



OWNER'S MANUAL

FOR THE



XT™

ELECTROSTATIC SPRAYING SYSTEMS, INC.

Main Office: 62 Morrison St. · Watkinsville, GA 30677
Phone: (706) 769-0025 · FAX: (706) 769-8072

Operation Guide

<i>To Operate:</i>	
<i>1</i>	Prepare the tank mix.
<i>2</i>	Connect the twinline hose to the front panel.
<i>3</i>	Connect the twinline hose to the liquid and air leaders on the handgun. If using the plastic bottle, connect the grey hose of the plastic bottle hose assembly instead of the grey hose of the twinline hose to the liquid leader.
<i>4</i>	Plug the power cord into an appropriate receptacle. Turn on the air compressor.
<i>5</i>	Engage the trigger and spray.
<i>To clean the sprayer after operation:</i>	
<i>1</i>	Clean the exterior of the sprayer.
<i>2</i>	Clean the tank and/or the plastic bottles
<i>3</i>	Disconnect the twinline hose from the handgun air line and liquid line leaders.
<i>4</i>	Disassemble and clean the liquid filter. Be careful not to lose the flow disk
<i>5</i>	Unthread the quick connect plug from the handgun liquid line leader. Use a 7/16" wrench on the plug and an 11/16" wrench on the 1/8" NPT body.
<i>6</i>	Connect the quick connect plug to the grey hose of the twinline hose.
<i>7</i>	Fill the tank with 2 gallons of clean water.
<i>8</i>	Turn on the air compressor to flush the line with 1.75 gallons of water. Turn off the air compressor.
<i>9</i>	Disconnect the quick connect plug from the twinline hose. Re-thread it into the handgun liquid line leader.
<i>10</i>	Reassemble the liquid filter.
<i>11</i>	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.
<i>12</i>	Apply silicone spray or similar lubricating oil to all quick connect fittings.
<i>13</i>	Record application in the Spray Log.

CONGRATULATIONS! You have just purchased one of the most advanced spraying systems on the market today. Electrostatic Spraying Systems, Inc. is committed to providing you, the grower, with powerful pest control 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 growers have been implemented in the design of our equipment. We would like to hear your ideas, too! If you have any suggestions or comments regarding the products or services of ESS, write or call us at:

Electrostatic Spraying Systems, Inc.
67 Depot Street
P.O. Box 151
Watkinsville, Georgia 30677
(706) 769-0025

Please take time to read this manual before operating the XT™. It contains important instructions for the operation of this equipment. It includes helpful suggestions to maximize productive use. Several safety precautions are listed for your protection.

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 quickly. We will also 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.

ESS XT™ and **XT™** are trademarks of Electrostatic Spraying Systems, Inc.

Introduction to Air-Assisted Electrostatic Spraying

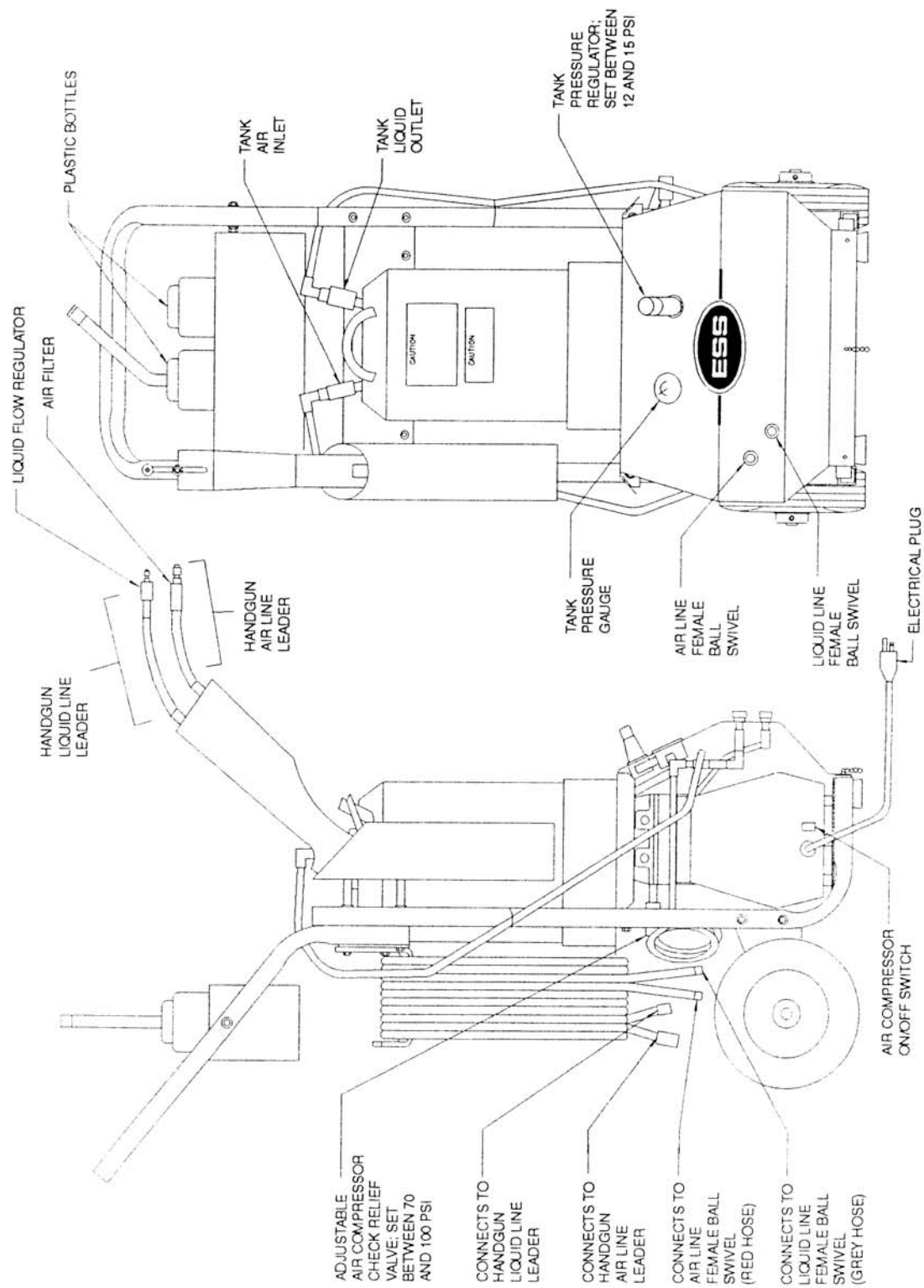
Air-assisted electrostatic sprayers produce electrically charged spray droplets which are carried into the plant canopy in a high speed air-stream. The heart of the air-assisted electrostatic sprayer is the patented “air-atomizing induction-charging” nozzle. Air and liquid enter separately at the rear of the nozzle. The air moves at a high speed through the nozzle and intersects the liquid at the nozzle tip, causing the formation of spray droplets. After the liquid is atomized, the droplets pass an electrode which induces a charge on each droplet. These droplets are then propelled into the plant cover by the force of the turbulent air stream.

