

PRO Spray



OPERATION MANUAL & PARTS LIST FOR MODELS ProSpray 404, ProSpray 606 Lo-Pro & ProSpray 606 Hi-Pro AIRLESS PAINT SPRAYERS

WARNING: Before operating, doing any service or maintenance procedure, learn & follow the pressure relief procedure on page 6. Read & understand all warnings on pages 4, 5, 6 and 7

**ALL SERVICE PROCEDURES MUST BE PERFORMED
BY AUTHORIZED SERVICE CENTER.**

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INTRODUCTION

ICI ProSpray 404 and 606

ProSpray 404 and 606 are compact, lightweight, airless paint sprayers built to meet the needs of the beginning and the experienced painting contractor.

Specifications

	ProSpray 404	ProSpray 606
Pressure	3000 psi	3000 psi
Output	0.4 gpm	0.6 gpm
Tip Size	1 gun up to 0.019	1 gun up to 0.023
Motor	DC TEFC .5 hp	DC. TEFC. .75 hp
Weight	38 lbs	49 lbs.

WARNING

Prior to starting, read, understand and observe all safety precautions and warnings on cover & pages 4, 5, 6, 7 and all labels and tags on the machine

MANUAL NOTATIONS

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

IMPORTANT - Alerts users to steps or procedures that are essential to proper equipment repair and maintenance.

NOTE - Identifies essential procedures or extra information.

FLUSHING Read prior to using your sprayer

1. New Sprayer

Your ProSpray unit was factory tested in an anti-freeze solution which was left in the pump. **Before using oil-base paint**, flush with mineral spirits only. **Before using water-base paint** flush with mineral spirits, followed by soapy water, then a clean water flush.

2. Changing Colors

Flush with a compatible solvent such as mineral spirits or water.

3. Changing from water-base to oil-base paint.

Flush with soapy water, then mineral spirits.

4. Changing from oil-base to water-base paint.

Flush with mineral spirits, followed by soapy water, then a clean water flush.

5. Storage

Oil-base paint: Flush with mineral spirits.

Water-base paint: Flush with water, then mineral spirits and leave the pump, hose and gun filled with mineral spirits. **For longer storage**, use mixture of mineral spirit and motor oil (half & half). Shut off the sprayer, follow Pressure Relief Procedure on page 6 to relieve pressure and make sure prime valve is left OPEN.

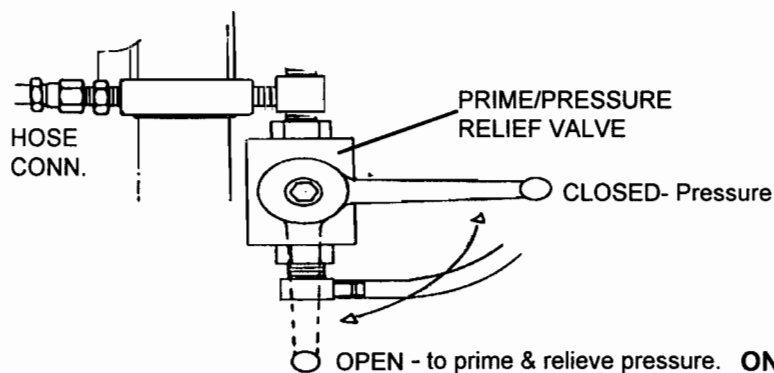
6. Start up after storage

Before using water-base paint, flush with soapy water and than a clean water flush.

When using oil-base paint, flush out the mineral spirits with the material to be sprayed.

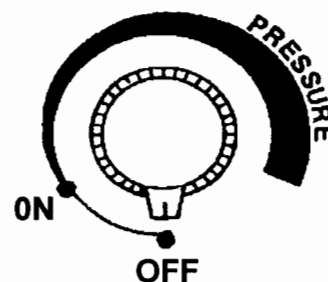
HOW TO FLUSH

FIGURE 1



PRIME/PRESSURE (PR) RELIEF VALVE (FIG. 1) is used to prime pump and to relieve pressure from gun, hose and tip.

FIGURE 2

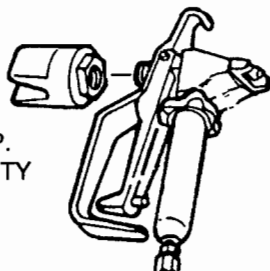


ON-OFF PRESSURE CONTROL KNOB. (FIG. 2) is used to turn unit on and to adjust pressure. Turn clockwise (CW) to increase pressure and counter-clockwise (CCW) to decrease pressure. Turn completely CCW until it "clicks" to turn unit off.

1. Be sure the gun safety latch is engaged and there is no spray tip in the gun. Refer to separate gun instruction manual on how to lock the safety latch and the guns safety features. Refer to Fig. 3.

FIGURE 3

REMOVE SPRAY TIP.
ENGAGE GUN SAFETY
LATCH.



2. Pour enough clean, compatible solvent into a large, empty metal pail to fill the pump and hoses.
3. Place the suction tube into the pail.
4. Turn the Prime/Pressure Relief (PR) Valve to the "OPEN", priming position. Refer to Fig. 1.
5. Point the gun into the metal pail and hold a metal part of the gun firmly against the pail. Refer to Fig. 4. below.

WARNING - To reduce the risk of static sparking which can cause fire or explosion, always hold a metal part of the gun firmly against the metal pail when flushing. This also reduces splashing. Refer to Fig. 4.

FIGURE 4

MAINTAIN FIRM
METAL TO METAL
CONTACT BETWEEN
GUN AND CONTAINER



6. Disengage the gun safety latch and squeeze the gun trigger. Turn the ON-OFF Pressure Control Knob to the "ON" position (Refer to Fig. 2) and turn clockwise to increase pressure just enough to start the pump.
7. Turn the Prime/PR Valve to the PRESSURE - "CLOSED" position. This will allow solvent to be flushed through the pump, hoses and gun. Allow the unit to operate until clean solvent comes from the gun.
8. Release the trigger and engage the gun safety latch.
9. If you are going to start spraying, place the suction tube into the supply container. Release the gun safety latch and trigger the gun into another empty, metal container, holding a metal part of the gun firmly against the metal pail and force the solvent from the pump and hose. Engage the gun safety latch until you are ready to spray.
10. If you are going to store the sprayer, remove the suction tube from the solvent pail, holding a metal part of the gun firmly against the metal pail and force the solvent from the pump and hose. Engage the gun safety latch. Refer to "Storage" Procedure on Page 1.
11. Whenever you shut off the sprayer, follow the "PRESSURE RELIEF PROCEDURE" on Page 6.

SETTING UP

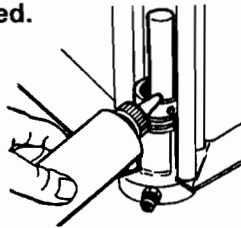
1. Connect the hose and gun.

- Remove the plastic cap plug from the outlet tee and screw a conductive or grounded 3000 psi airless spray hose onto fluid outlet.
- Connect an airless spray gun to the other end of the hose.
- Do not use steel braided airless hose. Use nylon braided airless hose only.

NOTE: Do not use thread sealer on swivel unions as they are made to self-seal. Use thread seal on tapered male threads only.

2. Fill the Packing Nut/Wet Cup 1/3 full with Throat Seal Oil (TSO) supplied. (Fig 5)

FIGURE 5



3. Check the Electrical Service.

Be sure the electrical service is 120 VAC, 15 amp minimum, and that the outlet you use is properly grounded.

4. Grounding

WARNING - To reduce the risk of static sparking, fire or explosion which can result in serious bodily injury and property damage, always ground the sprayer and system components and the object being sprayed as instructed on Page 6.

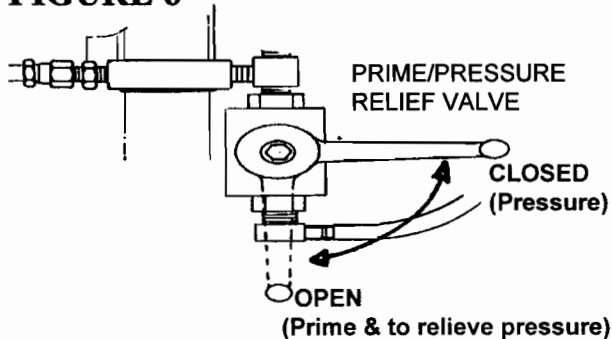
5. Flush the sprayer as per "Flushing - New Sprayer" on page 1 and "How to Flush on page 2.

STARTING UP

1. Learn the functions of the controls.

PRIME/PRESSURE (PR) RELIEF VALVE is used to prime pump and to relieve pressure from gun, hose and tip.

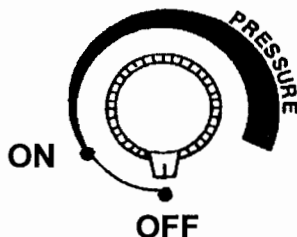
FIGURE 6



ON-OFF PRESSURE CONTROL KNOB

is used to turn unit on and to adjust pressure. Turn clockwise (CW) to increase pressure and counter-clockwise (CCW) to decrease pressure. Turn completely CCW until it "clicks" to turn unit off.

FIGURE 7



2. Prepare the Material

- Prepare the material according to the material manufacturer's recommendations.
- Place the suction tube into the material container.

3. Starting the Sprayer (See Fig. 6 and 7)

- Prime/PR Valve must be "OPEN" in the priming position.
- When you have ensured that gun safety latch is engaged, attach tip and Safety Guard.
- Turn the ON-OFF Pressure Control Knob to the "ON" position.

WARNING - To stop the unit in an emergency, turn motor off. Then relieve the fluid pressure in the pump and hose as instructed in the "Pressure Relief" Procedure on Page 6.

- Turn Pressure Control Knob CW to prime pump.
- After the pump is primed, turn Prime/PR Valve to the "Closed" position.
- Turn Pressure Control Knob to the desired spray pressure. LCD displays static pressure.
- Disengage the gun safety latch and you are ready to spray.

WARNING - If you spray into the paint bucket, always use the lowest spray pressure and maintain firm metal to metal contact between gun and container. See Page 2 Fig. 4.

STARTING UP continued

4. Adjusting the Pressure

a. Turn the Pressure Control Knob CW to increase pressure and CCW to decrease pressure.

b. Always use the lowest pressure necessary to completely atomize the material

CAUTION - Operating the sprayer at higher pressure than needed, wastes material, causes early tip wear and shortens sprayer life.

c. If more coverage is needed use a larger tip rather than increasing the pressure.

d. Check the spray pattern. The tip size and angle determines the pattern width and flow rate.

