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## Airless Paint Sprayer

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For application of architectural paints and coatings. For professional use only.

### Airlessco - GS800 24F574, 16M531

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



#### Important Safety Instructions

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

#### Related Manuals



##### Gun Manual

289316:

312363 - English

312364 - Spanish

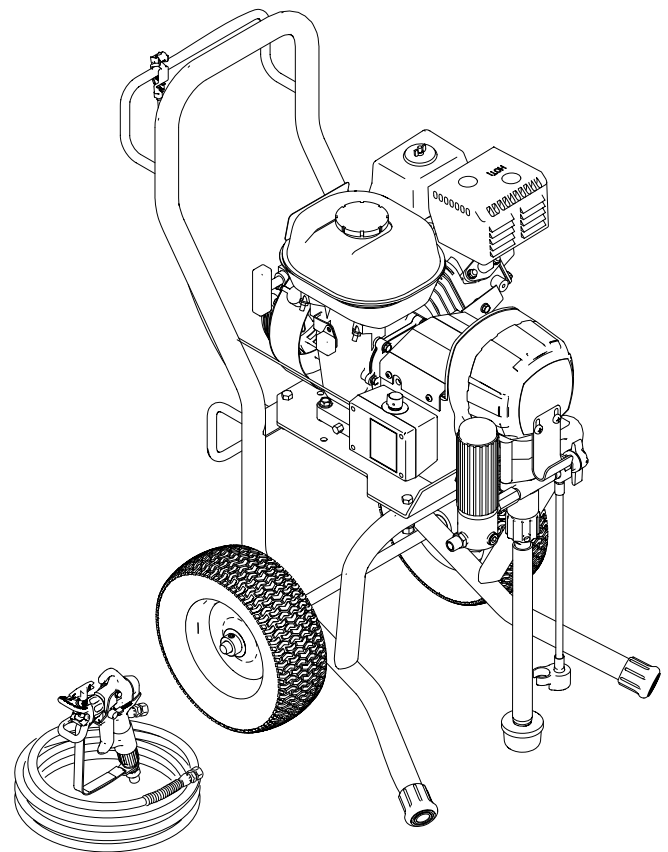
312365 - French

24H289:

3A0479 - English

3A0480 - French

3A0481 - Spanish



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# 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



### 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.
- Do not fill fuel tank while engine is running or hot; shut off engine and let it cool. Fuel is flammable and can ignite or explode if spilled on hot surface.
- 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.
- If there is static sparking or you feel a shock, **stop operation immediately**. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.











### 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.
- 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.

# ! WARNING

 	<p><b>EQUIPMENT MISUSE HAZARD</b>  <b>Misuse can cause death or serious injury.</b></p> <ul style="list-style-type: none"> <li>• Always wear appropriate gloves, eye protection, and a respirator or mask when painting.</li> <li>• Do not operate or spray near children. Keep children away from equipment at all times.</li> <li>• Do not overreach or stand on an unstable support. Keep effective footing and balance at all times.</li> <li>• Stay alert and watch what you are doing.</li> <li>• 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 <b>Pressure Relief Procedure</b> for turning off the unit.</li> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not kink or over-bend the hose.</li> <li>• Do not expose the hose to temperatures or to pressures in excess of those specified by Airlessco.</li> <li>• Do not use the hose as a strength member to pull or lift the equipment.</li> </ul>
	<p><b>PRESSURIZED ALUMINUM PARTS HAZARD</b></p> <p>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.</p> <ul style="list-style-type: none"> <li>• Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.</li> <li>• Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.</li> </ul>
 	<p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> and disconnect all power sources.</li> </ul>
	<p><b>CARBON MONOXIDE HAZARD</b></p> <p>Exhaust contains poisonous carbon monoxide, which is colorless and odorless. Breathing carbon monoxide can cause death.</p> <ul style="list-style-type: none"> <li>• Do not operate in an enclosed area.</li> </ul>
	<p><b>TOXIC FLUID OR FUMES HAZARD</b></p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> <li>• Read MSDSs to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> </ul>
	<p><b>BURN HAZARD</b></p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"> <li>• Do not touch hot fluid or equipment.</li> </ul>

# WARNING



## **PERSONAL PROTECTIVE EQUIPMENT**

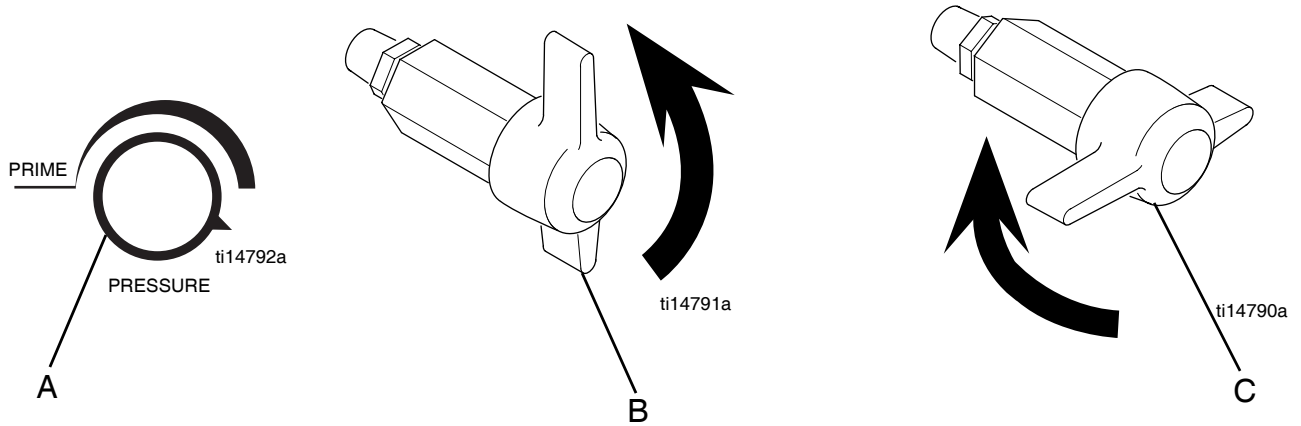
You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:

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

## **CALIFORNIA PROPOSITION 65**

The engine exhaust from this product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

# Component Identification



**NOTE:** The valve handle can move both clockwise and counter clockwise and can face different directions.

A	Pressure Control Knob	Adjusts pressure. Turn clockwise to increase pressure and counterclockwise to decrease pressure.
	Prime/Pressure (PR) Relief Valve	Primes pump and relieves pressure from gun, hose and tip.
B	Prime/Pressure (PR) Relief Valve Open Position	Relieves pressure from gun, hose and tip and primes the unit when in the open position. It is in the Open position when there is a wider gap between valve handle and cam body.
C	Prime/Pressure (PR) Relief Valve Closed Position	Pressurizes system when closed. It is in the Closed position when there is only a slight gap between handle and body.

# Operation

## Pressure Relief Procedure



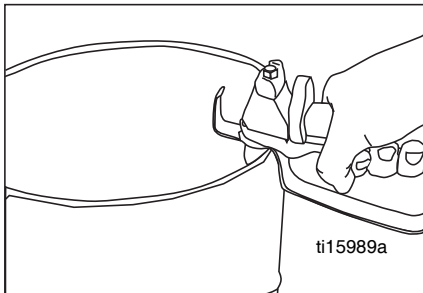
Follow the Pressure Relief Procedure whenever you see this symbol.



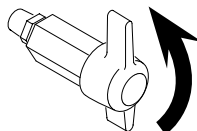
This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Engage the gun trigger lock. Refer to the separate instruction manual provided with gun for safety features and how to engage the trigger lock.
2. Turn the unit off.
3. Disengage the gun trigger lock and trigger the gun to relieve residual fluid pressure.

**Hold metal part of the gun in contact with grounded metal pail. Use minimum pressure.**



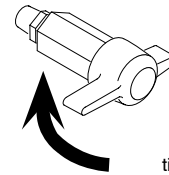
4. Turn Prime/Pressure Relief Valve (PR Valve) to the open (priming) position to relieve residual pressure.



**There will be a wider gap between valve handle and cam body when in open position. In the closed position there is only a very slight gap.**

**NOTE:** The valve handle can move both clockwise and counter clockwise and can face different directions.

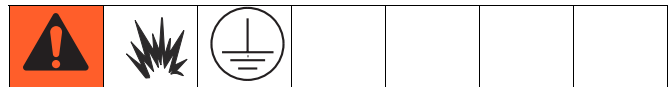
5. Re-engage gun trigger lock and close Prime/Pressure Relief Valve.



If the **spray tip or hose is clogged**, follow Steps 1 through 5 above. Expect paint to splash into the bucket while relieving pressure during Step 4.

**NOTE:** If you suspect that pressure hasn't been relieved due to damaged Prime/Pressure Relief Valve, or other reason, slowly loosen the tip nut or hose coupling.

## Setup



## Grounding

Always ground the following components:

- Sprayer - Connect a ground wire and clamp (supplied) to a true earth ground.
- Fluid Hose - Use only grounded hoses.
- Spray Gun or Dispensing Valve - Grounding is obtained through connection to a properly grounded fluid hose and pump.
- Object being sprayed - According to local code.

## Connect the hose and gun

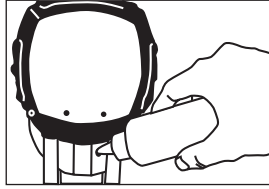
1. Remove the plastic cap plug from the outlet and screw a conductive or grounded 3000 psi spray hose onto fluid outlet.
2. Connect an airless spray gun to the other end of the hose. Do not install spray tip.

**NOTE:** Do not use thread sealer on swivel unions as they are made to self seal.

**NOTE:** The 6' whip hose should always be 3/8".

### Fill the Packing Nut/Wet Cup

1. Fill the Packing Nut/Wet Cup with 5 drops of Airlessco Throat Seal Oil (TSO).



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### Check the Engine Oil Level

1. Unscrew the oil fill plug. The dipstick is attached to the plug.
2. Without threading the plug into place, check to be sure the oil is up to the top mark of the dipstick.
3. If oil is needed, refer to engine manual.

### Fill the Fuel Tank

1. Close the fuel shutoff valve.
2. Use only clean, fresh, well-known brands of unleaded regular grade gasoline.
3. Remove the fuel cap and fill tank. Be sure the air vent in the fill cap is not plugged so fuel can flow to the carburetor, then replace the cap.

### Flush the Sprayer

1. Flush the sprayer. See **Flushing Procedure** on page 7.

### Prime and Flush Storage Fluid

**NOTICE**

The equipment 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 for the first time.

Before beginning a new spraying project you need to prime the sprayer and flush the storage fluid out of the sprayer.

### Oil- or Water-based Materials

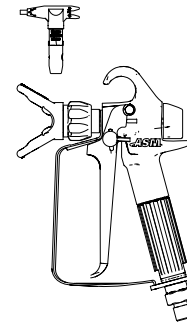
- When changing from water-based material to oil based material, flush with soapy water and then mineral spirits.
- When changing from oil based material to water base material, flush with mineral spirits, followed by soapy water, then a clean water flush.
- When flushing with solvents, ground pail and gun.
- Flush before changing colors, before fluid can dry in the equipment, at the end of the day, before storing, and before repairing equipment.

### Flushing



- To reduce the risk of static sparking, which can cause fire or explosion, always hold a metal part of the gun firmly against the metal pail when flushing. This also reduces splashing.
- Always remove the spray tip before flushing.
- Only metal pails, which are conductive, should be used as solvent pails when flushing.

1. Make sure the gun trigger lock is engaged and there is no spray tip in the gun. Refer to the separate instruction manual provided with gun for safety features and how to engage the trigger lock.



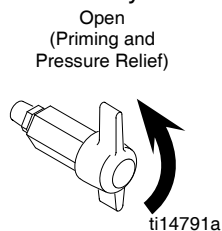
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2. Pour enough clean, compatible solvent into a large, empty metal pail to fill the pump and hoses.
3. Place the suction tube into the pail or place the pail under the pump.

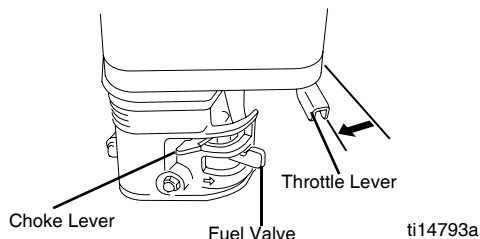
- Turn Pressure Control Knob counter clockwise to lowest setting.



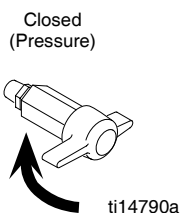
- Open the prime valve to the open - "Priming Position". This will allow an easy start.



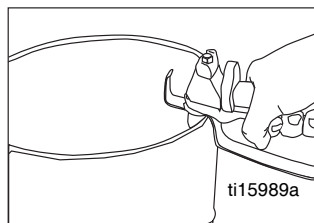
- Turn the engine ON/OFF switch to ON.
- Move the choke toward the closed position.
- Move the throttle lever slightly to the left.
- Turn the fuel valve ON. Pull the start rope. Pull the engine over against compression stroke and then let the rope rewind slowly into the starter. Pull firmly and rapidly to start the engine. Do NOT drop the rope. Hold on to the handle while rewinding, or the rope may rewind improperly and jam the assembly. If the engine does not start, open the choke all the way and continue cranking.



- After the engine is warm, gradually close the choke, raise the RPM of engine slightly by moving throttle to the left. .



- Point the gun into the metal pail and hold a metal part of the gun firmly against the pail. Maintain firm metal to metal contact between gun and container.



- Disengage the gun trigger lock and squeeze the trigger. At the same time, slowly turn the pressure control knob clockwise, just enough to move liquid at low pressure. Close the prime spray valve.
- Allow the pump to operate until clean solvent comes from the gun.
- Release the trigger and engage the gun trigger lock.
- If you are going to start spraying, place the pump or suction tube into the supply container. Release the gun trigger lock and trigger the gun into another empty, metal container, holding a metal part of the gun firmly against the metal pail, forcing the solvent from the pump and hose. When paint starts coming from gun, turn pressure control knob to minimum pressure, place prime valve in prime (open) position and engage the gun trigger lock.
- If you are going to store the sprayer, remove the suction tube or pump from the solvent pail, force the solvent from the pump and hose. Engage the gun trigger lock. See **Storage**, 9.
- Whenever shutting down the sprayer, follow **Pressure Relief Procedure**, page 6.

**NOTICE**

To prevent damage and freezing during storage, never leave water in the fluid pump




## Startup

- Prepare the material according to the material manufacturer's recommendations.
- Place the suction tube into the material container.
- Start the sprayer.
  - Prime/PR Valve must be "OPEN" in the priming position.



- b. After ensuring the gun trigger lock is engaged, attach tip and safety guard.
- c. Turn the engine ON/OFF switch to the “ON” position. Pull rope vigorously until engine starts.
- d. Turn the Pressure Control Knob clockwise to prime the pump.
- e. After the pump is primed, turn the Prime/PR Valve to the “CLOSED” position.
- f. Turn Pressure Control Knob to the desired spray pressure.
- g. Disengage the gun trigger lock to begin spraying.

## Adjusting the Pressure

					
<ul style="list-style-type: none"> <li>To reduce the risk of injection, never hold your hand, body, fingers or hand in a rag in front of the spray tip when cleaning or checking for a cleared tip. Always point the gun toward the ground or into a waste container when checking to see if the tip is cleared or when using a self cleaning tip.</li> <li>When you spray into the paint bucket, always use the lowest spray pressure and maintain firm metal to metal contact between the gun and container.</li> <li>To stop the unit in an emergency, turn the engine off. Then relieve the fluid pressure in the pump and hose. See <b>Pressure Relief Procedure</b>, page 6</li> </ul>					

When adjusting the pressure, turn the Pressure Control Knob clockwise to increase pressure and counterclockwise to decrease pressure. Always use the lowest pressure necessary to completely atomize the material. If more coverage is needed, use a larger tip rather than increasing the pressure. Check the spray pattern. The tip size and angle determines the pattern width and flow rate.

<b>NOTICE</b>
<p><b>NOTE:</b> Operating the sprayer at higher pressure than needed wastes material, causes early tip wear, and shortens sprayer life.</p>

## Shutdown

1. **Relieve Pressure**, page 6.
2. Clean the tip and gun as recommended in the separate Gun Manual supplied with the gun.
3. If spraying water-based material or a material that could harden in the sprayer overnight, flush the sprayer after use. See **Flushing**, page 7.

## Storage

### Short Term

1. Flush sprayer with compatible solvent before storing, then fill the pump and hoses with an oil based solvent such as mineral spirits or Graco or Airlessco Pump Armor.
  - For oil base paint: flush with mineral spirits
  - For water-base paint: flush with water, then mineral spirits and leave the pump, hose and gun filled with mineral spirits.

### Long Term

For longer storage, use Graco or Airlessco Pump Armor. Shut off sprayer, **Relieve Pressure**, page 6, and make sure prime valve is left open.

### Start Up After Storage

Before using water-base paint, flush sprayer with soapy water and then a clean water flush. When using oil-base paint, flush out the mineral spirits with the material to be sprayed.

**NOTE:** Always store unit indoors.

# Maintenance

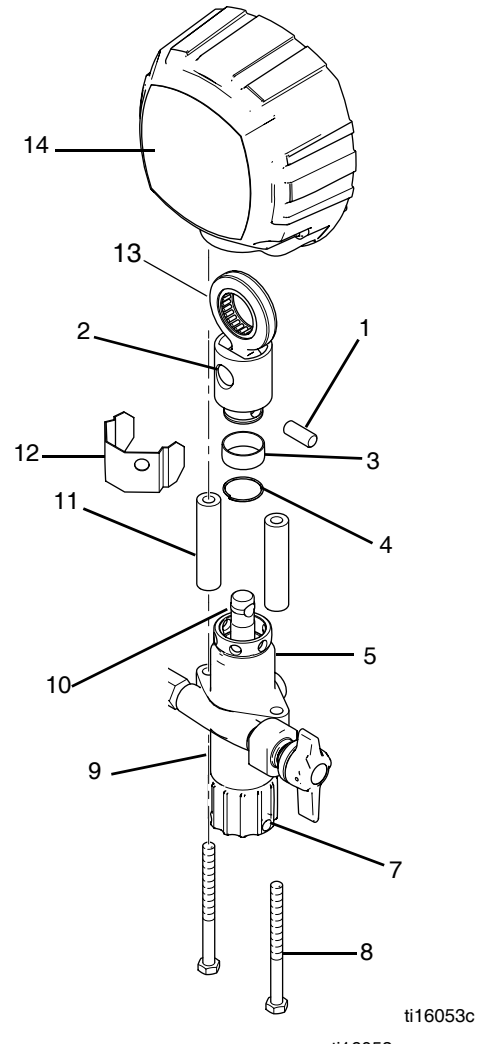
## Daily Maintenance

Keep displacement pump packing nut/wet cup lubricated with Airlessco Throat Seal Oil at all times. The TSO helps protect the packings and rod. Inspect the packing nut daily. If seepage of paint into the packing nut and/or movement of the piston upward is found (while not spraying), the packing nut should be tightened just enough to stop leakage. Overtightening will damage the packings and reduce the packing life.

## Servicing the Fluid Pump

### Fluid Pump Disconnect

1. **Relieve Pressure**, page 6.
2. Flush the material you are spraying out of the machine.
3. Remove the connecting rod shield (12).
4. Move the piston rod (10) to its lowest position by cycling pump slowly.
5. Turn off the motor.
6. Disconnect sensor by holding it in place with a 7/8" wrench and unscrewing the swivel with a 1 1/16" wrench.
7. Remove the retaining ring (3) from the connecting rod (13) and slide the sleeve (2) down revealing the connecting rod pin (1).
8. Remove the suction tube assembly from the fluid pump (9) by unscrewing the suction nut (7) with the packing adjustment tool. (189211)
9. Using a 1/2" wrench unscrew the two bolts (8) from the cover assembly (14). The fluid pump (9) will be hanging loosely at this point.
10. Remove the connecting rod pin (1) out of the connecting rod, allowing the removal of the fluid pump (9) from the machine.



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## Fluid Pump Reinstall

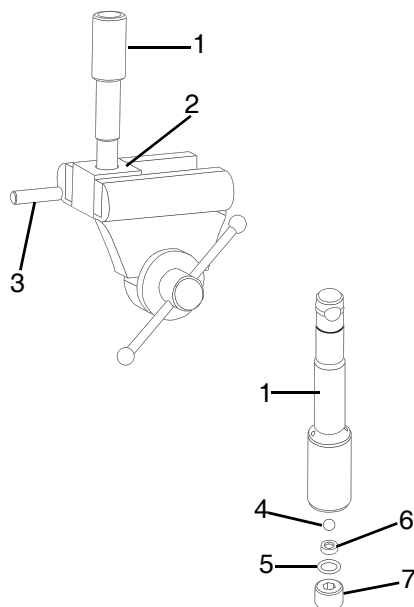
1. Loosen the packing nut and ensure that the piston rod (10) is in its upper position in the fluid pump body (9). Slip the sleeve (2) and the retaining ring (3) over the piston rod (10).
2. Push the piston rod (10) up into the connecting rod (13) and align the holes. Insert the connecting rod (13) and align the holes. Insert the connecting rod pin (1) through the connecting rod (13) and piston. Slip the sleeve (2) up over the connecting rod pin (1) and insert the retaining ring (3) into the groove on the connecting rod.
3. Push the two bolts (8) through the tube spacers (11) and screw them into the cover assembly (14). Using a 1/2" wrench, tighten the two bolts (8) evenly (alternating between them) until you reach 20 ft-lbs.
4. Reassemble lower suction valve assembly by placing the suction seat, O-ring, suction ball and suction ball guide in the suction nut (7) and screw onto fluid pump body (9).
5. Reconnect sensor to the fluid pump body (9). Hold sensor with a 7/8" wrench while tightening the swivel with a 11/16" wrench.
6. Start the machine and operate slowly to check the piston rod(10) for binding. Adjust the two bolts (8), holding the fluid pump body (9) to the cover assembly (14), if necessary. This will eliminate any binding.
7. Tighten packing nut clockwise until resistance is felt against the Belleville Springs, go 3/4 of a turn more. Put five drops of Airlessco Throat Seal Oil in the packing nut.
8. Run the machine at full pressure for several minutes. Release the pressure by following the Pressure Relief Procedure and readjust the packing nut per step 7 above.
9. Install the connecting rod shield (12) so that the small hole is in the upper right hand corner.

## Servicing the Outlet Valve

1. **Disconnect the Fluid Pump**, page 10.
2. Place piston holder in a vise. Slide piston into the holder and lock in place with a 3/8" dowel.
3. Use 1/4" allen wrench to unscrew the outlet seat retainer from the piston.
4. Remove the outlet seat, O-ring and outlet ball.
5. Inspect outlet ball and seat for wear, replace as necessary. Ensure seat is right side up.
6. While piston is still locked in the holder, install parts back into the piston in the following order:
  - Ball
  - Outlet Seat
  - O-Ring

**NOTE:** Before reinstalling the outlet seat support, apply two drops of Loctite No. 242 (blue) on threads and torque to 20 ft-lbs.

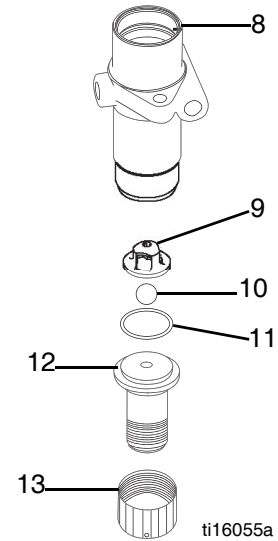
**NOTE:** Airlessco LP pump tool kit (188397) is required for this task. Kit includes: Tightening Bar (865008), Packing Removal Tool (331465), Piston Holder (331195), 3/8" dowel (331196).



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## Servicing the Inlet Valve

1. Un-thread and remove suction nut from fluid pump body.
2. Remove suction seat, O-ring, suction ball and suction retainer.
3. Clean all parts and inspect them for wear or damage, replacing parts as needed.
4. Clean inside of the fluid pump body.
5. Reassemble lower suction valve assembly by placing the suction seat, O-ring, suction ball and suction ball guide in the suction nut and screw onto fluid pump body.



## Packing Replacement Procedures

### Disassembly of the Fluid Pump

1. **Disconnect the Fluid Pump**, page 10.
2. Unscrew and remove the packing nut.
3. Push the piston rod down through the packings and out of the pump.
4. Now push the packing removal tool up through the pump and remove from the top bringing the packings, spacer and springs along with it, leaving fluid body empty.

**NOTE:** Make sure all old packings and glands have been removed from fluid pump.

5. Clean inside of fluid body.
6. Disassemble all parts and clean for reassembly. Discard any old packings.
7. Lubricate leather packing in lightweight oil for 10 minutes prior to reassembly.

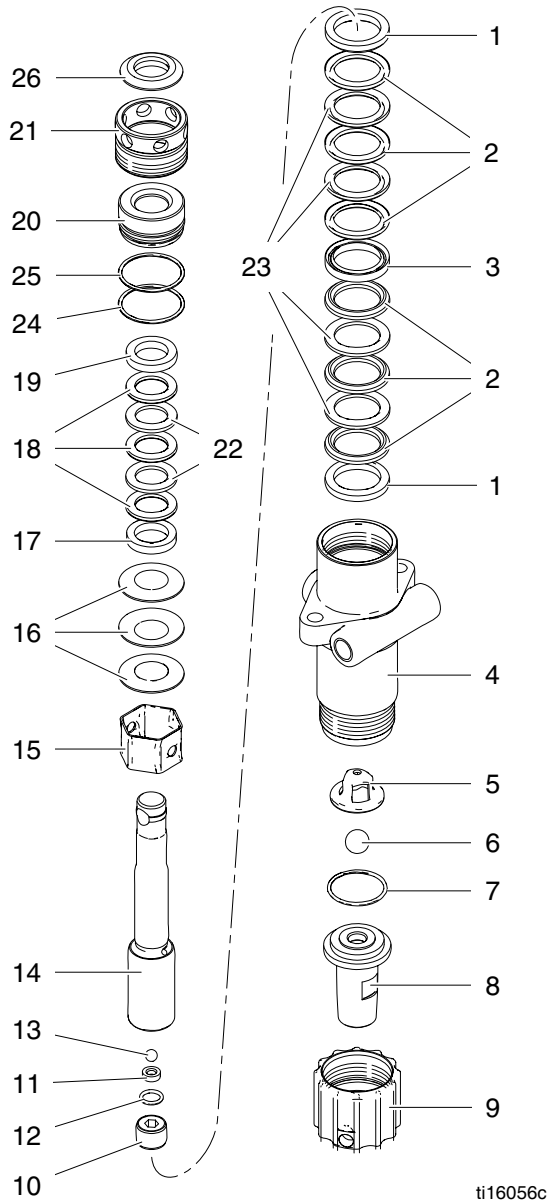
### Reassembly of the Fluid Pump

1. Place lower male gland (1) down on the flat side.
2. Take three of the lower polyethylene packings (2) and two of the leather packings (23) and place onto the male gland (1), with the inverted side down, in the following order:
  - Polyethylene (2)
  - Leather (23)
  - Polyethylene (2)
  - Leather (23)
  - Polyethylene (2)
3. Take the female adaptor (3), which is inverted on both sides, and place it on top of your assembled lower packings.
4. Follow step 2 with your packings inverted side up.
5. Take the second lower male gland (1) and place it on top of your assembled packings with rounded side down.
6. Take assembled glands and packings (13 pieces) and slide onto the lower half of the piston (14).

7. Take the spacer (15) and slide over the top of the piston (14) (it doesn't matter which direction it sits), falling onto the lower packings.
  8. Take three Belleville Springs (16) and slide over the top of the piston (14) in the following order:
    - First spring - curve facing down
    - Second spring - curve facing down
    - Third spring - curve facing down
  9. Take the upper male gland (17) and place it rounded side up.
  10. Take three upper polyethylene packings (18) and two leather packings (22) and assemble with inverted side down, on to the male gland (17) in the following order:
    - Polyethylene (18)
    - Leather (22)
    - Polyethylene (18)
    - Leather (22)
    - Polyethylene (18)
  11. Take upper female gland (19) and place on top of assembled upper packings with the inverted side down.
  12. Take assembled upper glands and packings (7 pieces) and slide on over the top of the piston (14), making sure inverted sides are down.
  13. Take the packing holder (20) and replace the white O-ring (24) and the black O-ring (25) with new ones from the packing kit.
  14. Slide the packing holder(20) over the top of the upper packings so they fit inside.
  15. Lubricate inside of the fluid pump body (4) and the outside of the packings with a light weight oil.
  16. Slide assembly into fluid pump body (4).
- NOTE:** To keep packings secured in correct position, hold the pump body upside down and push the completed assembly upwards into the pump body. Once placed inside, tilt pump body back up to keep all pieces in.
17. Tighten the packing nut (21) into the top of the fluid pump body (4) and tighten until you feel slight resistance against the Belleville Springs (16). Using the

Packing Adjustment Tool, tighten another 3/4 of a turn.

18. Reinstall Fluid Pump, page 11.



## Replacement of Electrical Control Board

1. Remove electrical cover.
2. Disconnect sensor lead from Electrical Board.
3. Disconnect two clutch leads on Electrical Board from leads on clutch.
4. Using a 1/16" allen, loosen set screw in Pressure Control Knob and remove knob.
5. Using a 1/2" nutdriver or 1/2" deep socket, remove nut from pressure control shaft. This will allow removal of electrical control board from frame.
6. