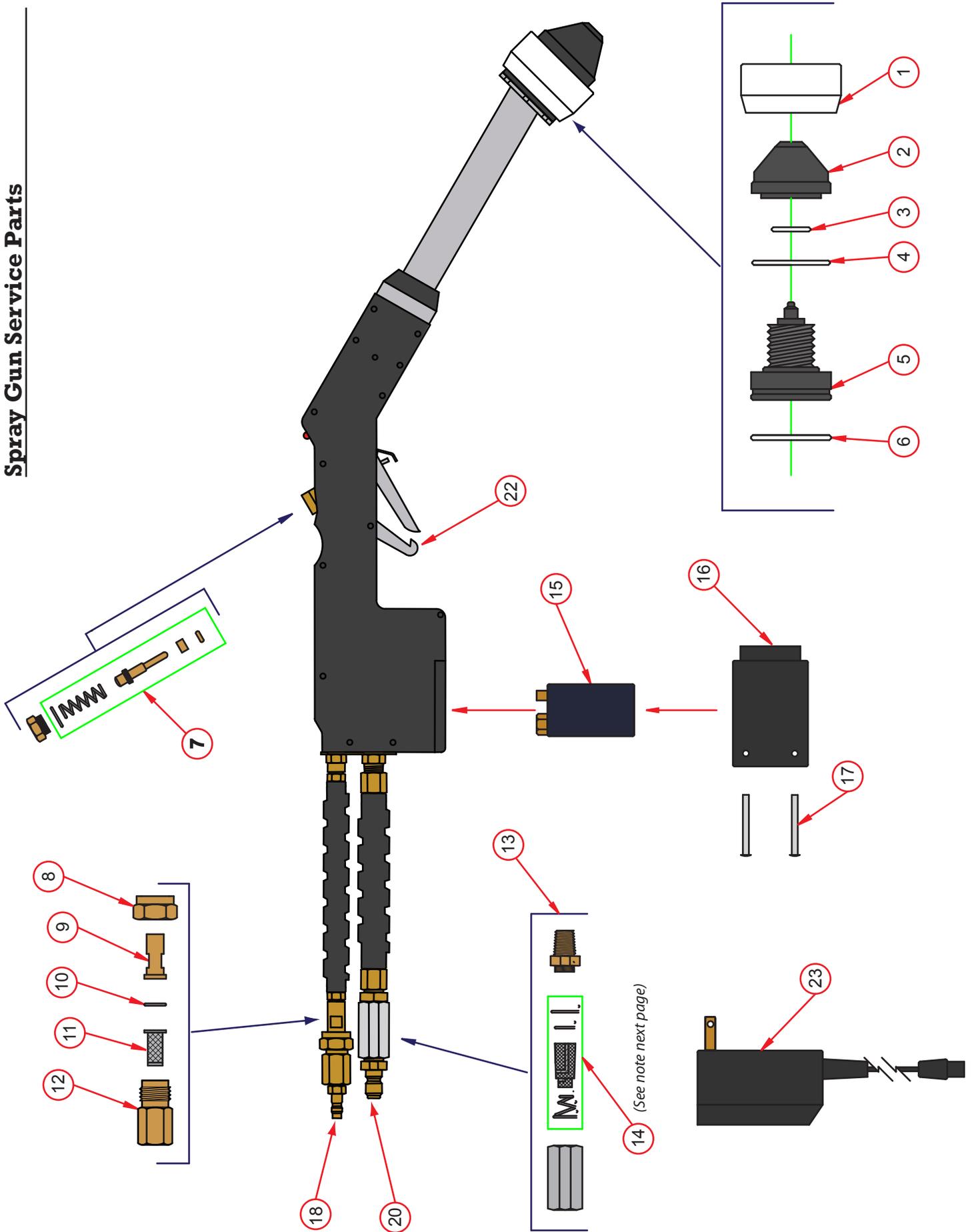
Water temperature must be at least 10° C (50° F). When the liquid and air meet in the nozzle, the temperature of the liquid decreases. As a result, water at temperatures below 10° C (50° F) may freeze and clog the nozzle.

