



Zip-Spray™

– For portable spray application of architectural paints and coatings –

US Patent No. 6,752,067

1700 Airless Paint Sprayer

Model 233789

3000 psi (207 bar, 20.7 MPa) Maximum Working Pressure

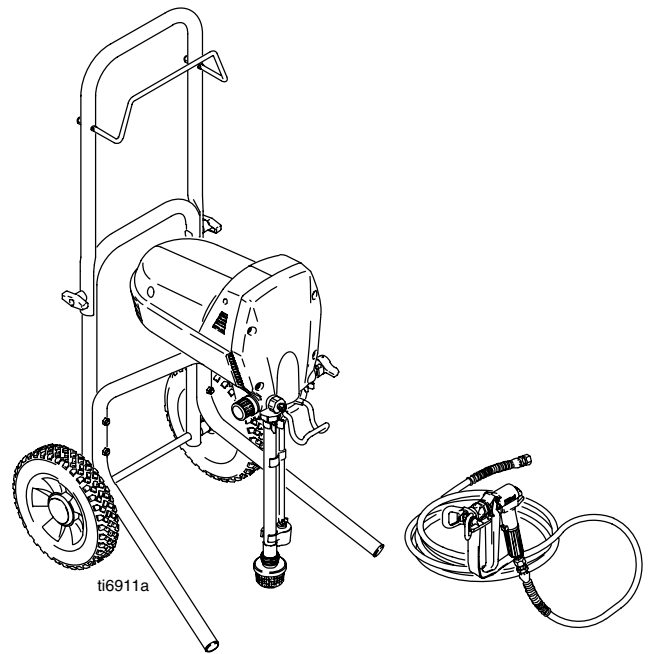


Important Safety Instructions

Read all warnings and instructions in this manual. Save these instructions.

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Specifications

This equipment is not intended for use with flammable or combustible materials used in places such as cabinet shops or other “factory” or fixed locations. If you intend to use this equipment in this type of application, you must comply with NFPA 33 and OSHA requirements for the use of flammable and combustible materials.

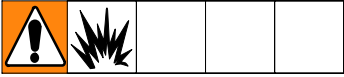
The following are general warnings related to the setup, use, grounding, maintenance, and repair of this equipment. Additional, more specific warnings may be found throughout the body of this manual where applicable. Symbols appearing in the body of the manual refer to these general warnings. When these symbols appear throughout the manual, refer back to these pages for a description of the specific hazard.

 WARNING	
	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> ● Use equipment only in well ventilated area. ● Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop clothes (potential static arc). ● Sprayer generates sparks. When flammable liquid is used in or near sprayer or for flushing or cleaning, keep sprayer at least 20 ft (6 m) away from explosive vapors. ● Keep work area free of debris, including solvent, rags and gasoline. ● Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. ● Ground equipment and conductive objects in work area. Read Grounding instructions. ● If there is static sparking or you feel a shock, stop operating immediately. Do not use equipment until you identify and correct the problem. ● Keep a fire extinguisher in the work area.
	<p>ELECTRIC SHOCK HAZARD</p> <p>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> ● Turn off and disconnect power cord before servicing equipment. ● Use only grounded electrical outlets ● Use only 3–wire extension cords. ● Ensure ground prongs are intact on sprayer and extension cords. ● Do not expose to rain. Store indoors.
	<p>SKIN INJECTION HAZARD</p> <p>High pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> ● Do not point gun at anyone or any part of the body. ● Do not put your hand over the spray tip. ● Do not stop or deflect leaks with your hand, body, glove, or rag. ● Engage trigger lock when not spraying. ● Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking or servicing equipment.

WARNING

 <p>INSTRUCTIONS</p>	<h3>EQUIPMENT MISUSE HAZARD</h3> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none">• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. Read Technical Data in all equipment manuals.• Use fluids and solvents that are compatible with equipment wetted parts. Read Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine ASM replacement parts only.• Do not alter or modify equipment.• Use equipment only for its intended purpose. Call your ASM distributor for information.• Route hoses and cables away from traffic areas, sharp edges, moving parts and hot surfaces.• Do not kink or overbend hoses or use hoses to pull equipment.• Keep children and animals away from work area.• Do not operate the unit when fatigued or under the influence of drugs or alcohol.• Comply with all applicable safety regulations.
	<h3>PRESSURIZED ALUMINUM PARTS HAZARD</h3> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious injury and/or substantial property damage.</p>
	<h3>TOXIC FLUID HAZARD</h3> <p>Toxic fluid or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none">• Read MSDS's to know the specific hazards of the fluids you are using.• Store hazardous fluid in approved containers and dispose of it according to all applicable guidelines.
	<h3>PERSONAL PROTECTIVE EQUIPMENT</h3> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes, but is not limited to:</p> <ul style="list-style-type: none">• Protective eye wear.• Clothing and respirator as recommended by the fluid and solvent manufacturer.• Gloves.• Hearing protection.

Grounding and Electric Requirements



The sprayer must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.

- **The sprayer requires** a 120V AC, 60 Hz, 15A circuit with grounding receptacle. Never use an outlet that is not grounded or an adapter.

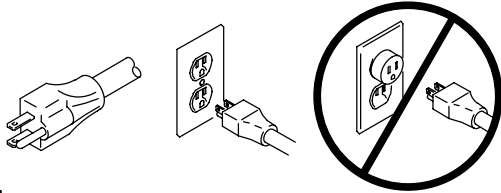


Fig. 1

ti3001b

- Do not use the sprayer if the electrical cord has a damaged ground prong. Only use an extension cord with an undamaged, 3-prong plug.

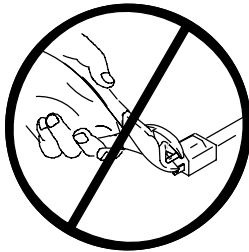


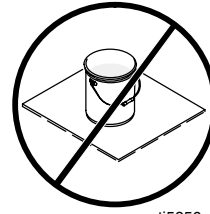
Fig. 2

ti5572a

- **Recommended extension cords** for use with this sprayer:
 - 25 ft (7.6 m) 18 AWG
 - 50 ft (15.2 m) 16 AWG
 - 100 ft (30.5 m) 14 AWG
 - 150 ft. (45.7 m) 12 AWG

Smaller gauge or longer extension cords may reduce sprayer performance.

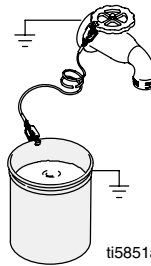
- **Ground sprayer gun** through connection to a properly grounded fluid hose and pump.
- **Ground fluid supply container.** Follow local code.
- **Ground solvent pails used when flushing.** Follow local code. Use only conductive, metal pails, placed on a grounded surface such as concrete. Do not place the pail on a non-conductive surface such as paper or cardboard, which interrupts the grounding continuity.



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Fig. 3

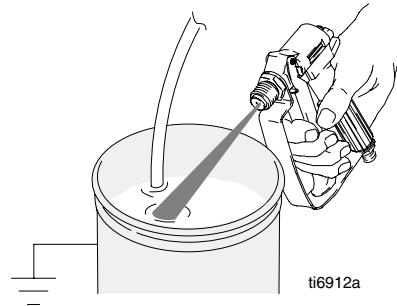
- **Ground the metal pail** by connecting a ground wire to the pail by clamping one end to pail and the other end to ground such as as water pipe.



ti5851a

Fig. 4

- **Maintain grounding continuity** when flushing or relieving pressure by holding metal part of spray gun firmly to side of a grounded metal pail, then trigger gun.



ti6912a

Fig. 5

Thermal Overload

<p>To reduce risk of injury from motor starting unexpectedly when it cools, always turn power switch OFF if motor shuts down.</p>							

- Motor has a thermal overload switch to shut itself down if overheated.

Pressure Relief Procedure



Follow Pressure Relief Procedure when you stop spraying and before cleaning, checking, servicing or transporting equipment.

1. Turn power switch OFF and unplug power cord.

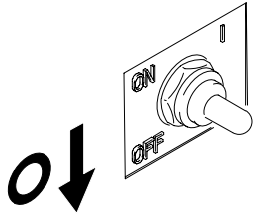


Fig. 6

2. Turn Spray-Prime/Drain valve to PRIME/DRAIN to relieve pressure.



PRIME

Fig. 7

3. Turn pressure to lowest setting. Hold metal part of gun firmly to a grounded metal pail. Trigger gun to relieve pressure.

