Repair and Parts

MAGNUM®
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X5™, X7™, ProX7™ & ProX9™ Airless Sprayers

312667K
EN

- For portable spray applications of architectural paints and coatings. For professional use only-

Models 262800, 262805, 261815, 261820

See page 3 for model and series information including dispense rate, recommended hose length, guns, and maximum working pressure.

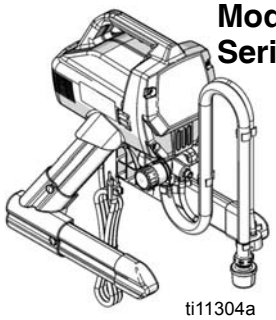
IMPORTANT SAFETY INSTRUCTIONS.
Read all warnings and instructions in this manual. Save these instructions.

Related Manual

312001

X5 and X7 Models ONLY: Use water based or mineral-spirit type material only. Do not use materials having flash points lower than 70°F (21°C). This includes, but is not limited to, acetone, xylene, toluene, or naptha. For more information about your material request MSDS from distributor or retailer.

MAGNUM X5
Model: 262800
Series A, B, C, D



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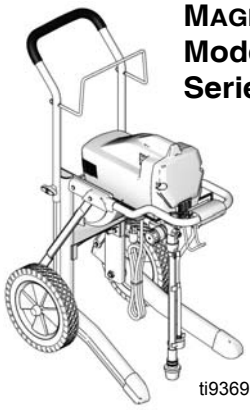
MAGNUM ProX7
Model: 261815
Series A



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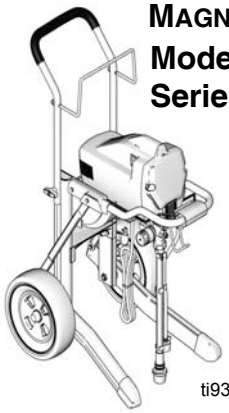
MAGNUM ProX9
Model: 261820
Series A



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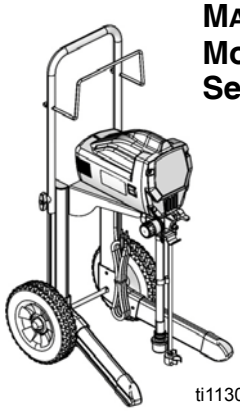
MAGNUM X7
Model: 262805
Series A, B, C



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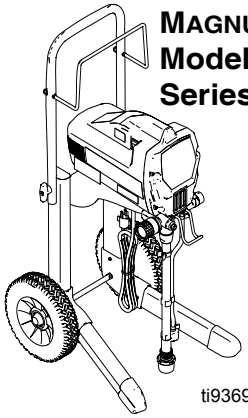
MAGNUM ProX7
Model: 261815
Series B



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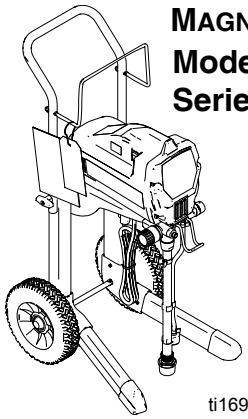
MAGNUM ProX9
Model: 261820
Series B



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PROVEN QUALITY. LEADING TECHNOLOGY.

Table of Contents

Specifications

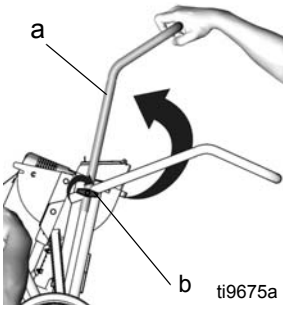
This equipment is not intended for use with flammable or combustible materials used in places such as cabinet shops or other “factory”, or fixed locations. If you intend to use this equipment in this type of application, you must comply with NFPA 33 and OSHA requirements for the use of flammable and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

Model Name	Series	Dispense Rate gpm (lpm)	Hose Length and Diameter	Gun Model	Maximum Working Pressure		
					PSI	MPa	bar
MAGNUM X5	A, B, C	0.24 gpm (0.91 lpm)	1/4 in. x 25 ft (6.4 mm x 7.5 m)	SG2	2800	19	193
MAGNUM X5	D	0.27 gpm (1.02 lpm)	1/4 in. x 25 ft (6.4 mm x 7.5 m)	SG2	3000	21	207
MAGNUM X7	A, B, C	0.31 gpm (1.17 lpm)	1/4 in. x 25 ft (6.4 mm x 7.5 m)	SG2	3000	21	207
MAGNUM ProX7	A, B	0.34 gpm (1.29 lpm)	1/4 in. X 50 ft (6.4 mm x 15 m)	SG3	3000	21	207
MAGNUM ProX9	A, B	0.38 gpm (1.44 lpm)	1/4 in. X 50 ft (6.4 mm x 15 m)	SG3	3000	21	207

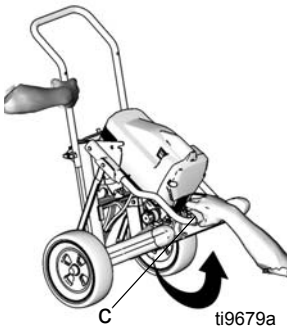
Getting Started

Fold-n-Store™ Cart (ProX, Series A Sprayers Only)

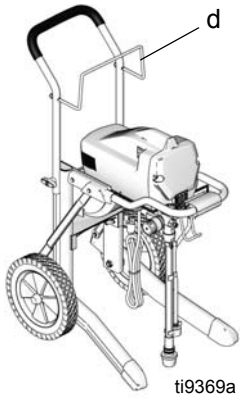
1. Unfold Fold-n-Store handle (a) and align as shown.
2. Tighten wingnuts (b).



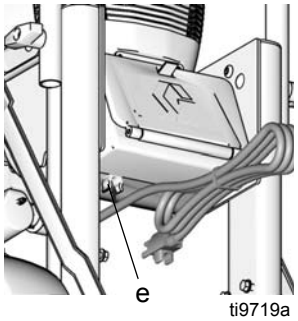
3. Grasp cart handle securely with one hand. With the other hand, lift and pull handle (a) located in front of sprayer frame, toward you. Lift up front of sprayer until you hear a click and the cart is locked in place.



4. Install hose rack (d) to frame handle. Install lock nuts. Tighten securely.



5. Secure power cord in clip (e) located underneath storage compartment.



Warnings

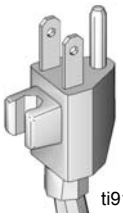
The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. Refer back to these warnings. Additional, product specific warnings may be found throughout the body of this manual where applicable.

⚠WARNING

GROUNDING

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

- Improper installation of the grounding plug is able to result in a risk of electric shock.
- When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade terminal.
- The wire with insulation having an outer surface that is green with or without yellow stripes is the grounding wire.
- Check with a qualified electrician or serviceman when the grounding instructions are not completely understood, or when in doubt as to whether the product is properly grounded.
- Do not modify the plug provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.
- This product is for use on a nominal 120V circuit and has a grounding plug similar to the plug illustrated in the figure below.



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- Only connect the product to an outlet having the same configuration as the plug.
- Do not use an adapter with this product.

Extension Cords:

- Use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that accepts the plug on the product.
- Make sure your extension cord is not damaged. If an extension cord is necessary, use 12 AWG (2.5 mm^2) minimum to carry the current that the product draws.

An undersized cord results in a drop in line voltage and loss of power and overheating.

⚠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:

- Do not spray flammable or combustible materials near an open flame or sources of ignition such as cigarettes, motors, and electrical equipment. **For X5 and X7 models:** only use water-based or mineral spirit-type materials with a flash point greater than 70° F (21° C).
- Paint or solvent flowing through the equipment is able to result in static electricity. Static electricity creates a risk of fire or explosion in the presence of paint or solvent fumes. All parts of the spray system, including the pump, hose assembly, spray gun, and objects in and around the spray area shall be properly grounded to protect against static discharge and sparks. Use Graco conductive or grounded high-pressure airless paint sprayer hoses.
- Verify that all containers and collection systems are grounded to prevent static discharge.
- Connect to a grounded outlet and use grounded extensions cords. Do not use a 3-to-2 adapter.
- Do not use a paint or a solvent containing halogenated hydrocarbons.
- Keep spray area well-ventilated. Keep a good supply of fresh air moving through the area. Keep pump assembly in a well ventilated area. Do not spray pump assembly.
- Do not smoke in the spray area.
- Do not operate light switches, engines, or similar spark producing products in the spray area.
- Keep area clean and free of paint or solvent containers, rags, and other flammable materials.
- Know the contents of the paints and solvents being sprayed. Read all Material Safety Data Sheets (MSDS) and container labels provided with the paints and solvents. Follow the paint and solvents manufacturer's safety instructions.
- Fire extinguisher equipment shall be present and working.
- Sprayer generates sparks. 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.

SKIN INJECTION HAZARD

- Do not aim the gun at, or spray any person or animal.
- Keep hands and other body parts away from the discharge. For example, do not try to stop leaks with any part of the body.
- Always use the nozzle tip guard. Do not spray without nozzle tip guard in place.
- Use Graco nozzle tips.
- Use caution when cleaning and changing nozzle tips. In the case where the nozzle tip clogs while spraying, follow the **Pressure Relief Procedure** for turning off the unit and relieving the pressure before removing the nozzle tip to clean.
- Do not leave the unit energized or under pressure while unattended. When the unit is not in use, turn off the unit and follow the **Pressure Relief Procedure** for turning off the unit.
- High-pressure spray is able to inject toxins into the body and cause serious bodily injury. In the event that injection occurs, **get immediate surgical treatment**.
- Check hoses and parts for signs of damage. Replace any damaged hoses or parts.
- This system is capable of producing 3000 psi. Use Graco replacement parts or accessories that are rated a minimum of 3000 psi.
- Always engage the trigger lock when not spraying. Verify the trigger lock is functioning properly.
- Verify that all connections are secure before operating the unit.
- Know how to stop the unit and bleed pressure quickly. Be thoroughly familiar with the controls.

⚠WARNING


EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- 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.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your 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.


ELECTRIC SHOCK HAZARD

This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power cord before servicing equipment.
- Connect only to grounded electrical outlets.
- Use only 3-wire extension cords.
- Ensure ground prongs are intact on power and extension cords.
- Do not expose to rain. Store indoors

PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

BURN HAZARD

Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.


MOVING PARTS HAZARD

Moving parts can pinch or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** in this manual. Disconnect power or air supply.

⚠WARNING

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.

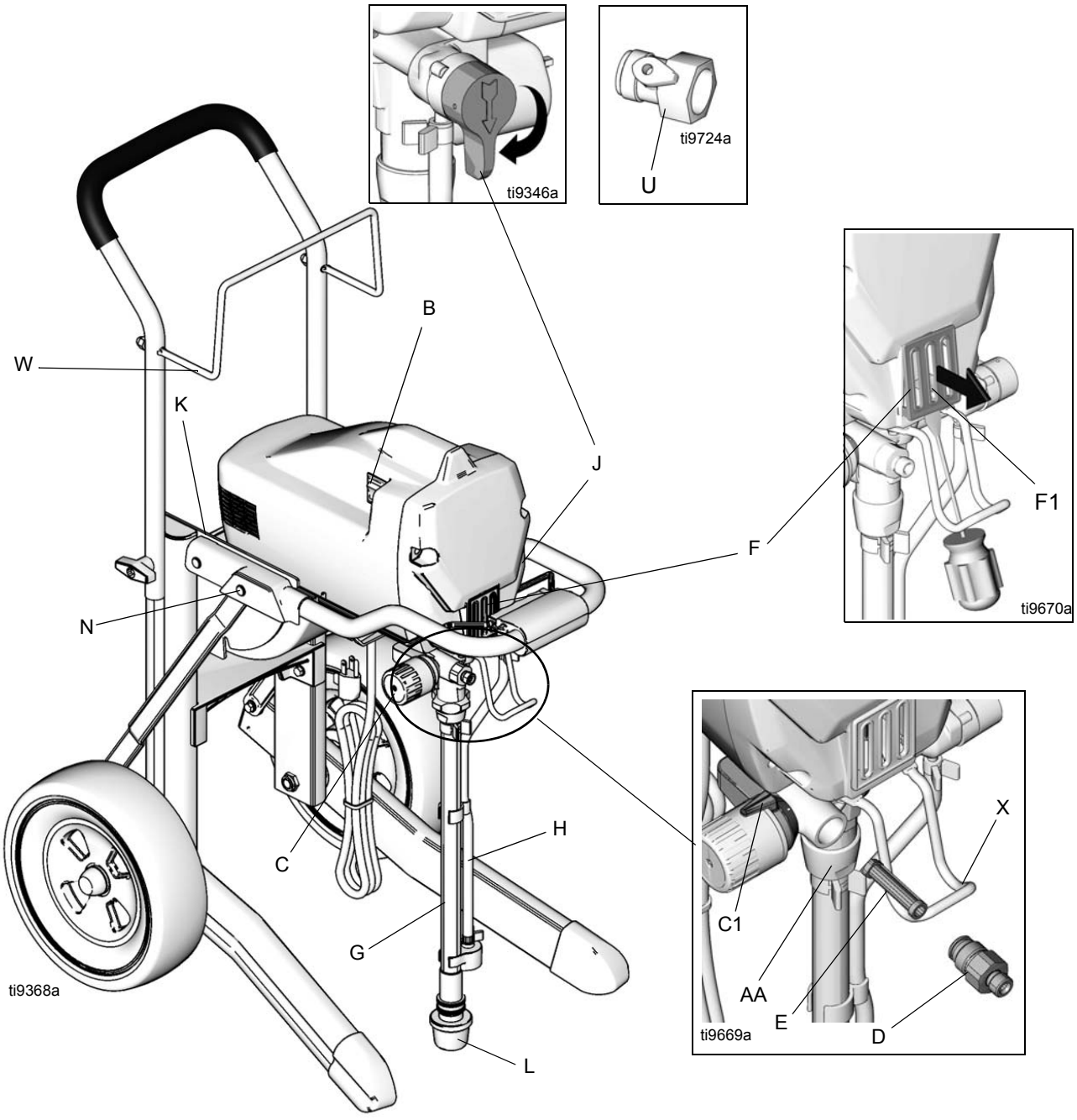
PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:

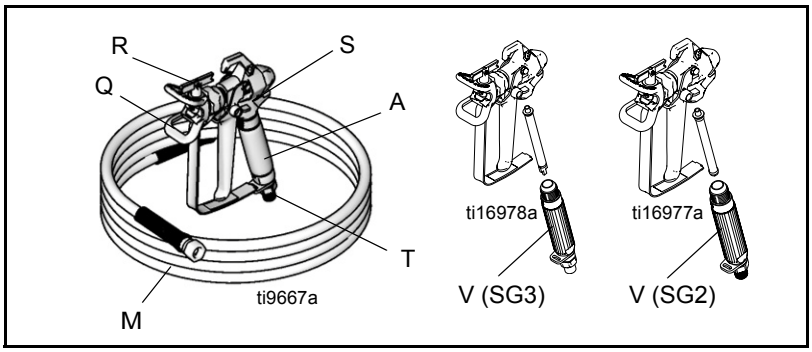
- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Component Identification

A	Airless spray gun	Sprays fluid.
B	Power switch	Turns sprayer ON and OFF.
C	Pressure control knob	Increases (clockwise) and decreases (counter-clockwise) fluid pressure in pump, hose, and spray gun.
C1	Setting Indicator	To select function, align symbol on pressure control knob with setting indicator, page 11.
D	Pump fluid outlet fitting	Threaded connection for paint hose.
E	InstaClean™ fluid filter **(ProX Sprayers Only)**	• Filters fluid coming out of pump to reduce tip plugging and improve finish. • Self cleans only during pressure relief.
F	ProX Power-Piston™ Pump (behind Easy Access door, not shown) **(ProX Sprayers Only)**	Pumps and pressurizes fluid and delivers it to paint hose.
F1	Easy Access™ door **(ProX Sprayers Only)**	Easy Access door permits quick access to outlet valve. To remove door, insert flat blade of screwdriver into slot on the bottom of the door (as shown on page 8).
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	Prime/Spray valve	• In PRIME position (pointing down) directs fluid to prime tube. • In SPRAY position (pointing forward) directs pressurized fluid to paint hose. • Automatically relieves system pressure in overpressure situations.
K	Storage compartment **(ProX Series A Sprayers Only)**	Provides onboard storage for spray tips and/or tools.
L	Inlet screen	Prevents debris from entering pump.
M	Paint hose	Transports high-pressure fluid from pump to spray gun.
N	Fold-n-Store™ Cart **(ProX Series A Sprayers Only)**	Folding cart frame for hanging on wall.
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. • Reverse unclogs plugged tips without disassembly.
S	Gun trigger safety lever (page 11)	Prevents accidental triggering of spray gun.
T	Gun fluid inlet fitting	Threaded connection for paint hose.
U	Power Flush attachment	Connects garden hose to suction tube for power flushing water-base fluids.
V	Gun fluid filter	Filters fluid entering spray gun to reduce tip clogs.
W	Hose wrap Rack **(X7, ProX7, and ProX9 Only)**	Stows paint hose.
X	Pail hanger **(X7, Prox7, and ProX9 Only)**	For transporting pail by its handle.
AA	QuickAccess™ Inlet **(ProX9 Series A Only)**	Permits quick access to inlet valve to clear debris.