Troubleshooting Guide

When you encounter the problems listed below, use the suggested trouble-shooting methods. If you cannot solve the problem or have a problem with the Spray Gun that is not addressed in this manual, contact ESS at (706) 769-0025, 1-800-213-0518, toll-free.

Symptom	Possible Problem(s)	Corrective Action
Air pressure of spray appears low	<ul style="list-style-type: none"> • Clogged Liquid Filter • Liquid fittings are loose • Air fittings are loose or damaged • Clogged Air Filter • Dirty Trigger 	<ul style="list-style-type: none"> • Clean the Liquid Filter Assembly (See the <i>Liquid Filter Assembly</i> section of this manual) • Make sure the Liquid Filter Assembly is installed correctly; • Make sure that the Air Filter is installed correctly. Inspect for loose hoses or failed air lines – Spray fittings with soapy water – tighten ones that bubble replace if necessary • Clean the Air Filter (See the <i>Air Filter Assembly</i> section of this manual) • Clean the Trigger (See the <i>To Clean the Trigger</i> section of this manual)
No spray from nozzle or the spray from nozzle is erratic or spits	<ul style="list-style-type: none"> • Debris in the nozzle • Spray is freezing due to evaporative cooling • Liquid filters are clogged • Low liquid level in the tank • Loose liquid or air fitting • Dirty Trigger • Overtightened nozzle cover 	<ul style="list-style-type: none"> • Clean nozzle according to instructions • Make sure that water temperature is at least 50° (10°C) • Clean the Liquid Filter Assembly (See the <i>Liquid Filter Assembly</i> section of this manual) • Refill tank • Inspect hose quick connects at case and at spray gun leader. Make sure that all liquid fittings and air fittings are properly seated. • Clean the Trigger (See the <i>To Clean the Trigger</i> section of this manual) • Loosen cover. It should only be finger-tight
Charging indicator (LED) blinks or goes is out during operation	<ul style="list-style-type: none"> • Batteries are exhausted • Dirty nozzle 	<ul style="list-style-type: none"> Recharge batteries If problem persists, replace battery pack • Clean nozzle according to instructions
Air compressor cuts off during operation	<ul style="list-style-type: none"> • Compressor has overheated 	<ul style="list-style-type: none"> • Let unit cool for approximately 1 hour; restart
XT-3 will not start	<ul style="list-style-type: none"> • No power • XT-3 is not switched on 	<ul style="list-style-type: none"> • Make sure the unit is plugged into an appropriate electrical receptacle • Make sure the power switch is on

Spray Gun Service Parts



14 (See note next page)

