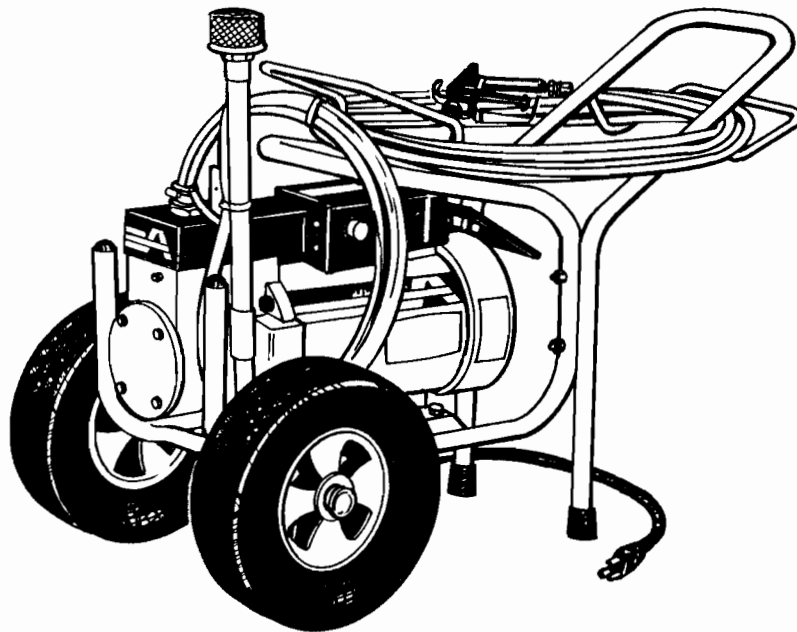




WARNING

Prior to using this machine: read, understand and observe all safety precautions and warnings on pages 5, 6 and 7 of this manual.



**3200 AND 4200
ELECTRIC AIRLESS PAINT SPRAYER**

OPERATION MANUAL & PARTS LIST

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ATTENTION AIRLESSCO SERVICE CENTERS: Order Service supplement for additional important testing procedures and/or call Airlessco Service Department for further assistance.

ATTENTION RENTAL CENTERS: Ask about the "Airlessco Rental Pack".

PAINT PREPARATION

Prepare the paint accordingly to the manufacturer's recommendations and directions. Always follow paint & solvent manufacturer's safety precautions carefully.

Remove any skin on previously opened paint. Stir paint thoroughly to dissolve hard pigments. Strain the paint through a fine nylon mesh bag to avoid clogging of gun filter or spray tip. **DO NOT USE ABRASIVE, AGGREGATE OR FIBRE FILL PAINT.**

Most paints so not have to be thinned in order to be sprayed. However, it is possible that you may use a paint that is too thick to be sprayed. If thinning is required, add water to latex-based paint, add solvent to oil-based paint. Check paint label for proper thinning information.

INTRODUCTION

The 3200 airless paint sprayers are the second generation of pumps which combine the mechanical reliability of the pump's fourteen years of service in the tough contractor and rental market with precision solid state electronics.

SPECIFICATIONS:

Model 3200 - 3/4 HP A/C 11 amp totally enclosed fan cooled motor, 1/2 GPM, 0-2500 PSI
Max. Tip Size 0.021 inch

Model 4200 - 1 HP A/C 14 amp totally enclosed fan cooled motor, 3/4 GPM, 0-2500 PSI
Max Tip Size 0.025 inch.

OPERATION

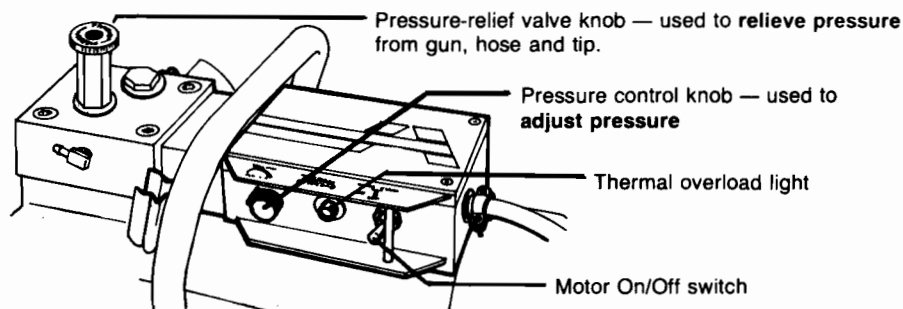
IMPORTANT: Before operating sprayer, read and understand all warnings on pages 5, 6 and 7 and learn and use the pressure relief procedure on page 6.

Pressure Relief Valve: The Pressure Relief Valve is used to relieve pressure from the gun and hose and to allow the machine to prime. To prime or relieve pressure, turn the Pressure Relief Valve knob fully counterclockwise. To spray, after the machine has primed, turn Pressure Relief Valve Knob fully clockwise to "Pressure".

Pressure Control Knob: The Pressure Control Knob is used to increase or decrease the pressure in the hose and gun. To increase pressure, turn the Pressure Control Knob clockwise. To reduce pressure turn the Pressure Control Knob counterclockwise. As soon as the machine reaches the pressure set with the Pressure Control Knob, the motor will switch off. Then as you start to spray and the pressure drops, the motor will switch back on. The motor will only run when you are spraying or when the Pressure Relief Valve Knob is turned to "Prime".

Thermal Overload Light: The 3200 and 4200 use an automatic thermal overload system. Should the unit over-heat, the thermal overload protector will automatically switch off the motor. If this should happen the Thermal Overload Light will come on. When this happens switch the motor off, relieve the pressure in the pump and wait for the motor to cool down (30 minutes). The thermal overload will automatically reset itself. A very long extension cord or an extension cord that is too light could cause the machine to overload. Note: Extension cords must be 3 wire, 12 gauge minimum and not longer than 25 Ft.

On/Off Switch: Switch ON to run and OFF to stop. Prior to starting, read, understand and observe all safety precautions and warnings in your instruction manual.



SETTING UP AND STARTING

NEW UNIT

Note: Extension cord must not exceed 25 ft. of 12/3 or 50 ft. of 10/3.

1. Connect suction and return hose. Firmly tighten suction clamp to prevent air being drawn in. An air leak may cause priming problems.
2. Attach high pressure *airless* hose (conductive-grounded) to the spray gun.

NOTE: Do not use less than 50 feet or more than 250 feet of airless hose.

3. Set the trigger lock on the gun. See instructions: Spray tip assembly. Read all warnings and safety information in this manual and all warnings attached to your equipment.
4. Be sure the switch is in "OFF" position, then plug into an approved power supply that agrees with motor rating plate. If using an extension cord,* it must be 3 wire, 12 gauge minimum with safety ground plug and socket.

*Not longer than 25 feet.

USA	115 VAC/15 amp
EUROPE	220 VAC/15 amp
AUSTRALIA	240 VAC/10 amp

5. Turn the Pressure-Relief Valve Knob located on the head of the pump counterclockwise (to prime).

6. Turn the motor switch "ON."
7. Put suction hose into a bucket with thinner or water and wait until a steady stream of flushing material comes out of the return hose (small hose). This is merely to flush out your machine prior to use. (Every new machine was flushed in oil prior to shipping).
8. Remove the suction and return hose from the flushing material and place them into your paint. (See instruction: "PAINT PREPARATION.")
9. Now prime your unit turning the Pressure-Relief Valve Knob on the pumphead to the "PRIMING" position (counterclockwise). Allow unit to prime until all air has been removed from the suction tube and pumphead.
10. Turn Pressure-Relief Valve Knob fully clockwise.
11. Turn the Pressure Control Knob on the black box clockwise to increase pressure. NOTE: Electric Motor stops when set pressure is reached.
12. Test spray pattern by spraying onto waste material (cardboard). Correct pressure is when heavy lines on the edge of the spray pattern disappear.
13. Machine is now ready to spray.

PREVIOUSLY USED UNIT

Since the unit is filled with flushing material for storage, it must be pushed out by paint or solvent only, before spraying. To do this adjust the Pressure-Relief Valve to PRIME position, put the siphon tube into a bucket of thinner or paint and turn the unit on. Wait until steady stream of paint emerges from the return hose (smaller dia. plastic tubing) back into the bucket. Then turn the Pressure-Relief Valve Knob fully clockwise to "Pressure." Adjust pressure by turning Pressure Control Knob clockwise.

SPRAYING

See instructions: Spray gun operation
Spraying technique
Spray tip selection

WHEN YOU STOP SPRAYING

release the pressure by turning the Pressure-Relief Valve Knob counterclockwise to PRIME and turn the motor OFF. Immerse the gun into a bucket filled with a suitable thinner to prevent drying of the paint in the gun's nozzle. If you stop spraying for a longer period of time, follow instructions for cleaning of AIRLESSCO sprayer.

The most important rule:

Flush your machine immediately after use with a 50/50 mixture of mineral spirits and oil OR corochek.

SPRAYING OR CLEANING WITH FLAMMABLE PAINTS OR THINNERS

1. When spraying with flammable liquids, AIRLESSCO 3200 and 4200 must be located a minimum of 25 feet away from spraying area, in a well ventilated area. Ventilation sufficient enough to prevent accumulation of vapors must be provided.
2. To eliminate electrostatic discharge, ground AIRLESSCO unit, paint bucket and spraying object. Use only high pressure airless hoses approved for 3000 PSI which is conductive.
3. Remove spray tip before cleaning gun and hose. Make contact of gun with bucket and spray without tip, in ventilated area, into the grounded steel bucket 25 feet away from AIRLESSCO unit, do not spray with high pressure while cleaning.
4. Do not smoke in spraying area.

SPRAYER CLEAN UP

PROPER CLEAN UP IS EXTREMELY IMPORTANT in the maintenance of your new airless paint sprayer. At the day's end, or with the completion of the job, the sprayer and system (gun and hose) must be flushed and cleaned to prevent paint residue from hardening or clogging the system. Rust can also damage the internal parts if water or latex paint is left in the sprayer. So it is extremely important that a final flush of either Coro-Chek or a 50/50 mixture of mineral spirits and oil is used.

Clean the sprayer initially with water, if latex paint was used, followed by Coro-Chek, which is left in the unit. Flush with an appropriate solvent if oil-based paint was used. (Refer to paint can label for manufacturer's recommendation.)

IMPORTANT: Always clean and flush the sprayer using LOW PRESSURE.

FOR LONG TERM STORAGE and STORAGE OVER THREE DAYS, the sprayer should be flushed and "loaded" with a 50/50 mixture of mineral spirits and oil to prevent rust and damage to the internal parts. **DO NOT LEAVE CORO-CHEK** in system for over three days as it will dry out leaving crystals in your unit. **DO NOT LEAVE WATER OR PAINT** in the sprayer, even for a few hours.

THE MOST IMPORTANT RULE: Clean your Airlessco sprayer immediately after use!

Tools and Materials required for clean up.

1. Soft bristle brush and clean up rags.
2. 8" crescent wrench for removing gun tip and filter in gun handle.
3. Prepared 5 Gal. bucket of soapy water if using latex, or thinner if using oil base. If using latex, a second bucket of water is required.
4. If using latex, a packet of Coro-Chek mixed with one gallon of water or if using oil based or for storage over 3 days, use 50/50 mixture of mineral spirits and oil.
5. Tapes or ties to secure hose and gun
6. Empty bucket or container.