5. Cleaning a Clogged Tip.

WARNING - Follow the "Pressure Relief Procedure" on page 6 .

To reduce the risk of injection, never hold your hand, body, fingers or hand in a rag in front of the spray tip when cleaning or checking for a cleared tip. Always point the gun toward the ground or into a waste container when checking to see if the tip is cleared or when using a self-cleaning tip.

There is an easy way to keep the outside of the tip clean from material build up:

Every time you stop spraying, for even a minute, lock the gun and submerge it into a small bucket of thinner suitable for the material sprayed. Thinner will dissolve the buildup of paint on the outside of tip, tip guard and gun much more effectively if the paint doesn't have time to dry out completely.

WARNING - Clogged standard (flat) tip - clean only after the tip is removed from the gun.
FOLLOW THE PRESSURE RELIEF PROCEDURE WARNING ON PAGE 6.

6. When Shutting off the Sprayer

a. Whenever you stop spraying, even for a short break, follow the "Pressure Relief Procedure Warning" on page 6.

b. Clean the tip & gun as recommended in gun instruction manual

c. Flush the sprayer at the end of each work day, if the material you are spraying is water-based, or if it could harden in the sprayer overnight. See "Flushing" pages 1 and 2. Use a compatible solvent to flush, then fill the pump and hoses with an oil based solvent such as mineral spirits.

d. For long term shutdown or storage, refer to page 1.

WARNING - Be sure to relieve pressure in the pump after filling with mineral spirits.

ProSpray PRESSURE SYSTEM

Your ICI Paint Products have been tested with this ProSpray Unit. The recommended spraying pressure and tip size for each product has been determined, and is available from your local ICI paint store. Use the Liquid Crystal Display (LCD) to match the pump's pressure to the recommended pressure.

WARNINGS

DO NOT USE halogenated solvents in this system. The prime valve, 2 gun manifold and most airless guns have 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, Tetrachloroethane. Alternate valves and guns are available if you need to use these solvents.

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

WARNINGS CONTINUED ON NEXT PAGE.....

WARNINGS

This sprayer is for professional use only.

HIGH PRESSURE SPRAY CAN CAUSE EXTREMELY SERIOUS INJURY. Handle as you would a loaded firearm. Follow PRESSURE RELIEF PROCEDURE ON PAGE 6. Observe all warnings.

MEDICAL ALERT - Airless Spray Wounds

If any fluid appears to penetrate your skin, get **EMERGENCY MEDICAL CARE AT ONCE. DO NOT TREAT AS A SIMPLE CUT.**
Tell the doctor exactly what fluid was injected.

NOTE TO PHYSICIAN: Injection in the skin is a traumatic injury. It is important to treat the injury surgically as soon as possible. **DO NOT DELAY treatment to research toxicity.** Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.

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 will penetrate through material and into the hand.

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

ALWAYS have gun tip guard in place when spraying.

ALWAYS lock gun trigger when you stop 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.

Tighten all fluid connections 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.**

* Go to an emergency room immediately.

* Tell the doctor you suspect an injection injury.

* Tell him what kind of material you were spraying with and have him read NOTE TO PHYSICIAN above.

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 and given this operators manual to read.

ALWAYS wear a spray mask, gloves and protective eye wear 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 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 material 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 & tip guard to clean **AFTER** pump is turned off and the pressure is relieved by following the **PRESSURE RELIEF PROCEDURE.**

TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in eyes or on skin, inhaled or swallowed. Know the hazards of the fluid you are using. Store & dispose of hazardous fluids according to manufacturer, local, state & national guidelines.

ALWAYS wear protective eyewear, gloves, clothing and respirator as recommended by fluid manufacturer.

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, changing or cleaning tips and whenever you stop spraying or when you are instructed to relieve the pressure.

1. Engage gun safety latch. Refer to separate instruction manual provided with your gun on its safety features and how to engage safety latch.

2. Turn unit off and unplug from electrical outlet.

3. Disengage safety latch and trigger gun to relieve residual fluid pressure.

Hold metal part of the gun in contact with grounded metal pail



4. Re-engage gun safety latch.

5. Turn Prime/Pressure Relief Valve as shown open (Priming) to relieve residual fluid pressure.



NOTE: Leave prime valve OPEN until you are ready to spray again & when machine is stored.

IF THE SPRAY TIP OR HOSE IS CLOGGED, follow Step 1 through 5 above. Expect paint splashing into the bucket while relieving pressure during Step 5. If you suspect that pressure hasn't been relieved due to damaged prime/pressure relief valve or other reason, **VERY SLOWLY** loosen the tip guard retaining nut or hose end couplings to relieve pressure gradually, then loosen completely. Now clear the tip, gun or hose obstruction.

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 & 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 ensure switch is in OFF position before plugging unit in.

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.**

Use only a 3 wire extension cord that has a 3 blade grounding plug, and a 3 slot receptacle that will accept the plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. (Note: The table on the top of the next page shows the correct size to use depending on cord length and name plate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

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.

WARNINGS

UL RECOMMENDATION FOR MINIMUM GAUGE EXTENSION CORD

AMPERAGE RATING RANGE	VOLTAGE	LENGTH OF CORD IN FEET								
		25	50	100	150	200	250	300	400	500
5 - 6	120	18	16	12	12	10	10	8	8	6
6 - 8	120	18	16	12	10	10	8	6	6	6
8 - 10	120	18	14	12	10	8	8	6	6	4
10 - 12	120	16	14	10	8	8	6	6	4	4

Always follow recommended pressure and operating instructions.

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 motor, 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 on page 6.

AVOID COMPONENT RUPTURE

This sprayer operates at 3000 psi (205 bar). Always be sure that all components and accessories have a maximum working pressure of at least 3000 psi 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 and release pressure by following PRESSURE RELIEF PROCEDURE.

ALWAYS use approved high pressure fittings and replacement parts.

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

PREVENT STATIC SPARKING FIRE/EXPLOSIONS

ALWAYS be sure all equipment & objects being sprayed are properly grounded. Always ground sprayer, paint bucket and object being sprayed. See grounding on page 6 for 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 spray area. Do not plug in or unplug any electrical cords in the spray area, which can create sparks, when there is any chance of igniting vapors still in the air. Follow the coating & solvent manufacturers safety warnings and precautions.

Use only conductive fluid hoses for airless applications. Be sure gun is grounded through hose connections. Check ground continuity in hose & 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 cleaning process. ALWAYS follow the PRESSURE RELIEF PROCEDURE on page 6.

ALWAYS remove the spray tip before flushing. Hold a metal part of the gun firmly to the side of a 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, naptha. Consult your supplier to be sure. NEVER SMOKE in the spraying/cleaning area.

WHEN SPRAYING & CLEANING WITH FLAMMABLE PAINTS AND THINNERS

1. When spraying with flammable liquids, the unit must be located a minimum of 25 feet away from the spraying area in a well ventilated area. Ventilation must be sufficient enough to prevent the accumulation of vapors.
2. To eliminate electrostatic discharge, ground the spray unit, paint bucket & spraying object. See GROUNDING on pg. 6. 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 the tip in a well ventilated area, into the grounded steel bucket.
4. Never use high pressure in the cleaning process. USE MINIMUM PRESSURE.
5. Do not smoke in spraying/cleaning area.

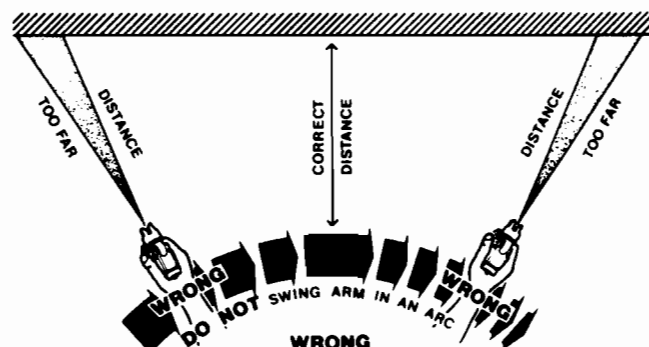
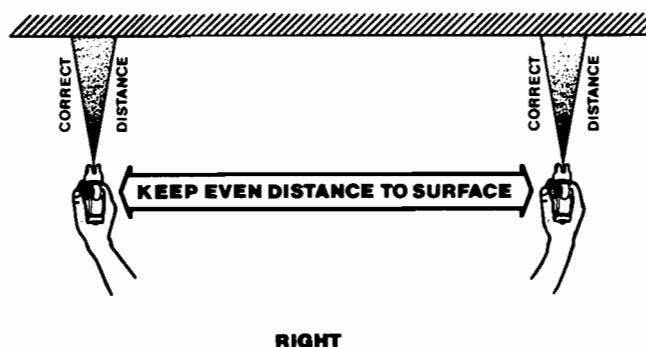
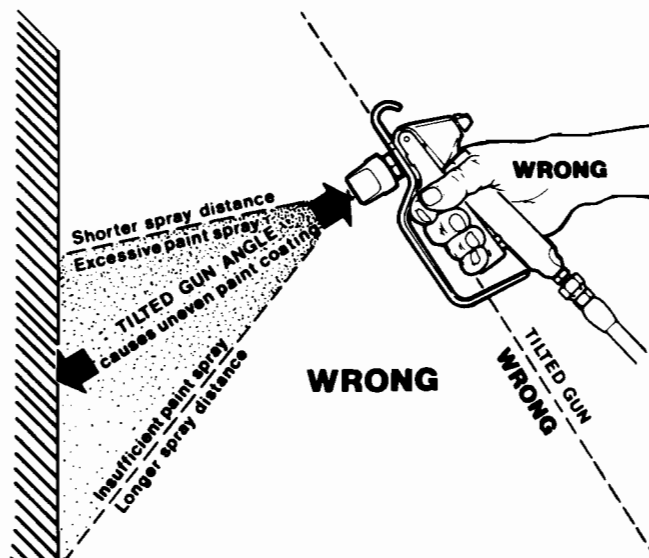
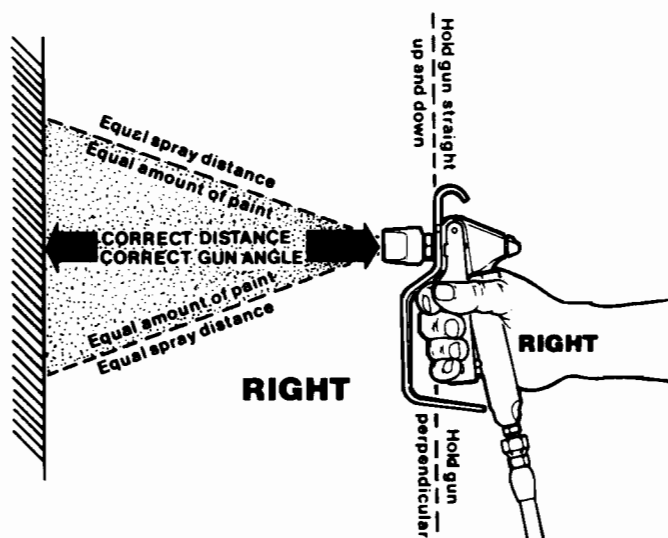
SPRAY TECHNIQUE

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.