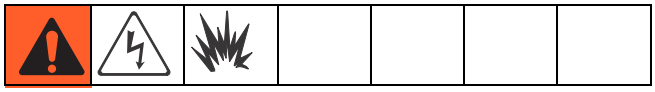


ProX Series A shown



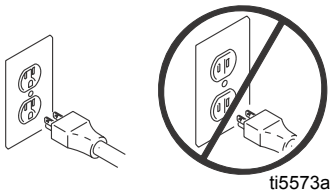
Installation

Grounding and Electric Requirements



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

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



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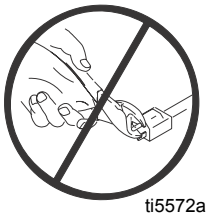
- Do not use the sprayer if the electrical cord has a damaged ground prong.
- Only use an extension cord with an undamaged 3-prong plug.



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  Recommended extension cords for use with this sprayer:
  - 50 ft (15.0 m) 14 AWG (2.1 mm^2)
  - 100 ft (30.0 m) 12 AWG (3.3 mm^2)

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

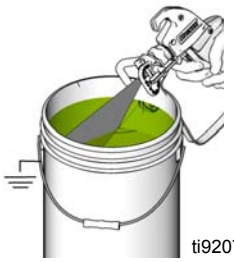
NOTE: Smaller gauge or longer extension cords may reduce sprayer performance.

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.

Maintaining 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.



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Thermal Overload

Motor has a thermal overload switch to shut itself down if overheated. If unit overheats, allow approximately 45 minutes for unit to cool. Once cool, switch will close and unit will restart.

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

Operation

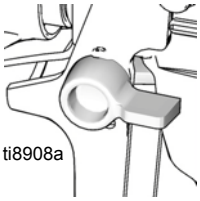
See Operation manual 312001 for basic information on sprayer set-up, flushing, and storage.

Trigger Lock

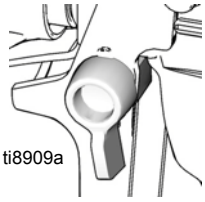
Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if dropped or bumped.

Trigger Locked SG10

Trigger Unlocked SG10



Trigger Locked SG20, SG2, SG3, SGPro



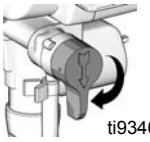
Trigger Unlocked SG20, SG2, SG3, SGPro

Pressure Relief Procedure

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

1. Turn power switch OFF and unplug power cord.

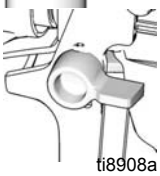
2. Turn Prime/Spray valve to PRIME to relieve pressure.



3. Hold gun firmly to side of pail. Trigger the gun to relieve pressure.

4. Engage trigger lock.

SG10

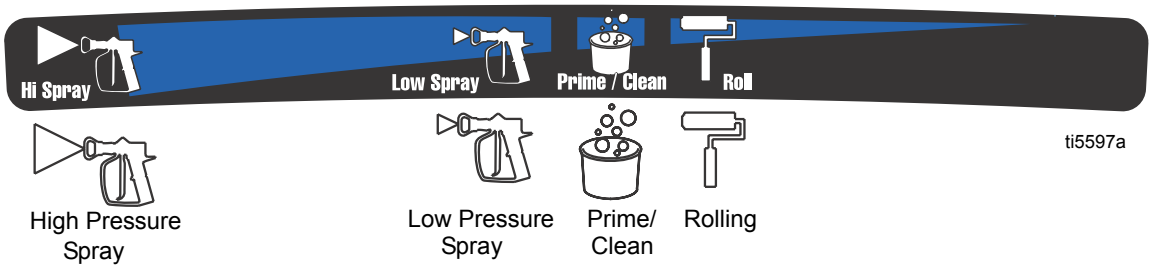


SG2, SG3 SG20, SGPro

NOTE: Leave Prime/Spray valve in the PRIME position until you are ready to spray again.

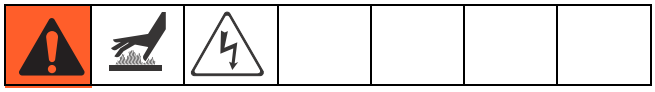
If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction. Read Unclogging Spray Tip instructions in the Sprayer or Gun Operation manual.

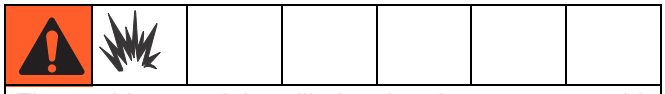
Pressure Control Knob Settings



NOTE: To select function, align symbol on pressure control knob with setting indicator on sprayer.

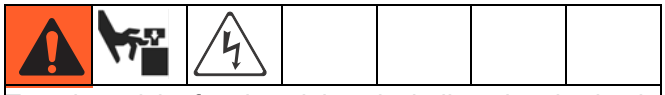
General Repair Information





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 13 and **Advanced Troubleshooting**, page 18.
- 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 parts 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.

NOTICE

- 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

Check everything in this Basic Troubleshooting table before you bring the sprayer to a Graco/MAGNUM authorized service center.

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 clockwise to increase pressure setting.
	Electric outlet is not providing power.	• Check that lighted plug on sprayer is lit (this indicates electric power at outlet). • Reset building circuit breaker or replace fuse.
	Extension cord is damaged.	Replace extension cord. Read **Grounding and Electric Requirements**, page 10.
	Sprayer electric cord is damaged.	Check for broken insulation or wires. Replace electric cord if damaged.
	Motor or control is damaged.	Take sprayer to Graco/MAGNUM authorized service center.

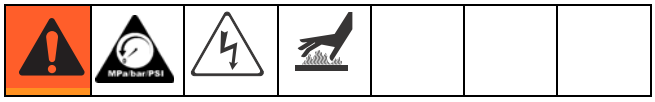
Problem	Cause	Solution
Pump does not prime.	Prime/Spray Valve is in SPRAY position.	Turn Prime/Spray Valve to PRIME position (pointing down).
	Inlet screen is clogged or suction tube is not immersed.	Clean debris off inlet screen and make sure suction tube is immersed in fluid.
	Pump was not primed with flushing fluid.	Remove suction tube from paint. Prime pump with water or solvent-based flushing fluid, see Operation manual 312001.
	Inlet valve check ball is stuck.	Remove suction tube and place a pencil into the inlet section to dislodge the ball, allowing pump to prime properly. Or, Power Flush sprayer, see Operation manual 312001.
		AutoPrime may need replacement. Turn power switch ON and listen for “tap” in pump. If you do not hear “tap”, AutoPrime is damaged. Take sprayer to Graco/MAGNUM authorized service center.
	Inlet valve check ball or seat is dirty	Remove inlet fitting. Clean or replace ball and seat.
	Outlet valve check ball is stuck.	**ProX7 and ProX9:** Insert screw driver in slot and remove Easy-Access door, page 8. Unscrew outlet valve with a 3/4 in. socket. Remove and clean assembly. **X5 and X7:** Remove outlet fitting and clean outlet check ball.
	Suction tube is leaking allowing air to enter.	Check suction tube for cracks and cuts. Make sure suction tube clamp is on hose. Replace suction tube if cracked or damaged.
	Pump valves are worn.	Check for worn valves, see page 14.
	Paint is very thick or sticky.	Thin material per manufacturer’s instructions. Momentarily turn power switch OFF to allow pump to slow and stop. Repeat as necessary.

Problem	Cause	Solution
Pump cycles but does not build up pressure.	Prime/Spray valve in PRIME position (pointing down).	Turn Prime/Spray valve to SPRAY position (pointing forward).
	Pump is not primed.	Prime pump, see Operation manual 312001.
	Inlet screen is clogged or suction tube is not immersed.	Clean debris off inlet screen and make sure suction tube is immersed in fluid.
	Suction tube is leaking, allowing air to enter.	Check suction tube for cracks and cuts. Make sure suction tube clamp is on hose. Replace suction tube if cracked or damaged.
	Prime/Spray Valve is worn or obstructed with debris.	Take sprayer to Graco/MAGNUM authorized service center.
	Pump check ball is stuck.	Read ***Pump does not prime*** section in Troubleshooting, page 14.
Pump cycles, but paint only dribbles or spurts when spray gun is triggered.	Pressure is set too low.	Slowly turn pressure control knob clockwise to increase pressure setting which will turn motor on to build pressure.
	Spray tip is clogged.	Unclog spray tip, see Operation manual 312001.
	InstaClean fluid filter is clogged. **(ProX7 and ProX9 Only)**	Clean or replace InstaClean fluid filter, see Operation manual 312001.
	Spray gun fluid filter is clogged.	Clean or replace gun fluid filter, see Operation manual 312001.
	Spray tip is too large or worn.	Replace tip.

Problem	Cause	Solution
Pressure is set at maximum but cannot achieve a good spray pattern.	Spray tip is clogged.	Unclog spray tip, see Operation manual 312001.
	Reversible spray tip is in UNCLOG position.	Rotate arrow-shaped handle on spray tip so it points forward on gun.
	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. See **Grounding and Electrical Requirements**, page 10.
	Spray gun fluid filter is clogged.	Clean or replace spray gun fluid filter, see Operation manual 312001.
	InstaClean fluid filter is clogged. **(ProX7 and ProX9 Only)**	Clean or replace InstaClean fluid filter, see Operation manual 312001.
	Inlet screen is clogged.	Clean debris off inlet screen.
	Pump valves are worn.	Check for worn pump valves. a. Prime sprayer with paint b. Trigger gun momentarily. When trigger is released, pump should cycle momentarily and stop. If pump continues to cycle, pump valves may be worn.
	Material is too thick.	Thin material.
	Hose is too long (if extra section is added).	Remove extra section of hose.
Spray gun stopped spraying. Pump is not cycling.	Spray tip is clogged.	Unclog spray tip, see Operation manual 312001.
When paint is sprayed, it runs down the wall or sags.	Coat is going on too thick.	Move gun faster.
		Choose a tip with smaller hole size.
		Choose tip with wider fan.
		Make sure gun is far enough from surface.
When paint is sprayed, coverage is inadequate.	Coat is going on too thin.	Move gun slower.
		Choose tip with larger hole size.
		Choose tip with narrower fan.
		Make sure gun is close enough to surface.

Problem	Cause	Solution
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.	Take sprayer to Graco/MAGNUM authorized service center.
Cannot trigger spray gun.	Spray gun trigger lock is locked.	Rotate trigger safety lever to unlock trigger lock, page 11.
Paint is coming out of pressure control switch.	Pressure control switch is worn.	Take sprayer to Graco/MAGNUM authorized service center.
Prime/Spray valve actuates automatically relieving pressure through prime tube.	System is over pressurizing.	Take sprayer to Graco/MAGNUM authorized service center.
Paint leaks down outside of pump.	Pump packings are worn.	Take sprayer to Graco/MAGNUM authorized service center.
Motor is hot and runs intermittently. Motor automatically shuts off due to excessive heat. Damage can occur if cause is not corrected. See **Thermal Overload**, page 10.	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. Read **Grounding and Electrical Requirements**, page 10.
	Unregulated electrical generator being used has excessive voltage.	Use electrical generator with a proper voltage regulator. Sprayer requires 120VAC, 60 Hz, 1500-Watt generator.

Advanced Troubleshooting



See **Basic Troubleshooting** first, page 13 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 13.	
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 power switch OFF. 2. Place sprayer in warm area for several hours. 3. Plug sprayer in. 4. Turn power switch ON and flush sprayer with water or mineral spirits. a. Turn on sprayer. b. Turn prime valve to PRIME position. **If paint hardened in sprayer**: **ProX7 and ProX9:** Replace pump packings. See **List of Kits**, page 28. **X5 and X7:** Replace complete pump. See **List of Kits**, page 28. Remove all residue from inlet and outlet valves.
	Gears are damaged.	Remove motor enclosure and rotate motor fan to check for bad gears. If gears bind or slip, remove pump cover and replace failed gears. See **List of Kits**, page 28.
	ProX7 and ProX9: Yoke is broken because pump is locked up due to dried paint or worn packings.	Repair or replace using **Gear/Yoke Kit**. See **List of Kits**, page 28.
		Replace pump packings on ProX7 and ProX9 sprayers. See **List of Kits**, page 28.

Specific Problem	Cause	Solution
Basic electrical problems.	Motor overheated.	Allow motor to cool for 45 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, improperly mated, or corroded.	Replace any loose terminals. Make sure all leads and harnesses are firmly connected. **ProX7 and ProX9:** 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 28.
	Motor armature commutator damaged.	Check for burn spots, gouges and extreme roughness. If damaged or if shorts are evident, replace motor using **Motor Kit**, page 28.
	Fuse is blown.	Find cause for blown fuse before replacing. Turn the motor fan to check for a locked gear or pump. Use a continuity meter to check for a short to ground caused by a pinched wire. **ProX7 and ProX9:** Replace the fuse with correct fuse kit. See **List of Kits**, page 28. **X5 and X7:** The fuse is not replaceable. Replace control board. See **List of Kits**, page 28.
	Motor armature shorting.	Check for shorts. See **Motor Diagnostics**, page 25. If shorts are evident, replace motor using **Motor Kit**, page 28.
	Motor armature open circuit.	Check motor leads for continuity. If open circuit, check brushes. Use Motor Kit to replace motor. See **List of Kits**, page 28.
	Control board damaged. **CAUTION:** Do not perform control board diagnostics until you have determined the armature is good. A damaged armature can burn out a good control board.	See **Control Board Diagnostics**, page 27. Replace control board if damaged using **Control Board Kit**, page 28.