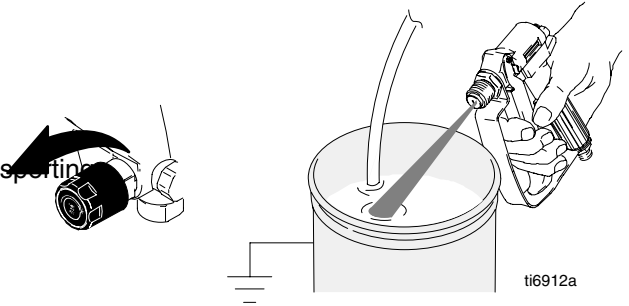


Fig. 8

4. Engage trigger lock.

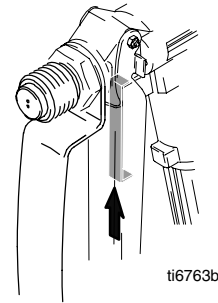
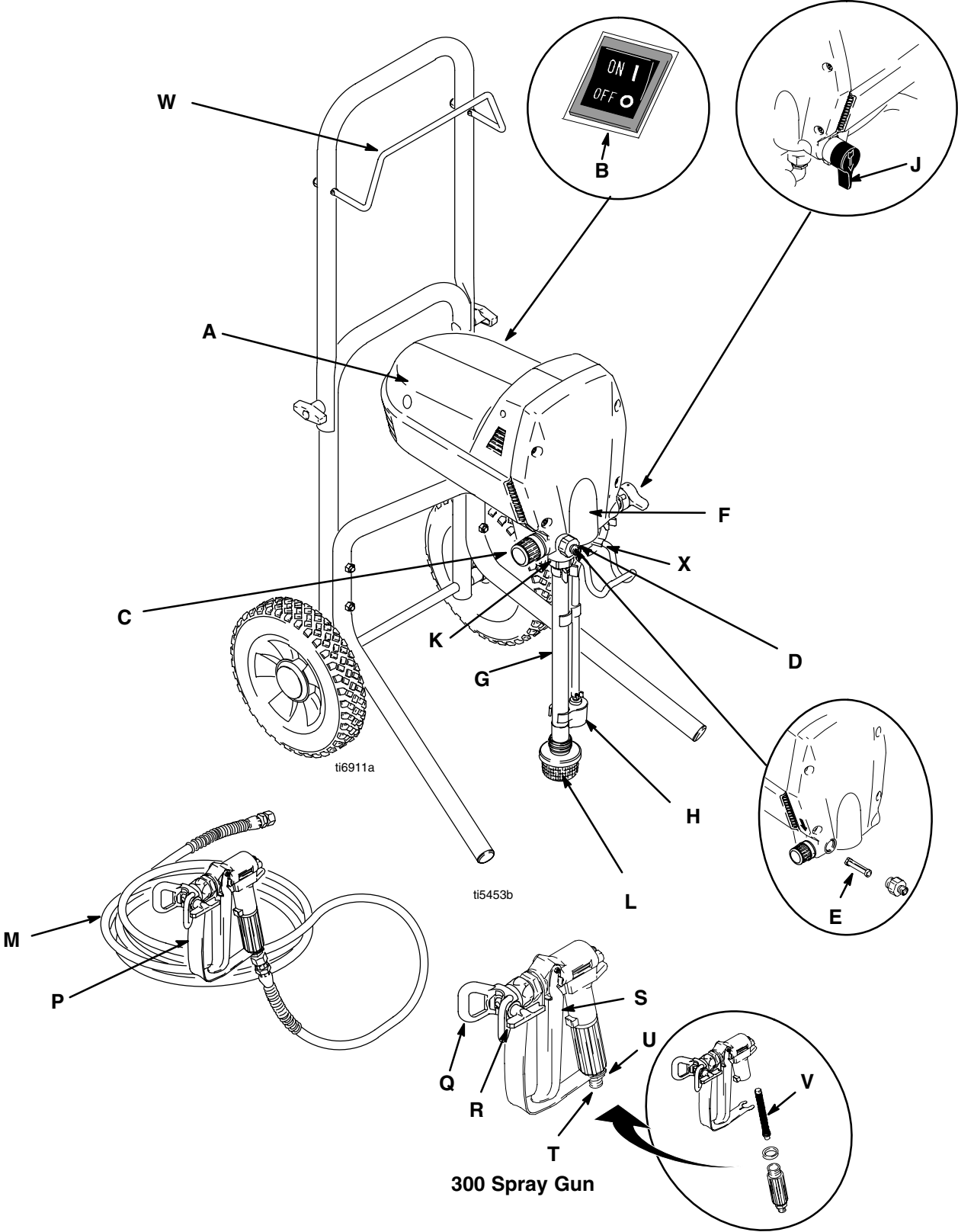


Fig. 9

- Leave Spray-Prime/Drain valve in PRIME/DRAIN position until you are ready to spray again.
- *If you suspect the spray tip is clogged or that pressure has not been fully relieved after following the above steps, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually. Then loosen completely. Clear hose or tip obstruction.*

Component Identification and Function



Component Identification and Function

A	Electric motor (inside of enclosures)	Provides mechanical power to pump
B	Power switch	For manually turning on/off electrical power to motor (“I” is ON / “0” is OFF)
C	Pressure Control knob	For manually increasing (turn clockwise) and decreasing (turn counter-clockwise) fluid pressure in pump, hose, and spray gun
D	Pump fluid outlet fitting	Threaded connection for paint hose
E	Fluid filter	<ul style="list-style-type: none"> • Filters fluid coming out of pump to reduce tip plugging and improve finish • Self cleans during pressure relief
F	Piston pump (behind black cap)	Pumps and pressurizes fluid and delivers it to paint hose if necessary. Black cap permits quick removal of outlet valve.
G	Suction tube	Draws fluid from paint pail into pump
H	Prime tube (with diffuser)	Drains fluid in system during priming and pressure relief
J	Spray/Prime/Drain valve control	<ul style="list-style-type: none"> • Directs pressurized fluid to paint hose in SPRAY position (pointing forward) • Directs fluid to drain tube in PRIME/DRAIN position (pointing down) • Automatically relieves system pressure in overpressure situations
K	Fluid inlet connection and inlet valve	Where suction tube connects to pump and inlet valve
L	Inlet screen	Prevents debris from entering pump
M	Paint hose	Transports high-pressure fluid from pump to spray gun
P	Airless spray gun	Manually-controlled, hand-held on/off device for fluid being sprayed
Q	Tip base	Reduces risk of fluid injection injury
R	Super Zip spray tip	<ul style="list-style-type: none"> • Atomizes fluid being sprayed, forms spray pattern, and controls fluid flow according to hole size • Reverses for unplugging without disassembly
S	Trigger safety lever	Prevents accidental triggering of spray gun
T	Gun fluid inlet fitting	Threaded connection for paint hose
U	Swivel	Allows spray gun to swivel without twisting paint hose
V	Gun fluid filter (in handle)	Filters fluid entering spray gun to reduce tip plugging and improve finish
W	Hose/Cord wrap bracket	Stows paint hose and electrical cord
X	Pail hanger	For transporting pail by its handle

Setup

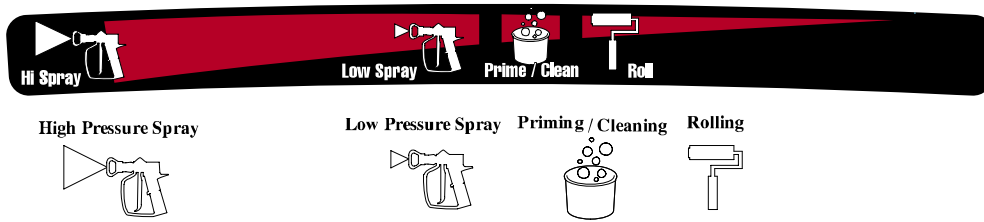
1. Unscrew tip and base assembly from gun to prepare for priming.
2. Uncoil hose and connect one end to gun.
3. Connect other end of hose to sprayer.

5. Turn Pressure Control Knob all the way left (counterclockwise) to minimum pressure.

NOTE: If hose is already connected, make sure connections are tight.

NOTE: To select function, align symbol on Pressure Control Knob label with arrow on sprayer. **(Fig. 10)**

4. Turn OFF power switch.



**Fig.
10**

Priming

NOTE: If spraying **lacquers**, purchase **Lacquer Conversion Kit 248202**, and follow all Priming procedures for oil-based materials.

Oil-based or Water-based Materials

1. Turn Spray/Prime valve to PRIME.



Fig. 11

2. Separate prime tube (smaller) from suction tube (larger).

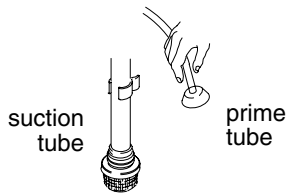


Fig. 12

3. Place prime tube in waste pail.

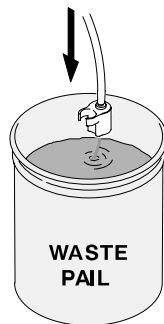


Fig. 13

4. If spraying oil-based materials, submerge suction tube in mineral spirits or compatible oil-based cleaning solution.

If spraying water-based materials, submerge suction tube in water.

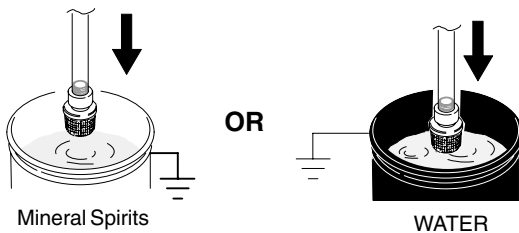


Fig. 14

5. Plug sprayer into grounded outlet.
6. Point gun into waste pail.

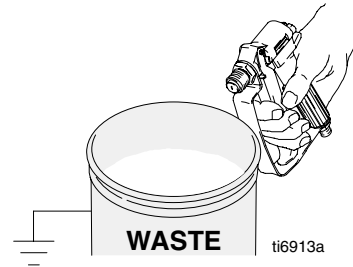


Fig. 15

7. Turn power switch ON.

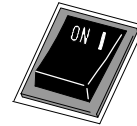


Fig. 16

8. Turn up pressure control knob until pump starts.

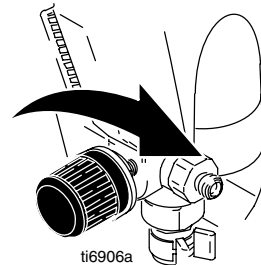


Fig. 17

9. Allow fluid to flow out of prime tube, into waste pail, for 30 to 60 seconds.

10. Turn power switch OFF.

11. Submerge suction tube in paint.

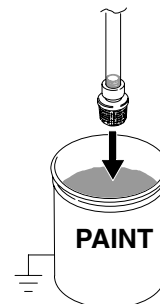


Fig. 18

Priming

12. Turn power switch ON.

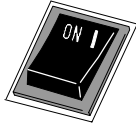


Fig. 19 _____

13. When paint starts to come out of prime tube, pull and hold gun trigger, and turn Spray/Prime valve to SPRAY.

When paint comes out of gun, release trigger.

