Repair and Parts

MAGNUM™ by GRACO® Airless Sprayers

US Patent No. 1184US3

309226 rev.J

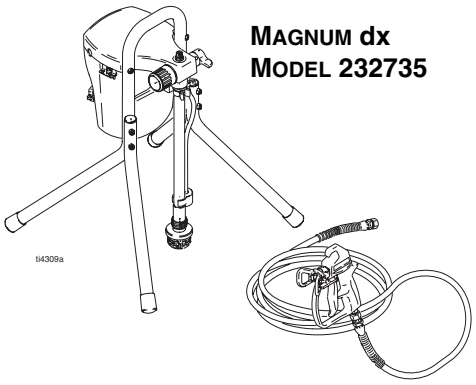
- For portable spray applications of architectural paints and coatings - *(Specifications, page 3.)*

Use water-based or mineral spirit-type material only. Do not use materials having flash points lower than 70°F (21°C). For information about your material request MSDS from distributor or retailer.

Important Safety Instructions

Read all warnings and instructions in this manual. Save these instructions. See page 3 for model and series information, including dispense rate, recommended hose length, guns, and maximum working pressure.

MAGNUM dx
MODEL 232735



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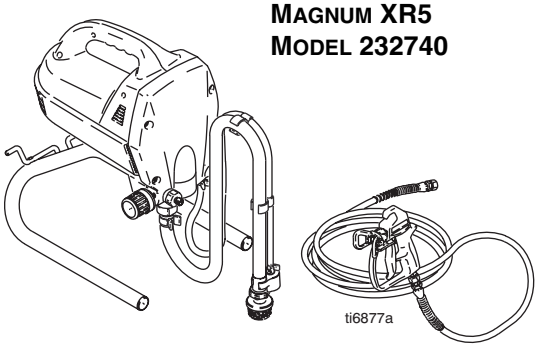
MODEL 232740



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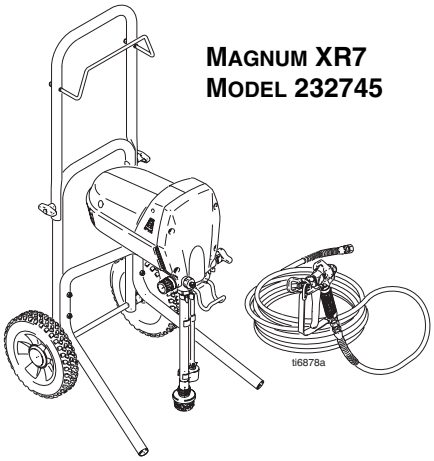

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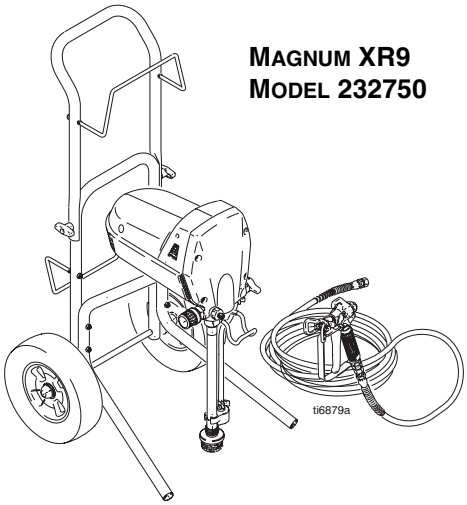
MODEL 232750



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Graco Inc. P.O. Box 1441 Minneapolis, MN 55440-1441

Contents

Related Manuals - 309225 Operation

Models

Model Name, Model No.	Series	Dispense Rate gpm (lpm)	Hose Length and Diameter	Gun Model	Maximum Working Pressure		
					PSI	MPa	bar
Magnum dx 232735	B	0.24 gpm (0.91 lpm)	25 ft (7.6 m) 3/16 in.	SG1™- EF	2800	19	193
Magnum XR5 232740	E	0.27 gpm (1.02 lpm)	25 ft (7.6 m) 1/4 in.	SG1™ - EF	3000	21	207
Magnum XR7 232745	D	0.34 gpm (2.17 lpm)	50 ft (15.2 m) 1/4 in.	SG2™	3000	21	207
Magnum XR9 232750	D	0.38 gpm (1.44 lpm)	50 ft (15.2 m) 1/4 in.	SG3™	3000	21	207

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.

Warnings

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

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- When flammable liquid is used in or near the sprayer or for flushing or cleaning, keep sprayer at least 20 feet (6 m) away from explosive vapors.
- Do not clean with materials having flash points lower than 70°F (21°C). Use water-based materials or mineral spirits type material only. For complete information about your material, request the MSDS from the fluid distributor or retailer.
- 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 all equipment in work area. See **Grounding** instructions.
- If there is static sparking or you feel a shock, **stop operation immediately.** Do not use equipment until you identify and correct the problem.
- Keep a fire extinguisher in the work area.

ELECTRIC SHOCK HAZARD

Improper grounding, setup, or usage of the system can cause electric shock.

- 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.

SKIN INJECTION HAZARD

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.**

- Do not point gun at anyone or at 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

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **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 Graco replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your Graco distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.

PRESSURIZED ALUMINUM PARTS HAZARD

Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- 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 applicable guidelines.

BURN HAZARD

Equipment surfaces can become very hot during operation. To avoid severe burns, do not touch hot equipment. Wait until equipment has cooled completely.

PERSONAL PROTECTIVE EQUIPMENT

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:

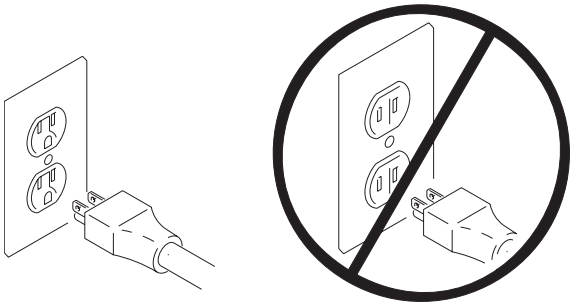
- Protective eye wear
- Clothing and respirator as recommended by the fluid and solvent manufacturer
- Gloves
- Hearing protection

Installation

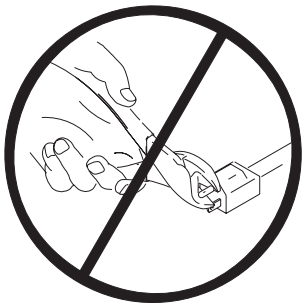
Grounding and Electric Requirements

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 a grounding receptacle. Never use an outlet that is not grounded or an adapter.



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. 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.

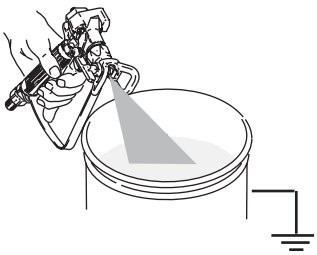
Spray gun: ground through connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

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 nonconductive surface, such as paper or cardboard, which interrupts grounding continuity.

Grounding the metal pail: connect a ground wire to the pail by clamping one end to pail and other end to ground such as a water pipe.

Maintain grounding continuity when flushing or relieving pressure: hold metal part of the spray gun firmly to the side of a grounded metal pail, then trigger the gun.



Thermal Overload

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

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

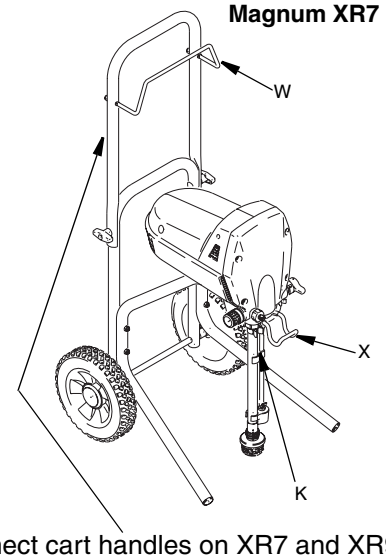
Notes

Component Identification

A	Electric motor (inside enclosures)	Provides mechanical power to pump.
B	Power switch	Manually turns ON and OFF electric power to motor (I is ON and 0 is OFF.
C	Pressure control knob	Manually increases (turn clockwise) and decreases (turn counter-clockwise) fluid pressure in pump, hose, and spray gun.
D	Pump fluid outlet fitting	Threaded connection for paint hose.
E	InstaClean™ fluid filter (XR models only)	• Filters fluid coming out of pump to reduce tip plugging and improve finish. • Self cleans only during pressure relief.
F	Power-Piston™ pump (behind Easy Access door)	Pumps and pressurizes fluid and delivers it to paint hose. Easy Access door 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	• In SPRAY position (pointing forward) directs pressurized fluid to paint hose. • In PRIME/DRAIN position (pointing down) directs fluid to drain tube. • Automatically relieves system pressure in overpressure situations.
K	Fluid inlet connection and inlet valve	Suction tube connection 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.
N	Cord wrap bracket	Stows electrical cord (XR5 model only).
P	Airless spray gun	Dispenses pumped fluid.
Q	Tip guard	Reduces risk of fluid injection injury.
R	Reversible spray tip	• Atomizes fluid being sprayed, forms spray pattern and controls fluid flow according to hole size. • Reverses for unclogging plugged tips without disassembly.
S	Trigger safety lever	Prevents accidental triggering of spray gun.
T	Gun fluid inlet fitting	Threaded connection for paint hose.
U	Smooth Glide™ swivel (SG3 spray gun only)	Allows spray gun to swivel without twisting paint hose.
V	Gun fluid filter (in handle)	Filters fluid entering spray gun to reduce tip clogs and improve finish.
W	Hose/cord wrap bracket	Stows paint hose and electrical cord (XR7 and XR9 models only).
X	Pail hanger	For transporting pail by its handle (XR7 and XR9 models only).
Y	Power Flush attachment (included)	Connects garden hose to suction tube for power flushing water-base fluids.

