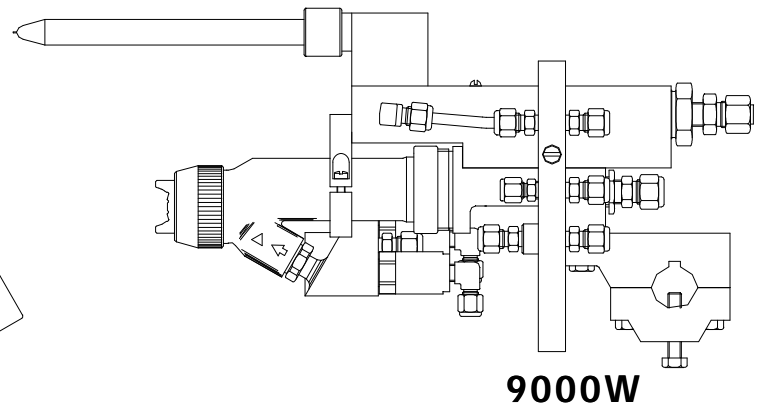
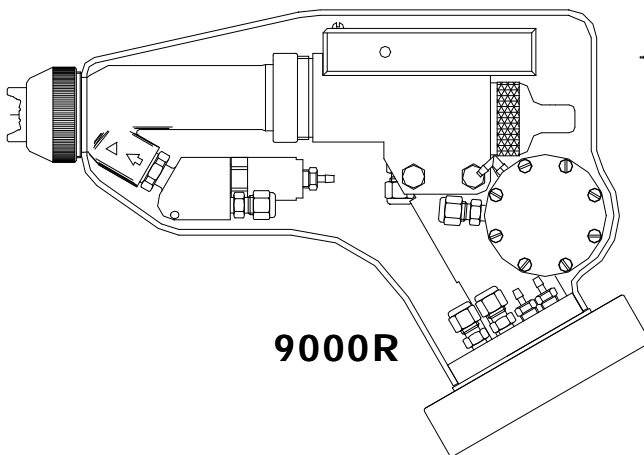
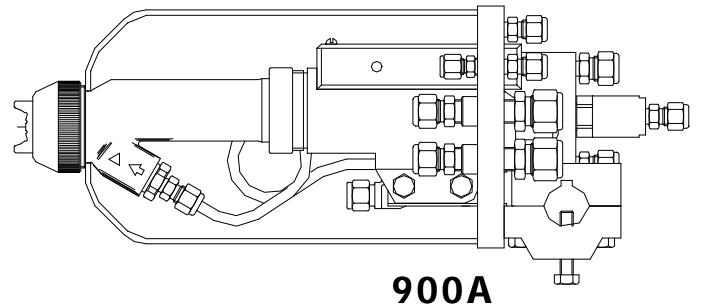
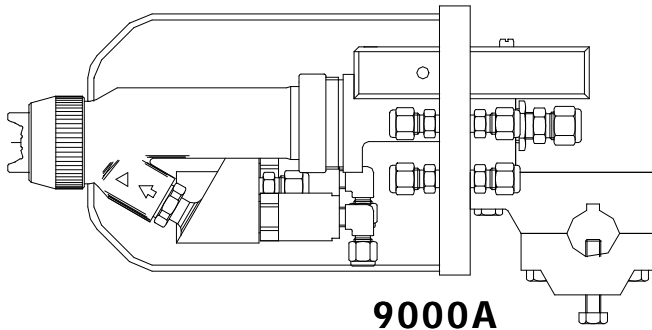


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## REA AUTOMATIC GUNS

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**MODELS: 75795, 77359, 76110, 77140**

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**IMPORTANT:** Before using this equipment, carefully read **SAFETY PRECAUTIONS**, starting on page 1, and all instructions in this manual. Keep this Service Manual for future reference.

Service Manual Price: \$50.00 (U.S.)

**NOTE:** This manual has been changed from revision **AA-99-02** to revision **AA-99-02.1**.  
Reasons for this change are noted under "Manual Change Summary" inside the back cover of this manual.

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# SAFETY

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## SAFETY PRECAUTIONS

Before operating, maintaining or servicing any ITW Ransburg electrostatic coating system, read and understand all of the technical and safety literature for your ITW Ransburg products. This manual contains information that is important for you to know and understand. This information relates to **USER SAFETY** and **PREVENTING EQUIPMENT PROBLEMS**. To help you recognize this information, we use the following symbols. Please pay particular attention to these sections.

**A WARNING!** states information to alert you to a situation that might cause serious injury if instructions are not followed.

**A CAUTION!** states information that tells how to prevent damage to equipment or how to avoid a situation that might cause minor injury.

**A NOTE** is information relevant to the procedure in progress.

While this manual lists standard specifications and service procedures, some minor deviations may be found between this literature and your equipment. Differences in local codes and plant requirements, material delivery requirements, etc., make such variations inevitable. Compare this manual with your system installation drawings and appropriate ITW Ransburg equipment manuals to reconcile such differences.


Careful study and continued use of this manual will provide a better understanding of the equipment and process, resulting in more efficient operation, longer trouble-free service and faster, easier troubleshooting. If you do not have the manuals and safety literature for your Ransburg system, contact your local ITW Ransburg representative or ITW Ransburg.


### **WARNING**



- ▶ The user **MUST** read and be familiar with the Safety Section in this manual and the ITW Ransburg safety literature therein identified.
- ▶ This manual **MUST** be read and thoroughly understood by **ALL** personnel who operate, clean or maintain this equipment! Special care should be taken to ensure that the **WARNINGS** and safety requirements for operating and servicing the equipment are followed. The user should be aware of and adhere to **ALL** local building and fire codes and ordinances as well as **NFPA 33 SAFETY STANDARD, 2000 EDITION**, prior to installing, operating, and/or servicing this equipment.

### **WARNING**

- ▶ The hazards shown on the following page may occur during the normal use of this equipment. Please read the hazard chart beginning on page 2.

<b>AREA</b> Tells where hazards may occur.	<b>HAZARD</b> Tells what the hazard is.	<b>SAFEGUARDS</b> Tells how to avoid the hazard.
<p><b>Spray Area</b></p> 	<p>Electrostatic Arcing</p>	<ol style="list-style-type: none"> <li>1. Never operate the spray gun without properly grounding the following:                             <ol style="list-style-type: none"> <li>A. Operators Operators must be grounded. Rubber soled insulating shoes should not be worn. Grounding leg straps may be used. Operators must maintain contact with the handle of the gun. If work gloves are used, the palm section should be cut out. Operators must remove from themselves all metal objects that are not grounded.</li> </ol> <p><b>NOTE:</b> REFER TO NFPA 33, CHAPTER 10, 2000 EDITION REGARDING OPERATOR GROUNDING.</p> <ol style="list-style-type: none"> <li>B. Parts being sprayed. Resistance between the part and a grounded conveyor must not exceed 1 megohm.</li> <li>C. Every metal and conductive object in the spray area. This includes the booth, parts hangers, fire extinguishers, conductive flooring, etc.</li> </ol> </li> <li>2. Grounded conductive flooring must be provided in the spray area.</li> <li>3. Turn off voltage at the power supply before flushing out, cleaning, or removing any parts from the gun.</li> <li>4. Provide proper protection for waterborne supply systems.</li> <li>5. Never install a spray gun into a fluid system using an isolated solvent supply.</li> <li>6. Always discharge Waterborne system capacitance prior to servicing.</li> <li>7. Do not touch gun electrode while gun is energized.</li> </ol>
<p><b>Personnel Safety</b></p>	<p>Skin puncturing by sharp electrode.</p>	<p>Take precautions to see that flesh is not punctured by sharp electrode.</p>

<p><b>AREA</b> Tells where hazards may occur.</p>	<p><b>HAZARD</b> Tells what the hazard is.</p>	<p><b>SAFEGUARDS</b> Tells how to avoid the hazard.</p>
<p><b>Spray Area</b></p> 	<p>Fire Hazard</p> <p>Improper or inadequate operation and maintenance procedures will cause a fire hazard.</p> <p>Protection against inadvertent arcing that is capable of causing fire or explosion is lost if any safety interlocks are disabled during operation. Frequent power supply shutdown indicates a problem in the system requiring correction.</p>	<p>Fire extinguishing equipment must be present in the spray area and tested periodically.</p> <p>Spray areas must be kept clean to prevent the accumulation of combustible residues.</p> <p>Smoking must never be allowed in the spray area.</p> <p>The high voltage supplied to the atomizer must be turned off prior to cleaning, flushing or maintenance.</p> <p>When using solvents for cleaning:</p> <p>Those used for equipment flushing should have flash points equal to or higher than those of the coating material.</p> <p>Those used for general cleaning must have flash points above 100°F (37.8°C).</p> <p>Spray booth ventilation must be kept at the rates required by NFPA 33, 2000 Edition, OSHA and local codes. In addition, ventilation must be maintained during cleaning operations using flammable or combustible solvents.</p> <p>Electrostatic arcing must be prevented.</p> <p>Test only in areas free of combustible material.</p> <p>Testing may require high voltage to be on, but only as instructed.</p> <p>Non-factory replacement parts or unauthorized equipment modifications may cause fire or injury.</p> <p>If used, the key switch bypass is intended for use only during setup operations. Production should never be done with safety interlocks disabled.</p> <p>Never use equipment intended for use in waterborne installations to spray solvent based materials.</p>

<b>AREA</b> Tells where hazards may occur.	<b>HAZARD</b> Tells what the hazard is.	<b>SAFEGUARDS</b> Tells how to avoid the hazard.
<b>Toxic Substances</b> 	Certain material may be harmful if inhaled, or if there is contact with the skin.	Follow the requirements of the Material Safety Data Sheet supplied by coating material manufacturer.  Adequate exhaust must be provided to keep the air free of accumulations of toxic materials.  Use a mask or respirator whenever there is a chance of inhaling sprayed materials. The mask must be compatible with the material being sprayed and its concentration. Equipment must be as prescribed by an industrial hygienist or safety expert, and be NIOSH approved.
<b>Explosion Hazard / Incompatible Materials</b> 	Halogenated hydrocarbon solvents for example: methylene chloride and 1,1,1,-Trichloroethane are not chemically compatible with the aluminum that might be used in many system components. The chemical reaction caused by these solvents reacting with aluminum can become violent and lead to an equipment explosion.	Aluminum is widely used in other spray application equipment - such as material pumps, regulators, triggering valves, etc. Halogenated hydrocarbon solvents must never be used with aluminum equipment during spraying, flushing, or cleaning. Read the label or data sheet for the material you intend to spray. If in doubt as to whether or not a coating or cleaning material is compatible, contact your material supplier. Any other type of solvent may be used with aluminum equipment.
<b>General Use and Maintenance</b>	Improper operation or maintenance may create a hazard.  Personnel must be properly trained in the use of this equipment.	Personnel must be given training in accordance with the requirements of NFPA 33, Chapter 16, 2000 edition.  Instructions and safety precautions must be read and understood prior to using this equipment.  Comply with appropriate local, state, and national codes governing ventilation, fire protection, operation maintenance, and housekeeping. OSHA references are Sections 1910.94 and 1910.107. Also refer to NFPA 33, 2000 edition and your insurance company requirements.
<b>Intended Use (Waterborne Only)</b>	Using coating materials and/or cleaning and flushing solvents which have flash points below 100°F (37.8°C) may cause a fire hazard.	This system is intended for use with waterborne coating formulations only.  Waterborne, waterbase and water reducible coating are considered the same. Although they may not be highly flammable their residues are considered combustible.



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# INTRODUCTION

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## DESCRIPTIONS

The REA Automatic processes are an air atomized method for electrostatically applying coatings to objects. The REA Automatics apply a high voltage DC charge to the applicator electrode, creating an electrostatic field between the atomizer and the target object. The target is electrically grounded through its support which may be either stationary or moving.

A regulated pressure fluid system delivers material to the atomizer. At the time of triggering the applicators fan and atomization air is applied which atomizes the material forming a spray mist. The mist under the influence of the electrostatic field, becomes electrically charged. The charged particles of material are attracted to, and deposited on, the target. The forces between the charged particles and the grounded target are sufficient to turn most normal overspray around and deposit it on the back surface of the target. Therefore, a high percentage of the spray is deposited on the target.

One of the many features of the REA Gun Automatic System is the electrical discharge which is available from the resistive charging electrode is limited to the optimum level of safety and efficiency.

As the gun electrode approaches ground, the control unit and gun circuitry shut down the high voltage and current to the gun. The control unit must then be reset to continue to spray electrostatically.

The REA Automatic Electrostatic Spray Guns are transformable between air spray and HVLP spray technology. By changing a select few parts, the gun may be transformed to be operated in either spray mode. (See Spray Technology Conversion Procedure, in the INSTALLATION section of this manual for details.)

**The REA 9000A** has an integral trigger and dump valve built into the design. This prevents spits

and drips normally associated with guns of this design.

The trigger valve mounted at the inlet of the REA 9000A gun allows minimal spray into the booth during a color change sequence. Only the contents of paint from the trigger valve to the nozzle must be cleaned. Then by activating the dump valve, the rest of the waste material may be transported to an alternate collection means. Since this material is not sprayed in the booth, the VOC's emitted are reduced significantly.

The REA900A Gun is designed with a moving trigger (shaft), so no forward mounted trigger valve is required. The dump valve is mounted on the rear bulkhead plate for ease of maintenance. All fluid connections in this gun use "AN" style fittings to eliminate "dead spots" in the fluid path for superior flushing.

**The REA 9000R** is a robot-mounted gun for hollow wrist robots produced by either FANUC or ABB. The advantage of the REA 9000R gun is that it can be removed quickly and easily from the robot mounting plate with the use of a threaded retaining ring.

The REA 9000R incorporates two important safety features. The first being a breakaway design that will shear (2) nylon mounting bolts if the gun comes in contact with the object being sprayed. The second is the discharge which is available from the resistive charging electrode is limited to the optimum level of safety and efficiency.

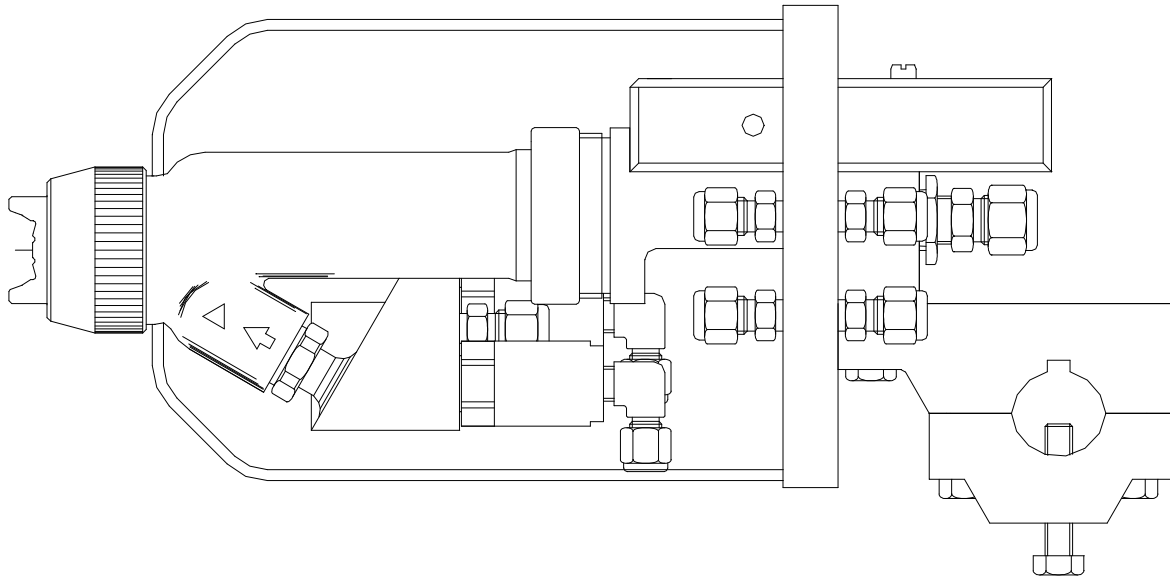
**The REA 9000W** is an external charge probe gun designed to spray waterborne coatings in systems utilizing a grounded fluid supply. Gun features include: Probe Shroud Air and Electrode Shroud Air. Low pressure air exiting around the probe body and electrode wire aid in keeping these components clean during operation. These features help to maintain maximum efficiency of the guns over a longer period of time. The REA 9000W gun also offers conventional "classic" high voltage technology.

**The REA 9000A, 9000R and 900A Series of guns** apply -85 kV DC charge to the coating materials at the point of atomization. This series of guns is intended for use with grounded solvent-borne coating systems. The REA 9000W Series of guns applies -70 kV DC charge. This electrostatic charge allows a more efficient, uniform application of coating material to the front, edges, sides, and back of products. It is highly suitable for applying coatings to a variety of surface configurations: large targets, small parts, tubular wares, concave and recessed parts, etc. keeping these components clean during operation. These features help to maintain maximum efficiency of the guns over a longer period of time.

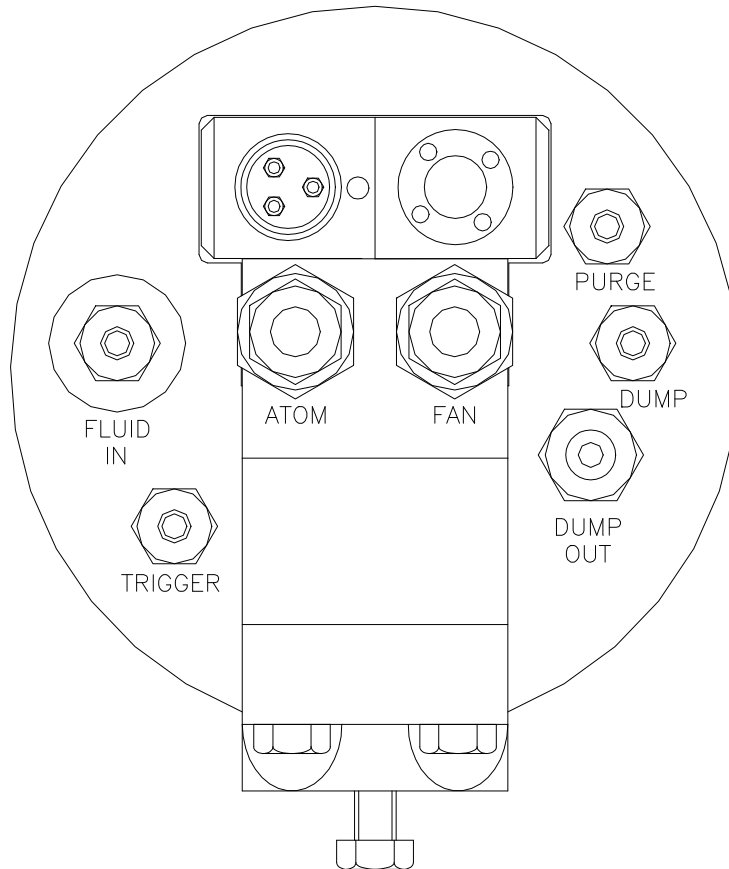
These series of guns include the automatic gun, low or high voltage cable, control unit, fluid hose and air tubing.

The control unit provides voltage output to the gun and contains controls for AC on/off, high voltage adjust, kV/microamp meter and triple set point or analog input control.