THE MOST IMPORTANT FIRST STEP OF THE CLEAN UP PROCEDURE IS TO RELEASE PRESSURE FROM THE SYSTEM by following the Pressure Relief Procedure on page 6 of this manual.

1. Release the pressure by turning the Pressure-Relief Valve Knob counterclockwise to allow the excess paint to return to the bucket.
2. Remove the tip from your gun and place the tip in a thinner or water depending on the type of paint you are using.
3. Remove the suction and return hoses from the paint and hold them above the bucket.
4. Start the unit.
5. Wait until there is no more paint leaving the return hose.
6. Place the suction and return hoses in a bucket of water (when using a water base paint) or in a thinner suitable to the paint (when spraying with an oil base material).
7. Prime and flush the pump thoroughly. Trigger the gun above the paint bucket and adjust very low pressure while holding gun open. Flushing liquid will push the rest of the paint out of the spray hose into the paint bucket. When all paint

is displaced return gun back to flushing liquid bucket. Continue to flush until pump, hose and gun are free of paint.

IMPORTANT: Pressure setting should be very low.

EXTREME CAUTION : Do not set high pressure! When spray tip has been removed, an airless gun becomes more dangerous, because of the greater volume of liquid that can be emitted from the outlet of the gun at high velocity.

8. Release the pressure.
9. Remove filter from filter housing and clean with thinner or water.
10. Reflush the system with Coro-Chek or mixture of mineral spirits and oil (50/50) and leave this mixture in the pump for storage. (For Long Term Storage and storage over three days see instruction above)
11. Shut off the unit and store.
12. When storing always leave the Pressure-Relief Valve knob turned completely counterclockwise.

NEVER LEAVE WATER OR PAINT IN THE UNIT, EVEN FOR A FEW HOURS.

CLEAN AIRLESSCO SPRAY GUN, FILTER IN HANDLE AND SPRAY TIP AS PER INSTRUCTIONS ON PAGE 14.

SAFETY WARNINGS

HIGH PRESSURE SPRAY CAN CAUSE EXTREMELY SERIOUS INJURY OBSERVE ALL WARNINGS THIS SPRAYER IS FOR PROFESSIONAL USE ONLY

WARNING: HIGH PRESSURE SPRAY CAN CAUSE EXTREMELY SERIOUS INJURY, HANDLE AS YOU WOULD A LOADED FIREARM!! LEARN AND FOLLOW PRESSURE RELIEF PROCEDURE. READ AND UNDERSTAND ALL INSTRUCTION MANUALS, TAGS, WARNINGS, USER'S GUIDES AND LABELS ON MACHINE BEFORE OPERATING EQUIPMENT.

Order new labels from Durotech Co. if unreadable.

SAFETY IS THE RESPONSIBILITY OF THOSE WHO OPERATE THIS EQUIPMENT.

INJECTION HAZARD

Fluids under high pressure from spray or leaks can penetrate the skin and cause extremely serious injury, including the need for amputation.

NEVER point the spray gun at anyone or any part of the body.

NEVER put hand or fingers over the spray tip. Do not use rag or other materials over your fingers. Paint would penetrate through and into the finger.

NEVER try to stop or deflect leaks with your hand or body.

ALWAYS have gun tip guard in place when spraying. *ALWAYS* remove tip from the gun to clean it.

NEVER try to "blow back" paint, this is not an air spray sprayer.

ALWAYS follow the **Pressure Relief Procedure**, as shown on Page 6, *before* cleaning or removing the spray tip or servicing any system equipment.

Be sure equipment safety devices are operating properly before each use.

MEDICAL TREATMENT

If any fluid appears to penetrate your skin, get **EMERGENCY CARE AT ONCE. DO NOT TREAT AS A SIMPLE CUT.**

Tell the doctor exactly what fluid was injected. For treatment instructions have your doctor call the

**NATIONAL POISON CENTER NETWORK
(412) 681-6669**

GENERAL PRECAUTIONS

NEVER alter equipment in any manner.

NEVER smoke while in spraying area.

NEVER spray highly flammable materials.

NEVER use around children.

NEVER allow another person to use sprayer unless he is thoroughly instructed on its safe use.

ALWAYS wear a suitable face mask while spraying.

ALWAYS ensure fire extinguishing equipment is readily available and properly maintained.

NEVER LEAVE SPRAYER UNATTENDED WITH PRESSURE IN THE SYSTEM. FOLLOW PRESSURE RELIEF PROCEDURES AS OUTLINED ON PAGE 6.

ALWAYS INSPECT SPRAYING AREA

Keep spraying area free from obstructions.

Make sure area has good ventilation to safely remove vapors and mists.

Never keep flammable materials in spraying area.

Never spray in vicinity of open flame or other sources of ignition.

Spraying area must be at least 20 ft. away from spray unit.

SPRAY GUN SAFETY

ALWAYS set safety lock on the gun in "LOCKED" position when not in use and before servicing or cleaning.

DO NOT remove or modify any part of gun.

ALWAYS REMOVE SPRAY TIP when cleaning. Flush unit with **LOWEST POSSIBLE PRESSURE.**

CHECK operation of all gun safety devices before each use.

BE VERY CAREFUL WHEN REMOVING THE spray tip or hose from gun. A plugged line contains fluid under pressure. If the tip or line is plugged, follow the Pressure Relief Procedure as outlined on Page 6.

TIP GUARD

ALWAYS have the tip guard in place on the spray gun while spraying. The tip guard alerts you to the injection hazard and helps prevent accidentally placing your fingers or any part of your body close to the spray tip.

SPRAY TIP SAFETY

Use extreme caution when cleaning or changing spray tips. If the spray tip clogs while spraying, engage the gun safety latch immediately. *ALWAYS* follow the **Pressure Relief Procedure** and then remove the spray tip to clean it.

NEVER wipe off build up around the spray tip. *ALWAYS* remove tip and tip guard to clean after pump is turned off and pressure relieved.

KEEP CLEAR OF MOVING PARTS

KEEP CLEAR of moving parts when starting or operating the sprayer. Do not put your fingers into any openings to avoid amputation by moving parts or burns on hot parts.

Precaution is the best insurance against an accident. When starting the engine, maintain a safe distance from moving parts of the equipment.

Before adjusting or servicing any mechanical part of the sprayer, follow the Pressure Relief Procedure, Page 6, and remove the ignition cable from the spark plug to prevent accidental starting of the sprayer.

NOTE: WARNING CONTINUED ON NEXT PAGE.

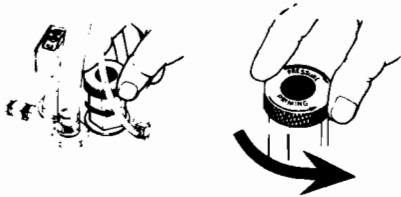
SAFETY WARNINGS

PRESSURE RELIEF PROCEDURE

To avoid possible serious bodily injury, including injection, always follow this procedure whenever the sprayer is shut off, when checking or servicing it, when installing or changing the tips, and whenever you stop spraying.

1. Turn machine off and disconnect the power cord.

2. Turn the Pressure-Relief Valve Knob to "Prime" position.



3. Trigger the gun.

4. Turn gun lock to locked position.



Lock Gun Trigger

If the spray tip or hose is clogged, follow Step 1 through 4 above. Expect paint splashing into the bucket while relieving pressure during Step 2. After following all 4 steps above it is safe to remove the tip from the gun to clean.

ALWAYS FOLLOW THE Airlessco-Durotech recommendations on machine pressure and operating instructions.

ALWAYS ensure switch is in "OFF" position before plugging unit in.

HOSES

Tighten all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling and result in an injection injury or serious bodily injury.

Use only hose having a spring guard. The spring guard helps protect the hose from kinks or other damage which could result in hose rupture and cause an injection injury.

NEVER use a damaged hose, which can result in hose failure or rupture and cause an injection injury or other serious bodily injury or property damage. Before each use, check entire hose for cuts, leaks, abrasion or bulging of cover, or damage or movement of couplings. If any of these conditions exist, replace the hose immediately. *Never use tape or any device to try to mend the hose as it cannot contain the high pressure fluid.* **NEVER ATTEMPT TO RECOUPLE THE HOSE.** High pressure hose is not recoupleable.

Help prevent damage to the hose by handling and routing carefully. Do not move the sprayer by pulling it with the hose.

GROUNDING

Ground the sprayer and other components in the system to reduce the risk of static sparking, fire or explosion which can result in serious bodily injury and property damage. For detailed instructions on how to ground, check your local electrical code.

Always ground all of these components:

1. Sprayer; plug the power supply cord, or extension cord, each equipped with an undamaged three-prong plug, into a properly grounded outlet. **DO NOT USE AN ADAPTER.** Extension cord must have three wires. Extension cord must be a minimum 12 gauge wire and must not exceed 25 ft. length.
2. Air hoses; use only grounded hoses.
3. Fluid hose; use only grounded hoses.
4. Spray gun or dispensing valve; grounding is obtained through connection to a properly grounded fluid hose and pump.
5. Object being sprayed; according to your local code.
6. All solvent pails used when flushing.

Once each week, check electrical resistance of hose (when using multiple hose assemblies, check overall resistance). Overall (end to end) resistance of unpressurized hose must not exceed 29 megohms (max.) for any coupled length or combination of hose lengths. If hose exceeds these limits, replace it immediately.

Never exceed 500 ft. (150 m) overall combined hose length to assure electrical continuity.

NOTE: WARNING CONTINUED ON NEXT PAGE

SAFETY WARNINGS

AVOID COMPONENT RUPTURE

This sprayer can develop 2500 PSI fluid pressure. Always be sure that all components and accessories have a maximum working pressure of at least 3000 psi (205 bar) to avoid rupture which can result in serious bodily injury, including injection, and property damage.

NEVER leave a pressurized sprayer unattended to avoid accidental operation of it which could result in serious bodily injury.

ALWAYS follow the Pressure Relief Procedure, whenever you stop spraying and before adjusting, removing or repairing any part of the sprayer.

NEVER alter or modify any part of the equipment to avoid possible component rupture which could result in serious bodily injury and property damage.

NEVER use weak or damaged or non-conductive paint hose. Do not allow kinking or crushing of hoses or allow it to vibrate against rough or sharp or hot surfaces. Before each use check hoses for damage and wear and ensure all fluid connections are secure.

REPLACE any damaged hose. *NEVER* use tape or any device to mend the hose.

NEVER attempt to stop any leakage in the line or fittings with your hand or any part of the body. Turn off the unit & release pressure in the system by turning Pressure-Relief valve to "priming."

ALWAYS use approved high pressure fittings & replacement parts.

ALWAYS ensure fire extinguishing equipment is readily available & properly maintained.

PREVENT STATIC SPARKING, FIRE/EXPLOSIONS

ALWAYS be sure all equipment and objects being sprayed are properly grounded. Always ground sprayer, paint bucket and object being sprayed. See "Grounding" on Page 6 for detailed grounding information.

