Electric High Pressure Airless Sprayer

Electric high pressure sprayer packages for application of protective coatings. For professional use only. Not approved for use in explosive atmospheres or hazardous locations.

4500 psi (31 MPa, 310 bar) Maximum Fluid Pressure

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

Manuals are available at www.graco.com.
Component manuals in English:

<table>
<thead>
<tr>
<th>Manual Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>311762</td>
<td>Xtreme Lower Manual</td>
</tr>
<tr>
<td>312145</td>
<td>XTR Gun Manual</td>
</tr>
</tbody>
</table>
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 or on warning labels, 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.

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
</table>
| **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 must be used with a cord having a grounding wire. The cord must be properly installed and grounded in accordance with all local codes and ordinances.  
• Improper connection of the grounding wire may result in a risk of electric shock.  
• 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. |
| **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 at main switch before disconnecting any cables and before servicing or installing equipment.  
• Connect only to grounded power source.  
• All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations. |
| **FIRE AND EXPLOSION HAZARD**  
Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:  
• Use equipment only in well ventilated area.  
• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).  
• Keep work area free of debris, including solvent, rags and gasoline.  
• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.  
• Ground all equipment in the work area. See Grounding instructions.  
• Use only grounded hoses.  
• Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are antistatic or conductive.  
• **Stop operation immediately** if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.  
• Keep a working fire extinguisher in the work area. |
## Warnings

### SKIN INJECTION HAZARD
High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Do not point gun at anyone or at any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing equipment.
- Tighten all fluid connections before operating the equipment.
- Check hoses and couplings daily. Replace worn or damaged parts immediately.

### 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.

### 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.
<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
</table>
| **BURN HAZARD**  
Equipment surfaces and fluid that is heated can become very hot during operation. To avoid severe burns:  
• Do not touch hot fluid or equipment. |
| **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 - Cart Mount

A Electric Driver  
B Lower  
C Fluid Drain/Purge Valve  
D Packing Nut  
E Power Switch  
F Fluid Outlet  
G Junction Box  
H Pressure Adjustment Knob  
I Check Valve

Fig. 1: Airless Sprayer
Installation

Installation of this equipment involves potentially hazardous procedures. Improper wiring may cause electric shock or other serious injury. Only trained qualified personnel who have read and who understand the information in this manual should install this equipment.

Power Supply

See Table 1 for power supply requirements. The system requires a dedicated circuit protected with a circuit breaker.

Table 1: Power Supply Specifications

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Phase</th>
<th>Hz</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>200-240 VAC</td>
<td>1</td>
<td>50/60</td>
<td>20 A</td>
</tr>
</tbody>
</table>

Select the minimum cord wire gauge based on length according to the table below:

<table>
<thead>
<tr>
<th>Length</th>
<th>Gauge</th>
<th>mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ft (15.24 m)</td>
<td>12 AWG</td>
<td>3.31</td>
</tr>
<tr>
<td>100 ft (30.48 m)</td>
<td>10 AWG</td>
<td>5.26</td>
</tr>
<tr>
<td>200 ft (60.96 m)</td>
<td>6 AWG</td>
<td>13.29</td>
</tr>
<tr>
<td>300 ft (91.44 m)</td>
<td>4 AWG</td>
<td>21.14</td>
</tr>
</tbody>
</table>

Connect Power

Improper wiring may cause electric shock or other serious injury. All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

1. Cut power cord wires to the following lengths:
   - Ground wire - 6.5 inches (16.5 cm)
   - Power wires - 3.0 inches (7.6 cm) adding ferrules as necessary. See Fig. 2.

2. Bring cord to unit and remove four screws to separate junction box (G) with power switch (E) from remainder of sprayer. See Fig. 3.

3. With power switch (E) and junction box (G) detached from machine, wires inside junction will appear as below.

   **NOTE:** Two wires will be installed in both terminals 1L1 and 3L2. One red wire and either one blue, or one brown wire will be installed at either of these terminals.

   **NOTE:** Press gasket against back sealing face of junction box to ease installation of power cord.

4. Insert power cord (from step 1) through cord grip and into junction box (G).

   **NOTE:** Power wires should be installed into terminals 2T1 and 4T2. See Fig. 4.
5. If power wires cannot be successfully inserted into terminals with disconnect block (J) attached to power switch (E), push release clip on disconnect block (J) to remove (J) from power switch (E). Power wires can then be installed into disconnect block (J) away from junction box (G). See Fig. 5.