XT-3 Spray Gun Service Parts

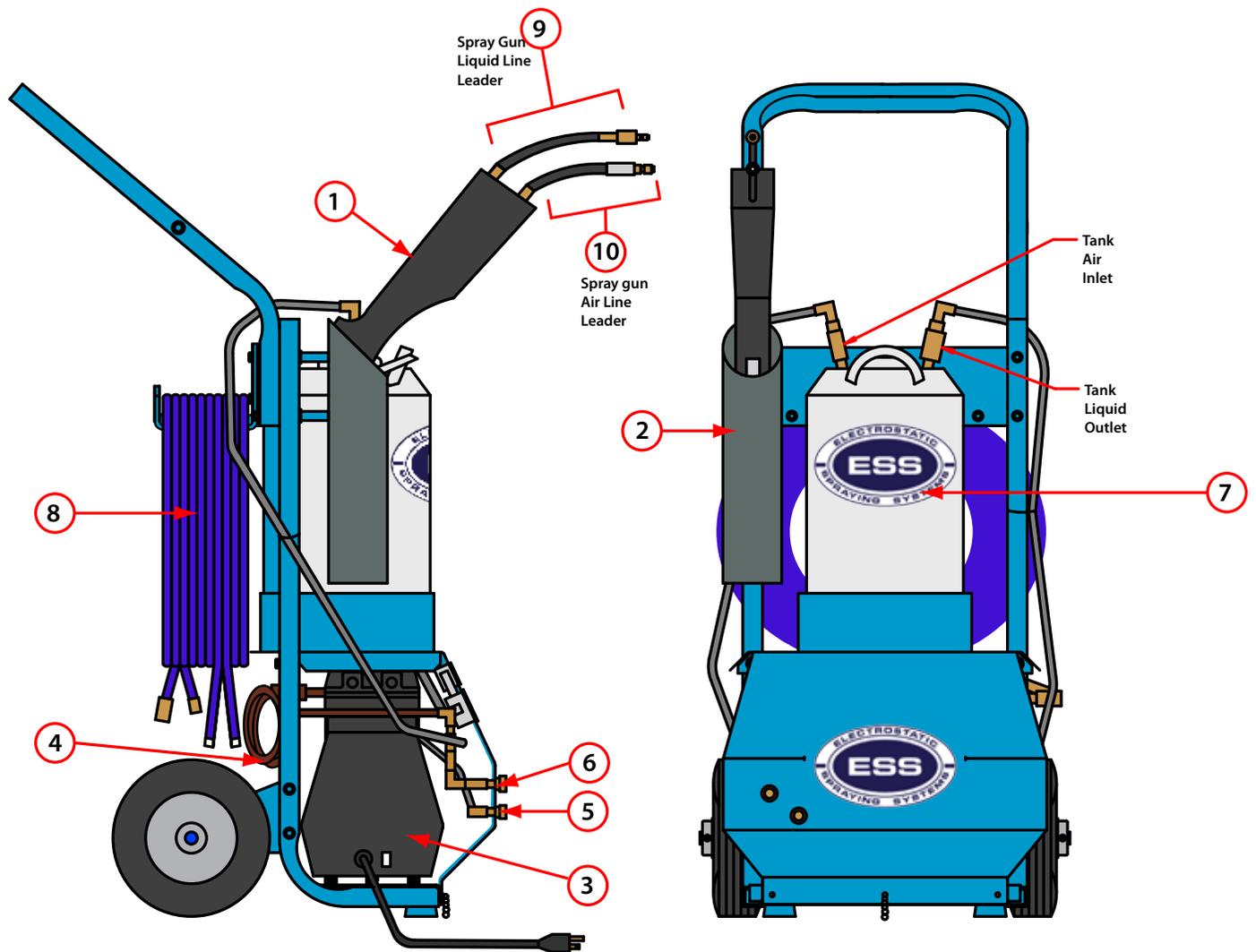
ITEM NUMBER	ESS PART NUMBER	DESCRIPTION	QUANTITY ORDERED
1	AP-5795	Hood	1
2	NC 5764	Nozzle Cover	1
3	5771	O-Ring, Internal	1
4	AP-5694	Teflon Ring	1
5	NB-5983	Nozzle Body, Greenhouse	1
		<i>Note: Must Send Spray Gun In For Repair</i>	
6	5770	O-Ring, External	1
7	3731	Repair Kit, Trigger	1
8	767	Cap, Flow Regulator	1
9	768	Adapter, 1/8"-27 FPT	1
10	1755	Orifice Disk (Flow Disk)	1
11	437	Strainer, #50 Mesh	1
12	770	Body, 1/8"-27 FPT, Greenhouse	1
13	227	Filter, Air, In-Line	1
14	231	Air Filter (NOTE: for models manufactured pre-March 2009)	1
15	4512	Battery, Alkaline, 9 V	2
16	118	Battery Cover, Spray Gun Shell	1
17	316	Screw, #6-32 x 3/8" Long, Phillips, SS	2
18	239	QC Plug, 1/8", 1/8" MPT, Brass (Spray Gun Liquid)	1
19	AS-1748	Spray Gun Leader Assembly, Liquid	1
20	240	QC Plug, 1/4", 1/4" MPT, Brass (Spray Gun)	1
21	AS-1749	Spray Gun Leader Assembly, Air	1
22	6518	Trigger Pawl	1
23	4430	Battery Charger	1