Because the droplets are charged, they attract to plant surfaces instead of drifting away or falling to the ground. Electrical charging creates a attraction force between the spray droplets and the plant. The charge on the spray droplets is small, but the force of attraction to the plant is strong since spray particles are relatively lightweight. The electrical force that pulls the spray towards the plant is 40 times greater than the force of gravity. This means that droplets will reverse direction and move upwards to cover the underside of leaves and the backside of stems. The result of using an air-assisted electrostatic sprayer is 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.

Unpacking the Sprayer

The XT™ is shipped in two boxes. The base unit is in one box. In the other box are 2 wheels, 2 shaft collars, the handle, a box of handle fasteners (includes four ¼”-20 x 3” hexhead capscrews, four ¼” flat washers, and four ¼”-20 hex nuts), the tank, the twinline hose, the handgun, and 2 plastic bottles.

The wheels and the handle must be attached to the base unit. To mount a wheel, push its center hole over the axle. Put a shaft collar on the end of the axle and tighten it with a 5/32” allen wrench. Do the same for the other wheel. To attach the handle, align the 4 holes in the handle with the 4 holes in the base unit with the handle pointing away from the base unit. Put a flat washer and a hex nut on each capscrew and tighten each hex nut with a 7/16” wrench.



The Nozzle Assembly

The nozzle assembly is located at the end of the handgun wand. It is composed of a nozzle base, internal o-ring, Teflon ring, cover, external o-ring, and a hood (see Diagram 5). To access nozzle components, just unscrew the nozzle cover by hand.

In order to optimize nozzle life and achieve maximum spray efficiency, the nozzle must be properly maintained. Always rinse the handgun out with clean soapy water after every spray, and establish maintenance intervals to disassemble and clean the nozzle. You may wish to purchase tank cleaner from ESS, p/# 1566, which cuts hard water scale and chemical deposits from the electrode and internal component of the gun. 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 powders are used, the cleaning schedule should be sooner.

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 handgun 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.

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. 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. Rinse.
4. Scrub the nozzle base with the detergent solution using a soft bristle brush. 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.

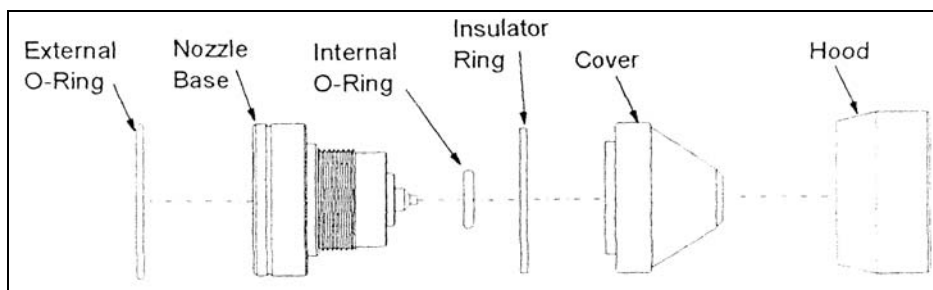


Diagram 4: The Nozzle Assembly

The Air & Liquid Delivery System

The 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™ with an 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 compressor has an adjustable check relief valve on the back. It should be set between 70 and 100 psi.

The Front Panel Air Connection

The second tee routes the air to the top ¼" female ball swivel (FBS) fitting on the front panel of the sprayer. The ¼" MPT end of the red air hose of the twinline hose connects to this fitting. Use an 11/16" wrench on the FBS and 9/16" wrench on the twinline hose fitting. The other end of the twinline hose connects to the air leader of the handgun.