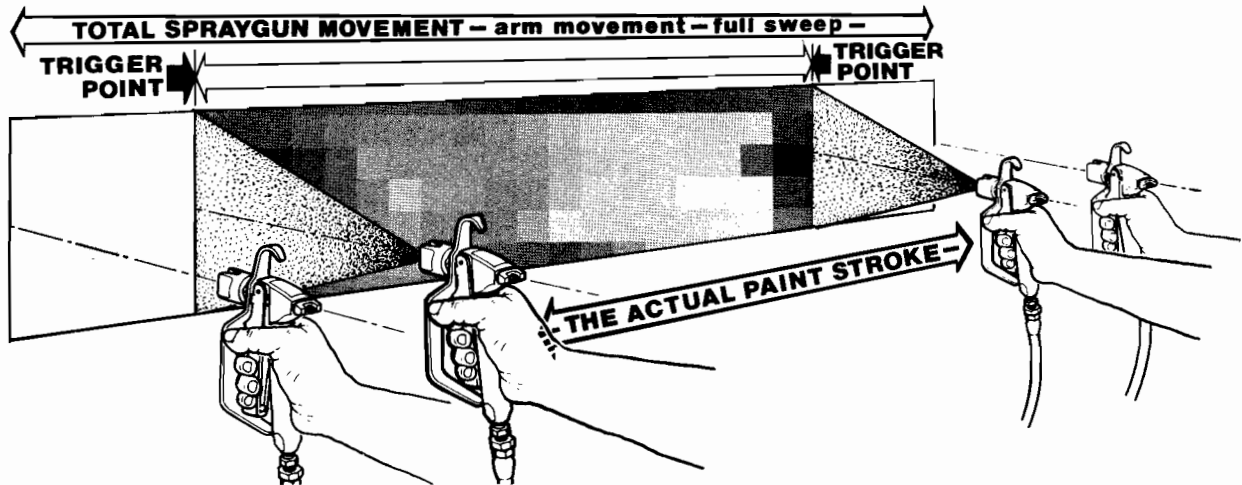
Move the gun at a steady rate in order to apply a good coverage. The wet coat should be just under the thickness at which a run or sag will occur. Slow gun movement or gun held too close will result in an overly wet or thick coat coverage that is likely to run or sag.

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

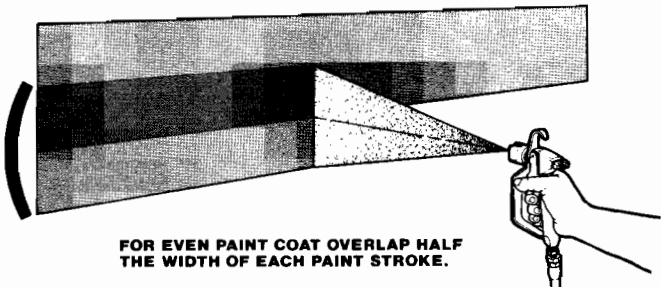
15-inch distance perpendicular from the work.

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

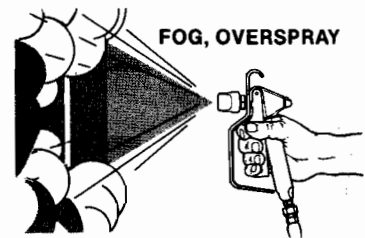
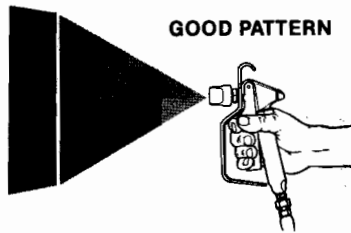
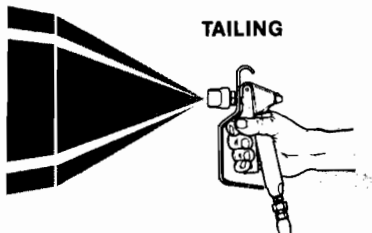


It is important to "trigger" the gun **after** gun movement (arm movement) has started and release trigger (shut gun off) **before** gun movement ends. Gun movement is always longer than actual paint (spray) stroke. In that manner, even blending and uniform paint coat thickness is achieved over the entire 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

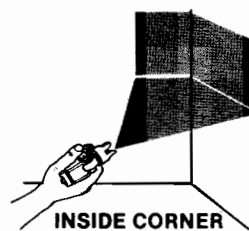
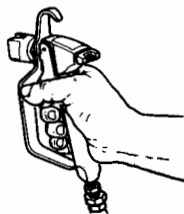
much pressure will result in excess fog and overspray, excessive tip wear, and increased sprayer wear and tear.



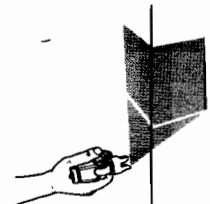
POOR PATTERN



GOOD PATTERN



INSIDE CORNER



OUTSIDE CORNER

Always use the lowest pressure possible to obtain desirable results.

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

"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.

AIRLESS SPRAY GUN OPERATION

DEFECTS

Coarse spray

Excessive fogging (Overspray)

Pattern too wide

Pattern too narrow

Too much material

Too little material

Thin distribution in center of pattern
"horns"

Thick skin on work

Coating fails to close and smooth
over

Spray pattern irregular, deflected

Craters or pock marks bubbles on
work

Clogged screens

CAUSE

Low pressure

High pressure

Material too thin

Spray angle too large

Spray angle too small

Nozzle too large
Material too thin
Pressure too high

Nozzle too small
Material too thick

Worn tip
Wrong tip

Material too viscous
Application too heavy

Material too viscous

Orifice clogged
Tip damaged

Solvent balance

Extraneous material in paint

Coarse pigments

Poorly milled pigments (paint
pigments glocculate) cover screen.
Incompatible paint mixture and
thinners

CORRECTION

Increase the pressure

Reduce the pressure to satisfactory
pattern distribution

Use less thinner

Use smaller spray angle tip

Use larger spray angle tip (if
coverage is okay, try tip in same
nozzle group)

Use next smaller nozzle.
Use less thinner.
Reduce pressure.

Use next larger nozzle.
Thin cautiously.

Change for new tip
Use nozzle with a narrow spray
angle

Thin cautiously
Reduce pressure and/or use tip in
next larger nozzle group

Thin cautiously

Clean carefully
Replace with new tip

Use 1 to 3% "short" solvents
remainder "long" solvents (this is
most likely to happen with material
of low viscosity, lacquers, etc.)

Clean screen

Use coarse screen if orifice size
allows

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		
513	.013	10-12"				X			X		
613	.013	12-14"				X			X		
415	.015	8-10"					X			FOR BETTER RESULTS, STRAIN PAINT	USE COARSE GUN FILTER 120-004C 120-090CX
515	.015	10-12"	X				X				
615	.015	12-14"	X				X				
317	.017	6-8"			X						
417	.017	8-10"	X								
517	.017	10-12"	X	X							
617	.017	12-14"	X	X						FOR BETTER RESULTS, STRAIN PAINT	USE COARSE GUN FILTER 120-004C 120-090CX
318	.018	6-8"	X		X						
418	.018	8-10"	X	X							
518	.018	10-12"	X	X							
618	.018	12-14"		X							
521	.021	10-12"		X							
621	.021	12-14"		X							
721	.021	14-16"		X							

Note: For materials requiring larger than a .021 tip refer to ICI label specifications.

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 over-spray, make cutting-in difficult, and decrease sprayer performance. The average life of a spray tip is 100 gallons of paint before tip replacement is required.

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

REGULAR MAINTENANCE

1. Keep the displacement pump packing nut/wet cup 1/3 full of TSO (Throat Seal Oil) at all times. The TSO helps protect the packings and rod.
2. Inspect the packing nut daily. Your pump has a patented Triple Life Packing System. Packing life will be extended a minimum of three times if the following **"Packing Tightening"** procedure is followed:

Inspect the packing nut daily. If seepage of paint into the packing nut and/or movement of the piston upward is found (while not spraying), the packing nut should be tightened enough to stop leakage only, but not any tighter. Overtightening will damage the packings and reduce the packing life.

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
There is spitting from the gun.	The fluid supply is low or empty.	Refill the supply container.
	Air entrapped in the fluid pump or hose.	Check for loose connections on the siphon assembly, tighten, then reprime pump.
Paint leaks into the wet cup.	The wet cup is loose.	Tighten just enough to stop leakage.
	The throat packings are worn or damaged.	Replace the packings. See page 20.
	Piston Rod is Worn.	Replace Piston Rod.
The motor operates, but the paint pump doesn't.	The pressure setting is too low.	Increase the pressure.
	The pump is seized by dried paint.	Service the pump. See pages 19 & 20.
The motor and displacement pump operates, but paint pressure is too low or none.	The pressure setting is too low.	Increase the pressure.
	The tip or gun filter is clogged.	Remove the tip and/or filter and clean them.
	Tip is worn.	Replace Tip.
	The fluid displacement pump filter is clogged.	Clean the filter.
	There is a large pressure drop in the fluid hose.	Use a larger diameter hose.

TROUBLESHOOTING- Machine does not start.