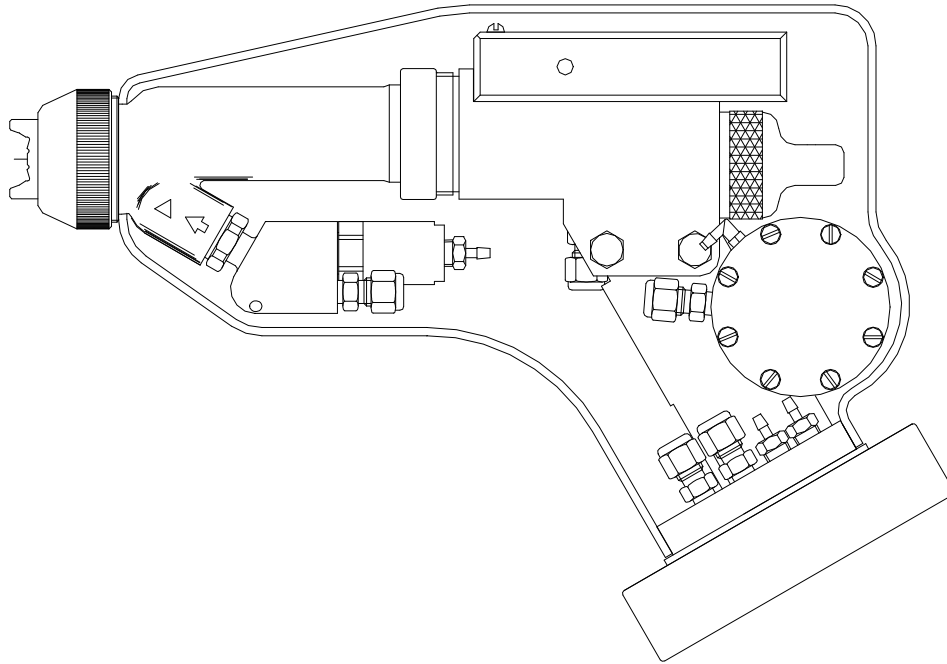
## NOTES:



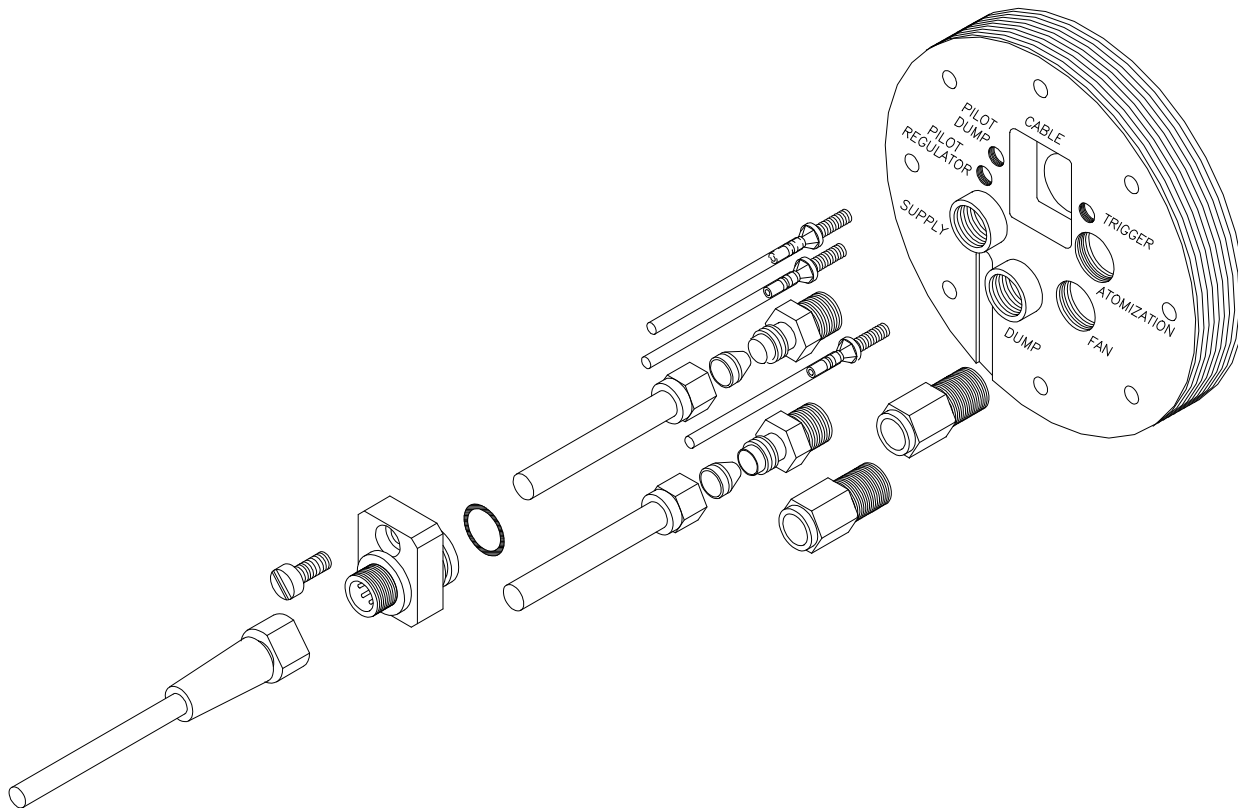
**Figure 1a: REA 9000A Solventborne Electrostatic Spray Gun**



**Figure 1b: View of Back Plate**



**Figure 2a: REA 9000R Solventborne Electrostatic Spray Gun**

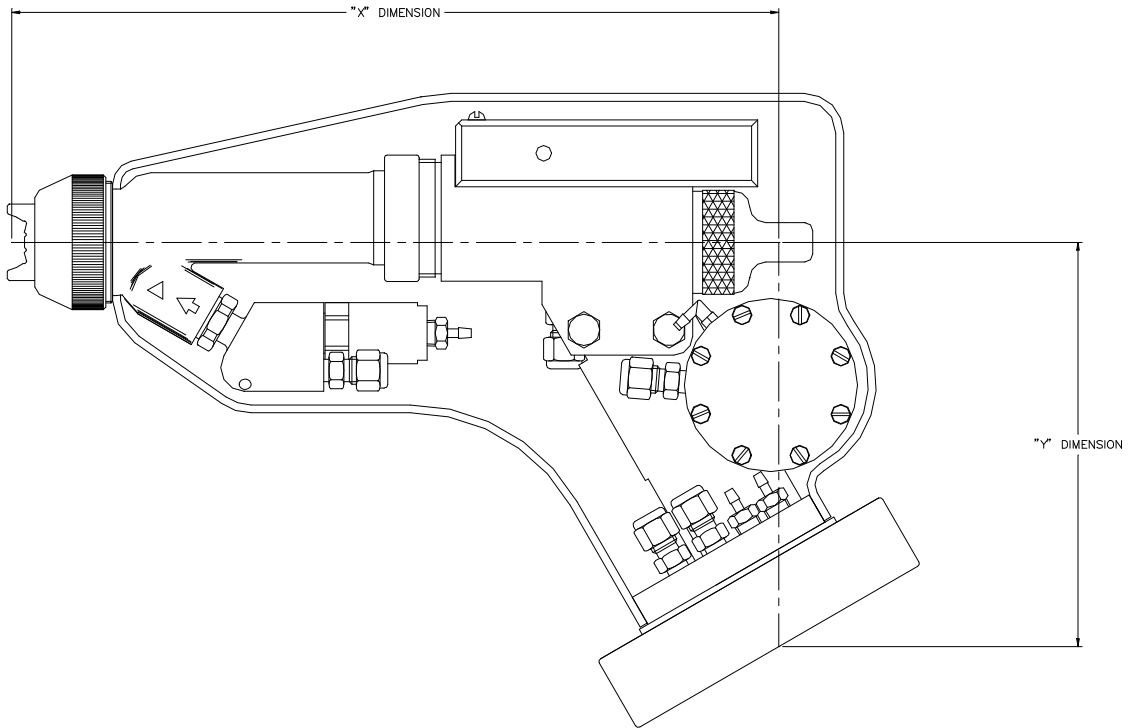


**Figure 2b: View of Mounting Plate Assembly**

**NOTE**

► To allow for ease of configuration, operation, and modification of robot teach patterns, the following X/Y vertices are provided. (Refer to Figure 3 for explanation of coordinates). Optimum spray pattern is achieved at a distance of 10 - 14 inches from tip.

		<b>X</b>	<b>Y</b>
76110	REA 9000R 60°	12.25	6.50
76110	REA 9000R 90°	10.00	7.50

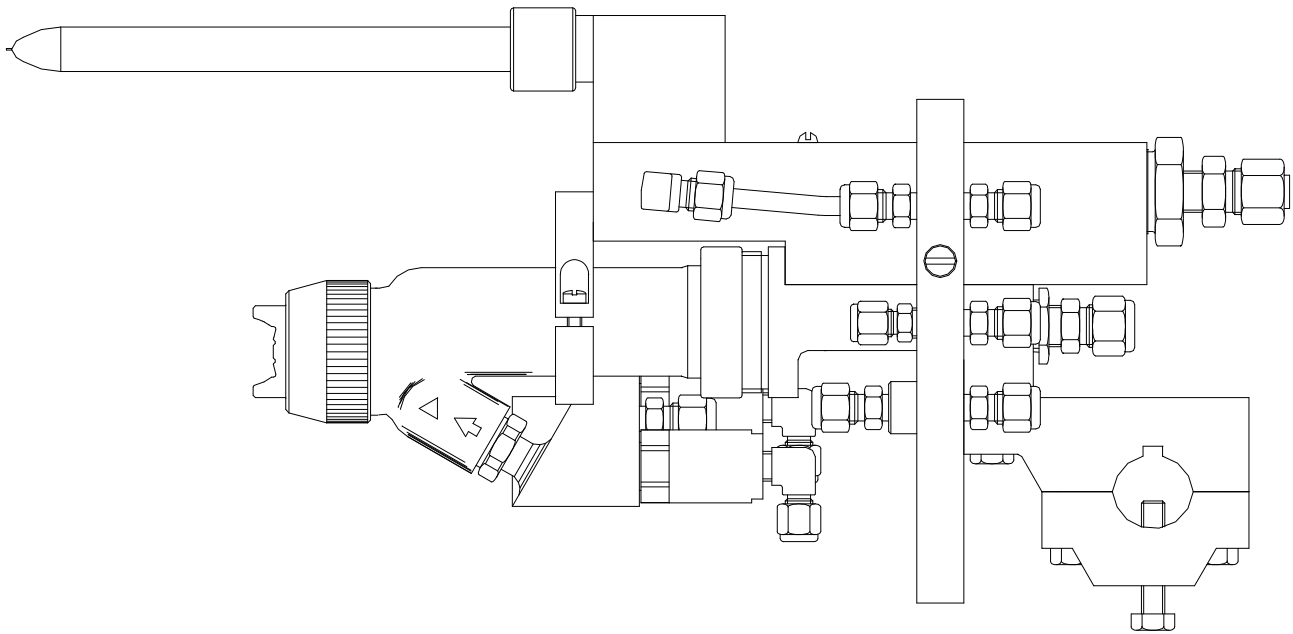


**Figure 3: Gun Tool-Point Representation  
REA 9000R Automatic**

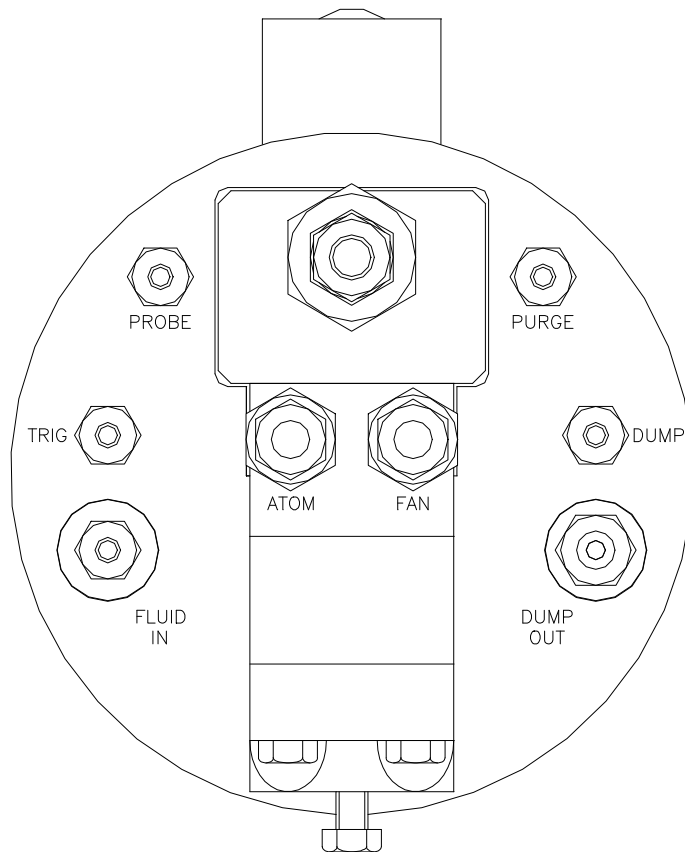
For use with Fanuc P-200 Robots, the following adapter plates must be used:

- EO-3150-121-014 is for 100° wrist.
- EO-3461-127-001 is for 140° wrist.

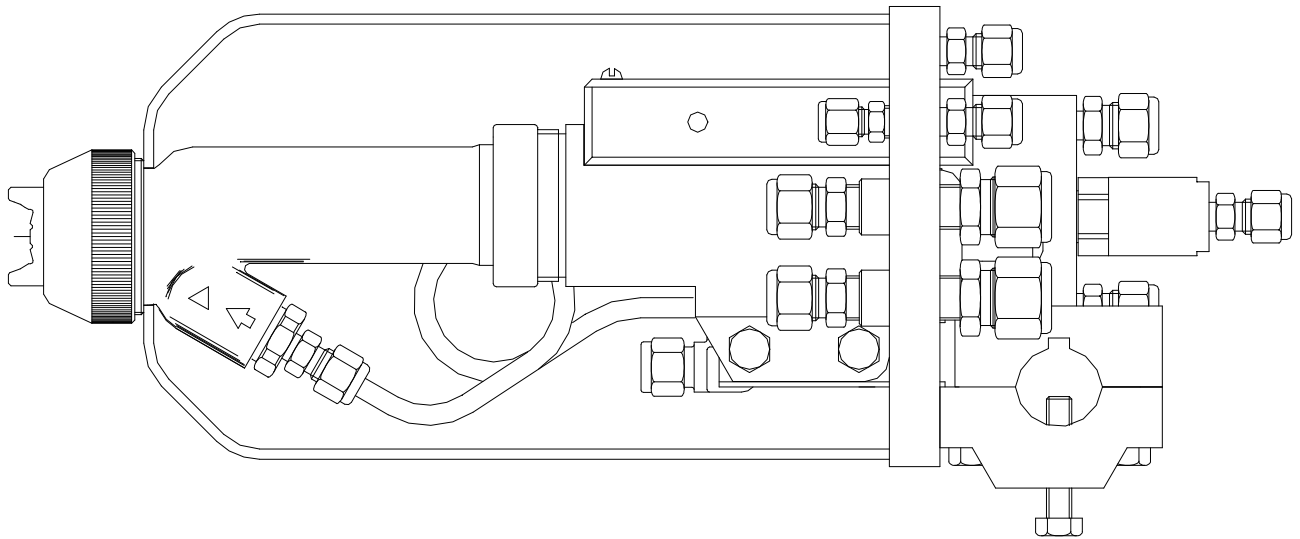
**Figure 4: Adapter Plates**



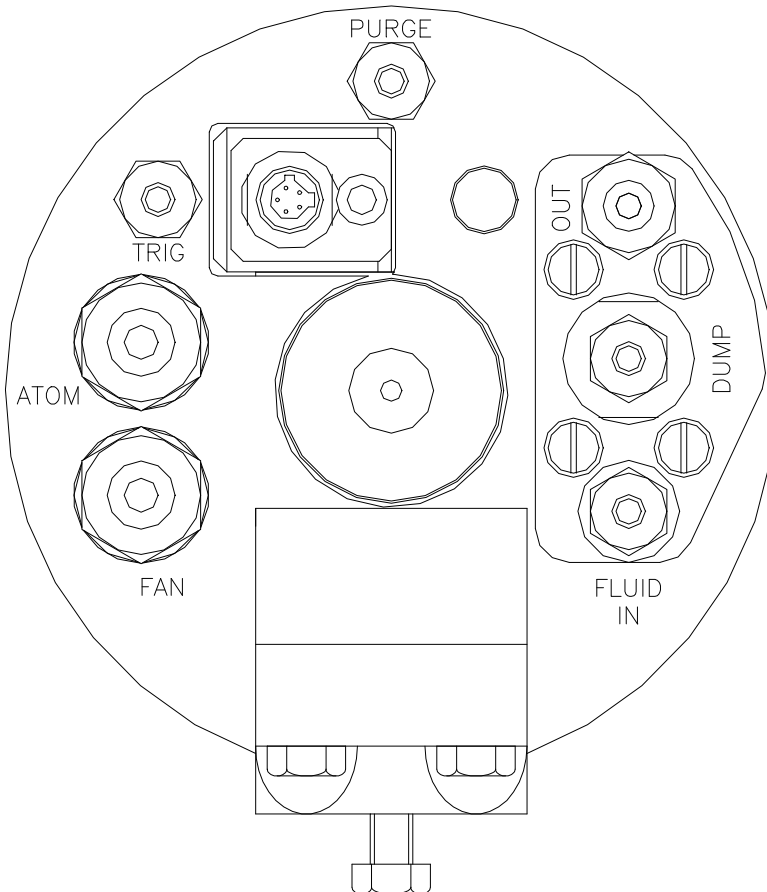
**Figure 5a: REA 9000W Waterborne Electrostatic Spray Gun**



**Figure 5b: View of Back Plate**



**Figure 6a: REA 900A Solventborne Electrostatic Spray Gun**



**Figure 6b: View of Back Plate**

**SPECIFICATIONS -  
SOLVENTBORNE REA 9000A**

**Electrical / Physical**

**Operating Voltage:** 85 kV DC [-] maximum  
**Current Output:** 120 microamperes maximum

**Weight:** 70 oz. (2,100g)  
**Gun Diameter:** 5.25" (13.3cm)  
**Gun Length:** 13.0" (33.0cm)

**Center Distance from Mount to:**  
Nozzle End 11.8" (29.9cm)  
Center Line of Nozzle 1.9" (4.8cm)

**Cable Lengths:** 36 feet  
[optional: 50, 75 and 100 feet]

**Atomizer Assembly:** 4904-65R  
4907-45  
HVLP 75600-01  
HVLP 75601-00

**Fluid Flow Rate:** Variable to 1,000 cc/minute

**Operating Pressure: [Air Spray]**  
Fluid 0-100 psi (6.8 bar)  
Air 0-100 psi (6.8 bar)  
Consumption 16 scfm @ 50 psig

**Operating Pressure: [HVLP Spray]**  
Fluid 0-100 psi (6.8 bar)  
Air 0-100 psi (6.8 bar)  
Consumption 22 scfm @ 50 psig  
[input] for 10 psi nozzle output

**Atomization Air Inlet**  
**Size:** 3/8" NPT (F) (1/4" NPT) (F) 3/8" ODT

**Fan Air Inlet**  
**Size:** 3/8" NPT (F) (1/4" NPT) (F) 3/8" ODT

**Fluid Inlet Size:** 1/4" NPT (F)

**Gun Mounting Stud:**  
**Diameter:** .98"-1.00" (25mm-27mm)

**Trigger Actuation:** 1/4"ODT - 1/8"NPT (F)

**Dump Actuation:** 1/4"ODT - 1/8"NPT (F)

**Fluid Dump Out:** 1/4"ODT - 1/4"NPT (F)

**Shroud Purge Line:** 1/4"ODT - 1/8"NPT (F)

**Woodruf Key Mount**  
**Size:** 1/4" Nominal

**\*Paint Resistance:** .1 MΩ to ∞

Figure 7: REA 9000A Specifications

**SPECIFICATIONS -  
SOLVENTBORNE REA 9000R**

**Electrical / Physical**

**Operating Voltage:** 85 kV DC [-] maximum  
**Current Output:** 120 microamperes maximum

**Weight:** 41 oz. (1,162g)  
**Gun Height:** 6.5" (33.66cm)  
**Gun Length:** 13.25" (33.66cm)  
**Gun Width:** 2" (5.08cm)

**Cable Lengths:** 36 feet  
[optional: 50, 75 and 100 feet]

**Atomizer Assembly:** 4904-65R  
4907-45  
HVLP 75600-01  
HVLP 75601-00

**Fluid Flow Rate:** Variable to 1,000 cc/minute

**Operating Pressure: [Air Spray]**  
Atomizing Air 0-100 psig (6.8 bar)  
Fan Air 0-100 psig (6.8 bar)  
Trigger Air 40 psig Min. (2.7 bar)  
100 psig Max. (6.8 bar)

Fluid 0-100 psig (6.8 bar)

**Operating Pressure: [HVLP Spray]**  
Atomizing Air 0-100 psig (6.8 bar)  
Fan Air 0-100 psig (6.8 bar)  
Trigger Air 40 psig Min. (2.7 bar)  
100 psig Max. (6.8 bar)

Fluid 0-100 psig (6.8 bar)

**Piston Air Inlet**  
**Size:** 3/16" ODT

**Atomization Air Inlet**  
**Size:** 3/8" ODT

**Fan Air Inlet Size:** 3/8" ODT

**Fluid Inlet Size:** 1/4" ODT

**\*Paint Resistance:** .1 MΩ to ∞

\*(Ransburg Meter)

Figure 8: REA 9000R Specifications



**SPECIFICATIONS -  
WATERBORNE REA 9000W  
Electrical / Physical**

<b>Operating Voltage:</b>	70 kV DC [-] Max.
<b>Current Output:</b>	120 microamperes Max. (Classic)
<b>Weight:</b>	82 oz. (2,325g)
<b>Bulkhead Diameter:</b>	6.69" (16.9cm)
<b>Max Gun Height:</b>	7.90" (20.0cm)
<b>Gun Length:</b>	16.51" (33.0cm)
<b>Center Distance from Mount to:</b>	
Probe End	15.23" (38.6cm)
Nozzle End	11.80" (29.9cm)
Center Line of Nozzle	1.90" (4.8cm)
Center Line of Probe	5.92" (15.0cm)
<b>Cable Lengths:</b>	
Classic Version	100 feet Max. [SSW-1064 HVCable]
<b>Atomizer Assembly:</b>	4904-65R 4907-45 HVLP 75600-01 HVLP 75601-00
<b>Fluid Flow Rate:</b>	Variable to 1,000 cc/minute
<b>Operating Pressure: [Air Spray]</b>	
Fluid	0-100 psi (6.8 bar)
Air	0-100 psi (6.8 bar)
Consumption	16 scfm @ 50 psig
<b>Operating Pressure: [HVLP Spray]</b>	
Fluid	0-100 psig (6.8 bar)
Air	0-100 psig (6.8 bar)
Consumption	22 scfm @ 50 psig [input] for 10 psig nozzle output
<b>Atomization Air Inlet</b>	
<b>Size:</b>	3/8" NPT (F) 1/4" NPT (F) 3/8"ODT
<b>Fan Air Inlet</b>	
<b>Size:</b>	3/8" NPT (F) 1/4" NPT (F) 3/8"ODT
<b>Fluid Inlet Size:</b>	1/4" AN (F) 1/4" ODT
<b>Dump Outlet Size:</b>	1/4" AN(F) 3/8" ODT
<b>Trigger Actuation:</b>	1/4"ODT - 1/8"NPT (F)
<b>Dump Actuation:</b>	1/4"ODT - 1/8"NPT (F)
<b>Probe Shroud/Knife</b>	
<b>Air:</b>	1/4"ODT - 1/8"NPT (F)
<b>Shroud/Gun Cover</b>	
<b>Purge Air:</b>	1/4"ODT - 1/8"NPT (F)
<b>Gun Mounting Stud</b>	
<b>Diameter:</b>	.98" - 1.00"
<b>Mount Woodruf Key</b>	
<b>Size:</b>	1/4" Nominal

Figure 9: REA 9000W Specifications

**SPECIFICATIONS -  
SOLVENTBORNE REA 900A  
Electrical / Physical**

<b>Operating Voltage:</b>	85 kV DC [-] maximum
<b>Current Output:</b>	120 microamperes maximum
<b>Weight:</b>	84 oz. (2,100g)
<b>Gun Diameter:</b>	5.50" (13.9cm)
<b>Gun Length:</b>	14.85" (37.6cm)
<b>Center Distance from Mount to:</b>	
Nozzle End	13.00" (32.9cm)
Center Line of Nozzle	1.90" (4.8cm)
<b>Cable Lengths:</b>	36 feet(std) [optional: 50, 75 and 100 feet]
<b>Atomizer Assembly:</b>	4904-65R 4907-45 HVLP 75600-01 HVLP 75601-00
<b>Fluid Flow Rate:</b>	Variable to 1,000 cc/minute
<b>Operating Pressure [Air Spray]</b>	
Fluid	0-100 psig (6.8 bar)
Air	0-100 psig (6.8 bar)
Consumption	16 scfm @ 50 psig
<b>Operating Pressure [HVLP Spray]</b>	
Fluid	0-100 psi (6.8 bar)
Air	0-100 psi (6.8 bar)
Consumption	22 scfm @ 50 psig [input] for 10 psig nozzle output
<b>Atomization Air Inlet</b>	
<b>Size:</b>	1/4" NPT (F) 1/2" ODT
<b>Fan Air Inlet</b>	
<b>Size:</b>	1/4" NPT (F) 1/2" ODT
<b>Fluid Inlet Size:</b>	1/4" AN (F) 1/4" ODT
<b>Dump Outlet Size:</b>	1/4" AN (F) 3/8" ODT
<b>Trigger Actuation:</b>	1/8" NPT (F) 1/4" ODT
<b>Dump Actuation:</b>	1/8" NPT (F) 1/4" ODT
<b>Shroud Purge Air:</b>	1/8" NPT (F) 1/4" ODT
<b>Gun Mounting Stud</b>	
<b>Diameter:</b>	.98" - 1.00"
<b>Mount Woodruf Key</b>	
<b>Size:</b>	1/4" Nominal
<b>*Paint Resistance:</b>	. 1 MΩ to ∞

\*(Ransburg Meter)

Figure 10: REA 900A Specifications

# INSTALLATION

## ! WARNING

► Install and route the hoses and cables so they are **NOT** exposed to temperatures in excess of 120°F and so that all hose and cable bends are **NOT** less than a 6 inch [15 cm] radius. Failure to comply with these parameters could cause equipment malfunctions that might create **HAZARDOUS CONDITIONS!**

## TYPICAL REA AUTOMATIC GUN INSTALLATION

Connect the voltage cable to the control unit voltage socket. Gently hand tighten the cable retaining nut. Connect the other end of the voltage cable to the receptacle at the rear mounting plate of the spraygun, using a wrench to tighten.