Sprayers

Magnum XR7

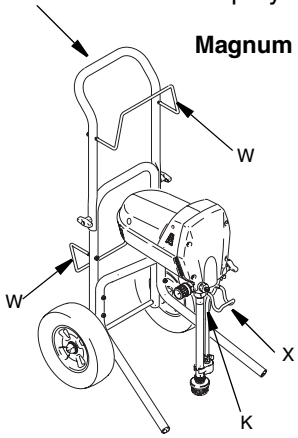


Connect cart handles on XR7 and XR9 as follow:

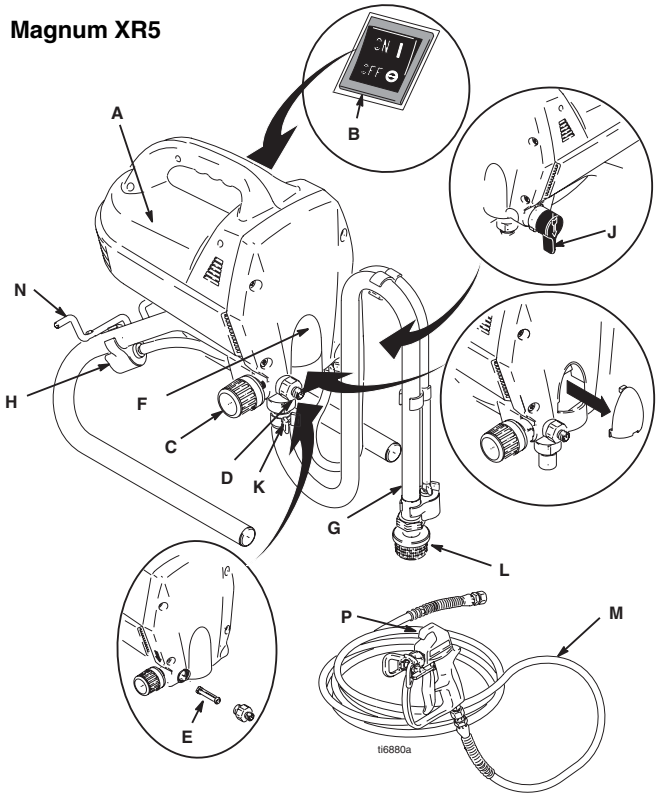
1. Position handle on frame as shown and align bolt holes in handle with bolt holes in frame.
2. Run bolts through holes with heads pointing toward each other, and hand tighten wingnuts.

NOTE: For space-saving configuration, loosen, (but do not remove) wingnuts. Fold handle forward over sprayer shroud.

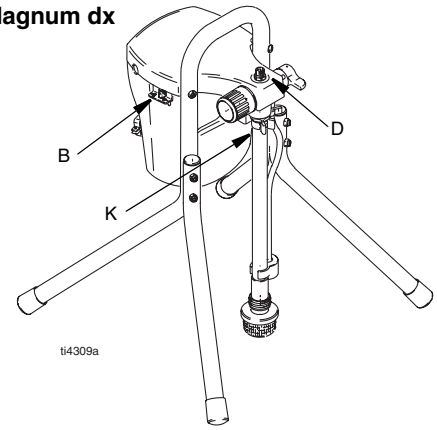
Magnum XR9



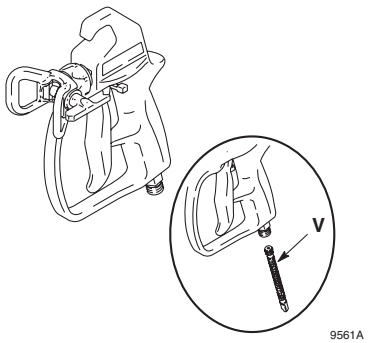
Magnum XR5

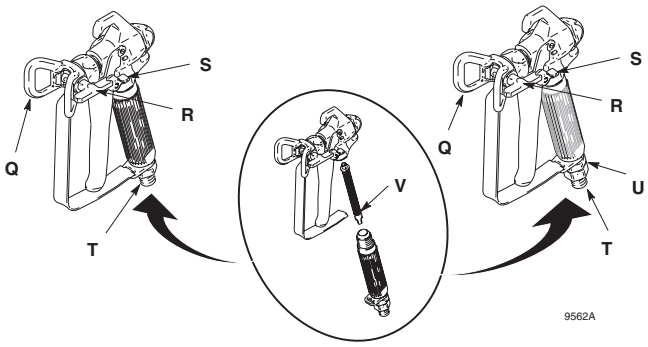


Magnum dx



Spray Guns



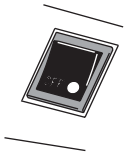


Operation

Pressure Relief Procedure

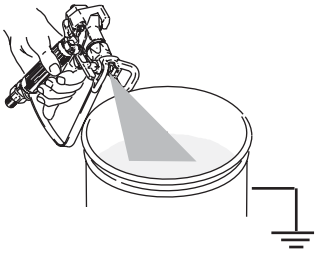
Follow Pressure Relief Procedure when you stop spraying and before cleaning, checking, servicing, or transporting equipment. Read warnings, page 4.

1. Turn power switch (B) OFF and unplug power cord.



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

3. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.



4. Engage trigger lock. See Trigger Lock, page 10 or your gun operation manual.

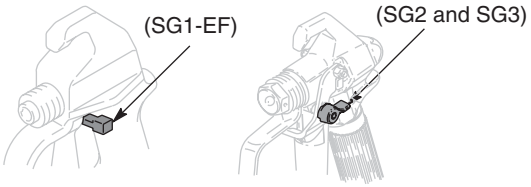
Leave Spray - Prime/Drain valve in the PRIME/DRAIN position until you are ready to spray again.

If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

Trigger Lock

Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if dropped or bumped.

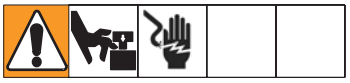
Trigger Locked Position



General Repair Information

Flammable materials spilled on hot, bare, motor could cause fire or explosion. To reduce risk of burns, fire or explosion, do not operate sprayer with cover removed.

- Keep all screws, nuts, washers, gaskets, and electrical fittings removed during repair procedures. These parts usually are not provided with replacement kits.
- Test repairs after problems are corrected.
- If sprayer does not operate properly, review repair procedure to verify you did it correctly. See **Basic Troubleshooting**, page 12 and **Advanced Troubleshooting**, page 15.
- Overspray may build up in the air passages. Remove any overspray and residue from air passages and openings in the enclosures whenever you service sprayer.
- Do not operate the sprayer without the cover in place. Replace if damaged. Covers direct cooling air around motor to prevent overheating.



To reduce risk of serious injury, including electric shock:

- Do not touch moving or electric pars with fingers or tools while testing repair.
- Unplug sprayer when power is not required for testing.
- Install all covers, gaskets, screws and washers before you operate sprayer.

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 cover allow for air cooling of the mechanical parts and electronics inside. If water gets in 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 sprayer when its not in use in cold weather. Freezing fluids can seriously damage sprayer. Store sprayer with Pump Armor to protect sprayer during storage.

Basic Troubleshooting

The following troubleshooting guidelines from the Operating Instructions are included here as a preemptive measure against **Advanced Troubleshooting**, page 15. Refer to **Component Identification**, page 8 for reference letters used in table.

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**, page 15.
	Electric outlet is not providing power.	• 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 Electric Requirements, page 6.
	Sprayer electric cord is damaged.	Check for broken insulation or wires. Replace electric cord if damaged.
	Paint is frozen or hardened in pump.	See **Motor Does Not Operate**, page 15.
Pump does not prime.	Spray-Prime/Drain Valve (J) is in SPRAY position.	Turn Spray-Prime/Drain Valve to PRIME/DRAIN position (pointing down).
	Inlet screen (L) is clogged or suction tube (G) is not immersed.	Clean debris off inlet screen and make sure suction tube 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**, page 25. Do not store check valves in water.
	Suction tube is leaking.	Tighten suction tube connection (K). Inspect for cracks or vacuum leaks.
Spray gun stopped spraying.	Spray tip is clogged.	Unclog spray tip. See Operation Manual, 309225.

Problem	Cause	Solution
Pump cycles but does not build up pressure.	Pump is not primed.	Prime pump.
	Inlet screen (L) is clogged or suction tube (G) is not immersed.	Clean debris off inlet screen and make sure suction tube is at bottom of paint pail.
	Paint pail is empty.	Refill paint pail. Reprime sprayer.
	Suction tube is leaking.	Tighten suction tube connection (K). Inspect for 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 25.
	Spray-Prime/Drain Valve (J) is worn or obstructed with debris.	Check Spray-Prime/Drain valve for debris trapped on seat or worn parts. Torque to 185 in-lbs (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 and verify if sprayer pressure increases.
	Spray tip is clogged.	Unclog spray tip. See Operation Manual 309225.
	InstaClean fluid filter is clogged (XR models only).	Clean or replace InstaClean fluid filter (E).
	Spray gun fluid filter is clogged or installed backward.	Clean or replace 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.
Pressure is set at maximum but cannot achieve a good spray pattern.	Spray tip is too large for sprayer.	Select smaller spray tip.
	Spray tip is worn beyond capability of sprayer.	Replace spray tip.
	Extension cord is too long or not heavy enough gauge.	Replace extension cord. **Grounding and Electrical Requirements**, page 6.
	Spray gun fluid filter is clogged.	Clean or replace spray gun fluid filter.
	InstaClean fluid filter is clogged (XR models only).	Clean or replace InstaClean fluid filter.
	Inlet screen is clogged.	Clean debris off inlet screen.
	Pump valves are worn.	See **Low or Fluctuating Output**, page 19.

Problem	Cause	Solution
Motor is hot and runs intermittently. This is NOT a thermal overload condition. Motor automatically shuts off due to excessive heat. Damage can occur if cause is not corrected. **Startup Hazard After Thermal Overload**, page 6.	Vent holes in enclosure 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. See **Grounding and Electrical Requirements**, page 6.
	Unregulated electrical generator being used has excessive voltage.	Use electrical generator with a proper voltage regulator. Sprayer requires 120VAC, 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.	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 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**, page 22.
Cannot trigger spray gun.	Spray gun trigger safety is unlocked.	Rotate trigger safety lever to lock SAFETY, page 10.
Spray comes out of spray gun in two thick streams.	Reversible 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 using **Pressure Control Switch Kit**, page 22.
Spray-Prime/Drain valve actuates automatically relieving pressure through drain tube.	System is over pressurizing.	See **Excessive Pressure Build Up**, page 21.
Paint leaks down outside of pump.	Pump packings are worn.	Replace pump packings. See **Pump Service**, page 25.

