Repair and Parts

# SP200, SP300, AllPro Mustang 2400, Mustang 3100

3A0997F

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**For portable spray application of architectural paints and coatings. For professional use only.**

**Important Safety Instructions**
Read all warnings and instructions in this manual. Save these instructions.

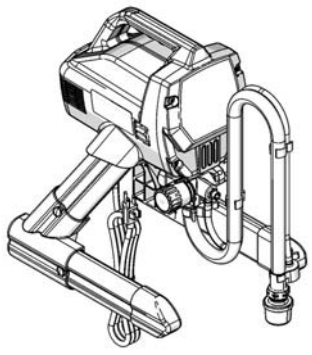
**SP200/Mustang 2400 Model:** Use water based or mineral-spirit type material only. Do not use materials having flash points lower than 70°F (21°C). This includes, but is not limited to, acetone, xylene, toluene, or naptha. For more information about your material request MSDS from distributor or retailer.

## Related Manuals

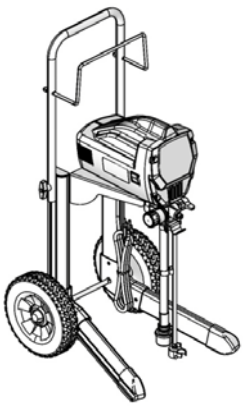
**3A0994**

See page 2 for model information, including maximum working pressure and approvals.

**SP200 Model 24F557**
**Mustang 2400 Model 24F559**
**Series A, B, C**



**SP300 Model 24F558**
**Mustang 3100 Model 24F560**
**Series A**



Intertek

# Models

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 |
|---|---|---|---|---|---|
| SP200<br>Mustang 2400 | A, B, C | 0.24 gpm<br>(0.91 lpm) | 1/4 in. x 25 ft<br>(6.4 mm x 7.5 m) | 200 Series | 2800 psi (19 MPa, 193 bar) |
| SP300<br>Mustang 3100 | A | 0.34 gpm<br>(1.29 lpm) | 1/4 in. x 50 ft<br>(6.4 mm x 15m) | 500 Series | 3000 psi (21 MPa, 207 bar) |

# Warnings

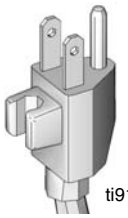
The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear 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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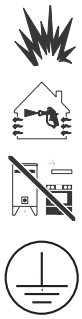
- Only connect the product to an outlet having the same configuration as the plug.
- Do not use an adapter with this product.

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.
- 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 Airlessco conductive or grounded high-pressure airless paint sprayer hoses.
- SP200/Mustang 2400 Model: Do not clean with materials having flash points lower than 70° F (21° C). Use water-based material or mineral spirits-type material only. For complete information about your fluid, request the MSDS from the fluid distributor or retailer.
- 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.

**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.
- Use only 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.

# ⚠WARNING

**SKIN INJECTION HAZARD**

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**.

- 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 Airlessco 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 Airlessco 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.

**EQUIPMENT MISUSE HAZARD**

Misuse can cause death or serious injury.

- Always wear appropriate gloves, eye protection, and a respirator or mask when painting.
- Do not operate or spray near children. Keep children away from equipment at all times.
- Do not overreach or stand on an unstable support. Keep effective footing and balance at all times.
- Stay alert and watch what you are doing.
- 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.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not kink or over-bend the hose.
- Do not expose the hose to temperatures or to pressures in excess of those specified by Airlessco.
- Do not use the hose as a strength member to pull or lift the equipment.

**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.

# ⚠WARNING


**MOVING PARTS HAZARD**

Moving parts can pinch, cut 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** and disconnect all power sources.

**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 MSDSs 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.

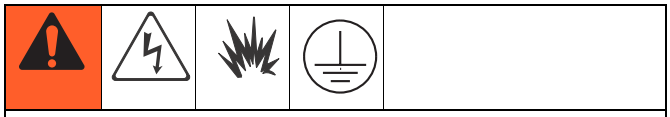
**PERSONAL PROTECTIVE EQUIPMENT**

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, hearing loss, inhalation of toxic fumes, and burns. This 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.

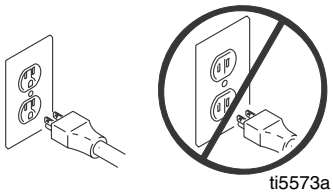
# Installation

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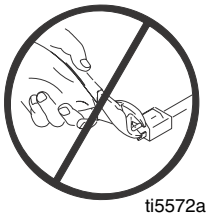
- Do not use the sprayer if the electrical cord has a damaged ground prong.
- Only use an extension cord with an undamaged 3-prong plug.



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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.

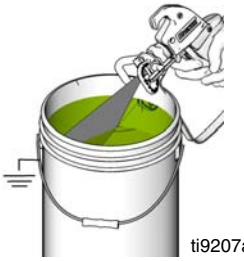
**NOTE:** Smaller gauge or longer extension cords may reduce sprayer performance.

**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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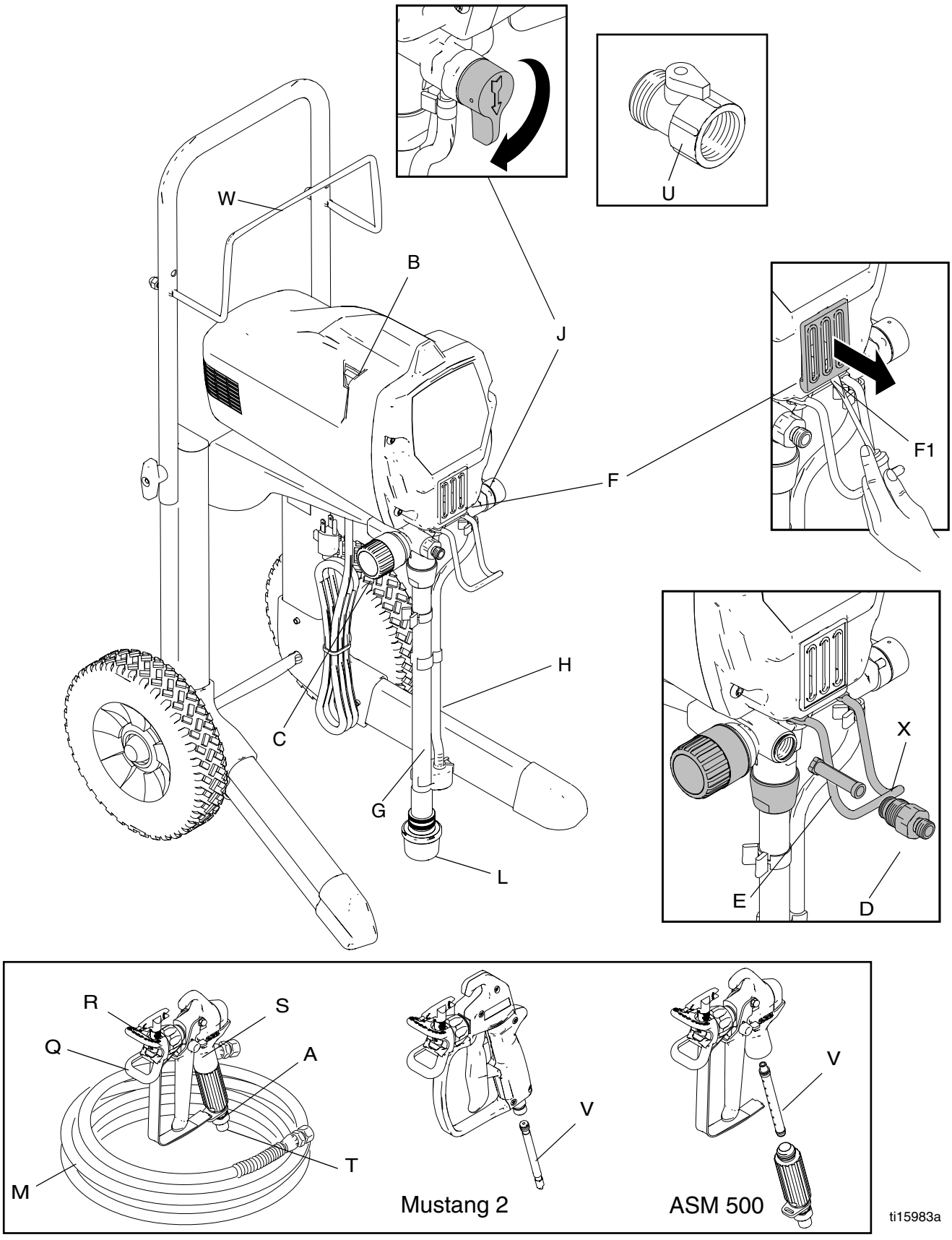
## Thermal Overload