CAUSE

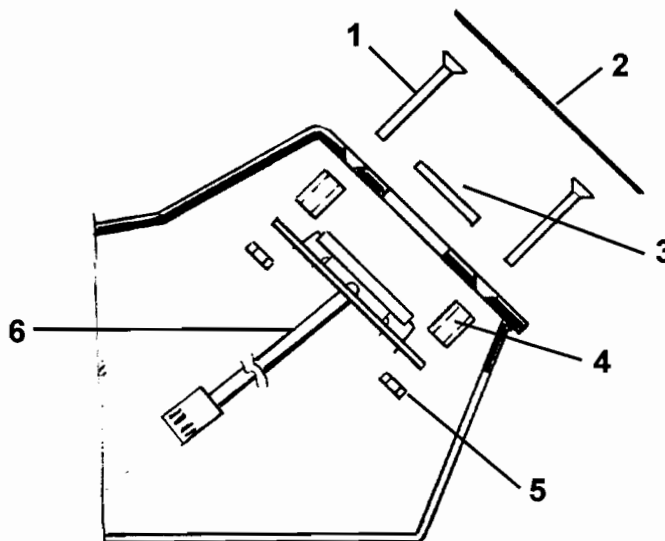
SOLUTION

Unit Control Setup Incorrect.	Step 1: Ensure Potentiometer ON/OFF switch is in the maximum CW position.
No power source.	Step 2: Check power source (fuse, circuit breaker & power cord)
Fuse, LCD Display Unit.	Step 3: Remove electrical control box cover. Check green light on electrical board. A green light assures there is electrical power to the board and the fuse is good. If green light is out, check the fuse. If fuse is good, unplug the LCD Display from the electrical board. If green light comes on, replace the LCD Display unit as per "LCD Display Replacement Procedure" page 16.
ON/OFF Switch	Step 4: If green light is off, check for 115 VAC across terminals S1 and S2. If 115 VAC is not present, check for voltage loss at ON/OFF Switch. (Potentiometer) Replace if required.
Electrical Board	Step 5: If green light remains off and 115 VAC is present at S1 and S2, replace Electrical Board as per "Replacement of Electrical Board" page 16.
Sensor	Step 6: If green light is ON but unit will not turn on, perform "ZERO CALIBRATION" per Electrical Board Calibration Procedures page 14. If yellow light remains continuously ON or OFF during this calibration procedure, replace sensor as per "Replacement of Sensor" page 16.
Potentiometer	Step 7: With power cord unplugged, disconnect potentiometer Ass'y. (Item 9, Fig 9) from electrical board. Using an ohmmeter measure resistance between "BLK" and "RED" terminals on potentiometer lead. Resistance must be within 8 - 12 ohms. Measure resistance between "GRN" and either "RED" or "BLK" lead while turning pressure control knob from its MIN setting to its MAX setting or vice versa. Resistance should change from zero to the resistance measured between the "BLK" and "RED" leads. If above readings are not obtained, replace potentiometer assembly.
Electrical Board	Step 8: If the unit does not start after the above procedures are completed, the Electrical Board is defective, Replace as per "Replacement of Electrical Board Procedure, page 16.

LCD DISPLAY - PN 331-370A

FIGURE 8

FIGURE 8 PARTS LIST		
ITEM NO.	PART NO.	DESCRIPTION
1	100-362	Screw (4)
2	101-100	Mylar Label - clear
3	331-360	Window
4	117-281	Spacer (4)
5	117-126	Nut (4)
6	331-375	Display Ass'y



ELECTRICAL BOARD CALIBRATION

Note: Anytime a sensor, electrical board or both are replaced, the following three calibrations must be performed.

1. ZERO CALIBRATION

1. Place prime/pressure relief valve in the prime (open) position.
 2. Set the pressure control knob to the minimum setting (CCW).
 3. Remove the electrical cover plate.
 4. Ensure the jumper is on the "P-ZR" terminal. Note: This jumper comes with a new electrical board and is installed on the "P-ZR" terminal. If you are "Zero Calibrating" an Electrical Board presently in the unit, remove Jumper from Single Terminal P-ZR and place on both terminals P-ZR.
 5. Turn machine "ON" and ensure it is not cycling.
 6. Turn LCD Trimpot CCW until it clicks, then turn it CW 8 turns.
 7. If the yellow light on the electrical board is ON, use an insulated screwdriver to turn the "ZERO" trimpot counter-clockwise until the light goes out. Then turn it clockwise until the light just comes back.
At this point the "Zero Calibration" is complete.
 8. If the yellow light is OFF, turn the "Zero" trimpot clockwise, just until the light comes on.
At this point, the "zero" calibration is complete.
- NOTE: If the yellow light remains constantly "ON", or "OFF" during this calibration, the sensor is defective and should be replaced.
9. When calibration is complete, move jumper from both "PZ-R" terminal to single terminal on P-ZR.

2. PRESSURE CALIBRATION

1. Attach a 50', 1/4" airless hose, airless gun with 0.017 tip and a 5000 psi pressure gauge to the pump.
2. Place the suction tube into a bucket of Coro-chek and water.
3. Turn Prime/pressure relief valve to the prime (open) position.
4. Complete the ZERO calibration, as per "ZERO CALIBRATION".
5. Turn pressure control knob clockwise until machine starts to prime.
6. Place the prime/pressure relief valve in the pressure (closed) position.
7. While watching pressure gauge, slowly adjust the Pressure Trimpot (clockwise to increase and counter clockwise to decrease) until the maximum static pressure is 3000 psi, with the pressure control knob fully clockwise. Trigger the gun several times to ensure pressure returns to 3000 psi.

3. LIQUID CRYSTAL DISPLAY (LCD) CALIBRATION

1. Complete the "ZERO CALIBRATION" and "PRESSURE CALIBRATION" procedures prior to commencing this calibration.
2. Turn pressure control knob up until system pressure is above 2500 psi (as indicated on glycerin filled pressure gauge) and the machine is not cycling.
3. Use an insulated screwdriver to adjust the Set trimpot. Turn Trimpot CCW until it clicks. Then adjust to match pressure against pressure gauge reading.
4. Move the pressure control knob to different settings and trigger the gun several times to ensure that the LCD continues to match the pressure gauge reading.
5. Replace electrical cover plate.

ELECTRICAL SYSTEM

FIGURE 9

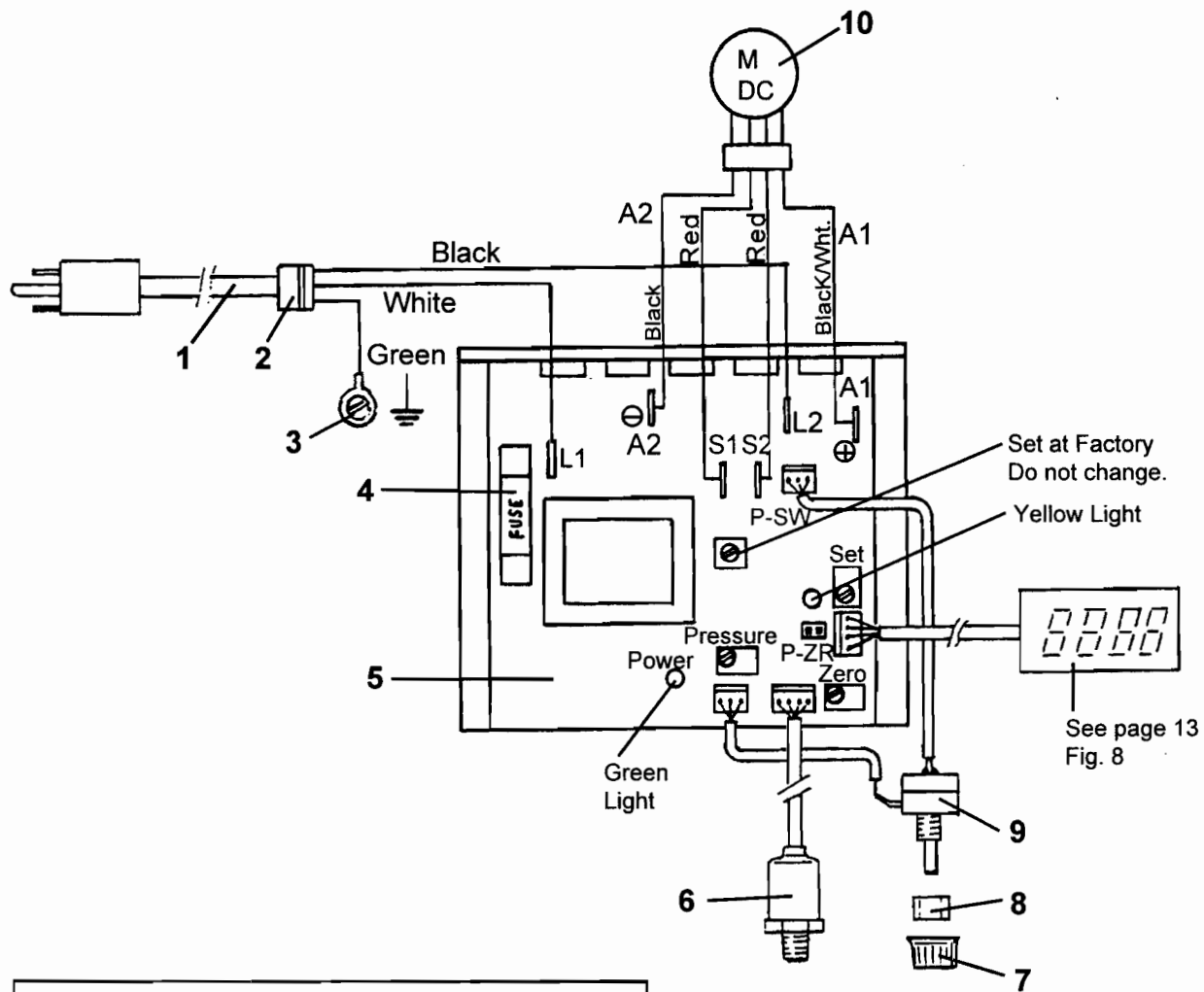


FIGURE 9 PARTS LIST		
ITEM NO.	PART NO.	DESCRIPTION
1	331-168	Electrical Cord
2	331-185	Strain Relief
3	331-138	Screw
4	331-165	12 amp Slow Blow (404)
	331-256	15 amp Slow Blow (606)
5	331-380	Electrical Control Board
6	331-073A	Sensor
7	177-044	Knob
8	331-184	Spacer
9	331-097	Potentiometer
10	331-070	1/2 HP DC Motor (404)
	331-068	3/4 HP DC Motor (606)

331-328 20 AMP

REPLACEMENT OF ELECTRICAL COMPONENTS

ELECTRICAL CONTROL BOARD

1. Unplug machines power cord.
2. Remove four screws (Item #20, Fig. 19) from bottom cover and remove cover.
3. Disconnect all leads from electrical control board. (Fig. 9).
4. Remove the two nuts and bolts (Items #18, 19 Fig. 17) holding electrical control board (Item #20, Fig 17) and remove.
5. Reassemble in reverse order.

SENSOR

1. Take off electrical bottom cover and disconnect sensor lead from electrical control board.
2. Disconnect swivel (Item #27, Fig. 17) from sensor (Item #26, Fig. 17) by holding sensor with 7/8" wrench and loosening swivel with 11/16" wrench.
3. Carefully pull sensor lead out of the terminal box and remove sensor.
4. Reassemble in reverse order.