## ! CAUTION

► **DO NOT** overtighten voltage cable connection to spraygun, as damage to plastic parts may occur.

The control unit of cascade style guns **MAY** be connected through conduit with an explosion-proof terminal on or near the spray booth where it will be convenient, or may be connected with a line cord depending upon application requirement.

## NOTE

► Refer to the Control Unit Service Manual for the circuit diagram and instructions to connect the control unit.

## ! WARNING

► The 9000W is intended for use with waterborne coating formulations only!

## ! WARNING

► The control unit **MUST** be located at least three feet outside of the spray area. Install units in accordance with the code requirements. (See NFPA 33, 70, OSHA and local codes.)

## ! WARNING

► The electrical discharge which is available from the charging electrode must not exceed 0.25 mJ of energy. To achieve this limit, any flow of energy from the paint supply through the paint line to the gun electrode **MUST BE** prevented by grounding the paint line at the inlet.

► Verify that the paint inlet is actually grounded **BEFORE** operating it! This is done with a fully connected and operational system by placing one lead of an ohmmeter to the inlet fitting and the other to the building electrical ground (cold water pipe, building structure, etc.). The reading should be essentially zero.

► If a greater reading is obtained, check that the control unit is grounded. (See the control unit manual for grounding procedure).

## To Install the REA 9000A, REA 9000W, or REA 900A

1. Mount the gun to the reciprocator bar. It is recommended to use a keyed bar with 1/4" Woodruff key. The gun may be mounted on bars from the size .98" diam. (25 mm) to 1.00 diam. (27 mm). Tighten the five (5) mounting screws securely.
2. Run 1/4" ODT air line to the trigger line fitting.

**NOTE**

- ▶ All fittings except the REA 9000A's fluid inlet fitting may be replaced with alternate fittings, depending on your installation. (See SPECIFICATIONS previously discussed in the INTRODUCTION section, for female thread size.)

**! WARNING**

- ▶ **ALL** fittings **except** the REA 9000A fluid inlet fitting used must be nonconductive. The use of electrical conductive fitting may cause injury or fire.

3. Run 3/8" ODT or 1/2" ODT fluid line to the gun.
4. Connect atomization air and fan air lines. Depending upon atomization technology used, size the line accordingly.

**NOTE**

- ▶ The atomization and fan air line should always lead the trigger signal when the gun is on, and lag the trigger signal when the gun is off. Failure to follow this procedure will cause gun spits.

5. Install 1/4" ODT air line to shroud or probe purge air. Set pressure between 5-10 psig.

**! CAUTION**

- ▶ Failure to connect the shroud purge air line on the REA 9000A and REA 900A Guns can allow excessive corona to build up within the shroud and cause premature failure of the barrel and transformer assemblies.

6. Install 1/4" ODT air line for dump actuation.
7. Install 3/8" ODT Teflon® fluid line to dump out.

**! CAUTION**

- ▶ Failure to use Teflon dump line will degrade color change time and gun performance.

**! WARNING**

- ▶ Whenever the gun is in the dump or flush mode, the electrostatics must be off.

**Filters**

**NOTE**

- ▶ For optimum finish quality use clean, dry filtered air.

1. Install a fluid filter on the output of fluid supply, as shown in Figure 11 below.
2. Detail depends on whether pressure tank, pump unit, recirculating system, etc., is used. The filter must be installed vertically with drain valve down and arrow pointing in direction of flow.

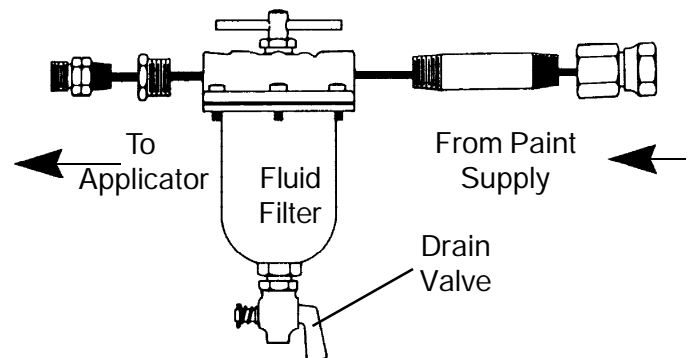


Figure 11: Typical Fluid Filter Installation

**Paint Preparation**

A proper paint mixture is essential to electrostatic operation. Paint test equipment may be obtained through your ITW Ransburg representative. Consult ITW Ransburg *Paint Related Information for REA and REM Guns Manual*, for paint formulation information. For further paint formulation and testing procedures, consult your ITW Ransburg representative and/or your paint supplier.

## Spray Technology Conversion Procedure

Remove existing retaining ring and air cap from end of gun. Remove fluid nozzle using gun wrench 19749-00.

### CAUTION

- ▶ To avoid damage to the fluid nozzle and electrode, the paint pressure and trigger return spring tension **MUST** be released by triggering the gun prior to removing the fluid nozzle.
- ▶ The gun **MUST** be tilted front down to remove the fluid nozzle. Failure to do so may allow paint to enter the air passages, thereby reducing air flow and damaging the gun barrel or cause electrical shorting. Guns may be flushed in lieu of tilting, but they **MUST** be either flushed or tilted **BEFORE** removing the fluid nozzle!

With a bladed screwdriver, remove pressure reducers by turning counter clockwise from barrel. Install the desired pressure reducer. Apply suitable liquid Teflon pipe thread sealant to threads. Install appropriate fluid nozzle, gently tightening into place using the gun wrench 19749-00. Reinstall appropriate air cap and retaining ring. (See Nozzle Selection Chart, Figure 12 later in this section, for proper combination of air caps, fluid nozzles and pressure reducers).

For remote HVLP fan air applications fan control, air pressure should not exceed 10 psi. Fan control pressure should be adjusted depending upon pattern size desired.

## Atomizer Assembly Selection

The Atomizer Assembly Selection Chart is provided to give you a comparison of the air caps and fluid nozzles. **THE CHOICE OF ATOMIZER ASSEMBLY SHOULD DEPEND ON QUALITIES DESIRED AND MUST BE VERIFIED BY ACTUAL TRIAL.** See your authorized ITW Ransburg electrostatic distributor for atomizer demonstration.

## Spray Pattern Adjustment

The spray pattern of fan atomizers is adjustable from a small circle to an elongated oval, approximately ten to eighteen inches across the usable long axis at eight to twelve inches from the target. The swirl atomizer assemblies produce a round pattern from five to nine inches in diameter. To adjust pattern size, increasing fan air pressure will expand the pattern, a reduction will decrease it. To change the spray pattern axis of fan atomizers from horizontal to vertical, loosen retainer ring, rotate the air cap clockwise to the desired position and gently tighten the ring.

### CAUTION

- ▶ A counterclockwise turn of the air cap may loosen the Fluid Nozzle and cause air to get into the paint or paint to cross over into the air passages.

## Gun To Target Distance

Mount the gun six to twelve inches maximum from the target for best operation. (A higher transfer efficiency will be achieved at the closer target distance).

## Wiring The Unit

The REA 9000R comes with a complete cable from the mounting plate.

### WARNING

- ▶ If the REA 9000R cable must be terminated at the robot, it must be done within a suitable explosion proof enclosure.

The cable from the control unit of the REA 9000R should be run through suitable conduit and connected at the robot explosion proof enclosure, if necessary.

<b>REA NOZZLES [Conventional Spray]</b>				
<b>Air Cap Part Number</b>	<b>Fluid Nozzle Part Number</b>	<b>Oriface I.D.</b>	<b>Separate Retaining Ring</b>	<b>Pressure Reducer [Black]</b>
70899-00	70898-00	Swirl	4903-00	74963-02
LREA0002	LREA0003	Round	73569-00	74963-02
4904-65R	4907-44	.055	73569-00	74963-02
4904-65R	4907-45	.070	73569-00	74963-02
4904-65R	4907-46	.042	73569-00	74963-02
4904-65R	4907-47	.028	73569-00	74963-02
4904-65R	4907-48	.047	73569-00	74963-02
4904-63	4907-44	.055	73569-00	74963-02
4904-63	4907-45	.070	73569-00	74963-02
4904-63	4907-46	.042	73569-00	74963-02
4904-63	4907-47	.028	73569-00	74963-02
4904-63	4907-48	.047	73569-00	74963-02
4904-98	4907-44	.055	73569-00	74963-02
4904-98	4907-45	.070	73569-00	74963-02
4904-98	4907-46	.042	73569-00	74963-02
4904-98	4907-47	.028	73569-00	74963-02
4904-98	4907-48	.047	73569-00	74963-02

<b>REA NOZZLES [HVLP]</b>				
<b>Air Cap Part Number</b>	<b>Fluid Nozzle Part Number</b>	<b>Oriface I.D.</b>	<b>Separate Retaining Ring</b>	<b>Pressure Reducer [White]</b>
75601-00	75600-01	.055	73569-00	74963-03
75601-00	75600-02	.070	73569-00	74963-03
75601-00	75600-03	.086	73569-00	74963-03

Figure 12: Atomizer Assembly Selection

# MAINTENANCE

## **WARNING**

- ▶ The user **MUST** read and be familiar with the **SAFETY INSTRUCTIONS** in this manual.
- ▶ If compressed air is used in cleaning, **REMEMBER THAT HIGH PRESSURE AIR CAN BE DANGEROUS AND SHOULD NEVER BE USED AGAINST THE BODY.** It can blind, deafen and may even penetrate the skin. If used for cleaning equipment, the users should wear safety glasses.
- ▶ **ALWAYS** turn the control unit power off prior to cleaning or servicing equipment.
- ▶ Be **SURE** the power is **OFF** and the system is grounded **BEFORE** using solvent to clean **ANY** of the equipment.
- ▶ **DO NOT OPERATE A FAULTY GUN!**
- ▶ When using cleaning solvent, standard health and safety precautions should apply.

## **CAUTION**

- ▶ **NEVER** remove the fluid nozzle assembly while paint is in the gun or paint may clog the air passages. Clogged air passages will cause poor atomization and electrical shorting. Air passages which are clogged with conductive material may lead to excessive current output levels and consequent low operating voltage and long range electrical damage. Before undertaking any atomizer assembly procedure, see **Atomizer Assembly Cleaning Procedure.**
- ▶ The gun **MUST** be tilted front down to remove the air cap and/or fluid nozzle. Failure to do so may allow paint to enter the air passages, thereby reducing air flow and damaging the gun barrel/cascade. Guns may be flushed in lieu of tilting. However, they must be either flushed or tilted down!

- Clean all insulating surfaces in the system. Remove paint accumulation from the exterior of the gun, low voltage cable and air lines with a solvent dampened cloth. Use only nonpolar (nonconductive) solvent.

## ROUTINE SCHEDULE

Follow these maintenance steps to extend the life of the gun and insure efficient operation.

### Several Times Daily

- Turn the control unit power to OFF!
- Inspect the air cap for paint accumulation. Clean as frequently as necessary with a soft bristled brush and a suitable solvent, and blow clean.


## **WARNING**

- ▶ **NEVER** soak or submerge the electrical components of the gun (i.e. barrel, transformer, cable). Damage and failure may occur.

### Daily (at the start of each shift)

- Verify that ALL solvent safety containers are grounded!
- Check within 20 feet of the point of operation (of the gun) and remove or ground ALL loose or ungrounded objects.
- Inspect workholders for accumulated coating materials, removing such accumulations.

- Check that atomizer assembly is clean and undamaged.
- Straighten the gun electrode if necessary.

 <b>CAUTION</b>
▶ When straightening the electrode, be careful not to distort the fluid nozzle orifice.

- Clean the fluid filter, if used.
- Turn the control unit power ON. The gun's red transformer light should light when triggered.
- Run a current/voltage output test.

### Electrical Current Output Test

1. Turn the paint supply OFF.
2. Turn high voltage on at gun.
3. Slowly approach the gun electrode to any grounded object and make contact.
4. Monitor the current output reading on the voltage supply meter. As gun approaches ground current should increase near 100  $\mu$ A overload current should "trip," shutting "off" high voltage. Overload indication should come on.
5. Release the trigger and turn the control unit power OFF.

If the control unit does not trip, DO NOT use the gun until the problem has been corrected. (See the TROUBLESHOOTING GUIDE in the MAINTENANCE section of this manual).


### Shut-Down (and at the end of each shift)

1. Turn the control unit power OFF.
2. Turn the paint supply OFF.
3. Turn the atomizing air and fan air OFF.

4. Wipe the gun, cable and hoses with a rag and a suitable nonpolar (nonconductive) solvent.
5. Flush the lines and allow the solvent to remain in the lines unpressured. (See FLUSHING PROCEDURES in the MAINTENANCE section of this manual).

<b>NOTE</b>
-------------

- ▶ If the shutdown is to be short, the lines may not require flushing, depending on the coating material being used. If the solids in the material settle slowly, the lines will not need to be flushed as soon after shut-down as with fast settling solids. The paint being used and the length of time that the lines will be shut down will determine the need for flushing. Metallic paint and primer will require flushing sooner than some other kinds of coating materials.

 <b>CAUTION</b>
▶ If the coating material is fast settling and if the lines are not flushed soon enough, the gun's fluid passages as well as the lines may become clogged and cause excessive down time and/or service and repair.

### Weekly

- Check the entire system for damage, leaks and paint accumulation.
- Clean the atomizer assembly.

## ATOMIZER ASSEMBLY CLEANING PROCEDURE

### Routine Cleaning Equipment Needed

- An appropriate nonpolar (nonconductive) solvent.
- A solvent safety container (grounded).
- A small soft-bristled brush.
- The ITW Ransburg 19749-00 special Multi-Purpose Wrench from the Installation Kit.

**CAUTION**

- ▶ To avoid damage to the fluid nozzle, needle/ electrode, the paint pressure **MUST** be released by triggering the gun prior to removing the tip.
- ▶ The gun **MUST** be tilted front down to remove the air cap and/or fluid nozzle. Failure to do so may allow paint to enter the air passages, thereby reducing air flow and damaging the gun barrel/cascade. Guns may be flushed in lieu of removing nozzles. However, they must be either flushed prior to, or tilted down during nozzle removal!
- ▶ The control unit power **MUST** always be off when removing the nozzles or any other service to the gun.
- ▶ Using any tool other than the ITW Ransburg 19749-00 wrench to remove or reinstall the fluid nozzle may distort or damage it.

For efficient operation, keep the gun's exterior and the voltage cable clean and free of paint accumulation and dirt. This prevents the loss of voltage to ground with a resulting reduction in electrostatic effect. Paint accumulation at the air cap orifices reduces atomization quality and increases the potential for paint spits. Clean the air cap with a brush and solvent as often as needed to insure good atomization.

**WARNING**

- ▶ **NEVER** wrap the gun in plastic to keep it clean. A surface charge may build-up on the plastic surface and discharge to the nearest grounded object. Efficiency of the gun will also be reduced and damage or failure of the gun components may occur. **WRAPPING THE GUN IN PLASTIC WILL VOID WARRANTY.**

**Proceed as follows:**

1. Turn the control unit power OFF.
2. Release the trigger.

3. Turn the paint flow OFF.
4. See SERVICE section of this manual for disassembly procedures.

**WARNING**

- ▶ Any damage to the gun may result in **UNSAFE** operating.

5. Clean the removed parts with a soft brush and suitable solvent.

**CAUTION**

- ▶ Metal tools and wire brushes must **NEVER** be used. **NEVER** use a cleaning tool that is harder than the plastic parts. If a deposit cannot be removed with solvent and a rag or soft brush, soak the part in the solvent **ONLY** until the deposit can be removed! **NEVER SOAK THE GUN BODY, BARREL, OR TRANSFORMER!**

**FLUSHING PROCEDURES**

1. Turn the control unit power OFF.
2. Turn the paint supply OFF.
3. Turn the atomizing air supply OFF.
4. Activate dump air and flush with solvent until it is clear of paint. Air purge the dump line.
5. De-activate dump air and activate trigger air until the gun fluid passage is clear.
6. Disconnect the solvent supply.
7. Activate the trigger valve until it is clear of solvent. After the preceding steps are complete, the gun is ready for color change, storage or service.



## TROUBLESHOOTING GUIDE

General Problem	Possible Cause	Solution
<b>DEFECTIVE SPRAY PATTERN</b>		
Pattern will not shape	<ol style="list-style-type: none"> <li>1. Clogged or faulty fan valve remote fan air line</li> <li>2. Air passages in gun or air feed lines clogged</li> <li>3. Worn, faulty or clogged air cap</li> </ol>	Clean, replace or repair  Blow out  Clean or replace
Pattern heavy at one end	<ol style="list-style-type: none"> <li>1. Clogged or faulty air cap</li> <li>2. Clogged or faulty fluid nozzle</li> </ol>	Clean or replace Clean or replace
Extremely heavy spitting or severely deformed pattern.	<ol style="list-style-type: none"> <li>1. Wrong air cap/fluid nozzle combination</li> <li>2. Timing of fluid on and air on is not adjusted</li> </ol>	Insure proper fluid nozzle/air nozzle pressure reducer combinations. [See chart] Check programming sequence
<b>DEFECTIVE DELIVERY</b>		
Air	<ol style="list-style-type: none"> <li>1. Air passages in gun or air feed lines clogged</li> <li>2. Deficient source air</li> <li>3. Paint in air passage</li> </ol>	Blow out  Increase Clean and blow out
Fluid	<ol style="list-style-type: none"> <li>1. Clogged or faulty fluid nozzle</li> <li>2. Clogged passages in gun fluid tube or fluid feed lines</li> <li>3. Insufficient needle/electrode travel</li> <li>4. Low source pressure</li> <li>5. Clogged fluid filter</li> <li>6. Clogged or obstructed ball valve or fluid regulator</li> </ol>	Flush or replace Flush  Adjust [See Trigger Nut Adjustment] Increase Clean or replace Clean as required
<b>LEAKAGE</b>		
Air	<ol style="list-style-type: none"> <li>1. Loose or defective fittings</li> </ol>	Tighten or replace
Fluid (at rear of barrel)	<ol style="list-style-type: none"> <li>1. Packing, chevron seals and/or needle /electrode shaft defective</li> </ol>	Tighten needle or replace
Fluid (sight at nozzle when trigger is released)	<ol style="list-style-type: none"> <li>1. Nozzle not secure</li> <li>2. Trigger valve closing before fluid nozzle valve</li> </ol>	Tighten Check programming sequence
Fluid (constant at nozzle)	<ol style="list-style-type: none"> <li>1. Worn or damaged fluid nozzle seat</li> <li>2. Worn or damaged needle/electrode</li> <li>3. Nozzle not secure</li> <li>4. Trigger valve needle seat</li> </ol>	Replace fluid nozzle Replace Tighten Rebuild Valve

## TROUBLESHOOTING GUIDE

General Problem	Possible Cause	Solution
<b>ELECTRICAL</b>		
Wrap Back	<ol style="list-style-type: none"> <li>1. Improper target ground</li> <li>2. Improper booth exhaust</li> <li>3. Excessive atomizing air</li> </ol>	<p>Trace and correct</p> <p>Trace and correct</p> <p>Reduce fan &amp; atomization pressure</p>
Improper or No HV	<ol style="list-style-type: none"> <li>1. Faulty cable connections</li> <li>2. Faulty transformer assembly</li> <li>3. Improper or no ground</li> <li>4. Faulty barrel/cascade assembly</li> <li>5. Faulty low voltage cable</li> <li>6. Faulty high voltage cable</li> <li>7. Faulty control unit</li> <li>8. Check fuses</li> <li>9.                             <ul style="list-style-type: none"> <li>▶ IS THE POWER TURNED ON?</li> <li>▶ IS THE ATOMIZING AIR TURNED ON?</li> <li>▶ IS THE (RED LIGHT) TRANSFORMER ON?</li> <li>▶ IS THE PAINT TOO CONDUCTIVE?</li> </ul> </li> <li>10. Paint in air passages</li> </ol>	<p>Check and secure at the gun and at the control unit</p> <p>Replace</p> <p>Trace and correct</p> <p>Replace</p> <p>Replace</p> <p>Replace</p> <p>See the control unit manual</p> <p>Replace</p> <p>Clean passages with soft bristled brush</p>
High Current Draw	<ol style="list-style-type: none"> <li>1. Paint in air passages</li> <li>2. Dirty dump line</li> <li>3. Paint in dump line</li> <li>4. Dirty gun exterior</li> </ol>	<p>Clean passages with soft bristled brush</p> <p>Clean or replace dump line; always use Teflon lines.</p> <p>Review air push cycle</p> <p>Clean with appropriate solvent and install new gun cover.</p>


Figure 13: Troubleshooting Guide

## SERVICE - REA 9000A & REA 9000W SERIES

All repairs should be made on a clean, flat surface. If a vise is used to hold parts during service or repair, DO NOT clamp onto plastic parts and always pad the vise jaws!