Specific Problem	Cause	Solution
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 power cord damaged.	Unplug sprayer power cord. Disconnect black power cord wire at power switch. Unplug in-line connection white cord wire. Plug in power cord. Test voltage between black and white wires of power cord. Meter must read 85 to 130V AC. Replace power cord if no voltage.
	Sprayer power switch damaged.	1. Unplug sprayer power cord. 2. Disconnect black control board wire at power switch. 3. Unplug in-line connection white cord wire. 4. Plug in power cord. 5. Turn power switch ON. 6. Test voltage between open terminal of power switch and white power cord wire. Meter must read 85 to 130V AC. 7. Replace power switch if no voltage.
	Motor thermal overload cutoff switch damaged. **WARNING:** See **Startup Hazard After Thermal Overload** on page 10.	1. Unplug sprayer power cord. 2. Remove motor harness from control card. 3. Check for continuity between yellow leads or motor harness (ProX7 and ProX9 only). 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 28. 6. If thermal relief switch closes after motor cools, find correct cause of overheating.

General Problem: Circuit Breaker is Tripping

Specific Problem	Cause	Solution
Building circuit breaker opens as soon as sprayer is 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 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. See **Motor Diagnostics**, page 25. If shorts are evident, replace motor using **Motor Kit**, page 28.
	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 27. Replace control board if damaged using **Control Board Kit**, page 28.
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 power cord damaged.	Unplug sprayer power cord. Disconnect black power cord wire at power switch. Unplug in-line connection white cord wire. Plug in power cord. Test voltage between black and white wires of power cord. Meter must read 85 to 130V AC. Replace power cord if no voltage.
	Sprayer power switch damaged.	1. Unplug sprayer power cord. 2. Disconnect black control board wire at power switch. 3. Unplug in-line connection white cord wire. 4. Plug in power cord. 5. Turn power switch ON. 6. Test voltage between open terminal of power switch and white power cord wire. Meter must read 85 to 130V AC. 7. Replace power switch if no voltage.
	Also see *Basic Electrical Problems,* and *Sprayer Wiring Problems*, pages 19 - 20.	

General Problem: Erratic Motor Operation

Specific Problem	Cause	Solution
Sprayer quits after running for 5 to 10 minutes	Building circuit is overloaded.	Remove other loads from building circuit or find another circuit that has less load. See **Grounding and Electric Requirements**, page 10.
	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*, pages 19 - 20.	
	Motor is overheating. Warning: See **Thermal Overload**, page 10.	After motor cools, operate sprayer and determine if motor stops when trigger on gun is released. If sprayer runs continuously, replace **Pressure Control**. See **List of Kits**, page 28. Relieve pressure and remove motor enclosure. Turn motor fan by hand to check for binding gears or seized pump. See **List of Kits**, page 28.

General Problem: Low or Fluctuating Output

Specific Problem	Cause	Solution
Pump cycles, but output is low or surging.	See **Basic Troubleshooting**, page 13.	
	Worn or obstructed inlet and outlet valves.	Check for worn pump valves as follows: Prime sprayer with paint. Turn the Prime/Spray valve to SPRAY position. Turn pressure control fully clockwise. Trigger spray gun briefly. When spray gun trigger is released pump should cycle momentarily and stop. If pump continues to cycle, pump valves may be worn or obstructed. For replacement inlet and outlet valve kits, see **List of Kits**, page 28.
	Prime/Spray valve is leaking out drain line when Prime/Spray valve is in SPRAY position.	Check Prime/Spray valve for debris trapped on seat and for worn parts. Torque to 130 - 180 in-lb (15.8 - 18.1 N•m). Replace if parts are worn using **Prime/Spray Valve Kit**, page 28.
	Voltage from electrical outlet is too low. Low voltages reduce sprayer performance.	Check voltage of outlet. Meter must read 85 to 130V AC.
	Extension cord is too long or not heavy enough gauge.	Replace extension cord. See **Grounding and Electrical Requirements**, page 10.
	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 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 28.
	Motor brush springs are broken.	If springs are broken, replace motor using **Motor Kit**, page 28.
	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 28.
	Control board is damaged. **CAUTION:** Do not perform control board diagnostics until you have determined the armature is good. A damaged armature can burn out a good control board.	See **Control Board Diagnostics**, page 27. If damaged, replace control board using **Control Board Kit**, page 28.

Specific Problem	Cause	Solution
Motor runs and pump cycles, but pressure does not build up.	Intake valve or outlet valve is not seating properly.	Remove and clean inlet valves and outlet valves. Replace if necessary. See **List of Kits**, page 28.
	Pump packings are worn or damaged.	Check for leaking around pump. **ProX7 and ProX9:** Replace pump packings. See **List of Kits**, page 28. **X5 and X7:** Replace complete pump. See **List of Kits**, page 28.

General Problem: Excessive Pressure Build Up

Specific Problem	Cause	Solution
Prime/Spray Valve actuates automatically, relieving pressure through drain tube.	Pressure control switch has pinched wires or switch is worn.	Replace pressure control switch using **Pressure Control Switch Kit**, page 28.
	Water or paint entered pressure control switch or shorted control board.	Use **Pressure Control Switch Kit**, to replace switch. See **List of Kits**, page 28.
	Control board failed.	See **Control Board Diagnostics**, page 27. Replace damaged control board using **Control Board Kit**, page 28.

Motor Diagnostics (X5 and X7)

If Motor Diagnostics reveal a damaged motor or if motor brushes are shorter than 1/4 in. (6.4 mm) replace the motor using **Motor Kit**, page 28.

Setup

1. Unplug power cord and **Relieve Pressure,** page 11.
2. Remove enclosure and disconnect two black motor leads to control board (see **Wiring Diagram**, page 46).
3. Remove motor fan cover by gently prying up on retention tabs on sides of motor. Motor shaft should spin easily when turning fan. If motor shaft does not turn easily, there is a problem with pump, gears, or motor (see **Troubleshooting**, page 13).
4. Inspect motor windings for evidence of overheating. If windings appear burnt and motor smells, replace motor.
5. Use Ohmmeter to measure resistance across two black motor leads. Resistance of motor should fall within range of 1.5 to 4.5 ohms. If motor falls outside resistance range or is open circuit, replace motor.
6. Use Ohmmeter to measure resistance of motor leads to motor laminations. If resistance is not open circuit, replace motor.
7. Inspect length of both brushes by looking at brush torsion spring. If spring is not bottomed out in slot for brush spring, brush length is acceptable. If brushes are worn out, replace motor.

Motor Diagnostics (ProX7 and ProX9)

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 28.

Setup

1. **Relieve Pressure,** page 11.
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

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 28.

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

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 28.

Pressure Control Switch Diagnostics

ProX7, ProX9, X5, and X7

If pressure control switch diagnostics reveal a damaged pressure control, replace it with the correct **Pressure Control Switch Kit**, see page 28. X5 and X7 sprayers have different pressure control kits because stall pressure is preset at the factory.

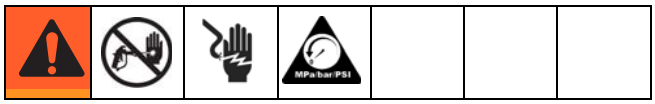
1. Unplug power cord and **Relieve Pressure**, page 11.
2. If paint is leaking from pressure control switch between pressure control knob and base, replace pressure control switch.
3. **ProX7 and ProX9:** Remove front cover, yoke, and pins. Disconnect pressure control switch connector from control board.

   X5 and X7: Remove enclosure and disconnect pressure control switch connector from control board. Use finger to support control board when removing pressure control switch connector.
4. Use ohmmeter to check for no continuity between sprayer ground and both pressure control terminals in connector. If either pressure control switch lead is shorted to ground, pressure control switch wires have been pinched to ground during assembly and pressure control switch needs to be replaced.
5. Use Ohmmeter to measure across two terminals in pressure control connector. No continuity or open circuit should exist when pressure control knob is at lowest pressure setting (full counter-clockwise). Replace pressure control switch if continuity exists.
6. Using ohmmeter to measure across two terminals in pressure control connector. Continuity or closed circuit should exist when pressure control knob is set at maximum pressure (full clockwise). Replace pressure control switch if no continuity exists.

Control Board Diagnostics (ProX7 and ProX9)

NOTE: 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 11.
2. Unplug electrical cord.
3. Remove four cover screws and front cover. Remove motor enclosure.
4. Remove yoke and guide rods.
5. Remove gear.
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.

NOTE: 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 28.
    - If motor does not run, replace control board repeat test. **Control Board Kit**, page 28.

Control Board Diagnostics (X5 and X7)

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

1. Unplug electrical cord and **Relieve Pressure**, page 11.
2. Remove enclosure and check all control board connectors for proper installation (see **Wiring Diagram**, page 46).
3. Check fuse on control board. If fuse is blown, determine the cause before replacing control board (see **Advanced Troubleshooting**, page 18).

Pump Diagnostics

NOTICE
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 the outside of the pump. At the first sign of leakage, replace the pump or additional damage to the drive train could occur.

1. **X5 and X7:** Replace pump using Pump Replacement (Complete). See **List of Kits**, page 28.

   ProX7 and ProX9: Replace pump using Pump Repair kit. See **List of Kits**, page 28.
2. If there is no paint leakage, see **Advanced Troubleshooting**, page 18. Pump may not be defective.

List of Kits (Series A)

Kit Number	Models	Kit Description
289107	X5, X7, ProX7, ProX9	AutoPrime
288706	X5, X7	Control Board
288705	ProX7	Control Board
288900	ProX9	Control Board
244035	X5, X7, ProX7, ProX9	Drain Tube Diffuser
289680	X5	Enclosure (includes labels and screws)
289681	X7	Enclosure (includes labels and screws)
288695	ProX7, ProX9	Enclosure (includes labels and screws)
287770	ProX7, ProX9	Fan Replacement
288747	ProX7, ProX9	Filter Kit (InstaClean™)
289682	X5, X7	Front Cover
288692	ProX7, ProX9	Front Cover
119276	ProX7	Fuse
119277	ProX9	Fuse
289209	X5, X7	Gear and Drive
289102	ProX7, ProX9	Gear/Yoke
247339	X5, X7	Hose 1/4 in. x 25 ft
247340	ProX7, ProX9	Hose 1/4 in. x 50 ft
243082	X5, X7, ProX7, ProX9	Inlet Strainer
256212	ProX7 and ProX9	Lacquer Conversion Kit
262012	X7	Leg, Left
262014	X7	Leg, Right
289915	X5, X7	Motor
289104	ProX7, ProX9	Motor
16E843	X5 (Series A), X7 (All Series)	Power Cord (includes warning label)
244266	X5	Pressure Control Switch
244267	X7, ProX7, ProX9	Pressure Control Switch
235014	X5, X7, ProX7, ProX9	Prime/Spray Valve
288701	X5, X7	Pump Inlet Valve
288700	ProX7	Pump Inlet Valve
288699	ProX9	Pump Inlet Valve
289878	X5, X7	Pump Outlet Valve
243094	ProX7, ProX9	Pump Outlet Valve
288818	ProX7, ProX9	Pump Repair Kit
289650	X5, X7	Pump Replacement (Complete)
288703	ProX7	Pump Replacement (Complete)
288702	ProX9	Pump Replacement (Complete)
197607	X5	Suction Tube
15T122	X7	Suction Tube
15K617	ProX7, ProX9	Suction Tube
288709	ProX7, ProX9	Tool Box

List of Kits (Series B, C, D)

Kit Number	Models	Kit Description
289107	X5, X7, ProX7, ProX9	AutoPrime
16E829	X5, X7 (Series B, C, D)	Control Board
288705	ProX7, ProX9 Series B	Control Board
288900	ProX9 Series A	Control Board
244035	X5, X7, ProX7, ProX9	Drain Tube Diffuser
16E830	X5	Enclosure (includes labels and screws)
16E831	X7	Enclosure (includes labels and screws)
288695	ProX7, ProX9	Enclosure (includes labels and screws)
287770	ProX7, ProX9	Fan Replacement
288747	ProX7, ProX9	Filter Kit (InstaClean™)
16E833	X5, X7	Front Cover
288692	ProX7, ProX9	Front Cover
119276	ProX7	Fuse
119277	ProX9	Fuse
289102	ProX7, ProX9	Gear/Yoke
247339	X5, X7	Hose 1/4 in. x 25 ft
247340	ProX7, ProX9	Hose 1/4 in. x 50 ft
288716	X5, X7, ProX7, ProX9	Inlet Strainer
256212	ProX7 and ProX9	Lacquer Conversion Kit
24K633	X5 (Series A, B, C, D)	Leg, Left
262012	X7	Leg, Left
24K632	X5 (Series A, B, C, D)	Leg, Right
262014	X7	Leg, Right
289104	ProX7, ProX9	Motor
16E843	X7	Power Cord (includes warning label)
244266	X5	Pressure Control Switch
244267	X7, ProX7, ProX9	Pressure Control Switch
235014	X5, X7, ProX7, ProX9	Prime/Spray Valve
16E844	X5, X7	Pump Inlet Valve
288700	ProX7, ProX9 Series B	Pump Inlet Valve
288699	ProX9	Pump Inlet Valve
16E845	X5, X7	Pump Outlet Valve
243094	ProX7, ProX9	Pump Outlet Valve
288818	ProX7, ProX9	Pump Repair Kit
16F047	X5, X7	Pump Replacement
288703	ProX7, ProX9 Series B	Pump Replacement (Complete)
288702	ProX9	Pump Replacement (Complete)
243011	X5 Series C, X7, Series C	Spray Gun SG2
243012	ProX9 Series B	Spray Gun SG3
197607	X5	Suction Tube
15T122	X7 (Series A)	Suction Tube
16E847	X7 (Series B, C)	Suction Tube
15K617	ProX7, ProX9	Suction Tube
16H348	ProX9 Series B	Suction Tube
24J019	ProX9 (Series B)	Suction Tube Assembly
288709	ProX7, ProX9 Series A	Tool Box
16E842	X5 (Series B, C, D)	Power Cord (includes warning label)
16F392	X5, X7	Motor (Johnson)
16E838	X5, X7	Motor (Cinderson)
16E778	X5, X7	Gear and Drive (for Johnson motor)
16E835	X5, X7	Gear and Drive (for Cinderson motor)