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.

# 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. |
| D | Pump fluid outlet fitting | Threaded connection for paint hose. |
| E | InstaClean™ fluid filter **(SP300, Mustang 3100)** | • Filters fluid coming out of pump to reduce tip plugging and improve finish.<br>• Self cleans only during pressure relief. |
| F | ProX Power-Piston™ Pump (behind Easy Access door, not shown) **(SP300, Mustang 3100)** | Pumps and pressurizes fluid and delivers it to paint hose. |
| F1 | Easy Access™ door **(SP300, Mustang 3100)** | 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. |
| 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.<br>• In SPRAY position (pointing forward) directs pressurized fluid to paint hose.<br>• Automatically relieves system pressure in overpressure situations. |
| L | Inlet screen | Prevents debris from entering pump. |
| M | Paint hose | Transports high-pressure fluid from pump to spray gun. |
| 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.<br>• Reverse unclogs plugged tips without disassembly. |
| S | Gun trigger safety lever (page 10) | 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. |
| X | Pail Hanger **(SP300, Mustang 3100)** | For transporting pail by its handle. |


W
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F1
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Mustang 2
V
ASM 500
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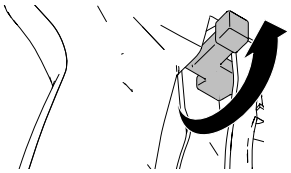
# Operation

See Operation manual 3A0994 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.



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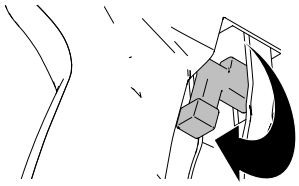
**Trigger Locked Mustang 2**



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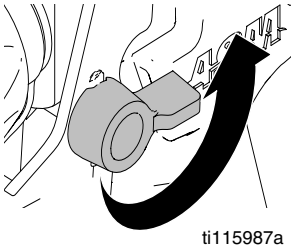
**Trigger Unlocked Mustang 2**



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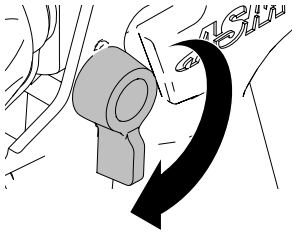
**Trigger Locked ASM 500**



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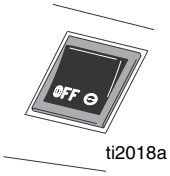
**Trigger Unlocked ASM 500**

## 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.

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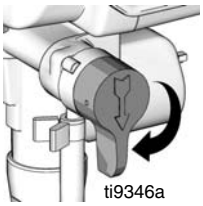
2. Turn Prime/Spray valve to PRIME to relieve pressure.



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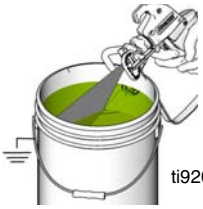
3. Hold gun firmly to side of pail. Trigger the gun to relieve pressure.



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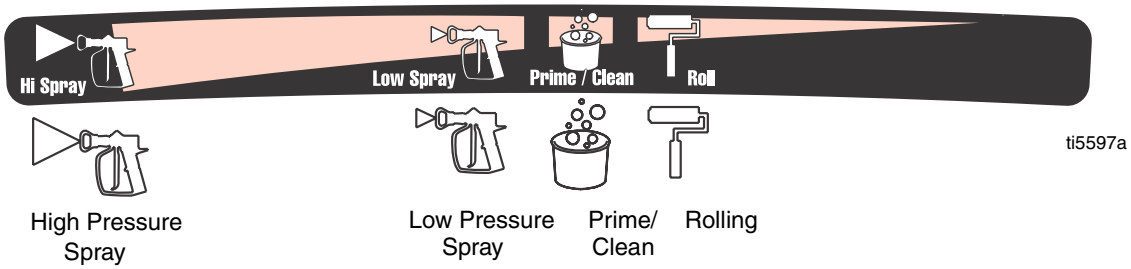
4. Engage trigger lock.

**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

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High Pressure Spray

Low Pressure Spray

Prime/ Clean

Rolling

**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.

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.

- 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 17.
- 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.

**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/Airlessco 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).<br>• Reset building circuit breaker or replace fuse. |
| | Extension cord is damaged. | Replace extension cord. Read **Grounding and Electric Requirements**, page 7. |
| | 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/Airlessco authorized service center. |

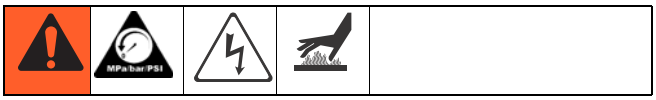
| Problem | Cause | Solution |
|---|---|---|
| Pump does not prime. | Prime/Spray Valve is in SPRAY position. | Turn Prime/Spray Valve to PRIME position (pointing down). |
| | Inlet screen is clogged or suction tube is not immersed. | Clean debris off inlet screen and make sure suction tube is immersed 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 3A0994. |
| | 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 3A0994. |
| | | 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/Airlessco 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. | **SP300, Mustang 3100:** 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.<br>**SP200, Mustang 2400:** Remove outlet fitting and clean outlet check ball. |
| | Suction tube is leaking. | 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. |