Advanced Troubleshooting

See Basic Troubleshooting first, page 12 for 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; pump does not cycle.	See **Basic Troubleshooting**, page 12.	
Basic mechanical problems.	Paint is frozen or hardened in pump.	Unplug sprayer from electrical outlet. **If paint is frozen in sprayer**: • Do NOT try to start sprayer until completely thawed or you may damage the motor, control board, and/or drivetrain. 1. Turn OFF power switch. 2. Place sprayer in warm area for several hours. 3. Plug in and turn on sprayer. 4. Slowly increase pressure until motor starts. **If paint hardened in sprayer**: 1. Replace pump packings. 2. Remove all residue from valves. **Pump Service**, page 25.
	Motor is damaged.	Remove gear and try to rotate motor shaft by hand. See **Motor Diagnostics**, page 24. If shaft will not turn, replace motor using **Motor Kit**, page 22.
	Yoke is broken because pump is locked up due to dried paint or worn packings (XR models only).	Repair or replace using **Gear/Yoke Kit**, page 22.
		Repair pump. See **Pump Service**, page 25.

Specific Problem	Cause	Solution
Basic electrical problems.	Motor overheated.	Allow motor to cool for 30 minutes. Retry.
	Electrical outlet is damaged.	Reset building circuit breaker or replace 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.	Check length of BOTH brushes (brushes do not wear evenly on both sides of the motor). Brush length must be 0.25 in. (6.4mm). If brushes are worn replace motor using **Motor Kit,** page 22.
	Motor armature commutator damaged.	Check for burn spots, gouges and extreme roughness. Have motor shop resurface commutator if possible, or replace motor using **Motor Kit**, page 22.
	Fuse is blown.	Replace fuse using **Fuse Kit**, page 22.
	Motor armature shorting.	Check for shorts using armature tester (growler) or perform spin test, **Motor Diagnostic**, page 24. If shorts are evident, replace motor using **Motor Kit**, page 22.
	Control board damaged. **CAUTION:** Do not perform control board diagnostics until you have determined the armature is good. A bad armature can burn out a good control board.	See **Control Board Diagnostics**, page 25. Replace control board if damaged using **Control Board Kit**, page 22.
Sprayer Wiring Problems **NOTE:** Remove enclosure mounting screws and pull enclosure away from drive housing. Take care not to pull on leads from electrical cord and power switch.	Sprayer electrical cord damaged.	1. Unplug sprayer electrical cord. 2. Disconnect black electrical cord wire at power switch. 3. Unplug in-line connection white cord wire. 4. Plug in electrical cord. 5. Test voltage between black and white wires. Meter must read 85 to 130V AC. 6. Replace electrical cord if no voltage.
	Sprayer power switch damaged.	1. Unplug sprayer electrical cord. 2. Disconnect black control board wire at power switch. 3. Unplug in-line connection white cord wire. 4. Plug in electrical cord. 5. Turn power switch ON. 6. Test voltage between open terminal of power switch and white electrical cord wire. Meter must read 85 to 130V AC. 7. Replace power switch if no voltage.

Specific Problem	Cause	Solution
Sprayer Wiring Problems (cont.)	Motor thermal overload cutoff switch damaged. **Startup Hazard After Thermal Overload**, page 6.	1. Unplug sprayer electrical cord. 2. Remove motor harness from control card. 3. Check for continuity between yellow leads or motor harness. 4. If thermal relief switch is open (no continuity) allow motor to cool. 5. If switch remains open after motor cools, replace motor using **Motor Kit**, page 22. 6. If thermal relief switch closes after motor cools, find correct cause of overheating.
	Terminals are damaged or loose.	Replace any damaged terminals. Make sure all terminal connections are tight.

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.	Repair or replace any damaged wiring or terminals. Securely reconnect wires.
	Wires between pressure control switch and control board are pinched.	
	Motor armature is shorting.	Check for shorts using armature tester (growler) or perform spin test, **Motor Diagnostics**, page 24. If shorts are evident, replace motor using **Motor Kit**, page 22.
	Control board is damaged. **CAUTION:** Do not perform control board diagnostics until you have determined the armature is good. A bad motor armature can burn out a good motor control board.	See **Control Board Diagnostics**, page 25. Replace control board if damaged using **Control Board Kit**, page 22.

Specific Problem	Cause	Solution
Building circuit breaker opens as soon as sprayer is plugged into outlet and sprayer is NOT turned on. **NOTE:** Remove enclosure mounting screws and pull enclosure away from drive housing. Take care not to pull on leads from electrical cord and power switch.	Sprayer electrical cord is damaged.	1. Unplug sprayer electrical cord. 2. Disconnect black electrical cord wire at power switch. 3. Unplug in-line connection white cord wire. 4. Plug in electrical cord. 5. Test voltage between black and white wires. Meter must read 85 to 130V AC. 6. Replace electrical cord if no voltage.
	Sprayer power switch damaged.	1. Unplug sprayer electrical cord. 2. Disconnect black control board wire at power switch. 3. Check resistance of switch with ohmmeter. 4. Reading must be infinity with power switch OFF. 5. Reading must be zero with power switch ON. 6. Replace power switch if damaged.
	Also see *Basic Electrical Problems* and *Sprayer Wiring Problems*, page 16.	

General Problem: Erratic Motor Operation

Specific Problem	Cause	Solution
Sprayer quits after running for 5 to 10 minutes	Electrical outlet is damaged	Reset building circuit breaker or replace building fuse.
	Electrical outlet supplying wrong voltage	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.
	Also see *Basic Electrical Problems* and *Sprayer Wiring Problems*, page 16.	
	Motor is overheating	See Motor is Hot, page 14.
Motor is hot and runs intermittently.	See **Basic Troubleshooting**, page 12.	

General Problem: Low or Fluctuating Output

Specific Problem	Cause	Solution
Pump cycles, but output is low or surging.	See **Basic Troubleshooting**, page 12.	
	Worn or obstructed pump valves.	Check for worn pump valves as follows: 1. Prime sprayer with paint. 2. Trigger spray gun momentarily. 3. When spray gun trigger is released pump should cycle momentarily and stop. 4. If pump continues to cycle, pump valves may be worn or obstructed. 5. **Pump Service**, page 25.
	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 **Prime/Spray Drain Valve Kit**, page 22.
	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 heavy enough gauge.	Replace extension cord. **Grounding and Electrical Requirements**, page 6.
	Leads from motor or pressure switch to control board are damaged, loose, pinched, or overheated.	Be sure terminals are centered and firmly connected. Inspect for pinched wiring and wiring insulation and terminals for signs of overheating. Replace any loose terminals or damaged wiring. Securely reconnect terminals.
	Motor brushes are worn.	Check length of BOTH brushes (brushes to not wear evenly on both sides of the motor). Brush length must be 0.25 in. (6.4mm). If brushes are worn replace motor using **Motor Kit,** page 22.
	Motor brush springs are broken.	If springs are broken replace motor using **Motor Kit**, page 22.
	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 using **Pressure Control Switch Kit**, page 22.
	Motor armature shorted.	Check for shorts using armature tester (growler) or perform spin test, **Motor Diagnostics**, page 24. If shorts are evident, replace motor using **Motor Kit**, page 22.

Specific Problem	Cause	Solution
	Control board is damaged. **CAUTION:** Do not perform control board diagnostics until you have determined the armature is good. A bad motor can burn out a good control board.	See **Control Board Diagnostics**, page 25. If damaged replace control board using **Control Board Kit**, page 22.
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. **Pump Service**, page 25.
	Pump packings are worn or damaged.	Check for leaking around throat packing nut. Replace pump packings if there are leaks. **Pump Service**, page 25.
	Prime/Spray Valve leaking.	Check Prime/Spray 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 **Prime/Spray Drain Valve Kit**, page 22.
Spray pattern has variations, pressure fluctuates excessively, or motor runs very slowly.	Leads from motor or pressure switch 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. 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 (XR models only)	Make sure pressure control harness is routed behind pump, through retention clip and connected to control board connector on control board (connect with tab to right).
	Control board is damaged. **CAUTION:** Do not perform control board diagnostics until you have determined the armature is good. A bad armature can burn out a good control board.	See **Control Board Diagnostics**, page 25. If damaged, replace control board using **Control Board Kit**, page 22.
	Pressure control switch is damaged or worn out.	Replace pressure control switch using **Pressure Control Switch Kit**, page 22.

General Problem: No Output

Specific Problem	Cause	Solution
Power switch is on and sprayer is plugged in but pump does not cycle	See **Basic Troubleshooting**, page 12.	
Motor runs but pump does not cycle.	Gear and/or yoke are damaged (XR models only).	Replace gear and yoke using **Gear/Yoke Repair Kit**, page 22.
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**, page 22.

General Problem: Excessive Pressure Build Up

Specific Problem	Cause	Solution
Prime/Spray Valve actuates automatically, relieving pressure through drain tube.	Pressure control switch is worn.	Replace pressure control switch using **Pressure Control Switch Kit**, page 22.
	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**, page 22.
	Control board failed.	See **Control Board Diagnostics**, page 24. Replace damaged control board using **Control Board Kit**, page 22.