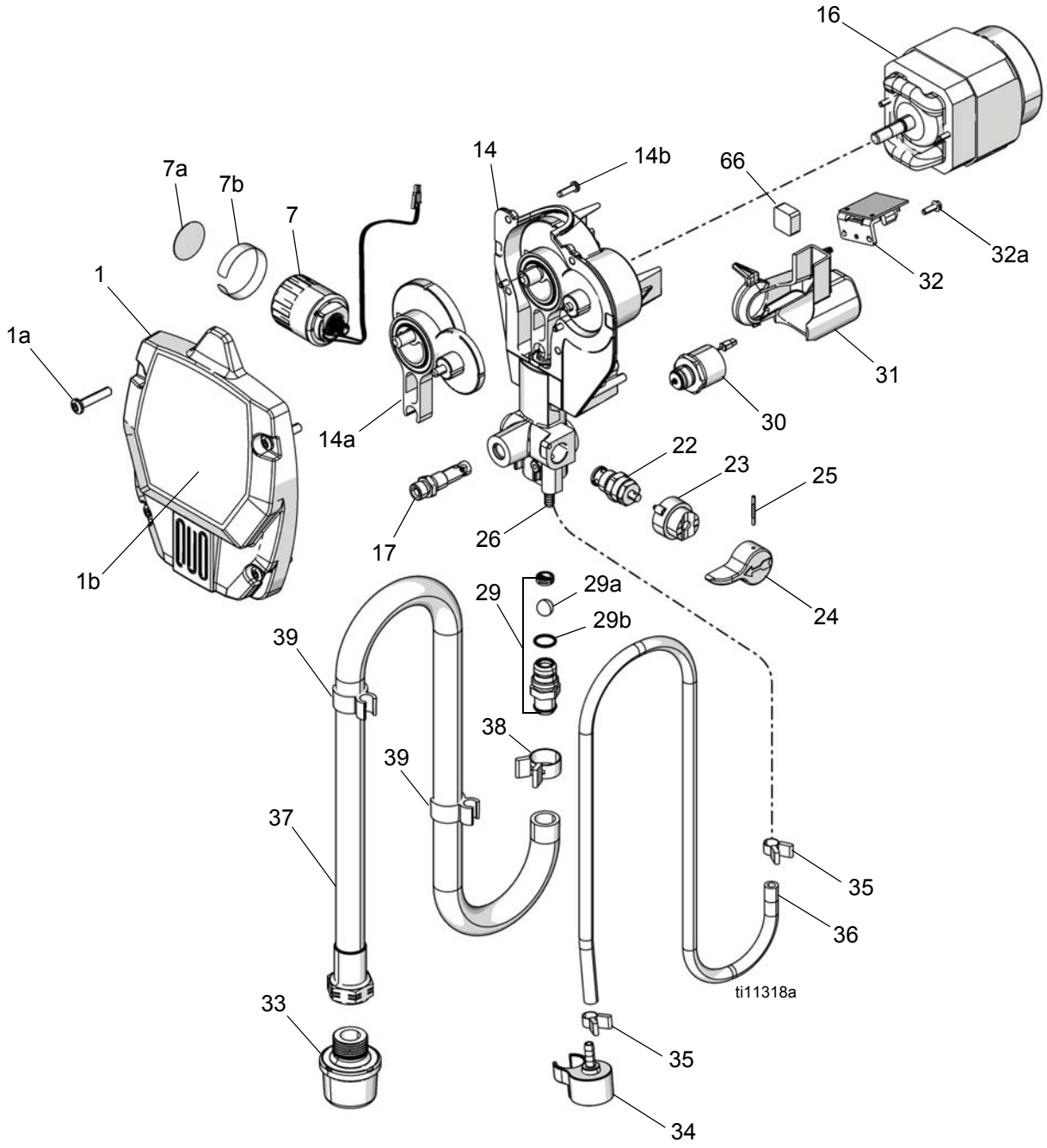
Parts

X5 Model 262800 (Series A)

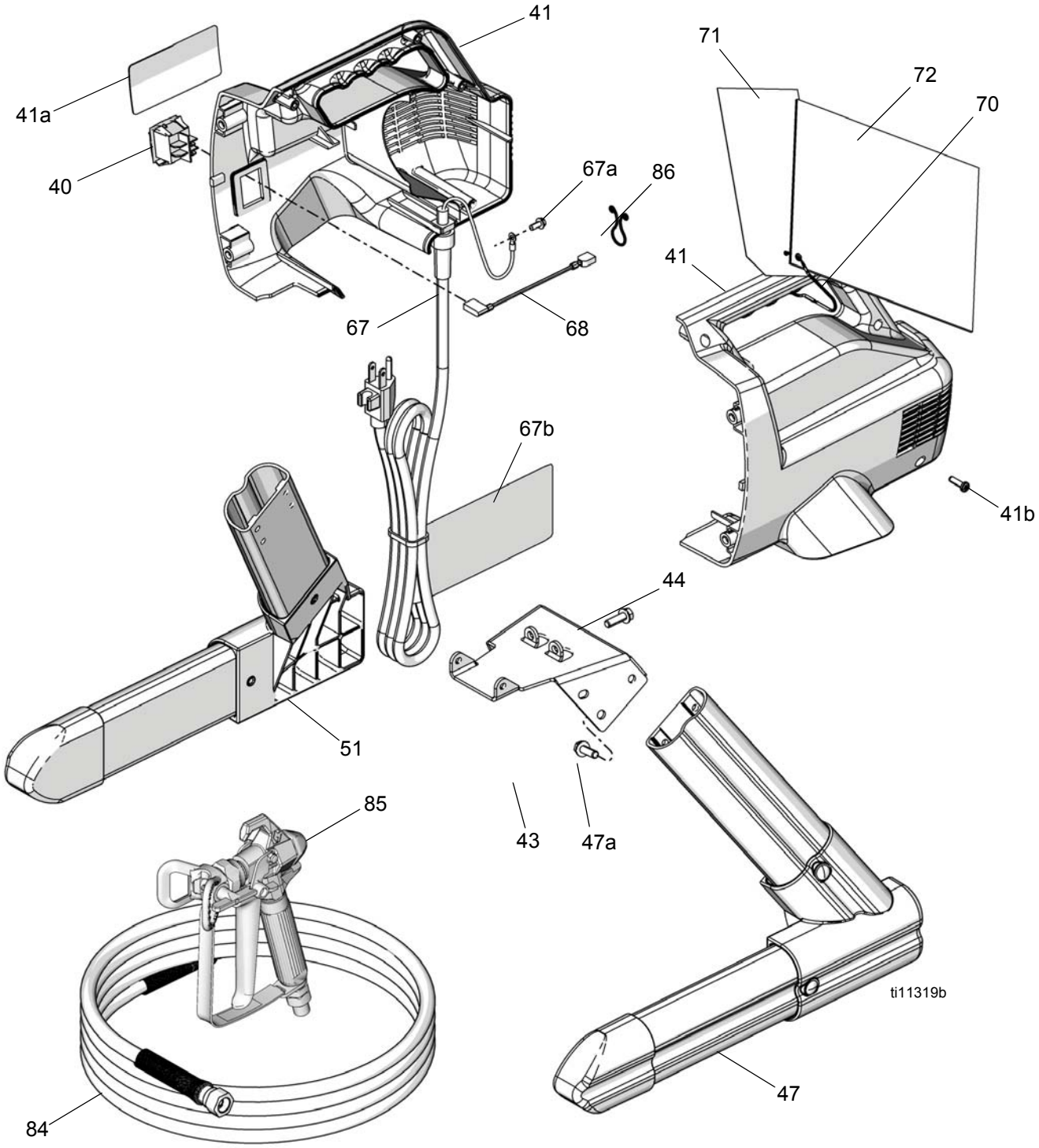
Ref	Part	Description	Qty
1	289682	KIT, housing cover (includes 1a, 1b)	1
1a	120724	SCREW	4
1b	15R605	LABEL, Magnum X5, front	1
7	244266	KIT, pressure control, (includes 7a, 7b)	1
7a	15A464	LABEL, control	1
7b	15K530	LABEL, control	1
14	289650	KIT, pump, (includes 14a, 14b)	1
14a	289209	KIT, gear	1
14b	115477	SCREW, mach, torx, pan hd	4
16	289915	KIT, motor	1
17	289878	KIT, outlet valve, X5 and X7	1
22	235014	KIT, drain valve	1
23	224807	BASE, valve	1
24	187625	HANDLE, valve, drain	1
25	111600	PIN, grooved	1
26	196574	FITTING, drain	1
29	288701	KIT, pump, inlet valve (includes 29a, 29b)	1
29a	105445	BALL, intake	1
29b	115719	O-RING	1
30	289107	KIT, solenoid	1
31	15R549	COVER, solenoid	1
32	288706	KIT, control board (includes 32a)	1
32a	115492	SCREW, mach, slot hex wash hd	1
33	288716	KIT, strainer	1
34	244035	DEFLECTOR, barbed	1
35	115489	CLAMP, drain tube	2
36	195084	TUBE, drain	1
37	197607	TUBE, suction	1
38	116295	CLAMP, tube	1
39	195400	CLIP, spring	2
40	118899	SWITCH, rocker, spdt	1
41	289680	KIT, enclosure, X5 (includes 1a, 41a, 41b)	1
41a▲	15E072	LABEL, identification	1
41b	115477	SCREW, mach, torx, pan hd	4
43	260212	SCREW, hex washer hd, thd form	2
44	15R543	BRACKET, motor	1
47	24K633	KIT, left leg, X5 (includes 3 screws, 47a)	2
47a	125116	SCREW, hex washer hd, thd form	4
51	24K632	KIT, right leg, X5 (includes 3 screws, 47a, 47b)	1
66	15K744	FOAM, pump drain	1
67	16E843	KIT, power cord, X5/X7 (includes 67a, 67b)	1
67a	115498	SCREW, grounding	1
67b▲	15T069	LABEL, Magnum, warning	1
68	15R979	WIRE, jumper	1
70	121092	CLIP, spring	1
71	198547	TAG, hang, instructional	1
72	15K551	GUIDE, Magnum quick guide, English	1
72a	15K552	GUIDE, Magnum quick guide, Spanish (not shown)	1
84	247339	HOSE, cpld, 14 in. x 25 ft	1
85	243011	GUN, spray, SG2, Magnum	1
86	121423	RETAINER, wire	1
91	115648	VALVE, shutoff (not shown)	1
92	244168	FLUID, pump armor, 8 oz (not shown)	1
93	179960	CARD, medical wallet (not shown)	1

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

X5 Model 262800 (Series A)



X5 Model 262800 (Series A)

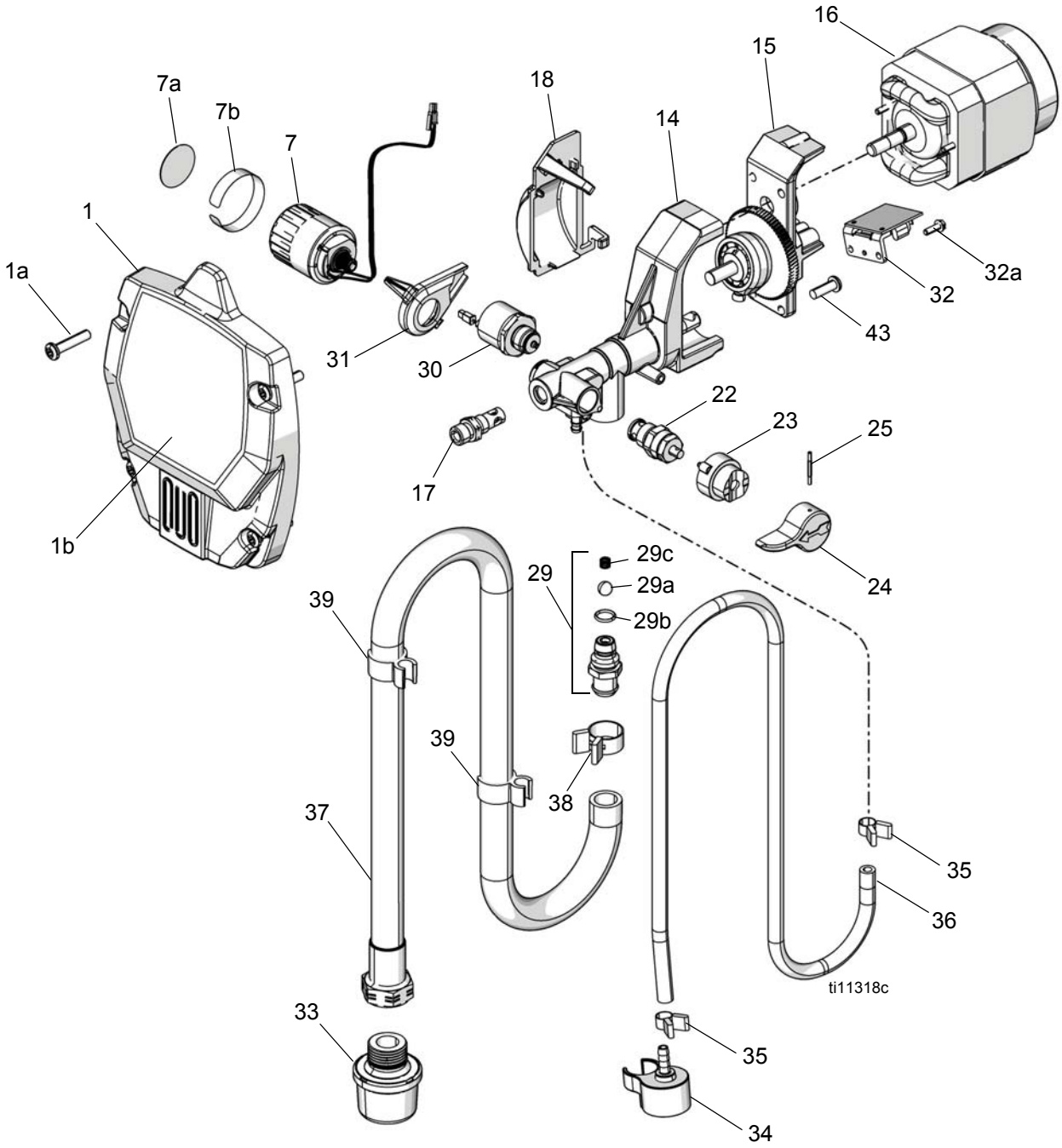


X5 Model 262800 (Series B, C, D)