| 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 3A0994. |
| | 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. | 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/Airlessco authorized service center. |
| | Pump check ball is stuck. | Read ***Pump does not prime*** section in Troubleshooting, page 13. |
| 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 3A0994. |
| | InstaClean fluid filter is clogged. **(SP300, Mustang 3100)** | Clean or replace InstaClean fluid filter, see Operation manual 3A0994. |
| | Spray gun fluid filter is clogged. | Clean or replace gun fluid filter, see Operation manual 3A0994. |
| | 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 3A0994. |
| | 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 7. |
| | Spray gun fluid filter is clogged. | Clean or replace spray gun fluid filter, see Operation manual 3A0994. |
| | InstaClean fluid filter is clogged. **(SP300/Mustang 3100)** | Clean or replace InstaClean fluid filter, see Operation manual 3A0994. |
| | Inlet screen is clogged. | Clean debris off inlet screen. |
| | Pump valves are worn. | Check for worn pump valves.<br>Prime sprayer with paint<br>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 3A0994. |
| 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.<br>OR<br>Sprayer does not turn on promptly when resuming spraying. | Pressure control switch is worn and causing excessive pressure variation. | Take sprayer to Graco/Airlessco authorized service center. |
| Cannot trigger spray gun. | Spray gun trigger lock is locked. | Rotate trigger safety lever to unlock trigger lock, page 10. |
| Paint is coming out of pressure control switch. | Pressure control switch is worn. | Take sprayer to Graco/Airlessco authorized service center. |
| Prime/Spray valve actuates automatically relieving pressure through prime tube. | System is over pressurizing. | Take sprayer to Graco/Airlessco authorized service center. |
| Paint leaks down outside of pump. | Pump packings are worn. | Take sprayer to Graco/Airlessco 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 7. | 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 7. |
| | 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 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.<br>**If paint is frozen in sprayer**:<br>Do NOT try to start sprayer until completely thawed or you may damage the motor, control board, and/or drivetrain.<br>1. Turn power switch OFF.<br>2. Place sprayer in warm area for several hours.<br>3. Plug sprayer in.<br>4. Turn power switch ON and flush sprayer with water or mineral spirits.<br>a. Turn on sprayer.<br>b. Turn prime valve to PRIME position.<br>**If paint hardened in sprayer**:<br>**SP300, Mustang 3100:** Replace pump packings. See **List of Kits**, page 26.<br>**SP200, Mustang 2400:** Replace complete pump. See **List of Kits**, page 26.<br>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 26. |
| | **SP300, Mustang 3100:** 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 26. |
| | | Replace pump packings on SP300 sprayers. See **List of Kits**, page 26. |

| 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.<br>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.<br>**SP300, Mustang 3100:** Check pressure control harness connection on front side of drive housing.<br>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 26. |
| | 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 26. |
| | 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.<br>**SP300, Mustang 3100:** Replace the fuse with correct fuse kit. See **List of Kits**, page 26.<br>**SP200:** The fuse is not replaceable. Replace control board. See **List of Kits**, page 26. |
| | Motor armature shorting. | Check for shorts. See **Motor Diagnostics**, page 23. If shorts are evident, replace motor using **Motor Kit**, page 26. |
| | 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 26. |
| | Control board damaged.<br>**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 25. Replace control board if damaged using **Control Board Kit**, page 26. |

| Specific Problem | Cause | Solution |
|---|---|---|
| Sprayer Wiring Problems<br><br>**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.<br>Disconnect black power cord wire at power switch.<br>Unplug in-line connection white cord wire.<br>Plug in power cord.<br>Test voltage between black and white wires of power cord. Meter must read 85 to 130V AC.<br>Replace power cord if no voltage. |
| | Sprayer power switch damaged. | 1. Unplug sprayer power cord.<br>2. Disconnect black control board wire at power switch.<br>3. Unplug in-line connection white cord wire.<br>4. Plug in power cord.<br>5. Turn power switch ON.<br>6. Test voltage between open terminal of power switch and white power cord wire. Meter must read 85 to 130V AC.<br>7. Replace power switch if no voltage. |
| | Motor thermal overload cutoff switch damaged.<br><br>**WARNING:** See **Startup Hazard After Thermal Overload** on page 7. | 1. Unplug sprayer power cord.<br>2. Remove motor harness from control card.<br>3. Check for continuity between yellow leads or motor harness. (SP300, Mustang 3100)<br>4. If thermal relief switch is open (no continuity) allow motor to cool.<br>5. If switch remains open after motor cools, replace motor using **Motor Kit**, page 26.<br>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.<br><br>**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 23. If shorts are evident, replace motor using **Motor Kit**, page 26. |
| | Control board is damaged.<br><br>**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 26. |
| Building circuit breaker opens as soon as sprayer is plugged into outlet and sprayer is NOT turned on.<br><br>**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.<br><br>Disconnect black power cord wire at power switch.<br><br>Unplug in-line connection white cord wire.<br><br>Plug in power cord.<br><br>Test voltage between black and white wires of power cord. Meter must read 85 to 130V AC.<br><br>Replace power cord if no voltage. |
| | Sprayer power switch damaged. | 1. Unplug sprayer power cord.<br>2. Disconnect black control board wire at power switch.<br>3. Unplug in-line connection white cord wire.<br>4. Plug in power cord.<br>5. Turn power switch ON.<br>6. Test voltage between open terminal of power switch and white power cord wire. Meter must read 85 to 130V AC.<br>7. Replace power switch if no voltage. |
| | Also see *Basic Electrical Problems,* and *Sprayer Wiring Problems*, pages 18 - 19. | |

## 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 7. |
| | 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 18 - 19. | |
| | Motor is overheating.<br><br>Warning: See **Thermal Overload**, page 7. | 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 26.<br><br>Relieve pressure and remove motor enclosure. Turn motor fan by hand to check for binding gears or seized pump. See **List of Kits**, page 26. |

## General Problem: Low or Fluctuating Output

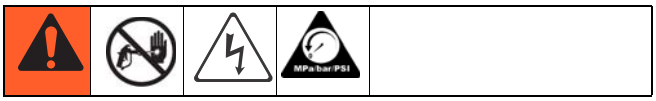
| | | |
|---|---|---|
| Pump cycles, but output is low or surging. | See **Basic Troubleshooting**, page 12. | |
| | Worn or obstructed inlet and outlet valves. | Check for worn pump valves as follows:<br><br>Prime sprayer with paint. Turn the Prime/Spray valve to SPRAY position. Turn pressure control fully clockwise.<br><br>Trigger spray gun briefly.<br><br>When spray gun trigger is released pump should cycle momentarily and stop.<br><br>If pump continues to cycle, pump valves may be worn or obstructed.<br><br>For replacement inlet and outlet valve kits, see **List of Kits**, page 26. |
| | 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 26. |
| | 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.<br><br>See **Grounding and Electrical Requirements**, page 7. |

| | | |
|---|---|---|
| Pump cycles, but output is low or surging. | 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 26. |
| | Motor brush springs are broken. | If springs are broken, replace motor using **Motor Kit**, page 26. |
| | 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 26. |
| | Control board is damaged.<br>**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 25. If damaged, replace control board using **Control Board Kit**, page 26. |
| 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 26. |
| | Pump packings are worn or damaged. | Check for leaking around pump.<br>**SP300, Mustang 3100:** Replace pump packings. See **List of Kits**, page 26.<br>**SP200, Mustang 2400:** Replace complete pump. See **List of Kits**, page 26. |

## General Problem: Excessive Pressure Build Up

| | | |
|---|---|---|
| Prime/Spray Valve actuates automatically, relieving pressure through drain tube. | Pressure control switch has pinched wires. | Replace pressure control switch using **Pressure Control Switch Kit**, page 26. |
| | Water or paint entered pressure control switch or shorted control board. | Use **Pressure Control Switch Kit**, to replace switch. See **List of Kits**, page 26. |
| | Control board failed. | See **Control Board Diagnostics**, page 25. Replace damaged control board using **Control Board Kit**, page 26. |

# Motor Diagnostics (SP200, Mustang 2400)

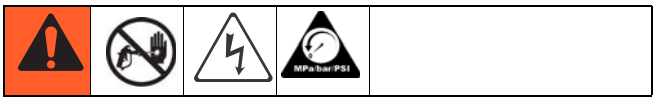


If Motor Diagnostics reveal a damaged motor or if motor brushes are shorter than 1/4 in. (6.4 mm) replace the motor using **Motor Kit**, page 26.

## Setup

1. Unplug power cord and **Relieve Pressure,** page 10.
2. Remove enclosure and disconnect two black motor leads to control board (see **Wiring Diagram**, page 33).
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 12).
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 (SP300, Mustang 3100)



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 26.

## 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

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 26.