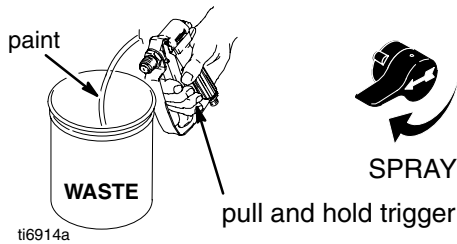


Fig. 20 _____

NOTE: Motor stopping indicates pump and hose are primed with paint.

14. Attach drain tube to suction tube.

Pump Check Valves

Storing pump in water, inadequate flushing, or ingested debris can cause either of the pump's two check valves to malfunction. If the pump does not prime after 30 seconds, try to jar the check balls loose by tapping the inlet valve with a small wrench as the sprayer is on and running.

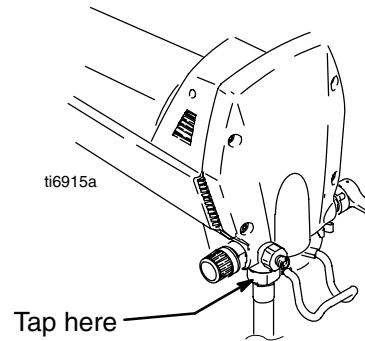


Fig. 21 _____

CAUTION: Excessive shock will fracture or cause other damage to the pump.

HINT: To determine if the inlet valve ball is sticking, unscrew inlet valve from pump and check it.

If sprayer continues to cycle (motor and pump run) after you release gun trigger, the pump valves may be obstructed or worn. If they are worn, Valve Repair Kits are available. Consult an ASM authorized service center.

Priming

Preparing to Spray Oil-Based Materials After Spraying Water-Based Materials

NOTE: To spray water-based materials after spraying oil-based materials, follow the procedure outlined below, using water instead of mineral spirits to flush system.

1. Turn Spray/Prime valve to PRIME.



Fig. 22

2. Separate prime tube (smaller) from suction tube (larger).

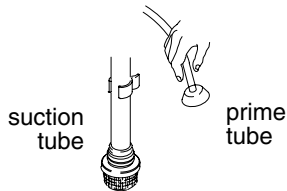


Fig. 23

3. Place prime tube in waste pail.

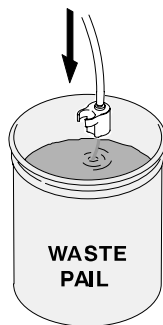


Fig. 24

4. Place suction tube in bucket of mineral spirits.

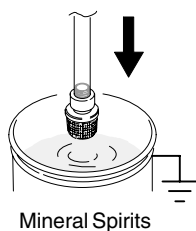


Fig. 25

5. Plug sprayer into grounded outlet.

6. Point gun into waste pail.

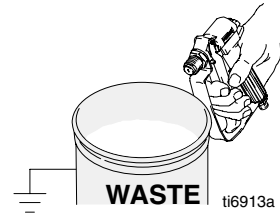


Fig. 26

7. Turn power switch ON.

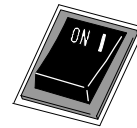


Fig. 27

8. Turn up Pressure Control knob until pump starts.

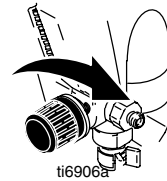


Fig. 28

9. Flush until mineral spirits flow out of prime tube into waste pail, for 30 to 60 seconds.

10. Turn power switch OFF.

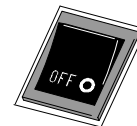


Fig. 29

11. Submerge suction tube in paint.

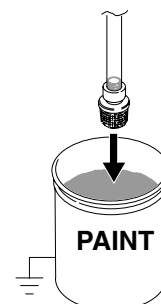


Fig. 30

Priming

12. Turn power switch ON.

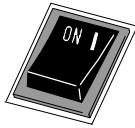


Fig. 31

13. When paint starts to come out of prime tube, pull and hold gun trigger, and turn Spray/Prime valve to SPRAY.

When paint comes out of gun, release trigger.

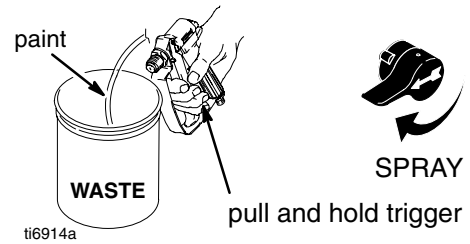


Fig. 32

NOTE: Motor stopping indicates pump and hose are primed with paint.

14. Attach drain tube to suction tube.

NOTE: If pump does not prime after 30 seconds see Pump Check Valves, page 10.

Setup

Installing Tip and Base



1. Place trigger safety lever in Safety ON position.
2. Make sure tip and base parts are assembled in order shown.

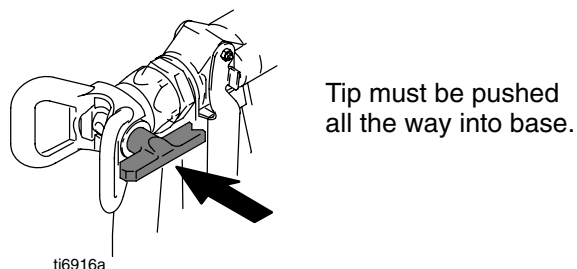
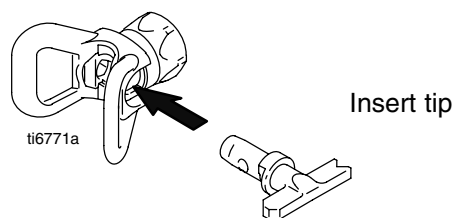
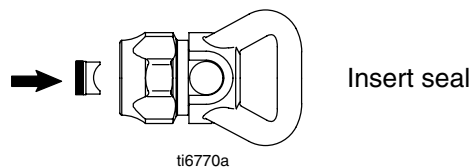


Fig. 33

3. Screw tip and base assembly onto gun and tighten retaining nut by hand.

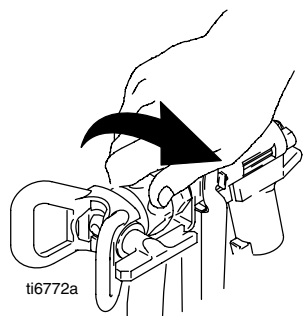
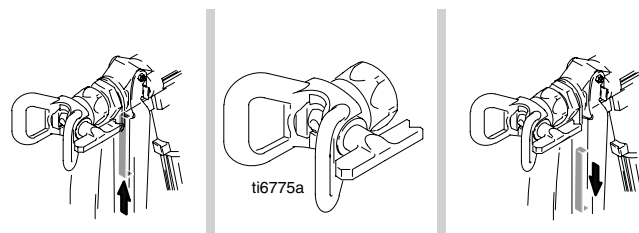
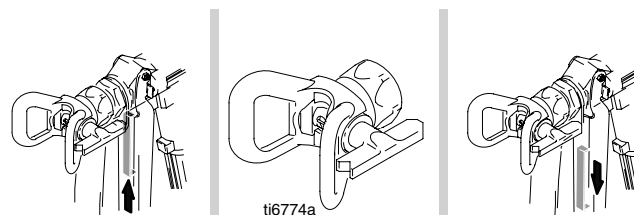


Fig. 34

NOTE: Point the arrow shaped handle on the Super Uni – tip forward to SPRAY and backward to UNCLOG obstructions.



SPRAY – arrow points forward



UNCLOG – arrow points backward

Fig. 35

NOTE:

- Tip must be pushed all the way into base.
- Never pull gun trigger when arrow shaped handle is between SPRAY and UNCLOG positions.

Tip Selection

Selecting a Tip Hole Size

Tips come in a variety of hole sizes for a range of fluids. Your Zip Spray sprayer includes the tip most likely to satisfy common spraying applications. Use the following table to determine the range of recommended tip hole sizes for each fluid type. If you need a tip other than the one supplied, see the **Super Uni – Tip Selection Chart** below.

Tip Hole Sizes (expressed as diameter, based on area of elliptical orifice)	Coatings					
	stains	enamels	oil-base primers and paints	interior latex paints	exterior latex paints	acrylics
0.011 in. (0.28 mm)	X					
0.013 in. (0.33 mm)	X	X	X	X		
0.015 in. (0.38 mm)		X	X	X	X	
0.017 in. (0.43 mm)			X	X	X	X
0.019 in. (0.48 mm)					X	X

HINTS:

- As you spray, the tip wears and enlarges. Starting with a tip hole size smaller than the maximum will allow you to spray within the rated flow capacity of the sprayer while using the tip you selected.
- Maximum tip hole size supported by the Zip Spray sprayer is 0.017 in. (0.43 mm).