The Tank Pressure Regulator

The second tee also routes air to the tank pressure regulator. It corresponds with the pressure gauge on the left side of the front panel. The regulator is operated by pulling out the dial and turning it clockwise to increase pressure or counter-clockwise to decrease pressure. It should be set between 15 and 15 psi. Once the desired pressure is achieved, push in the dial to lock it in place.

Note: For best results, set the pressure from a lower pressure to a higher pressure. If the pressure is set too high, adjust the regulator below the desired pressure then adjust it up to the desired pressure.

Two 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.

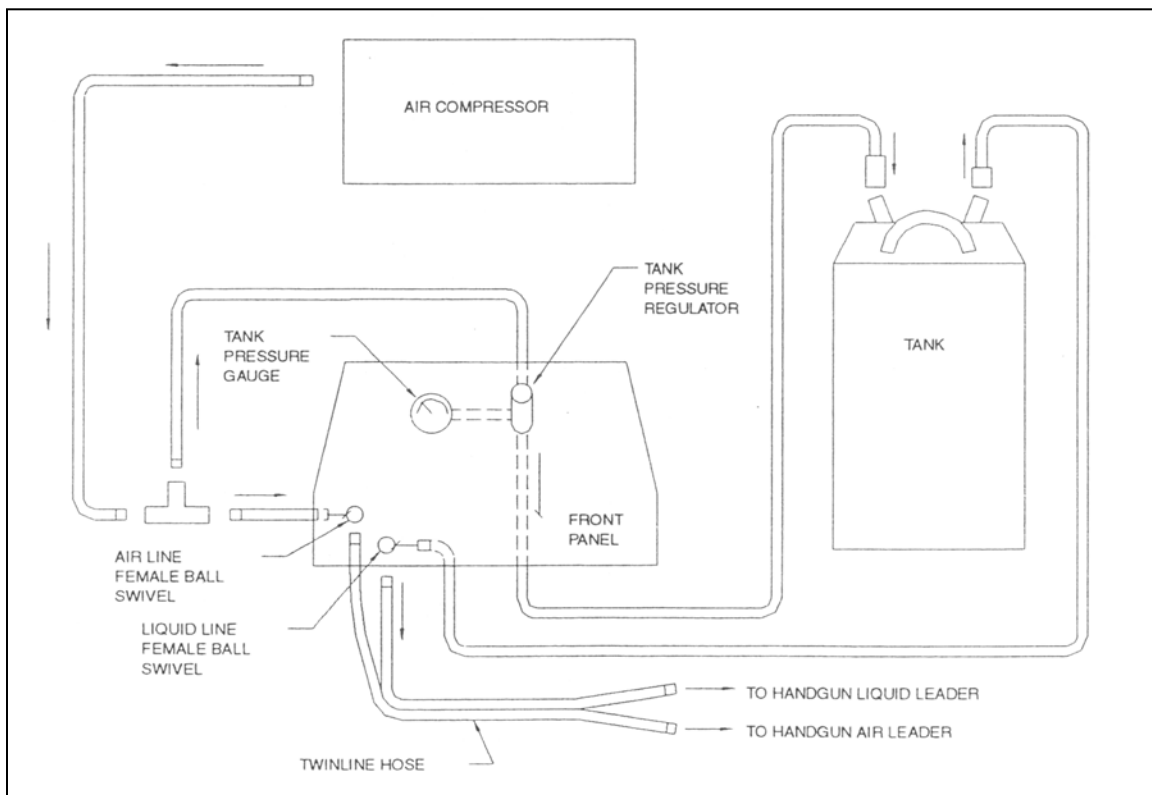


Figure 2. The Air and Liquid Delivery Systems

The Quick Connects

There are four sets of quick connects (plug and socket) on the sprayer: tank inlet, tank outlet, handgun liquid inlet, and handgun air inlet.

To disconnect the quick connects:

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 connect the quick connects:

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.

The Tank

When the compressor is operating and the tank pressure gauge is set between 12-15 psi, the liquid in the 3 gallon stainless steel tank is continuously agitated. This helps prevent separation and settling of the chemical. There is a pressure valve lever on the tank lid which allows the operator to release pressure in the tank before opening. When the lever is vertical, the tank is not pressurized. You will hear a small amount of air escaping from the tank lid even when the lever is horizontal due to agitation.

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

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 closed.*

To open the tank:

1. Push up the pressure valve lever on the tank lid so it is vertical. This depressurizes the tank.
2. Pull the handle of the tank lid up.
3. Holding on to the handle, 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 handle until it is parallel with the tank lid.
4. Push the pressure valve lever down so it is horizontal.

The Handgun

The handgun is held by the operator during spraying. Activation of the trigger causes liquid to spray. The handgun 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 handgun shell is user-serviceable. Do not open the handgun shell; **doing so will void the warranty on the handgun.**

The Air Filter

The air filter is located outside the base of the handgun in the air hose. It filters dirt out of the air lines. There is an extra air filter in the bag which is stapled to this manual in case the original is lost or damaged.

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 in Diagram 2.