POTENTIOMETER (ON-OFF/ PRESSURE CONTROL ASS'Y)

1. Remove electrical control board as described above.
2. Use a 1/16" allen wrench, loosen set screw in the potentiometer knob (Item #7, Fig. 9) and remove knob and spacer. (Item #8, Fig. 9).
3. Using a 1/2" wrench or deep socket, remove the nut from the potentiometer shaft assembly.
4. Pull entire potentiometer assembly out of terminal box.
5. Replace in reverse order.

LIQUID CRYSTAL DISPLAY (LCD)

1. Remove electrical control board as described above.
2. Unscrew the four nuts (6/32") (Item #5, Fig. 8) and remove LCD Display assembly (Item #6, Fig. 8).
3. If unable to loosen the four nuts, hold them and unscrew the four screws (Item #1, Fig. 8). Then remove the LCD Display Assembly. If the display is removed in this manner, the mylar label (Item #2, Fig. 8) must be replaced.
4. Reassemble in reverse order, while making sure that the four spacers (Item #4, Fig. 8) are in place.

WARNING
**Always unplug the electrical
cord before servicing machine.**

**Note: Anytime the electrical control board, sensor or both
are replaced, perform the three calibrations on page 14.**

SERVICING THE FLUID PUMP

NOTE: Check everything in the Troubleshooting Chart before disassembling the Fluid Pump.

SEE FIG 11, Page 18.

FLUID PUMP DISCONNECT

- a. Flush out the material you are spraying, if possible.
- b. Follow the "Pressure Relief Procedure" on page 6.
- c. Remove the suction tube assembly from the paint pump by unscrewing the suction nut. Disconnect sensor assembly by holding sensor with 7/8" wrench and unscrewing swivel connector with an 11/16 wrench.
- d. Move the piston rod to its lowest stroke position by rotating the motor fan or by cycling rod to lowest position.
- e. Unscrew the two screw(14) from cover assembly.
- f. Remove retaining ring (12). Slide sleeve (11) down off crosshead assembly (3). Screw a 1/4" bolt into Pin (10) and pull out of crosshead allowing removal of fluid pump from unit.

FLUID PUMP REINSTALL:

- a. Loosen packing nut and extend piston rod to its upper position in paint pump. Slip sleeve and retaining ring over piston rod.
- b. Push piston rod up into crosshead assembly and align holes. Insert pin through crosshead assembly and piston. Slip sleeve up over pin and insert retaining spring into groove on crosshead assembly.
- c. Secure paint pump to cover assembly by two screws, up through tube spacers and screw into cover assembly.
- d. Tighten screws evenly and alternating to 30 ft. lbs.

e. Reassemble the Lower Check Valve assembly by placing the Suction Seat Assembly, O-ring, ball and retainer in the suction nut and screw nut onto pump body.

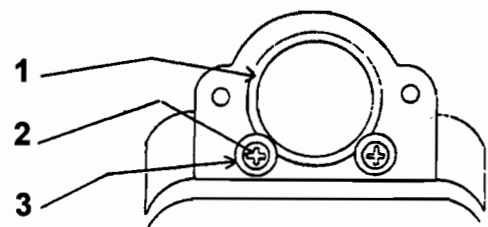
f. Reconnect sensor assembly to fluid pump. Hold sensor with 7/8" wrench while tightening swivel connector.

g. Start the pump and operate slowly to check the Piston Rod for binding. Adjust screws holding pump assembly to cover assembly if necessary to eliminate binding.

h. Tighten the packing nut just enough to stop leakage (approximately 3 threads showing). Fill the wet cup of Packing Nut 1/3 full of Throat Seal Oil (TSO).

GEARBOX SLEEVE BEARING REPLACEMENT

FIGURE 10



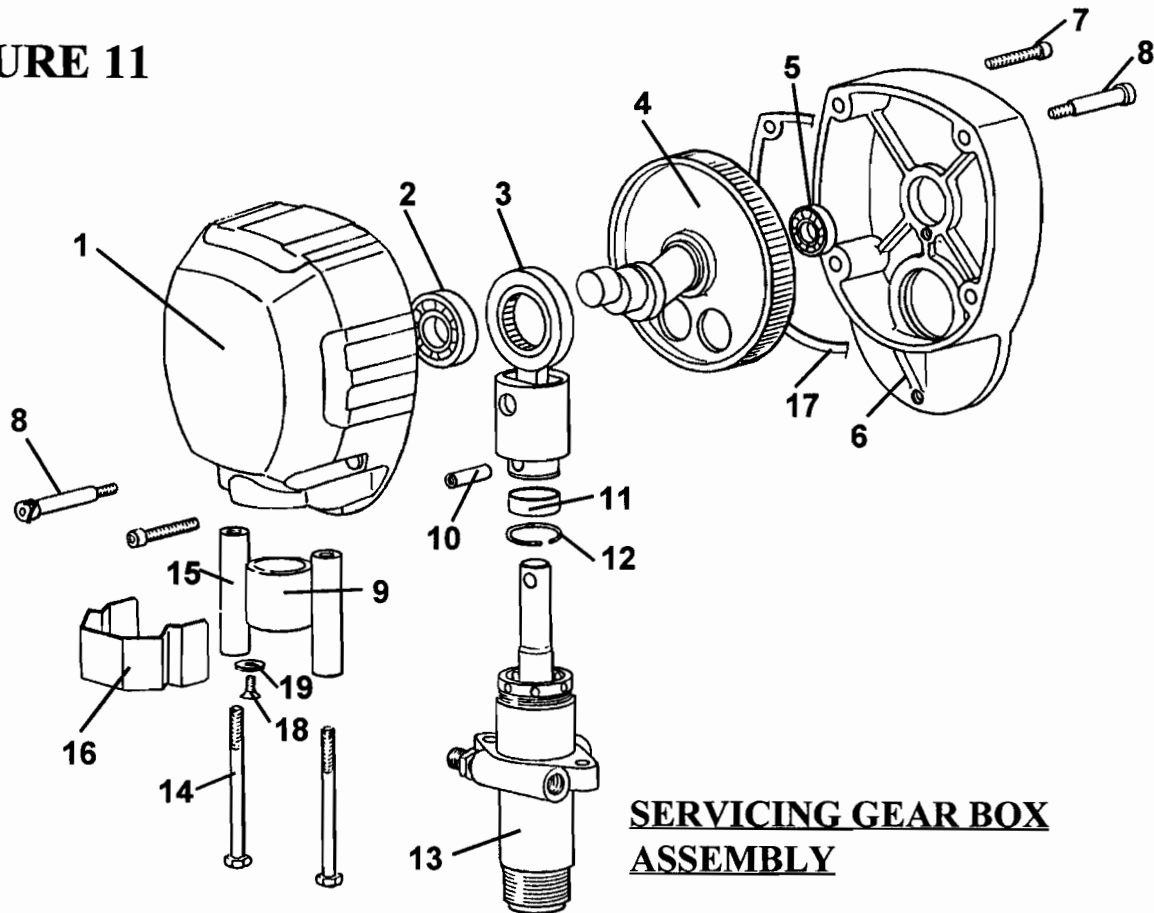
Note: When replacing item (1), cover the outside of sleeve with clear silicone prior to inserting into cover assembly.

FIGURE 10 PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION
1	331-061	Sleeve Bearing
2	331-103	Washers (2)
3	331-197	Screws (2)

GEAR AND PUMP ASSEMBLY

FIGURE 11



SERVICING GEAR BOX ASSEMBLY

WARNING - Do not operate machine without cover guard in place.

FIGURE 11 PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION
1	331-234	Cover Ass'y (404 & 606 Lo-Pro)
	331-234H	Cover Ass'y (606 Hi-Pro)
2	331-046	Bearing
3	331-038	Crosshead Assembly
4	331-039A	Gear Crank (404)
	331-039B	Gear Crank (606)
5	331-047	Bearing
6	331-040	Box
7	100-381	Screw Soc Hd (2)
8	100-380	Shoulder Screw (2)
9	331-061	Sleeve Bearing
10	331-065	Pin
11	331-117	Sleeve
12	331-062	Retaining Spring
13	331-010	Paint Pump Assembly
14	100-318	Screw (2)
15	331-074	Tube Spacer (2)
16	331-111	Cover - guard
17	331-219	Gasket
18	331-197	Screw (2)
19	331-103	Washer (2)

1. Remove fluid pump as per "Fluid Pump Disconnect" procedures page 17.

2. Remove frame by removing two screws. See Fig. 17, 18 & 19.

3. Separate the cover assembly (1) from box (6) by removing screws (7) from front of cover and back of box and shoulder screws (8) from front of cover and back of box.

4. Lay unit on its back and disassemble gearbox.

5. Inspect bearings (2) and (5), Crosshead Assembly (3), Gearcrank (4) and sleeve bearing (9) inside cover assembly for wear or damage. Replace worn or damaged parts.

6. If gear grease needs replacing, replace with gear grease (Part No. 331-132)

7. Clean mating surfaces of cover and box thoroughly and seal with gasket (17).

8. Reassemble in reverse order.

Note: Box (6) can be ordered separately, but is included with motor ass'y . (PN 331-070, 331-068)

SERVICING PISTON ROD, UPPER CHECK VALVE

SEE FIG. 12.

1. Disconnect Fluid Pump as per page 17.

2. Place piston in block (PN 331-195) with the 3/8" dowel pin (PN 331-196) and hold in vise.

NOTE: DO NOT use smaller diameter pin to hold piston.

3. Place a 7/16" allen wrench into lower piston and unscrew lower piston from upper piston. clean all parts and inspect them carefully for wear and damage. Inspect the surface of piston for wear or damage. Replace these parts if needed.

4. To reassemble the piston assembly, place in block using dowel pin and hold in vice. Install O-ring (4), Seat (3) and Ball (2) and thread upper and lower pistons together. Slowly hand tighten piston inspect O-ring (4) and seat (3), are flush, then torque to 50 fts. Do not use locktite on threads.

NOTE: The upper and lower piston must be purchased as an assembly (1, Fig 12). This assembly will not have the ball, seat and O-ring inside.