## 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 26.

# Pressure Control Switch Diagnostics

## SP200, Mustang 2400, SP300, Mustang 3100

If pressure control switch diagnostics reveal a damaged pressure control, replace it with the correct **Pressure Control Switch Kit**, see page 26. SP200 and Mustang 2400 sprayers have different pressure control kits because stall pressure is preset at the factory.

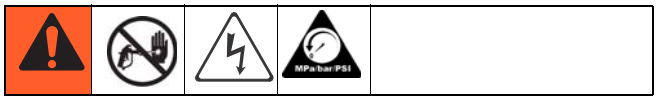
1. Unplug power cord and **Relieve Pressure**, page 10.
2. If paint is leaking from pressure control switch between pressure control knob and base, replace pressure control switch.
3. **SP300 and Mustang 3100:** Remove front cover, yoke, and pins. Disconnect pressure control switch connector from control board.

   **SP200 and Mustang 2400:** 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 (SP300, Mustang 3100)

**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:



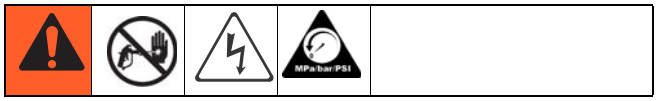
1. **Relieve Pressure**, page 10.
2. Unplug electrical cord.
3. Remove four cover screws and front cover. Remove motor enclosure.
4. Remove yoke and guide rods.
5. Remove gear.
6. Remove pressure control harness from control board. Using tip of small, flat blade screwdriver, press tab on right side connector 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 26.
    - If motor does not run, replace control board repeat test. **Control Board Kit**, page 26.

# Control Board Diagnostics (SP200, Mustang 2400)

**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 10.
2. Remove enclosure and check all control board connectors for proper installation (see **Wiring Diagram**, page 33).
3. Check fuse on control board. If fuse is blown, determine the cause before replacing control board (see **Advanced Troubleshooting**, page 17).

# Pump Diagnostics

**NOTICE**

To avoid damage, 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. **SP200, Mustang 2400:** Replace pump using Pump Replacement (Complete). See **List of Kits**, page 26.

   **SP300, Mustang 3100:** Replace pump using Pump Repair kit. See **List of Kits**, page 26.
2. If there is no paint leakage, see **Advanced Troubleshooting**, page 17. Pump may not be defective.

# List of Kits

| Kit Number | Models | Kit Description |
|---|---|---|
| 289107 | SP200, Mustang 2400, SP300, Mustang 3100 | AutoPrime |
| 16E829 | SP200, Mustang 2400 (Series A, B, C) | Control Board |
| 288705 | SP300, Mustang 3100 | Control Board |
| 244035 | SP200, Mustang 2400, SP300, Mustang 3100 | Drain Tube Diffuser |
| 16E830 | SP200, Mustang 2400 | Enclosure (includes labels and screws) |
| 288695 | SP300, Mustang 3100 | Enclosure (includes labels and screws) |
| 287770 | SP300, Mustang 3100 | Fan Replacement |
| 288747 | SP300, Mustang 3100 | Filter Kit (InstaClean™) |
| 16E833 | SP200, Mustang 2400 | Front Cover |
| 288692 | SP300, Mustang 3100 | Front Cover |
| 119276 | SP300, Mustang 3100 | Fuse |
| 16E835 | SP200, Mustang 2400 | Gear and Drive |
| 289102 | SP300, Mustang 3100 | Gear/Yoke |
| 245449 | SP200, Mustang 2400 | Hose 1/4 in. x 25 ft |
| HSE1450 | SP300, Mustang 3100 | Hose 1/4 in. x 50 ft |
| 288716 | SP200, Mustang 2400, SP300, Mustang 3100 | Inlet Strainer |
| 256212 | SP300, Mustang 3100 | Lacquer Conversion Kit |
| 24K633 | SP200, Mustang 2400 (Series A, B, C) | Leg, Left |
| 24K632 | SP200, Mustang 2400 (Series A, B, C) | Leg, Right |
| 16E838 | SP200, Mustang 2400 | Motor, Cinderson |
| 289104 | SP300, Mustang 3100 | Motor |
| 257803 | SP300, Mustang 3100 | Power Cord (includes warning label) |
| 244266 | SP200, Mustang 2400 | Pressure Control Switch |
| 244267 | SP300, Mustang 3100 | Pressure Control Switch |
| 235014 | SP200, Mustang 2400, SP300, Mustang 3100 | Prime/Spray Valve |
| 16E844 | SP200, Mustang 2400 | Pump Inlet Valve |
| 288700 | SP300, Mustang 3100 | Pump Inlet Valve |
| 16E845 | SP200, Mustang 2400 | Pump Outlet Valve |
| 243094 | SP300, Mustang 3100 | Pump Outlet Valve |
| 288818 | SP300, Mustang 3100 | Pump Repair Kit |
| 16F047 | SP200, Mustang 2400 | Pump Replacement |
| 288703 | SP300, Mustang 3100 | Pump Replacement (Complete) |
| 246802 | SP200, Mustang 2400 | Spray Gun |
| 289316 | SP300, Mustang 3100 | Spray Gun |
| 197607 | SP200, Mustang 2400 | Suction Tube |
| 24J019 | SP300, Mustang 3100 | Suction Tube |
| 16E835 | SP200, Mustang 2400 | Drive (for Cinderson Motor) |
| 16E842 | SP200, Mustang 2400 (Series A, B, C) | Power Cord (includes warning label |
| 16E846 | SP200, Mustang 2400 | Pump Replacement (Complete) |

# Parts

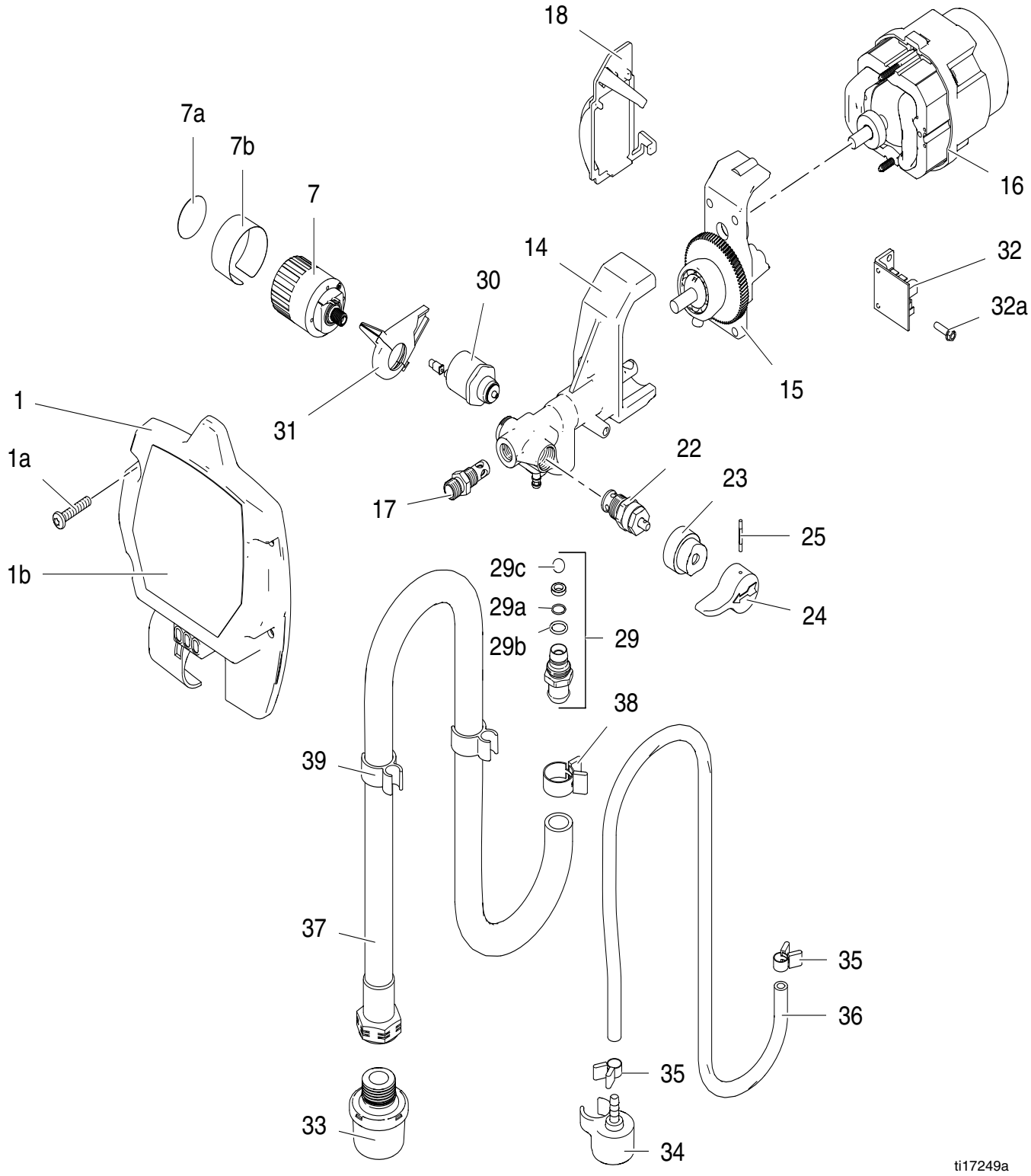
## SP200, Model 24F557 and Mustang 2400, Model 24F559 Parts List

| Ref. | Part | Description | Qty. |
|---|---|---|---|
| 1 | 16D672 | KIT, housing cover | 1 |
| 1a | 120724 | SCREW | 4 |
| 1b | 16F554 | LABEL, SP200, front | 1 |
| 1b | 16F732 | LABEL, Mustang 2400, front | 1 |
| 7 | 244266 | KIT, pressure control (includes 7a, 7b) | 1 |
| 7a | 15A464 | LABEL, control | 1 |
| 7b | 15K530 | LABEL | 1 |
| 14* | 16F047 | KIT, pump (includes 17, 29, 43) | 1 |
| 15 | 16E835 | DRIVE (for Cinderson motor) | 1 |
| 16 | 16E838 | KIT, motor | 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 | 6 |
| 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 | 16F616 | KIT, enclosure, SP200 | 1 |
| 43 | 112689 | SCREW, button, thd form | 4 |
| 44 | 16D682 | BRACKET, motor | 1 |
| 47 | 24K633 | KIT, left leg, (includes 2 screws, 47a, 47b) | 1 |
| 47a | 125116 | SCREW, hex washer hd, thd form | 4 |
| 47b | 102040 | NUT, lock, hex | 4 |
| 51 | 24K632 | KIT, right leg, (includes 2 screws, 47a, 47b) | 1 |
| 67 | 16E842 | KIT, power cord, (includes 67a, 67b) | 1 |
| 67a | 115498 | SCREW, grounding | 1 |
| 67b▲ | 15T069 | LABEL, warning | 1 |
| 68 | 16E212 | WIRE, jumper | 1 |
| 84 | 245449 | HOSE, cpld, 1/4 in. x 25 ft | 1 |
| 85 | 248676 | GUN, spray, Mustang 2 | 1 |
| 85a | 288748 | KIT, gun filter, 60m/100m | 1 |
| 91 | 115648 | VALVE, shutoff (not shown) | 1 |
| 92 | 245650 | FLUID, pump Life, 8 oz (not shown) | 1 |
| 93▲ | 179960 | CARD, medical wallet (not shown) | 1 |

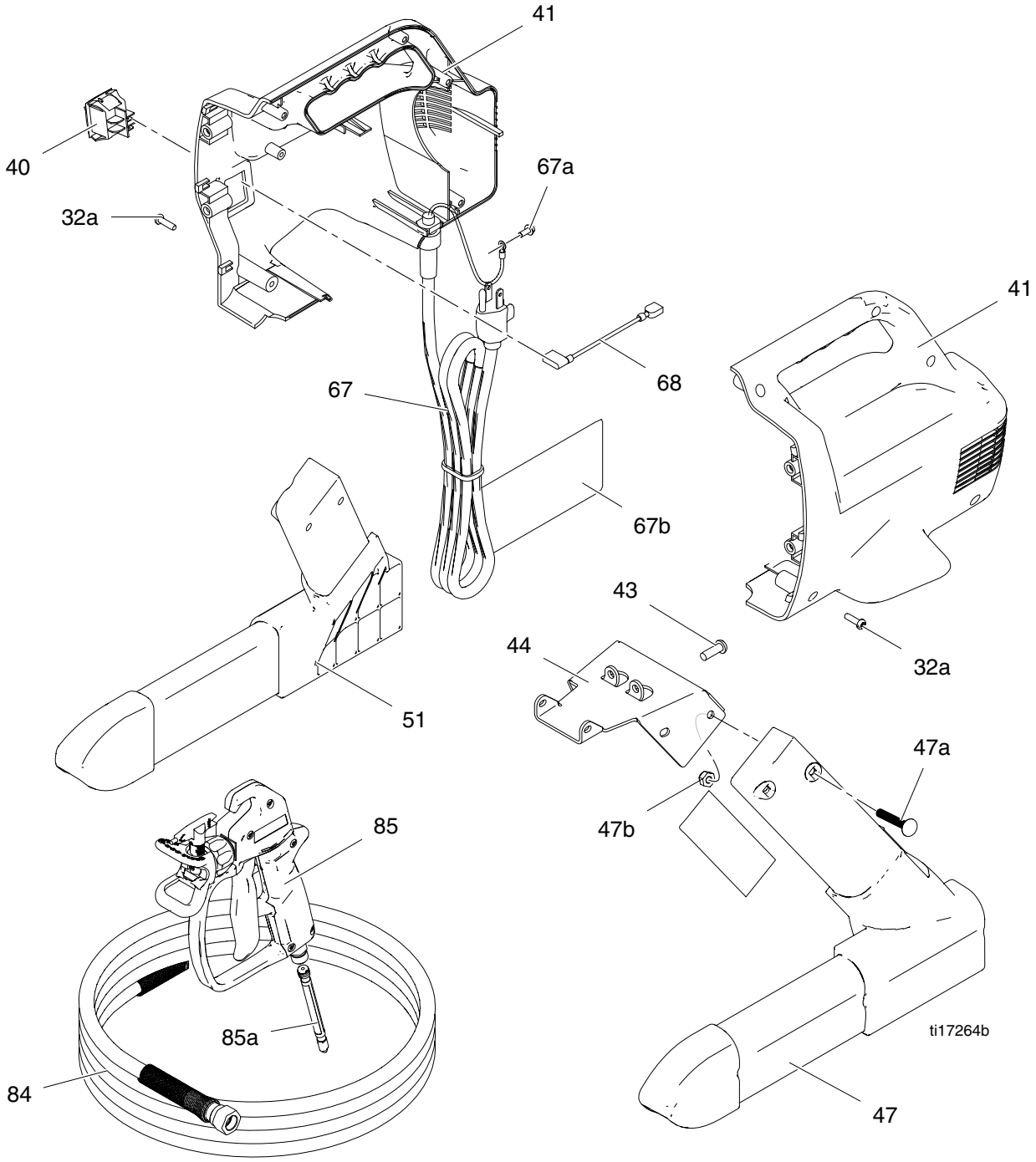
▲ *Replacement Warning labels, tags and cards are available at no cost.*