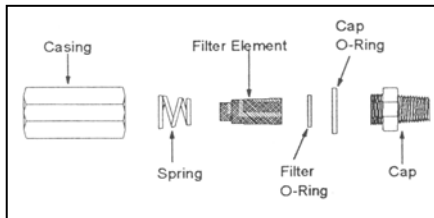


Diagram 2. The Air Filter

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 Trigger

The trigger turns the spray on and off. It can be continuously held for operation or it can be locked in place. When it is on, the charging indicator on the top of the handgun shell glows red to indicate that the nozzles are charging.

To engage/disengage the trigger:

1. Pull the trigger up towards the body of the handgun 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 handgun 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 handgun until tight.

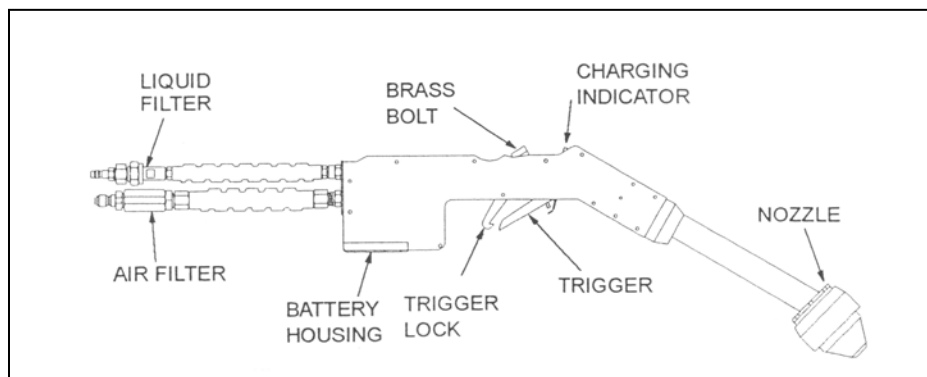


Diagram 1. The Handgun

The Batteries

The nozzle charging operates on two 9 volt rechargeable batteries which are located in the base of the handgun. In average conditions, the batteries will last 5-10 hours of operation on a charge. They should be recharged when the charging indicator on top of the handgun shell doesn't glow when the trigger is engaged during operation. After a while the batteries will wear out and need to be change. Replace with Nickel-Hydride rechargeable batteries.

To change the batteries:

1. Unscrew the 2 6-32 x ½" 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 the tear the lead wires out of the power supply.
3. Connect 2 fresh 9 volt batteries to the leads.
4. Replace the battery cover. Screw the 2 6-32 x ½" Phillips head machine screws back in to secure the battery cover.

Yearly Handgun Services

Electrostatic Spraying Systems, Inc. offers and recommends yearly services on ESS handguns. For a nominal fee plus the cost of replacement parts, ESS will thoroughly clean the handgun, replace any worn parts and recalibrate the electronics and nozzle. Consistent yearly service by ESS will increase spraying performance and prolong the life of the gun.

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

telephone number. Ship the handgun via UPS or Parcel Post to:

**Electrostatic Spraying Systems, Inc.
67 Depot Street
P.O. Box 151
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 handgun will be returned via UPS, COD, or return shipping costs may be invoice, contingent upon credit approval.

The Liquid Filter Assembly

The liquid filter assembly is located outside the base of the handgun. It is composed of these parts: a 1/8" NPT body (item 10), a strainer (item 11), and a cap (item 12). 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 bag which is stapled to this manual in case the originals are lost or damaged.

To disassemble, clean and reassemble the liquid filter assembly:

1. Using a 13/16" wrench on the cap and and 11/16" wrench on the 1/8" NPT body, 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 which is inside the cap. The sprayer will not function correctly without the flow disk.
2. Remove the strainer from the 1/8" NPT body.
3. If the 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 strainer in water. If necessary, scrub it with a soft toothbrush to remove stubborn residue. Replace 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 clean water. Replace the flow disk so that the numbers on the disk face the strainer.
6. Replace the strainer in the 1/8" NPT body.
7. Rethread the 1/8" NPT body and the cap.

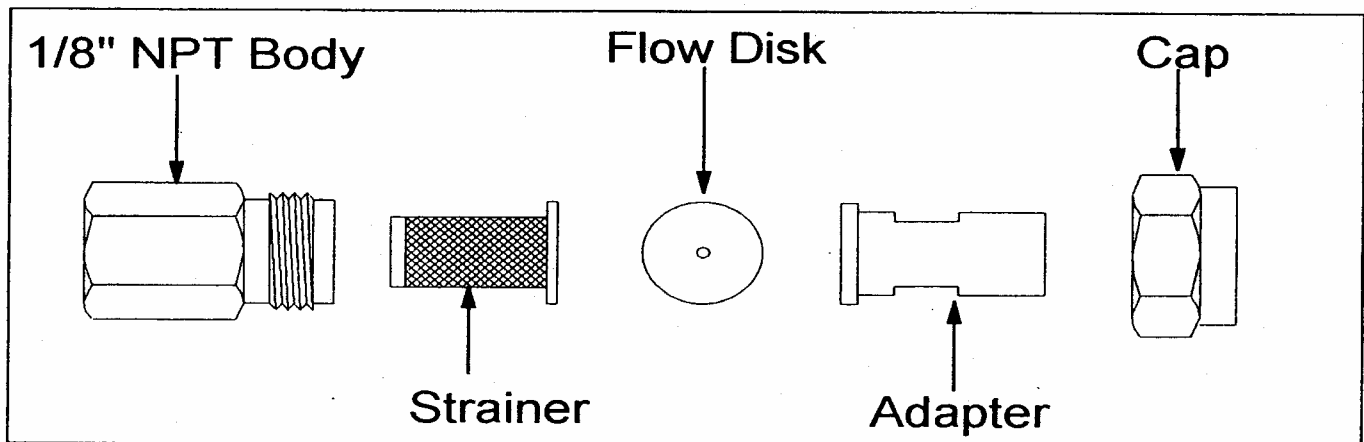


Diagram 3: The Liquid Filter Assembly

TROUBLE-SHOOTING 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 handgun that is not addressed in this manual, contact ESS at (706) 769-0025.