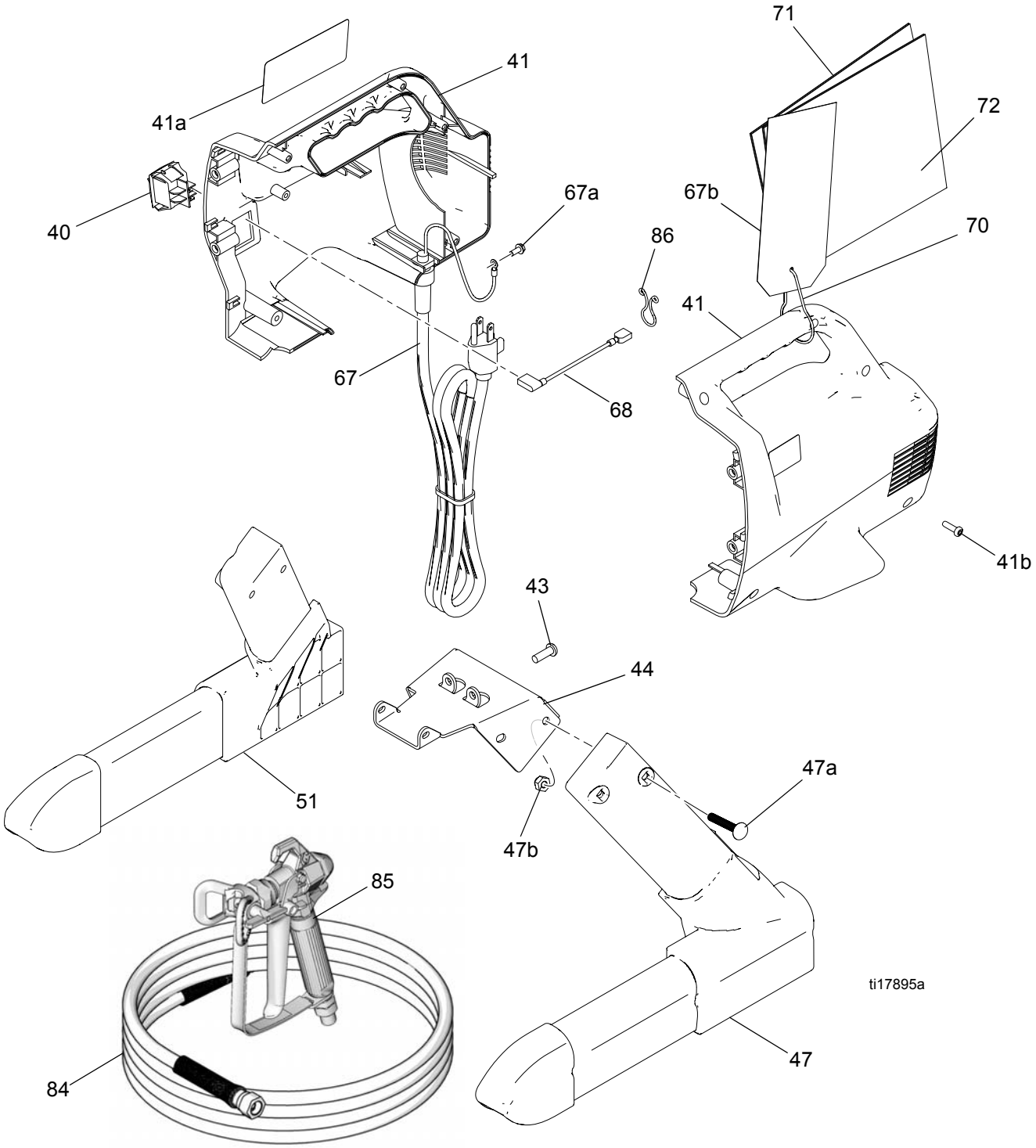
Ref	Part	Description	Qty
1	16E833	KIT, housing cover (includes 1a, 1b)	1
1a	120724	SCREW	4
1b	15R605	LABEL, Magnum X5, front	1
7	244266	KIT, pressure control (includes 7a, 7b)	1
7a	15A464	LABEL, control	1
7b	15K530	LABEL, control	1
14	16F047	KIT, pump (includes 17, 29, 43)	1
15	16E835	DRIVE (for Cinderson motor)	1
	16E778	DRIVE (for Johnson motor)	1
16	16E838	KIT, motor (Cinderson)	1
	16F392	KIT, motor (Johnson)	1
17	16E845	KIT, outlet valve, X5 and X7	1
18	24E510	COVER, gear	1
22	235014	KIT, drain valve	1
23	24E578	BASE, valve	1
24	187625	HANDLE, valve, drain	1
25	111600	PIN, grooved	1
29	16E844	KIT, pump, inlet valve (includes 29a, 29b, 29c)	1
29a	124249	BALL, intake	1
29b	103338	O-RING	1
29c	123849	SPRING, inlet	1
30	289107	KIT, solenoid	1
31	15Y296	COVER, solenoid	1
32	16E829	KIT, control board (includes 32a)	1
32a	115477	SCREW, mach, torx	1
33	288716	KIT, strainer	1
34	244035	DEFLECTOR, barbed	1
35	115489	CLAMP, drain tube	2
36	195084	TUBE, drain	1
37	197607	TUBE, suction	1
38	116295	CLAMP, tube	1
39	195400	CLIP, spring	2
40	118899	SWITCH, rocker, spdt	1
41	16E830	KIT, enclosure, X5 (includes 1a, 41a, 41b)	1
41a▲	15E072	LABEL, warning	1
41b	115477	SCREW, mach, torx, pan hd	4
43	112689	SCREW, button, thd form	4
44	16D682	BRACKET, motor	1
47	24K633	KIT, left leg, X5 (includes 2 screws, 47a, 47b)	1
47a	260212	SCREW, hex washer hd, thd form	4
47b	102040	NUT, lock, hex	4
51	24K632	KIT, right leg, X5 (includes 3 screws, 47a, 47b)	1
67	16E842	KIT, power cord, X5 (includes 67a, 67b)	1
67a	115498	SCREW, grounding	1
67b▲	15T069	LABEL, Magnum, warning	1
68	16E212	WIRE, jumper	1
70	121092	CLIP, spring	1
71	198547	TAG, hang, instructional	1
72	15K551	GUIDE, Magnum quick guide, English	1
72a	15K552	GUIDE, Magnum quick guide, Spanish (not shown)	1
84	247339	HOSE, cpld, 14 in. x 25 ft	1
85	243011	GUN, spray, SG2, Magnum	1
86	121423	RETAINTER, wire	1
91	115648	VALVE, shutoff (not shown)	1
92	244168	FLUID, pump armor, 8 oz (not shown)	1
93	179960	CARD, medical wallet (not shown)	1

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

X5 Model 262800 (Series B, C, D)



X5 Model 262800 (Series B, C, D)

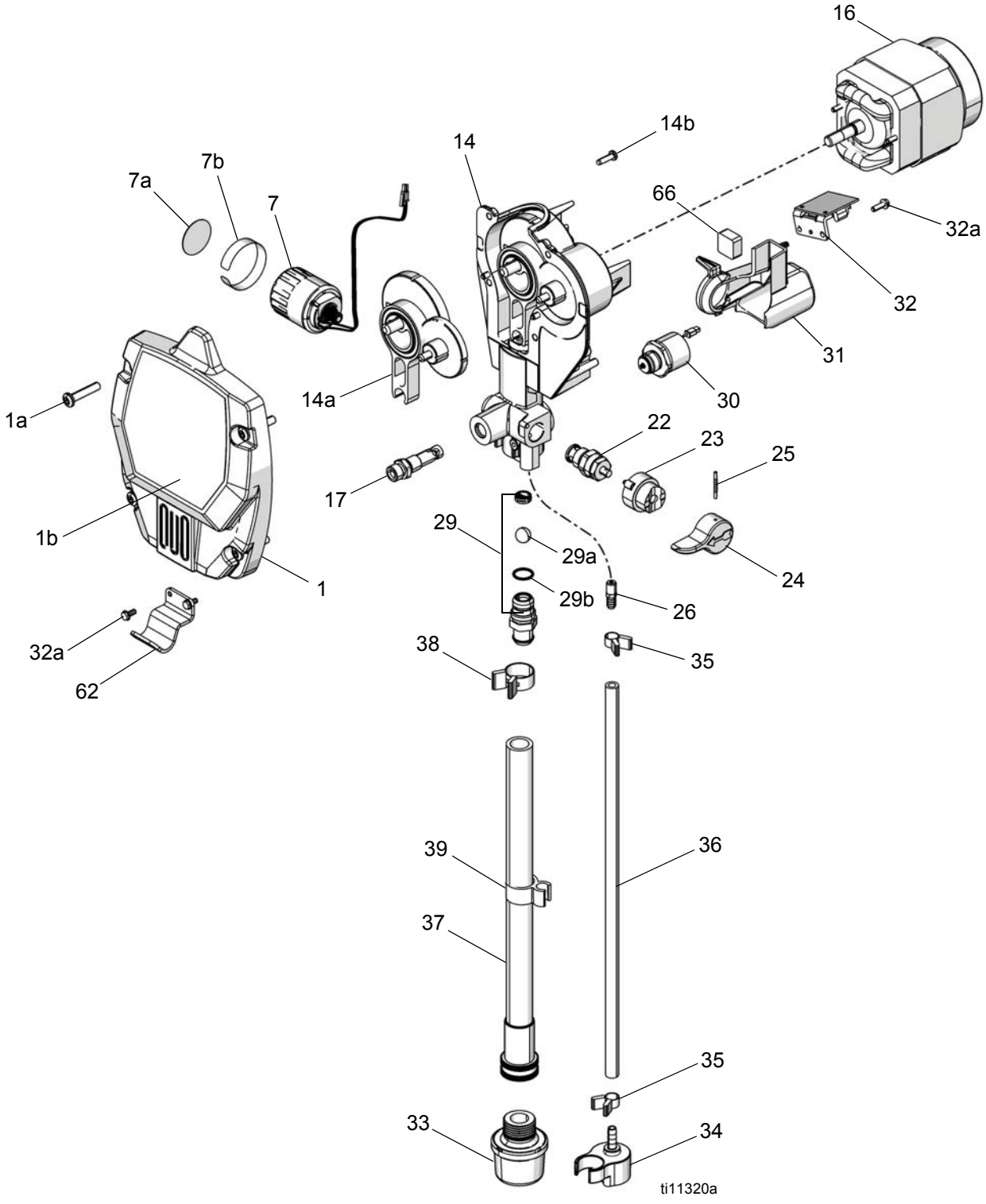


X7 Model 262805 (Series A)

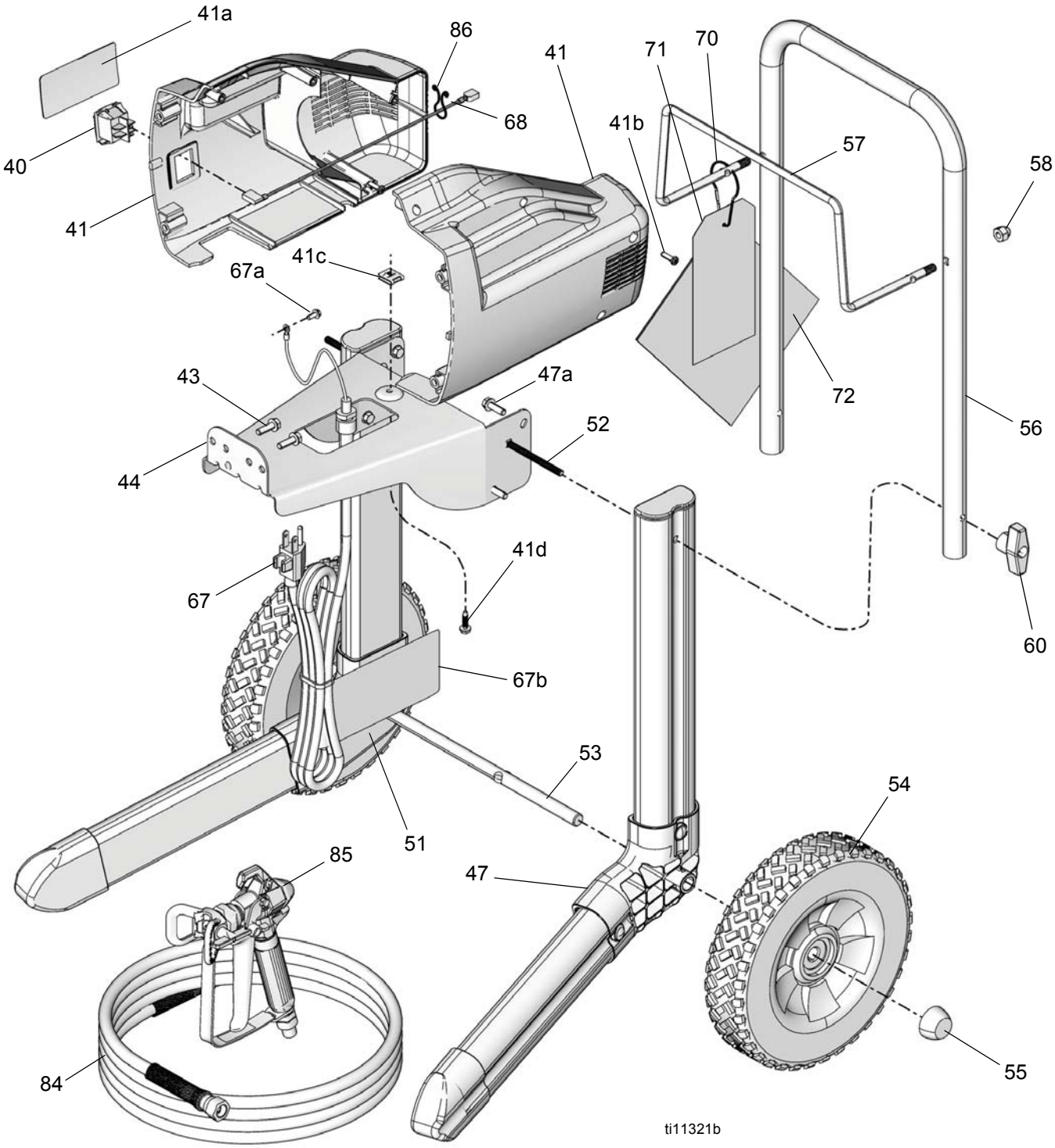
Ref	Part	Description	Qty
1	289682	KIT, housing cover, includes 1a, 1b	1
1a	120724	SCREW	4
1b	15R606	LABEL, Magnum X7, front	1
7	244267	KIT, pressure control, includes 7a, 7b	1
7a	15A464	LABEL, control	1
7b	15K530	LABEL, control	1
14	289650	KIT, pump, includes 14a, 14b	1
14a	289209	KIT, gear	1
14b	115477	SCREW, mach, torx pan hd	4
16	289915	KIT, motor	1
17	289878	KIT, outlet, valve	1
22	235014	KIT, drain valve	1
23	224807	BASE, valve	1
24	187625	HANDLE, valve, drain	1
25	111600	PIN, grooved	1
26	196574	FITTING, drain	1
29	288701	KIT, pump, inlet valve, includes 29a, 29b	1
29a	105445	BALL, intake	1
29b	115719	O-RING	1
30	289107	KIT, solenoid	1
31	15R549	COVER, solenoid	1
32	288706	KIT, control board, includes 32a	1
32a	115492	SCREW, mach, slot hex wash hd	3
33	288716	KIT, strainer	1
34	244035	DEFLECTOR, barbed	1
35	115489	CLAMP, drain tube	2
36	195108	TUBE, drain	1
37	15T122	TUBE, suction	1
38	116295	CLAMP, tube	1
39	195400	CLIP, spring	1
40	118899	SWITCH, rocker, spdt	1
41	289681	KIT, enclosure, X7, includes 1a, 41a, 41b, 41c, 41d	1
41a▲	15E072	LABEL, warning	1
41b	115477	SCREW, mach, torx pan hd	4
41c	121481	NUT, U-type, tinnerman	1
41d	120093	SCREW, self drilling	1
43	260212	SCREW, hex washer hd, thd form	2
44	15R587	SHELF, motor	1
47	262012	KIT, left leg, X7, includes 2 screws 47a	1
47a	260212	SCREW, hex washer hd, thd form	4
51	262014	KIT, right leg, X7, includes 2 screws 47a	1
52	120788	SCREW, carriage	2
53	15R602	AXLE, cart	1
54	115095	WHEEL, 9 in.	2
55	112612	CAP, hub	2
56	15R569	HANDLE, cart	1
57	16H350	RACK, hose	1
58	120689	NUT, hex, acorn, 5/16 - 18 nickel	2
60	115480	KNOB, t-handle	2
62	15R566	HANGER, pail	1
66	15K744	FOAM, pump drain	1
67	16E843	KIT, power cord, X5/X7, includes 67a, 67b	1
67a	115498	SCREW, grounding	1
67b▲	15T069	LABEL, Magnum, warning	1
68	15R979	WIRE, jumper	1
70	121092	CLIP, spring	1
71	198547	TAG, hang, instructional	1
72	15K551	GUIDE, Magnum quick guide, English	1
72a	15K552	GUIDE, Magnum quick guide, Spanish (not shown)	1
84	247339	HOSE, cpld, 1/4 in. x 25 ft	1
85	243011	GUN, spray, SG2, Magnum	1
86	121423	RETAINER, wire	1
91	115648	VALVE, shutoff (not shown)	1
92	244168	FLUID, pump armor, 8 oz (not shown)	1
93	179960	CARD, medical wallet (not shown)	1