** 16E846 Kit, Repair, Pump complete Available (included 17, 22, 23, 24, 25, 29, 30)*

# SP200, Model 24F557 and Mustang 2400, Model 24F559



# SP200, Model 24F557 and Mustang 2400, Model 24F559

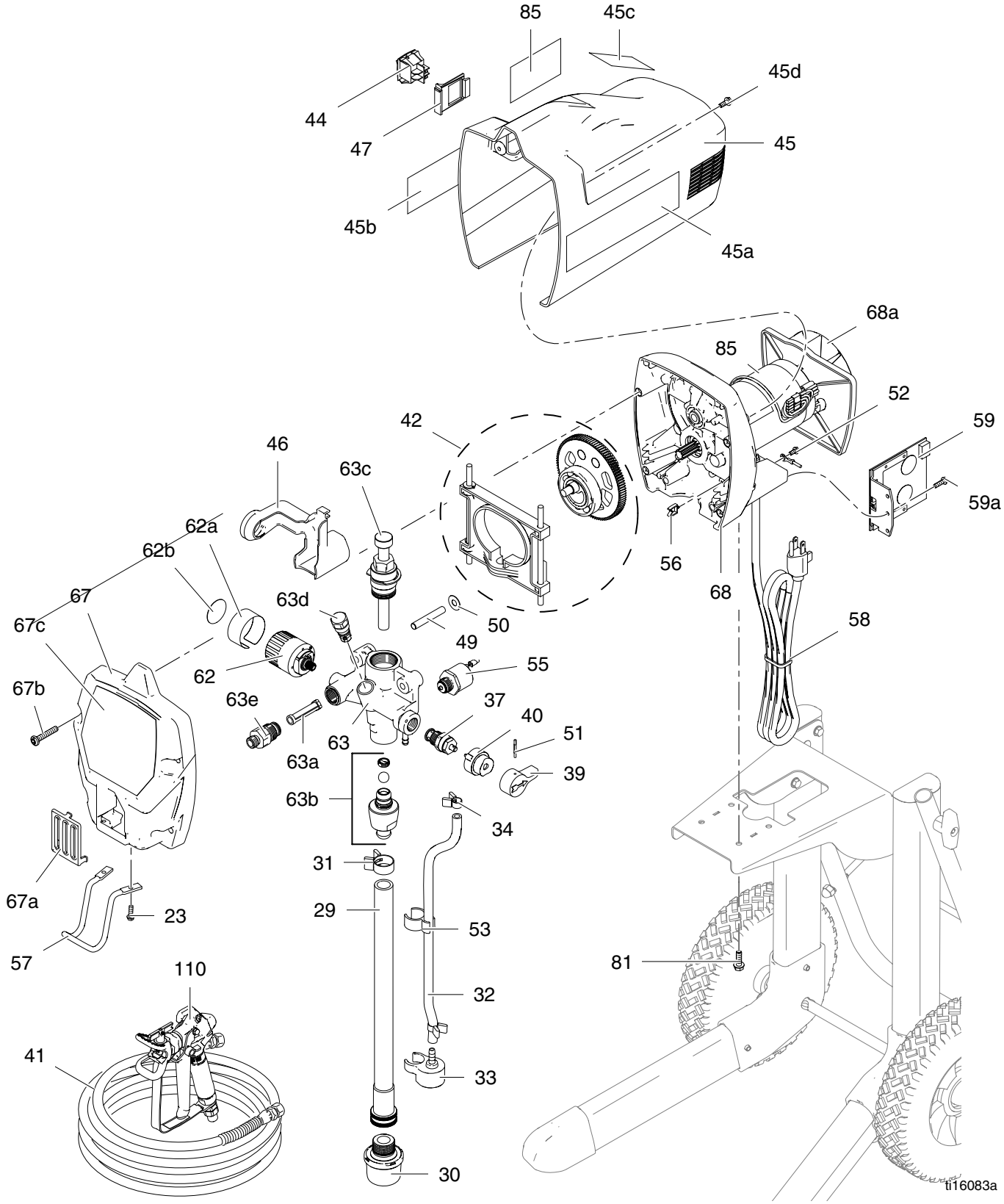


# SP300, Model 24F558 and Mustang 3100, 24F560 Parts List

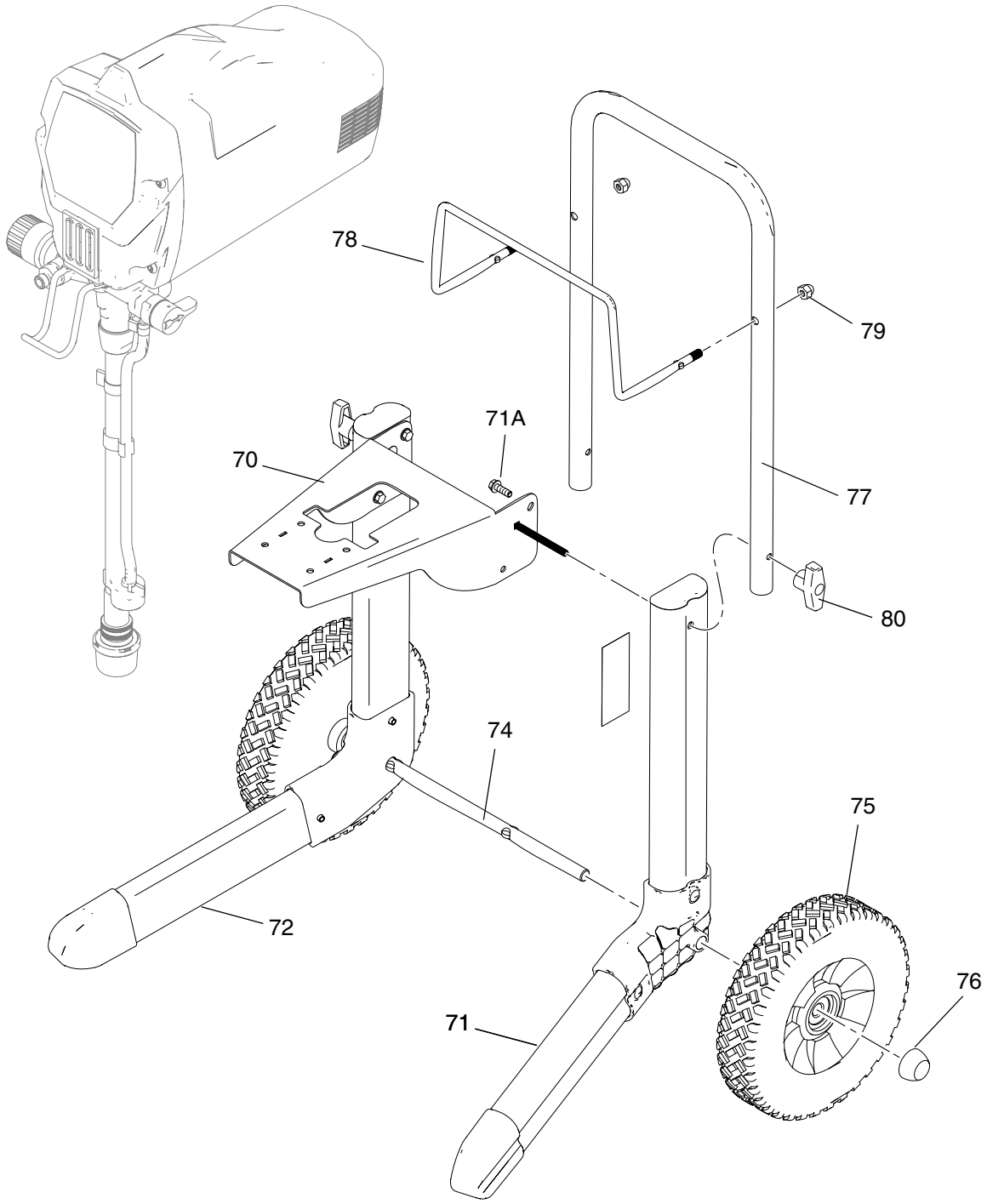
| Ref. | Part | Description | Qty. |
|---|---|---|---|
| 23 | 121939 | SCREW, mach 8-16 x 5/8 in. plastite | 4 |
| 29 | 16H348 | SUCTION TUBE | 1 |
| 30 | 288716 | KIT, Strainer | 1 |
| 31 | 116295 | TUBE CLAMP | 1 |
| 32 | 195108 | DRAIN TUBE | 1 |
| 33 | 244035 | DEFLECTOR | 1 |
| 34 | 115489 | DRAIN TUBE CLAMP | 2 |
| 37 | 235014 | KIT, drain valve | 1 |
| | 115648 | SHUTOFF VALVE (not shown) | 1 |
| 39 | 187625 | DRAIN VALVE HANDLE | 1 |
| 40 | 224807 | BASE, valve | 1 |
| 41 | HSE1450 | HOSE, cpld,1/4 in. x 50 ft | '1 |
| 42 | 289102 | KIT, gear and yoke | 1 |
| 44 | 118899 | ROCKER SWITCH | 1 |
| 45 | 16F614 | Motor Shield | 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 | 1 |
| 59a | | | 1 |
| 62 | 244267 | KIT, pressure control, includes 62a, 62b | |
| 62a | 15K530 | LABEL, Control | 1 |
| 62b | 15A464 | LABEL | 1 |
| 63 | 288703 | KIT, pump, (complete) includes 37, 39, 40, 51, 63a, 63b, 63c, 63d, 63e | 1 |