Problem: Air pressure of spray appears low:

1. Clean the liquid filter assembly. See "The Liquid Filter Assembly".
2. Make sure that the liquid filter assembly is installed correctly. See Diagram 3 on p. 12.
3. Make sure that the air filter is installed correctly. See Diagram 2 on p. 11.
4. Clean the air filter. See "The Air Filter".
5. Clean the trigger. See "To Clean the Trigger".

Problem: No spray comes out of the nozzle or spray is erratic:

1. Make sure that the air pressure regulator is set between 12-15 psi.
2. Make sure that water temperature is at least 50° (10°C).
3. Make sure that all liquid fittings and air fittings are tight.
4. Clean the liquid filter assembly. See "The Liquid Filter Assembly".
5. Clean the nozzle assembly. See "The Nozzle Assembly".
6. Clean the trigger. See "To Clean the Trigger".

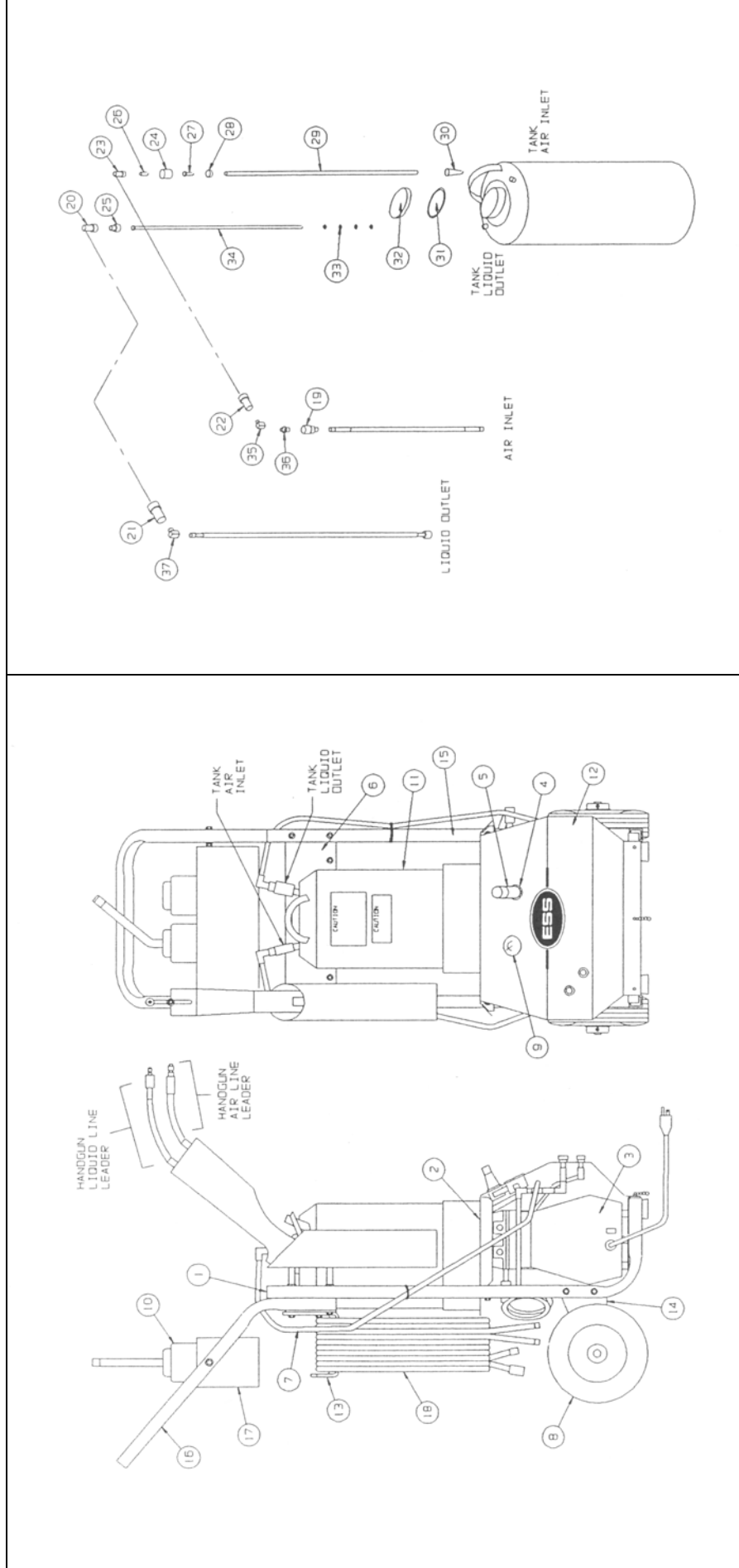
Problem: Charging indicator blinks or goes out during operation:

1. Change the batteries. See "The Batteries".
2. Clean the Nozzle. See "The Nozzle Assembly".

Problem: Air compressor will not start:

1. Make sure that the electrical cord is plugged in an appropriate receptacle.
2. Make sure that the switch on the side of the air compressor is on.