Vapors created when spraying can be ignited by sparks. To reduce the risk of fire, always locate the sprayer at least 20 feet (6 m) away from the spray area. Do not plug in or unplug any electrical cords in the spray area, which also can create sparks, when there is any chance of igniting vapors still in the air. Follow the coating and solvent manufacturer's safety precautions and warnings.

Use only conductive fluid hoses for airless applications. Be sure gun is grounded through hose connections. Check ground continuity in hose and equipment. Overall (end to end) resistance of unpressurized hose must not exceed 29 megohms for any coupled length or combination of hose length. Use only high pressure airless hoses with static wire approved for 3000 psi.

FLUSHING

Reduce the risk of injection injury, static sparking, or splashing by following the specific flushing procedure given on page 4 and 6 of this manual. Follow the pressure relief procedure on page 6 and remove the spray tip before flushing. Hold a metal part of the gun firmly to the side of metal pail and use the lowest possible fluid pressure during flushing.

NEVER use cleaning solvents with flash points below 140 degrees F. Some of these are: acetone, benzene, ether, gasoline, naphtha. Consult your supplier to be sure.

NEVER SMOKE IN THE SPRAYING AREA.

WARNING: Alerts user to avoid or correct conditions that could cause bodily injury.

CAUTION: Alerts user to avoid or correct conditions that could cause damage to or destruction of equipment.

NOTE: Identifies essential procedures or extra information.

IMPORTANT

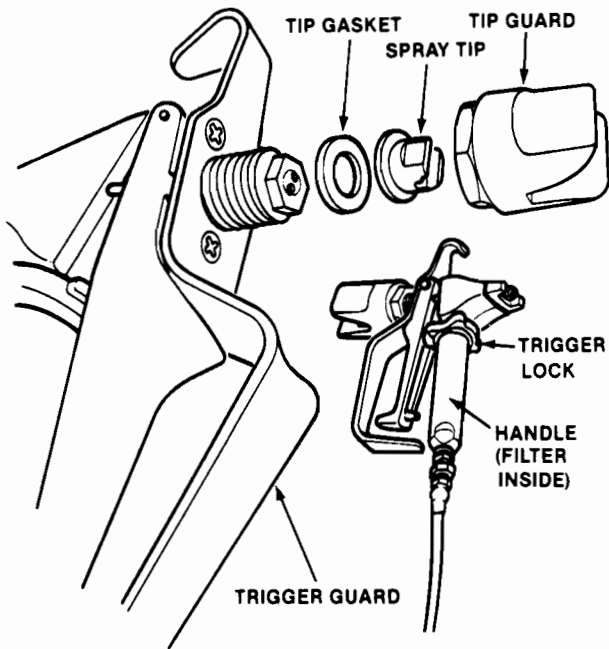
United States Government safety standards have been adopted under The Occupational Safety and Health Act. These standards, particularly the General Standards, Part 1910, and the Construction Standards, Part 1926 should be consulted.

WARNING

Do not use halogenated solvents in this system. The pump has aluminum parts and may explode. Cleaning agents, coatings, paints or adhesives may contain halogenated hydrocarbon solvents. Don't take chances! Consult your material suppliers to be sure. Some of the most common of these solvents are: Carbontetrachloride, Chlorobenzene, Dichloroethane, Dichloroethyl Ether, Ethylbromide, Ethylchloride, Tetrachloethane.

AIRLESSCO 007 SPRAY GUN

MAJOR COMPONENTS OF SPRAY GUN

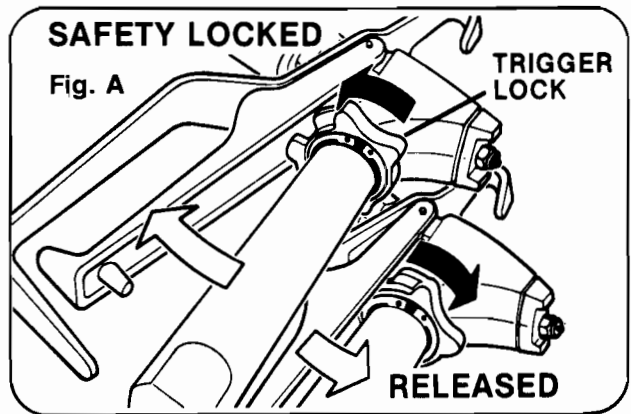


SPRAY GUN

Attach spray gun to whip hose and tighten fittings securely. Set the trigger lock.* Refer to Fig. A.

*The trigger lock should always be set when the gun is not being triggered.

Read all warnings and safety precautions supplied with the spray gun and in product manual.

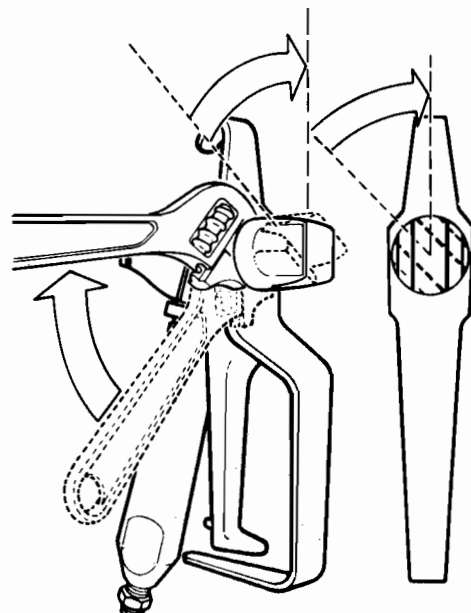
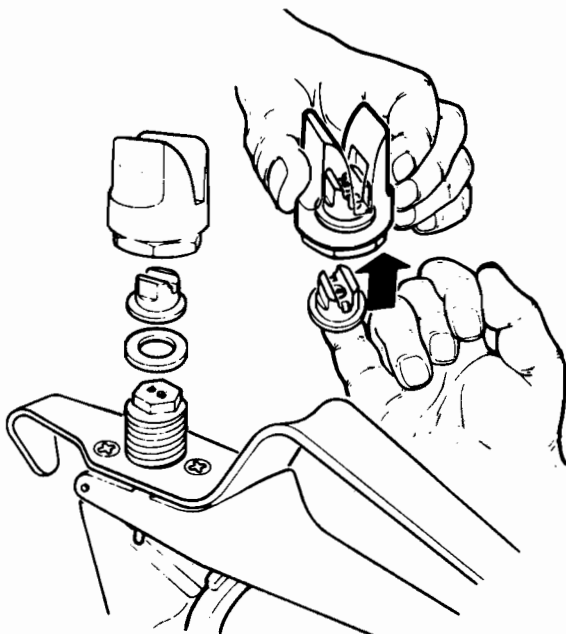


SPRAY TIP ASSEMBLY

Read all safety warnings on pg 5, 6, 7 of this manual & all warnings supplied on and with the gun.

Remove tip guard from spray gun. While holding tip guard upright, slide spray tip into tip guard. Make sure "flats" on spray tip are aligned with "ears" of tip guard. Spray tip is installed properly when "flats" recess into tip guard cavity.

Insert tip guard. Place tip gasket in tip guard behind spray tip. Thread tip guard "assembly" onto spray gun, finger tight with "ears" on a 45° angle to vertical (see figure). When the tip guard nut is wrenched tight, the tip guard "ears" and spray tip pattern will be aligned for vertical spray pattern. (Spray pattern may be adjusted to horizontal if preferred.)



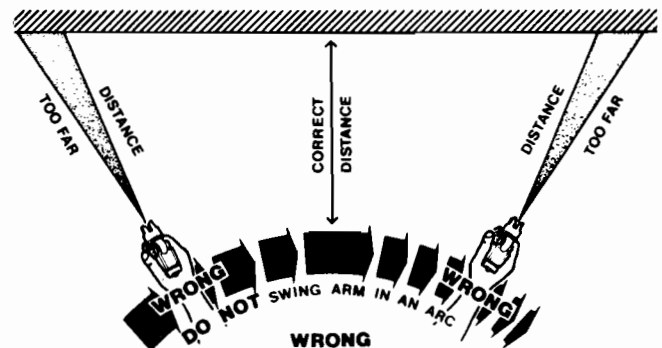
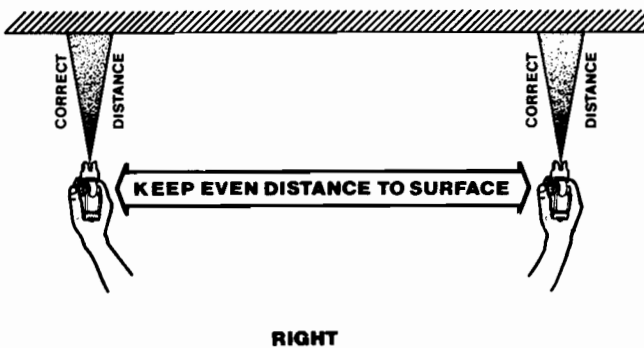
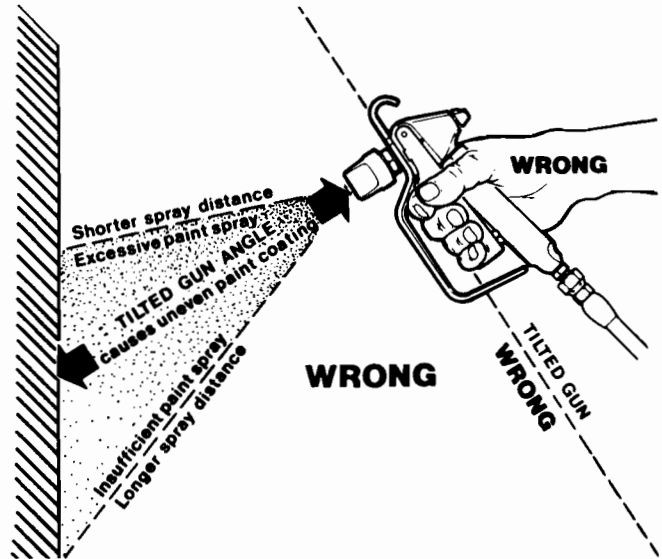
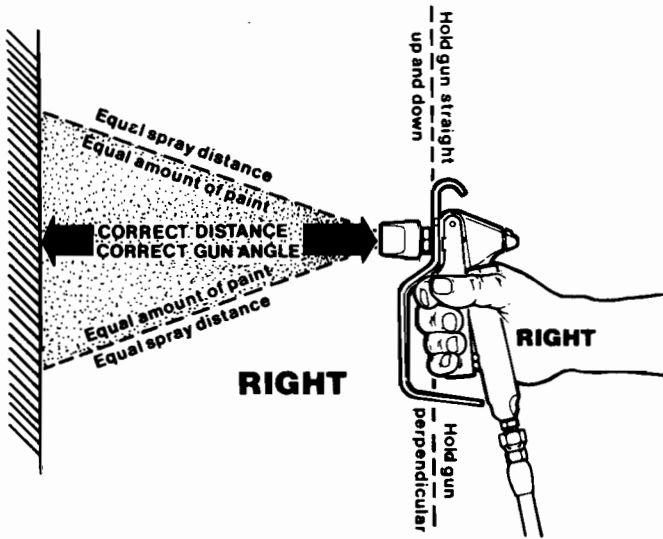
SPRAY TECHNIQUE

Good spray gun technique is at the core of any spray-paint operation. Operator skill and efficiency is as important as good equipment and good paint. Good spray technique is a skill that can be learned quickly by following these simple instructions.