Flow disk chart

UNIT STYLE	TANK SIZE	ORIFICE NUMBER	ESS PART PART NUMBER
XT	3 GALLON TANK	#20	765
XT	1 QUART BOTTLE	#40	766
GPS	4 GALLON TANK	#30	1755
EPS	4 GALLON TANK	#30	1755
TRG	4 GALLON TANK	#30	1755
J SERIES	15 GALLON TANK	#30	1755
BP-2.5	2.5 GALLON TANK	#59	4350
BP-4	4 GALLON TANK	#59	4350

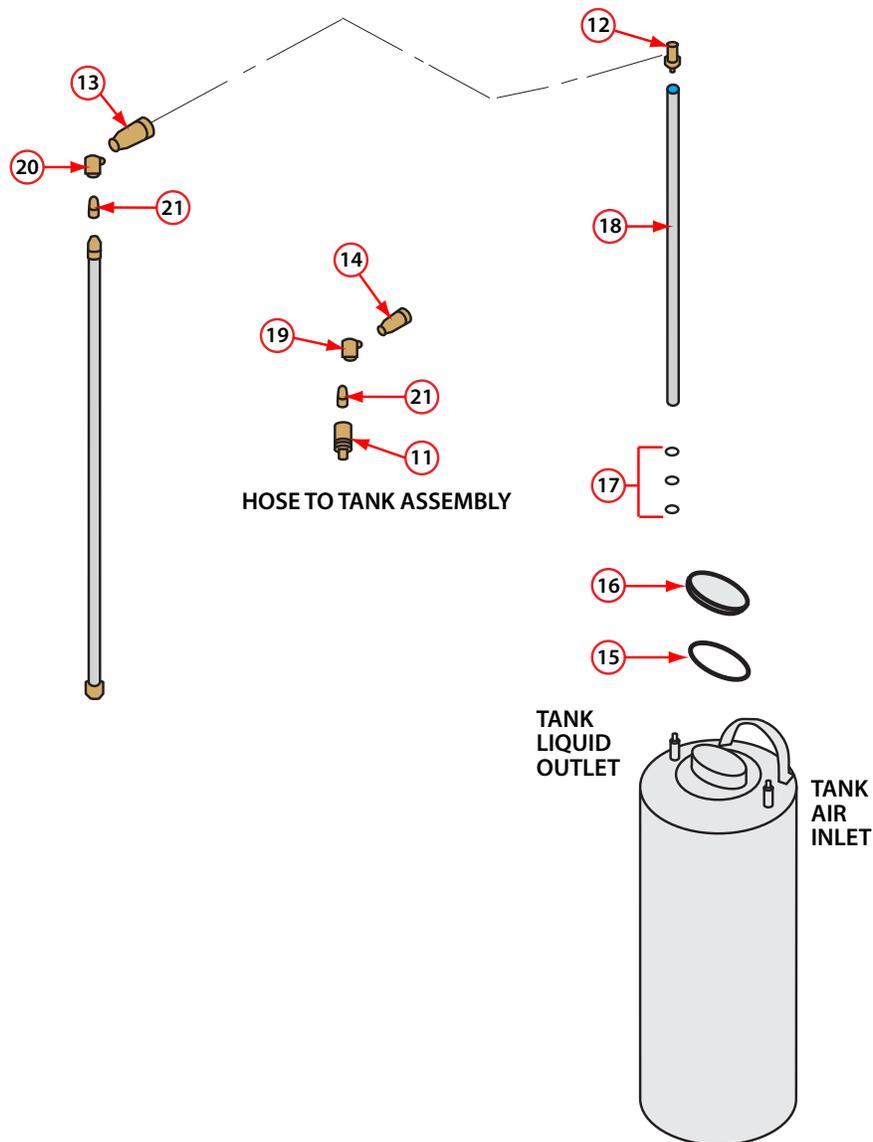
Note: Use of a flow disk is crucial to the operation of the spray gun. If the wrong size flow disk, or no flow disk is used, then the spray gun will not spray or charge efficiently.