Super Uni – Tip Selection Chart

Tip Part No.	Fan Width 12 in. (305 mm) from surface	Hole Size
59-411	8 to 10 in. (203 to 254 mm)	0.011 in. (0.28 mm)
59-511	10 to 12 in. (254 to 305 mm)	0.011 in. (0.28 mm)
59-313	6 to 8 in. (152 to 203 mm)	0.013 in. (0.33 mm)
59-413	8 to 10 in. (203 to 254 mm)	0.013 in. (0.33 mm)
59-415	8 to 10 in. (203 to 254 mm)	0.015 in. (0.38 mm)
59-515	10 to 12 in. (254 to 305 mm)	0.015 in. (0.38 mm)
59-417	8 to 10 in. (203 to 254 mm)	0.017 in. (0.43 mm)
59-517	10 to 12 in. (254 to 305 mm)	0.017 in. (0.43 mm)
59-519	10 to 12 in. (254 to 305 mm)	0.019 in. (0.48 mm)
59-619	12 to 14 in. (305 to 356 mm)	0.019 in. (0.48 mm)

Example: For an 8 to 10 in. (203 to 254 mm) fan width and a 0.013 in. (0.33 mm) hole size order Part No. 59-413.

Using the Right Tip for the Job

Consider the coating and the surface to be sprayed. Make sure you use the best tip hole size for that coating and the best fan width for that surface.

Tip Hole Size

Tip hole size controls the flow rate — the amount of paint that comes out of the gun.

HINTS:

- Generally, use larger tip hole sizes with thicker coatings and smaller tip hole sizes with thinner coatings.
- The maximum tip hole size that a sprayer can support is related to its maximum flow rate. The maximum tip hole size supported by the Zip Spray sprayer is 0.017 in. (0.43 mm).
- Tips wear with use and need periodic replacement.

Fan Width

Fan width is the size of the spray pattern, which determines the area covered with each stroke. For a given tip hole size, narrower fans deliver a thicker coat, and wider fans deliver a thinner coat.

HINTS:

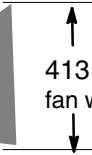
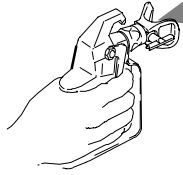
- Select a fan width best suited for the surface being sprayed.
- Wider fans allow for faster coverage on broad, open surfaces.
- Narrower fans allow for better control on small, confined surfaces.

Tip Selection

Understanding the Tip Number

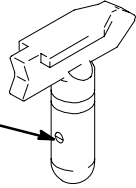
The last three digits of the tip number (example: 59-413) contain information about the hole size and about the fan width on the surface when the gun is held 12 in. (30.5 cm) from the surface being sprayed.

First digit when doubled = approximate fan width.



413 tip has 8 to 10 in. fan width

413 tip has a 0.013 in. hole size



Last two digits = tip hole size in thousands of an inch.

Spraying Techniques

This sprayer is set up for most airless spraying applications. Details on tip selection, tip wear, coat thickness, etc. are provided on page 14.



NOTE: Motor runs only when gun is triggered. Sprayer is designed to stop pumping when gun trigger is released.

Pressure Adjustment

- Align arrow on sprayer with function symbol on Pressure Control Knob. Turning knob to right (clockwise) increases pressure at gun. Turning it left, (counterclockwise) decreases pressure.

Preventing Excessive Tip Wear

- Spray should be atomized (evenly distributed, no gaps at edges) (Fig. 36). Start at low pressure setting, increase pressure a little at a time until paint is atomized.

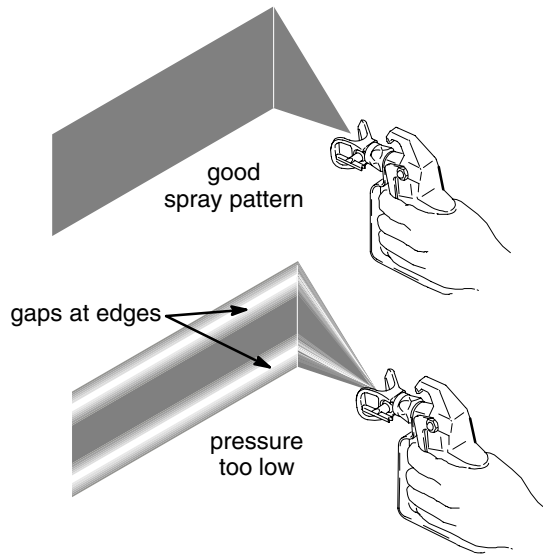


Fig. 36

- To prevent excessive tip wear, spray at lowest pressure that atomizes paint.
- If maximum pressure of sprayer is not enough for good spray pattern, tip is too large or too worn. See Super Uni – Tip Selection Chart, page 14.

Getting Started with Basic Techniques

- Hold gun 12 in. (30 cm) from surface and aim straight at surface. Tilting gun to direct spray angle causes an uneven finish (Fig. 37).

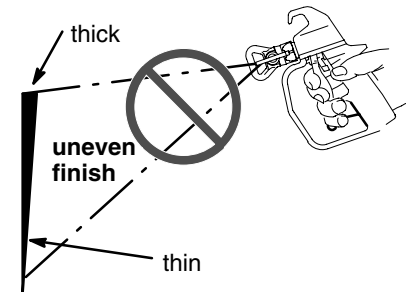
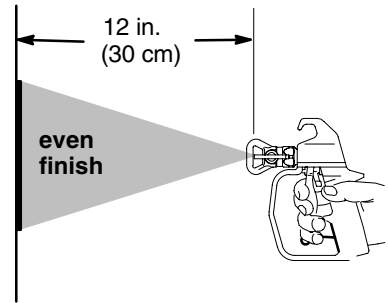


Fig. 37

- Flex wrist to keep gun pointed straight. Fanning gun to direct spray at angle causes uneven finish (Fig. 38).

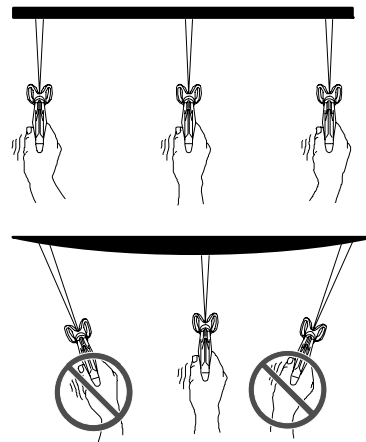


Fig. 38

Spraying Techniques

Triggering Gun

- Pull trigger after starting stroke, release trigger before end of stroke. Gun must be moving when trigger is pulled and released (Fig 39).

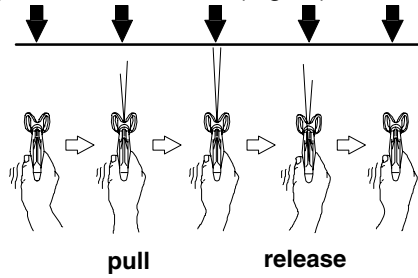


Fig.
39

Aiming Gun

- Aim tip of gun at edge of previous stroke to overlap each stroke by half (Fig. 40).

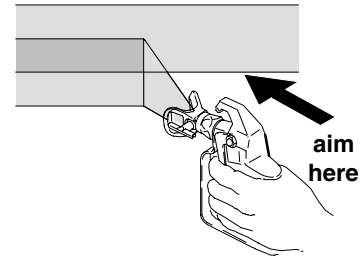


Fig.
40

Shutdown and Cleaning

NOTE: If spraying **lacquers**, purchase **Lacquer Conversion Kit 248202**, and follow Pail Flushing procedure.

NOTE: For short shutdown periods (breaks on the job), leave suction tube and prime tube in paint and relieve pressure by turning Spray/Prime Valve to PRIME. For extended shutdown periods, clean sprayer by flushing as instructed in this section.

Pail Flushing

- For flushing after spraying non-water/solvent coatings with compatible flushing fluid. For water-based coatings, see Zip Flushing, page 19.



NOTE: In Step 1, the sprayer must be under pressure for the fluid filter system to be activated. If the sprayer has no pressure, it needs to be primed.

- With Power switch OFF, lift suction tube and prime tube from paint pail, and let them drain into paint for awhile. Place suction tube in flushing fluid pail, and place prime tube in waste pail. Turn Spray/Prime valve to PRIME to relieve fluid pressure into waste pail.

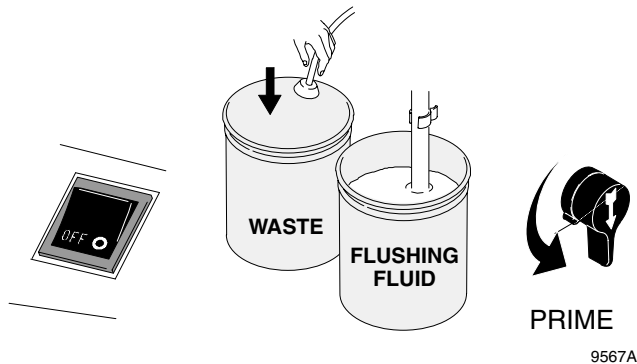


Fig. 41

- Turn Pressure Control knob to the left (counterclockwise) to minimum pressure. Trigger gun into waste pail to relieve pressure that might be in hose.

NOTE: To minimize splashing, aim gun at inside wall of empty waste pail.

- Remove tip & base assembly from gun, and place in flushing fluid pail.