| 63a | 288747 | KIT, filter | 1 |
| 63b | 288700 | KIT, pump inlet module | 1 |
| 63c | 288818 | KIT, packing repair | 1 |
| 63d | 243094 | KIT, pump outlet valve | 1 |
| 63e | 195947 | ADAPTER, filter | 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 | 16F555 | LABEL, front, SP300 | 1 |
| | 16F733 | LABEL, Mustang 3100, Front | |
| 68 | 289104 | KIT, motor, includes 68a | 1 |
| 68a | 287770 | KIT, fan | 1 |
| 70 | 16F372 | SHELF, motor | 1 |
| 71 | 262012 | KIT, left leg, (includes 2 screws 71a) | 1 |
| 71a | 260212 | SCREW, hex washer hd, thd form | 4 |
| 72 | 262014 | KIT, right leg, (includes 2 screws 71a) | 1 |
| 73 | 120788 | SCREW, carriage | 2 |
| 74 | 15R602 | AXLE, cart | 1 |
| 75 | 115095 | WHEEL, 9 in. | 2 |
| 76 | 112612 | CAP, hub | 2 |
| 77 | 16H354 | HANDLE, cart | 1 |
| 78 | 15J949 | RACK, hose | 1 |
| 79 | 120689 | NUT, hex, acorn, 5/16 - 18 nickel | 2 |
| 80 | 115480 | KNOB, t-handle | 2 |
| 81 | 260212 | SCREW, hw hd, thd form 1/4-20 x .75 in. | 10 |
| 85 | | SERIAL LABEL | 2 |
| 92▲ | 179960 | SIGN, warning (not shown) | 1 |
| 110 | 289316 | SPRAY GUN, 500 | 1 |
| 116 | 121939 | SCREW, plastite | 4 |
| | 245650 | Fluid, Pumplife, 8 oz (not shown) | |
| ▲ | 15T069 | LABEL, warning | |