XT SERVICE PARTS



MAIN ASSEMBLY

TANK PLUMBING ASSEMBLY

Spraying with Your ESS Sprayer

Unlike conventional sprayers, your ESS sprayer uses a different method for chemical application. Therefore, new techniques must be used to spray and new formulas developed to properly prepare tank mix. This section will discuss proper spray techniques and how to prepare a tank mix.

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

Spray Technique

The technique by which crops are sprayed is very important. The ESS handgun is designed to propel the spray into the foliage by air-assistance. The spray is then attracted to all plant surfaces, including leaf undersides, and coats them evenly by and electrostatic charge. Because of this penetration, it is unnecessary for the spray wand to be inserted into the canopy of each plant and turned over, as is done with hydraulic sprayers. Instead, the ESS handgun should be used much like a spray painter. Point the gun down slightly to cause the spray to flow into the plants. The leaves should rustle as the spray hits them. Sweep the handgun over the foliage at an even pace—approximately twice as fast as with a hydraulic sprayer. Do not spray to wet; the leaves should barely glisten. A slower spray speed can be compensated for by using a larger amount of water in the tank mix in order to spray the right amount of chemical (see *Preparing a Tank Mix* for more detail).

Preparing a Tank Mix

The tank mix depends on two factors: water requirement and dosage. Water requirements 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 2 gallons of clean water in the ESS tank and thoroughly spray a known area either inside a greenhouse or outside crops. One gallon should take about 15 minutes to spray and cover between $\frac{1}{4}$ to $\frac{1}{2}$ of an acre. 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)

Example: 1 gallon of water for 5,000 ft²

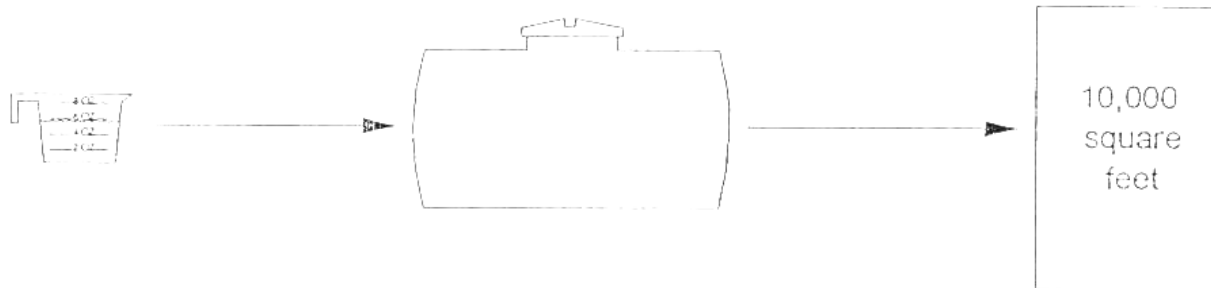
Next determine the dosage. This is the amount of chemical you wish to dispense in a given area. Appropriate dosage depends upon chemical label recommendations, level of pest or disease infestation, crop type, crop maturity, crop density, past experience with particular chemicals, and other variables.

ESS recommends that you start spraying using the same chemical rate used in the past in either hydraulic or air assisted sprayers. For example, if in the past you have used 2 ounces of chemical in a hydraulic sprayer to spray a known area; then mix 2 ounces of chemical to the water required by the GPS-5K™ to spray the same known area. In other words, the same amount of chemical is sprayed out in the area but with much less water (see diagram).

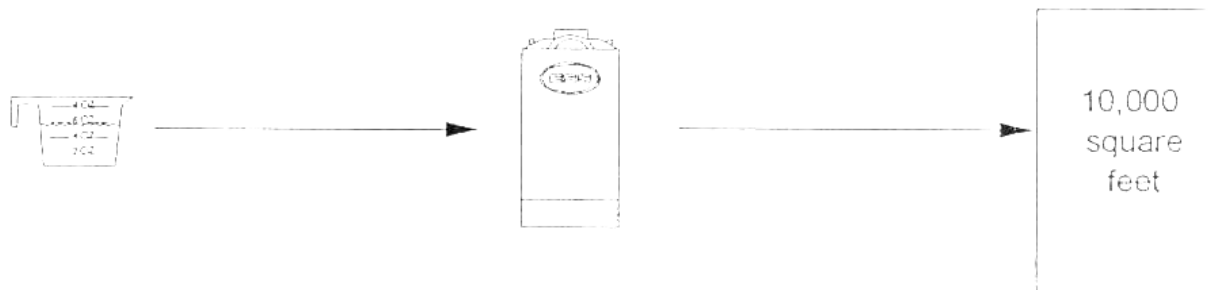
After becoming familiar with the sprayer spraying at full rate, you can start reducing the amount of chemical used for each spray. Keeping the amount of water in the tank constant, cut the amount of chemical mixed in by 15-25% for each spray until a desirable kill is no longer achieved. If you are planning to cut rates then it is very important to scout your crop to determine spray efficiency.