6. To reinstall disconnect block (J), align keyed black knob on (J) with matching black knob on power switch (E). Gently push until disconnect block (J) snaps into place. See Fig. 6.

7. Attach ground wire to ground terminal inside junction box (G). **NOTE:** Be sure to retain attachment of fan cable ground wire to same ground screw.

8. Place fan wires and other power wires into open area on either side of disconnect block (J) as space permits. Reinstall junction box cover. See Fig. 7. **NOTE:** Make sure no wires are pinched during installation.

9. Replace junction box screws removed in step 2 and tighten cord strain relief to securely hold power cord in junction box (G). See Fig. 8.
Grounding

The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.

Sprayer: system is grounded through the power cord.

Fluid hoses: use only electrically conductive hoses with a maximum of 210 ft. (64 m) combined hose length to ensure grounding continuity. Check electrical resistance of hoses. If total resistance to ground exceeds 25 meg-ohms, replace hose immediately.

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

Fluid supply container: follow local code.

Object being sprayed: follow local code.

Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts grounding continuity.

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

Fill With Oil Before Using Equipment

See Fig. 9. Before using the equipment, open fill cap (P) and add Graco Part No. 16W645 ISO 220 silicone-free synthetic gear oil. Check the oil level in the sight glass (K). Fill until the oil level is near the halfway point of the sight glass. The oil capacity is approximately 1.5 quarts (1.4 liters). Do not overfill.

NOTE: Two 1 quart (0.95 liters) bottles of oil are supplied with equipment.

Flush Before Using Equipment

The pump fluid section was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment.
Setup

To avoid tip over, make sure cart is on a flat and level surface. Failure to do so could result in injury or equipment damage.

Table 2: Tools Required

- Two adjustable wrenches
- Torque wrench

1. Check packing nut (D). Fill with Throat Seal Liquid (TSL). Torque to 25 ft-lb (34 N•m).

2. Attach electrically conductive fluid hose to pump lower outlet via check valve and tighten.

3. Attach hose to gun and tighten.

4. Attach material supply inlet hose to pump lower. **NOTE:** Maximum suggested length is 6 ft (1.8 m), minimum suggested inner diameter is 1 in. (25 cm).

5. Pull pressure adjustment knob (H) out and turn counterclockwise until it stops. Push the knob in to lock.

6. Turn power switch (E) OFF. Connect unit to power source.

7. Always flush and prime sprayer before each use (see page 12).
Pressure Relief Procedure

Follow the Pressure Relief Procedure whenever you see this symbol.

This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Engage gun trigger lock.

2. Pull pressure adjustment knob (H) out and turn counterclockwise until it stops. Push the knob in to lock.

3. Turn power switch (E) off.

4. Disengage gun trigger lock.

5. Hold gun firmly against a grounded metal pail. Trigger the gun.


7. Drain fluid: Slowly open fluid drain/purge valve (C), and drain fluid into a waste pail.

8. If you suspect the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the previous steps, VERY SLOWLY loosen the tip guard retaining nut or hose end coupling and relieve pressure gradually; then loosen completely. With tip removed, trigger gun into bucket.

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.
Prime/Flush

1. Perform **Pressure Relief Procedure**, page 11.

2. Remove tip and tip guard from gun.

3. Place material supply suction hose into compatible fluid (if priming) or solvent (if flushing).

4. Pull pressure adjustment knob (H) out and turn counterclockwise until it stops. Push the knob in to lock.

5. Turn power switch (E) ON.

6. Prime or flush hose and gun:
   a. Disengage gun trigger lock.

   b. Trigger gun into grounded pail. Pull out pressure adjustment knob (H) and turn clockwise slowly to increase pressure, until a steady stream flows from gun. Push knob in to lock. **If flushing**, trigger gun for 10-15 seconds.

   c. Engage trigger lock.

7. If priming, equipment is now ready to spray (proceed to **Spray**, page 13). If flushing, proceed with step 8.

   **NOTE:** The remaining steps are for flushing only.

8. Place drain tube in a grounded waste pail.

9. Slightly rotate drain/purge valve (C) counterclockwise to open.

10. To start pump, pull out pressure adjustment knob (H) and turn clockwise until pump begins to move. Push knob in to lock.

11. When clean solvent flows from drain tube, rotate drain/purge valve (C) clockwise to close. Pump will stall.


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**NOTICE**

Do not prime pump through drain/purge valve using two component materials. Mixed two-component materials will harden in valve and result in clogging.
Spray

1. Perform **Prime** procedure, page 12.
2. Perform **Pressure Relief Procedure**, page 11.
3. Install tip and tip guard onto gun.
4. Turn power switch (E) ON.
5. Pull out and turn pressure adjustment knob (H) until desired pressure is reached. Turn clockwise to increase pressure, counterclockwise to decrease pressure. Push knob in to lock.
6. Disengage gun trigger lock.
7. Spray a test pattern. Read fluid manufacturer’s recommendations. Adjust as necessary.

ShUTDOWN

To shutdown, perform **Prime/Flush** procedure, page 12.

Perform **Pressure Relief Procedure**, page 11.

**NOTICE**
Do not allow pump to run dry. It will quickly accelerate to a high speed causing damage.

**NOTICE**
Never leave water or water-based fluid in pump over night. If water-base fluid has been used, flush with water first, then with a rust inhibitor (such as mineral spirits). Relieve pressure, but leave rust inhibitor in pump to protect parts from corrosion.
Maintenance

Preventative Maintenance Schedule

The operating conditions of your particular system determine how often maintenance is required. Establish a preventative maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your system.

Change the Oil

NOTE: Change the oil after a break-in period of 200,000 to 300,000 cycles. After the break-in period, change the oil once per year.

1. Place a minimum 2 quart (1.9 liter) container under the oil drain port. Remove the oil drain plug (25). Allow all oil to drain from the driver.

2. Reinstall the oil drain plug (25). Torque to 25-30 ft-lb (34-40 N·m).

3. Open the fill cap (P) and add Graco Part 16W645 ISO 220 silicone-free synthetic gear oil. Check the oil level in the sight glass (K). Fill until the oil level is near the halfway point of the sight glass. The oil capacity is approximately 1.5 quarts (1.4 liters). Do not overfill.

4. Reinstall the fill cap.

Daily Maintenance

NOTE: For overnight shutdown, stop pump at bottom of its stroke to prevent fluid from drying on exposed displacement rod and damaging throat packings. Perform Pressure Relief Procedure, page 11.


2. Relieve pressure. See Pressure Relief Procedure, page 11.

3. Check packing nut (D, FIG. 1). Adjust packings and replace TSL as necessary. Torque to 25 ft-lb (34 N·m).

4. Check hoses, tubes, and couplings. Tighten all fluid connections before each use.

Check Oil Level

See FIG. 10. Check the oil level in sight glass (K). The oil level should be near the halfway point of the sight glass when the sprayer is not running. If oil is low, open fill cap (P) and add Graco Part No. 16W645 ISO 220 silicone-free synthetic gear oil. The oil capacity is approximately 1.5 quarts (1.4 liters). Do not overfill.

NOTE: Two 1 quart (0.95 liters) bottles of oil are supplied with equipment.

FIG. 10: Sight Glass and Oil Fill Cap

Corrosion Protection

Always flush the pump before fluid dries on the displacement rod. Never leave water or water-based fluid in the pump overnight. First, flush with water or a compatible solvent, then with a rust inhibitor, such as mineral spirits. Perform Pressure Relief Procedure (page 11), but leave rust inhibitor in pump to protect parts from corrosion.
Flush before changing fluids, before fluid can dry in
the equipment, at the end of the day, before storing,
and before repairing equipment.

Flush at the lowest pressure possible. Check con-
nectors for leaks and tighten as necessary.

Flush with a fluid that is compatible with the fluid
being dispensed and the equipment wetted parts.

**Cart Maintenance**

Periodically lubricate the axle between points A and B
with lightweight oil. See the following figure.

Keep the cart clean by wiping up spills daily, using a
compatible solvent.
Troubleshooting

Hibernation Cutback

When fast blinking is displayed, the sprayer has entered Hibernation Cutback mode. When the sprayer is on and pressurized but the pump has not moved any material in 30 minutes, the sprayer will enter hibernation mode and will only control up to 75% of the maximum pressure.

Hibernation mode will be exited when:

- The sprayer detects that material needs to be pumped again OR
- The pressure knob is adjusted

Error Codes

Error codes can take two forms:

**Alarm:** alerts you to the alarm cause and shuts down the pump.

**Deviation:** alerts you to the problem, but pump may continue to run past the set limits until the system’s absolute limits are reached.