List of Kits

Kit Number	Models/Series	Kit Description
243230	XR5, Series A and B XR7 and XR9, Series A	10 mm Shaft, gear, yoke, guides (ball bearing equipped cover and motor castings)
245062	XR5, Series C, D, E XR7 and XR9, Series B and C, D	3/8 in. Shaft gear, yoke, guides (bronze bearing equipped cover and motor castings)
245079	dx	Control Board
243228	XR5 and XR7	Control Board
243229	XR9	Control Board
244035	All models	Drain Tube Diffuser
243232	XR5, Series A, B, C, D	Enclosure (includes both sides, labels and screws)
287771	XR5, Series E	Enclosure (includes both sides, labels and screws)
243234	XR7 and XR9, Series A, B, C	Enclosure (includes both sides, labels and screws)
287772	XR7 and XR9, Series D	Enclosure (includes both sides, labels and screws)
243231	XR5, Series A, B, C, D XR7 and XR9, Series A, B, C	Fan, shroud, brace
287770	XR5, Series E XR7 and XR9, Series D	Fan replacement
243237	XR5, Series A and B XR7 and XR9, Series A	Front cover (10 mm ball bearing)
245064	XR5, Series C, D, E XR7 and XR9, Series B, C, D	Front cover (3/8 in. bronze bearing)
119276	XR5 and XR7	Fuse, 12.5 Amp
119277	XR9	Fuse, 16 Amp
243082	All models	Inlet Strainer (or inlet of suction tube)
245080	dx	Motor repair
243236	XR5, Series A and B XR7 and XR9, Series A	Motor, drive housing (10 mm ball bearing motor casting - includes fan, shroud and brace)
245063	XR5, Series C All XR7 and XR9, Series B and C	Motor, drive housing (3/8 in. bronze bearing motor casting - includes fan, shroud and brace)
287773	XR5, Series E XR7 and XR9, Series D	Motor, drive housing (3/8 in. bronze bearing motor casting - includes fan, shroud and brace)
244266	dx and XR5, Series A	Pressure Control Switch
244267	XR 5, Series B, C, D, E XR7 and XR9	Pressure Control Switch
235014	All models	Prime/Spray Drain Valve
245077	dx	Pump Inlet Valve Module (use with Suction Tube 196582 or 197608 only)
245070	All XR models	Pump Inlet Valve Module (use with Suction Tube 197607, 197608, or 15D671 only)
243093	All XR models	Pump Inlet Valve Module (1/2 in. NPT bottom port) (Alternate Style, page 28 - 37 - use with Suction Tube 195750 or 195883 only)
245076	dx	Pump Outlet Valve Module
243094	All XR models	Pump Outlet Valve Module

Kit Number	Models/Series	Kit Description
245078	dx	Pump repair
243090	All XR models	Pump Repair (pump packing module)
243533	All XR models	Pump replacement (compete pump*) * Does not include Pressure Control Switch 244267. Reuse Pressure Control Switch from pump being replaced, or order separately.
196582	dx, Series A	Suction Tube (Use with Pump Inlet Valve Module 245077 only)
197608	dx, Series B	Suction Tube (Use with Pump Inlet Valve Module 245077 only)
195750	XR5	Suction Tube (inlet valve with 1/2 in. NPT bottom port; 115628 plastic elbow) (Alternate Style, page 28 - 37 - Use with Pump Inlet Valve Module 243093 only)
197607	XR5	Suction Tube (Inlet valve with integral hose barb; no elbow) (Use with Pump Inlet Valve Module 245070 only)
195883	XR7 and XR9, Series A	Suction Tube (inlet valve with 1/2 in. NPT bottom port) (Alternate Style, page 28 - 37 - Use with Pump Inlet Valve Module 243093 only)
197608	XR7 and XR9, Series B	Suction Tube (inlet valve with integral hose barb) (Use with Pump Inlet Valve Module 245070 only)
15D671	XR7 and XR9, Series C, D	Suction Tube (inlet valve with integral hose barb) (Use with Pump Inlet Valve Module 245070 only)
248202	XR7 and XR9, Series C, D	Lacquer Conversion (lacquer compatible suction tube and seals)

Motor Diagnostics

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

If Motor Diagnostics reveal a damaged motor or if motor brushes are shorter than 1/4 in. (6.4 mm) or if the motor shaft cannot turn, replace the motor using **Motor Kit**, page 22.

Setup

1. **Relieve pressure,** page 10.
2. Unplug electric cord.
3. Remove enclosure and disconnect motor leads from control card.
4. Remove fan brace.
5. Remove four screws and front cover.
6. Remove yoke and guide rods.
7. Remove gear.

Armature Short Circuit Spin Test (XR models only)

Quickly turn motor fan by hand. There should not be electrical shorts and fan should coast two or three revolutions before stopping. If fan does not spin freely, armature is shorted. Replace motor using **Motor Kit**, page 22.

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

1. Connect red and black motor leads together with test lead.
2. Turn motor fan by hand, about two revolutions per second.
3. If there is an uneven resistance or no resistance, replace motor using **Motor Kit**, page 22.

Control Board Diagnostics

Check for motor problems before replacing control board. A damaged motor may burn out a good control card

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

1. **Relieve pressure**, page 10.
2. Unplug electrical cord.
3. Remove four cover screws and front cover (XR9). Remove motor enclosure (dx).
4. Remove yoke and guide rods (XR models only).
5. Remove gear (XR models only).
6. Remove pressure control harness from control board. Using tip of small, flat blade screwdriver, press tab on right side connector to release.
7. Attach harness from a pressure control switch you know is functioning correctly to control board.

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

8. Turn pressure control adjustment knob (C) +to maximum pressure setting.
9. Plug electrical cord into 120VAC receptacle.
10. Turn power switch (B) ON.
    - If motor runs, replace pressure switch. **Pressure Control Switch Kit**, page 22.
    - If motor does not run, replace control board repeat test. **Control Board Kit**, page 22.

Pump Diagnostics

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

When pump packings wear, paint begins to leak down outside of pump. Replace pump packings at the first sign of leaking or additional damage to drive train could occur. Use **Pump Repair Kit**, page 22.

Pump Service

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

If 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 is worn, replace it. **List of Kits**, page 22.

Parts

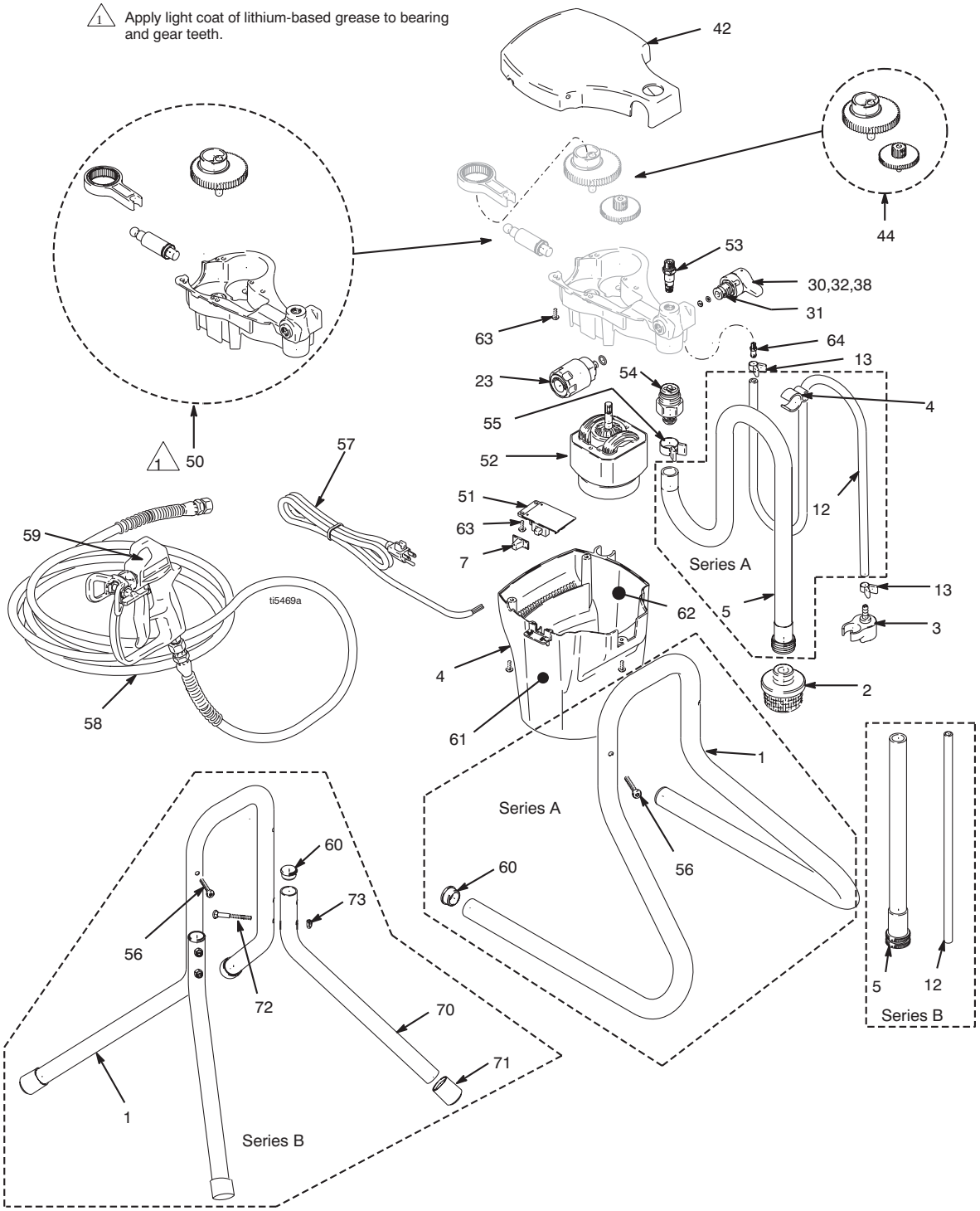
dx Sprayer Model 232735

Ref No.	Part No.	Description	Qty
1	196569	FRAME, Series A, includes two #60	1
	15A680	FRAME. Series B, includes two #60	1
2	243082	STRAINER	1
3	244035	DEFLECTOR, barbed	1
4	195400	CLIP, spring	1
5	196582	TUBE, suction, Series A	1
	197608	TUBE, suction, Series B	1
7	196586	COVER, switch	1
12	195084	TUBE, spray, Series A	1
	195108	TUBE, spray, Series B	1
13	115489	CLAMP, drain tube	2
23	244266	KIT, pressure switch repair	1
30	224807	CAM, drain valve	1
31	235014	KIT, valve repair	1
32	111600	DRIVE PIN, drain valve	1
38	187625	HANDLE, drain valve	1
41	245148	KIT, motor enclosure (includes enclosure and 2 warning labels)	1
42	245147	KIT, cover, housing (includes 3 labels, 2 dowel pins and 2 bushings)	1
44	245149	KIT, gear (includes 2 gears and connecting rod)	1
50	245078	KIT, pump repair	1
51	245079	KIT, control board	1
52	245080	KIT, motor repair	1
53	245076	KIT, outlet valve	1
54	245077	KIT, inlet valve	1
55	116295	CLAMP, spring, 0.88 in. diameter.	1
56	115478	SCREW, machine, pan head	2
57	196594	CORD, power	1
58	243954	HOSE, paint, DuraFlex 3/16 in. x 25 ft (available from service center only)	1
59	243926	GUN, spray, SG1-EF (includes manual 309320)	1
60	105521	PLUG, tubing	2
61▲	15G179	LABEL, warning	1
62▲	15G180	LABEL, warning	1
63	115477	SCREW, machine, pan head	9
64	196574	FITTING, drain	1
69	115648	VALVE, shutoff, power flush	1
70	15A683	FRAME, support	2
71	112759	CAP, tubing	4
72	116630	SCREW, carriage	4
73	102040	NUT, lock, hex	4