XT-3 Service Parts



ITEM NUMBER	ESS PART NUMBER	DESCRIPTION	# ON MACHINE
1	HG-6.5-1RP	SPRAY GUN ASSEMBLY, SINGLE PORT	1
2	1525	HOLSTER, XT	1
3	1520	COMPRESSOR, 1 HP, 4.5 CFM @ 40 PSI, 120 VOLT	1
4	2139	ROUND TUBING, 3/8" OD X .032" WALL, SOFT COPPER, C	1
5	90	QC SOCKET, 1/8" 1/8" FPT, BRASS (SPRAY GUN LIQUID)	1
6	92	QC SOCKET, 1/4", 1/4" FPT, BRASS (SPRAY GUN AIR)	1
7	2141	TANK ASSEMBLY, 3 GALLON, COMPLETE	1
8	AS-1238	HOSE ASSEMBLY, TWINLINE, XT	1
9	AS-3238	SPRAY GUN LIQUID LINE LEADER	1
10	AS-1953	SPRAY GUN AIR LINE LEADER	1

XT-3 Service Parts (continued)



ITEM NUMBER	ESS PART NUMBER	DESCRIPTION	# ON MACHINE
11	1149	CHECK VALVE, 1/4" NPT WITH/ VITON	1
12	447	QC PLUG, 1/4", 1/4" FPT, BRASS, (TANK OUTLET)	1
13	450	QC SOCKET, 1/4", 1/4" FPT, BRASS (TANK OUTLET)	1
14	248	QC SOCKET, 1/8" 1/8" FPT, BRASS, (TANK INLET)	1
15	1664	O-RING, TANK LID	1
16	398	TANK LID	1
17	266	O-RING	4
18	198	PICK-UP TUBE	1
19	67	ELL, 1/8" NPT, STREET, 90 DEG, BRASS	1
20	156	ELL, 1/4" NPT, STREET, 90 DEG, BRASS	8
21	725	HEX NIPPLE 1/4" MPT	1

Base Unit (Standard 110V)



P/N 1055: Connector Ring - Male - Vinyl



P/N 109: Fitting - 1.4" HB x 1/4" MPT - BR



P/N 1149: Check Valve



P/N 1150: Cotter Pin - 1/8"x1 - 3/4"



P/N 1160: Elbow - 1/4" NPT - 45 Deg



P/N 1221: Plug



P/N 1222: Vibration Insulator



P/N 1225: Switch Plate - On/Off



P/N 1226: Wheel



P/N 1234: Tee - 1/4" NPT - BR



P/N 1235: Round Tubing - 3/8" OD - Soft Copper



P/N 1480: 1/4" HB x 1/4" FPT - BR



P/N 1518: Coupling Nut, 1/4"