The following parts should be thoroughly packed with LSCH0009-00 dielectric grease leaving NO air space or voids when assembling.

- All O-Rings (Teflon O-Rings do not need lubrication), Chevron Seals and all internal and external threads.

 CAUTION
▶ Failure to pack the needle electrode/electrode shaft assembly and packing tube <b>MAY CAUSE</b> lower electrical output of the gun.


- Needle Shaft LREA4005-00
- Transformer Assembly LREA4004-00


## EQUIPMENT REQUIRED (REA 9000A, 9000R, 9000W & 900A)

- 19749-00 Spanner (nozzle) Wrench (3 in 1) for Barrel Nut, Fluid Nozzle, and Needle Shaft Assembly
- Screwdriver (broad)
- Dielectric grease (Order No. 59972-00) or LSCH0009-00
- 1/2 (13mm) inch nut driver
- 9/16 inch socket and handle
- Adjustable wrenches

## REPLACEMENT PROCEDURE

(REA 9000A, 9000R, 9000W & 900A)

 CAUTION
▶ <b>ALWAYS</b> remove the gun from the work site for service or repair! <b>DO NOT USE</b> any silicone lubricants in order to avoid paint defects.

 WARNING
▶ <b>PRIOR</b> to performing a gun removal, be sure <b>ALL</b> power to the control unit is turned off.

## TO REMOVE THE GUN FROM THE WORK SITE

1. Turn the control unit power OFF.
2. Detach voltage cable from gun.
3. Turn the paint supply OFF.
4. Turn the atomizing air supply OFF.
5. Properly flush the gun.
6. Remove air actuation fittings.
7. Remove fluid in and out lines.
8. Remove the gun from the work site (and voltage cable, if necessary).

## NOZZLE & ELECTRODE CLEANING OR REPLACEMENT (REA 9000A & 9000W)

**CAUTION**

▶ **NEVER** bend the electrode!

**NOTE**

▶ See Atomizer Assembly Cleaning Procedure previously discussed in this section.

**WARNING**

▶ **NEVER** shorten the electrode wire.

### Air Cap

1. Unscrew retaining ring, remove air cap from barrel and clean using proper method or replace it.
2. Replace air cap and tighten retaining ring back onto the barrel.

### Fluid Nozzle

**CAUTION**

▶ To avoid damage to the fluid nozzle, needle/electrode, the paint pressure **MUST** be released by triggering the gun prior to removing the tip.

▶ The gun **MUST** be tilted front down to remove the air cap and/or fluid nozzle. Failure to do so may allow paint to enter the air passages, thereby reducing air flow and damaging the gun barrel/cascade. Guns may be flushed in lieu of removing nozzles. However, they **MUST** be either flushed or tilted down **BEFORE** removing the fluid nozzle!

▶ The control unit power **MUST** always be off when removing the nozzles.

**CAUTION**

▶ Using any tool other than the ITW Ransburg 19749-00 wrench to remove or reinstall the fluid nozzle may distort or damage it.

▶ Overtightening of plastic parts may cause breakage.

1. Remove air cap and retaining ring from barrel and clean or replace it.
2. With the nozzle wrench on wrench flats, remove fluid nozzle from barrel.
3. Clean or replace fluid nozzle using appropriate cleaning method.
4. Screw the cleaned or new fluid nozzle into barrel and secure with the nozzle wrench.
5. Screw retaining ring over the air cap onto barrel.

**NOTE**

▶ If the fluid nozzle is replaced, there is a good chance that the needle/electrode assembly will need to be replaced, too.


### Needle / Electrode - REA 9000A Only

1. Unscrew retaining ring, remove air cap from barrel and replace and/or clean using proper cleaning procedure.
2. With the nozzle wrench on wrench flats, remove fluid nozzle from the barrel.
3. Replace or clean fluid nozzle using appropriate cleaning method.
4. By hand, unscrew (counter-clockwise) or where necessary gently use needle nose pliers on the needle/electrode ridges to remove it from the needle shaft assembly. Clean as necessary using appropriate cleaning procedure.
5. Testing LREA4001 Resistive Electrode.

Periodically, (typically at least on a weekly basis), it is desirable to test the electrical integrity of the LREA4001 Resistive Electrode.

### Needle / Electrode - REA 9000W Only

1. Unscrew probe retaining nut and pull probe straight out of the probe holder body.
2. Unscrew the rear plastic plunger nut of the probe assembly and remove.
3. Gently tap the probe body against your hand until the needle assembly falls loose. Pull the needle assembly out of the probe body.
4. By hand, unscrew (counter-clockwise) or where necessary gently use needle nose pliers on the needle/electrode ridges to remove it from the needle shaft assembly. Clean as necessary using appropriate cleaning procedure.
5. Inspect needle assembly components for signs of high voltage arcing. Replace if necessary.

 <b>CAUTION</b>
<p>▶ <b>DO NOT</b> use dielectric grease inside the probe assembly. Air must be able to flow freely through this assembly.</p>

6. If LREA4001 Resistive Electrode is being replaced, it must be trimmed to the proper length. Reassemble the probe with the new electrode. Trim the electrode wire 1/16" from the end of the probe body.

### To Test (REA 9000A & 9000W)

1. Install electrode on front end of an available 18865-04 needle shaft. Be sure that electrode is completely seated for proper contact between metal shaft and conductive threaded insert in rear of resistor.

2. Using a VOM meter that will read 15 megohms accurately, connect one meter lead to the metal needle shaft and the other lead to the wire at front of electrode. Electrode should be 14.5 to 19 megohms (nominal 15 megohms at 9 volts or 11 to 17 megohms at 1000 volts). Electrodes outside this range must be replaced. See Figure 15.

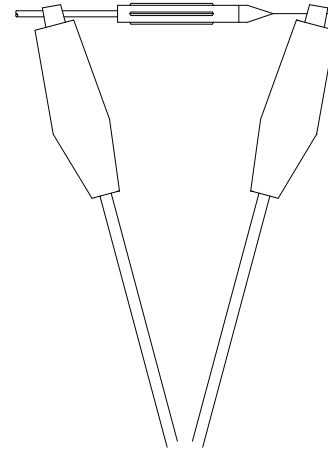


Figure 15: Testing Resistive Electrode

## BARREL ASSEMBLY REMOVAL (REA 9000A & 9000W)

1. Remove air cap retaining ring.
2. Pull shroud or gun cover straight off the gun exposing the trigger/dump and barrel assemblies. (See Figure 14.)
3. REA 9000W ONLY-- remove the HV module to barrel mounting bracket.
4. Loosen barrel nut with spanner wrench.
5. Pull barrel and automatic body **STRAIGHT** apart. Take extra care in handling barrel assembly to prevent damage.
6. Remove the color valve manifold assembly by turning the nut counter-clockwise until loose, then pull the manifold straight out of the barrel.

- Remove the trigger valve. Remove the ferruled connector for the fluid tube. Remove the coiled fluid tube by removing the ferruled connector at the trigger valve manifold.

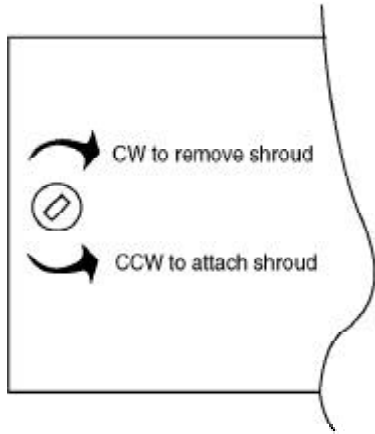


Figure 14: View of Shroud Screw  
REA 9000A - Only

**NOTE**

► There is no need to remove retaining ring or barrel nut from barrel unless they are damaged. If they are to be removed, lift one end of ring out of its groove and spiral it off of the end of the barrel. The nut can be removed. To replace them on the barrel, slide nut onto the barrel, place ring against the back of the barrel, lift one end of it onto the barrel and spiral it on and into its groove.

**CAUTION**

► Firmly spreading the retaining ring may break it!

**BARREL DISASSEMBLY  
(REA 9000A & 9000W)**

- Remove needle shaft assembly from rear of the barrel with the 19749-00 Spanner Wrench.
- Firmly pull the needle/electrode shaft assembly out of the packing chamber.

**CAUTION**

► During this operation, be **CAREFUL** that the interior surface of packing chamber is **NOT** damaged (marred or scratched)! This chamber is a seal area and the barrel assembly will have to be replaced if it is damaged.

- Unscrew needle/electrode from shaft and slide parts off of the shaft. (See Figure 16).
- Inspect and replace parts as necessary. Since the needle shaft in the REA 9000A and 9000W does not move, the packing wear should be minimal.

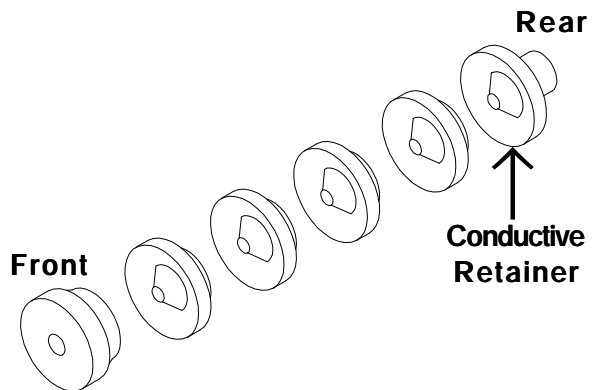


Figure 16: Chevron Seal Assembly

**BARREL REASSEMBLY  
(REA 9000A & 9000W)**

- Clean all parts with a suitable nonpolar (nonconductive) solvent.
- If the electrode wire is bent, straighten it **CAREFULLY** by hand or use needle nose pliers.
- Check all parts for damage or wear. Replace those that are damaged or worn with new parts.
- Replace chevron seals with new parts.
- From time to time it is desirable to test the electrical integrity of the LREA4001-00 resistive electrode. (See Figure 15, Electrode Test Procedure, in the SERVICE for 9000A & 9000W of the MAINTENANCE section of this manual.)

**CAUTION**

► To avoid damage to the chevron seals, they **MUST** be installed from the rear of the barrel.

1. Place conductive female chevron adaptor onto the front of shaft with the concave side toward the front.
2. Screw the four new chevron seals onto shaft, concave sides forward.

**CAUTION**

► **DO NOT** push the chevron seals straight onto the shaft. The shaft threads may damage the chevron bore and cause the gun to leak fluid.

► Inspect needle/electrode shaft sealing surface for wear. If it is rough or uneven, replace it.

3. Place male nonconductive chevron adaptor onto shaft with the convex end rearward.

**NOTE**

► The chevron adaptors and chevron seals should seat together to form an unbroken seal.

4. Screw needle/electrode onto shaft and hand tighten.
5. When replacing the Needle / Electrode on the Needle Shaft of the REA 9000W Gun **ONLY**, the electrode wire **MUST** be trimmed OFF flush with the electrode body. Failure to do so may allow the Fluid Supply Line to become charged, thus reducing available voltage at the External Probe Electrode.

**NOTE**

► Apply a coating of dielectric grease to the chevron seals and needle shaft.

**CAUTION**

► **FAILURE** to coat the Needle Shaft Assembly **MAY CAUSE** lower electrical output of the gun.

6. Insert the assembled items through the rear barrel packing chamber of the Barrel/Cascade Assembly.

**CAUTION**

► **DO NOT** overtighten. Overtightening may result in stripped threads or cracked barrel.

## BARREL TO BODY ASSEMBLY (REA 9000A & 9000W)

1. Slide gasket over the rear end of the barrel assembly. Lightly coat cascade high voltage connections with LSCH0009-00 dielectric grease.
2. Tighten retaining ring with 19749-00 spanner wrench.

**CAUTION**

► Nut should be secured hand tight only. **NEVER** apply more than 10 ft. lb. torque.

## TRANSFORMER ASSEMBLY REPLACEMENT (REA 9000A Only)

**WARNING**

► Turn **OFF** all power, air and fluid at the source.

**CAUTION**

► The low voltage cable **MUST** be removed before removing the transformer assembly.

1. Remove the low voltage cable connector assembly by removing screw and pull **STRAIGHT** out of the chamber.

2. Remove the Barrel Assembly. (See Barrel Assembly Removal previously discussed in this section).
3. Remove gasket.
4. Remove transformer retaining screw.
5. Slide transformer rearward and out of channel of the automatic body.

**NOTE**

► Generously lubricate transformer assembly base and automatic body channel with LSCH0009-00 dielectric grease.

6. Slide replacement transformer into channel of automatic body.

## HV MODULE ASSEMBLY REPLACEMENT (REA 9000W Only)

**! WARNING**

► Turn **OFF** all power, air and fluid at the source.

**! CAUTION**

► The voltage cable **MUST** be removed before removing the high voltage module.

1. Remove the voltage cable from the rear of the HV module assembly.
2. Remove the HV module to barrel mounting bracket.
3. Remove the four 1/4-20 flat head screws in the top of the probe holder body assembly. Remove the probe AND body as ONE assembly.
4. Remove module retaining screw from the top of the module.

5. Remove the two 1/4-20 screws that attach the rear bulkhead plate to the HV module. These screws are accessed through holes in the sides of the bulkhead plate.
6. Pull the HV module STRAIGHT out through the bulkhead plate.
7. Install new HV module and assembly in reverse order.

**NOTE**

► Generously lubricate probe body metal plunger and HV module contact bore with LSCH0009-00 dielectric grease.

## LOW VOLTAGE CABLE REPLACEMENT (REA 9000A & 900A Only)

**! WARNING**

► Ensure control unit power is **OFF** before disconnecting cable from gun or control unit.

### Disassembly:

1. Using wrench on connector flats, disconnect Low Voltage Cable from connector assembly.
2. Disconnect other end of Low Voltage Cable from control unit and remove cable from system.

### Assembly:

1. Connect Low Voltage Cable to control unit; hand tighten.
2. Connect other end of Low Voltage Cable to connector assembly using a wrench on the connector flats to tighten.

**! CAUTION**

► **DO NOT** overtighten Low Voltage Cable connection to spray gun as damage to plastic parts may occur.



## **VALVE BODY SERVICE (REA 9000A & 9000W)**

When service is performed on any of the body elements, it is best to remove the barrel and HV Module / Transformer Assembly to avoid damage to the nozzle, electrode or any of the plastic parts.

After the disassembly of any body element:

- Clean all parts with a suitable clean solvent.
- Check all parts for damage or wear. Replace those that are damaged or worn with new parts.

## **AIR VALVE BODY DISASSEMBLY (REA 9000A & 9000W)**

1. Remove Barrel Assembly (See Barrel Removal for the 9000A & 9000W, previously discussed in this section.
2. Remove HV Module / Transformer Assembly (See Transformer Assembly Replacement, for the 9000A & 9000W, previously discussed in this section.
3. Remove (2) back plate screws.

## **TO RETURN THE SPRAY GUN TO THE WORK SITE**

1. Attach gun to mounting bar and secure screws.
2. Attach the air line to gun air fittings.
3. Attach fluid hose to fluid hose fitting.
4. Attach and secure the low/high voltage cable to the spray gun.
5. Turn the power, air and fluid on at the source and return the gun to service.

## **NOTES:**

## SERVICE - REA 9000R & REA 900A SERIES

### BARREL ASSEMBLY REMOVAL

(REA 9000R & 900A)

#### CAUTION

- ▶ Firmly spreading the retaining ring may break it!

1. REA 900A ONLY - Remove pneumatic and fluid lines from the front of the bulkhead plate. Remove the bulkhead plate.
2. Remove rear housing and two springs.
3. Using an adjustable wrench on the flats of the valve rod extension, remove the air valve adjusting and air valve lock nut.
4. Disconnect coiled fluid tube at the fluid inlet fitting.
5. Loosen barrel nut with 19749-00 Spanner Wrench.
6. Pull the barrel and automatic body **STRAIGHT** apart. Take extra care in handling barrel assembly to prevent bending of the extension valve rod.

#### NOTE

- ▶ There is no need to remove retaining ring or barrel nut from barrel unless they are damaged. If they are to be removed, lift one end of ring out of its groove and spiral it off of the end of the barrel, then barrel nut can be removed. To replace them on the barrel, slide nut onto the barrel, place ring against the back of the barrel, lift one end of it onto the barrel and spiral it on and into its groove.

### NOZZLE & ELECTRODE CLEANING

### OR REPLACEMENT

(REA 9000R & 900A)

#### CAUTION

- ▶ **NEVER** bend the electrode!

#### NOTE

- ▶ See Atomizer Assembly Cleaning Procedure previously discussed in this section.

#### WARNING

- ▶ **NEVER** shorten the electrode wire.

#### Air Cap

1. Unscrew retaining ring, remove air cap from barrel and clean using proper method or replace it.
2. Replace air cap and tighten retaining ring back onto the barrel.

#### Fluid Nozzle

#### CAUTION

- ▶ To avoid damage to the fluid nozzle, needle/electrode, the paint pressure **MUST** be released by triggering the gun prior to removing the tip.
- ▶ The gun **MUST** be tilted front down to remove the air cap and/or fluid nozzle. Failure to do so may allow paint to enter the air passages, thereby reducing air flow and damaging the gun barrel/cascade. Guns may be flushed in lieu of removing nozzles. However, they **MUST** be either flushed or tilted down **BEFORE** removing the fluid nozzle!
- ▶ The control unit power **MUST** always be off when removing the nozzles.

**CAUTION**

- ▶ Using any tool other than the ITW Ransburg 19749-00 wrench to remove or reinstall the fluid nozzle may distort or damage it.
- ▶ Overtightening of plastic parts may cause breakage.

1. Remove air cap and retaining ring from barrel and clean or replace it.
2. Prior to removing the fluid nozzle from the gun barrel, the trigger must be actuated by applying air pressure to the trigger port or by removing the rear piston housing and pulling back on the needle shaft assembly. This will prevent damage to the inside sealing surface of the fluid nozzle or the sealing taper of the electrode.
3. With the nozzle wrench on wrench flats, remove fluid nozzle from barrel.
4. Clean or replace fluid nozzle using appropriate cleaning method.
5. Screw the cleaned or new fluid nozzle into barrel and secure with the nozzle wrench.
6. Screw retaining ring over the air cap onto barrel.

**NOTE**

- ▶ If the fluid nozzle is replaced, there is a good chance that the needle/electrode assembly will need to be replaced, too.

## BARREL DISASSEMBLY (REA 9000R & 900A)

1. Remove packing nut from rear of the barrel with the 19749-00 spanner wrench.
2. Firmly pull the needle/electrode shaft assembly using the extension valve rod out of the packing chamber:
  - Resistive Electrode Accessory
  - Male Chevron Adapter
  - Chevron Seals (4 required)
  - Female Chevron Adapter (conductive)
  - Needle/Electrode Shaft
  - Packing Tube
  - O-Ring (Viton)
  - Rear Seal Retainer
  - U-Cup (spring loaded)
  - Spacer and (Belville) Spring Washers (6 required)
3. Remove extension valve rod and adjusting nut with two 3/8 inch wrenches.
  - Check all parts for damage or wear. Replace those that are damaged or worn with new parts.
  - Replace chevron seals, O-ring and U-cup with new parts.
  - From time to time it is desirable to test the electrical integrity of the 70430-00 resistive electrode. (See Figure 15, Electrode Test Procedure, in the SERVICE for 9000A & 9000W, previously discussed in the MAINTENANCE section of this manual.)

**CAUTION**

- ▶ To avoid damage to the chevron seals, they **MUST** be installed from the rear of the barrel.

## BARREL REASSEMBLY

### (REA 9000R & 900A)

1. Place conductive female chevron adaptor onto the front of shaft with the concave side toward the front.
2. Screw the four new chevron seals onto shaft, concave sides forward.

#### **CAUTION**

- ▶ **DO NOT** push the chevron seals straight onto the shaft. The shaft threads may damage the chevron bore and cause the gun to leak fluid.
- ▶ Inspect needle/electrode shaft sealing surface for wear. If it is rough or uneven, replace it.

3. Place male nonconductive chevron adaptor onto shaft with the convex end rearward.

#### **NOTE**

- ▶ The chevron adaptors and chevron seals should seat together to form an unbroken seal.

4. Screw needle/electrode onto shaft hand tighten.

#### **NOTE**

- ▶ Apply a light coating of dielectric grease to the chevron seals. The packing tube 18842-02 should be thoroughly packed with LSCH0009-00 dielectric grease leaving no air space or voids when assembling.