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

Parts

dx Sprayer Model 232735



Parts

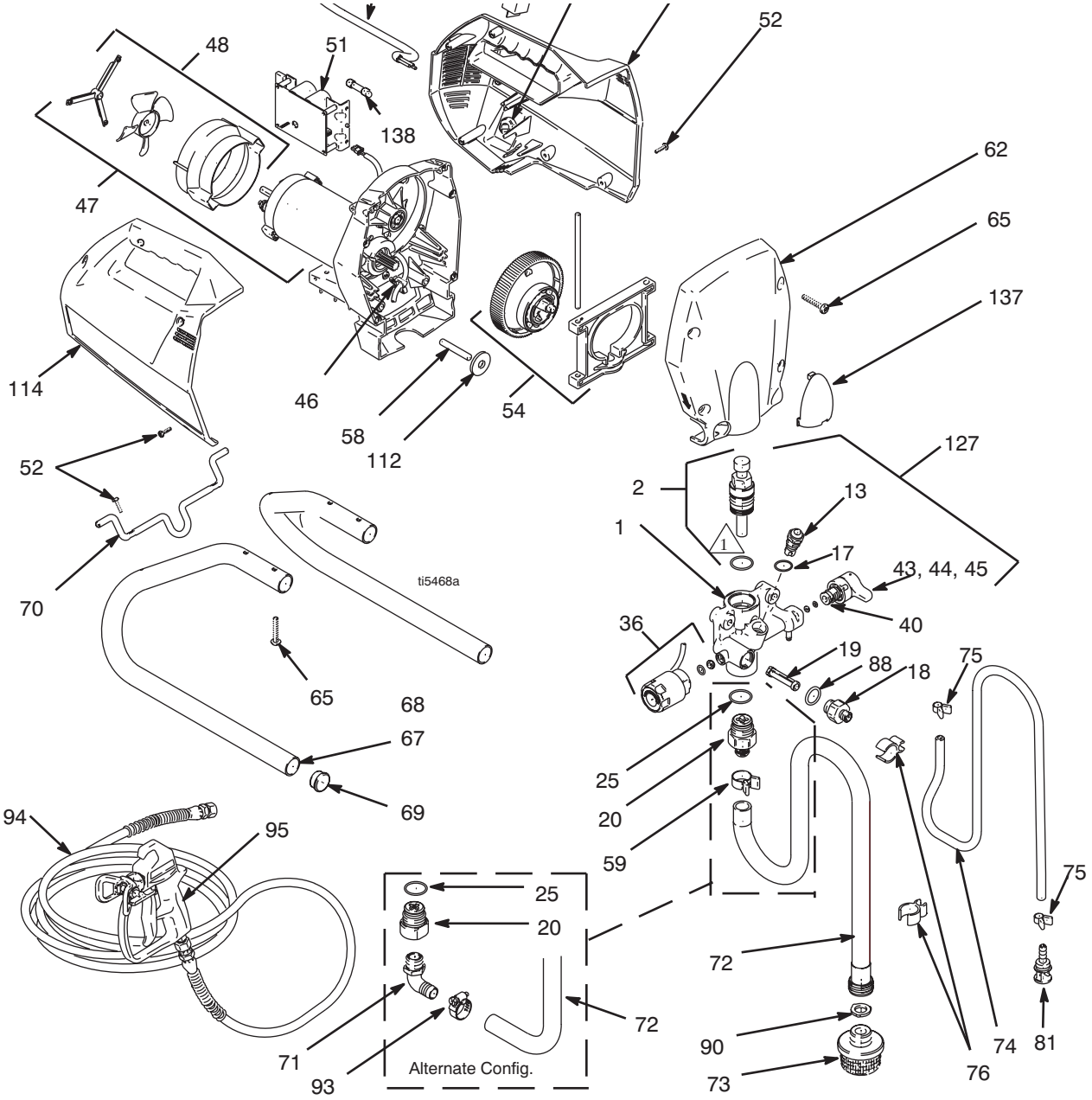
XR5 Sprayer Model 232740

Ref. No.	Part No.	Description	Qty.
1	195126	PUMP, housing	1
2	243090	KIT, pump repair	1
13	243094	KIT, outlet valve (includes #17)	1
17	103338	PACKING, o-ring	1
18	195947	FILTER, adapter	1
19	243070	FILTER, InstaClean	1
20	243093	KIT, inlet valve, 1/2 in. NPT (includes #25) (Alternate Configuration, page 29)	1
	245070	KIT, inlet valve, integral hose barb (includes #25)	1
25	103413	PACKING, o-ring, inlet valve	1
36	244266	KIT, pressure switch, repair, Series A	1
	244267	KIT, pressure switch, repair, Series B, C, D, E	1
40	235014	KIT, valve, drain/prime, repair	1
43	224807	CAM, drive valve	1
44	187625	HANDLE, drain valve	1
45	111600	DRIVE PIN, drain valve	1
46	119275	CLIP, retainer	2
47	243236	KIT, motor repair, Series A and B (includes fan kit #48)	1
	245063	KIT, motor repair, Series C and D (includes fan kit #48)	1
	287773	KIT, motor repair, Series E	1
48	243231	KIT, fan repair, Series A, B, C, D	1
	287770	KIT, fan repair, Series E	1
51	243228	CONTROL BOARD, XR5	1
52	115477	SCREW, machine	11
54	245109	KIT, repair, combo; includes Kits 245062, 245063, 245064	1
	245062	KIT, gear, yoke, guide, repair, Series C, D, E	1
58	194507	DOWEL, pin, 5/16 in.	2
59	116295	CLAMP, spring, 0.88 in diameter	1
61	115642	BUSHING, strain relief, Series A, B, C, D	1
62	243237	COVER, with label, Series A and B	1
	245064	COVER, with label, Series C, D, E	1
63	195110	CORD, power, Series A, B, C, D	1
	118900	CORD, power, Series E	1
65	115478	SCREW, torx/slt pan hd, 1/4 in.	8
66	115499	SWITCH, rocker, Series A, B, C, D	1
	118899	SWITCH, rocker, Series E	1
67	195431	LEG, left, Series A, B and C	1
	15D922	LEG, left, Series D, E	1
68	195430	LEG, right, Series A, B, and C	1
	15D921	LEG, right, Series D, E	1
69	105521	PLUG	2
70	15D642	HANGER, cord	1
71	115628	ELBOW, inlet	1
72	197607	TUBE, suction barb (includes #90)	1
73	243082	STRAINER	1
74	195084	TUBE, drain	1
75	115489	CLAMP, drain tube	2
76	195400	CLIP, spring	2
81	244035	DEFLECTOR, barbed	1
88	115719	O-RING, filter adapter	1
90	115099	WASHER, inlet strainer	1
93	102473	CLAMP, hose	1
94	243022	HOSE, 1/4 in. x 25 ft.	1
95	243926	GUN, SG1-EF (includes manual 309320)	1
112	196001	SPACER, pump	2
114	243232	ENCLOSURE (includes label 140, 141, 142 and screws), Series A, B, C, D	1
	287771	ENCLOSURE (includes label 140, 141, 142 and screws), Series E	1
127	245053	KIT, pump replacement (includes #1, 2, 13, 17, 18, 19, 20, 25, 40, 43, 44, 45, 88. Item #36 must be purchased separately)	1
137	197211	CAP, pump outlet, Series C, D, E only (includes #62 - 245064)	1
138	119276	FUSE	1
140▲	195812	LABEL, danger, Series A, B, C, D	1
	15G187	LABEL, warning, Series E	1
141▲	195121	LABEL, warning, Series A, B, C, D	1
	15G188	LABEL, warning, Series E	1
142▲	15E072	LABEL, warning	1
143▲	195122	LABEL, identification, XR5	1