FIGURE 12

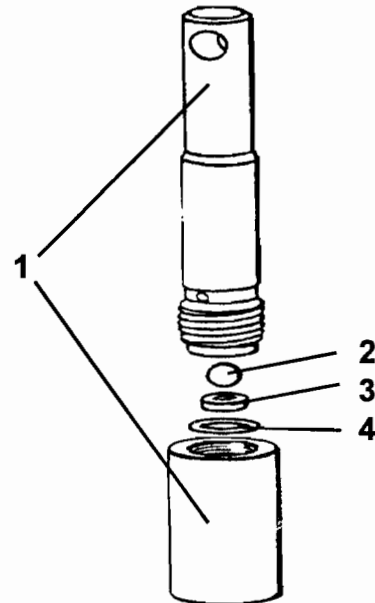


FIGURE 12 PARTS LIST

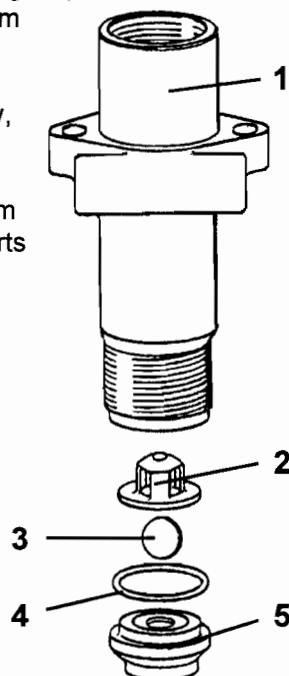
ITEM NO.	PART NO.	DESCRIPTION
1	331-093	Piston Ass'y
2	331-027	Ball
3	331-026	Seat
4	331-100	O-Ring-Teflon

SERVICING LOWER SUCTION VALVE

1. Unthread suction nut (Item 1, Fig. 15) and remove suction assembly from pump body.

2. Remove suction seat assembly, O-ring, ball and retainer.

3. Clean all parts and inspect them for wear or damage, replacing parts as needed.



4. If lower seat need replacing, you can replace the suction seat assembly PN 331-033A.

5. Clean inside of pump body.

6. If no further pump service is needed, reassemble the lower check valve assembly, O-ring, ball and retainer in the suction nut and screw nut onto pump body.

FIGURE 13 PARTS LIST

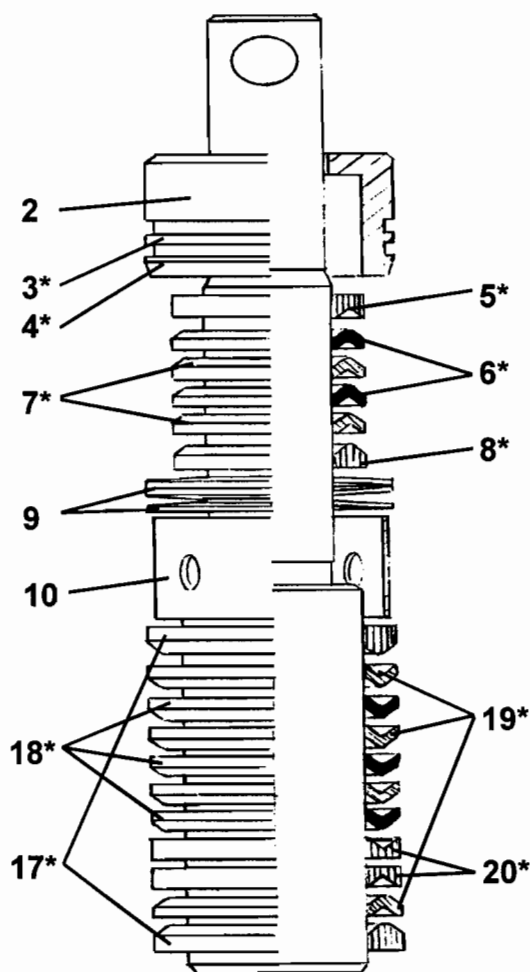
ITEM NO.	PART NO.	DESCRIPTION
1	331-011	Pump Body
2	331-029	Retainer
3	331-030	Ball 1/2" dia
4	331-032T	O-Ring - Teflon
5	331-033A	Suction Seat Ass'y

FIGURE 13

V-PACKING REPLACEMENT

1. Remove the Fluid Pump as per "Fluid Pump Disconnect" instructions on page 17.
2. Unscrew the upper packing nut. Push piston rod out through bottom of pump body. Remove the upper packings, belleville springs, tube spacer and lower packing set using packing removal tool. (PN 331-153)
3. Disassemble and clean all parts for reassembly. Discard old packings, adaptors and O-rings.

FIGURE 14

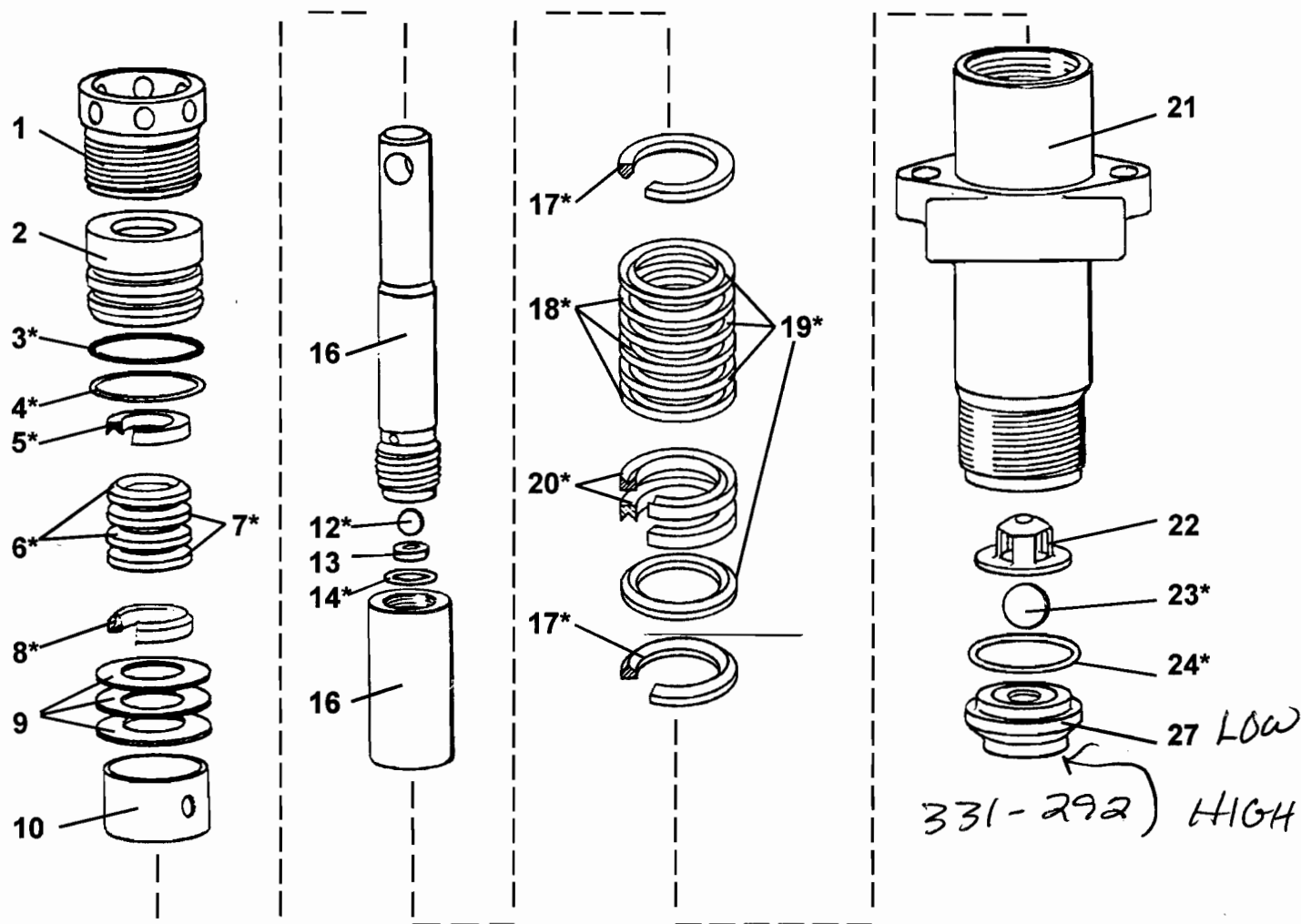


REASSEMBLY

1. Lubricate piston rod with oil.
2. Reassemble all parts onto piston rod in following order as per Fig. 12 below:
 - a. Start with lower male adaptor (17)
 - b. One V-Packing (19), "V" inverted.
 - c. Two female adaptors (20) back to back.
 - d. Six V-Packings, "V" up (18 & 19).
 - e. Male Adaptor (17).
 - f. Slide on tube spacer (10)
 - g. Three belleville springs (9) starting with the first spring facing down, second one facing up and the third one facing down.
 - h. Upper Male adaptor (8)
 - i. Four V-Packings, "V" down (6 & 7).
 - j. Female Adaptor (5)
 - k. Place O-rings (3) and (4) onto Seal Holder (2)
 - l. Lubricate outside diameter of V-Packings with white lithium or multipurpose grease.
 - m. Slide seal holder (2) over Upper Packing Set.
 - n. Lubricate threads on inside of pump body with white lithium or Multipurpose white grease.
3. Hold pump body in one hand upside down and slide entire piston assembly with packings up into pump body, while rotating piston.
4. Install packing nut, handtight only. Push piston rod up to its upper position.
5. Connect the fluid pump onto Unit as per "Fluid Pump Reinstall" Procedures on page 17.

FLUID PUMP - PN. 331-010

FIGURE 15



* PACKING KIT - PART NO. 331-210

Letter following the part numbers describes the material used for V-Packings and O-Rings.