#### **CAUTION**

- ▶ Failure to pack the needle electrode/ electrode shaft assembly and packing tube may cause lower electrical output of the gun.

5. Place packing tube over the end of shaft.
6. Place the new U-cup into rear retainer with the open side out.

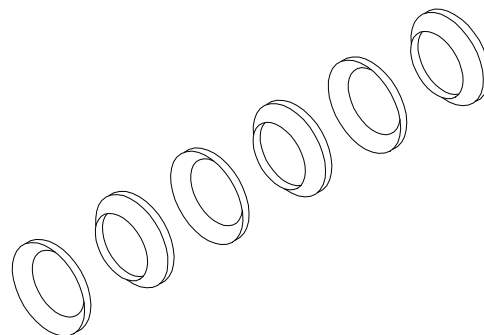
#### **NOTE**

- ▶ Seat the U-cup into the rear retainer very carefully with the eraser end of a pencil or a wood or plastic dowel rod.

7. Place new O-ring onto rear retainer.
8. Place rear retainer over shaft with the open end toward the rear.
9. Place the spacer over shaft, flanged end first.
10. Place the six (Belville) spring washers onto shaft with the first, third, and fifth ones with the cupped side facing the electrode (front of shaft), and the second, fourth and sixth ones with the cupped side facing the rear of shaft. (See Figure 17 below, Spring Washer Assembly.)

#### **CAUTION**

- ▶ There **MUST** be six spring washer (alternately faced) or the gun will malfunction!



**Figure 17: Spring Washer Assembly**

11. Place packing nut onto shaft.
12. Place adjustment nut onto shaft.
13. Insert fluid nozzle into front of barrel and secure it firmly with the 19749-00 Spanner (nozzle) Wrench.

**CAUTION**

► **DO NOT** overtighten. Overtightening may result in stripped threads or cracked barrel.

14. Insert the assembled items through the rear packing chamber of the barrel/cascade assembly.
15. Screw packing nut into rear of barrel and secure it with the 19749-00 Spanner Wrench.

**NOTE**

► The packing nut should be tight enough that the needle shaft moves in and out with firm resistance.

16. Place the extension valve rod onto shaft and align the nuts.
17. To adjust 3/8" hex nut and extension valve rod:
  - a. Push shaft fully forward until needle/electrode seats in the fluid nozzle.
  - b. Screw nut clockwise until it runs out of thread on end of needle shaft.
  - c. Screw the valve extension rod until the faces of the nuts are seated against each other.

## P-EXTENSION REMOVAL (REA 9000R)

1. Remove transformer connecting screw and remove plug from transformer.
2. Remove (2) P-extension screws from bottom mounting plate. Pull P-extension away.
3. Remove (2) nylon screws from body.
4. Gently pull P-extension from body locating the (2) spacers.

## P-EXTENSION REPLACEMENT (REA 9000R)

1. Locate (2) spacers in the counter bores of the body.
2. Locate the (2) spacers in counter bores of the P-extension.
3. Secure the (2) nylon screws in the body.
4. Locate the P-extension into the bottom plate and fasten using (2) screws.
5. Reinstall P-extension plug in transformer using screw.

## AIR BUSHING / BODY DISASSEMBLY (REA 9000R & 900A)

**CAUTION**

► The piston housing is spring-loaded. Use care in disassembly.

1. Remove piston housing from body.
2. Remove adjustment hex nut and air valve adjustment nut from extension rod.
3. Remove retaining ring from body and pull the barrel **STRAIGHT** out.

**CAUTION**

► Pull barrel **STRAIGHT** out from body or bending of extension valve rod may occur.

4. Using pliers, grab the piston nut and pull the piston O-ring, shaft valve piston, piston washer, packing cup, piston and hex nut **STRAIGHT** out of the body.
5. Using the 20049-00 special wrench, remove the bushing nut.
6. Remove the extension rod from the needle shaft or use an extra extension rod. Insert the hex end of the extension rod into a slot of the bushing and pull straight out.

- Using a 3/8" nut driver, remove the valve seal retaining nut and O-ring.

## AIR BUSHING / BODY ASSEMBLY (REA 9000R & 900A)

- Insert a new O-ring into the valve seal retaining nut.
- Using a 3/8" nut driver, tighten the valve seal retaining nut into the body.
- Insert a new O-ring into the groove on the front of the bushing.
- Place a new o-ring onto the o-ring groove on the outside of the bushing.
- Insert the bushing into the rear of the body and firmly press into position.

### NOTE

- ▶ The bushing has a locator pin pressed into the front. This pin must align with the receptacle hole in the body. (See figure 18 below).

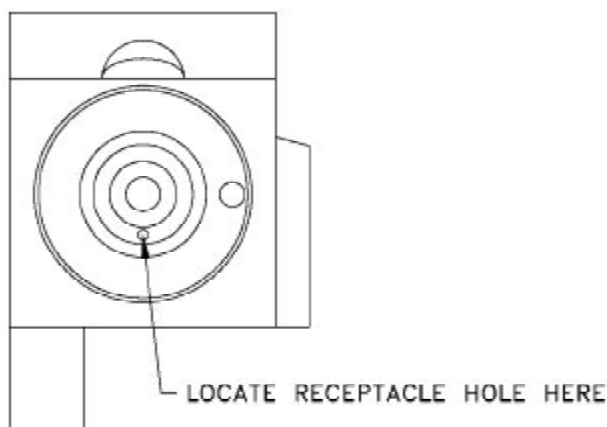


Figure 18: View of Rear Body

- Insert the bushing nut into the rear of the body. Using the 20049-00 Spanner Wrench securely tighten the bushing nut into the body.
- Pull the needle shaft back into an actuated position. Screw the trigger adjustment nut onto the needle shaft until there are no more threads.
- Screw the extension rod on the needle shaft until the hex of the extension rod is flush against the hex of the trigger adjustment screw. (Using T-Shaped gauge on 19749-00, adjust to the 11/16 maximum dimension shown in Fig. 19 below.)
- Using (2) 3/8" wrenches, tighten the (2) hexes against each other to prevent movement of the parts.
- Lubricate the piston assembly with LSCH0009-00 dielectric grease.
- Insert the piston assembly into the rear of the body, through the bushing nut.
- Slide the gasket onto the barrel assembly.
- Place the barrel assembly onto the front of the body. Making sure that the extension rod slides STRAIGHT through the body.
- Tighten the retaining ring to the body using the 19749-00 Spanner Wrench.

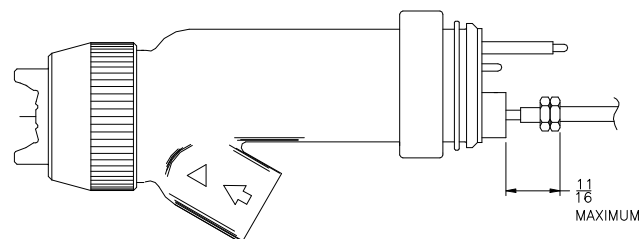


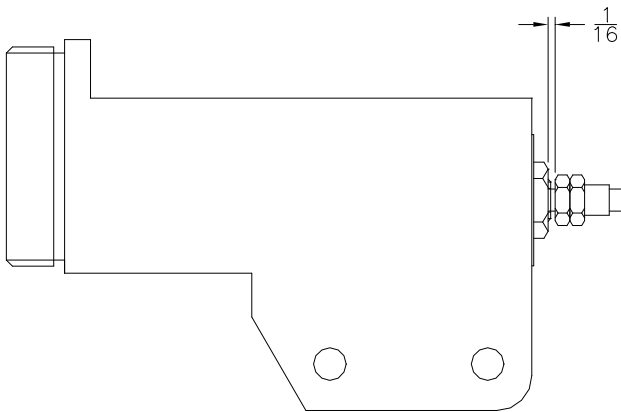
Figure 19: Rod and Trigger Adjustment Nuts  
(Do not exceed the 11/16 maximum dimension shown in this figure)

17. Push the extension rod fully forward to seat the electrode into the fluid nozzle.
18. Screw onto the extension rod jam nut and the air valve adjusting nut.
19. Position the jam nut 1/16" from the end of the piston assembly.
20. Tighten the nuts against each other to prevent movement. (See Figure 20.)
21. If the extension rod rotates while you are tightening the nuts, hold it using an adjustable wrench on the flats.

**NOTE**

- ▶ The hex nut and air valve adjust nut control your air before fluid adjustment.

22. Install the two springs.
23. Install the rear piston housing.



**Figure 20: Air Before Fluid Adaptor  
(Piston Housing not shown for clarity)**

## TRANSFORMER ASSEMBLY REPLACEMENT (REA 9000R & 900A)

**! WARNING**

- ▶ Turn **OFF** all power, air and fluid at the source.

**! CAUTION**

- ▶ The low voltage cable **MUST** be removed before removing the transformer assembly.

1. Remove the low voltage cable connector from the transformer by removing the screw and pull **STRAIGHT** out of the chamber.
2. Remove the barrel/cascade assembly. (See Barrel Assembly Removal for 9000R & 900A, previously discussed in this section.)
3. Remove the fiberglass screw.
4. Slide transformer backward and upward out of body channel.

**NOTE**

- ▶ Generously lubricate transformer assembly base and body channel with LSCH0009-00 dielectric grease.

5. Slide replacement transformer into channel of automatic body.
6. Place gasket in position.
7. Replace the barrel/cascade assembly. (See Barrel Assembly Removal for 9000R & 900A, previously discussed in this section.)
8. Install low voltage cable connector by matching the hole on the connector and the transformer, and pushing the connector **straight** into the chamber.
9. Secure in place with screw.

## LOW VOLTAGE CABLE REPLACEMENT (REA 9000R)

1. Remove gun from robot.
2. Remove rear mounting plate from robot.
3. Using wrench on connector flats, disconnect low voltage cable from connector assembly.
4. Replace cable in robot arm.
5. Connect new cable to connector assembly using a wrench on the connector flats to tighten.



### CAUTION

► **DO NOT** overtighten low voltage cable connection to spray gun, as damage to plastic parts may occur.

## LOW VOLTAGE CABLE CONNECTOR ASSEMBLY (REA 9000R)

1. Remove gun from robot.
2. Remove rear mounting plate from robot.
3. Using a wrench on connector flats, disconnect low voltage cable from connector assembly.
4. Remove screw from rear mounting plate.
5. Pull connector assembly out of mounting plate
6. Install new connector assembly in rear mounting plate and secure with screw.
7. Reconnect low voltage cable to connector assembly using a wrench on connector flats to tighten.
8. Reinstall mounting plate and gun to robot.

## LOW VOLTAGE CABLE PLUG ASSEMBLY (REA 9000R)

1. Remove gun from robot.
2. Thread screws into threaded hole in plug assembly.
3. Pull on screw to remove plug assembly from P-extension.
4. Insert female end of new plug assembly into P-extensions. Push plug assembly in until complete seated.

### NOTE

► It does not matter which receptacle of the plug assembly is connected to which pin of the P-extension.

5. Reinstall gun to robot.

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### NOTES:



**NOTES:**

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# PARTS IDENTIFICATION

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## ORDERING PROCEDURE

Please have this manual in hand for ready reference when ordering parts. We recommend that the personnel who are familiar with the product be authorized to contact us when ordering.

To insure prompt receipt of the correct parts, provide the following information with your parts orders:

- The model and serial numbers of the product.
- Item description and part number. Both a prefix number (for item) and a suffix or dash number (for size or type) are required.
- Cable and hose lengths as well as part numbers.

To order parts, contact your authorized ITW Ransburg electrostatic representative or call 1-800/726-8097. This number is for parts orders ONLY.

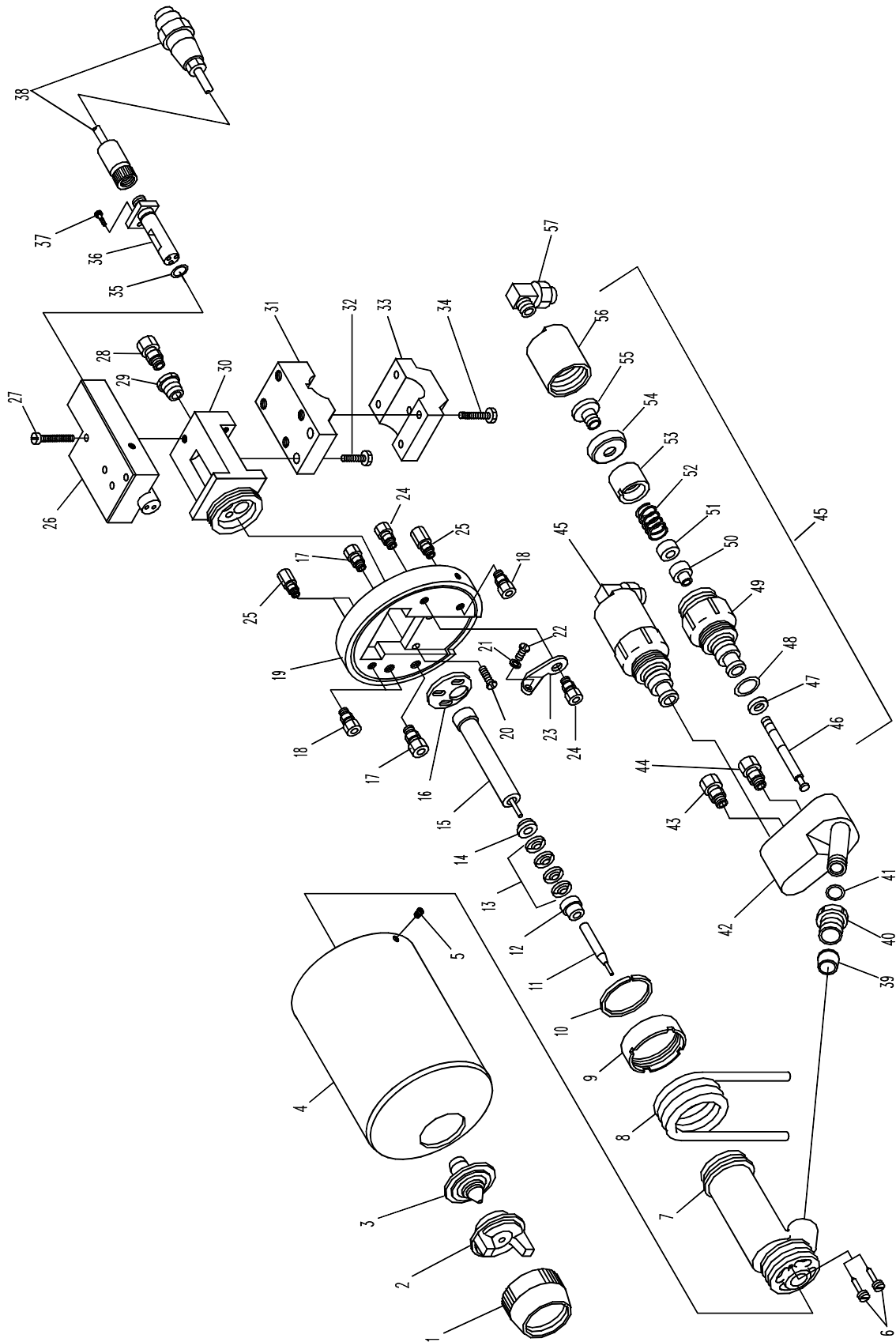


Figure 21: REA 9000A Solventborne Assembly

<b>REA 9000A Solventborne Parts List (Model No. 75795)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
REA 9000 Automatic:	Completer Assembly [Air Spray]	75795S-XX151
REA 9000 Automatic:	Completer Assembly [HVLP]	75795L-XX151
1	Retaining Ring	73569-00
2	<i>Air Cap:</i>	
	Flat Pattern [Air Spray] (Standard)	4904-65R
	Flat Pattern [HVLP] (Standard)	75601-00
3	<i>Fluid Nozzle:</i>	
	Flat Pattern [Air Spray] (Standard)	4907-45
	Flat Pattern [HVLP] (Standard)	75600-01
4	Shroud	LREA0007-00
5	Shroud Fasteners (2 required)	AER0023-00
6	Standard Pressure Reducer	74963-02
	HVLP Pressure Reducer	74963-03
7	<i>Barrel Replacement Kit [includes the following:]</i>	75038-06
	(1) Barrel	N/A
	(1) HVLP Pressure Reducer	74963-03
	(1) Standard Pressure Reducer	74963-02
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seals	14323-00
	(1) Packing Tube	18842-01
	(1) Dielectric Grease (1 oz.)	LSCH0009-00
	(1) Spray Technology Instruction Sheet	75739-00
	(1) Delta Series Instruction Sheet	74956-00
8	Coiled Fluid Tube	LREA0023-00
9	Barrel Retaining Ring	LREA0021-00
10	Barrel Snap Ring	75326-00
11	Electrode	LREA4001-01
12	Male Chevron Adapter	76797-00
13	Chevron Seal (4 Required)	14323-00
14	Female Chevron Adapter	18821-00
15	Needle Shaft Assembly	LREA4005-00
16	Gasket	72360-00
17	Bulkhead Union 3/8 T	LSFI0062-00
18	Fitting, 3/16 T x 1/8 NPT (3 Required)	LSFI0025-09
19	Rear Plate	LREA0017-00
20	Screw, #8 (2 Required)	LSFA0026-00
21	Washer, #4	7734-01
22	Screw, #4	7714-06C
23	Ground Bracket	LREA0011-00
24	Bulkhead Union 3/8 T	76661-00
25	Fitting, 1/4 T x 1/8 NPT (3 Required)	LSFI0025-12
26	Transformer	LREA4004-00
27	Screw, #10	LSFA0027-00
28	Fitting, 3/8 T x 1/4 NPT (2 Required)	LSFI0025-21
29	Bushing, 3/8 NPT x 1/4 NPT (2 Required)	LSFI0069-00
30	Body	LREA0015-00

<b>REA 9000A Solventborne Parts List (Model No. 75795)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
31	Bracket, Mount	LREA0019-00
32	Screw, 5/16 (2 Required)	LSFA0028-02
33	Bracket	LREA0018-00
34	Screw, 5/16 (5 Required)	LSFA0028-01
35	O-Ring, .551 I.D. x .070 C.S., Solvent Resistent	7554-12
36	Plug Assembly [includes item 35]	74191-01
37	Screw, M5	73490-01
38	<i>L.V. Cable Assembly:</i>	
	Cable (36 ft.)	78084-36
	Cable (50 ft.)	78084-50
	Cable (75 ft.)	78084-75
	Cable (100 ft.)	78084-100
39	Ferrule	18844-00
40	Nut	18843-00
41	O-Ring, .364 I.D. x .070 C.S., Solvent Proof	SSG-8137
42	Manifold	76929-00
43	Fitting, 3/8 T x 1/4 AN	LSFI0022-04
44	Fitting, 1/4 T x 1/4 AN	LSFI0022-06
45	<i>Valve Assembly [includes items 46-56:]</i>	76917-00
46	Valve Needle	76921-00
47	Needle Seat	75960-00
48	O-Ring, .426 I.D. x .070 C.S., Solvent Proof	SSG-8136
49	Valve Body	76918-00
50	Needle Seal	76920-00
51	Spring Washer	76927-00
52	Valve Spring	76928-00
53	Piston Nut	76919-00
54	Piston Cup	VA-246
55	Clamping Nut	76926-00
56	Valve Cap	76925-00
57	Fitting, 3/16 T x 1/8 NPT (2 Required)	14157-08
	Manifold Assembly (Trigger and Dump)	76923-00
	Manifold Assembly (Trigger Only)	76930-01
	Dielectric Grease (1 oz.)	LSCH0009-00
	Dielectric Grease (4 oz.)	59972-00
	Special Multi-Purpose Wrench	19749-00
	Spanner Wrench	20049-00

<b>REA 9000A Spare Parts in Kit Form (Model No. 75795)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
	Rebuild Kit for Trigger and Dump Valves <i>[Kit includes:]</i>	76931-00
	(1) Piston Cup	VA-246
	(1) Needle Seal	76920-00
	(1) O-Ring, .426 I.D. x .070 C.S., Solvent Resistent	7554-10
	(1) Valve Spring	76928-00
	(1) Needle Seat	75960-00
	(1) Valve Spring	76928-00
	(1) Needle	76921-00
	(1) Instruction Sheet	76924-00
	(1) O-Ring, .426 I.D. x .070 C.S., Solvent Proof	SSG-8136
	<i>Metric Fitting Conversion Kit</i> <i>[includes the following items:]</i>	76140-00
	(1) Fitting, 1/8 NPT X 6 mm T	76137-06
	(2) Fitting, 1/4 NPT X 6 mm T	76137-07
	(2) Fitting, 3/8 NPT X 12 mm T	76137-21
	(1) Fitting, 1/8 NPT X 1/8 T	LSFI0025-05
	(1) Fitting, 1/4 NPT X 3/8 T	LSFI0025-21

<b>REA 9000A Recommended Spare Parts (Model No. 75795)</b>						
<b>Description</b>	<b>Part Number</b>	<b>No. of Guns</b>				<b>Notes</b>
		<b>1-2</b>	<b>3-4</b>	<b>5-6</b>	<b>7-8</b>	
Rebuild Kit (trigger & dump only)	76931-00	1	2	3	4	
Electrode	LREA4001-01	2	2	4	4	
Needle Shaft	LREA4005-00	1	1	2	2	
Cartridge Valve Assembly	76917-00	1	1	2	2	
Transformer	LREA4004-00	1	1	1	1	
Barrel Kit	75038-06	1	1	2	2	
Cable Assembly	76876-36	1	1	2	2	Cable (36 ft.)
	76876-50	1	1	2	2	Cable (50 ft.)
	76876-75	1	1	2	2	Cable (75 ft.)
	76876-100	1	1	2	2	Cable (100 ft.)
Nylon Screw	73490-01	1	2	2	3	
Wrench	19749-00	2	2	4	4	
Fluid Nozzle	4907-XX	2	2	4	4	Replace XX with 44, 45, 46, 47 or 48
Air cap	4904-XX	2	2	4	4	Replace XX with 63, 98, or 65R.
Retaining Ring	73569-00	1	1	2	2	
Disposable Gun Covers	76116-00-K5	1	2	3	4	
Low Voltage Tester	LTST5000	1	1	1	1	For troubleshooting control unit & cable.
High Voltage Test Probe Kit	76652-01	1	1	1	1	For troubleshooting complete Assembly.