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

X7 Model 262805 (Series A)



X7 Model 262805 (Series A)

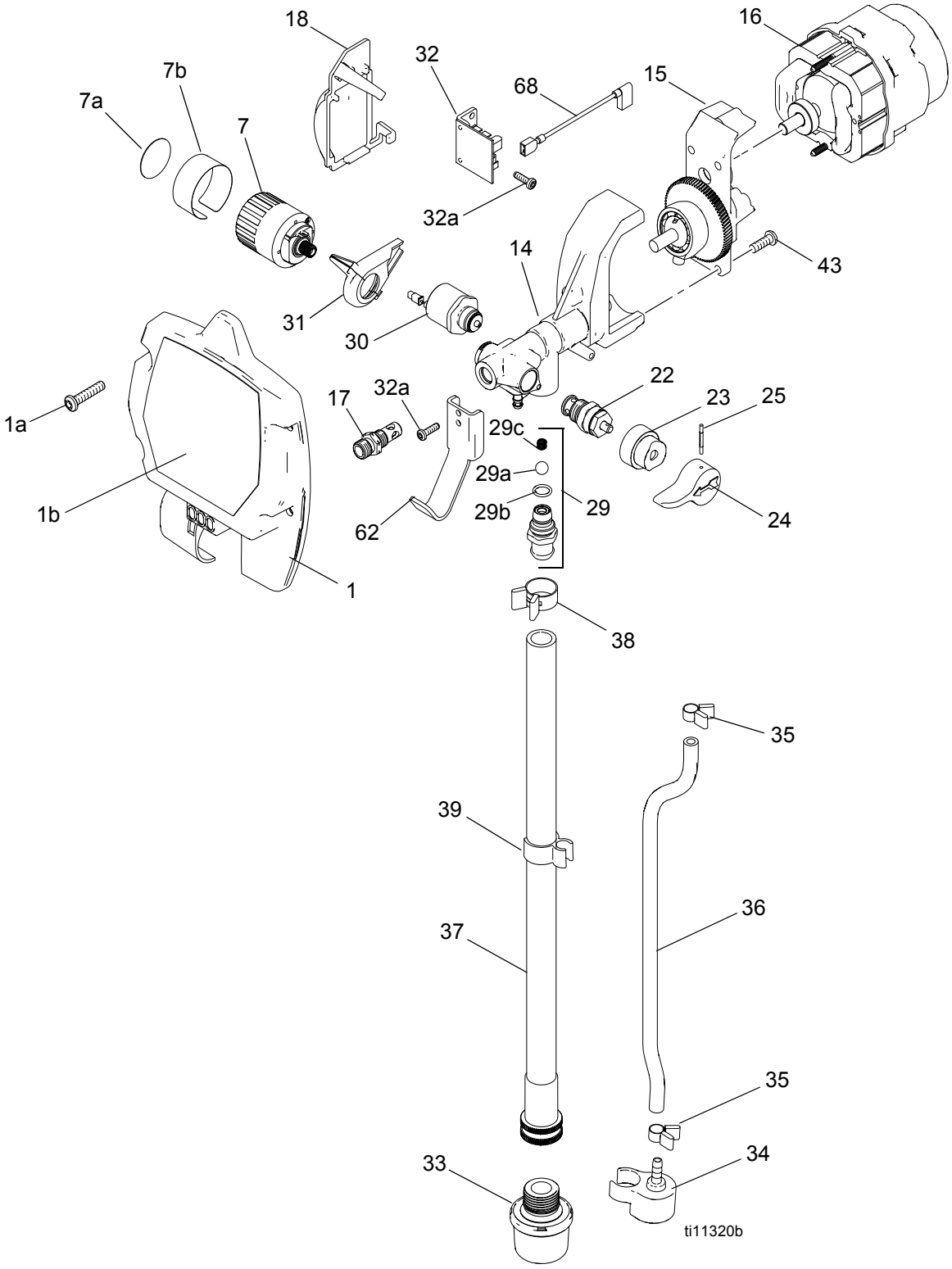


X7 Model 262805 (Series B, C)

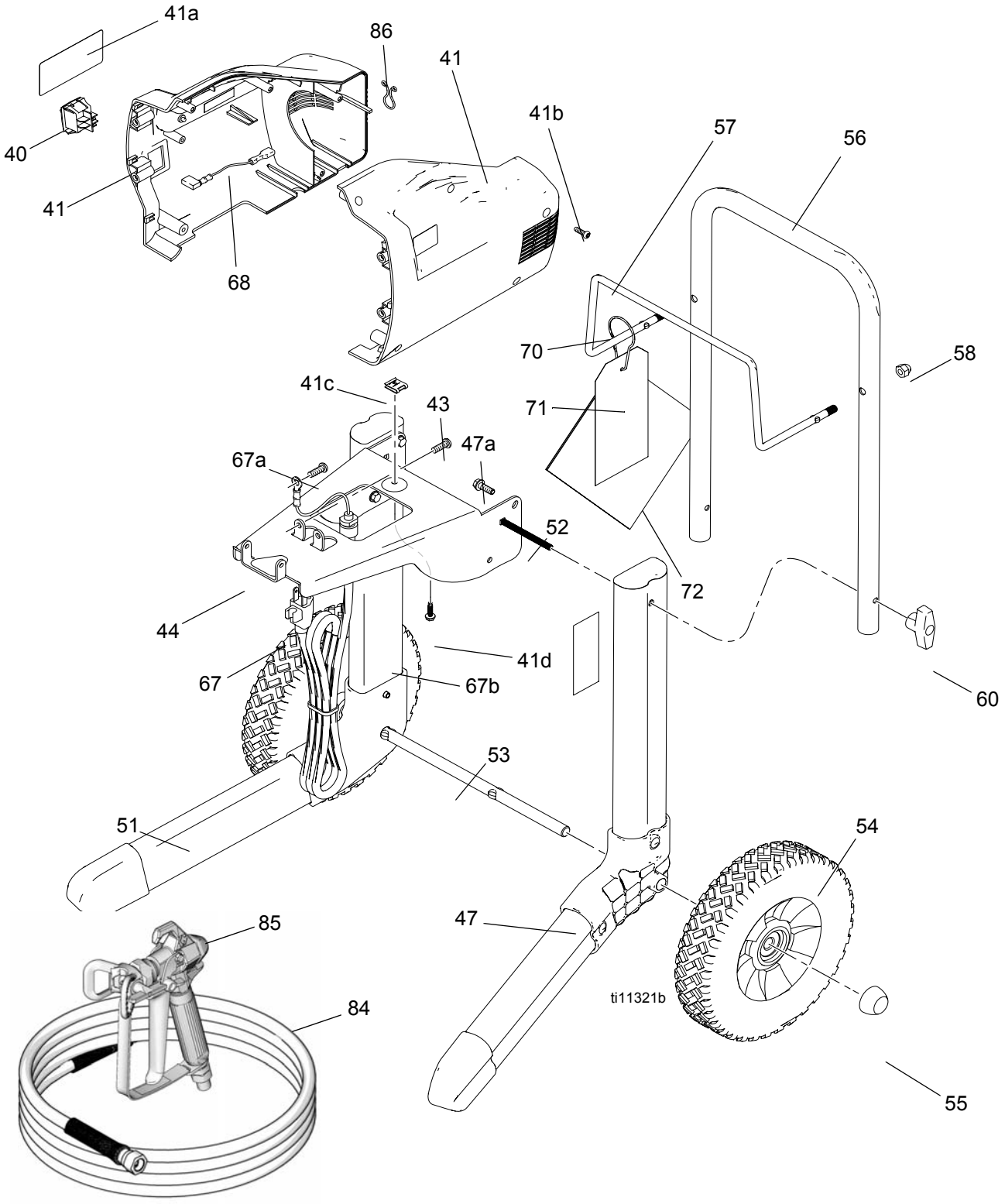
Ref	Part	Description	Qty
1	16E833	KIT, housing cover (includes 1a, 1b)	1
1a	120724	SCREW	4
1b	15R606	LABEL, Magnum X7, front	1
7	244267	KIT, pressure control (includes 7a, 7b)	1
7a	15A464	LABEL, control	1
7b	15K530	LABEL, control	1
14	16F047	KIT, pump (includes 17, 29, 43)	1
15	16E835	KIT, drive (for Cinderson)	1
	16E778	KIT, drive (for Johnson)	1
16	16E838	KIT, motor (Cinderson)	1
	16F392	KIT, motor (Johnson)	1
17	16E845	KIT, outlet, valve	1
18	24E510	COVER, gear	1
22	235014	KIT, drain valve	1
23	24E578	BASE, valve	1
24	187625	HANDLE, valve, drain	1
25	111600	PIN, grooved	1
29	16E844	KIT, pump, inlet valve (includes 29a, 29b, 29c)	1
29a	124249	BALL, intake	1
29b	103338	O-RING	1
29c	123849	SPRING, inlet	1
30	289107	KIT, solenoid	1
31	15Y296	COVER, solenoid	1
32	16E829	KIT, control board (includes 32a)	1
32a	115477	SCREW, mach, torx	3
33	288716	KIT, strainer	1
34	244035	DEFLECTOR, barbed	1
35	115489	CLAMP, drain tube	2
36	195108	TUBE, drain	1
37	15T122	TUBE, suction	1
38	116295	CLAMP, tube	1
39	195400	CLIP, spring	1
40	118899	SWITCH, rocker, spdt	1
41	16E831	KIT, enclosure, X7 (includes 1a, 41a, 41b, 41c, 41d)	1
41a▲	15E072	LABEL, warning	1
41b	115477	SCREW, mach, torx pan hd	4
41c	121481	NUT, U-type, tinnerman	1
41d	120093	SCREW, self drilling	1
43	112689	SCREW, button hd, thd form	4
44	16D683	FRAME, X7 and LTS17	1
47	262012	KIT, left leg, X7 (includes 2 screws 47a)	1
47a	260212	SCREW, hex washer hd, thd form	4
51	262014	KIT, right leg, X7 (includes 2 screws 47a)	1
52	120788	SCREW, carriage	2
53	15R602	AXLE, cart	1
54	115095	WHEEL, 9 in.	2
55	112612	CAP, hub	2
56	15R569	HANDLE, cart (Series B)	1
	16H354	HANDLE, cart (Series C)	1
57	16H350	RACK, hose	1
58	120689	NUT, hex, acorn, 5/16 - 18 nickel	2
60	115480	KNOB, t-handle	2
62	16D907	HANGER, pail	1
67	16E843	KIT, power cord, X7 (includes 67a, 67b)	1
67a	115498	SCREW, grounding	1
67b▲	15T069	LABEL, Magnum, warning	1
68	16E212	WIRE, jumper	1
70	121092	CLIP, spring	1
71	198547	TAG, hang, instructional	1
72	15K551	GUIDE, Magnum quick guide, English	1
72a	15K552	GUIDE, Magnum quick guide, Spanish (not shown)	1
84	247339	HOSE, cpld, 1/4 in. x 25 ft	1
85	243012	GUN, spray, SG3, Magnum	1
86	121423	RETAINER, wire	1
91	115648	VALVE, shutoff (not shown)	1
92	244168	FLUID, pump armor, 8 oz (not shown)	1
93	179960	CARD, medical wallet (not shown)	1

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

X7 Model 262805 (Series B, C)



X7 Model 262805 (Series B, C)

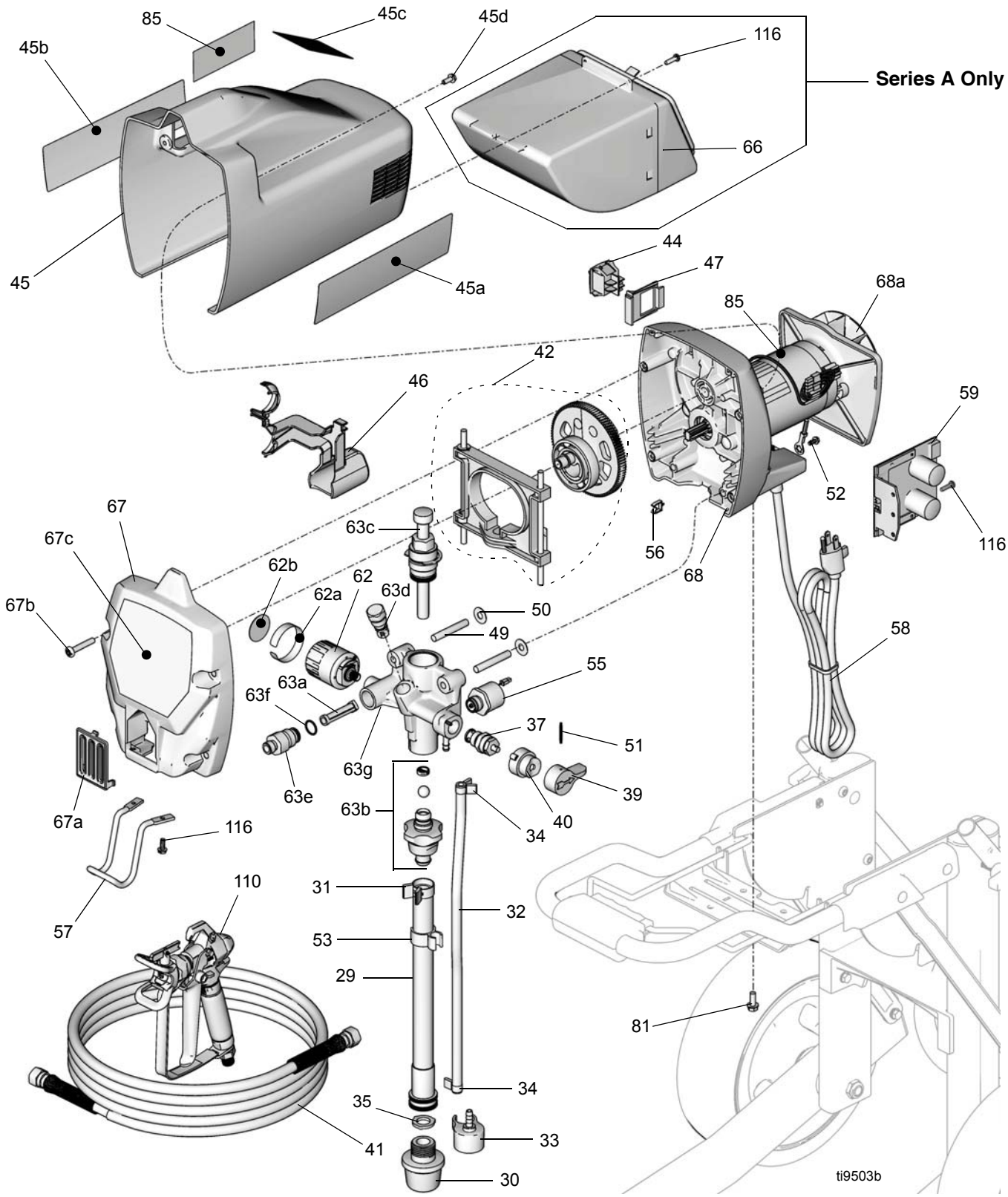


ProX7 and ProX9 Models 261815 and 261820 (Series A, B)