P/N 1519: Carriage Bolt, 1/4" - SS



P/N 1520: Compressor - 1HP - 4.5CFM



P/N 1520-2: Mounting Cup



P/N 1520-3: Vibration Insulator



P/N 1520-5: Filter Assembly



P/N 1527: Adaptor, Compression,
1/4" FPT x 3/8" OD



P/N 156: Elbow - 1/4" NPT - 90 Deg



P/N 16215: Switch Box, 230 Volt



P/N 17002: Tee - 1/4" Bronze



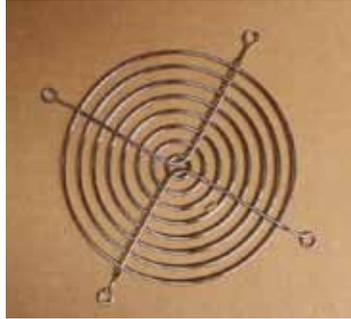
P/N 17105: Power Supply Cord



P/N 17599: Heat Exchanger



P/N 17601: Aquare Tube Axial Fan



P/N 17602: Cooling Fan Guard



P/N 17603: Compression Tube
Fitting - Brass



P/N 17604: Nipple - 1.4-18 NPT x 2"
Brass



P/N 3252: Toggle Seal



P/N 370: Chain



P/N 3727: Adapter - Compression -
1/4" MPT x 3/8" OD



P/N 396: Hose - 1/4" ID - Grey



P/N 442: Ell - 3/8"NPT - 90 Deg



P/N 445: Hex Plug - 1/4"NPT



P/N 4945: Pop-Off Valve



P/N 6339: Hose Clamp - 1-1/2" - Vinyl



P/N 663: Hose Clamp - Two Ear - 1/4" SS



P/N 90: QC Socket to Spraygun - Liquid



P/N 9078: Switch - Plastic - On/Off



P/N 9149: Loop Strap



P/N 9194: Connector, Liquid Tight



P/N 92: QC Socket to Spraygun - Air



P/N 959: Connector Tab - Female



P/N AP1199: Bracket for hose



P/N AP1210: Handle



P/N 109: Fitting - 1/4"HB x 1/4"MPT



P/N 17550: Power Supply Cord - 220 Volt



P/N 17600: Square Tube Axial Fan



P/N 3696: Connector, Fork, Male

Stainless Steel



P/N 10032: QC Socket - Air - SS



P/N 10033: QC Socket - Liquid - SS



P/N 10104: Elbow - 1/4"NPT - SS



P/N 10106: Tee - 1/4"NPT - SS



P/N 10109: Hose Barb - 1/4"HB x 1/4"MPT - SS



P/N 17687: Compression Tube Fitting 3/8"OD x 3/8"OD - SS



P/N 17688: Compression Tube Fitting 3/8"OD x 1/4"MPT - SS



P/N 17689: Compression Tube Fitting 3/8"OD x 1/4"FPT - SS



P/N 17690: Pressure Relief Valve - SS



P/N 17693: Hex Plug - 1/4"-18MPT - SS



P/N 17694: Street Ell - 3/8 - 18NPT - SS



P/N 17697: Barbed Hose Fitting - 1/4"HB x 1/4-18FPT - SS



P/N 6365: Clamp, Cable, 1/2" Loop SS



P/N 8588: Connector, Fork, Male SS



P/N 9845: Elbow - 1/4" - 45 Deg - SS



P/N 9847: Check Valve - 1/4" - SS



P/N 9853: Nipple Close, 1/4"NPT SS



P/N 9854: Nipple Hex, 1/4" SS

Tank



P/N AS2141: 3 Gal Tank Assembly



P/N 1230: Tank (Inc: Lid, O-ring and Pick Up Tubes)



P/N 1664: O-Ring Tank Lid



P/N 17429: FTP Socket - SS - (Liquid side of tank)



P/N 17430: FTP Socket - SS - (Air side of tank)



P/N 181: Wire/Cable Tie - Nylon



P/N 266: O-Ring for connections

Hose



P/N AS1238: Twinline Hose - Blue - Assembly - 25ft



P/N AS1238-1: Twinline Hose - Blue Assembly - 50ft



P/N AS1238-3: Twinline Hose - Blue Assembly - 25ft - SS



P/N 109: Fitting - 1.4" HB x 1/4" MPT - BR



P/N 1480: 1/4" HB x 1/4" FPT - BR



P/N 16128: Heat Shrink - 1"