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

# SP300, Model 24F558 and Mustang 3100, 24F560

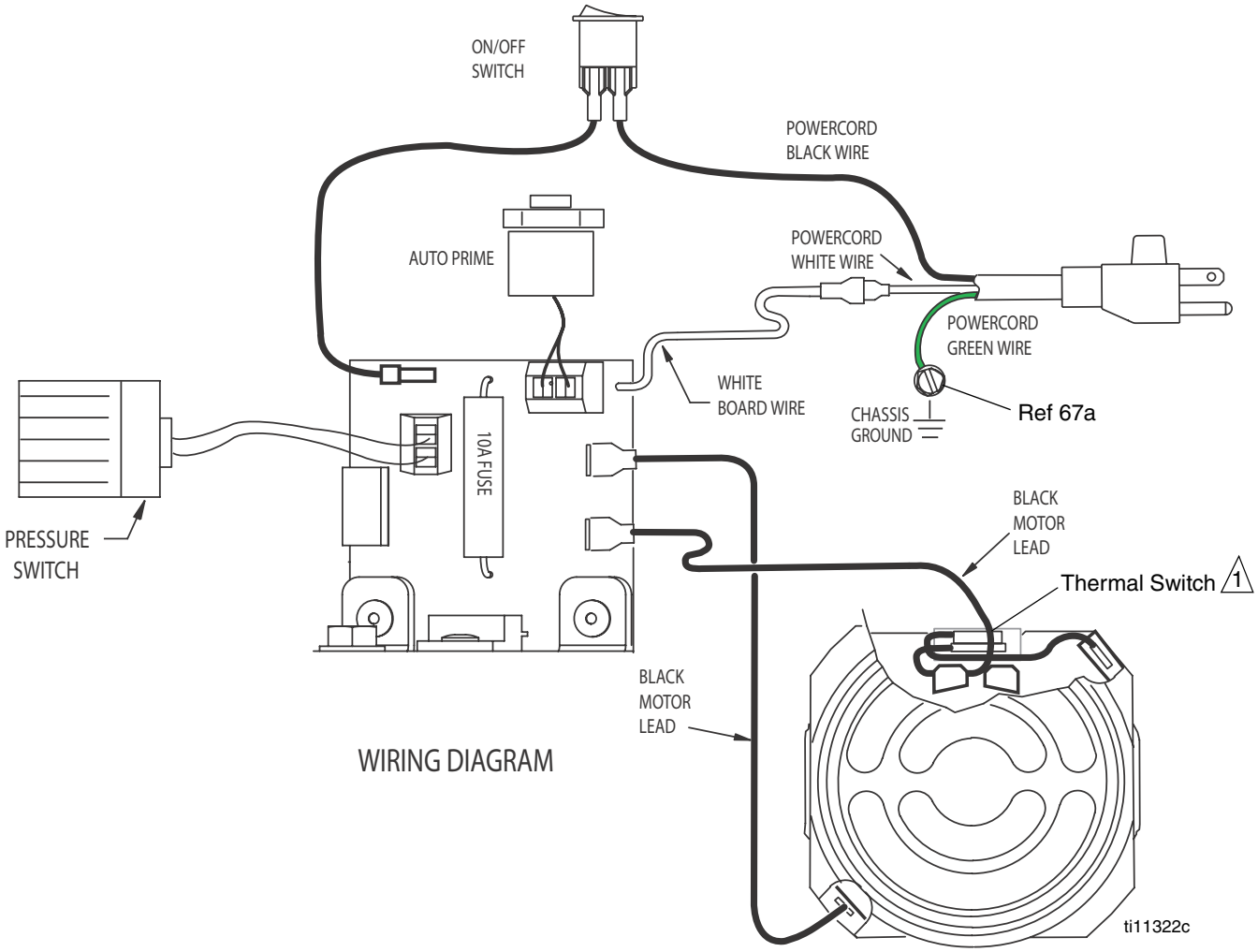


# SP300, Model 24F558 and Mustang 3100, 24F560



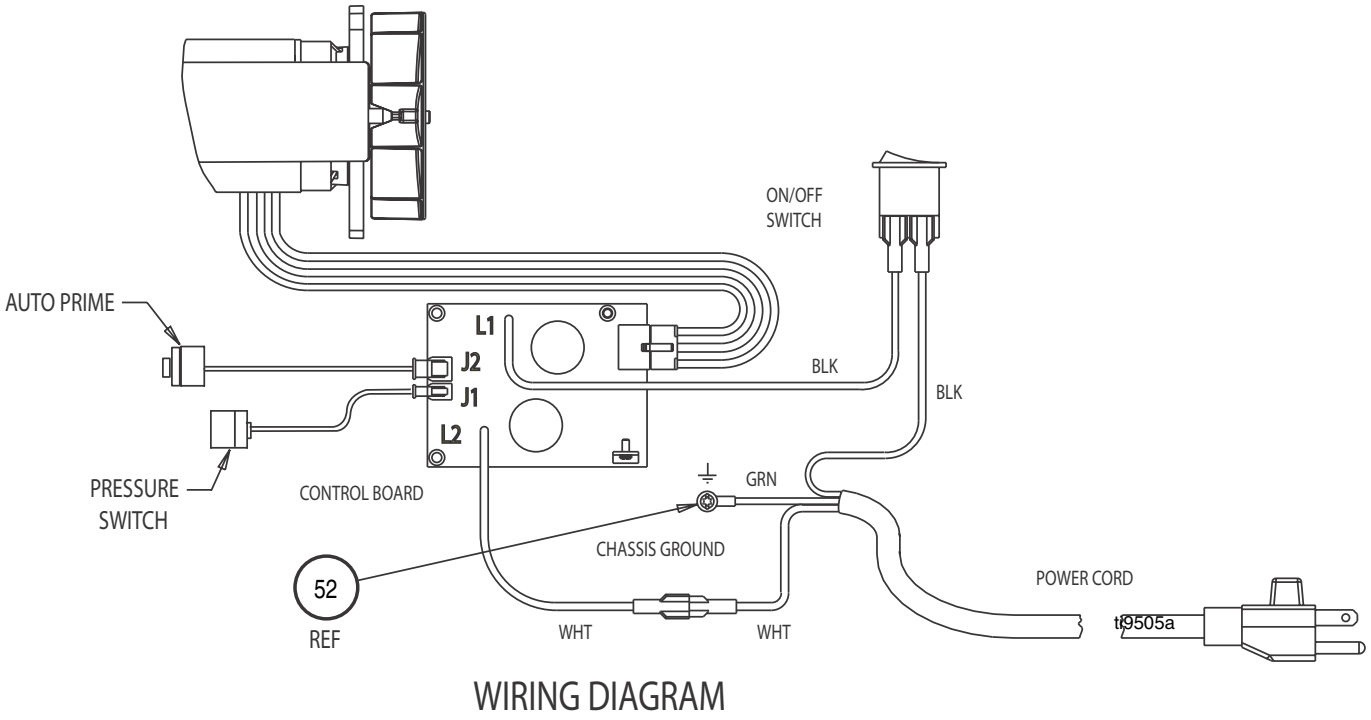
# Wiring Diagrams

## SP200, Model 24F557 and Mustang 2400, Model 24F559




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

# SP300, Model 24F558 and Mustang 3100, 24F560




WIRING DIAGRAM

# Technical Data

## SP200, Mustang 2400

| | |
|---|---|
| Electrical Power Requirements | 120 Vac, 60 Hz, 15A, 1 phase |
| Working Pressure Range | 0 - 2800 psi (0-19 MPa, 0-193 bar) |
| Generator required | 1500W minimum |
| Electric Motor | 9.0A (open frame, universal) |
| Operating horsepower | 1/2 |
| Power Cord | 18 AWG, 3-wire, 6 ft (1.8m) |
| 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) |
| Maximum Delivery (with tip) | 0.24 gpm (0.91 lpm) |
| Paint Hose | 1/4 in. x 25 ft. (6.4 mm x 7.5 m) |
| Maximum tip hole size | 0.015 in. (0.38 mm) |
| Weight, sprayer only | 13.3 lb (6.0 kg) |
| Weight, sprayer, hose and gun | 16.5 lb (7.5 kg) |
| Dimensions: Upright | |
| Length | 14.5 in. (36.8 cm) |
| Width | 12.4 in. (31.5 cm) |
| Height | 17.9 in. (45.5 cm) |
| Wetted Parts, pump and 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 |
| Storage Temperature Range ◆❖ | -30° F - 160° F (-35° C - 71° C) |
| Operating Temperature Range ✔ | 40° F - 115° F (4° C - 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.

## SP300, Mustang 3100

| | |
|---|---|
| Electrical Power Requirements | 120 Vac, 60 Hz, 15A, 1 phase |
| Working Pressure Range | 0 - 3000 psi (0-21 MPa, 0-207 bar) |
| Generator required | 1500W minimum |
| Electric Motor | 5.8A (permanent magnet DC) |
| Operating horsepower | 3/4 |
| Power Cord | 16 AWG, 3-wire, 6 ft (1.8m) |
| 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) |
| Maximum Delivery (with tip) | 0.34 gpm (1.29 lpm) |
| Paint Hose | 1/4 in. x 50 ft. (6.4 mm x 15 m) |
| Maximum tip hole size | 0.017 in. (0.43 mm) |
| Weight, sprayer only | 43 lb (20 kg) |
| Weight, sprayer, hose and gun | 46 lb (21 kg) |
| Dimensions: Upright | |
| Length | 23.75 in. (60.32 cm) |
| Width | 17.5 in. (44.45 cm) |
| Height | 36.5 in. (92.71 cm) |
| Dimensions: Folded | |
| Length | 23.25 in. (59.05 cm) |
| Width | 17.5 in. (44.45 cm) |
| Height | 22.0 in. (55.88 cm) |
| Wetted Parts, pump and 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 |
| Storage Temperature Range ◆❖ | -30° F - 160° F (-35° C - 71° C) |
| Operating Temperature Range ✔ | 40° F - 115° F (4° C - 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

# Airlessco Standard Warranty

Airlessco warrants all equipment referenced in this document which is manufactured by Airlessco 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 Airlessco, Airlessco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Airlessco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Airlessco's written recommendations.

This warranty does not cover, and Airlessco 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-Airlessco component parts. Nor shall Airlessco be liable for malfunction, damage or wear caused by the incompatibility of Airlessco equipment with structures, accessories, equipment or materials not supplied by Airlessco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Airlessco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Airlessco distributor for verification of the claimed defect. If the claimed defect is verified, Airlessco 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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Airlessco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

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In no event will Airlessco be liable for indirect, incidental, special or consequential damages resulting from Airlessco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Airlessco, or otherwise.

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or call 1–800–223-8213 to identify the nearest distributor.

*All written and visual data contained in this document reflects the latest product information available at the time of publication.*
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For patent information, see www.graco.com/patents.

Original Instructions. This manual contains English. *MM 3A0997*

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