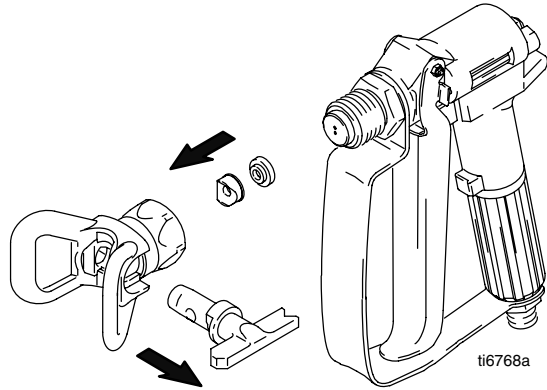


Fig. 42

- Turn Power switch ON, and slowly align arrow on sprayer and bucket symbol on Pressure Control knob until pump starts. Continue flushing until about 1/3 of flushing fluid is gone from flushing fluid pail.
- Turn Power switch OFF, and turn Prime valve to SPRAY.

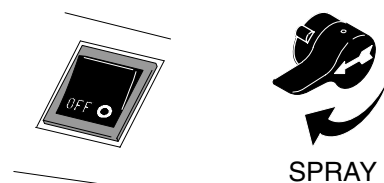


Fig. 43

Shutdown and Cleaning

6. Trigger gun into paint pail, and turn Power switch ON. When flushing fluid comes out of gun, release trigger.
7. Move gun to waste pail, and trigger it to flush pump, hose, and gun into waste pail. Continue until remaining flushing fluid is gone from flushing fluid pail.

NOTE: To minimize splashing, aim gun at inside wall of pail.

8. Fill unit with pump storage fluid or mineral spirits.

Zip Flushing

- For flushing after spraying water-based coatings.



This procedure is for flushing after spraying water-based coatings.

1. With Power Switch OFF, lift suction tube and prime tube from paint pail, and let them drain into paint for awhile. Place suction tube in flushing fluid pail, and place prime tube in waste pail. Turn Spray/Prime valve to PRIME to relieve fluid pressure into waste pail.
2. Turn Pressure Control knob to the left (counterclockwise) to minimum pressure. Trigger gun into waste pail to relieve pressure that might be in hose.
NOTE: To minimize splashing, aim gun at inside wall of empty waste pail.
3. Remove tip & base assembly from gun, and place in flushing fluid pail.
4. Screw Zip Flush attachment onto garden hose. Close lever on Zip Flush attachment.
5. Unscrew inlet screen from suction tube and place tube in waste bucket.
6. Connect garden hose to suction tube with Zip Flush attachment. Leave prime tube in waste pail.
7. Turn Spray/Prime Valve to SPRAY. Align arrow on sprayer with bucket symbol on Pressure Control Knob.

8. Open lever on Zip Flush attachment. Turn on garden hose.

Note: Step 9 is for returning paint in hose back to paint pail. One 50-foot (15-meter) hose holds approximately 1 quart (1 liter) of paint.

9.
 - a. Pull and hold gun trigger and point gun into paint pail.

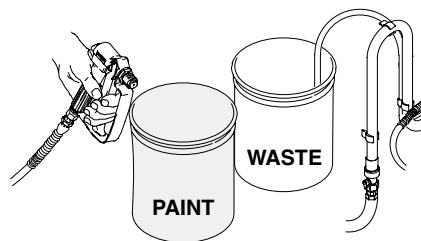


Fig. 44

- b. Turn power switch ON to begin pumping paint in hose back into paint pail.
 - c. When water comes out of gun, keep gun trigger pulled and move aim of gun to waste pail.
10. Keep gun triggered and aimed into waste pail for 1–2 minutes, until relatively clear water comes out of gun.
 11. Turn Spray/Prime valve to PRIME.
 12. Let water flow through sprayer into waste pail for 20 seconds.
 13. Turn power switch OFF.
 14. Close Zip Flush attachment. Turn off garden hose.
 15. Unscrew Zip Flush attachment from suction tube.

Cleaning Fluid Filter

1. Disconnect airless spray hose from sprayer. Remove fluid filter from sprayer. Check it for debris. If needed, clean filter with water and brush.

NOTE: The filter prevents particles from entering paint hose. Although filter is self-cleaning, remove and clean it after each use to insure peak performance.

2. Install filter.
3. Tighten outlet fitting and reconnect hose to sprayer.

Shutdown and Cleaning

Replacing Water with Storage Fluid



NOTE: Never leave water in pump. Always pump storage fluid through system after cleaning. Water left in the sprayer will corrode and ruin pump.

1. Place suction hose in storage fluid bottle and prime tube in waste pail.
2. Turn Spray/Prime Valve to PRIME.
3. Turn pressure control knob all the way left (counterclockwise) to minimum pressure.
4. Turn power switch ON.
5. Align arrow on sprayer to roller symbol on pressure control knob.
6. When storage fluid runs out of prime tube (5–10 seconds) turn power switch OFF.
7. Turn Spray/Prime Valve to SPRAY to keep storage fluid in sprayer during storage.

General Repair Information



- **Keep all screws, nuts, washers, gaskets, and electrical fittings** that you remove during repair procedures. These parts are not normally provided with replacement assemblies.
- **Test repairs** after problems are corrected.
- **If the sprayer does not operate properly**, review the repair procedure to verify that you did it correctly. See **Troubleshooting** on page 22 and **Advanced Troubleshooting** on page 24.
- **Overspray may build up in the air passages.** Remove any overspray and residue from the air passages and openings in the enclosures whenever you service the sprayer.

Do not operate the sprayer without the enclosure.

Replace if damaged. Enclosures direct cooling air around the motor to prevent overheating. They also reduce the risk of burns, fire or explosion. Read the following **WARNING**.



CAUTION

Do not run sprayer dry for more than 30 seconds.

Doing so could damage pump packings.

Protect the internal drive parts of this sprayer from water. Openings in the enclosures allow for air cooling of the mechanical parts and electronics inside. If water gets into these openings, the sprayer could malfunction or be permanently damaged.

Prevent pump corrosion and damage from freezing. Never leave water or water-base paint in the sprayer when it is not in use in cold weather. Freezing fluids can seriously damage the sprayer. Store the sprayer with mineral spirits/paint thinner, Pump Shield, or other pump storage fluid to protect equipment during storage.

Basic Troubleshooting

The following troubleshooting guidelines from the *Operating Instructions* manual are included here as preemptive measures against **Advanced Troubleshooting** on page 24.

PROBLEM	CAUSE	SOLUTION
Power switch is on and sprayer is plugged in, but motor does not run, and pump does not cycle.	Pressure is set at zero pressure.	Turn Pressure Control knob (C) clockwise to increase pressure setting.
	Motor or control is damaged.	See Motor Does Not Operate on page 24.
	Electrical outlet is not providing power.	<ul style="list-style-type: none"> Try a different outlet, or plug in something that you know is working to test outlet. Reset building circuit breaker, or replace fuse.
	Extension cord is damaged.	Replace extension cord. See Grounding and Electrical Requirements on page 4.
	Sprayer electrical cord is damaged.	Check for broken insulation or wires. Replace electrical cord if damaged.
Paint is frozen or hardened in pump.	See Motor Does Not Operate on page 24.	
	Pump does not prime.	Turn Spray–Prime/Drain valve (J) to PRIME/DRAIN position (pointing down).
	Inlet screen is clogged, or suction tube is not immersed.	Clean debris off inlet screen (L), and make sure suction tube (G) is at bottom of paint pail.
	Balls in check valve are stuck, or check valves are damaged.	Clean or replace check valves. See Pump Service on page 33. Do not store in water.
Suction tube is leaking.	Tighten suction tube connection (K). Inspect for other cracks or vacuum leaks.	
	Spray gun stopped spraying.	Unplug spray tip.
Pump cycles but does not build up pressure.	Pump is not primed.	Prime pump.
	Inlet screen is clogged, or suction tube is not immersed.	Clean debris off inlet screen (L), and make sure suction tube (G) is at bottom of paint pail.
	Paint pail is empty.	Refill paint pail, and reprime sprayer.
	Suction tube is leaking.	Tighten suction tube connection (K). Inspect for other cracks or vacuum leaks.
	Pump check valves are dirty or damaged. (Usually only one valve)	Clean or replace check valves. See Pump Service on page 33.
	Spray–Prime/Drain valve is worn or obstructed with debris	Check Spray–Prime/Drain valve for debris trapped on seat and worn parts. Torque to 185 in-lb (21 N•m). Replace if parts are worn.
Pump cycles, but paint only dribbles or spurts when spray gun is triggered.	Pressure is set too low.	Slowly turn Pressure Control knob (C) clockwise to Increase pressure setting to check if sprayer develops more pressure.
	Spray tip is plugged.	Unplug spray tip.
	Fluid filter is clogged.	Clean or replace fluid filter (E).
	Spray gun fluid filter is clogged.	Clean or replace spray gun fluid filter (V).
Spray pattern is inconsistent or is leaving stripes.	Pressure is set too low.	Turn Pressure Control knob (C) clockwise to increase pressure.
	Spray tip is worn beyond capability of sprayer.	Replace spray tip.