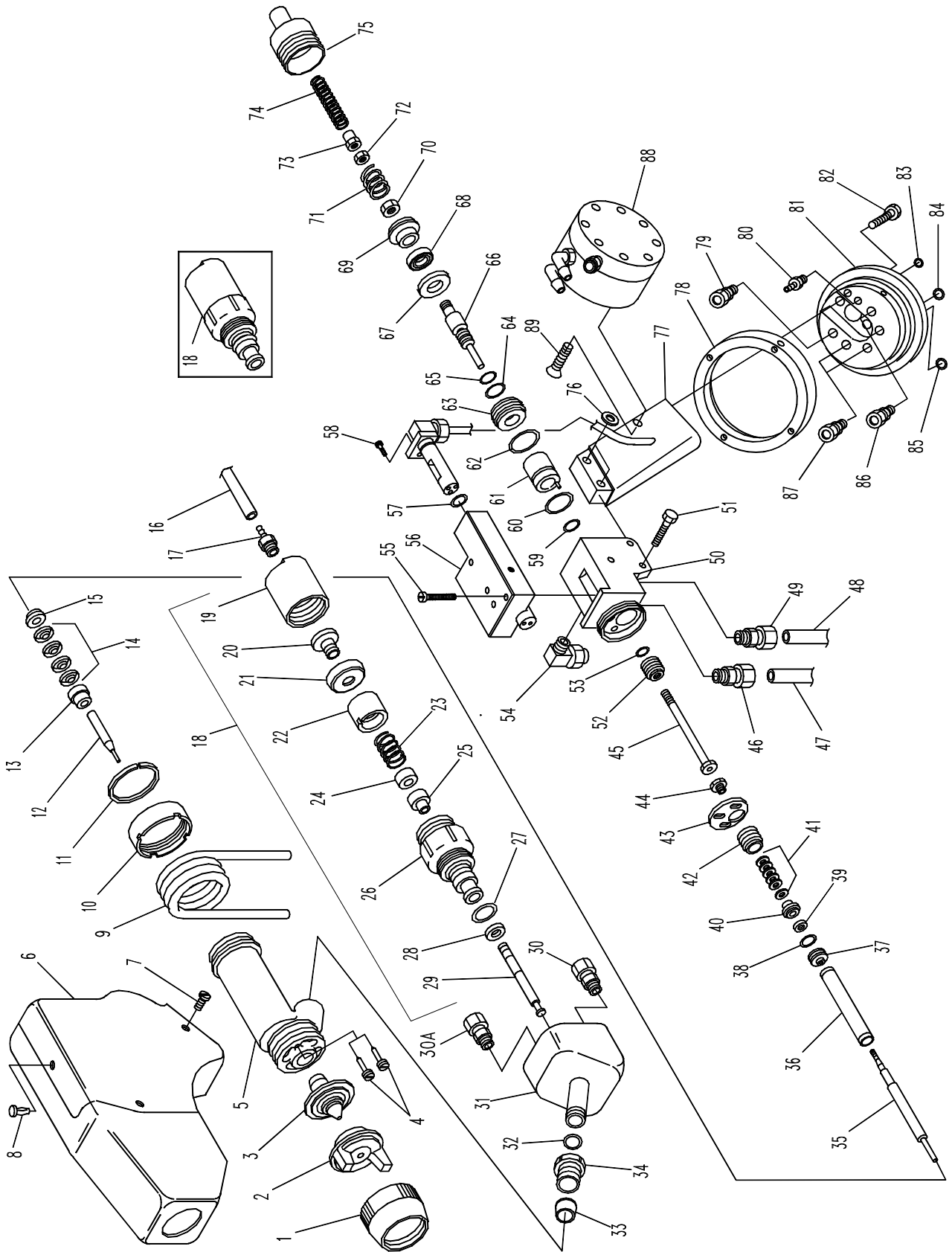


Figure 22: REA 9000R Solventborne Assembly

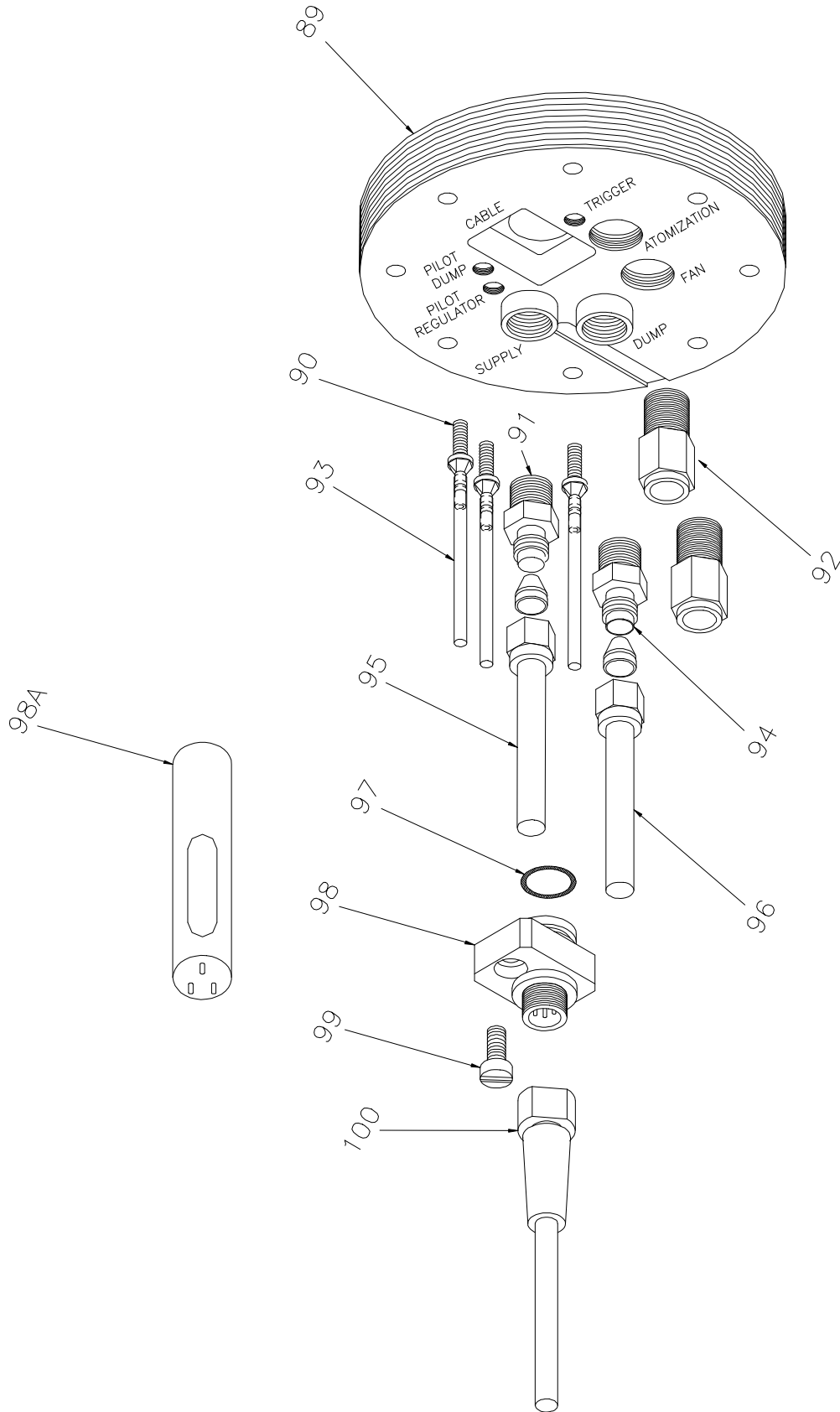


Figure 23: REA 9000R Rear Mounting Plate Assembly



<b>REA 9000R Solventborne Parts List (Model No. 76110)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
REA 9000 Robot:	Complete Assembly [Air Spray]	76110S-XXXX1
REA 9000 Robot:	Complete Assembly [HVLP]	76110L-XXXX1
1	Retaining Ring	73569-00
2	<i>Air Cap:</i> Flat Pattern [Air Spray] (Standard)	4904-65R
	Flat Pattern [HVLP] (Standard)	75601-00
3	<i>Fluid Nozzle:</i> Flat Pattern [Air Spray] (Standard)	4907-45
	Flat Pattern [HVLP] (Standard)	75600-01
4	Standard Pressure Reducer	74963-02
	HVLP Pressure Reducer	74963-03
5	<i>Barrel Replacement Kit [includes the following:]</i>	75038-06
	(1) Barrel	N/A
	(1) HVLP Pressure Reducer	74963-03
	(1) Standard Pressure Reducer	74963-02
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seals	14323-00
	(1) Packing Tube	18842-01
	(1) Dielectric Grease	LSCH0009-00
	(1) Spray Technology Instruction Sheet	75739-00
	(1) Delta Series Instruction Sheet	74956-00
6	<i>Shroud:</i> 60°	76363-00
	90°	76396-00
7	Screw, #8 - 32 x .5 (2 Required)	8350-16C
8	Retaining Pins (5 Required)	76650-01
9	Coiled Fluid Tube	LREA0023-00
10	Barrel Retaining Ring	LREA0021-00
11	Barrel Snap Ring	75326-00
12	Electrode	70430-00
13	Male Chevron Adapter	74653-00
14	Chevron Seal (4 Required)	14323-00
15	Female Chevron Adapter, Conductive	18821-00
16	Tubing, 1/8 I.D. x 3/16 O.D.	75949-01
17	Fitting, 1/8 T x 1/8 NPT Barb	75951-02
18	<i>Valve Assembly [includes items 19 - 29:]</i>	76917-00
19	Valve Cap	76925-00
20	Clamping Nut	76926-00
21	Piston Cup	VA-246
22	Piston Nut	76919-00
23	Valve Spring	76928-00
24	Spring Washer	76927-00
25	Needle Seal	76920-00
26	Valve Body	76918-00
27	O-Ring, .426 I.D. x .070 C.S., Solvent Proof	SSG-8136
28	Needle Seat	75960-00
29	Valve Needle	76921-00
30A	Fitting, 5/16 T x 5/16 AN	LSFI0022-05
30	Fitting, 1/4 T x 1/4 AN	LSFI0022-04
31	Manifold	76922-02

<b>REA 9000R Solventborne Parts List (Model No. 76110)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
32	O-Ring, .364 I.D. x .070 C.S., Solvent Proof	SSG-8137
33	Ferrule	18844-00
34	Nut	18843-00
35	Needle Shaft Assembly	18865-04
36	Packing Tube	18842-01
37	Rear Retainer	18836-00
38	O-Ring, .301 I.D. x .070 C.S., Solvent Resistant	7554-08
39	U-Cup Seal	10051-05
40	Spacer	18837-00
41	Spring Washer ( 6 Required)	17390-04
42	Packing Nut	18838-00
43	Gasket	72360-00
44	Nut	18859-00
45	Valve Rod Extension	76215-00
46	Fitting, 3/8 T x 1/4 NPT	LSFI0025-21
47	Tubing, 3/8 O.D.	H-2338
48	Tubing, 3/16 O.D.	SSP-5014
49	Fitting, 3/16 T x 1/8 NPT	LSFI0025-09
50	Body	76231-00
51	Screw, 5/16-18 x 1.50 LG (2 Required)	76198-48C
52	Retaining Nut	20053-00
53	O-Ring, .239 I.D. x .070 C.S., Solvent Proof	13076-10
54	Elbow, 3/8 T x 1/4 NPT	14157-03
55	Screw, #10	LSFA0027-00
56	Transformer	LREA4004-00
57	O-Ring, .551 I.D. x .070 C.S., Solvent Resistant	7554-12
58	Screw, M5	73490-01
59	O-Ring, .426 I.D. x .070 C.S., Solvent Proof	13076-13
60	O-Ring, .614 I.D. x .070 C.S., Solvent Resistant	7554-42
61	Bushing	76216-00
62	O-Ring, .801 I.D. x .070 C.S., Solvent Resistant	7554-33
63	Bushing Retainer	76200-00
64	O-Ring, .487 I.D. x .103 C.S., Solvent Resistant	7554-28
65	O-Ring, .299 I.D. x .103 C.S., Solvent Resistant	7554-111
66	Piston Shaft	76220-00
67	Piston Washer	20057-00
68	Piston Cup	7723-06
69	Piston	20056-00
70	Nut	7733-44
71	Spring	9334-00
72	Nut	7733-07
73	Air Valve Adjustment Nut	76199-00
74	Spring	17615-00
75	Piston Housing	76217-00
76	Spacer (2 Required)	76219-00
77	<i>P Extension:</i> 60°	76232-01
	90°	76232-02

<b>REA 9000R Solventborne Parts List (Model No. 76110)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
78	Retaining Ring	76224-00
79	Fitting, 3/16 T x 1/8 NPT	LSFI0025-09
80	Fitting, 1/8 T x 1/8 NPT (2 Required)	75951-02
81	Rear Plate	76229-00
82	Screw, 5/16	LSFA0028-01
83	O-Ring, .208 I.D. x .070 C.S., Solvent Proof (3 Req'd)	SSG-8163
84	O-Ring, .426 I.D. x .070 C.S., Solvent Proof (2 Req'd)	SSG-8134
85	O-Ring, .301 I.D. x .070 C.S., Solvent Proof (2 Req'd)	SSG-8134
86	Fitting (2 Required) <i>[All Parts are Required to Make a Complete Fitting]</i>	(1) EMF-201
		(1) EMF-202
		(1) EMF-203
		(1) 76223-00
		(1) SSG-8162
87	Fitting, 3/8 T x 1/4 NPT (2 Required)	LSFI0025-21
	<i>Rear Mounting Plate Assembly [Includes items 89-100:]</i>	
	36' of Cable & Hoses, Polyethylene Tube	76222-36
	50' of Cable & Hoses, Polyethylene Tube	76222-50
	75' of Cable & Hoses, Polyethylene Tube	76222-75
	100' of Cable & Hoses, Polyethylene Tube	76222-100
	36' of Cable & Hoses, Teflon Tube	76222-36A
	50' of Cable & Hoses, Teflon Tube	76222-50A
	75' of Cable & Hoses, Teflon Tube	76222-75A
100' of Cable & Hoses, Teflon Tube	76222-100A	
88	DR1 Regulator	76607-02
89	Rear Plate	76197-00
90	Barbed Fitting (3 Required)	EMF-82-1
91	Fitting, 1/4 T x 1/4 AN	LSFI0033-03
92	Fitting 3/8 T x 1/4 NPT (2 Required)	77947-00
93	Tubing, 3/16 O.D.	SSP-5014
94	Fitting, 5/16 T x 5/16 AN	LSFI0033-02
95	Tubing, 1/4 O.D.	SSP-5012
96	Tubing, 5/16 O.D.	SSP-5011
97	O-Ring, .551 I.D. x .070 C.S., Solvent Resistent	7554-12
98	Plug connector (includes Items 97 & 99)	76873-01
98A	LV Plug Extension Assembly	76871-00
99	Screw, M5	73490-01
100	<i>L. V. Cable Assembly:</i>	
	Cable (36 ft.)	78084-36
	Cable (50 ft.)	78084-50
	Cable (75 ft.)	78084-75
	Cable (100 ft.)	78084-100
	O-Ring Kit for Rear Plate	76527-00
	Dielectric Grease (1 oz.)	LSCH0009-00
	Dielectric Grease (4 oz.)	59972-00
	Special Multi-Purpose Wrench	19749-00
	Spanner Wrench	20049-00

<b>REA 9000R Spare Parts in Kit form (Model No. 76110)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
Rebuild Kits:		
	<i>For Dump Valve Only [76917-00] [Includes the following:]</i>	76931-00
	(1) Needle Seat	75960-00
	(1) Valve Needle	76921-00
	(1) O-Ring, .426 I.D. x .070 C.S., Solvent Resistant	7554-10
	(1) Needle Seal	76920-00
	(1) Valve Spring	76928-00
	(1) Piston Seal	VA-246
	<i>Soft Parts for the Gun [includes the following:]</i>	76526-00
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seal	14323-00
	(1) Female Chevron Adapter	18821-00
	(1) O-Ring, .301 I.D. x .070 C.S., Solvent Resistant	7554-08
	(1) U-Cup	10051-05
	(1) O-Ring, .364 I.D. x .070 C.S., Solvent Resistant	7554-09
	(1) Gasket, Barrel	72360-00
	(1) O-Ring, .239 I.D. x .070 C.S., Solvent Proof	13076-10
	(1) O-Ring, .426 I.D. x .070 C.S., Solvent Proof	13076-13
	(1) O-Ring, .614 I.D. x .070 C.S., Solvent Resistant	7554-42
	(1) O-Ring, .299 I.D. x .103 C.S., Solvent Resistant	7554-111
	(1) Packing, Cup	7723-06
	(1) Dielectric Grease (1 oz.)	LSCH0009-00
	(1) O-Ring, .801 I.D. x .070, Solvent Resistant	7554-33
	<i>For DR1 Regulator [includes the following:]</i>	73913-00
	(1) Diaphragm	74157-03
	(1) Diaphragm	74157-04
	(1) Diaphragm	74273-00
	(3) O-Ring, .489 I.D. x .070 C.S., Solvent Resistant	7554-11
	<i>For DR1 Regulator [Needle and Seat]</i>	74160-00
	<i>Needle Shaft Assembly [Completely Assembled Needle Shaft, less grease]</i>	75732-01
	(1) Electrode	70130-00
	(1) Needle Shaft	18865-04
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seals	14323-00
	(1) Female Chevron Adapter	18821-00
	(1) Packing Tube	18842-00
	(1) Retainer	18836-00
	(1) O-Ring, .301 I.D. x .070 C.S., Solvent Resistant	7554-08
	(1) Spacer	18837-00
	(1) Packing Nut	18838-00
	(2) Nut	18859-00
	(1) U-Cup Seal	10051-05
	(6) Belleville Washer	17390-04

<b>Recommended Spare Parts for REA 9000R (Model No. 76110)</b>						
Description	Part Number	No. of Guns				Notes
		1-2	3-4	5-6	7-8	
Rebuild Kit (Gun Only)	76526-00	1	2	3	4	
Rebuild Kit (Cartridge Valve Only)	76931-00	1	2	3	4	
Regulator Rebuild Kit	73913-00	1	1	2	2	Only if DR1 Fluid Regulator is used.
O-Ring Mounting Plate Kit	76527-00	1	2	3	4	
O-Ring	SSG-8163	3	6	9	12	
O-Ring	SSG-8134	2	4	6	8	
O-Ring	SSG-8162	2	4	6	8	
O-Ring	SSG-8136	2	4	6	8	
Electrode	70430-00	2	2	4	4	
Needle Shaft	18865-04	1	1	2	2	
Packing Tube	18842-01	1	1	2	2	
Cartridge Valve	76917-00	1	1	2	2	
Transformer	LREA4004-00	1	1	1	1	
Barrel Assembly	75038-06	1	1	2	2	
Cable Assembly	76876-XX	1	1	2	2	XX must be replaced with desired length of 36, 50, 75 or 100.
Screw	73490-00	1	2	2	3	
Wrench	19749-00	2	2	4	4	
Fluid Nozzle	4907-XX	2	2	4	4	Replace XX with 44, 45, 46, 47 or 48
Air cap	4904-XX	2	2	4	4	Replace XX with 63, 98, or 65R.
Cap Retaining Ring	73569-00	1	1	2	2	
High Voltage Test Probe Kit	76652-01	1	1	1	1	For Troubleshooting Complete Assembly.