**NOTE:** The blink code is displayed using the power indicator on the driver. The blink code given below indicates the sequence.

<table>
<thead>
<tr>
<th>Blink Code</th>
<th>Error Type</th>
<th>Troubleshooting Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alarm</td>
<td><strong>Voltage Too Low</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Verify that line voltage is within the range specified in Technical Data, page 29. Cycle power and check status indicator to see if error is still active.</td>
</tr>
<tr>
<td>2</td>
<td>Alarm</td>
<td><strong>Voltage Too High</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Verify that line voltage is within the range specified in Technical Data, page 29. Cycle power and check status indicator to see if error is still active. Verify that check valve is installed on pump and functions properly.</td>
</tr>
<tr>
<td>3</td>
<td>Alarm</td>
<td><strong>Low Temperature</strong></td>
</tr>
</tbody>
</table>
|            |            | 1. Warm equipment to greater than 0° C.  
|            |            | 2. Contact your Graco distributor or Tech Service for more information. |
| 4          | Deviation  | **High Temperature**  |
|            |            | The temperature of the system is near the maximum operation temperature. The performance has been reduced to prevent the sprayer from completely shutting down.  
|            |            | 1. Check fan operation. Clean fan and driver housing. Verify fuses are intact in junction box.  
|            |            | 2. Reduce pressure, duty cycle, or gun tip size.  
|            |            | 3. Move unit to a cooler location. |
| 5          | Alarm      | **Driver Temperature Fault**  
|            |            | Driver is running too hot. Allow unit to cool.  
|            |            | 1. Check fan operation. Clean fan and driver housing. Verify fuses are intact in junction box.  
|            |            | 2. Reduce pressure, duty cycle, or gun tip size.  
<p>|            |            | 3. Move unit to a cooler location. |</p>
<table>
<thead>
<tr>
<th>Blink Code</th>
<th>Error Type</th>
<th>Troubleshooting Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Alarm</td>
<td><strong>Board Temperature Fault</strong>&lt;br&gt;The control board is running too hot. Allow unit to cool.&lt;br&gt;1. Check fan operation. Clean fan and driver housing. Verify fuses are intact in junction box.&lt;br&gt;2. Reduce pressure, duty cycle, or gun tip size.&lt;br&gt;3. Move unit to a cooler location.</td>
</tr>
<tr>
<td>7, 8</td>
<td>Alarm</td>
<td><strong>Encoder Error</strong>&lt;br&gt;1. Cycle power and try again.&lt;br&gt;2. Contact your Graco distributor or Tech Service for more information.</td>
</tr>
<tr>
<td>9</td>
<td>Alarm</td>
<td><strong>Software Versions Do Not Match</strong>&lt;br&gt;Obtain software update token and follow <strong>Software Update</strong> procedure (contact your Graco distributor or Tech Service for more information).</td>
</tr>
<tr>
<td>10</td>
<td>Alarm</td>
<td><strong>Circuit Board Communication Failure</strong>&lt;br&gt;1. Cycle power and check status indicator to see if error is still active.&lt;br&gt;2. Contact your Graco distributor or Tech Service for more information.</td>
</tr>
<tr>
<td>11</td>
<td>Alarm</td>
<td><strong>Internal Circuit Board Hardware Failure</strong>&lt;br&gt;Cycle power and check status indicator to see if error is still active.</td>
</tr>
<tr>
<td>12, 13</td>
<td>Alarm</td>
<td><strong>Internal Software Error</strong>&lt;br&gt;Cycle power and check status indicator to see if error is still active.</td>
</tr>
</tbody>
</table>
## Troubleshooting

### Pump

**NOTE:** The LED on the driver will blink if an error is detected. See Error Code Troubleshooting (page 16) for more information.