Basic Troubleshooting

PROBLEM	CAUSE	SOLUTION
Pressure is set at maximum, but cannot achieve a good spray pattern.	Spray tip is too big for sprayer.	Select a smaller spray tip.
	Spray tip is worn beyond capability of sprayer.	Replace spray tip.
	Extension cord is too long or not a heavy enough gauge.	Replace extension cord. See Grounding and Electrical Requirements on page 4.
	Spray gun fluid filter is clogged.	Clean or replace spray gun fluid filter (V).
	Fluid filter is clogged.	Clean or replace fluid filter (E).
	Inlet screen is clogged.	Clean debris off inlet screen (L).
	Pump valves are worn.	See Output is Low or Fluctuating on page 27.
Motor is hot and runs intermittently. NOTE: This is a thermal overload condition. Motor automatically shuts off due to excessive heat. See Startup Hazard After Thermal Overload in the WARNINGS section on page 2. Damage can occur if cause is not corrected.	Vent holes in enclosures are plugged, or sprayer is covered.	Keep vent holes clear of obstructions and overspray, and keep sprayer open to air.
	Extension cord is too long or not a heavy enough gauge.	Replace extension cord.
	Unregulated electrical generator being used has excessive voltage.	Use electrical generator with a proper voltage regulator. Sprayer requires a 120V AC, 60 Hz, 1500-Watt generator.
	Sprayer was operated at high pressure with very small tip, which causes frequent motor starts and excessive heat build up.	Decrease pressure setting or increase tip size.
Building circuit breaker opens after sprayer operates for 5 to 10 minutes. OR Building circuit breaker opens as soon as sprayer is plugged into outlet, and sprayer is turned on.	Too many appliances are plugged in on same circuit.	Free up circuit (unplug things), or use a less busy circuit.
	Sprayer electrical cord is damaged.	Check for broken insulation or wires. Replace electrical cord if damaged.
Fan pattern varies dramatically while spraying OR Sprayer does not turn on promptly when resuming spraying.	Pressure control switch is worn and causing excessive pressure variation.	Replace Pressure Control knob using Pressure Control Switch Kit 244267 (see List of Kits , page 31).
Cannot trigger spray gun.	Spray gun trigger safety lever is in SAFETY ON position.	Slide trigger safety lever (S) to SAFETY OFF position.
Spray comes out of spray gun in two thick streams.	Super Zip spray tip is in UNCLOG position.	Rotate arrow-shaped handle on spray tip so it points forward in SPRAY position.
Paint is coming out of pressure control switch.	Pressure control switch is worn.	Replace Pressure Control knob using Pressure Control Switch Kit 244267 (see List of Kits , page 31).
Spray-Prime/Drain valve actuates automatically, relieving pressure through drain tube.	System is overpressurizing.	See Excessive Pressure is Building Up on page 30.
Paint leaks down outside of pump.	Pump packings are worn.	Replace pump packings. See Pump Service on page 33.

Advanced Troubleshooting



NOTE: See **Basic Troubleshooting** on page 22 for the problems that are more easily remedied.

General Problem: Motor Does Not Operate

SPECIFIC PROBLEM	CAUSE	SOLUTION
Power switch is on and sprayer is plugged in, but pump does not cycle.	See Basic Troubleshooting page 22.	
Basic Mechanical Problems	Paint is frozen or hardened in pump.	<p>Unplug sprayer from electrical outlet.</p> <p>NOTE: If frozen, do not try to start sprayer until completely thawed, or damage to motor, control board, and/or drivetrain may occur.</p> <p>Make sure power switch (B) is OFF. Place sprayer in warm area for several hours, then plug in and turn on. Slowly increase pressure setting to see if motor starts.</p> <p>If paint hardened in sprayer, replace pump packings and remove all residue from valves.</p> <p>See Pump Service on page 33.</p>
	Motor is damaged.	Remove gear, and try to rotate motor shaft by hand. See Motor Diagnostics on page 32. If shaft will not turn, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Yoke is broken, because pump is locked up by dried paint or worn packings.	Repair as necessary or replace using Gear/Yoke Repair Kit 245062 (see List of Kits , page 31).
Basic Electrical Problems	Motor is overheated.	Allow to cool for 30 minutes. Retry.
	Electrical outlet is damaged.	Reset building circuit breaker or replace building fuse. Try another outlet. Check electric supply with volt meter. Meter must read 85 to 130V AC. If voltage is too high, do not plug sprayer in until outlet is corrected.
	Control board leads are improperly fastened or improperly mated.	Replace any loose terminals. Make sure all leads and harnesses are firmly connected. Check pressure control harness connection on front side of drive housing. Clean control board terminals. Securely reconnect leads.
	Motor brushes are worn. NOTE: Brushes do not wear at the same rate on both sides of motor. Check both brushes.	Check length of brushes. Brush length must be 0.25 in. (6.4 mm) minimum. If brushes are worn, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Motor armature commutator is damaged.	Check for burn spots, gouges and extreme roughness. Have motor shop resurface commutator if possible, or replace motor using Motor Kit 245063 (see List of Kits , page 31).

Advanced Troubleshooting

General Problem: Motor Does Not Operate (continued)

SPECIFIC PROBLEM	CAUSE	SOLUTION
Basic Electrical Problems (Continued)	Motor armature is shorting.	Check for shorts using armature tester (growler), or perform spin test (see Motor Diagnostics on page 32). If shorts are evident, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Control board fuse is blown.	Replace fuse 119276.
	Control board is damaged. CAUTION: Do not perform control board diagnostics until you have determined that the armature is good. A bad motor armature can burn out a good control board.	See Control Board Diagnostics on page 32, and replace control board if damaged using Control Board Kit 243228 (see List of Kits , page 31).
Sprayer Wiring Problems NOTE: Remove right enclosure mounting screws, and pull right enclosure away from drive housing. Take care to not pull on the leads from the electrical cord and the Power switch (B).	Sprayer electrical cord is damaged.	Unplug sprayer electrical cord. Disconnect black electrical cord wire at Power switch (B), and unplug in-line connection of white electrical cord wire. Plug in electrical cord, and test voltage between black and white electrical cord wires. Meter must read 85 to 130V AC. Replace electrical cord if no voltage.
	Sprayer power switch (B) is damaged.	Unplug sprayer electrical cord. Disconnect black control board wire at Power switch (B), and unplug in-line connection of white electrical cord wire. Plug in electrical cord, turn Power switch ON, and test voltage between open terminal of Power switch and white electrical cord wire. Meter must read 85 to 130V AC. Replace Power switch (B) if no voltage.
	Thermal overload cutoff switch is damaged. See Startup Hazard After Thermal Overload in the WARNINGS section on page 2.	Unplug sprayer electrical cord. Remove motor harness from control card, and check for continuity between yellow leads of motor harness. If thermal relief switch is open (no continuity), allow motor to cool. If switch remains open after motor cools, replace motor using Motor Kit 245063 (see List of Kits , page 31). If thermal relief switch closes after motor cools, find and correct cause of overheating.
	Terminals are damaged or loose.	Replace any damaged terminals, and make sure all terminal connections are tight.

Advanced Troubleshooting

General Problem: Circuit Breaker is Tripping

SPECIFIC PROBLEM	CAUSE	SOLUTION
Building circuit breaker opens as soon as sprayer is turned on.	Sprayer electrical wiring is pinched, or insulation is damaged. Wires between pressure control switch and control board are pinched.	Repair or replace any damaged wiring or terminals. Securely reconnect all wires.
	Motor armature is shorting.	Check for shorts using armature tester (growler), or perform spin test (see Motor Diagnostics on page 32). If shorts are evident, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Control board is damaged. CAUTION: Do not perform control board diagnostics until you have determined that the armature is good. A bad motor armature can burn out a good control board.	See Control Board Diagnostics on page 32, and replace control board if damaged using Control Board Kit 243228 (see List of Kits , page 31).
Building circuit breaker opens as soon as sprayer is plugged into outlet, and sprayer is NOT turned on. NOTE: Remove right enclosure mounting screws, and pull right enclosure away from drive housing. Take care to not pull on the leads from the electrical cord and the Power switch (B).	Sprayer electrical cord is damaged.	Unplug sprayer electrical cord. Disconnect black electrical cord wire at Power switch (B), and unplug in-line connection of white electrical cord wire. Plug in electrical cord, and test voltage between black and white electrical cord wires. Meter must read 85 to 130V AC. Replace electrical cord if no voltage.
	Sprayer Power switch (B) is damaged.	Unplug sprayer electrical cord, and disconnect wires from Power switch (B). Check resistance of switch with ohmmeter. Reading must be infinity with Power switch OFF, and zero with Power switch ON. Replace Power switch if damaged.
	See also "Basic Electrical Problems" on page 24 and "Sprayer Wiring Problems" on page 25.	

Advanced Troubleshooting

General Problem: Motor Operation is Erratic

SPECIFIC PROBLEM	CAUSE	SOLUTION
Sprayer quits after running for 5 to 10 minutes.	Electrical outlet is damaged or supplying the wrong voltage.	Reset building circuit breaker or replace building fuse. Try another outlet. Check electric supply with volt meter. Meter must read 85 to 130V AC. If voltage is too high, do not use outlet until corrected.
	See also “Basic Electrical Problems” on page 24 and “Sprayer Wiring Problems” on page 25.	
Motor is hot and runs intermittently. NOTE: This is a thermal overload condition. Motor automatically shuts off due to excessive heat. See Startup Hazard After Thermal Overload in the WARNINGS section on page 2. Damage can occur if cause is not corrected.	See Basic Troubleshooting page 23.	