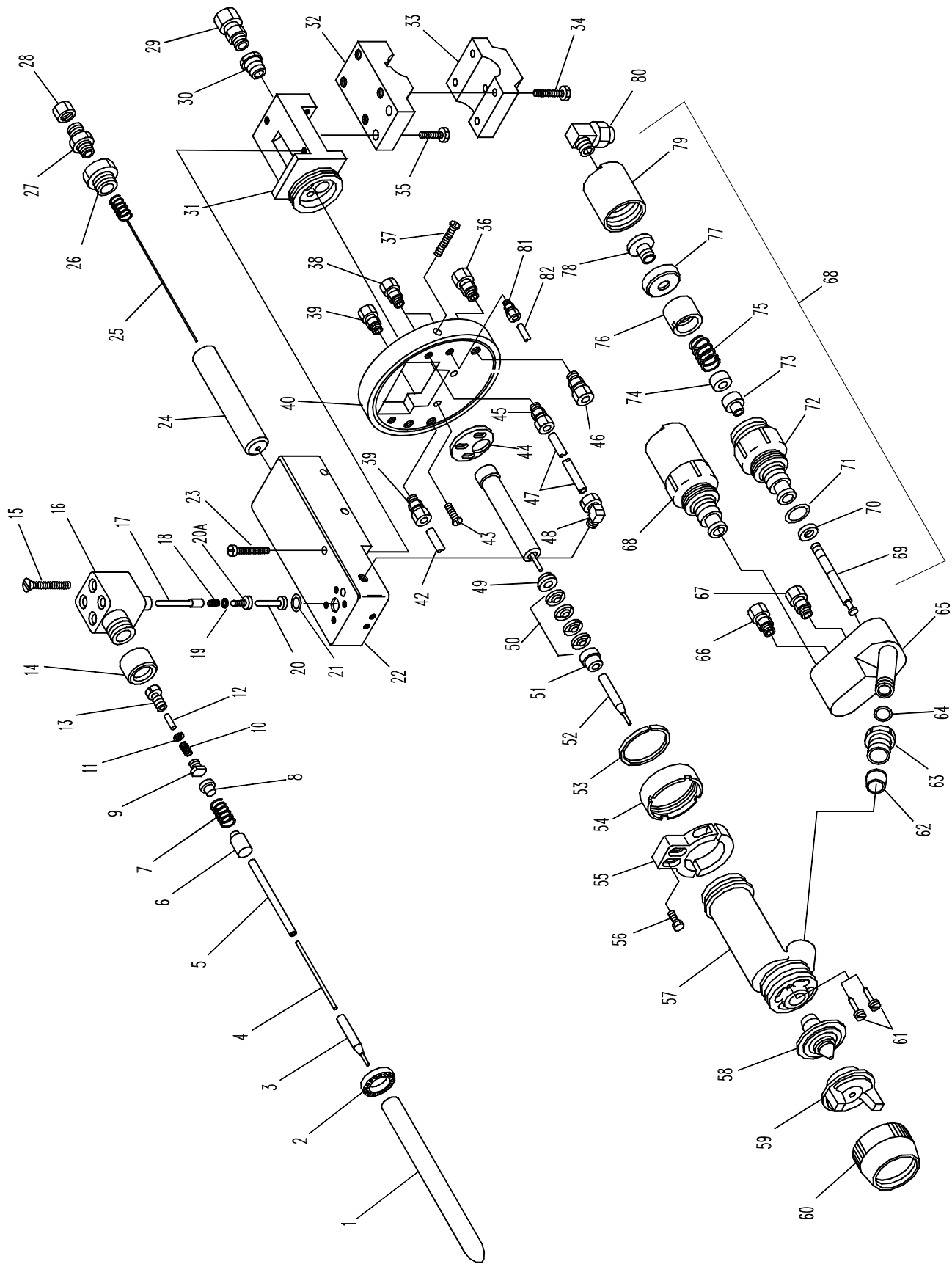


Figure 24: REA 9000W Waterborne Assembly

<b>REA 9000W Waterborne Parts List (Model No. 77140)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
REA 9000W	Complete Assembly	77140-01
	<i>High Voltage Probe Assembly [includes items 1-13:]</i>	77156-03
1	High Voltage Probe Body	77157-03
2	Air Knife	77172-00
3	Electrode	LREA4001-01
4	High Voltage Probe Needle Shaft	77167-03
5	Tubing, 1/4 O.D. x 3/16 I.D., 4.25", Poly	9704-02
6	Coupling	77175-00
7	Compression Spring	75840-00
8	Contact Plug	A10123-00
9	Retaining Plug	75836-01
10	Compression Spring	75831-03
11	Retaining Ring, External	75832-05
12	Contact Pin	75833-02
13	Retaining Cap	75835-00
14	Retaining Nut	75847-01
15	Screw, 1/4-20 x 2 (4 Required)	9141-64C
	<i>High Voltage Probe Holder Assembly [includes items 16-21:]</i>	77177-00
16	Probe Holder Body	77158-00
17	Contact Rod	75830-02
18	Compression Spring	75831-03
19	Retaining Ring	75832-05
20	Contact Plunger	77163-00
20A	Retaining Cap	75884-00
21	O-Ring, .551 I.D. x .070 C.S., Solvent Resistent	LSOR0007-05
	<i>High Voltage Module Assembly [includes items 22, 24-28]</i>	77301-01
22	Module Shell	77155-01
23	Screw, #10-32 x 2.0	77302-65F
24	Cable Adapter	77168-01
25	Contact Assembly	77173-00
26	Nut	77170-01
27	Connector Body	18687-00
28	Tube Fitting Nut, 3/8 T	3587-03
29	Fitting, 3/8 T x 1/4 NPT (2 Required)	LSFI0025-21
30	Bushing, 3/8 NPT x 1/4 NPT (2 Required)	LSFI0069-00
31	Gun Body	LREA0015-00
32	Mounting Bracket, Upper	LREA0019-00
33	Mounting Bracket, Lower	LREA0018-00
34	Screw, 5/16 - 18 x 1.50 (5 Required)	LSFA0028-01
35	Screw, 5/16 - 18 x 1 (2 Required)	LSFA0028-02
36	Fitting, 1/4 T x 1/4 AN	LSFI0022-04
37	Screw, 1/4-20 x 1.5 (2 Required)	LSFA0004-48C
38	Fitting, 1/4 T x 1/8 AN (4 Required)	LSFI0025-12
39	Fitting, 3/8 T x 1/4 AN (2 Required)	LSFI0022-06

<b>REA 9000W Waterborne Parts List (Model No. 77140)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
40	Rear Bulkhead	77171-00
42	Tubing, 3/8 O.D. x 1/4 I.D., FEP (12" Required)	SSP-5020
43	Screw, 8-32 x .5 (2 Required)	LSFA0026-00
44	Gasket	18872-00
45	Fitting, 1/4 T x 1/8 NPT	LSFI0025-12
46	Fitting, 1/4 AN x 1/4 O.D.	LSFI0022-04
47	Tubing, 1/4 O.D.	9704-02
48	Elbow, 1/4 T x 1/8 NPT	14057-04
49	Female Chevron Adapter	18821-00
50	Chevron Seal (4 Required)	14323-00
51	Fluid Spacer	76797-00
52	Electrode	70430-00
53	Retaining Ring	75325-00
54	Barrel Nut	LREA0021-00
55	High Voltage Module Bracket	77159-00
56	Screw, 10-32 x .5 (4 Required)	77302-16F
57	<i>Barrel Replacement Kit</i> <i>[includes the following:]</i>	75038-06
	(1) Barrel	N/A
	(1) HVLP Pressure Reducer	74963-03
	(1) Standard Pressure Reducer	74963-02
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seals	14323-00
	(1) Packing Tube	18842-01
	(1) Dielectric Grease (1 oz.)	LSCH0009-00
	(1) Spray Technology Instruction Sheet	75739-00
	(1) Delta Series Instruction Sheet	74956-00
58	Fluid Nozzle	4907-45
59	Air Cap	4904-65R
60	Air Cap Retaining Ring	73569-00
61	Pressure Reducer (Standard)	74963-02
62	Ferrule	18844-00
63	Nut	18843-00
64	O-Ring, .364 I. D. x .070 C.S., Solvent Proof	SSG-8137
65	Trigger/Dump Manifold	76929-00
66	Fitting, 1/4 T x 1/4 AN	LSFI0022-04
67	Fitting, 3/8 T x 1/4 AN	LSFI0022-06
68	<i>Valve Assembly</i> <i>[includes items 69-79:]</i>	76917-00
69	Valve Needle	76921-00
70	Needle Seat	75960-00
71	O-Ring, .426 I.D. x .070 C.S., Solvent Proof	SSG-8136
72	Valve Body	76918-00
73	Needle Seal	76920-00
74	Spring Washer	76927-00
75	Valve Spring	76928-00
76	Piston Nut	76919-00
77	Piston Cup	VA-246



**REA 9000W Waterborne Parts List (Model No. 77140)**

Item#	Description	Part Number
78	Clamping Nut	76926-00
79	Valve Cap	76925-00
80	Elbow, 1/8 NPT x 3/16 T	14157-08
81	Fitting, 1/8 NPT x 3/16 T (2 Required)	LSFI0025-09
82	Tubing, 3/16 O.D. (20" Required)	SSP-5014
	Dielectric Grease (1 oz.)	LSCH0009-00
	Dielectric Grease (4 oz.)	59972-00
	Special Multi-Purpose Wrench	19749-00
	Gun Cover	77342-00

**REA 9000W Spare Parts in Kit Form (Model No. 77140)**

Item#	Description	Part Number
	Rebuild Kit for Trigger and Dump Valves <i>Kit includes:</i>	76931-00
	(1) Piston Cup	VA-246
	(1) Needle Seal	76920-00
	(1) O-Ring	7554-10
	(1) Valve Spring	76928-00
	(1) Needle Seat	75960-00
	(1) Valve Spring	76928-00
	(1) Needle	76921-00
	(1) Instruction Sheet	76924-00
	(1) O-Ring	SSG-8136

**Recommended Spare Parts for REA 9000W (Model No. 77140)**

Description	Part Number	No. of Guns				Notes
		1-2	3-4	5-6	7-8	
Rebuild Kit (Cartridge Valve Only)	76931-00	1	2	3	4	
HV Probe Assembly	75156-03	1	1	2	2	
Electrode	LREA4001-01	1	2	3	4	Trim at Assembly
Probe Holder O-Ring	LSOR0007-05	2	2	4	4	
Fluid Manifold O-Ring	SSG-8137	2	2	4	4	
Needle Shaft	LREA4005-00	1	1	2	2	
Fluid Cartridge Valve	76917-00	1	1	2	2	
Cartridge Valve O-Ring	SSG-8136	2	2	4	4	
HV Module	77301-01	1	1	1	1	
Gun Barrel Kit	75038-01	1	1	2	2	
HV Cable	SSW-1064	order per foot				
Fluid Nozzle	4907-XX	2	2	4	4	Replace XX with 44, 45, 46, 47 or 48
Air Cap	4904-XX	2	2	4	4	Replace XX with 63, 98, or 65R.
Air Cap Retaining Ring	73569-00	1	1	2	2	
Disposable Gun Covers	77342-00	1	1	2	2	Package of 5
Multi Tool Gun Wrench	19749-00	2	2	4	4	
High Voltage Test Probe Kit	76652-01	1	1	1	1	For Troubleshooting Complete Assembly.

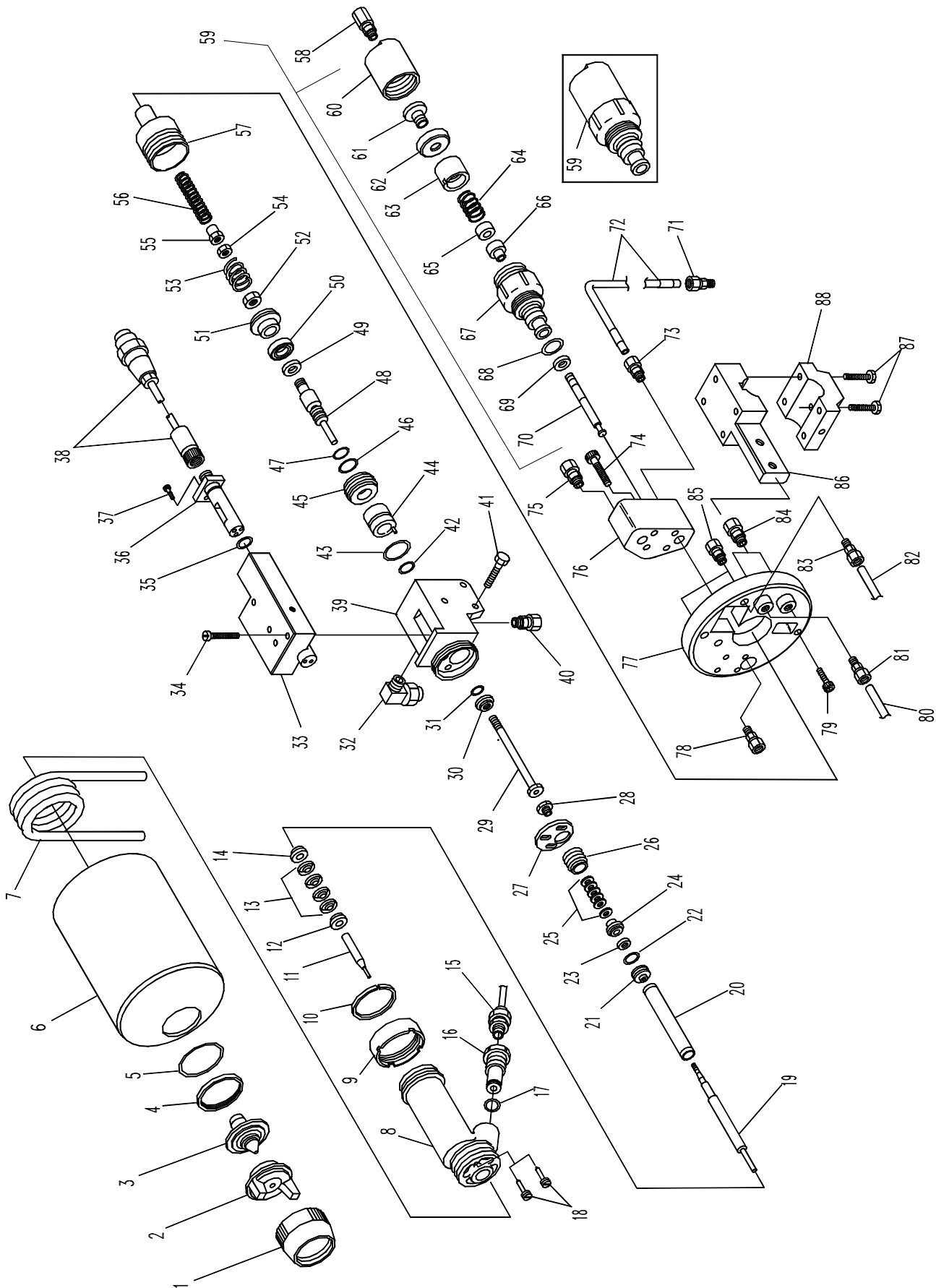


Figure 26: REA 900A Solventborne Assembly

<b>REA 900A Solventborne Parts List (Model No. 77359)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
REA 900A Automatic	<i>[Air Spray]:</i> Assembly, Complete without Dump Valve	77359S-BB111
	Assembly, Complete with Acetron Dump Valve	77359S-BB221
	Assembly, Complete with Techtron Dump Valve	77359S-BB331
REA 900A Automatic	<i>[HVLP]:</i> Assembly, Complete without Dump Valve	77359L-BB111
	Assembly, Complete with Acetron Dump Valve	77359L-BB221
	Assembly, Complete with Techtron Dump Valve	77359L-BB3311
1	Air Nozzle Retaining Ring	76936-00
2	<i>Air Cap:</i> Flat Pattern [Air Spray] (Standard)	4904-65R
	Flat Pattern [HVLP] (Standard)	75601-00
3	<i>Fluid Nozzle:</i> Flat Pattern [Air Spray] (Standard)	4907-45
	Flat Pattern [HVLP] (Standard)	75600-01
4	Seal Nut	76935-00
5	O-Ring, 1.612 I.D. x .103 C.S., Solvent Resistant	7554-85
6	Shroud	77554-00
7	Coiled Fluid Tube ( <i>route on right side</i> )	LREA0023-00
8	<i>Barrel Replacement Kit</i>	75038-06
	<i>[includes the following:]</i>	
	(1) Barrel	N/A
	(1) HVLP Pressure Reducer	74963-03
	(1) Standard Pressure Reducer	74963-02
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seals	14324-00
	(1) Packing Tube	18842-01
	(1) Dielectric Grease (1 oz.)	LSCH0009-00
	(1) Spray Technology Instruction Sheet	75739-00
	(1) Delta Series Instruction Sheet	74956-00
9	Barrel Nut	LREA0021-00
10	Retaining Ring	75326-00
11	Needle Electrode	70430-00
12	Male Chevron Adapter	74653-00
13	Chevron Seal (4 Required)	14323-00
14	Female Chevron Adapter	18821-00
15	Fitting, 1/4 T x 1/4 AN	LSF1022-04
16	Adapter Fitting	77556-00
17	O-Ring, .364 I.D. x .070 C.S., Solvent Proof	SSG-8137
18	Standard Pressure Reducer	74963-02
	HVLP Pressure Reducer	74963-03
19	Needle Assembly	18865-04
20	Packing Tube	18842-01
21	Rear Needle Retainer	18836-00
22	O-Ring, .301 I.D. x .070 C.S., Solvent Resistant	7554-08

<b>REA 900A Solventborne Parts List (Model No. 77359)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
23	Spring Loaded U-Cup Seal	10051-05
24	Seal & Spring Spacer	18837-00
25	Spring Washer (6 Required)	17390-04
26	Packing Nut	18838-00
27	Barrel Gasket	72360-00
28	Trigger Adjust Lock Nut	18859-00
29	Valve Rod Extension	76215-00
30	Valve Seal Retaining Nut	20053-00
31	O-Ring, .239 I.D. x .070 C.S., Solvent Proof	13076-10
32	Elbow, 1/4 NPT x 3/8 T (2 Required)	14157-03
33	Transformer Assembly	LREA4004-01
34	Screw, #10-32 x 1.5	LSFA0027-00
35	O-Ring, .551 I.D. x .070 C.S., Solvent Resistant	7554-12
36	L.V. Cable Plug Assembly <i>[includes item 35]</i>	74191-01
37	Screw, M5	73490-01
38	<i>L.V. Cable Assembly:</i>	
	Cable (36 ft.)	78084-36
	Cable (50 ft.)	78084-50
	Cable (75 ft.)	78084-75
	Cable (100 ft.)	78084-100
39	Gun Body Assembly	76231-00
40	Fitting, 3/16 T x 1/8 NPT	LSF10025-09
41	Screw, 5/16-18 x 1.50 LG (2 Required)	76198-48C
42	O-Ring, .426 I.D. x .070 C.S., Solvent Proof	13076-13
43	O-Ring, .614 I.D. x .070 C.S., Solvent Resistant	7554-42
44	Bushing Assembly	76216-00
45	Bushing Retainer	76200-00
46	O-Ring, .487 I.D. x .103 C.S., Solvent Resistant	7554-28
47	O-Ring, .299 I.D. x .103 C.S., Solvent Resistant	7554-111
48	Piston Shaft	76220-00
49	Piston Washer	20057-00
50	Teflon Packing Cup	7723-06
51	Piston	20056-00
52	Jam Nut 3/8-24	7733-44
53	Spring	9334-00
54	Hex Nut 10-32	7733-07
55	Air Valve Adjust Nut	76199-00
56	Spring	17615-00
57	Piston Housing	76217-00
58	Fitting, 1/8 NPT x 1/4 T	LSF10025-12
59	<i>Valve Assembly [includes items 60-70:]</i>	76917-00
60	Valve Cap	76925-00
61	Clamping Nut	76926-00
62	Piston Cup	VA-246
63	Piston Nut	76919-00
64	Valve Spring	76928-00

<b>REA 900A Solventborne Parts List (Model No. 77359)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
65	Spring Washer	76927-00
66	Needle Seal	76920-00
67	Valve Body	76918-00
68	O-Ring, .426 I. D. x .070 C.S., Solvent Proof	SSG-8136
69	Needle Seat	75960-00
70	Valve Needle	76921-00
71	SS Male Connector, 3/8 Tube x 1/4 NPT	41-FTC-1002
72	Tubing, 3/8 O.D. x 1/4 I.D. (6ft. Required), FEP	SSP-5020
	Label, Grounded Fluid Supply (2 Required)	77557-00
73	Fitting, 1/4 AN x 3/8 T	LSFI0022-06
74	<i>Screw for use with:</i> Assembly Without Dump Valve (2 Required)	LSFA0004-40C
	Assembly With Dump Manifold (4 Required)	LSFA0004-64C
75	Fitting, 1/4 AN x 3/8 T	LSFI0022-06
76	Manifold Assembly Without Dump Valve	77550-01
	Manifold Assembly with Acetron Dump Manifold	77550-02
	Manifold Assembly with Techtron Dump Manifold	77550-03
77	Rear Bulkhead Plate	77553-00
78	Fitting, 1/4 AN x 1/4 T	LSFI0022-04
79	Screw, 3/8 - 16 x .75 LG	LSFA0021-24C
80	Tubing, 3/8 O.D. x 1/4 I.D. (7.25" Required)	H-2338
81	Tube Fitting, 1/4 NPT x 3/8 O.D. (2 Required)	LSFI0025-21
82	Tubing, 3/16 O.D. x .025 Wall (10.5" Required)	SSP-5014
83	Tube Fitting, 1/8 NPT x 3/16 O.D.	LSFI0025-09
84	Tube Fitting, 1/4 NPT x 1/2 O.D. (2 Required)	LSFI0025-26
85	Tube Fitting, 1/8 NPT x 1/4 O.D. (2 Required)	LSFI0025-12
86	Gun Bar Bracket (Upper)	77161-02
87	Screw, 5/16-18 x 1.50 LG (5 Required)	LSFA0028-01
88	Gun Bar Bracket (Lower)	LREA0018-00
	Dielectric Grease (1 oz.)	LSCH0009-00
	Dielectric Grease (4 oz.)	59972-00
	Special Multi-Purpose Wrench	19749-00
	Spanner Wrench	20049-00
	Nut Tool	77558-00

<b>REA 900A Spare Parts in Kit Form (Model No. 77359)</b>		
<b>Item#</b>	<b>Description</b>	<b>Part Number</b>
	<i>Rebuild Kit for Trigger and Dump Valves [includes the following:]</i>	76931-00
	(1) Piston Cup	VA-246
	(1) Needle Seal	76920-00
	(1) O-Ring	7554-10
	(1) Needle Seat	75960-00
	(1) Valve Spring	76928-00
	(1) Needle	76921-00
	(1) Instruction Sheet	76924-00
	(1) O-Ring	SSG-8136
	<i>Soft Parts for the Gun [includes the following:]</i>	76526-00
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seal	14323-00
	(1) Female Chevron Adapter	18821-00
	(1) O-Ring	7554-08
	(1) U-Cup	10051-05
	(1) O-Ring	7554-09
	(1) Gasket, Barrel	72360-00
	(1) O-Ring	13076-10
	(1) O-Ring	13076-13
	(1) O-Ring	7554-42
	(1) O-Ring	7554-111
	(1) Packing, Cup	7723-06
	(1) Dielectric Grease (1 oz.)	LSCH0009-00
	(1) O-Ring	7554-33
	<i>Needle Shaft Assembly [Completely Assembled Needle Shaft, less grease]</i>	75732-01
	(1) Electrode	70130-00
	(1) Needle Shaft	18865-04
	(1) Male Chevron Adapter	74653-00
	(4) Chevron Seals	14323-00
	(1) Female Chevron Adapter	18821-00
	(1) Packing Tube	18842-00
	(1) Retainer	18836-00
	(1) O-Ring	7554-08
	(1) Spacer	18837-00
	(1) Packing Nut	18838-00
	(2) Nut	18859-00
	(1) U-Cup Seal	10051-05
	(6) Belville Washer	17390-04