**NOTE:** Check all possible remedies before disassembling pump.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump output low on both strokes.</td>
<td>Inadequate power supply.</td>
<td>See Power Supply, page 7.</td>
</tr>
<tr>
<td></td>
<td>Exhausted fluid supply.</td>
<td>Refill and prime pump.</td>
</tr>
<tr>
<td></td>
<td>Clogged fluid outlet line, gun*, etc.; hose inner diameter too small.</td>
<td>Clear hose, check valve, or gun; use hose with larger inner diameter.</td>
</tr>
<tr>
<td>No output.</td>
<td>Improperly installed ball check valves.</td>
<td>Check and repair. See lower manual.</td>
</tr>
<tr>
<td></td>
<td>Exhausted fluid supply.</td>
<td>Refill and prime pump.</td>
</tr>
<tr>
<td>Pump will not operate.</td>
<td>Inadequate power supply.</td>
<td>See Power Supply, page 7.</td>
</tr>
<tr>
<td></td>
<td>Exhausted fluid supply.</td>
<td>Refill and prime pump.</td>
</tr>
<tr>
<td></td>
<td>Clogged fluid hose or gun*.</td>
<td>Clean hose or gun.</td>
</tr>
<tr>
<td></td>
<td>Driver parts are worn or damaged.</td>
<td>Repair or replace driver.</td>
</tr>
<tr>
<td>No pressure.</td>
<td>Fluid leaking from rupture disk.</td>
<td>Replace rupture disk with new one; do not replace with pipe plug.</td>
</tr>
<tr>
<td>Output low on down stroke.</td>
<td>Open or worn intake valve.</td>
<td>Clear or service intake valve.</td>
</tr>
<tr>
<td>Output low on upstroke.</td>
<td>Open or worn piston valve packings.</td>
<td>Clear piston valve; replace packings.</td>
</tr>
<tr>
<td></td>
<td>Open or worn piston valve packings.</td>
<td>Clear piston valve; replace packings.</td>
</tr>
<tr>
<td></td>
<td>Open or worn intake valve.</td>
<td>Clear or service intake valve.</td>
</tr>
<tr>
<td>Cycles or fails to hold pressure at stall.</td>
<td>Worn check valves or seals.</td>
<td>Service lower. See Xtreme Lower Removal, page 19, and Xtreme Lowers manual (311762).</td>
</tr>
<tr>
<td>Air bubbles in fluid.</td>
<td>Loosen suction line.</td>
<td>Tighten suction line connections. Use compatible liquid thread sealant or PTFE tape on connections.</td>
</tr>
<tr>
<td>Poor finish or irregular spray pattern.</td>
<td>Incorrect fluid pressure at gun.</td>
<td>See gun manual. Read fluid manufacturer’s recommendations.</td>
</tr>
<tr>
<td></td>
<td>Fluid is too thin or too thick.</td>
<td>Adjust fluid viscosity. Read fluid manufacturer’s recommendations.</td>
</tr>
<tr>
<td></td>
<td>Dirty, worn, or damaged spray gun.</td>
<td>Service spray gun. See spray gun manual.</td>
</tr>
</tbody>
</table>

*To determine if fluid hose or gun is obstructed, follow Pressure Relief Procedure, page 11. Disconnect fluid hose and place a container at pump fluid outlet to catch any fluid. Turn pressure adjustment knob just enough to start pump. If pump starts, the obstruction is in fluid hose or gun.*
Repair

To prevent skin injection and splashing, never open a camlock hose or applicator fitting while there is pressure in the fluid line. Perform Pressure Relief Procedure, page 11, before performing any repair procedure.

Xtreme Lower Removal

Required Tools
- Set of adjustable wrenches
- Torque wrench
- Rubber mallet
- Thread lubricant
- Anti-seize lubricant 222955
- Thread sealant

Disconnect and Reconnect Lower

1. Flush pump; see Prime/Flush, page 12. Stop pump at bottom of its stroke.
2. Perform Pressure Relief Procedure, page 11.
3. Disconnect unit from power source.
4. Disconnect fluid hose. Disconnect suction hose (4). Hold fluid outlet fitting (6) with a wrench to keep it from loosening while you disconnect suction hose.

Do not lift the pump by the lift ring when the weight exceeds 250 kg (550 lb). The lift ring could fail and result in personal injury or damage to the equipment.

Use caution when disconnecting lower; they can weigh up to 25 kg (55 lbs). Take appropriate precautions.

5. If driver does not require service, leave it attached to its mounting.

6. Remove clip (11) and slide coupling cover (13) up to remove coupling (12).
7. Use a wrench to hold tie rod flats to keep rods (8) from turning. Unscrew nuts (10) and remove lower (9).

8. Refer to Xtreme Lower manual (311762) to service lower.

9. Reconnect lower by following disconnect steps in reverse order.

   NOTE: Torque nuts (10) to 50-60 ft-lb (68-81 N•m).

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**Check Valves**

1. Perform **Pressure Relief Procedure**, page 11, and disconnect unit from power source before removing or servicing check valve.