General Problem: Output is Low or Fluctuating

SPECIFIC PROBLEM	CAUSE	SOLUTION
Pump cycles, but output is low or surging.	See Basic Troubleshooting page 22.	
	Pump valves are worn or obstructed by debris.	Check for worn pump valves as follows: Prime sprayer with paint. Trigger spray gun momentarily. When spray gun trigger is released, pump should cycle momentarily and stop. If pump continues to cycle, pump valves may be worn or obstructed. See Pump Service on page 33.
	Spray–Prime/Drain valve is leaking.	Check Spray–Prime/Drain valve for debris trapped on seat and for worn parts. Torque to 185 in-lb (21 N•m). Replace if parts are worn using Spray–Prime/Drain Valve Kit 235014 (see List of Kits , page 31).
	Voltage from electrical outlet is too low. Low voltages reduce sprayer performance.	Check voltage of outlet. Meter must read 85 to 130V AC. Reset building circuit breaker or replace building fuse. Repair electrical outlet or try another outlet.
	Extension cord is too long or not a heavy enough gauge.	Replace extension cord. See Grounding and Electrical Requirements on page 4.
	Leads from motor to control board are damaged, loose, or overheated.	Be sure terminals are centered and firmly connected. Inspect wiring insulation and terminals for signs of overheating, and replace any loose terminals or damaged wiring. Securely reconnect terminals.

Advanced Troubleshooting

General Problem: Output is Low or Fluctuating (continued)

SPECIFIC PROBLEM	CAUSE	SOLUTION
	Motor brushes are worn. NOTE: Brushes do not wear at the same rate on both sides of motor. Check both brushes.	Check length of brushes. Brush length must be 0.25 in. (6.4 mm) minimum. If brushes are worn, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Motor brush springs are broken.	If springs are broken, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Motor brushes are binding in brush holders.	Clean brush holders, remove carbon dust with small cleaning brush.
	Motor stops before sprayer reaches correct pressure (stall pressure is too low).	Replace Pressure Control knob using Pressure Control Switch Kit 244267 (see List of Kits , page 31).

General Problem: Output is Low or Fluctuating (continued)

SPECIFIC PROBLEM	CAUSE	SOLUTION
	Motor armature is shorting.	Check for shorts using armature tester (growler), or perform spin test (see Motor Diagnostics on page 32). If shorts are evident, replace motor using Motor Kit 245063 (see List of Kits , page 31).
	Control board is damaged. CAUTION: Do not perform control board diagnostics until you have determined that the armature is good. A bad motor armature can burn out a good control board.	See Control Board Diagnostics on page 32, and if damaged, replace control board using Control Board Kit 243228 (see List of Kits , page 31).

General Problem: Output is Low or Fluctuating (continued)

SPECIFIC PROBLEM	CAUSE	SOLUTION
Motor runs and pump cycles, but pressure does not build up.	Intake valve ball or outlet valve ball is not seating properly.	Remove and clean valves, and check balls and seats for nicks; replace if necessary. Strain paint before spraying to remove particles that could clog pump. See Pump Service on page 33.
	Pump packings are worn or damaged.	Check for leaking around throat packing nut. Replace pump packings if there are leaks. See Pump Service on page 33.
	Spray-Prime/Drain valve is leaking.	Check Spray-Prime/Drain valve for debris trapped on seat and for worn parts. Torque to 185 in-lb (21 N•m). If parts are worn, replace valve using Spray-Prime/Drain Valve Kit 235014 (see List of Kits , page 31).

Advanced Troubleshooting

General Problem: Output is Low or Fluctuating (continued)

SPECIFIC PROBLEM	CAUSE	SOLUTION
Spray pattern has variations, pressure fluctuates excessively, or motor runs very slowly.	Leads from motor to control board are damaged, loose, or overheated.	Be sure terminals are centered and firmly connected. Inspect wiring insulation and terminals for signs of overheating, and replace any loose terminals or damaged wiring. Securely reconnect terminals.
	Pressure control switch leads are pinched between pump and drive housing or between front cover and drive housing.	Make sure pressure control harness is routed behind pump, through retention clip, and connected to control board connector at back of drive housing (connected with tab to the right).
	Control board is damaged. CAUTION: Do not perform control board diagnostics until you have determined that the armature is good. A bad motor armature can burn out a good control board.	See Control Board Diagnostics on page 32. If damaged, replace control board using Control Board Kit 243228 (see List of Kits , page 31).
	Pressure control switch is damaged or worn out.	Replace pressure control switch using Pressure Control Switch Kit 244267 (see List of Kits , page 31).

General Problem: There is No Output

SPECIFIC PROBLEM	CAUSE	SOLUTION
Power switch is on and sprayer is plugged in, but pump does not cycle.	See Basic Troubleshooting page 22.	
Motor runs, but pump does not cycle.	Gear and/or yoke are damaged.	Replace gear and yoke using Gear/Yoke Repair Kit 245062 (see List of Kits , page 31).
Motor does not run.	Water or paint entered pressure control switch or shorted control board.	Clean out and/or dry out, and retry. Replace if necessary using Pressure Control Switch Kit 244267 (see List of Kits , page 31).

Advanced Troubleshooting

General Problem: Excessive Pressure is Building Up

SPECIFIC PROBLEM	CAUSE	SOLUTION
Spray-Prime/Drain valve actuates automatically, relieving pressure through drain tube.	Pressure control switch is worn.	Replace pressure control switch using Pressure Control Switch Kit 244267 (see List of Kits , page 31).
	Water or paint entered pressure control switch or shorted control board.	Clean out and/or dry out, and retry. Replace if necessary using Pressure Control Switch Kit 244267 (see List of Kits , page 31).
	Control board has failed.	See Control Board Diagnostics on page 32, and replace control board if damaged using Control Board Kit 243228 (see List of Kits , page 31).

List of Kits

Kit Number	Kit Description
197608, Series A	Suction Tube (inlet valve with integral hose barb)
15D671, Series B and C	Suction Tube
235014	Spray-Prime/Drain Valve
244035	Drain Tube Diffuser
245569	Pump Repair (pump packing module)
243094	Pump Outlet Valve Module
245070	Pump Inlet Valve Module (integral hose barb)
244267	Pressure Control Switch
245063, Series A and B	Motor/Drive Housing (3/8 in. bronze bearing motor casting) (includes fan/shroud/brace)
287773, Series C	Motor/Drive Housing
243231, Series A and B	Fan/Shroud/Base
287770, Series C	Fan
243228	Control Board
245062	3/8" Shaft Gear/Yoke/Guides (bronze bearing equipped cover and motor castings)
245578	Inlet Strainer (for inlet of suction tube)
245053	Pump Replacement (complete pump*) *Does not include Pressure Control Switch 244267. Re-use pressure control switch from pump being replaced, or order separately.
233790, Series A and B	Enclosure (includes both sides, labels, and screws)
287783, Series C	Enclosure (includes both sides, labels, and screws)
233791	Front Cover (3/8 in. bronze bearing)
119276	Fuse
248202	Lacquer Conversion

Motor Diagnostics

Check for electrical continuity in the motor armature, windings, and brush as follows:

If **Motor Diagnostics** reveal a damaged motor, or if either of the motor brushes are shorter than 1/4 in. (6.4 mm), or if the motor shaft cannot turn, replace the motor using **Motor Kit 245063** (see **List of Kits**, page 31).



Setup

1. **Unplug electrical cord, and relieve pressure.**
2. Remove right enclosure, and disconnect motor harness from control board.
3. Remove fan brace.
4. Remove the four cover screws and front cover.
5. Remove yoke and guide rods, and remove gear.

Armature Short Circuit Test (Spin Test)

Quickly turn motor fan by hand. If there are no electrical shorts, fan coasts two or three revolutions before stopping. If fan does not spin freely, armature is shorted. Replace motor using **Motor Kit 245063** (see **List of Kits**, page 31).

Armature, Brushes, and Motor Wiring Open Circuit Test (Continuity)

1. Connect red and black motor leads together with test lead. Turn motor fan by hand at about two revolutions per second.
2. If there is uneven resistance or no resistance, replace motor using **Motor Kit 245063** (see **List of Kits**, page 31).

Control Board Diagnostics

Check for a damaged control board or pressure control switch as follows:



1. **Unplug electrical cord, and relieve pressure.**
2. Remove the four cover screws and front cover.
3. Remove yoke and guide rods, and remove gear.
4. Remove pressure control harness from control board. **Using fingernail or tip of small, flat-blade screwdriver, press tab on right side connector to release.**
5. Attach to the control board a harness from a pressure switch that you know is functioning correctly.

NOTE: Pressure control switch does not have to be installed in pump.

6. Turn pressure control adjustment knob to maximum pressure setting.
7. Plug electrical cord into 120V AC receptacle, and turn Power switch (B) ON.
 - If motor runs, replace pressure switch.
 - If motor does not run, replace control board and repeat test using **Control Board Kit 243228** (see **List of Kits**, page 31).

Pump Diagnostics

CAUTION

When repairing or cleaning the pump, never submerge the pump in water or allow fluid to enter the pressure control.

When the pump packings wear, paint begins to leak down the outside of the pump. Replace the pump packings at the first sign of leaking, or additional damage to the drive train could occur. Use **Pump Repair Kit 245569** (see **List of Kits**, page 31).

Pump Service

CAUTION

When repairing or cleaning the pump, never submerge the pump in water or allow fluid to enter the pressure control.