<b>Recommended Spare Parts for REA 900A (Model No. 77359)</b>						
Description	Part Number	No. of Guns				Notes
		1-2	3-4	5-6	7-8	
Rebuild Kit (Gun Only)	75778-00	1	2	3	4	
Rebuild Kit (Cartridge Valve Only)	76931-00	1	2	3	4	
Electrode	70430-00	2	2	4	4	
Needle Shaft	18865-04	1	1	2	2	
Packing Tube	18842-01	1	1	2	2	
Cartridge Valve	76917-00	1	1	2	2	
Transformer	LREA4004-00	1	1	1	1	
Barrel Replacement Kit	75038-06	1	1	2	2	
Cable Assembly	76876-XX	1	1	2	2	XX must be replaced with desired length of 36, 50 or 75.
Screw	73490-01	1	2	2	3	
Wrench	19749-00	2	2	4	4	
Fluid Nozzle	4907-XX	2	2	4	4	Replace XX with 44, 45, 46, 47 or 48
Air Cap	4904-XX	2	2	4	4	Replace XX with 63, 98 or 65R.
Cap Retaining Ring	73569-00	1	1	2	2	
High Voltage Test Probe Kit	76652-01	1	1	1	1	For Troubleshooting Complete Assembly.
Nozzle Nut Tool	77558-00	2	2	4	4	

<b>Miscellaneous Kits for REA 9000A, REA 9000R, REA 9000W &amp; REA 900A</b>			
<b>Part #</b>	<b>Description</b>	<b>Part #</b>	<b>Description</b>
<b>74035-10</b>	<b>Air Cap Test Kit for #63 Air Cap</b> <i>[includes the following items:]</i>	<b>76816-05</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>
EMF-126	(2) Gages	4904-63	(1) Air Cap
EMF-127	(1) Bracket	4907-45	(1) Fluid Nozzle
7113-09	(16") Tubing 1/8 OD	70430-00	(1) Electrode
SSP-8201	(2) Fittings	<b>76816-06</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>
74061-10	(1) #63 Air Cap Modified	4904-63	(1) Air Cap
73569-00	(1) Retaining Ring	4907-46	(1) Fluid Nozzle
<b>74035-11</b>	<b>Air Cap Test Kit for #65R Air Cap</b> <i>[includes the following items:]</i>	70430-00	(1) Electrode
EMF-126	(2) Gages	<b>76816-07</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>
EMF-127	(1) Bracket	4904-98	(1) Air Cap
7113-09	(16") Tubing 1/8 OD	4907-44	(1) Fluid Nozzle
SSP-8201	(2) Fittings	70430-00	(1) Electrode
74061-12	(1) #65R Air Cap Modified	<b>76816-08</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>
73569-00	(1) Retaining Ring	4904-98	(1) Air Cap
<b>74035-12</b>	<b>Air Cap Test Kit for #98 Air Cap</b> <i>[includes the following items:]</i>	4907-45	(1) Fluid Nozzle
EMF-126	(2) Gages	70430-00	(1) Electrode
EMF-127	(1) Bracket	<b>76816-09</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>
7113-09	(16") Tubing 1/8 OD	4904-98	(1) Air Cap
SSP-8201	(2) Fittings	4907-46	(1) Fluid Nozzle
74061-13	(1) #98 Air Cap Modified	70430-00	(1) Electrode
73569-00	(1) Retaining Ring		
<b>76816-01</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>		
4904-65R	(1) Air Cap		
4907-44	(1) Fluid Nozzle		
70430-00	(1) Electrode		
<b>76816-02</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>		
4904-65R	(1) Air Cap		
4907-45	(1) Fluid Nozzle		
70430-00	(1) Electrode		
<b>76816-03</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>		
4904-65R	(1) Air Cap		
4907-46	(1) Fluid Nozzle		
70430-00	(1) Electrode		
<b>76816-04</b>	<b>Atomization Kit</b> <i>[includes the following items:]</i>		
4904-63	(1) Air Cap		
4907-44	(1) Fluid Nozzle		
70430-00	(1) Electrode		



<b>Miscellaneous Kits for REA 9000A, REA 9000R, REA 9000W &amp; REA 900A</b>			
<b>Part #</b>	<b>Description</b>	<b>Part #</b>	<b>Description</b>
<b>73570-01</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-09</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-65R	(1) Air Cap	4904-98	(1) Air Cap
4907-44	(1) Fluid Nozzle	4907-47	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-02</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-10</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-65R	(1) Air Cap	4904-98	(1) Air Cap
4907-45	(1) Fluid Nozzle	4907-48	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-03</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-11</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-65R	(1) Air Cap	4904-63	(1) Air Cap
4907-46	(1) Fluid Nozzle	4907-44	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-04</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-12</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-65R	(1) Air Cap	4904-63	(1) Air Cap
4907-47	(1) Fluid Nozzle	4907-45	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-05</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-13</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-65R	(1) Air Cap	4904-63	(1) Air Cap
4907-48	(1) Fluid Nozzle	4907-46	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-06</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-14</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-98	(1) Air Cap	4904-63	(1) Air Cap
4907-44	(1) Fluid Nozzle	4907-47	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-07</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73570-15</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>
4904-98	(1) Air Cap	4904-63	(1) Air Cap
4907-45	(1) Fluid Nozzle	4907-48	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring
<b>73570-08</b>	<b>Conversion Kit</b> <i>[includes the following items:]</i>	<b>73571-00</b>	<b>Conversion Kit [HVL P]</b> <i>[includes the following items:]</i>
4904-98	(1) Air Cap	75601-00	(1) Air Cap
4907-46	(1) Fluid Nozzle	75600-01	(1) Fluid Nozzle
73569-00	(1) Retaining Ring	73569-00	(1) Retaining Ring

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# WARRANTY POLICIES

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## LIMITED WARRANTY

ITW Ransburg will replace or repair without charge any part and/or equipment that falls within the specified time (see below) because of faulty workmanship or material, provided that the equipment has been used and maintained in accordance with ITW Ransburg's written safety and operating instructions, and has been used under normal operating conditions. Normal wear items are excluded.

**THE USE OF OTHER THAN ITW RANSBURG APPROVED PARTS, VOID ALL WARRANTIES.**

**SPARE PARTS:** One hundred and eighty (180) days from date of purchase, except for rebuilt parts (any part number ending in "R") for which the warranty period is ninety (90) days.

**EQUIPMENT:** When purchased as a complete unit, (i.e., guns, power supplies, control units, etc.), is one (1) year from date of purchase.

**WRAPPING THE APPLICATOR, ASSOCIATED VALVES AND TUBING, AND SUPPORTING HARDWARE IN PLASTIC, SHRINK-WRAP, OR ANY OTHER NON-APPROVED COVERING, WILL VOID THIS WARRANTY.**

**FLUID HANDLING:** One (1) year from date of purchase (i.e., Totalizer, CCV Valves, etc.).

**AIR BEARING ROTATORS:** Fifteen thousand (15,000) hours or three (3) years, whichever occurs first. Warranty period begins on the date of purchase.

**ITW RANSBURG'S ONLY OBLIGATION UNDER THIS WARRANTY IS TO REPLACE PARTS THAT HAVE FAILED BECAUSE OF FAULTY WORKMANSHIP OR MATERIALS. THERE ARE NO IMPLIED WARRANTIES NOR WARRANTIES OF EITHER MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ITW RANSBURG ASSUMES NO LIABILITY FOR INJURY, DAMAGE TO PROPERTY OR FOR CONSEQUENTIAL DAMAGES FOR LOSS OF GOODWILL OR PRODUCTION OR INCOME, WHICH RESULT FROM USE OR MISUSE OF THE EQUIPMENT BY PURCHASER OR OTHERS.**

## EXCLUSIONS:

If, in ITW Ransburg's opinion the warranty item in question, or other items damaged by this part was improperly installed, operated or maintained, ITW Ransburg will assume no responsibility for repair or replacement of the item or items. The purchaser, therefore will assume all responsibility for any cost of repair or replacement and service related costs if applicable.

# APPENDIX

## PAINT AND SOLVENT SPECIFICATIONS

	REA® / EFM™	REM® / M90™	NO. 2 HAND GUN	TURBODISK™	AEROBELL II™*** AEROBELL® AEROBELL 33™ RMA-101™
RECOMMENDED VISCOSITY USING A ZAHN NO. 2	18 TO 30 SEC	18 TO 30 SEC	20 TO 60 SEC	20 TO 60 SEC	20 TO 60 SEC
PAINT ELECTRICAL RESISTANCE**	.1MΩ TO ∞	.1MΩ TO ∞	.1 TO 1MΩ	.1MΩ TO ∞	.1MΩ TO ∞
RECOMMENDED DELIVERY (UP TO)	1000 cc/min	1500 cc/min	180 cc/min	1000 cc/min	500 cc/min

### GUIDE TO USABLE SOLVENT SELECTION

CHEMICAL NAME	COMMON NAME	CATEGORY	*CAS NUMBER	EVAP. RATE†	ELECTRICAL RESISTANCE**
DICHLOROMETHANE	Methylene Chloride	Chlorinated Solvents	75-09-2	14.5	HIGH
METHYL ACETATE		Esters	79-20-9	11.8	LOW
VM & P NAPHTHA	Naptha	Aliphatic Hydrocarbons	803-232-4	10	HIGH
ACETONE		Ketones	67-64-1	5.6	LOW
BENZENE		Aromatic Hydrocarbons	71-43-2	5.1	HIGH
ETHYL ACETATE		Esters	141-78-6	3.9	MEDIUM
2-BUTANONE	MEK	Ketones	78-93-3	3.8	MEDIUM
ISO-PROPYL ACETATE		Esters	108-21-4	3.4	LOW
ISOPROPYL ALCOHOL	IPA	Alcohols	67-63-0	2.5	LOW
2-PENTANONE	MPK	Ketones	107-87-9	2.5	MEDIUM
METHANOL	Methyl Alcohol	Alcohols	67-56-1	2.1	LOW
PROPYL ACETATE	n-Propyl Acetate	Esters	109-60-4	2.1	LOW
TOLUOL	Toluene	Aromatic Hydrocarbons	108-88-3	1.9	HIGH
METHYL ISOBUTYL KETONE	MIBK	Ketones	108-10-1	1.6	MEDIUM
ISOBUTYL ACETATE		Esters	110-19-0	1.5	LOW
ETHANOL	Ethyl Alcohol	Alcohols	64-17-5	1.4	LOW
<b>BUTYL ACETATE</b>		<b>Esters</b>	<b>123-86-4</b>	<b>1.0</b>	<b>LOW</b>
ETHYLBENZENE		Aromatic Hydrocarbons	100-41-4	.89	HIGH
1-PROPANOL	n-Propyl Alcohol	Alcohols	71-23-8	.86	LOW
2-BUTANOL	sec.-Butyl Alcohol	Alcohols	78-92-2	.81	LOW
XYLOL	Xylene	Aromatic Hydrocarbons	133-02-07	.80	HIGH
AMYLACETATE		Esters	628-63-7	.67	MEDIUM
2-METHYLPROPANOL	iso-Butyl Alcohol	Alcohols	78-83-1	.62	LOW
METHYL AMYL ACETATE		Esters	108-84-9	.50	LOW
5-METHYL-2-HEXANONE	MIAK	Ketones	110-12-3	.50	MEDIUM
1-BUTANOL	n-Butyl Alcohol	Alcohols	71-36-3	.43	LOW
2-ETHOXYETHANOL		Glycol Ethers	110-80-5	.38	LOW
2-HEPTANONE	MAK	Ketones	110-43-0	.40	MEDIUM
CYCLOHEXANONE		Ketones	108-94-1	.29	MEDIUM
AROMATIC-100	SC#100	Aromatic Hydrocarbons		.20	HIGH
DIISOBUTYL KETONE	DIBK	Ketones	108-83-8	.19	MEDIUM
1-PENTANOL	Amyl Alcohol	Alcohols	71-41-0	.15	LOW
DIACETONE ALCOHOL		Ketones	123-42-2	.12	LOW
2-BUTOXYETHANOL	Butyl Cellosolve	Glycol Ethers	111-76-2	.07	LOW
CYCLOHEXANOL		Alcohols	108-93-0	.05	LOW
AROMATIC-150	SC#150	Aromatic Hydrocarbons		.004	HIGH
AROMATIC-200		Aromatic Hydrocarbons		.003	HIGH

\* CAS Number: Chemical Abstract Service Number.

\*\* Using the Ransburg Meter.

\*\*\* Solvent Base Configuration Only.

† Information Obtained From: <http://solvdb.ncms.org>

**Evaporation Rate is Based Upon Butyl Acetate Having a Rate of 1.0**

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**NOTE:** This page provides resistivity determination and control information that we feel is necessary when using ITW Ransburg equipment.

<b>VISCOSITY CONVERSION CHART</b>																		
Poise	Centipoise	DuPont Parlin 7	DuPont Parlin 10	Fisher 1	Fisher 2	Ford Cup 3	Ford Cup 4	Gardner - Holdt Bubble	Gardner - Lithographic	Krebs Unit KU	Saybolt Universal SSU	Zahn 1	Zahn 2	Zahn 3	Zahn 4	Zahn 5	Sears Craftsman Cup	Din Cup 4
.1	10	27	11	20			5	A-4			60	30	16					10
.15	15	30	12	25			8	A-3			80	34	17					11
.2	20	32	13	30	15	12	10				100	37	18					12
.25	25	37	14	35	17	15	12	A-2			130	41	19					13
.3	30	43	15	39	18	19	14	A-1			160	44	20					14
.4	40	50	16	50	21	25	18	A			210	52	22				19	15
.5	50	57	17		24	29	22			30	260	60	24				20	16
.6	60	64	18		29	33	25	B		33	320	68	27				21	18
.7	70		20		33	36	28			35	370		30				23	21
.8	80		22		39	41	31	C		37	430		34				24	23
.9	90		23		44	45	32			38	480		37	10			26	25
1.0	100		25		50	50	34	D		40	530		41	12	10		27	27
1.2	120		30		62	58	41	E		43	580		49	14	11		31	31
1.4	140		32			66	45	F		46	690		58	16	13		34	34
1.6	160		37				50	G		48	790		66	18	14		38	38
1.8	180		41				54		000	50	900		74	20	16		40	43
2.0	200		45				58	H		52	1000		82	23	17	10	44	46
2.2	220						62	I		54	1100			25	18	11		51
2.4	240						65	J		56	1200			27	20	12		55
2.6	260						68			58	1280			30	21	13		58
2.8	280						70	K		59	1380			32	22	14		63
3.0	300						74	L		60	1475			34	24	15		68
3.2	320							M			1530			36	25	16		72
3.4	340							N			1630			39	26	17		76
3.6	360							O		62	1730			41	28	18		82
3.8	380										1850			43	29	19		86
4.0	400							P		64	1950			46	30	20		90
4.2	420										2050			48	32	21		95
4.4	440							Q			2160			50	33	22		100
4.6	460							R		66	2270			52	34	23		104
4.8	480								00	67	2380			54	36	24		109
5.0	500							S		68	2480			57	37	25		112
5.5	550							T		69	2660			63	40	27		124
6.0	600							U		71	2900			68	44	30		135
7.0	700									74	3375				51	35		160
8.0	800								0	77	3380				58	40		172
9.0	900							V		81	4300				64	45		195
10.0	1000							W		85	4600					49		218
11.0	1100									88	5200					55		
12.0	1200									92	5620					59		

<b>VISCOSITY CONVERSION CHART (Continued)</b>																		
Poise	Centipoise	DuPont Parlin 7	DuPont Parlin 10	Fisher 1	Fisher 2	Ford Cup 3	Ford Cup 4	Gardner - Holdt Bubble	Gardner - Lithographic	Krebs Unit KU	Saybolt Universal SSU	Zahn 1	Zahn 2	Zahn 3	Zahn 4	Zahn 5	Sears Craftsman Cup	Din Cup 4
13.0	1300							X		95	6100					64		
14.0	1400								1	96	6480							
15.0	1500									98	7000							
16.0	1600									100	7500							
17.0	1700									101	8000							
18.0	1800							Y			8500							
19.0	1900										9000							
20.0	2000									103	9400							
21.0	2100										9850							
22.0	2200										10300							
23.0	2300							Z	2	105	10750							
24.0	2400									109	11200							
25.0	2500							Z-1		114	11600							
30.0	3000									121	14500							
35.0	3500							Z-2	3	129	16500							
40.0	4000									133	18500							
45.0	4500							Z-3		136	21000							
50.0	5000										23500							
55.0	5500										26000							
60.0	6000							Z-4	4		2800							
65.0	6500										30000							
70.0	7000										32500							
75.0	7500										35000							
80.0	8000										37000							
85.0	8500										39500							
90.0	9000										41000							
95.0	9500										43000							
100.0	10000							Z-5	5		46500							
110.0	11000										51000							
120.0	12000										55005							
130.0	13000										60000							
140.0	14000										65000							
150.0	15000							Z-6			67500							
160.0	16000										74000							
170.0	17000										83500							
180.0	18000										83500							
190.0	19000										88000							
200.0	20000										93000							
300.0	30000										140000							

**Note:** All viscosity comparisons are as accurate as possible with existing information. Comparisons are made with a material having a specific gravity of 1.0.

<b>VOLUMETRIC CONTENT OF HOSE OR TUBE (English Units)</b>							
<b>I.D. (inches)</b>	<b>cc/ft.</b>	<b>Cross Section (sq. in.)</b>	<b>Length</b>				
			<b>5ft. (60")</b>	<b>10ft. (120")</b>	<b>15ft. (180")</b>	<b>25ft. (300")</b>	<b>50ft. (600")</b>
1/8	2.4	.012	.003 gal. .4 fl. oz.	.006 gal. .8 fl. oz.	.010 gal. 1.2 fl. oz.	.016 gal. 2.0 fl. oz.	.032 gal. 4.1 fl. oz.
3/16	5.4	.028	.007 gal. .9 fl. oz.	.014 gal. 1.8 fl. oz.	.022 gal. 2.8 fl. oz.	.036 gal. 4.6 fl. oz.	.072 gal. 9.2 fl. oz.
1/4	9.7	.049	.013 gal. 1.6 fl. oz.	.025 gal. 3.3 fl. oz.	.038 gal. 4.9 fl. oz.	.064 gal. 8.2 fl. oz.	.127 gal. 16.3 fl. oz.
5/16	15.1	.077	.020 gal. 2.5 fl. oz.	.040 gal. 5.1 fl. oz.	.060 gal. 7.6 fl. oz.	.100 gal. 12.7 fl. oz.	.199 gal. 25.5 fl. oz.
3/8	21.7	.110	.029 gal. 3.7 fl. oz.	.057 gal. 7.3 fl. oz.	.086 gal. 11.0 fl. oz.	.143 gal. 18.4 fl. oz.	.287 gal. 36.7 fl. oz.
1/2	38.6	.196	.051 gal. 6.5 fl. oz.	.102 gal. 13.1 fl. oz.	.153 gal. 19.6 fl. oz.	.255 gal. 32.6 fl. oz.	.510 gal. 65.3 fl. oz.

<b>VOLUMETRIC CONTENT OF HOSE OR TUBE (Metric Units)</b>							
<b>I.D. (mm)</b>	<b>cc/m</b>	<b>Cross Section (mm<sup>2</sup>)</b>	<b>Length</b>				
			<b>1.5m</b>	<b>3.0m</b>	<b>4.5m</b>	<b>6.0m</b>	<b>7.5m</b>
3.6	10.2	10.2	15.3 cc	30.5 cc	45.8 cc	61.1 cc	76.3 cc
5.6	24.6	24.6	36.9 cc	73.9 cc	110.8 cc	147.8 cc	184.7 cc
6.8	36.3	36.3	54.5 cc	109.0 cc	163.4 cc	217.9 cc	272.4 cc
8.8	60.8	60.8	91.2 cc	182.5 cc	273.7 cc	364.9 cc	456.2 cc

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# MANUAL CHANGE SUMMARY

This manual was published to replace Service Manual **AA-99-02**, *REA Automatic Guns*, to make the following changes:

1. **Introduction Section:**

- Changes to Figures 7-10 under "Specifications".

2. **Maintenance Section:**

- Changes to "Several Times Daily" and "Shut-Down" sections under "Routine Schedule".
- Changes to "Routine Cleaning Equipment Needed" under "Atomizer Assembly Cleaning Procedure".
- Changes to text and also to 2<sup>nd</sup> "Note" in the "Barrel Reassembly" section.
- Insert new section "Nozzle & Electrode Cleaning or Replacement" under "Service REA9000R & REA900A Series".
- Changes to "Air Bushing / Body Assembly" under "Service REA9000R & REA900A Series".
- New Figure 19, Rod & Trigger Adjustment Nuts.

3. **Parts Identification Section:**

- Changes to the parts list for Figure 21, REA9000A (items 36 & 38).
- Changes to the parts list for Figures 22 & 23, REA9000R (items 92, 98, 98A, & 100).
- New Figure 23, REA9000R Rear Mounting Plate Assembly
- Changes to the parts list for Figure 26, REA900A (items 36 & 38).

4. **Warranty Section:**

- Changes to the "Limited Warranty" section.

5. **Appendix:**

- Changes to "Paint and Solvent Specifications" chart.
  - Changes to "Volumetric Content of Hose or Tube" chart.
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