2. When replacing material check valves or solvent check valves, reinstall with proper flow direction.

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**Replace Bearing Shaft Assembly**

1. Stop pump at bottom of its stroke. Shut off and remove power to driver.

2. Perform **Pressure Relief Procedure**, page 11.

3. Disconnect lower from driver. See **Disconnect and Reconnect Lower** procedure, page 19.

4. Drain oil from driver. See **Change the Oil**, page 14.

5. Reinstall oil drain plug. Torque to 25-30 ft-lb (34-40 N•m).


7. Install new bearing shaft assembly. Torque to 70-80 ft-lb (95-108 N•m).

8. Fill with oil. See **Change the Oil**, page 14.

9. Reconnect lower to driver.

10. Turn power ON and resume operation.
Replace Fan Fuses

1. Perform Pressure Relief Procedure, page 11.
2. Disconnect unit from power source.
3. Remove four screws (53) and remove junction box (G) from driver to gain access to the disconnect block (J). Gently pull out fuse holders.
4. Unscrew fuse holder, remove old fuse, and replace with new fuse (5 mm x 20 mm, 500 mA, 250V, Slow Blow). Reconnect fuse holder and tighten.
5. Repeat step 3 with second fuse.
6. Tuck wires back into junction box (G) around disconnect block (J) and reinstall junction box with four screws.

**NOTE:** Make sure no wires get pinched during installation.

Replace Fan Assembly

1. Perform Pressure Relief Procedure, page 11.
2. Disconnect unit from power source.
3. Remove four screws (53) and remove junction box (G) from driver to gain access to the disconnect block (J). See Fig. 12.
4. Loosen screws for 1L1 and 3L2 and gently remove red wire from each location.
5. Remove grounding screw and disconnect green grounding wire coming out of strain relief attached to driver (not the junction box). See Fig. 8.
6. Loosen cord grip attached to driver and pull out fan wires.

7. Remove screws that attach fan assembly to driver and pull up on end farthest from junction box. Slide assembly toward junction box to remove.

8. Install new fan assembly. Slide cover into slots for tabs located on junction box side, then gently push down far end.

9. Route wires through cord grip attached to driver.

10. Reattach both ground wires (fan assembly and driver assembly) to grounding screw. Tighten ground screw.

11. Attach one red wire from fan assembly and one power wire (either blue or brown) into both disconnect box locations (1L1 and 3L2). Tighten screws.

12. Gently tuck wires back into junction box (G) around disconnect block (J) and reinstall junction box. Replace four screws (53) and tighten. See Fig. 12. 

**NOTE:** Make sure no wires get pinched during installation.

13. Tighten cord grip attached directly to driver assembly.
Parts

Sprayer
## Parts List - Sprayer

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
<th>Ref.</th>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>262914</td>
<td>CART, painted, mortar, light wt</td>
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<td>25</td>
<td>116750</td>
<td>TUBE, nylon</td>
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<tr>
<td>2</td>
<td>116406</td>
<td>WHEEL, semi pneu, light weight</td>
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<td>H43850</td>
<td>HOSE, Xtreme, 4500 psi, .375 ID, 50 ft</td>
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<tr>
<td>3</td>
<td>113436</td>
<td>RING, retaining</td>
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<td>45</td>
<td>164856</td>
<td>FITTING, nipple, reducing</td>
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<td>4</td>
<td>ELECTRIC DRIVER</td>
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<td>46</td>
<td>H42506</td>
<td>HOSE, cpld, 4500 psi, .25 ID, 6 ft</td>
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<tr>
<td>5</td>
<td>100133</td>
<td>WASHER, lock, 3/8</td>
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<td>47</td>
<td>XTR510</td>
<td>GUN, XTR5, 1 in. HND, 4fng, XHD529, nf</td>
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<tr>
<td>6</td>
<td>100101</td>
<td>SCREW, cap, hex hd</td>
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<td>8</td>
<td>257150</td>
<td>ROD, tie, 14 1/4 long</td>
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<td>L145C8</td>
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<td>CLIP, hairpin (with lanyard)</td>
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<td>13</td>
<td>197340</td>
<td>COVER, coupler</td>
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<td>55</td>
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<td>VALVE, check</td>
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<td>14</td>
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<td>PLUG, tubing</td>
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<td>FITTING, barbed, plated</td>
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</table>

* Included in lower (9). See Xtreme lower manual for details.