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

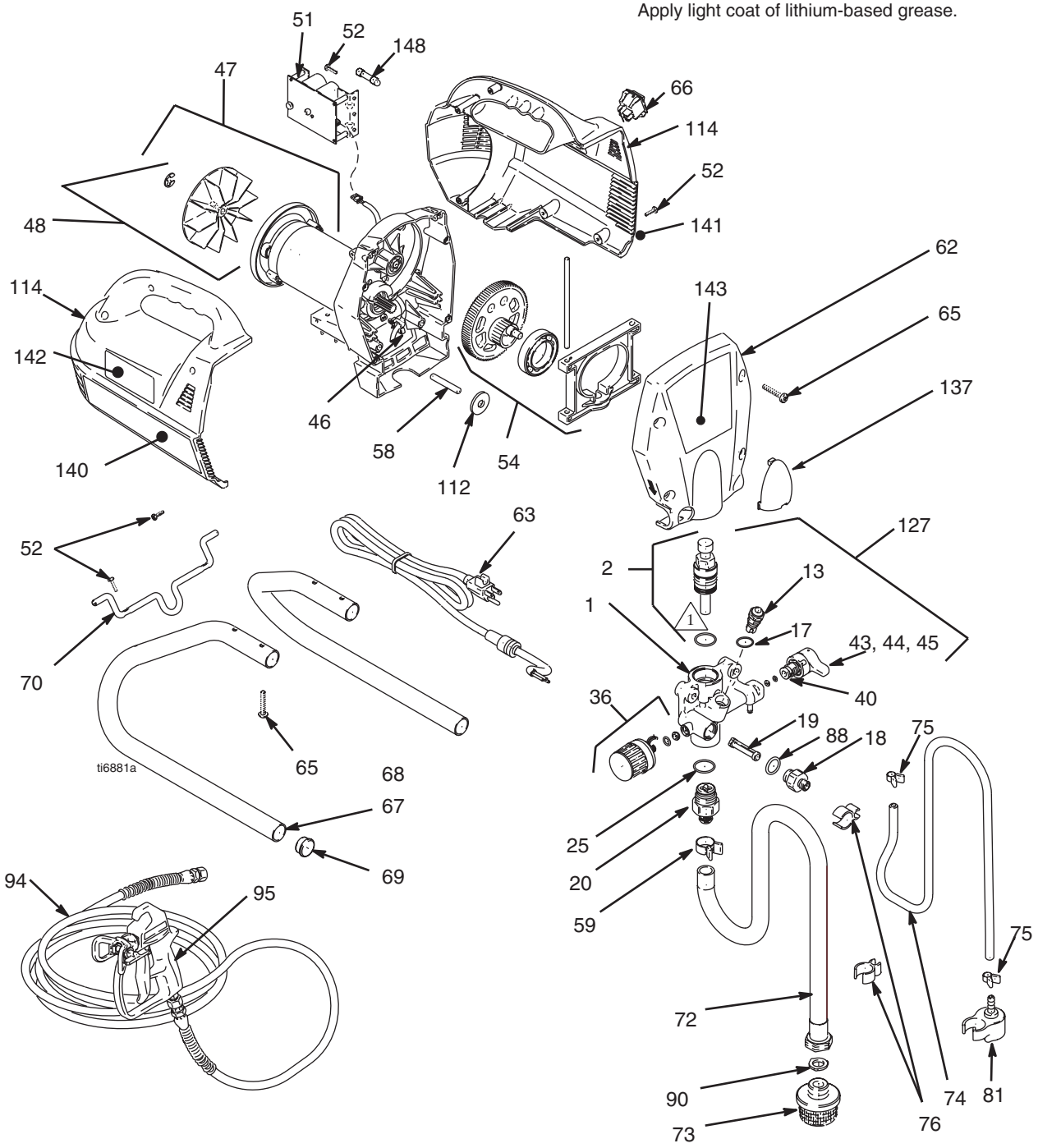
Parts

XR5 Sprayer Model 232740
Series A, B, C, D



Parts

XR5 Sprayer Model 232740
Series E



Notes

Parts

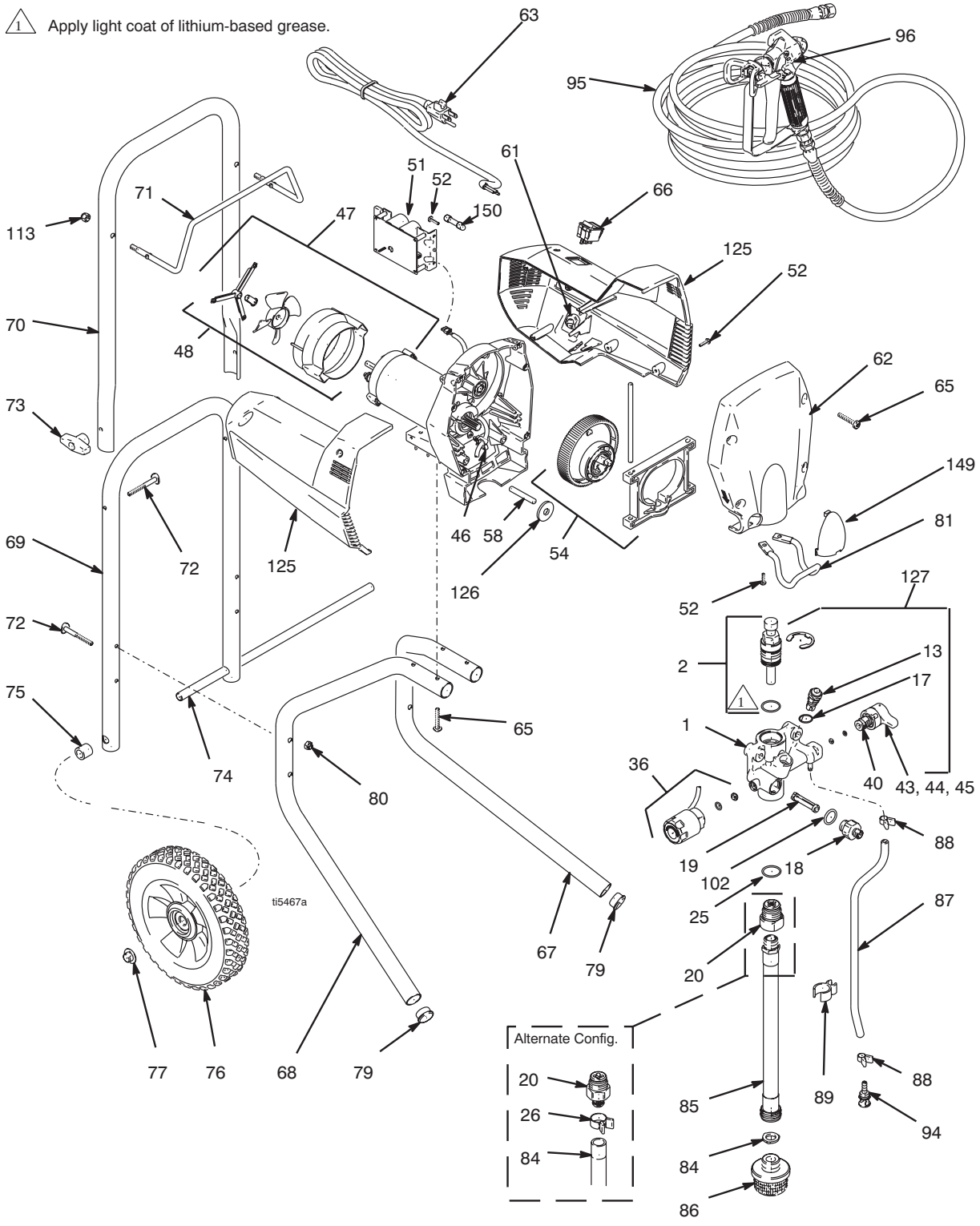
XR7 Sprayer Model 232745

Ref. No.	Part No.	Description	Qty.
1	195126	PUMP, housing	1
2	243090	KIT, pump repair	1
13	243094	KIT, outlet valve (includes #17)	1
17	103338	PACKING, o-ring	1
18	195947	FILTER, adapter	1
19	243070	FILTER, InstaClean	1
20	243093	KIT, inlet valve, 1/2 in. NPT (includes #25) (Alternate Configuration, page 33)	1
	245070	KIT, inlet valve, integral hose barb (includes #25)	1
25	103413	PACKING, o-ring, inlet valve	1
26	116295	CLAMP, spring, 0.88 in. diameter	1
36	244267	KIT, pressure switch, repair,	1
40	235014	KIT, valve, drain/prime, repair	1
43	224807	CAM, drive valve	1
44	187625	HANDLE, drain valve	1
45	111600	DRIVE PIN, drain valve	1
46	119275	CLIP, retainer	2
47	243236	KIT, motor repair, Series A (includes fan kit #48)	1
	245063	KIT, motor repair, Series B and C (includes fan kit #48)	1
	287773	KIT, motor repair, Series D	1
48	243231	KIT, fan repair, Series A, B, C	1
	287770	KIT, fan repair, Series D	1
51	243228	CONTROL BOARD, XR7	1
52	115477	SCREW, machine	10
54	243230	KIT, gear, yoke, guide, repair, Series A	1
	245062	KIT, gear, yoke, guide, repair, Series B, C, D	1
58	194507	DOWEL, pin, 5/16 in.	2
61	111348	BUSHING, strain relief, Series A, B, C	1
62	243237	COVER, with label, Series A	1
	245064	COVER, with label, Series B, C, D	1
63	115603	CORD, power, Series A, B, C	1
	118901	CORD, power, Series D	1
65	115478	SCREW, torx/slt pan hd, 1/4 in.	8
66	115499	SWITCH, rocker, Series A, B, C	1
	118899	SWITCH, rocker, Series D	1
67	195433	LEG, right, Series A, B	1
	15D923	LEG, right, Series C, D	1
68	195434	LEG, left, Series A, B	1
	15D924	LEG, left, Series C, D	1
69	195436	FRAME, cart	1
70	195435	HANDLE, cart	1
71	15D650	RACK, hose	1
72	115097	SCREW, curved head	2
73	115480	KNOB, t-handle	1
74	197285	AXLE	1
75	195367	SPACER	2
76	115095	WHEEL, 9 in.	2
77	112612	CAP	2
79	105521	PLUG	2
80	102040	NUT, lock	4
81	15D658	HOOK, pail	1
84	115099	WASHER, inlet strainer	1
85	195883	TUBE, suction, 1/2 in. NPT(m) fitting, (includes #84) Series A (Alternate Configuration, page 33)	1
	197608	TUBE, suction, barb, (Includes #84) Series B	1
	15D671	TUBE, suction, barb (includes #84) Series C, D	1
86	243082	STRAINER	1
87	195108	TUBE, drain	1
88	115489	CLAMP, drain tube	1
89	195400	CLIP, spring	1
94	244035	DEFLECTOR, barbed	1
95	243024	HOSE, 1/4 in. x 50 ft.	1
96	243011	GUN, SG2 (includes manual 309045)	1
102	115719	PACKING, o-ring, filter adapter	1
113	115651	NUT, acorn	2
125	243234	ENCLOSURE (includes labels 151, 152, 153 and screws), Series A, B, C	1
	287772	ENCLOSURE (includes labels 151, 152, 153 and screws), Series D	1
126	196001	SPACER, pump	2
127	245053	KIT, pump replacement (includes 1, 2, 13, 17, 18, 19, 20, 25, 40, 43, 44, 45, 88. Item #36 must be purchased separately)	1
149	197211	CAP, pump outlet, Series B, C, D only (includes #62 - 245064)	1
150	119276	FUSE	1
151▲	195835	LABEL, danger, Series A, B, C	1
	15G187	LABEL, warning, Series D	1
152▲	195834	LABEL, warning, Series A, B, C	1
	15G188	LABEL, warning, Series D	1
153▲	15E072	LABEL, warning	1
154▲	195123	LABEL, identification, XR7	1