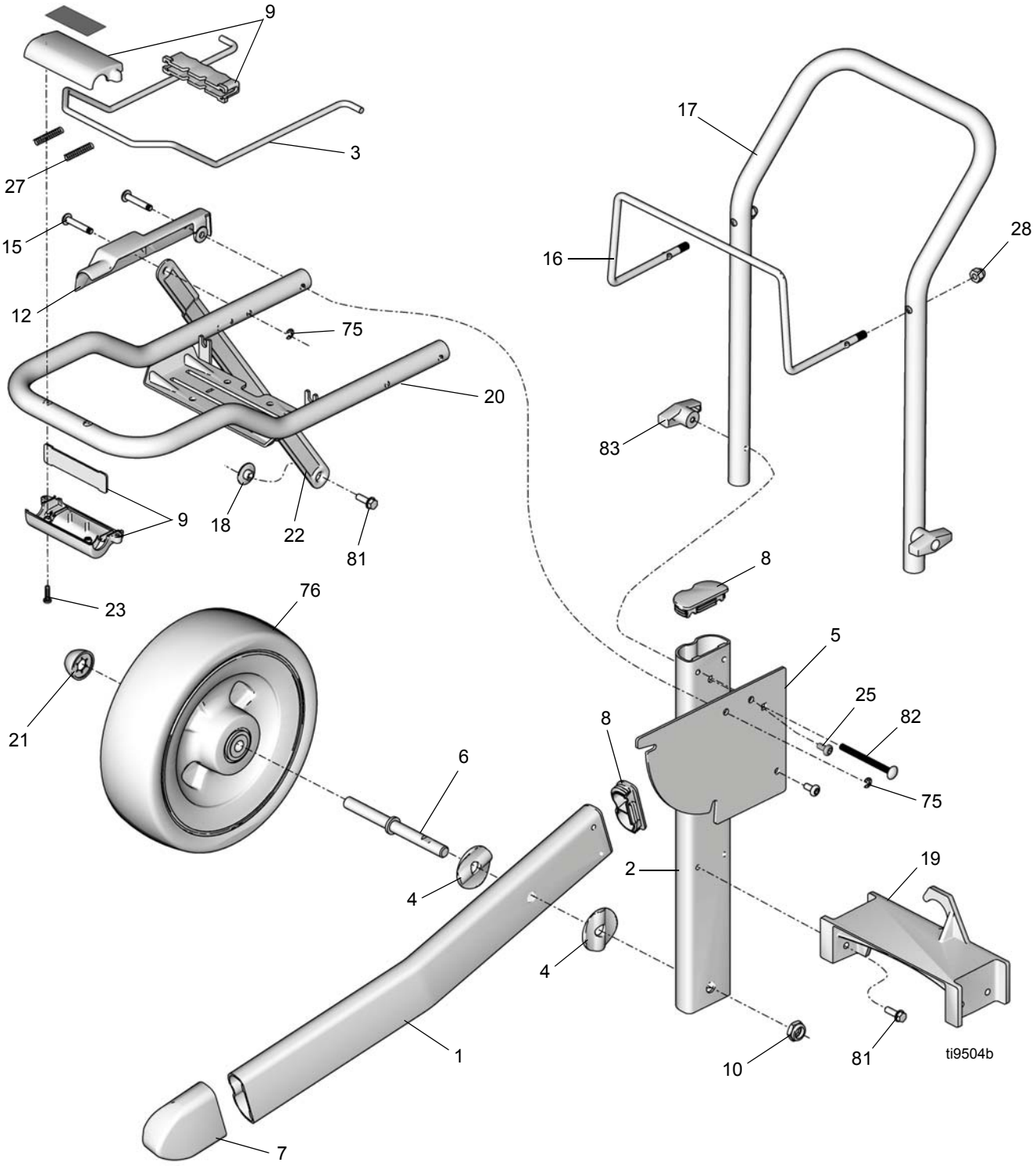
Ref.	Part	Description	Qty.
1	15J632	LEG, Series A	2
2	15J633	SUPPORT, frame, Series A	2
3	15J641	PULL ROD, Series A	1
4	15J675	SPACER, frame, Series A	4
5	15J678	BRACKET, Series A	2
6	15J691	AXLE PIN, Series A	2
7	15J695	TUBE CAP	2
8	15J699	TUBE CAP	4
9	247313	ACTUATOR, Series A	1
10	119547	NUT, hex, lock, nylon, 1/2-13 in. Series A	2
12	247314	COVER, side, Series A	1
15	15J941	PIN, Series A	4
16	16H350	HOSE RACK	1
17	15J950	CART HANDLE, Series A	1
	16H353	CART HANDLE, Pro X7, ProX9 Series B	1
18	15J984	SPACER, linkage, Series A	2
19	15J985	BRACE, center, Series A	1
20	288458	BRACKET, frame, Series A	1
21	112612	HUB CAP	2
22	15J681	BAR, linkage, Series A	2
25	117630	SCREW, torx, 1/4-20 x .50 in. taptite, Series A	4
27	120688	SPRING, compression, Series A	2
28	120689	NUT, hex, acorn, 5/16-18	2
29	15K617	SUCTION TUBE (Series A), includes 35	1
	16H348	SUCTION TUBE (ProX9 Series B), includes 35	1
30	288716	KIT, Strainer	1
31	116295	TUBE CLAMP	1
32	195108	DRAIN TUBE	1
33	244035	DEFLECTOR	1
34	115489	DRAIN TUBE CLAMP	2
35	115099	WASHER	1
37	235014	KIT, drain valve	1
38	115648	SHUTOFF VALVE (not shown)	1
39	187625	DRAIN VALVE HANDLE	1
40	224807	BASE, valve	1
41	247340	HOSE, cpld,1/4 in. x 50 ft	'1
42	289102	KIT, gear and yoke	1
43	244168	FLUID, pump armor, 8 oz (not shown)	1
44	118899	ROCKER SWITCH	1
45	288695	KIT, Motor Shield, includes 45a, 45b, 45c, 45d	1
45a▲	15K521	LABEL, warning skin injection	1
45b▲	15K522	LABEL, warning fire explosion	1
45c▲	15K520	LABEL, warning elec shock	1
45d	118444	SCREW, mach, hwhd 10-24 x .5 in.	2
46	15J802	SOLENOID COVER	1
47	15J803	SWITCH BRACKET	1
49	194507	DOWEL PIN, 5/16	2
50	196001	WASHER	2
51	111600	PIN, grooved	1
52	115498	SCREW, ground, 8-32 x .375 in. taptite	1
53	195400	SPRING CLIP	1
55	289107	KIT, solenoid	1
56	119275	WIRE CLIP	1
57	15J790	PAIL HOOK	1
58	15J952	POWER CORD, lighted	1
59	288705	KIT, control, ProX7, ProX9 Series B	1
	288900	KIT, control, ProX9, Series A	1
62	244267	KIT, pressure control, includes 62a, 62b	1
62a	15K530	LABEL, control	1
62b	15A464	LABEL, control	1
63	288703	KIT, pump, (complete) ProX7, ProX9, Series B, includes 37, 39, 40, 51, 63a, 63b, 63c, 63d, 63e	1
	288702	KIT, pump (complete) ProX9, Series A, includes 37, 39, 40, 51, 63a, 63b, 63c, 63d, 63e	1
63a	288747	KIT, filter	1
63b	288700	KIT, pump inlet module, ProX7, ProX9, Series B	1
	288699	KIT, pump inlet module, ProX9, Series A	1
63c	288818	KIT, packing repair	1
63d	243094	KIT, pump outlet valve	1
63e	195947	ADAPTER, filter	1
63f	115719	PACKING, o-ring	1
63g	289820	KIT, pump housing	
66	288709	KIT, tool box Series A	1
67	288692	KIT, housing cover, includes 67a, 67b, 67c	1
67a	15J809	COVER, pump outlet	1
67b	115478	SCREW, mach, 1/4 x 20 x 1.375 in. taptite	4
67c	15K492	LABEL, front, ProX7	1
	15K493	LABEL, front, ProX9	1
68	289104	KIT, motor, includes 68a	1
68a	287770	KIT, fan	1
75	101005	RING, retaining, ext. Series A	6
76	16A696	WHEEL,10 inch, ProX7, Series A	2
	115094	WHEEL,10 inch, ProX9, Series A	2
	115095	WHEEL, 9 inch, Pro X7, ProX9, Series B	
81	260212	SCREW, hw hd, thd form 1/4-20 x .75 in.	10
		SCREW, hw hd, thd form 1/4-20 x .75 in. ProX9, Series B	8
82	120788	SCREW, carriage, 1/4-20 x 3 in.	2
83	115480	T-HANDLE KNOB	2
85		SERIAL LABEL	2
88	198547	HANG TAG, instructional (not shown)	1
92	179960	SIGN, warning (not shown)	1
93	15K551	QUICK GUIDE, English (not shown)	1
	15K552	QUICK GUIDE, Spanish (not shown)	1
110	243012	GUN, spray, SG3, Magnum	1
116	121939	SCREW, plastite, Series A	6
		SCREW, plastite, Series B	3
117	16F372	SHELF, motor, Pro X7, ProX9, Series B	1
118	262014	KIT, right leg, Pro X7, ProX9, Series B (includes 3 screws 81)	1
119	262012	KIT, left leg, Pro X7, ProX9, Series B (includes 3 screws 81)	1
120	24J019	TUBE, suction assy, ProX9, series B (includes 29, 31, 32, 33, 34, 53)	

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

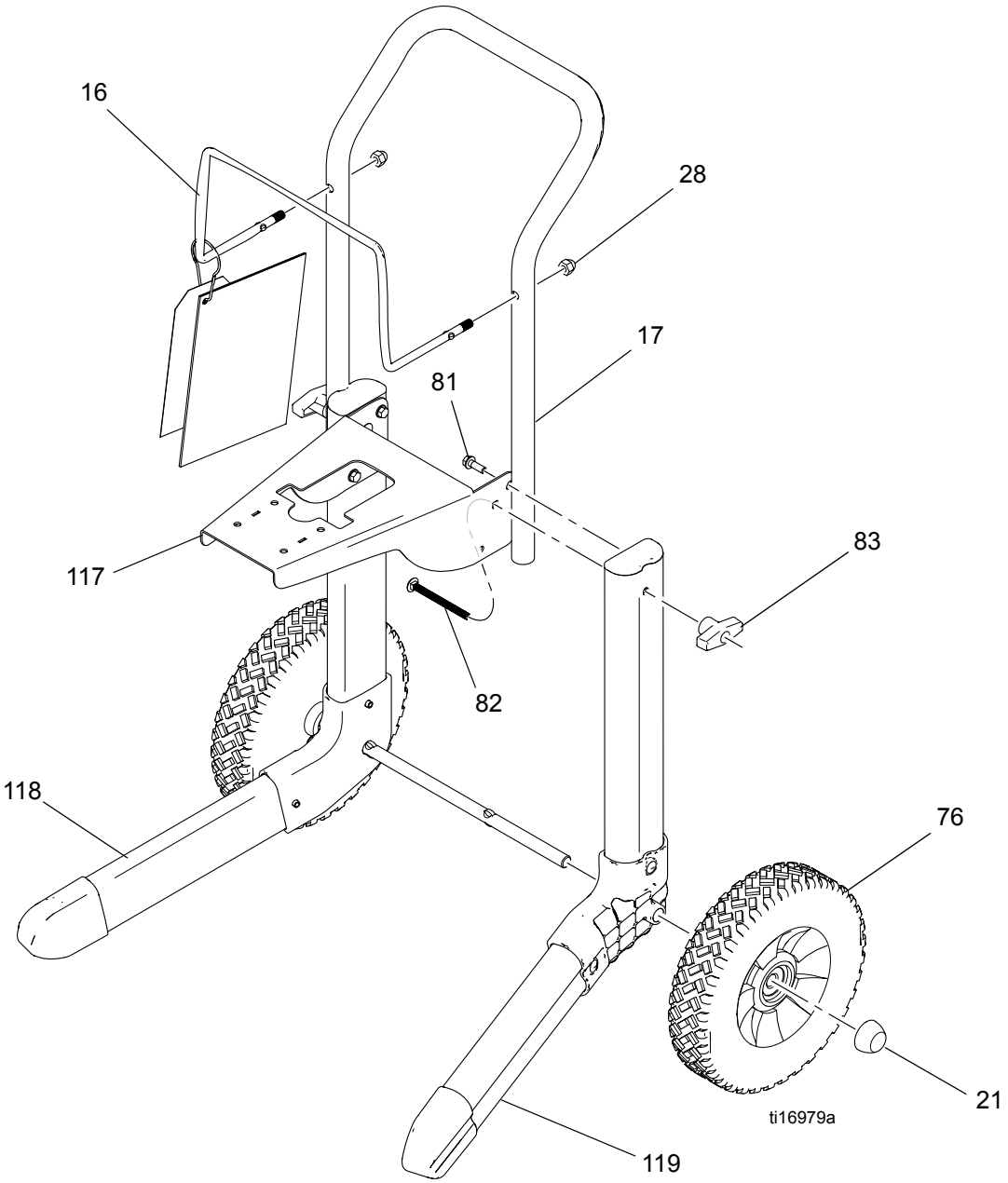
ProX7 and ProX9 Models 261815 and 261820 (Series A and B)



ProX7 and ProX9 Models 261815 and 261820 (Series A)