For example,

You have two greenhouses covering 10,000 square feet that are sprayed using a conventional hydraulic sprayer. In the past you mixed 6 ounces of chemical to 25-50 gallons of water in order to spray both house at full rate.



With your new ESS sprayer you need to find out how much water is needed to spray the known area. The amount of water required to spray both houses is the amount of water in which you mix the 6 ounces of chemical in. Depending on the crop sprayed, you will use approximately 1-2 gallons of water with the ESS sprayer to cover 10,000 square feet. This applies to all chemicals even wettable powders.



XT SERVICE PARTS

ITEM #	ESS PART #	DESCRIPTION	QUANTITY
1	1221	PLUG, SQUARE TUBING	2
2	1222	VIBRATION INSULATOR, RUBBER	2
3	1520	COMPRESSOR, 1 HP, .5 CFM	1
4	1224	PANEL NUT, REGULATOR	1
5	53	REGULATOR, 1/4", 175 PSI	1
6	1211	SUPPORT PLATE	1
7	396	HOSE, 1/4" ID, GREY, LIQUID	1
8	1226	WHEEL	2
9	1521	GAUGE, 0-30 PSI	1
10	1229	NALGENE BOTTLE, 1000mL	2
11	1230	TANK, 3 GAL, SS	1
12	1196	FRONT COVER WELDMENT	1
13	1199	HOSE BRACKET	2
14	1207	AXLE WELDMENT	1
15	1209	UPRIGHT WELDMENT	1
16	1210	HANDLE, XT	1
17	1215	BOTTLE HOLDER WELDMENT	1
18	7001	TWINLINE HOSE ASSEMBLY, 25'	1
	1238	TWINLINE HOSE ASSEMBLY, 50'	1
19	1149	CHECK VALVE, 1/4" NPT W/VINTON	1
20	447	QC PLUG, 1/4", 1/4" FPT, BRASS, (TANK OUTLET)	1
21	450	QC SOCKET, 1/4", 1/4" FPT, BRASS (TANK OUTLET)	1
22	248	QC SOCKET, 1/8", 1/8" FPT, BRASS (TANK OUTLET)	1
23	234	QC PLUG, 1/8", 1/8" FPT, BRASS, (TANK OUTLET)	1
24	1247	REDUCING FITTING, SPECIAL, TANK INLET	1
25	1248	REDUCING FITTING, SPECIAL, TANK OUTLET	1
26	1239	NIPPLE, /8" NPT, CLOSE, BRASS	1
27	2392	LEVEL TUBE	1
28	1662	HOSE CLAMP, WORM, SIZE 4, SS	1
29	1933	HOSE, 1/4" ID, POLYFIBER, CTL	1
30	449	TANK FILTER	1
31	1664	O-RING, TANK LID	1
32	398	TANK LID	1
33	266	O-RING	4
34	198	PICK-UP TUBE	1
35	67	ELL, 1/8" NPT, STREET, 90 DEG, BRASS	1
36	1067	NIPPLE, REDUCING, 1/4" MPT X 1/8" MPT, BRASS	1
37	156	ELL, 1/4" NPT, STREET, 90 DEG, BRASS	1