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

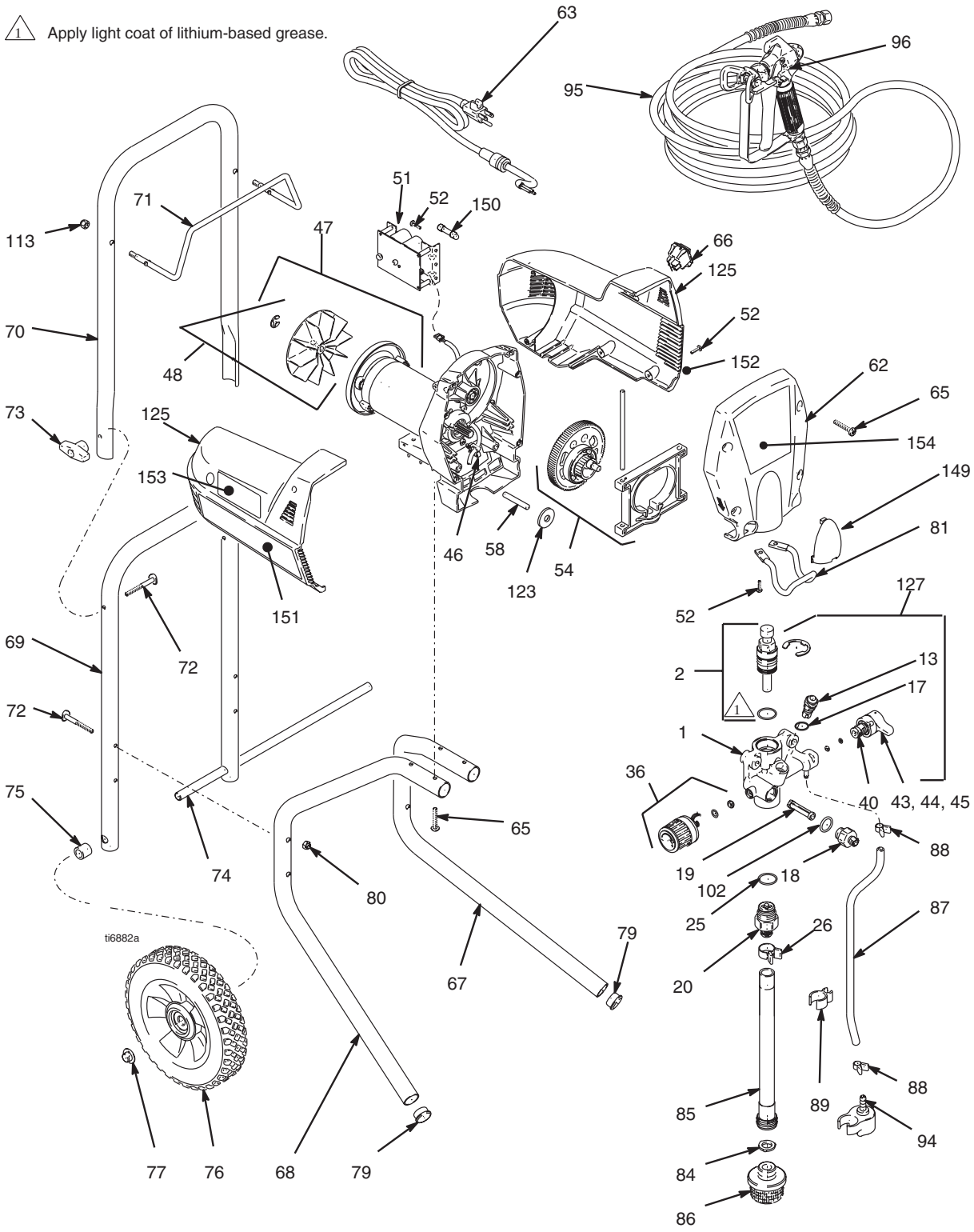
Parts

XR7 Sprayer Model 232745
Series A, B, C



Parts

XR7 Sprayer Model 232745
Series D



Notes

Parts

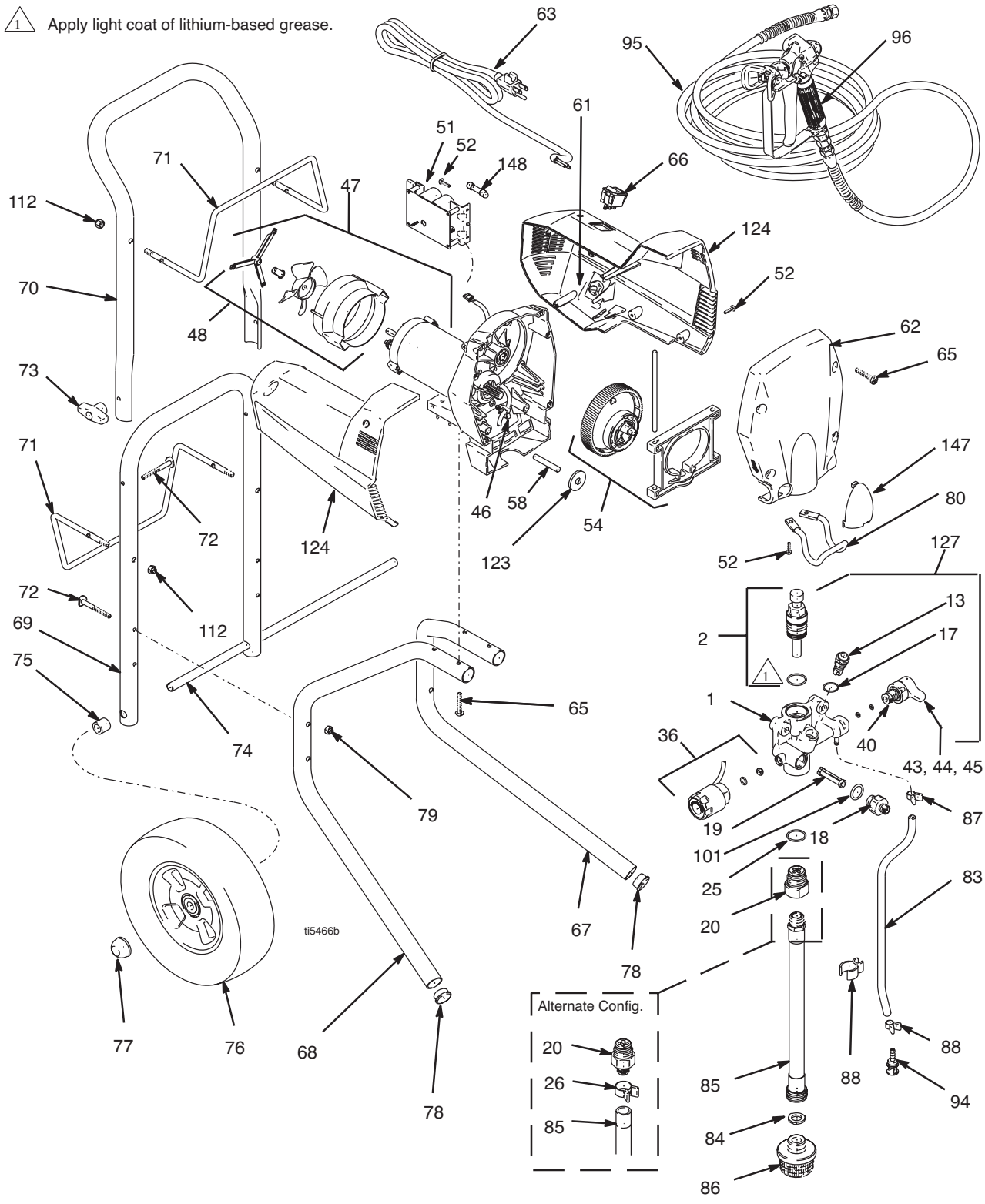
XR9 Sprayer Model 232750

Ref. No.	Part No.	Description	Qty.
1	195126	PUMP, housing	1
2	243090	KIT, pump repair	1
13	243094	KIT, outlet valve (includes #17)	1
17	103338	PACKING, o-ring	1
18	195947	FILTER, adapter	1
19	243070	FILTER, InstaClean	1
20	243093	KIT, inlet valve, 1/2 in. NPT (includes #25) (Alternate Configuration, page 37)	1
	245070	KIT, inlet valve, integral hose barb (includes #25)	1
25	103413	PACKING, o-ring, inlet valve	1
26	116295	CLAMP, spring, 0.88 in. diameter	1
36	244267	KIT, pressure switch, repair,	1
40	235014	KIT, valve, drain/prime, repair	1
43	224807	CAM, drive valve	1
44	187625	HANDLE, drain valve	1
45	111600	DRIVE PIN, drain valve	1
46	119275	CLIP, retainer	2
47	243236	KIT, motor repair, Series A (includes fan kit #48)	1
	245063	KIT, motor repair, Series B and C (includes fan kit #48)	1
	287773	KIT, motor repair, Series D	1
48	243231	KIT, fan repair, Series A, B, C	1
	287770	KIT, fan repair, Series E	1
51	243229	CONTROL BOARD, XR9	1
52	115477	SCREW, machine	11
54	243230	KIT, gear, yoke, guide, repair, Series A	1
	245062	KIT, gear, yoke, guide, repair, Series B, C, D	1
58	194507	DOWEL, pin, 5/16 in.	2
61	111348	BUSHING, strain relief, Series A, B, C	1
62	243237	COVER, with label, Series A	1
	245064	COVER, with label, Series B, C, D	1
63	115604	CORD, power, Series A, B, C	1
	118902	CORD, power, Series D	1
65	115478	SCREW, torx/slt pan hd, 1/4 in.	8
66	115499	SWITCH, rocker, Series A, B, C	1
	118899	SWITCH, rocker, Series D	1
67	195433	LEG, right, Series A, B	1
	15D923	LEG, right, Series C, D	1
68	195434	LEG, left, Series A, B	1
	15D924	LEG, left, Series C, D	1
69	195439	FRAME, cart	1
70	195438	HANDLE, cart	1
71	15D650	RACK, hose	1
72	115097	SCREW, curved head	2
73	115480	KNOB, t-handle	1
74	195366	AXLE	1
75	195367	SPACER	2
76	115094	WHEEL, 10 in.	2
77	112612	CAP	2
79	105521	PLUG	2
80	15D658	HOOK, pail	1
83	195108	TUBE, drain	1
84	115099	WASHER, inlet strainer	1
85	195883	TUBE, suction, 1/2 in. NPT(m) fitting, (includes #83) Series A (Alternate Configuration, page 37)	1
	197608	TUBE, suction, barb, (Includes #83) Series B	1
	15D671	TUBE, suction, barb (includes #83) Series C, D	1
86	243082	STRAINER	1
87	115489	CLAMP, drain tube	1
88	195400	CLIP, spring	1
94	244035	DEFLECTOR, barbed	1
95	243024	HOSE, 1/4 in. x 50 ft.	1
96	243012	GUN, SG3 (includes manual 309045)	1
101	115719	PACKING, o-ring, filter adapter	1
112	115651	NUT, acorn	2
123	196001	SPACER, pump	2
124	243234	ENCLOSURE (includes labels 151, 152, 153 and screws), Series A, B, C	1
	287772	ENCLOSURE (includes labels 151, 152, 153 and screws), Series D	1