P/N 169: 1/8" HB x 1/8 MPT - BR



P/N 17573: Hose Bend Restrictor



P/N 239: QC Plug to Tank - Liquid



P/N 240: QC Plug to Tank - Air



P/N 3259: Clamp - One Ear - SS



P/N 663: Hose Clamp - Two Ear



P/N 7497: Hose - Twinline - Blue



P/N 90: QC Socket to Spraygun - Liquid



P/N 9190: 1/8" HB x 1/8" FPT - BR



P/N 92: QC Socket to Spraygun - Air

Spraygun



P/N 129: LED - Light - Red



P/N 130: Batter 9v



P/N 137: Air Switch



P/N 17152: Battery - Rechargeable 9v



P/N 1778: Plunger Valve Assembly for Trigger



P/N 1779: Plunger Valve O-ring for Trigger



P/N 239: Quick Connect Spraygun Liquid



P/N 240: Quick Connect Spraygun Air



P/N 3731: Trigger Repair Kit



P/N 41: 3/8" BH x 1/8" MPT Brass



P/N 437: Liquid Filter - Mesh



P/N 767: Cap - Flow Regulator



P/N 768: Adaptor - Flow Regulator



P/N 770: Body - Flow Regulator



P/N 835: Battery Terminal



P/N AS1953: Air Line Leader Assembly



P/N AS1957: Trigger Assembly



P/N AS3238: Liquid Line Leader Assembly



P/N AS3239: Flow Regulator



P/N PP6518: Trigger Pawl



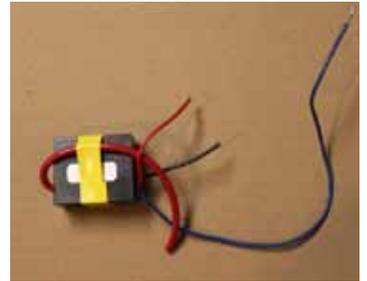
P/N AP4227: Spraygun Shell Left



P/N AP4228: Spraygun Shell Right



P/N AP4229: Battery Cover



P/N PS-9141: Power Supply

Misc Parts



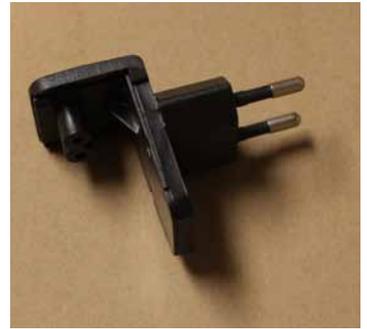
P/N AK9152: Parts Kit



P/N AS4430: Charger



P/N 17520: Plug Adaptor - US



P/N 17521: Plug Adaptor - Euro



P/N 17522: Plug Adaptor - UK



P/N 765: Flow Disk, #40



P/N 227: Filter, In Line



P/N 231: Air Filer



P/N AW1215: Optional Tray



DECLARATION OF CONFORMITY
(According to ISO/IEC Guide 22 And EN 45014)



Unique Product No.: XT, SC-1, SC-ET, SC-EB, EPS-5

Manufacturer: Electrostatic Spraying Systems, Inc.
Company name: Electrostatic Spraying Systems, Inc.
Street: 62 Morrison St.
City: Watkinsville
Postal Code: 30677
State/County: Georgia
Country: United States
Telephone: 1(706) 769-0025
Email bruce@maxcharge.com

Tester: Peter Gans
Date of Test: January 5, 2011
Authorized Representative: BSL Technologies Inc.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

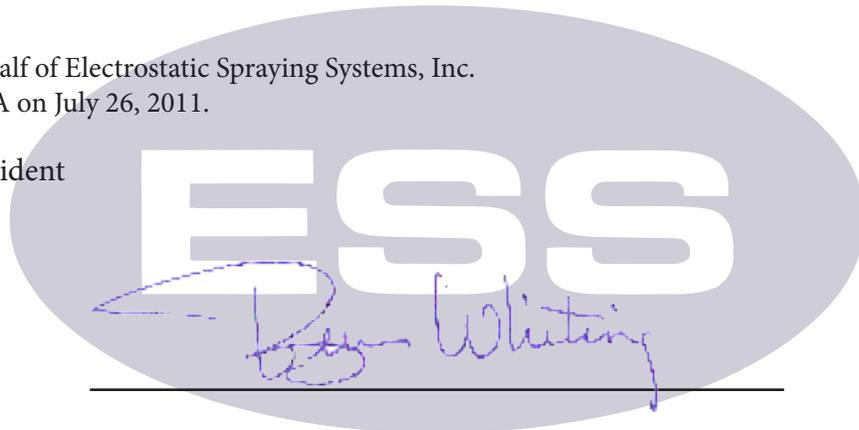
Object(s) of the declaration:
Electrostatic Sprayer Model numbers
XT-3/110 XT-3/220
SC-1/110 SC-1/220
SC-ET/110 SC-ET/220
SC-EB/110 SC-EB/220
EPS-5/220