If you are not familiar with spraying techniques, we recommend that you study this section of your manual and practice the proper technique on pieces of cardboard or a suitable surface.

Hold the spray gun 12-15 inches away from the work surface and keep it perpendicular (straight)

to the surface. Move the spray gun parallel to the work and at a right angle to the surface.



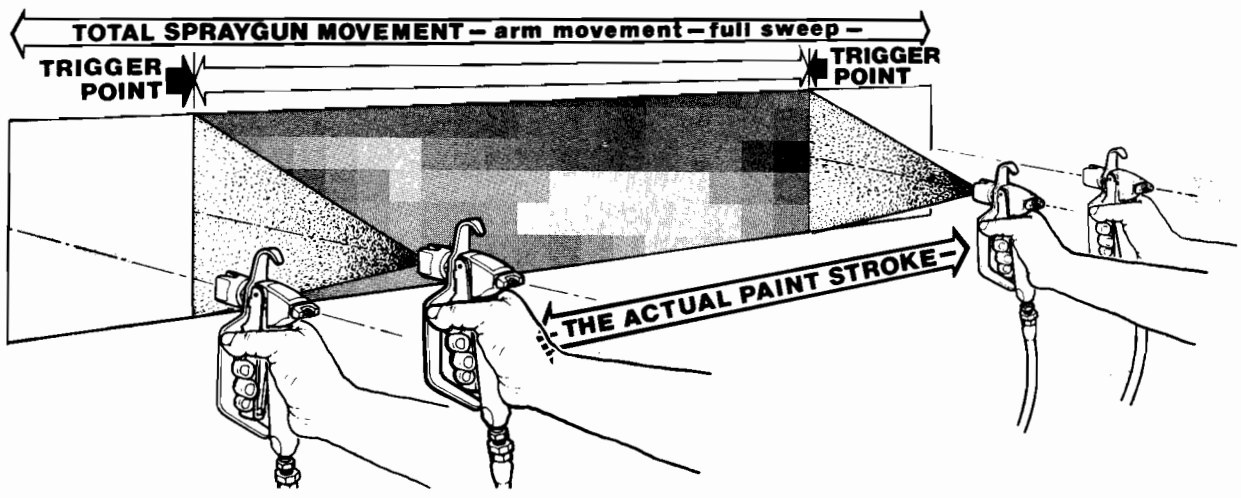
Move the gun at a steady rate in order to apply a good coverage. The wet coat should be just under the thickness at which a run or sag will occur. Slow gun movement or gun held too close will result in an overly wet or thick coat coverage that is likely to run or sag.

15-inch distance perpendicular from the work.

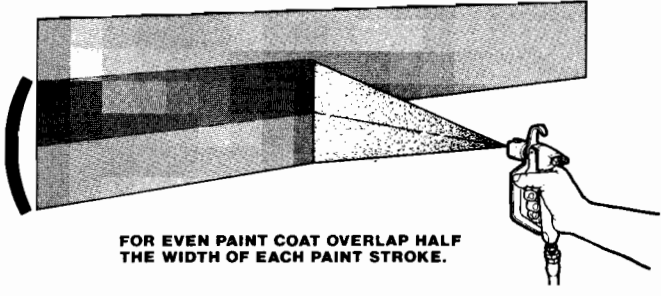
Do not wave the spray gun. This waving is called (arching.) Instead, hold the spray gun at a 12-

The closer the spray gun is held to the work, the thicker the paint is deposited and the faster the gun must be moved to prevent sags and runs. Holding the gun too far from the work will cause excessive fog, overspray, and a thin and grainy coat.

SPRAY TECHNIQUE

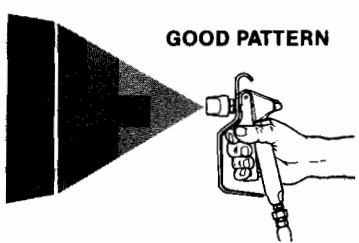
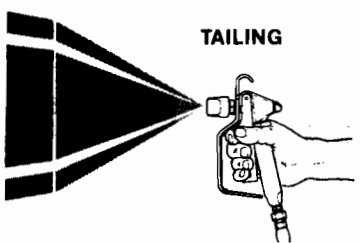


It is important to “trigger” the gun **after** gun movement (arm movement) has started and release trigger (shut gun off) **before** gun movement ends. Gun movement is always longer than actual paint (spray) stroke. In that manner, even blending and uniform paint coat thickness is achieved over the entire surface. When the gun is in motion as the trigger is pulled, it deposits an even amount of paint.



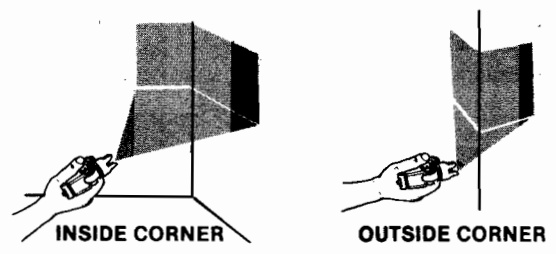
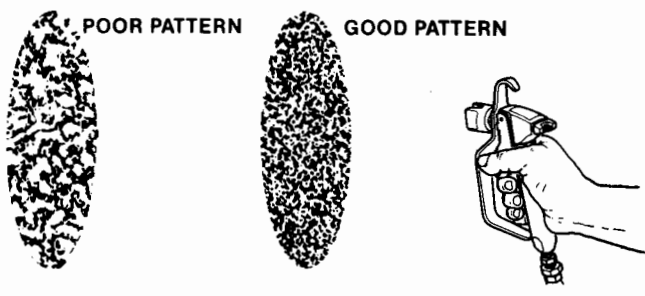
Overlap the previous pass by half the width of the spray pattern. Aim at the bottom of the previous pass.

Spray with uniform strokes from left to right and from right to left, holding stroke speed, distance, lapping, and triggering as uniform as possible.



Adjust pressure control knob so that paint is completely atomized from the spray gun. Insufficient pressure will result in “tailing.” Too

much pressure will result in excess fog and overspray, excessive tip wear, and increased sprayer wear and tear.



Always use the lowest pressure possible to obtain desirable results.

“Inside” and “outside” corners can be sprayed. Aim the spray gun toward the center of the corner. The spray pattern is divided in half, and the edges of the spray pattern on both walls are the same.

Test the spray pattern on a piece of cardboard or other surface.

AIRLESS SPRAY GUN OPERATION

Defects	Cause	Correction
Coarse spray	Low pressure	Increase the pressure
Excessive fogging (Overspray)	High pressure	Reduce the pressure to satisfactory pattern distribution
	Material too thin	Use less thinner
Pattern too wide	Spray angle too large	Use smaller spray angle tip
Pattern too narrow	Spray angle too small	Use larger spray angle tip (if coverage is OK, try tip in same nozzle group)
Too much material	Nozzle too large	Use next smaller nozzle.
	Material too thin	Reduce pressure
	Pressure too high	
Too little material	Nozzle too small	Use next larger nozzle
	Material too thick	
Thin distribution in center of pattern "horns"	Worn tip Wrong tip	Change for new tip Use nozzle with a narrow spray angle
Thick skin on work	Material too viscous Application too heavy	Thin cautiously Reduce pressure and/or use tip in next larger nozzle group
Coating fails to close and smooth over	Material too viscous	Thin cautiously
Spray pattern irregular, deflected	Orifice clogged Tip damaged	Clean carefully Replace with new tip
Craters or pock marks, bubbles on work	Solvent balance	Use 1 to 3% "short" solvents remainder "long" solvents (this is most likely to happen with material of low viscosity, lacquers, etc.)
Clogged screens	Extraneous material in paint	Clean screen
	Coarse pigments	Use coarse screen if orifice size allows
	Poorly milled pigments (paint pigments glocculate cover screen. Incompatible paint mixture and thinners	Use coarser screen, larger orifice tips. Obtain ball milled paint. If thinner has been added, test to see if a drop placed on top of paint mixes or flattens out on the surface. If not, try different thinner in fresh batch of paint.

TEST THE PATTERN

Good, Full Pattern



Spotty Pattern —
Increase Pressure



SPRAY TIP SELECTION

Spray tip selection is based on paint viscosity, paint type, and job needs. For light viscosities (thin paints), use a smaller tip; for heavier viscosities (thicker paints), use a larger tip size. Spray tip size is based on how many gallons of

paint per minute can be sprayed through the tip. Do not use a tip larger than the maximum pump flow rate or capacity the sprayer can accommodate. Pump flow rate is measured in gallons per minute (GPM).

TIP NUMBER	ORIFICE SIZE	FAN WIDTH	LATEX			OIL BASE		FINE LACQUER & STAINS	STAINS LARGE AREAS		
			FLAT AREAS	LARGE FLAT	TRIMS	SMALL AREAS	LARGE AREAS				
311	.011	6-8"						X		PAINT MUST BE STRAINED	USE FINE GUN FILTER 120-004F 120-090FX
411	.011	8-10"						X			
511	.011	10-12"						X			
413	.013	8-10"				X			X	PAINT MUST BE STRAINED	USE FINE GUN FILTER 120-004F 120-090FX
513	.013	10-12"				X			X		
613	.013	12-14"				X			X		
415	.015	8-10"					X			PAINT MUST BE STRAINED	USE FINE GUN FILTER 120-004F 120-090FX
515	.015	10-12"	X				X				
615	.015	12-14"	X				X				
317	.017	6-8"			X					FOR BETTER RESULTS STRAIN PAINT	USE COARSE GUN FILTER 120-004C 120-090CX
417	.017	8-10"	X								
517	.017	10-12"	X	X							
617	.017	12-14"	X	X							
318	.018	6-8"			X					FOR BETTER RESULTS STRAIN PAINT	USE COARSE GUN FILTER 120-004C 120-090CX
418	.018	8-10"	X	X							
518	.018	10-12"	X	X							
618	.018	12-14"	X	X							
521	.021	10-12"		X						FOR BETTER RESULTS STRAIN PAINT	USE COARSE GUN FILTER 120-004C 120-090CX
621	.021	12-14"		X							
721	.021	14-16"		X							

PATTERN WIDTH

Thickness of the paint coat per stroke is determined by spray tip "fan width," rate of the spray gun movement, and distance to surface.

SPRAY TIP SELECTION

Two tips having the same tip size, but different pattern widths will deliver the same amount of paint over a different area (wider or narrower strip).

A spray tip with a narrow pattern width makes it easy to spray in tight places.

Use only good quality, high-pressure tungsten carbide spray tips.