127	245053	KIT, pump replacement (includes 1, 2, 13, 17, 18, 19, 20, 40. Item #36 must be purchased separately)	1
147	197211	CAP, pump outlet, Series B, C, D only (includes #62 - 245064)	1
148	119277	FUSE	1
151▲	195835	LABEL, danger, Series A, B, C	1
	15G187	LABEL, warning, Series D	1
152▲	195834	LABEL, warning, Series A, B, C	1
	15G188	LABEL, warning, Series D	1
153▲	15E072	LABEL, warning	1
154▲	195124	LABEL, identification, XR9	1

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

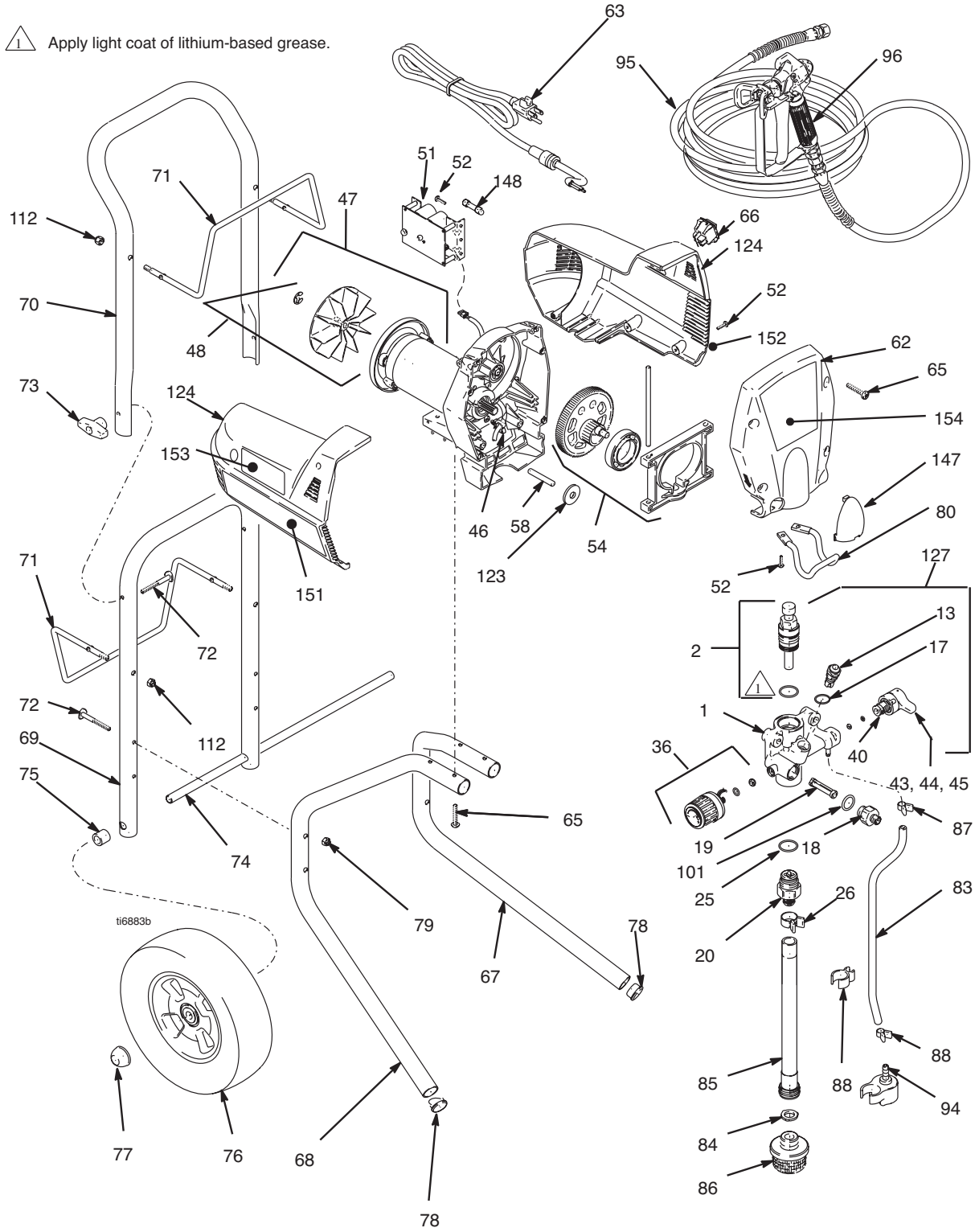
Parts

XR9 Sprayer Model 232750
Series A, B, C



Parts

XR9 Sprayer Model 232750
Series D



Technical Data

	MAGNUM dx	MAGNUM XR5	MAGNUM XR7	MAGNUM XR9
Working pressure range	0-2800 psi (0-19 MPa, 0 -193 bar)	0-3000 psi (0-21 MPa, 0-207 bar)	0-3000 psi (0-21 MPa, 0-207 bar)	0-3000 psi (0-21 MPa, 0-207 bar)
Electric motor	6.5 AMP (open frame, universal)	5.8 AMP (open frame, permanent magnet DC)		9.4 AMP (open frame, permanent magnet DC)
Operating horsepower	3/8	5/8	3/4	7/8
Maximum delivery (with tip)	0.24 gpm (0.91 lpm)	0.27 gpm (1.02 lpm)	0.31 gpm (1.17 lpm)	0.38 gpm (1.44 lpm)
Paint hose	25 ft (7.6 m) x 3/16 in.	25 ft (7.6 m) x 1/4 in.	50 ft (15.2 m) x 1/4 in.	50 ft (15.2 m) x 1/4 in.
Maximum tip hole size	0.015 in. (0.38 mm)	0.015 in. (0.38 mm)	0.017 in. (0.43 mm)	0.019 in. (0.48 mm)
Weight, sprayer only	15 lb (7 kg)	21 lb (10 kg)	31 lb (14 kg)	35 lb (16 kg)
Weight, sprayer, hose & gun	18 lb (8 kg)	24 lb (11 kg)	36 lb (17 kg)	40 lb (18 kg)
Dimensions:				
Length	17.5 in. (44.5 cm)	13.75 in. (34.9 cm)	19.5 in. (49.5 cm)	19.5 in. (49.5 cm)
Width	18 in. (46 cm)	11 in. (27.9 cm)	17.25 in. (43.8 cm)	19 in. (48.3 cm)
Height	21 in. (53 in.)	19 in. (48.3 cm)	40.75 in. (103.5 cm)* *Height with folded handle is 26 in. (66 cm)*	40 in. (101.6 cm)* *Height with folded handle is 26 in. (66 cm)*
Power cord	16 AWG, 3-wire, 6 ft (1.8 m)			16 AWG, 3-wire, 10 ft (3.05 m)
Fluid inlet fitting	3/4 in. internal thread (standard garden hose thread)			
Fluid outlet fitting	1/4 NPSM external thread			
Inlet screen on suction tube	Early models - 14 mesh (1300 micron) Later models - 35 mesh (450 micron)			
Wetted parts, pump & hose	stainless steel, brass, ultra-high molecular weight polyethylene (UHMWPE), carbide, nylon, aluminum, PVC, polypropylene, fluroelastomer	stainless steel, brass, leather, ultra-high molecular weight polyethylene (UHMWPE), carbide, nylon, aluminum, PVC, polypropylene, fluroelastomer		
Wetted parts, gun	SG1-EF: plated steel, nylon, aluminum, tungsten carbide, stainless steel, brass, fluroelastomer		SG2/SG3: aluminum, brass, carbide, nylon, plated steel, stainless steel, UHMWPE, zinc	
Generator requirement	1500 Watt minimum			
Electrical power requirement	120VAC, 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.

Graco Standard Warranty

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