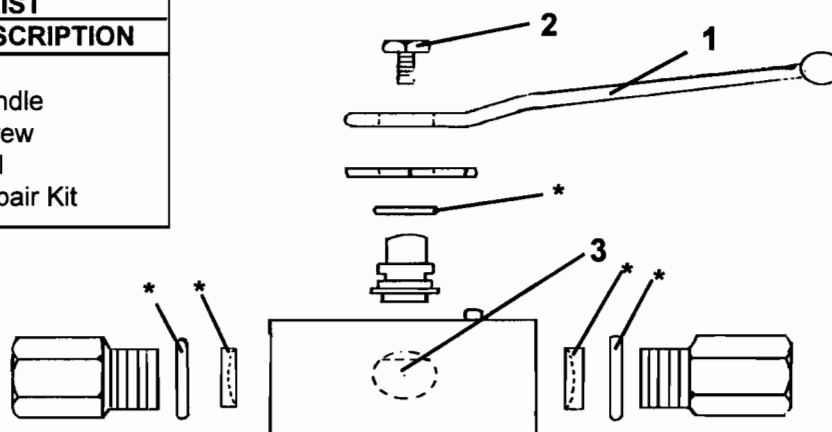
L - Leather V - Viton
T - Teflon P - Plastic

FIGURES 14 & 15 PARTS LIST					
ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	331-037	Packing Nut	16	331-093	Piston Assembly
2	331-019	Seal Holder	17*	331-014	Adaptor Male (2)
3*	331-020V	O-Ring Viton	18*	331-016L	V-Packing - Leather (3)
4*	331-020T	O-Ring Teflon	19*	331-016	V-Packing - Plastic (4)
5*	331-021	Adaptor Female	20*	331-015	Adaptor Female (2)
6*	331-023L	V-Packing - Leather (2)	21	331-011	Pump body
7*	331-023	V-Packing - Plastic (2)	22	331-029	Retainer
8	331-022	Adaptor Male	23*	331-030	Ball 1/2" dia
9	331-025	Belleville Springs (3)	24*	331-032T	O-Ring Teflon
10	331-018	Tube Spacer	27	331-033A	Suction Seat Ass'y
12*	331-027	1/4" Dia. Ball	*	331-210	Packing Kit
13	331-026	T.C. Seat Discharge			
14*	331-100	O-Ring - Teflon			

BALL VALVE - PN 100-119

FIGURE 16

FIGURE 16 PARTS LIST		
ITEM NO.	PART NO.	DESCRIPTION
1	100-162	Handle
2	100-163	Screw
3	100-164	Ball
*	Kit-119	Repair Kit



ELECTRIC MOTOR MAINTENANCE

1. **LUBRICATION** - This motor is supplied with prelubricated ball bearings, lubricated for life of bearing.
2. **MOTOR BRUSHES** need periodic inspection and replacement as wear indicates. Brush wear is greatly influenced by individual application. It is recommended that brush wear be checked at early intervals of operation in order to determine future required inspections. Standard Leeson brushes for this motor have an initial length of 3/4". When the brushes are worn to a length of 3/8", they should be replaced.
3. **TO CHANGE THE BRUSHES**, follow the procedures below:
 - a. Unplug the machine.
 - b. Open the two covers at the rear of the motor.
 - c. Loosen the screw holding the brush terminal and remove the brush lead.
 - d. Push the brush retainer clip in and remove.
 - e. Remove the worn brushes (one on each side of motor).
 - f. Install new brushes in reverse order and replace covers.

NOTE: For longer life, new brushes (Part No. 331-131) need to have a run in period. After changing brushes, set up the machine for spraying. Use a bucket of water and Coro-chek mixture, a 50 foot x 1/4" airless hose, airless gun with 0.017 tip on unit, turn the Prime/PR Control Valve to the Prime position and turn the unit on. Turn the ON/OFF Pressure Control Knob to maximum pressure (fully CW position) and let the pump cycle at high speed in the prime position for 20 minutes. This will allow the brushes to "run in" properly, giving a longer life.

ProSpray 404

FIGURE 17

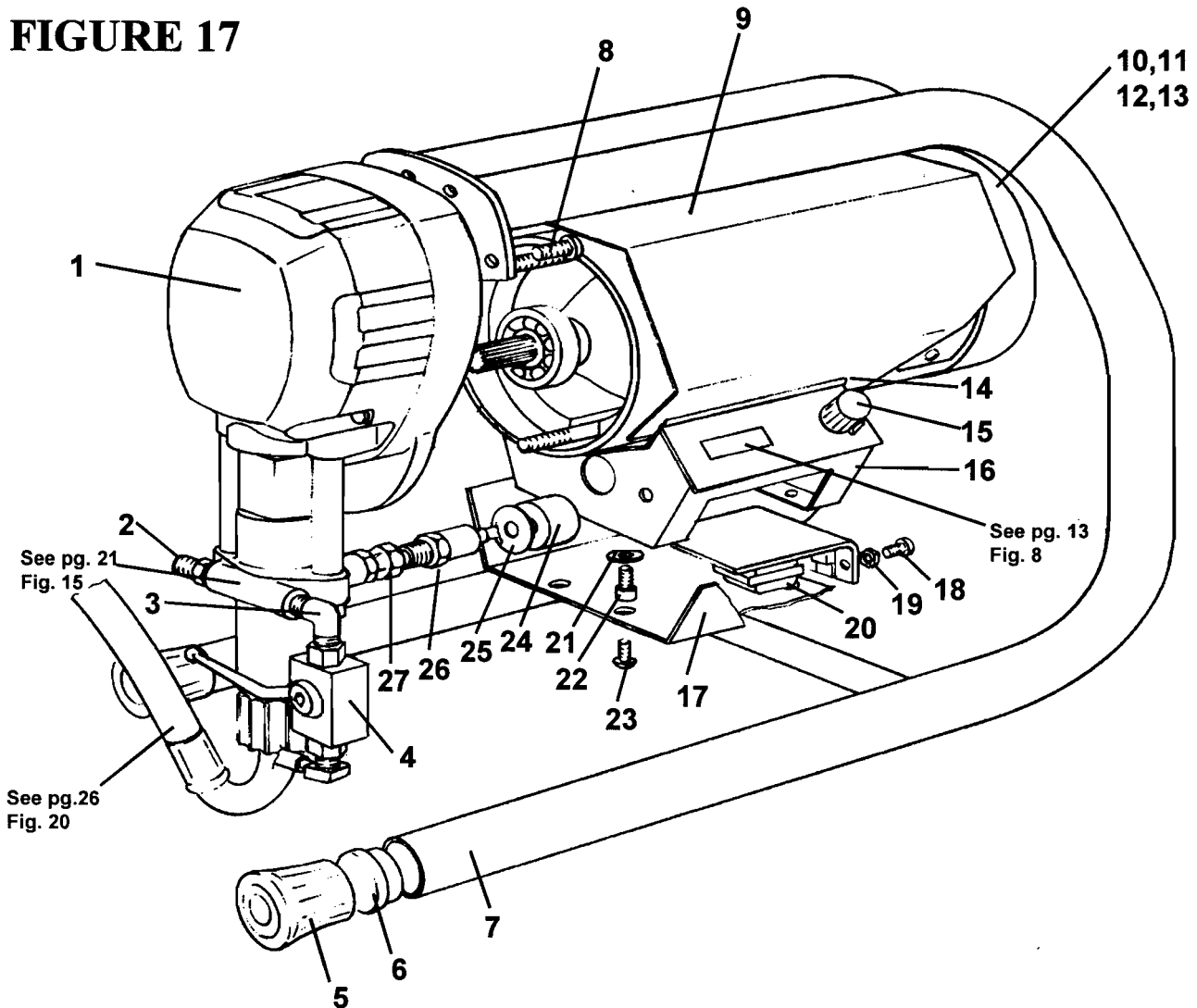


FIGURE 17 PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	331-017	Gear Box & Pump Ass'y	15	117-044	Knob
2	115-019	Connector	16	331-321	Terminal Box
3	100-140	Elbow	17	331-319	Terminal Box Cover
4	100-119	Ball Valve	18	111-037	Screw
5	331-048	Rubber Boot (2)	19	120-021	Lock Nut
6	331-094	Plug	20	331-380	Electrical Control Board
7	331-143	Frame	21	331-103	Washer
8	100-377	Screw (2)	22	100-312	Screw
9	331-199US	Cover	23	331-138	Screw
10	331-070	1/2 HP 90 VDC Motor	24	331-151	Seal
11	331-212	Fan	25	114-009R	Washer
12	331-213	Cover	26	331-073A	Sensor
13	117-090	Screw (3)	27	100-033	Swivel
14	331-337	Rubber Edging			

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FIGURE 18

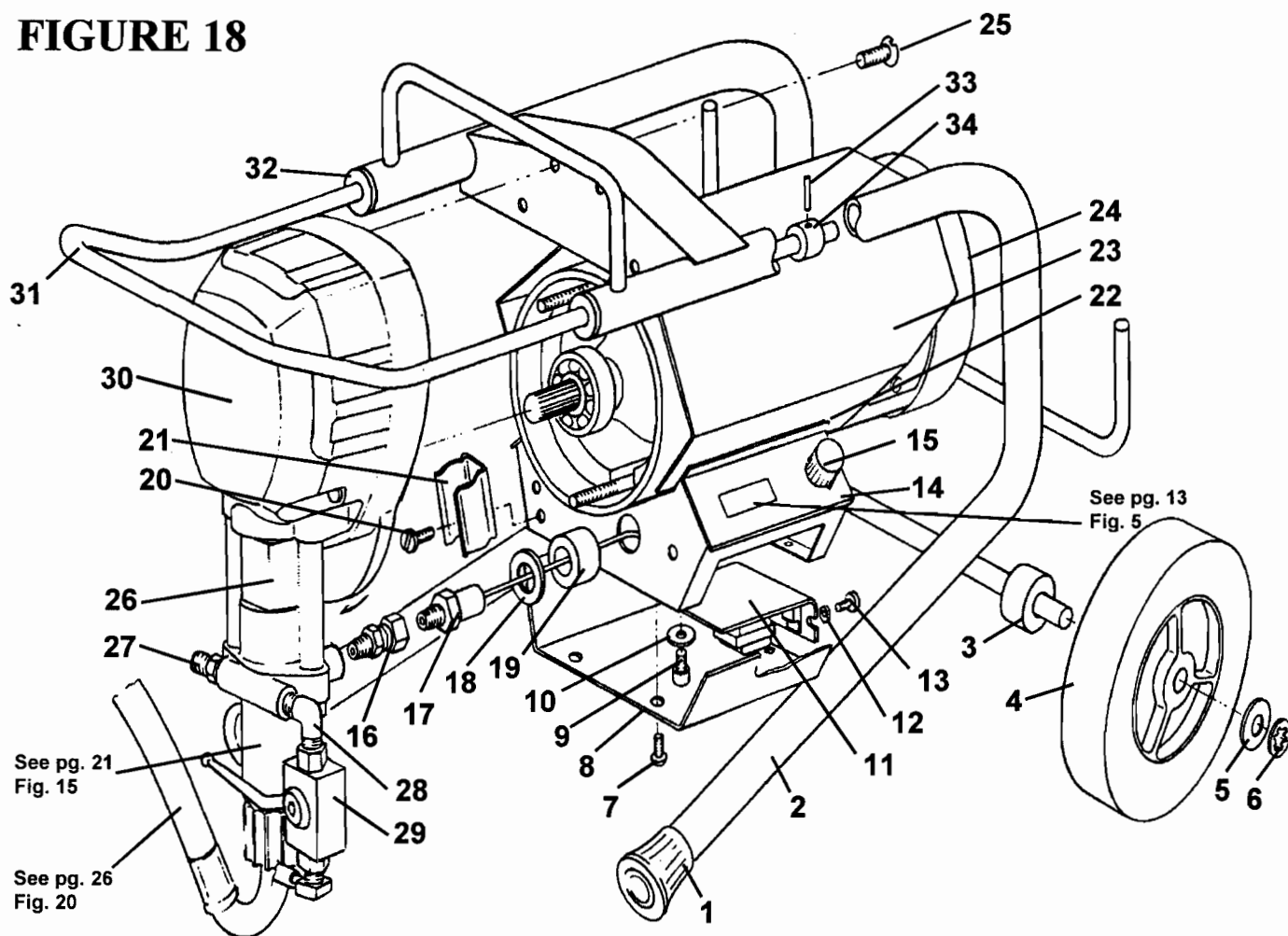


FIGURE 18 PARTS LIST

ITEM NO. PART NO. DESCRIPTION			ITEM NO. PART NO. DESCRIPTION		
1	331-048	Rubber Boot (2)	18	114-009R	Washer
2	331-171	Frame	19	331-151	Seal
3	331-175	Spacer (2)	20	111-037	Screw
4	331-326	Tire (2)	21	111-036	Spring Clamp
5	143-028	Washer (2)	22	331-337	Rubber Edge
6	143-032	Retaining Ring (2)	23	331-199US	Motor Cover
7	331-138	Screw (4)	24	331-068	3/4 HPDC Motor
8	331-319	Cover	25	100-377	Screw
9	100-312	Screw	26	331-111	Cover
10	331-103	Washer	27	115-019	Connector
11	331-380	Elect. Control Bd.	28	100-140	Elbow
12	120-021	Nut	29	100-119	Ball Valve
13	111-037	Bolt	30	331-234	Cover
14	331-321	Terminal Box	31	331-174	Handle
15	117-044	Knob	32	331-176	Bushing (2)
16	100-003	Swivel	33	331-222	Pin (2)
17	331-073A	Sensor	34	331-175	Spacer (2)