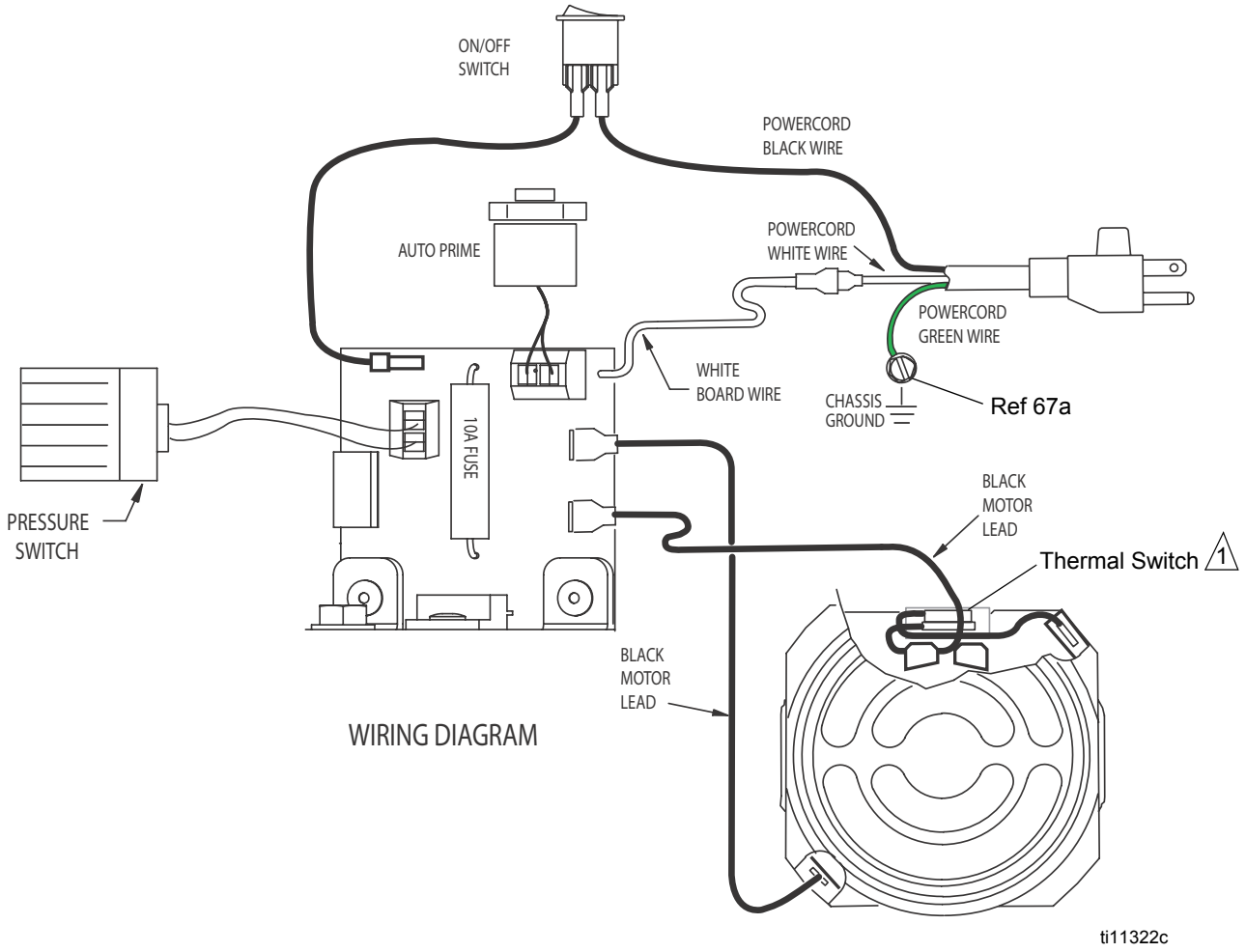


ProX7 and ProX9 Models 261815 and 261820 (Series B)



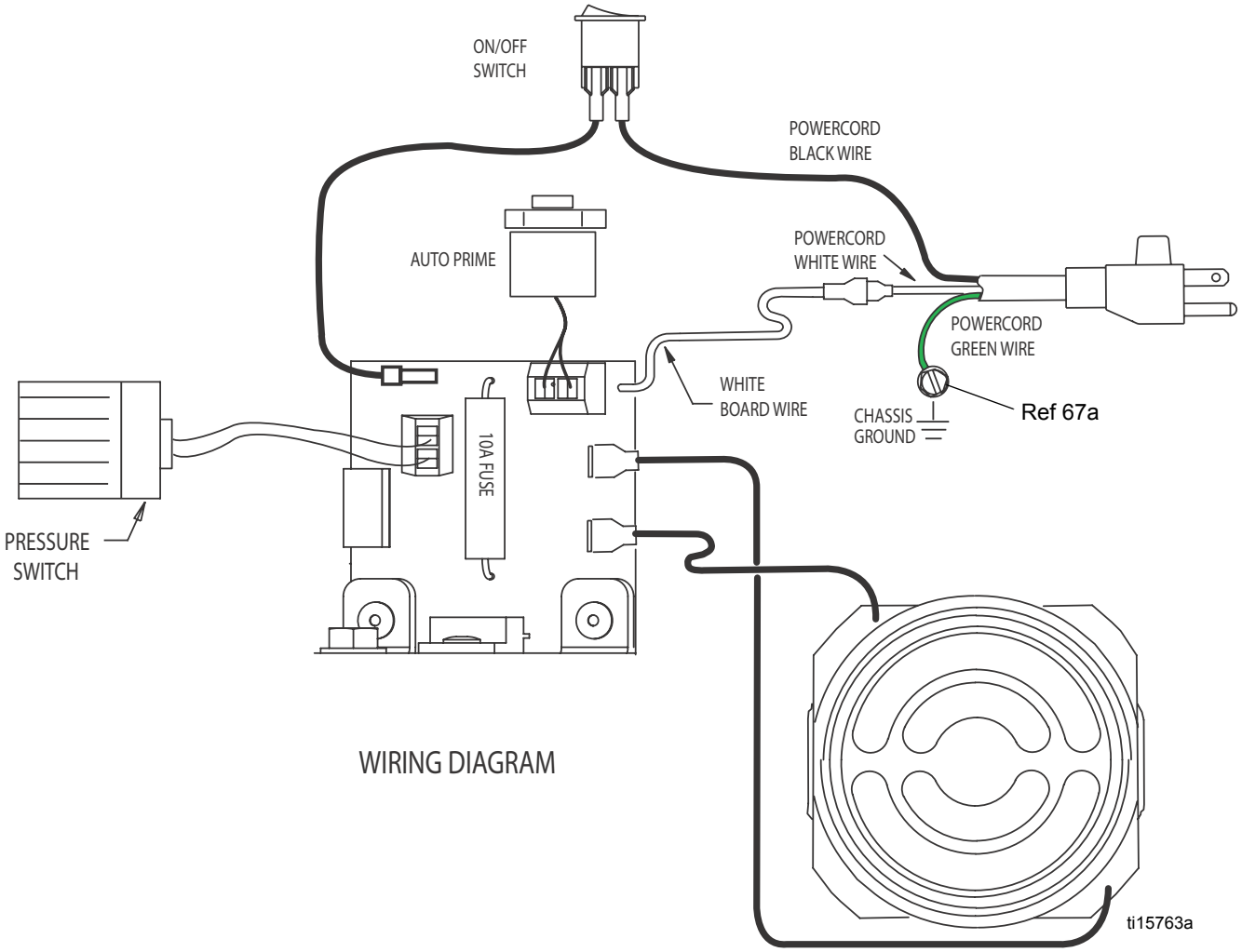
Wiring Diagrams

X5 and X7 Models 262800 and 262805 (Series A)

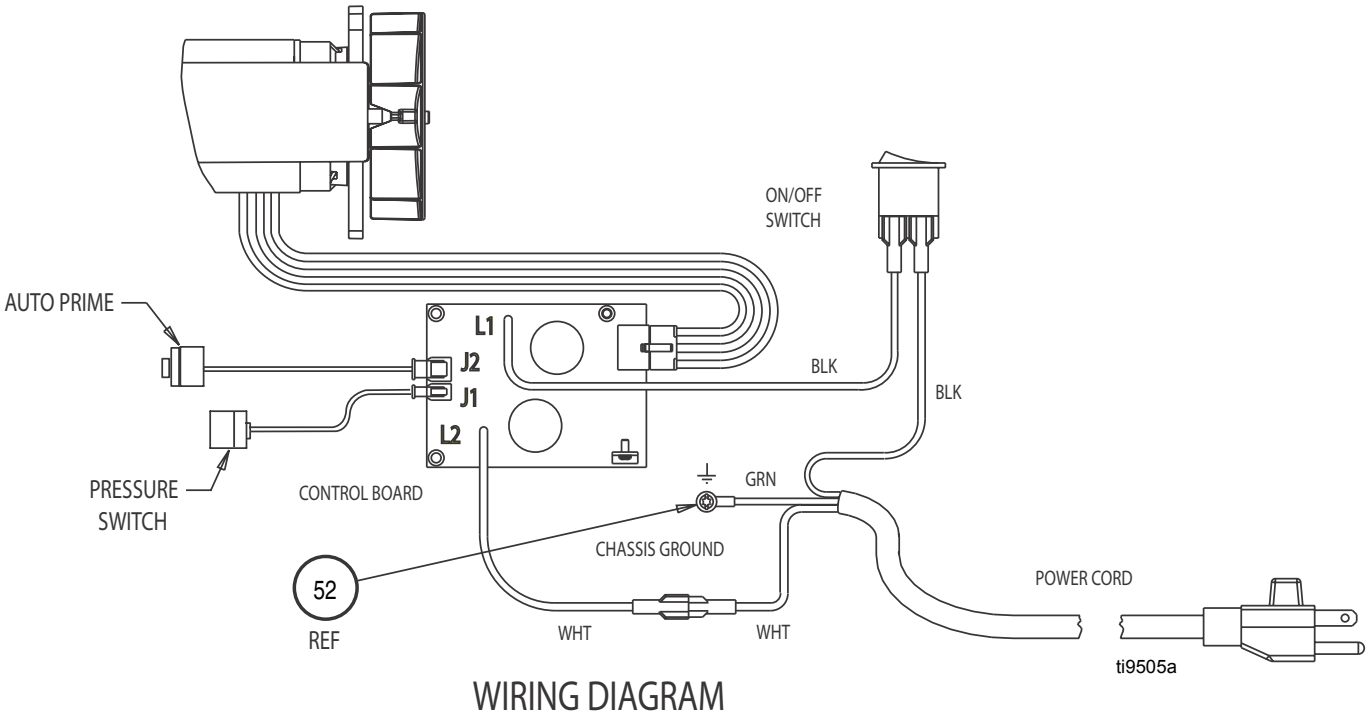


1 When assembling motor to pump housing, make sure Thermal Switch is positioned on top as shown above.

X5 and X7 Models 262800 (Series B, C, D) and 262805 (Series D, C)



ProX7 and ProX9 Models 261815 and 261820



WIRING DIAGRAM

Technical Data

	MAGNUM X5 (Series A - C)	MAGNUM X5 (Series D)	MAGNUM X7 (SeriesC)
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)
Electric motor	9.0A (open frame, universal)	9.0A (open frame, universal)	9.0A (open frame, universal)
Operating horsepower	1/2	1/2	5/8
Maximum delivery (with tip)	0.24 gpm (0.91 lpm)	0.27 gpm (1.02 lpm)	0.31 gpm (1.17 lpm)
Paint hose	1/4 in. x 25 ft (6.4 mm x 7.5 m)	1/4 in. x 25 ft (6.4 mm x 7.5 m)	1/4 in. x 25 ft (6.4 mm x 7.5 m)
Maximum tip hole size	0.015 in. (0.38 mm)	0.015 in. (0.38 mm)	0.017 in. (0.43 mm)
Weight, sprayer only	13.3 lb (6.0 kg)	13.3 lb (6.0 kg)	23.3 lb (10.6 kg)
Weight, sprayer, hose & gun	16.5 lb (7.5 kg)	16.5 lb (7.5 kg)	26.5 lb (12.0 kg)
Dimensions (Upright):			
Length	14.5 in. (36.8 cm)	14.5 in. (36.8 cm)	19.3 in. (49.0 cm)
Width	12.4 in. (31.5 cm)	12.4 in. (31.5 cm)	15.3 in. (38.9 cm)
Height	17.9 in. (45.5 cm)	17.9 in. (45.5 cm)	37.0 in. (94.0 cm)
Dimensions (Folded):			
Length	N/A	N/A	19.3 in. (49.0 cm)
Width	N/A	N/A	15.3 in. (38.9 cm)
Height	N/A	N/A	29.2 in. (74.2 cm)
Power cord	18 AWG, 3-wire, 6 ft (1.8 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)	35 mesh (450 micron)		
Wetted parts, pump & hose	stainless steel, brass, leather, ultra-high molecular weight polyethylene (UHMWPE), carbide, nylon, aluminum, PVC, polypropylene, fluroelastomer		
Wetted parts, gun	aluminum, brass, carbide, nylon, plated steel, stainless steel, UHMWPE, zinc		
Generator requirement	1500 Watt minimum		
Electrical power requirement	120 Vac, 60 Hz, 15A, 1 phase		
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.

	MAGNUM ProX7 (Series A, B)	MAGNUM ProX9 (Series A)	MAGNUM ProX9 (Series B)
Working pressure range	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	5.8A (open frame, permanent magnet DC)	9.4A (open frame, permanent magnet DC)	
Operating horsepower	3/4	7/8	
Maximum delivery (with tip)	0.34 gpm (1.29 lpm)	0.38 gpm (1.44 lpm)	0.38 gpm (1.44 lpm)
Paint hose	1/4 in. x 50 ft (6.4 mm x 15 m)	1/4 in. x 50 ft (6.4 mm x 15 m)	1/4 in. x 50 ft (6.4 mm x 15 m)
Maximum tip hole size	0.017 in. (0.43 mm)	0.019 in. (0.48 mm)	0.019 in. (0.48 mm)
Weight, sprayer only	43 lb (20 kg)	43 lb (20 kg)	33 lb (15 kg)
Weight, sprayer, hose & gun	46 lb (21 kg)	46 lb (21 kg)	36 lb (16 kg)
Dimensions (Upright):			
Length	23.75 in. (60.32 cm)	23.75 in. (60.32 cm)	21.25 in. (54 cm)
Width	17.5 in. (44.45 cm)	19.25 in. (48.89 cm)	15.25 in. (38.7 cm)
Height	36.5 in. (92.71 cm)	36.5 in. (92.71 cm)	36.75 in. (93 cm)
Dimensions (Folded):			
Length	23.25 in. (59.05 cm)	23.25 in. (59.05 cm)	21.25 in. (54 cm).
Width	17.5 in. (44.45 cm)	19.25 in. (48.89 cm)	15.25 in. (38.7 cm)
Height	22.00 in. (55.88 cm)	22.00 in. (55.88 cm)	30 in. (76 cm)
Power cord	16 AWG, 3-wire, 6 ft (1.8 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)	35 mesh (450 micron)		
Wetted parts, pump & hose	stainless steel, brass, leather, ultra-high molecular weight polyethylene (UHMWPE), carbide, nylon, aluminum, PVC, polypropylene, fluroelastomer		
Wetted parts, gun	aluminum, brass, carbide, nylon, plated steel, stainless steel, UHMWPE, zinc		
Generator requirement	1500 Watt minimum		
Electrical power requirement	120 Vac, 60 Hz, 15A, 1 phase		
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.

Notes

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.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

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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Original instructions. This manual contains English. MM 312667

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