LARGER SIZES AVAILABLE

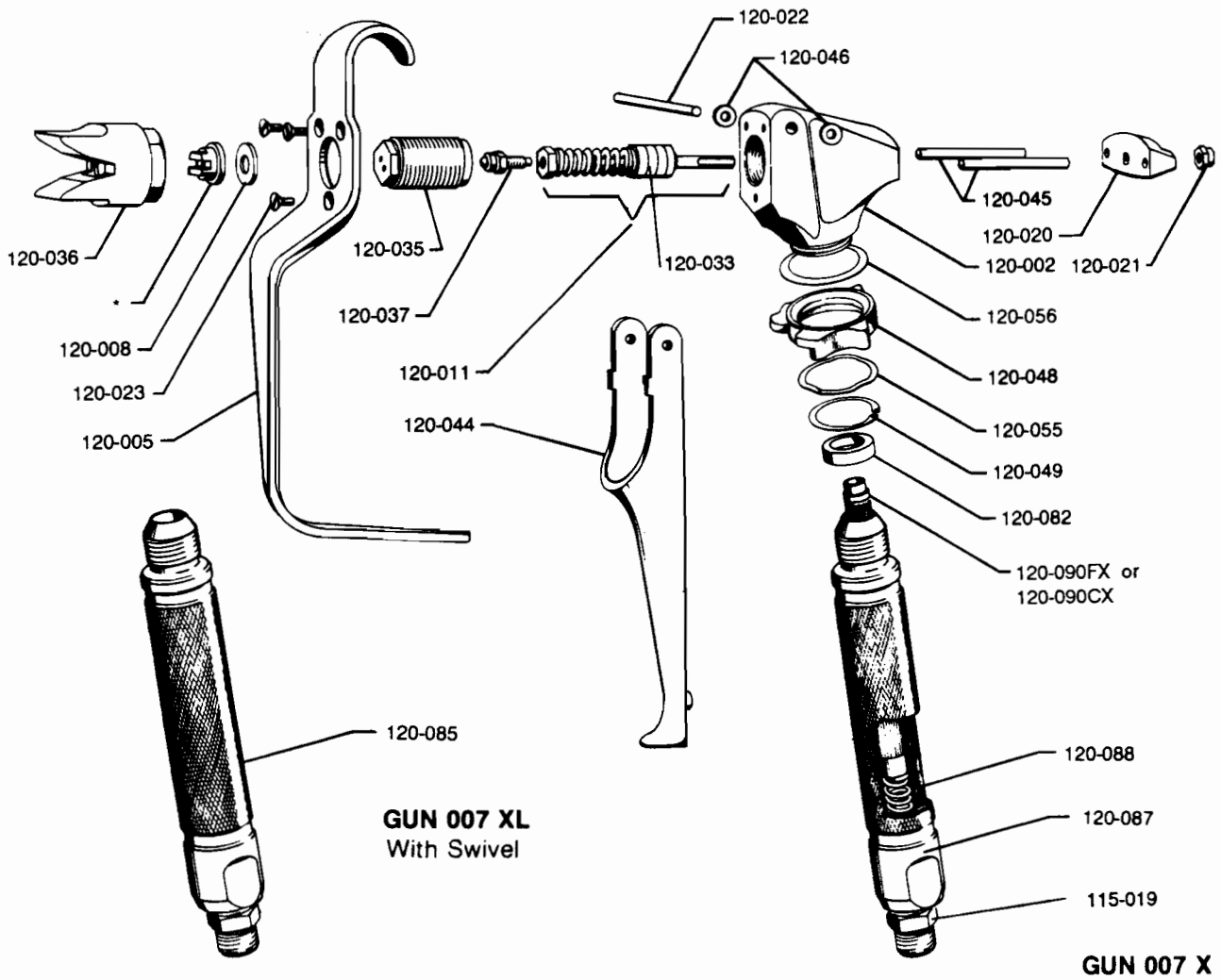
SPRAY TIP REPLACEMENT

During use, especially with latex paint, high pressure will cause the orifice to grow larger. This destroys the pattern.

Replace tips before they become excessively worn. Worn tips waste paint, cause overspray, make cutting-in difficult, and decrease sprayer performance.

Use the chart above for selecting proper spray tips to meet your job needs.

AIRLESSCO 007X & 007XL SPRAY GUNS



PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
120-001XL	Airlessco 007XL Spray Gun Swivel	120-022	Trigger Pin
120-001X	Airlessco 007X Spray Gun	120-023	Screw
115-019	Connector	120-035	Valve Seat Complete
120-002	Gun Head	120-036	Tip Holder With Guard
120-090FX	Filter - complete Fine	120-037	Valve Ball With Holder
120-090CX	Filter - complete Coarse.	120-044	Trigger
120-005	Guard	120-045	Retainer Pin
120-008	Tip Washer	120-046	Washer
120-011	Valve Spring Unit	120-048	Lock
120-020	Retainer	120-049	Retaining Ring
120-021	Nut	120-055	Wave Washer
120-087	Handle Complete 007X	120-056	Washer
120-085	Handle With Swivel 007XL	120-033	Seals Teflon
		120-082	Seal
		120-088	Spring
*TUNGSTEN CARBIDE SPRAY TIP (SEE SEPARATE LIST)		Subject to change without notice	

AIRLESSCO SPRAY GUNS CONTINUED

ADJUSTING AIRLESSCO SPRAY GUN

Holding gun with trigger (120-044) locked and pushing trigger against the lock (120-048), adjust nut (120-021) so that retainer (120-020) will move freely back and forth approximately 1/32" to allow valve spring unit (120-011) to seat the valve ball (120-037).

IMPORTANT: Readjust nut (120-021) periodically for wear of valve seat (120-035) and valve ball (120-037) otherwise leakage will occur.

TO REPLACE THE VALVE BALL HOLDER (120-037) KIT #2 - 007

Tip Washers (3) - 120-008, Valve Seat (1) - 120-035
Valve Ball Holder (1) - 120-037, Seals Tef.-(2) 120-033

DISMANTLING:

1. Unscrew tip holder (120-036) with a 7/8" open end wrench. Remove spray tip and washer (120-008).
2. Unscrew valve seat (120-035) with 1/2" socket wrench.
CAUTION: When removing and replacing valve seat (120-035) hold the trigger (120-044) in the open position so that the valve ball (120-037) is lifted off the valve seat. Failure to lift the ball off the seat will result in a scratched (leaky valve).
3. Unscrew valve ball (120-037) together with the brass part of the assembly (120-011). Do not pull on the parts or the packing may get damaged.
4. Unscrew the valve ball (120-037) from the brass part of assembly (120-011).

REASSEMBLING: is done in reverse sequence. Screw the new valve ball with holder (120-037) into the brass part (120-011). CAUTION: Tighten valve ball and brass part on threaded end of the shaft by hand until you feel a positive stop. Do not tighten with a wrench since this could result in breaking the shaft. NOTE: It is recommended that you change the valve seat (120-035) and valve ball (120-037) at the same time.

REPLACING THE VALVE SPRING UNIT (120-011) KIT #3-007

Tip Washers (3) 120-008, Valve Seat (1) 120-035
Valve Ball Holder (1) 120-037, Valve Spring Unit (1) 120-011

1. Repeat dismantling procedure as outlined above under 1 - 3.
2. Unscrew nut (120-021), remove retainer (120-020) with retainer pins (120-045) and push shaft of the valve spring unit (120-011) out of the gun head (120-002).
3. Clean gun head (120-002) bore with solvent and small brush. Do not use any sharp objects to scrape away dried paint, as would cause leakage around the seal. (120-033)
4. Replace either the two seals (120-033) or complete valve spring unit.

REASSEMBLING is done in reverse sequence. CAUTION: When reassembling, install valve spring unit (120-011) with spring loose. Push firmly.

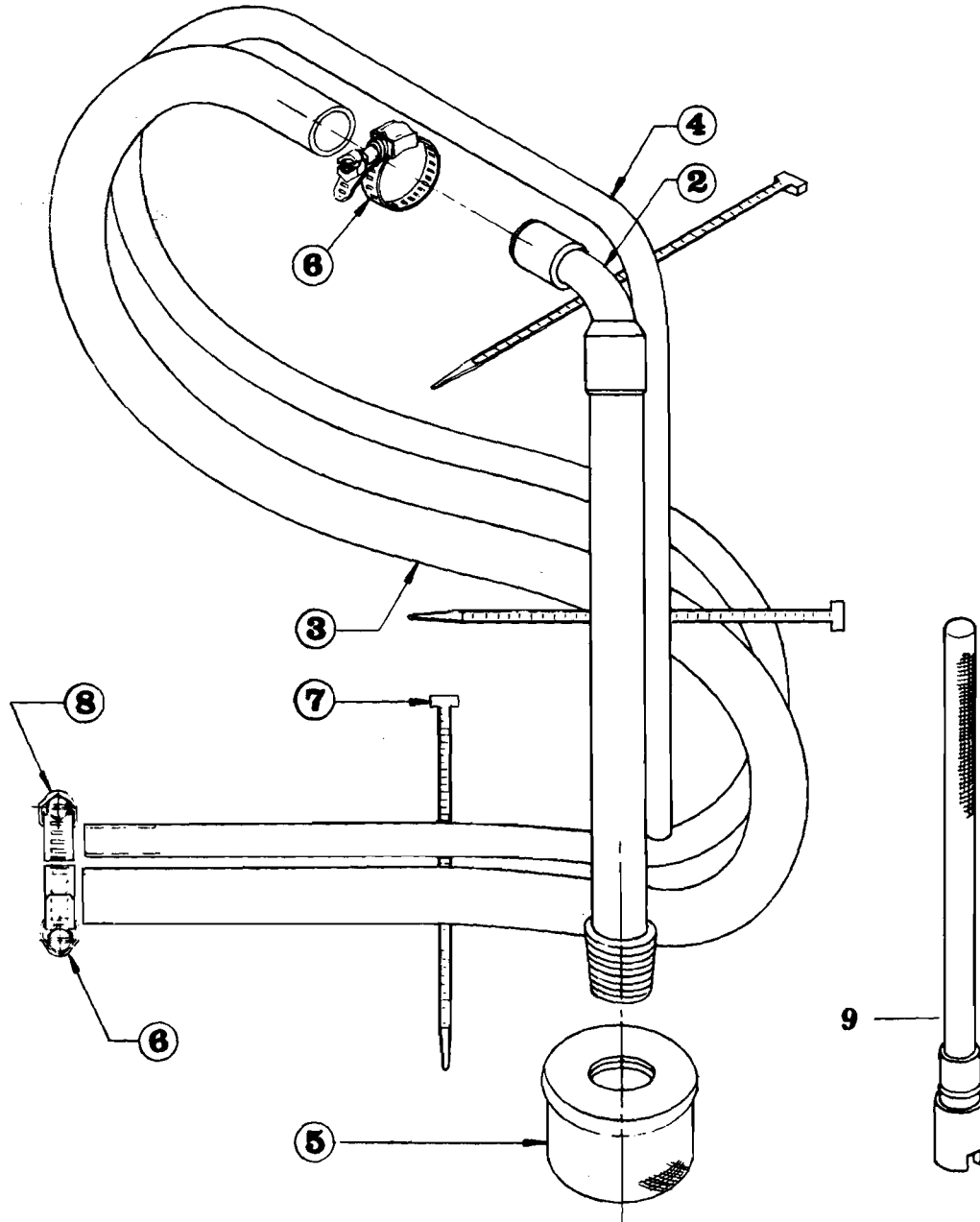
CLEANING 007 SPRAY GUN: Immediately after the work is finished, flush the gun out with a solvent. Brush pins (120-045) with solvent and oil them lightly so they will not collect dried paint.