### Part Specifications:

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Torque to 196-210 N•m (145-155 ft-lb)</td>
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<tr>
<td>2</td>
<td>Apply thread sealant</td>
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<tr>
<td>1</td>
<td>Torque to 68-81 N•m (50-60 ft-lb)</td>
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Electric Driver
## Parts List - Electric Driver

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
<th>Ref.</th>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
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<td>HOUSING, main, machining</td>
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<td>9</td>
<td>15F931</td>
<td>RING, lift, sst 1 9/16 thrd</td>
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<td>92</td>
<td>108788</td>
<td>WASHER, flat</td>
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<td>14</td>
<td>24E315</td>
<td>SIGHTGLASS</td>
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<td>COVER, fan,assy, waterproofing (includes fan cable)</td>
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<td>19</td>
<td>24K341</td>
<td>BEARING, shaft, assy</td>
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<td>123971</td>
<td>DISCONNECT KNOB</td>
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<td>SCREW, cap, sch</td>
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<td>100</td>
<td>16U113</td>
<td>KNOB KIT</td>
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<td>WASHER, lock spring</td>
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<td>49</td>
<td>15H525</td>
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<td>GEAR LUBE (Not shown)</td>
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<td>JUNCTION BOX, assy, waterproofing</td>
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<td>80</td>
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<td>82</td>
<td>121171</td>
<td>GRIP, cord, .35-.63, 3/4</td>
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### Part Specifications:

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<th>Ref.</th>
<th>Instruction</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>▶️ Torque to 54-68 N•m (40-50 ft-lb) after gear train is assembled</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>▶️ Torque to 94.9-108.4 N•m (70-80 ft-lb)</td>
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</table>
Check Valve

Parts List - Check Valve

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Part</th>
<th>Description</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NUT, seat</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>102595</td>
<td>PACKING, o-ring</td>
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</tr>
<tr>
<td>3</td>
<td>181492</td>
<td>GUIDE, ball</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>102972</td>
<td>BALL, metallic</td>
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</tr>
<tr>
<td>5</td>
<td>181535</td>
<td>HOUSING, ball, check</td>
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<tr>
<td>6</td>
<td>108361</td>
<td>RETAINER, spring</td>
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<tr>
<td>7</td>
<td>SPRING, compression</td>
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Part Specifications:

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Torque to 101-108 N•m (75-80 ft-lb)</td>
</tr>
</tbody>
</table>
# Technical Data

## Electric High Pressure Airless Sprayer

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum fluid working pressure</td>
<td>4500 psi</td>
<td>31 MPa, 310 bar</td>
</tr>
<tr>
<td>Stroke length</td>
<td>4.75 in.</td>
<td>120 mm</td>
</tr>
<tr>
<td>Maximum continuous cycle rate (To prevent premature pump wear, do NOT exceed maximum recommended speed of fluid pump)</td>
<td>35 cycles per minute</td>
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</tr>
<tr>
<td>Weight</td>
<td>230 lbs</td>
<td>104 kg</td>
</tr>
<tr>
<td>Wetted Parts</td>
<td>Carbon Steel, Alloy Steel, 304, 440 and 17-PH Grades of Stainless Steel, Zinc and Nickel Plating, Ductile Iron, Tungsten Carbide, PTFE; Leather, Aluminum</td>
<td></td>
</tr>
<tr>
<td>Operating temperature range:</td>
<td>23° to 120° F</td>
<td>-5° to 50° C</td>
</tr>
<tr>
<td>Input voltage:</td>
<td>200-240 VAC, single phase, 50/60 Hz</td>
<td></td>
</tr>
<tr>
<td>Input current:</td>
<td>20A maximum</td>
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<tr>
<td>Sound data:</td>
<td>72 dB</td>
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</tr>
<tr>
<td>Oil capacity:</td>
<td>1.5 quarts</td>
<td>1.4 liters</td>
</tr>
<tr>
<td>Oil specification:</td>
<td>Graco part number 16W645 ISO 220 silicone-free synthetic gear oil</td>
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## Inlet/Outlet Sizes

<table>
<thead>
<tr>
<th>Inlet/Outlet Sizes</th>
<th>Fluid inlet size</th>
<th>Fluid outlet size</th>
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<tbody>
<tr>
<td></td>
<td>1-1/4 npt(m)</td>
<td>3/8 npt(m)</td>
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</table>