If the sprayer continues to cycle (motor and pump run) when the spray gun trigger is released, or if performance is poor even with new spray tips and clean filters, the pump inlet or outlet valve may be obstructed or worn. If a pump valve is worn, replace it. See page 31 for a List of Kits.

Parts


Model 233789 Zip Spray 1700

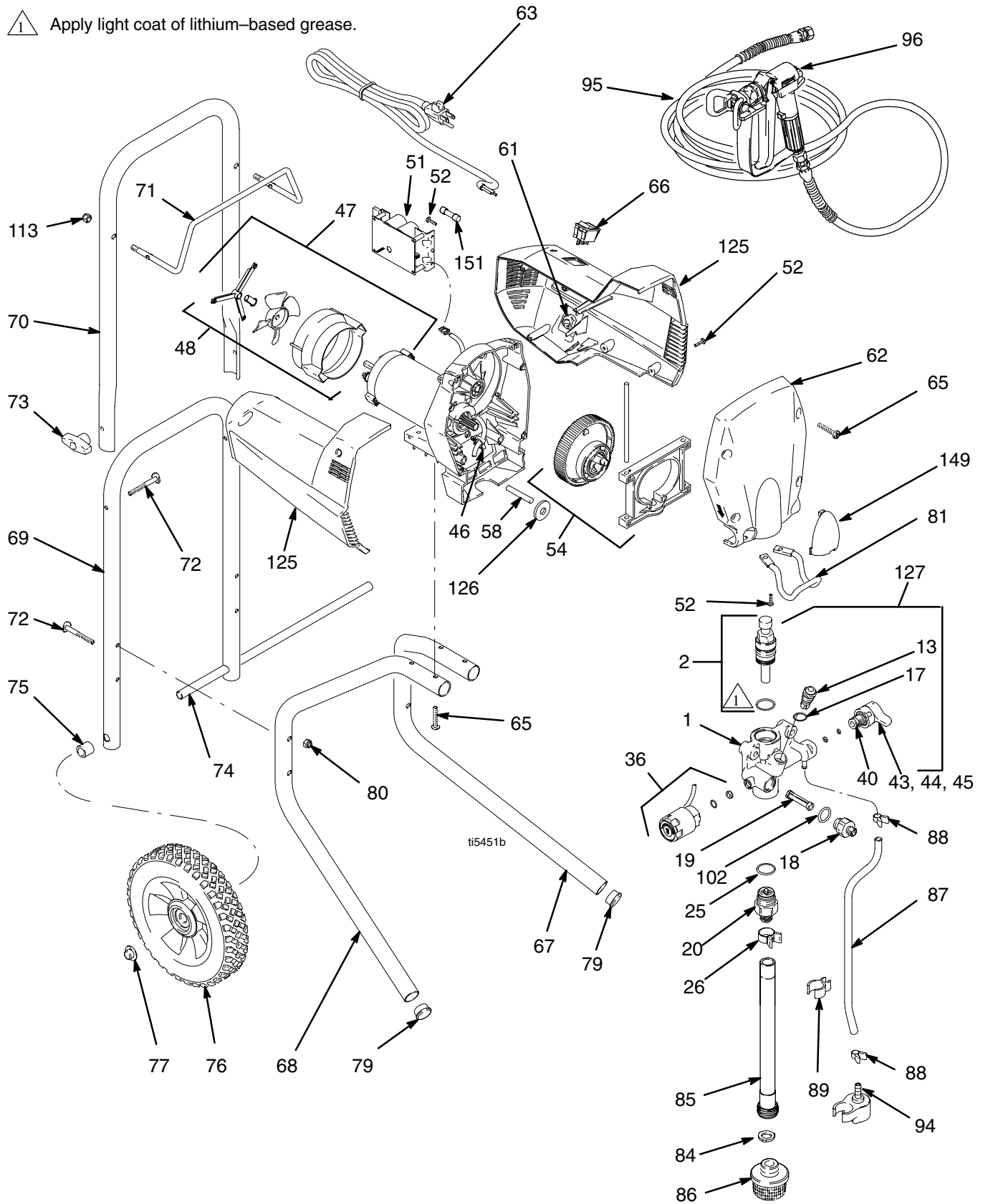
Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.	
1	195126	PUMP, housing	1	72	115097	SCREW, curved head	2	
2	245569	KIT, pump repair	1	73	115480	KNOB, t-handle	2	
13	243094	KIT, outlet valve (includes #17)	1	74	197285	AXLE	1	
17	103338	PACKING, o-ring	1	75	195367	SPACER	2	
18	195947	FILTER, adapter	1	76	115095	WHEEL, 9 in.	2	
19	245571	PUMP, filter,	1	77	112612	CAP	2	
20	245070	KIT, inlet valve, integral hose barb (includes #25)	1	79	105521	PLUG	2	
25	103413	PACKING, o-ring, inlet valve	1	80	102040	NUT, lock	4	
26	116295	CLAMP, spring, .88 diameter	1	81	15D658	HOOK, pail	1	
36	244267	KIT, pressure switch, repair	1	84	115099	WASHER, inlet strainer	1	
40	235014	KIT, drain/prime, valve repair	1	85	197608	TUBE, suction, barb, (includes washer 84), Series A	1	
43	224807	CAM, drain valve	1		15D671	TUBE, suction, barb, (includes washer 84), Series B, C	1	
44	187625	HANDLE, drain valve	1					
45	111600	DRIVE PIN, drain valve	1	86	245578	STRAINER	1	
46	119275	CLIP, retainer	1	87	195108	TUBE, drain	1	
47		KIT, motor, repair (includes #48)	1	88	115489	CLAMP, drain tube	2	
	245063	Series A and B		89	195400	CLIP, spring	1	
	287773	Series C		94	244035	DEFLECTOR, barbed	1	
48		KIT, fan and shroud	1	95	HSE1450	HOSE, 1/4 in. x 50 ft.	1	
	243231	Series A and B		96	233788	GUN, spray, 300	1	
	287770	Series C		102	115719	PACKING, o-ring, filter adapter	1	
51	243228	CONTROL BOARD	1	113	115651	NUT, acorn	2	
52	115477	SCREW, thread forming, #8	11	125		ENCLOSURE, with label and screws	1	
54	245062	KIT, gear, yoke, guide, repair	1		233790	Series A and B		
58	194507	DOWEL, pin 5/16	2		287783	Series C		
61	111348	BUSHING, strain relief, Series A and B	1	126	196001	SPACER, pump	2	
62	233791	COVER with label	1	127	245053	PUMP, replacement (includes 1, 2, 13 17, 18, 19, 20,40. Item #36 must be purchased separately.)	1	
63		CORD, power	1		149	197211	CAP, pump outlet (included in Kit 233791)	1
	115603	Series A and B			150*	115648	VALVE, shutoff, flushing	1
	118901	Series C				245423	PUMP LIFE	
65	115478	SCREW, torx/slt pan hd, 1/4 in.	8			245424	PUMP SHIELD	
66		SWITCH, rocker	1	151	119276	FUSE	1	
	115499	Series A and B						
	118899	Series C						
67	195433	SUPPORT, right, Series A	1					
	15D923	SUPPORT, right, Series B and C	1					
68	195434	SUPPORT, left, Series A	1					
	15D924	SUPPORT, left, Series B and C	1					
69	195436	FRAME, cart	1					
70	195435	HANDLE, cart	1					
71	15D650	HOSE RACK	1					

* Not shown

Parts

Model 233789 Zip Spray 1700, Series A and B

 Apply light coat of lithium-based grease.



Technical Data

Working pressure range	0–3000 psi (0–21 MPa, 0–207 bar)
Electric motor	5.8A (permanent magnet DC)
Operating horsepower	3/4
Maximum delivery (with tip)	0.31 gpm (1.17 lpm)
Paint hose	50 ft (15.2 m) x 1/4 in.
Maximum tip hole size	0.017 in. (0.43 mm)
Weight, sprayer only	31 lb (14 kg)
Weight, sprayer, hose, gun	36 lb (17 kg)
Dimensions	
Length	19.5 in (49.5 cm)
Width	17.25 in (43.8 cm)
Height	40.75 in (103.5 cm)
Height with folded handle	26 in (66.0 cm)
Power cord	16 AWG, 3 wire, 6 ft (1.8 m)
Pump inlet fitting	3/4 in. internal thread (standard garden hose thread)
Fluid outlet fitting	1/4 npsm external thread
Inlet screen on suction tube	35 mesh (450 micron)
Wetted parts, pumps and hose	Stainless steel, brass, leather, ultra–high molecular weight polyethylene (UHMWPE), carbide, nylon, aluminum, PVC, polypropylene, fluoroelastomer
Generator requirement	1500 Watt minimum
Electric power requirement	120V AC, 60 Hz, 1 phase, 15A
Storage temperature range*†	–30° to 160°F (–35° to 71° C)
Operating temperature range**	40° to 115°F (4° to 46° C)

* When pump is stored with non–freezing fluid. Pump damage will occur if water or latex paint freezes in pump.

† Damage to plastic parts may result if impact occurs in low–temperature conditions.

** Changes in paint viscosity at very low or very high temperatures can affect sprayer performance.

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ASM warrants all equipment referenced in this document which is manufactured by ASM and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized ASM distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by ASM, ASM will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by ASM to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with ASM's written recommendations.

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This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized ASM distributor for verification of the claimed defect. If the claimed defect is verified, ASM will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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MM 309421

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PRINTED IN USA 309421 Revised 10/2007