CLEANING SPRAY TIP: Should the spray tip become clogged, relieve pressure from system by following the pressure relief procedure in the machine manual, secure the gun with safety lock (120-048) take off tip holder (120-036), take out the tip, soak in appropriate solvent and clean with a soft brush. (Do not use a needle or sharp pointed instrument to clean the tip. The hard tungsten carbide is brittle and can chip.)

CLEANING THE FILTER: To clean the filter, use a brush dipped in an appropriate solvent. Change or clean filters at least once a day. Some types of latex may require a filter change after four hours of operation.

FILTER ASSEMBLY (111-020)

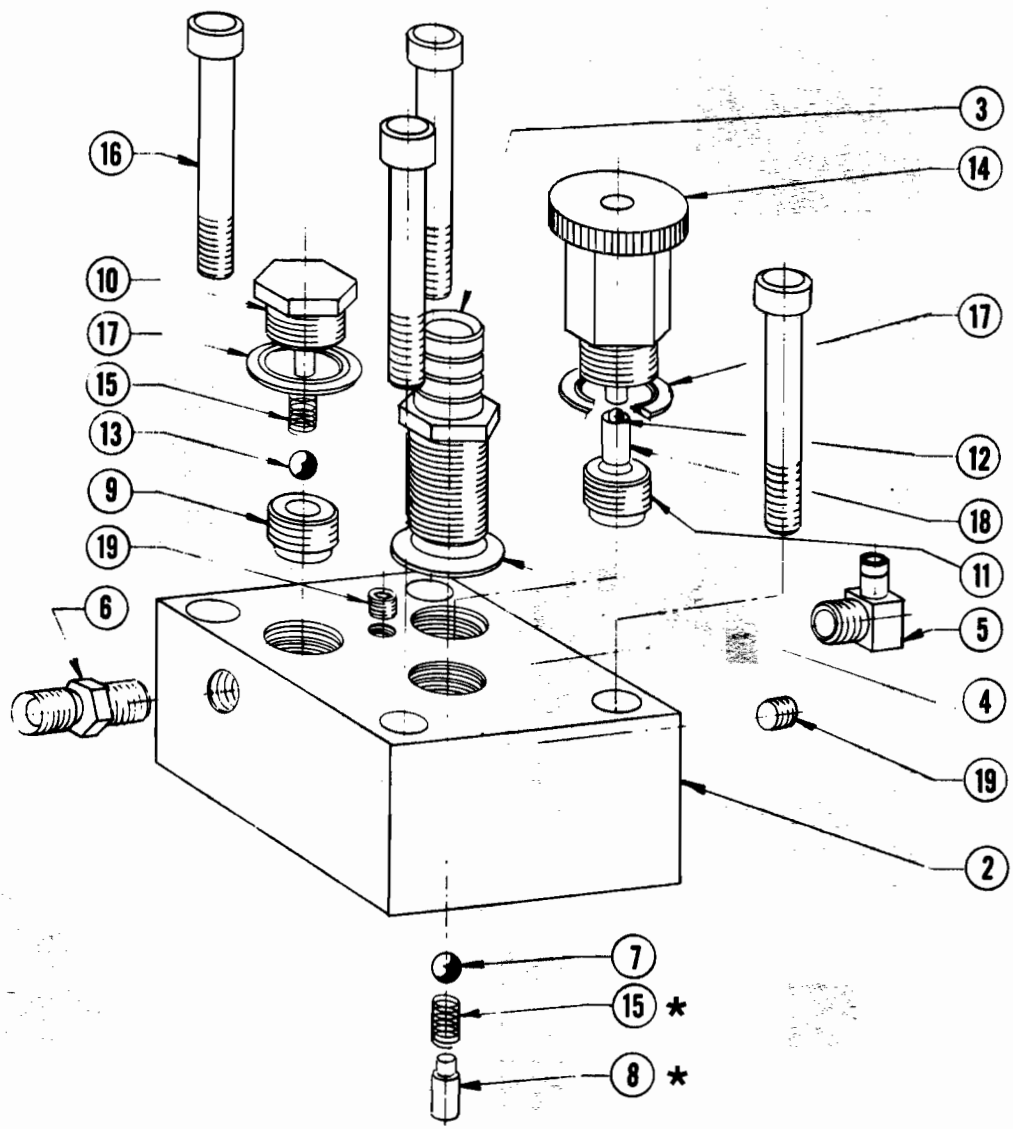
FILTER ASSEMBLY (111-034) FOR 55 GAL. DRUM - OPTIONAL



REF.	PART NUMBER	DESCRIPTION
2	111-024	FILTER TUBING — 5 GAL.
	111-030	FILTER TUBING — 55 GAL. (Optional)
3	111-012	HOSE — 1/2" I.D. — 5 GAL.
	111-028	HOSE — 1/2" I.D. — 55 GAL. (Optional)
4	111-013	HOSE — 1/4" I.D. — 5 GAL.
	111-029	HOSE — 1/4" I.D. — 55 GAL. (Optional)
5	141-008	FILTER
6	111-015	CLAMP
7	111-016	STRAP-NYLON
8	141-015	CLAMP
9	111-021	FILTER SCREEN — COARSE (Optional)
	111-022	FILTER SCREEN — FINE (Optional)

PUMP HEAD ASSEMBLY

#115-301 - Models 3200 & 4200

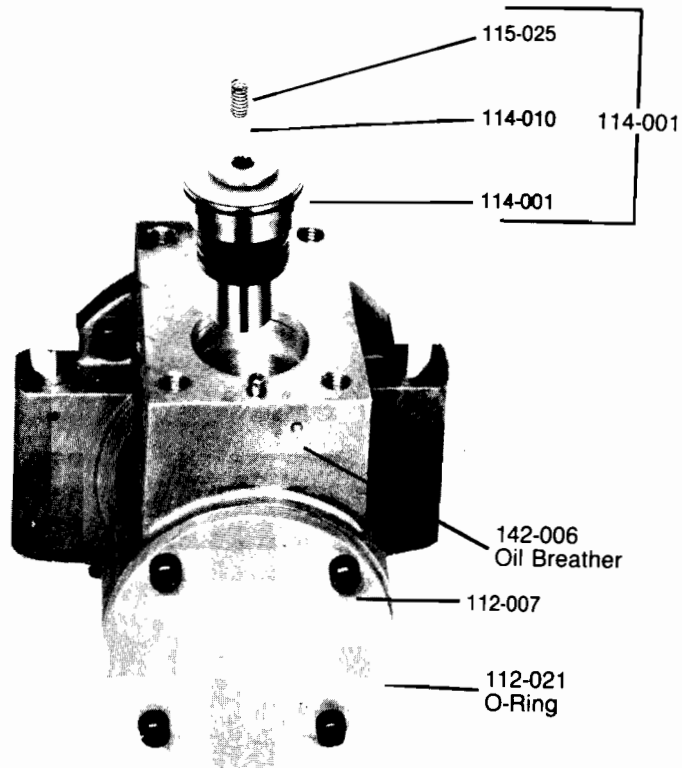


REF.	PART NO.	DESCRIPTION	REF.	PART NO.	DESCRIPTION
	115-301	Pump Head-Assy (3200 & 4200)	10	115-007	Discharge Valve Ball Stop
2	115-302	Pump Head (3200 & 4200)	11	115-016	Control Valve Seat
3	115-105	Suction Seat Assy	12	115-017	Control Ball 7/32" Dia.
4	145-006	Seal Washer	13	115-050	Discharge Ball 11/32" Dia.
5	115-107	Elbow	14	115-058	Pressure Relief Valve
6	115-019	Fitting	15	115-025	Spring *
7	115-022	Suction Valve Ball 5/16 dia.	16	115-027	Screw
8	114-010	Suction Valve Ball Stop *	17	115-028	Ring Seal
9	115-004	Discharge Valve Seat	18	115-031	T.C. Guide
			19	115-034	Plug

PAINT PUMP - PARTS LIST

TOOLS & TESTING EQUIPMENT

Open End Wrench 1 - 1/8"
 Allen Wrench 7/16", Part No. 100-074
 Allen Wrench 3/8", Part No. 100-073
 Allen Wrench 3/16", 5/16 & 1/4"
 Socket 3/8", Part No. 100-071
 Socket 7/16", Part No. 100-072
 Socket 1 1/8" deep
 Pressure Gauge Part No. 111-045
 glycerine filled with snubbers, min.3000 psi
 Torque Wrench - min. 125 lbs.
 Spray Pack (gun,tip & hose) Part No. 002-001
 Screwdriver



OIL REQUIREMENTS

Change oil (6 oz) of Part No. 112-000) in the bearing housing every 6 months if sprayer operates daily. Note: If Airlessco oil is unavailable, use SAE 30 Non Detergent. To change oil, remove front plate (112-007) and drain the oil. Refill and replace front plate. Note: Machine may spill oil due to overfill and/or temperature increases. This will not affect performance or operation.

SERVICE CENTER RECOMMENDATIONS FOR PARTS TO KEEP IN STOCK FOR SERVICING 10 COMPLETE UNITS.

Stock

115-301	3200 Control Head (complete) **	2	115-105	Suction Seat	1
117-056	3200 Electronic Sensor **	1	111-012	Hose - 1/2" I.D.	1
115-101	3100 Control Head **	2	111-013	Hose - 1/4" I.D.	1
115-004	Discharge Valve Seat	3	141-008	Filter	3
115-007	Discharge Valve Ball Stop	3	114-001	Piston Diaphragm Assembly **	3
115-016	Control Valve Seat	5	145-006	Seal - Copper	4
115-017	Control Valve Ball 3/16 Dia.	5	112-000	Oil	3
115-022	Suction Valve Ball 5/16 Dia.	1	** ON EXCHANGE PROGRAM		
115-025	Discharge Valve Spring	3			
115-028	Ring Seal	5			
115-050	Discharge Valve Ball 11/32 Dia.	3			