HANDGUN PARTS LIST

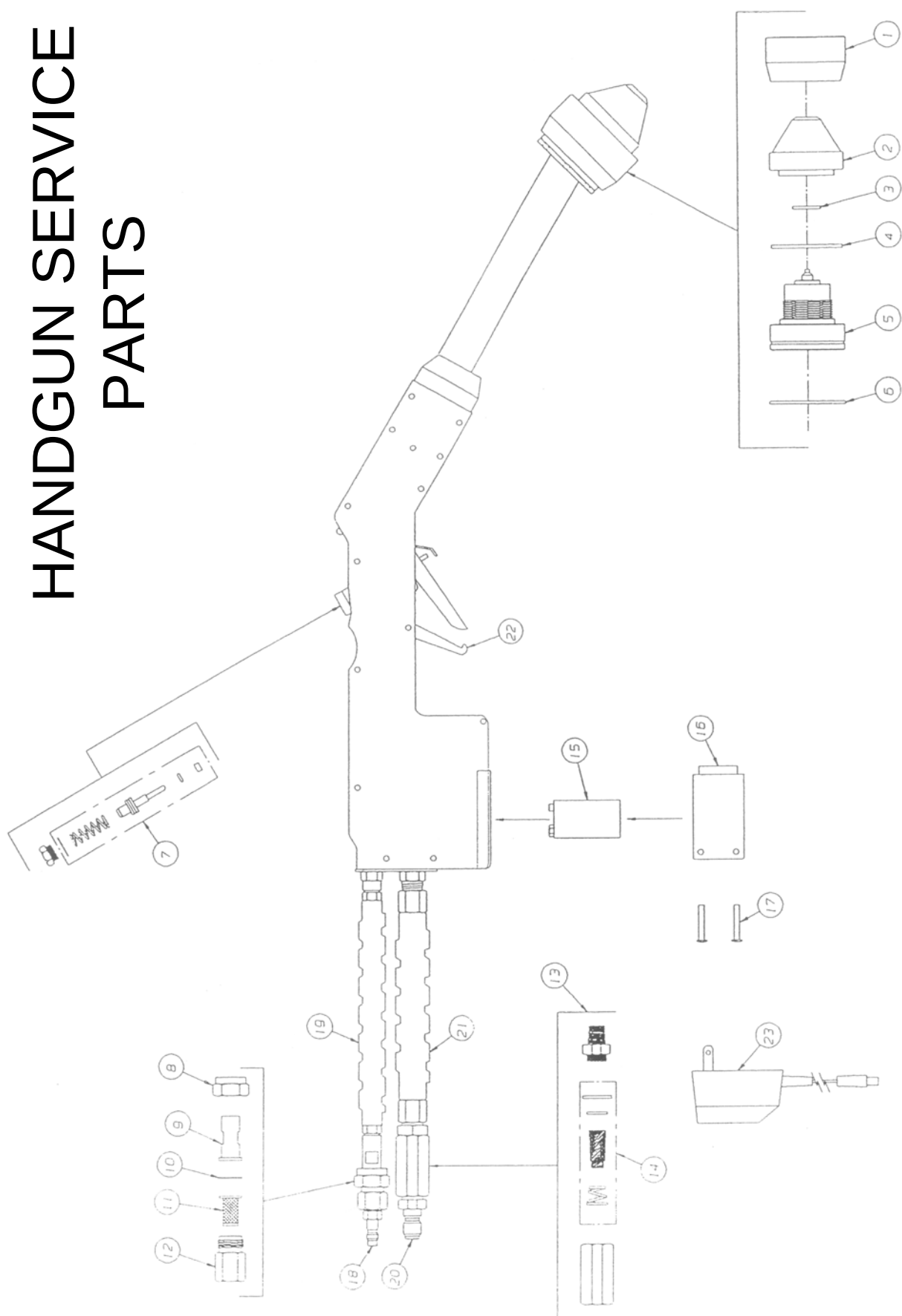
ITEM NUMBER	ESS PART NUMBER	DESCRIPTION	QUANTITY ORDERED
1	5795	HOOD	1
2	5775	NOZZLE COVER	1
3	5771	O-RING, INTERNAL	1
4	5694	TEFLON RING	1
5	5777	NOZZLE BODY, GREENHOUSE <i>NOTE: MUST SEND GUN IN FOR REPAIR</i>	1
6	5770	O-RING, EXTERNAL	1
7	3731	REPAIR KIT, TRIGGER	1
8	768	ADAPTER, 1/8"-27 FPT	1
9	767	CAP, FLOW REGULATOR	1
10	1755	ORIFICE DISK: SEE ORIFICE SELECTION CHART TO FIND PROPER ORIFICE SIZE AND PART NUMBER	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	REPAIR KIT, AIR FILTER	1
15	130	BATTERY, ALKALINE, 9 V	2
16	118	BATTERY COVER, HANDGUN SHELL	1
17	316	SCREW, #6-32 X 3/8" LONG, PHILLIPS, SS	2
18	239	QC PLUG, 1/8", 1/8" MPT, BRASS (HANDGUN LIQUID)	1
19	1748	HANDGUN LEADER ASSY, LIQUID	1
20	240	QC PLUG, 1/4", 1/4" MPT, BRASS (HANDGUN	1
21	1749	HANDGUN LEADER ASSY, AIR	1
22	6518	TRIGGER PAWL	1
23	4430	BATTERY CHARGER	1

FLOW DISK SELECTION CHART

UNIT STYLE	TANK SIZE	FLOW DISK NUMBER	ESS PART NUMBER
XT	3 GALLON TANK	#20	766
	1 QUART BOTTLE	#40	765
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 handgun. If the wrong size flow disk, or no flow disk is used, then the handgun will not spray or charge efficiently

HANDGUN SERVICE PARTS





ELECTROSTATIC SPRAYING SYSTEMS, INC.

Main Office: 67 Depot St. · PO Box 151 · Watkinsville, GA 30677

Phone: (706) 769-0025 · FAX: (706) 769-8072

Latin America Office: Carlos Vintimilla 202, y Av. De las Américas

Phone: (593) 7-810305 · FAX: (593) 7-810305

ESS WARRANTY

Effective January 1, 1995

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 300 operational hours or six months, whichever comes first, 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 vender items which carry their own warranties such as, but not limited to, engines, air Compressors, and liquid pumps. Electrostatic Spraying System, Inc. shall supply replacement parts at list price pending the warrenty investigation of the vendor item. Vendor item parts such as air compressors, liquid pumps, solenoids, and other such items must be returned before warrenty 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 judgement 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 judgement of Electrostatic Spraying Systems, Inc. such alteration or repair affects its performance, stablilty 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 maintence, 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 WARRENTY UNLESS SUCH CHANGE IS MADE IN WRITING AND IS SIGNED BY A CORPORATE OFFICER OF ELECTROSTATIC SYSTEMS, INC.

Handgun Return Form

When returning a handgun for warranty or repair services to ESS, please include the following form with the gun.

Handgun Serial Number: _____

Returned From:

Company: _____

Contact Person: _____

Phone Number: _____

Shipping Address: _____

Mailing Address: _____

Last Date Serviced: _____

Problems with the Gun:

Method of Payment:

☐ Account (must be an approved account)

☐ COD

☐ Credit Card: ☐ VISA ☐ MASTERCARD ☐ AMERICAN EXPRESS

Card Number: _____

Expiration Date: _____

Card Holder's Name: _____