The object of the declaration described above is in conformity with the relevant Community harmonization legislation:
Directive 2004/108/EC EMC
Directive 2006/95/EC Low Voltage

References to the relevant harmonised standards used or references to the specifications in relation to which conformity is declared:
EN 1953:1998 + A1:2009 EN 60204-1:2006 +A1:2009
EN 62479:2010 EN 61140:2002 + A1:2006
EN 61293:1994

Signed for and on behalf of Electrostatic Spraying Systems, Inc.
Watkinsville, GA, USA on July 26, 2011.

Bruce Whiting, President





62 Morrison St. · Watkinsonville, Georgia 30677-2749
706-769-0025 · 1-800-213-0518 · Fax: 706-760-8072
Email: support@maxcharge.com · www.maxcharge.com

ESS Warranty

Electrostatic Spraying Systems, Inc. warrants to the original purchaser of any Electrostatic Spraying Systems equipment that the equipment shall be free from defects in material and workmanship for a period of one year after date of delivery. The electrostatic power supply warranty form must be returned for verification of date of purchase.

Disclaimer of Implied Warranties and Consequential Damages

Electrostatic Spraying Systems' obligation under this warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, including implied warranties of merchantability and fitness for a particular purpose and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include, but not be limited to: transportation, charges other than normal freight charges, cost of installation other than cost approved by Electrostatic Spraying Systems, Inc., duty, taxes, charges for normal service or adjustments, loss of crops or any other loss of income, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of Electrostatic Spraying Systems, Inc.

THIS WARRANTY SHALL NOT APPLY:

1. To vendor items which carry their own warranties such as, but not limited to, engines, air compressors, and liquid pumps. Electrostatic Spraying Systems, Inc. shall supply replacement parts at list price pending the warranty investigation of the vendor item. Vendor item parts such as air compressors, liquid pumps, solenoids, and other such items must be returned before warranty credit.
2. If the unit has been subject to misapplication, abuse, misuse, negligence, fire or other accident.
3. If parts not made or supplied by Electrostatic Spraying Systems, Inc. have been used in connection of the unit, if, in the sole judgment of Electrostatic Spraying Systems, Inc. such parts affect its performance, stability or reliability.
4. If the unit has been altered or repaired in a manner which, in the sole judgment of Electrostatic Spraying Systems, Inc. such alteration or repair affects its performance, stability or reliability. This shall include but not be limited to opening of the handgun shell by anyone not authorized by Electrostatic Spraying Systems, Inc. to do so.
5. **To normal maintenance, service and replacement items such as, but not limited to, engine lubricant, filters, or to normal deterioration of such things as, but not limited to, belts and exterior finish, due to use and exposure.**

NO EMPLOYEE OR REPRESENTATIVE OF
ELECTROSTATIC SPRAYING SYSTEMS, INC.
IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY
OR GRANT ANY OTHER WARRANTY
UNLESS SUCH CHANGE IS MADE IN WRITING
AND IS SIGNED BY A CORPORATE OFFICER OF
ELECTROSTATIC SPRAYING SYSTEMS, INC.

Notes

Spraygun Return Form

When returning a spray gun for warranty or repair services to ESS, please pack it securely and include the following form with your spraygun.

Spraygun Serial Number: _____

Returned from:

Company: _____

Contact person: _____

Phone number: _____

Shipping address: _____

Mailing address: _____

(if different) _____

Date last serviced: _____

Problems with the Spray gun (if any):

Send to:
Electrostatic Spraying
Systems, Inc.
62 Morrison St.
Watkinsville, GA 30677-2749

ESS recommends sending
your spray gun via a carrier
with tracking.



Method of Payment:

Account (must be an approved account)

COD

Credit Card:

VISA MASTERCARD

Card Number: _____

Expiration Date: _____

Card Holder's Name: _____

PRINT

SIGN