TROUBLESHOOTING

SYMPTOM	CAUSE	REMEDY
Motor not running.	<ol style="list-style-type: none"> 1. Pressure adjustment too high. 2. Motor too hot (Thermal overload light on) 	<ol style="list-style-type: none"> 1. Reduce pressure by turning the pressure control knob counterclockwise. 2. a. Use heavier gauge extension cord (12 gauge) to reduce current loss. b. Pressure adjustment too high. Reduce pressure by turning pressure control knob counterclockwise. To restart motor, turn off and wait 30 minutes until motor cools down. Thermal overload will automatically switch back on.
Motor runs continuously with gun closed.	<ol style="list-style-type: none"> 3. Motor stalled under pressure. 1. Pressure-Relief Valve open. 2. Electric Sensor Malfunction. 	<ol style="list-style-type: none"> 3. Operate gun or open Pressure-Relief Valve. 1. Close Pressure-Relief Valve. 2. Use Pressure-Relief Valve to reduce pressure and switch off. Take unit to an Authorized Airlessco Repair Center for repair.
Unit does not draw up paint.	<ol style="list-style-type: none"> 1. Air in the system. 2. Paint too heavy. 3. Filter dirty or plugged. 4. Paint dried out and ball stuck in valve seat. 	<ol style="list-style-type: none"> 1. Turn Pressure-Relief Valve Knob counterclockwise to "Prime" and wait until system is free of air. 2. Thin paint. 3. Clean or replace FILTER. 4. a. Unscrew DISCHARGE VALVE BALL STOP (115-007) and clean BALL (115-050) and SEAT (115-004) b. Unscrew PRESSURE-RELIEF VALVE (115-058) and clean BALL (115-017) and SEAT (115-016). Grease RING SEAL (115-028) with multi-purpose grease before tightening DISCHARGE VALVE BALL STOP (115-007) and/or PRESSURE-RELIEF VALVE (115-058). c. Unscrew SUCTION HOSE CLAMP and remove SUCTION HOSE. Using small screwdriver press slightly on the ball to separate it from the seat.
Unit draws up paint, but pressure does not build up when spraying. (Important: Check Pressure Gauge)	<ol style="list-style-type: none"> 1. Pressure-Relief Valve open. 2. Air in System. 3. Dirt in Pressure-Relief Valve Seat. 4. Paint leaks from return hose. 	<ol style="list-style-type: none"> 1. Turn Pressure-Relief Valve Knob (115-058) fully clockwise. 2. Turn Pressure-Relief Valve Knob counterclockwise to "Prime" and wait until system is free of air. 3. Clean Valve. 4. a. Turn Pressure-Relief Valve Knob (115-058) fully clockwise. b. Clean or replace. Use Kit #3-3100.
Unit draws up paint, pressure builds up, but drops immediately when gun is opened. (Important: check with pressure gauge)	<ol style="list-style-type: none"> 1. Too large tip size. 2. Inlet filter plugged 3. Paint too heavy. 4. Suction hose clamps not tight, pump sucking air. 5. Suction hose defective. 6. Paint leaks through oil breather hole in casting. 7. If none of above improved spraying. 	<ol style="list-style-type: none"> 1. Exchange TIPS for smaller size. Tips wear out after some time, enlarging orifice. 2. Clean, or replace FILTER. 3. Thin or filter paint. 4. Tighten clamps. 5. Replace suction hose. 6. Replace diaphragm assembly. 7. Take your unit to an authorized Airlessco repair center.

ALWAYS FOLLOW PRESSURE RELIEF PROCEDURE ON PG. 6 BEFORE SERVICING GUN OR MACHINE.

SERVICE CENTER REPAIRS -

THE FOLLOWING SERVICE PROCEDURES MUST BE PERFORMED BY AUTHORIZED SERVICE CENTER ONLY.

AIRLESSCO PARTS EXCHANGE PROGRAM OF Control Head (115-301), Diaphragm Ass'y (114-001) and Pressure Relief Valve (115-058). We offer the Parts Exchange Program for distributors to minimize the downtime on the units by having available a rebuilt Control Head Assy (115-301) and Diaphragm Assy (114-001) to exchange with the used parts.

TO REPLACE CONTROL HEAD (115-301)

1. Disconnect pick up and return hoses.
2. Remove bolts (115-027) and control head.
3. Remove old suction ball (115-022) from diaphragm.
4. Check spring (115-025) to make sure the top is 5/16" above the screw which holds the diaphragm parts in place.
5. Set new suction ball (115-022) on spring.
6. Place 2 head bolts in opposite corners of new block. Use these to center head as it is installed.
7. Tighten all 4 head bolts to 45 foot pounds.
8. Re-install pick up and return hoses.

DIAPHRAGM (114-001) SHOULD BE CHANGED WHEN:

1. Anytime the paint head is removed for any reason, a new diaphragm assy should be installed.
2. Paint leaks from the weep hole in front. Note: During normal operation oil may drip out of the weep hole. This is a common occurrence and does not interfere with machine operation.
3. If paint is leaking around the head.

TO EXCHANGE A DIAPHRAGM:

1. Remove the 4 head bolts (115-027) which holds the block in place.
2. Remove the head. (115-301)
3. Put your thumb on the diaphragm and turn the fan with a screwdriver until you feel the diaphragm is at the top of the stroke.
4. Pry old diaphragm (114-001) assy out by inserting a screwdriver under diaphragm washers. Do not pry against the casting.
5. Check to make sure the shoulder inside the diaphragm is clean.
6. Insert rebuilt diaphragm with hole in guide (114-004) to the rear (away from the weep hole in the casting).
7. Press diaphragm down. Hold thumb on diaphragm, turn fan until diaphragm is at its lowest point. Check diaphragm spring. It should be 5/6" of an inch above the top of the screw.
8. Place suction ball (115-022) on diaphragm spring.
9. Clean and dry out the bottom of control head (115-301). Insert two bolts on opposite corners of the head and use these to center the head as it is reinstalled on the machine.
10. After all bolts are installed, torque them to 45 foot pounds.

TO REPLACE THE DISCHARGE SEAT (115-004) - Use # KIT-1-3100

Note: If discharge valve ball stop shows wear (if ball stop is cupped instead of flat) order KIT-2-3100.

1. Unscrew the discharge valve ball stop (115-007).
2. Remove ball (115-050)
3. Using 7/16 Allen Wrench remove the seat.
4. Clean the bottom of the hole in the pump head and grease with a multipurpose grease.
5. Install new seat and torque to 85 ft. lb. (hold under the torque for several seconds.
6. Put new 11/32 ball (115-050) into the seat.
7. Clean & grease the ring seal (115-028). Clean top of the pump control head & shoulder of the ball stop before tightening.
8. Reinstall discharge valve ball stop (115-007). Tighten firmly to about 15 ft. lb.

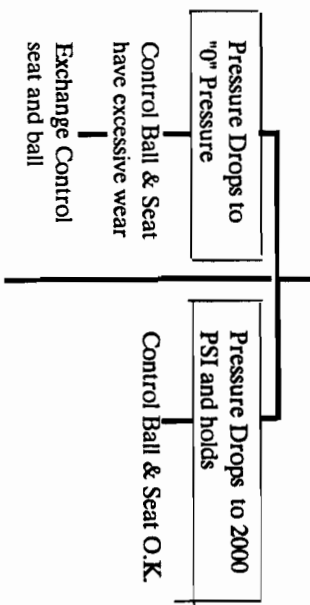
TO REPLACE CONTROL VALVE SEAT (115-016) AND BALL (115-017) - Use # KIT-3-3100

1. Unscrew the pressure relief valve (115-058)
2. Remove ball (115-017) and guide (115-031).
3. Using a 7/16 Allen wrench remove the seat.
4. Clean the bottom of the hole in the pump head and grease with a multipurpose grease.
5. Install new seat and torque to 85 ft. lb.
6. Put in new ball 7/32 (115-017) and original guide (115-031) (Be sure the notch on the guide is on the top.)
7. Clean and grease the ring seal. Clean top of the pump control head and shoulder of the pressure relief valve before tightening.
8. Reinstall pressure relief valve and tighten to 15 ft. lb.

STEP 1 : CHECK CONTROL VALVE #115-058

Use 50' flexible hose, pressure gauge & .017 Tip on Gun

- * Remove pin next to toggle switch
- * Switch to right position
- * Prime Pump
- * Adjust pressure (3500PSI)
- * Turn motor off.



NOTE: Inspect control valve #115-058 for wear. Replace as necessary.

STEP 2 : CHECK DISCHARGE VALVE & SEAT

(Follow this step after Step #1)

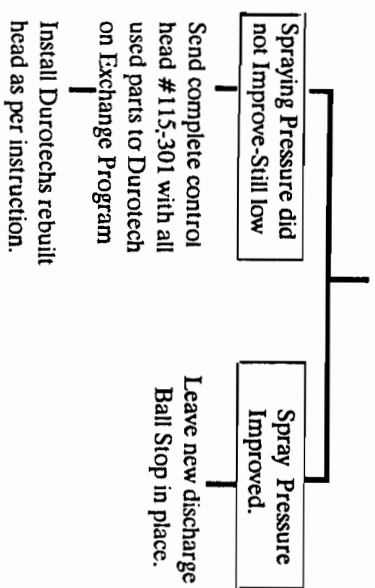
- * Check visually the discharge seat & ball.
 - * Remove the discharge valve ball # 115-007
- Check for rings on ball due to corrosion and or excessive wear of ball and seat. Exchange part if required.*

STEP 3 : CHECK DISCHARGE BALL STOP

(go to Step 3 only when spray pressure is still low after completing Step 1 and 2)

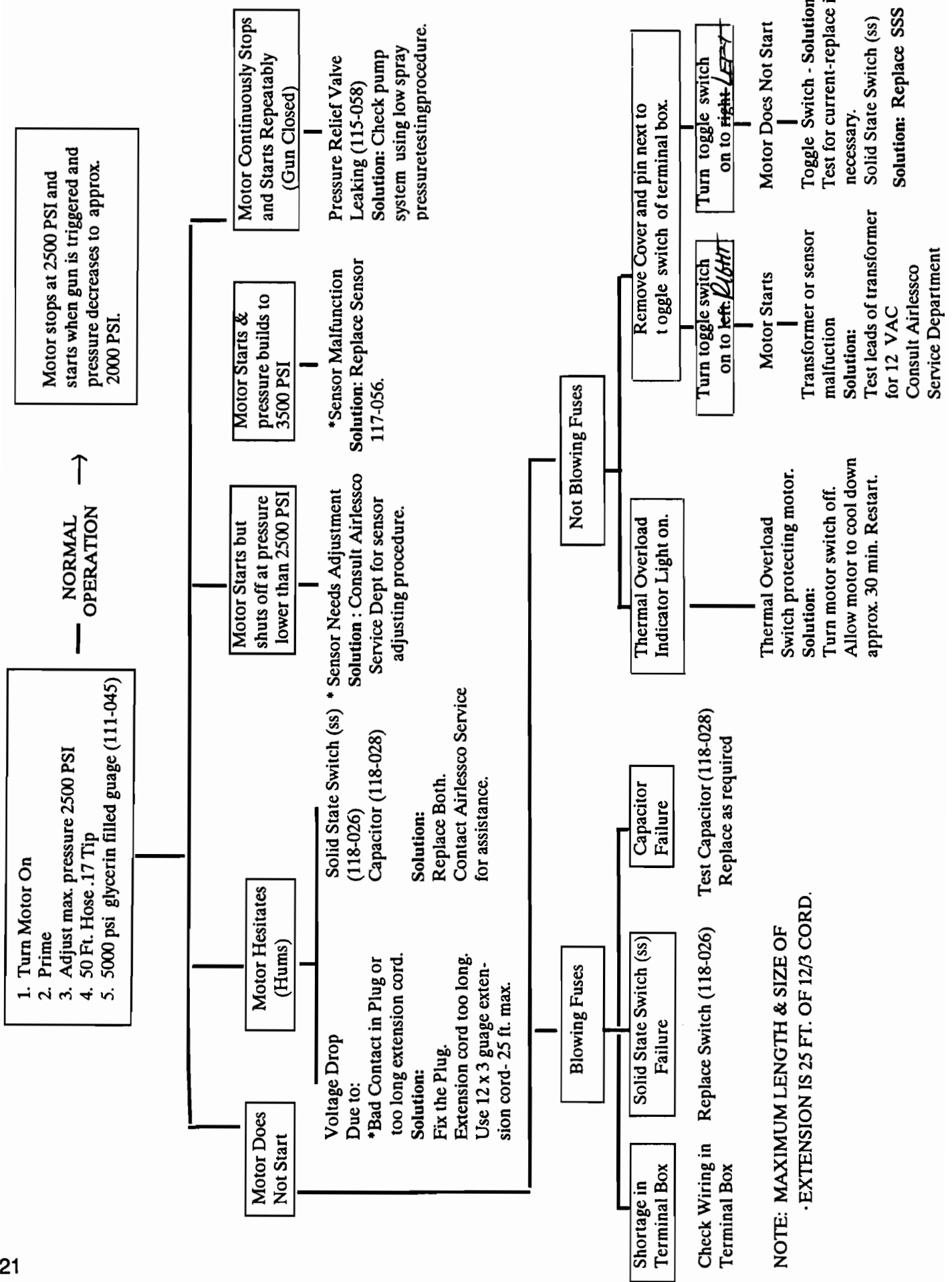
With toggle switch to manual position:

- * Prime Pump
- Adjust max. pressure (3500 PSI)
- Spray with .017 Tip
- * Record spraying pressure. Should be 1550 or higher.
- * Turn prime spray knob to prime
- * Turn motor switch off
- * Replace discharge ball stop # 115-007.
- * Prime Pump
- * Adjust max. pressure spray with .017 tip.



LOW SPRAY PRESSURE TEST

ELECTRICAL SYSTEM TEST



NOTE: MAXIMUM LENGTH & SIZE OF
• EXTENSION IS 25 FT. OF 12/3 CORD.

INSTRUCTIONS FOR REPLACEMENT OF SOLID STATE SWITCH (SSS)

Part No. 118-026

Note: Capacitor Part No. is 118-028.

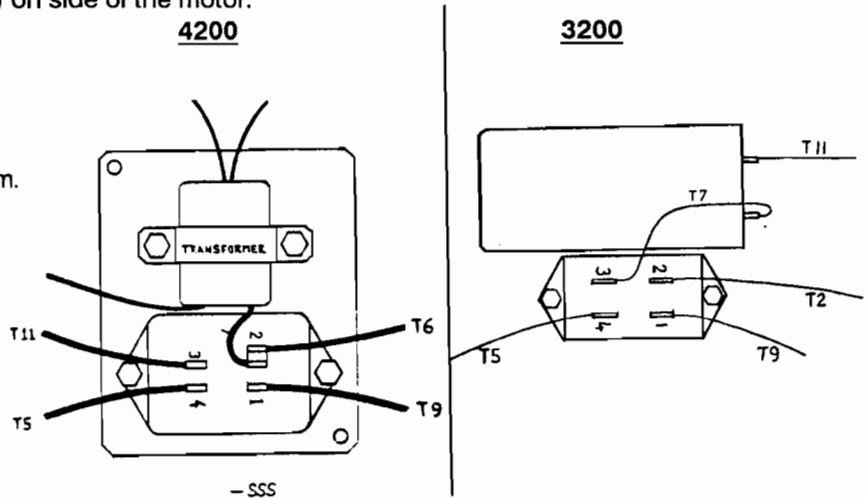
SSS is located in secondary box (orange) on side of the motor.

1. Remove cover (2 Phillips Screws)
2. Disconnect 4 Wires.
3. Loosen upper screws and remove SSS.
4. Install new SSS. Be sure the contacts No. 2 and 3 are on transformers side. See Diagram.
5. Connect 4 wires:

SSS Contact #	Wire-4200	Wire- 3200
1	T9	T9
2	T6 & black*	T2
3	T11	T7 to cap
4	T5	T5

* Note: Some transformers may have different color code.

6. Cover box. Check the gasket.



INSTRUCTIONS FOR REPLACEMENT OF ELECTRONIC SENSOR

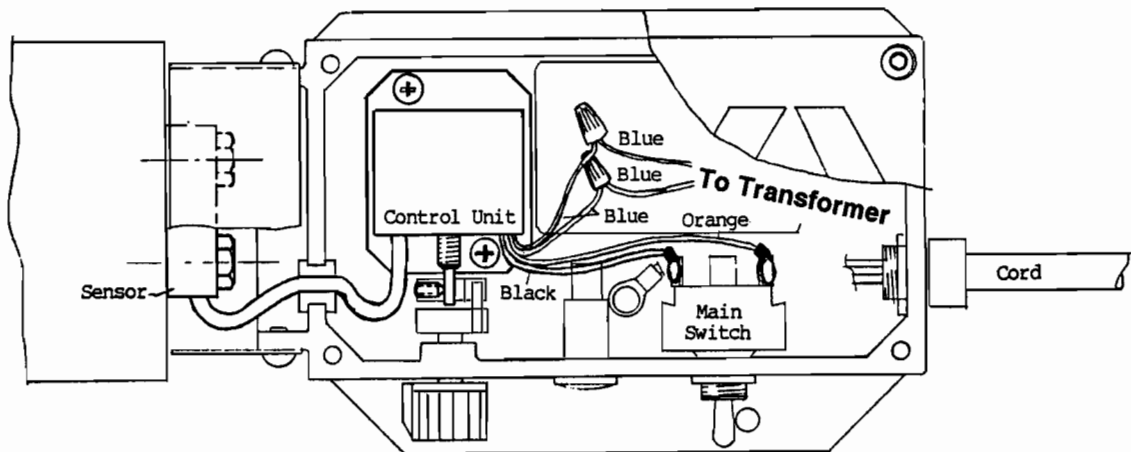
Part No. 117-056

NOTE: Electronic sensor Part No. 117-056 (sensor & control unit) is factory adjusted. Any readjustment voids warranty - Do not reset.

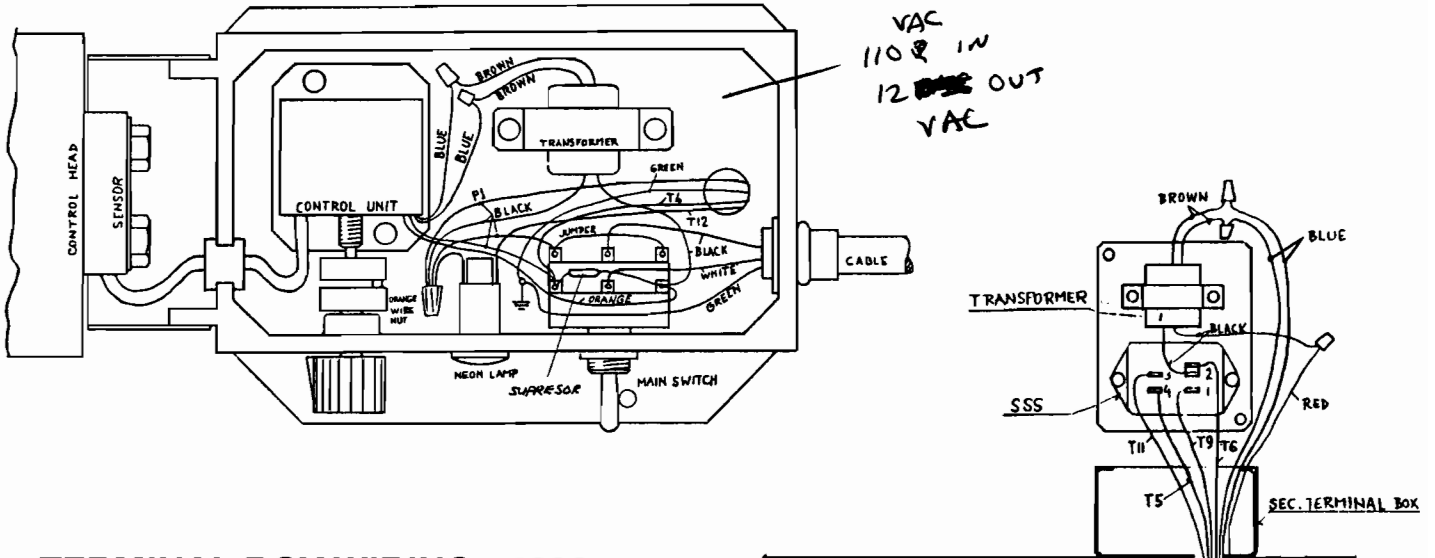
TOOLS: 1. Screwdrivers - Flat 1/4, 1/16, Phillips #2. 2. Allen Wrench 5/32 3. Open Wrench 1/2

REPLACEMENT OF CONTROL UNIT:

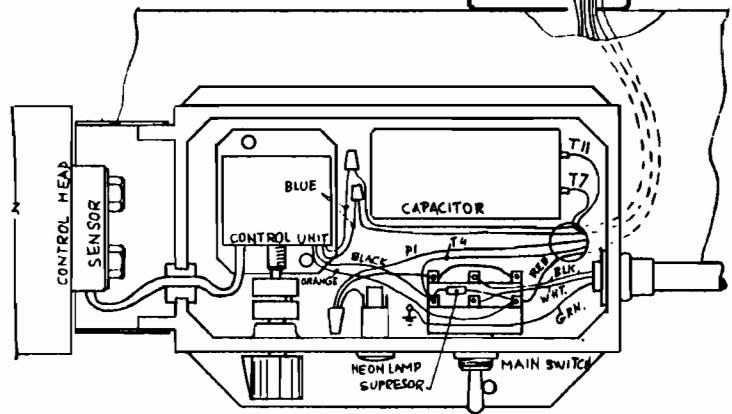
1. Remove sensors cover and boxes cover.
2. Remove sensor (2 hex H'd screws)
3. Disconnect 4 wires (2 blues, orange & black)
4. Remove control unit (2 Phillips screws)
5. Install new unit. Be sure the pin of knobs axle goes into groove of plastic plate.
6. Check if units axle turns from left to right limit. Repeat ths sequence several times, then tighten set screw in plastic plate.
7. Install sensor & cover.
8. Connect all 4 wires. Cover box.



TERMINAL BOX WIRING - 3200

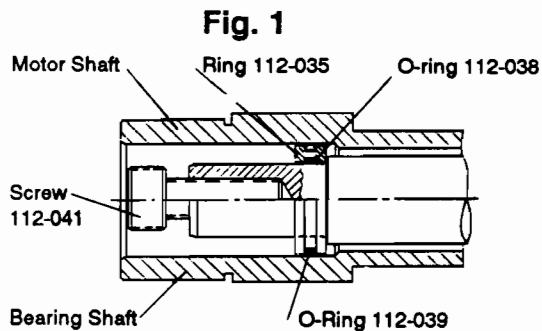


TERMINAL BOX WIRING - 4200 (Also used for 3200 SP)



COUPLING INSTALLATION

1. Slide ring (112-035) with 2 O-rings onto the motors' shaft. GREASE it first. (Refer to Fig. 1)
2. Install screw 112-041, all the way into end of the motors' shaft. (Fig. 1)



3. Push the coupling onto motors' shaft until it stops against the screw 112-041. (Refer to Fig.2)

4. Hold coupling with 13/16 wrench. Turn screw counterclockwise with Allen Wrench 5/16, until three threads are showing. (Fig. 2)

5. Hold coupling (13/16 wrench) and screw with Allen wrench 5/16. Neither should move. Turn motor fan clockwise. Coupling will tighten onto shaft until it stops. Do not force. (Fig. 2)

6. Hold coupling (13/16 wrench) and tighten screw with Allen Wrench 5/16 until very tight. (Fig.2)