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FIGURE 19

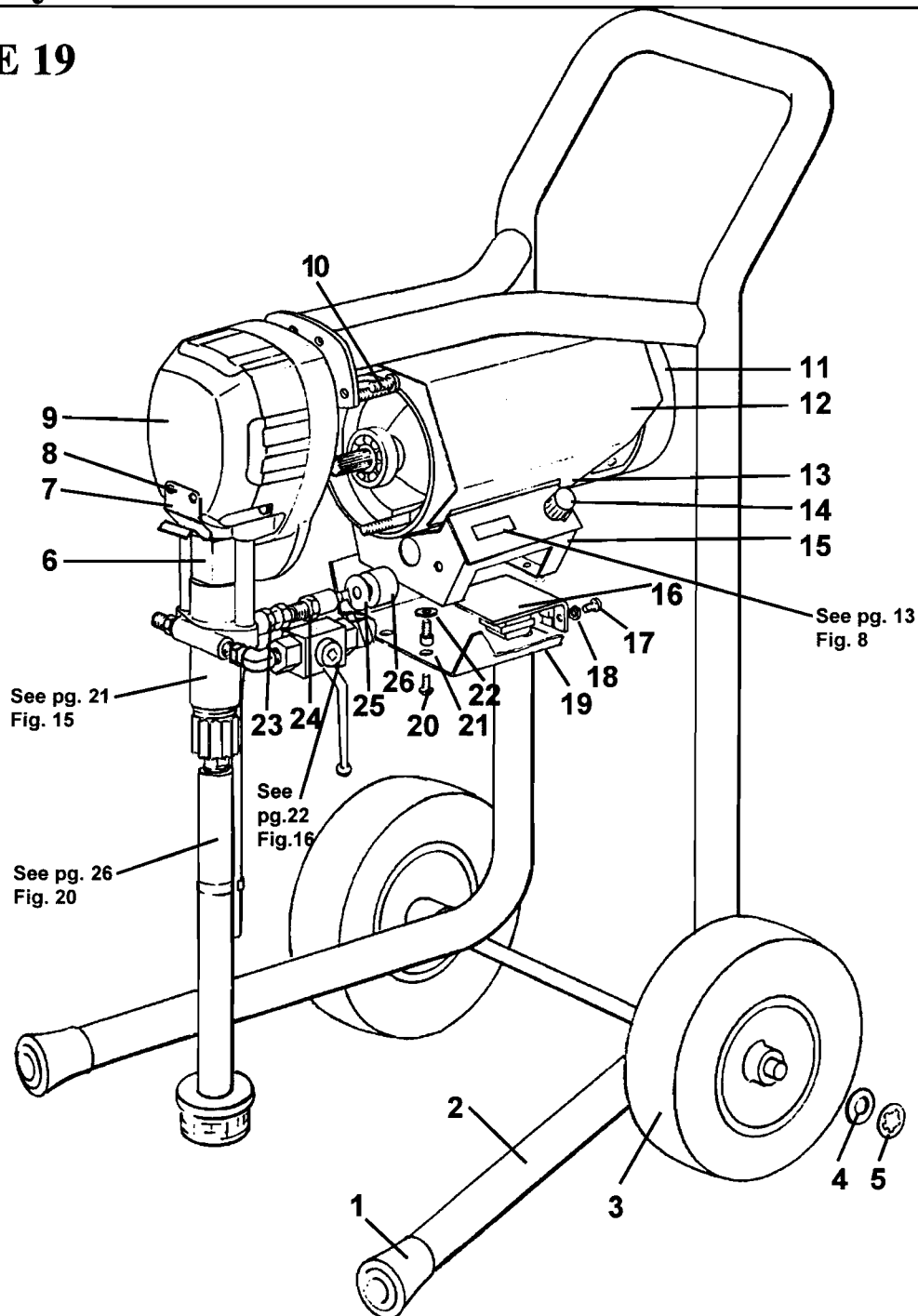
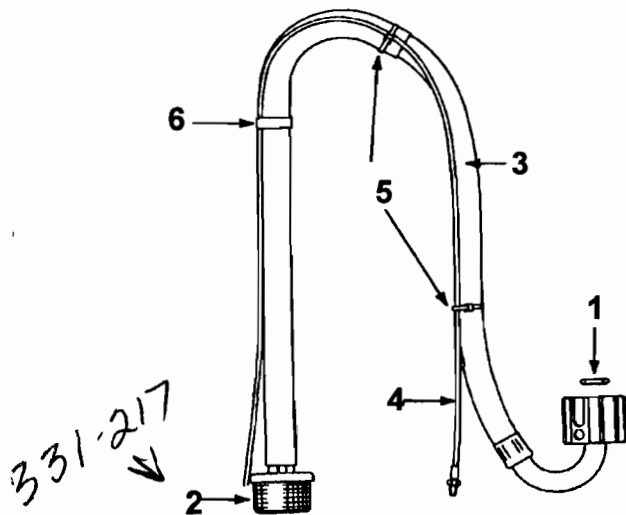


FIGURE 19 PARTS LIST

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	331-048	Rubber Boot (2)	14	117-044	Knob
2	331-273	Frame	15	331-321	Terminal Box
3	113-017	Tire (2)	16	★ 331-380	Electrical Control Bd.
4	143-028	Washer (2)	17	120-021	Nut (2)
5	143-032	Retaining Ring (2)	18	111-037	Bolt (2)
6	331-111	Cover	19	331-319	Cover
7	331-336	Hook	20	111-037	Screw (4)
8	100-373	Screw (2)	21	100-312	Screw (4)
9	331-234H	Cover	22	331-103	Washer (4)
10	100-377	Screw (4)	23	100-003	Swivel
11	331-068	3/4 HPDC Motor	24	331-073A	Sensor
12	331-199US	Motor Cover	25	114-009R	Washer
13	331-337	Rubber Edge	26	331-151	Seal

SUCTION ASSEMBLIES

FIGURE 20



PN. 331-224 (404 & 606 Lo-Pro)

FIGURE 20 PARTS LIST		
ITEM NO.	PART NO.	DESCRIPTION
	331-233	Suction Tube Ass'y Includes Item # 1, 2, 3
4	331-234	Bypass Hose Ass'y
5	111-016	Nylon Straps (2)
6	331-135	Spring Clamp

FIGURE 21

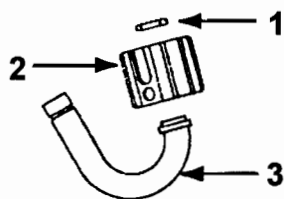
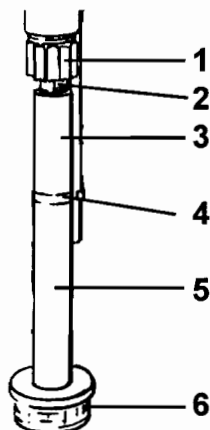


FIGURE 21 PARTS LIST		
ITEM NO.	PART NO.	DESCRIPTION
1	331-036T	O-Ring, Teflon
2	331-034	Nut - Suction
3	331-035	Elbow- Modified

FIGURE 22



PN 331-272 (606 Hi-Pro)

FIGURE 21 PARTS LIST		
ITEM NO.	PART NO.	DESCRIPTION
1	331-034	Suction Nut
2	331-286	Suction Fitting
3	331-237	Bypass Hose
4	331-135	Spring Clamp
5	331-285	Inlet Tube
6	141-008	Filter

Corrections Prospray 404/606 Manual (dated 2/97)

1. Page 3 paragraph 3 "Starting the sprayer"- Should read "See fig 7 and 8", not "See fig 6 and 7).
2. Page 13 step 8- Should read "8-12 kohms", not "8-10 ohms".
3. Page 13 step 11- Should read "...on page 14."
4. Page 14 Zero Calibration step 4- Should read "When ZERO calibration is complete replace jumper on a single terminal of P-ZR.", not "When the ZERO calibration is complete replace jumper on p-SW".
5. Page 14 Zero Calibration step 6- Should read "...turn the ZERO trimpot CCW...", not "...turn the 2 E20 trimpot CCW...".
6. Page 14 Zero Calibration step 8- Delete the sentence "Place the jumper over the terminal connectors on the right."
7. Page 15 Master Voltage Trimpot Calibration step 7- Delete "(See diagram on reverse)".
8. Page 15 Figure 10 item 8- Part number is 331-315, not 331-310.
9. Page 15 Figure 10- Unlabelled trimpot is Master Voltage Trimpot.
10. Page 16 Sensor- Add step 2A "Disconnect sensor lead from the board."
11. Page 16 LCD step 4- Add "... the four spacers (item 4 fig 11) and the four washers (item 7 fig 11) are in place."
12. Page 16 Figure 11 Parts List- Item 2 correct part number is 101-098, item 6 correct part number is 331-377, add item 7 washer(4) part number 120-046.
13. Page 18 steps 3-17- Items refer to figure 13.
14. Page 24 Figure 20 Parts List item 21- Quantity is (4), not (2).
15. Page 25 Figure 21 Parts List item 30- Description is "knob", not "knot".
16. Page 27 Figure 23 item 10- Wasn't labelled, it is the band directly above item 1.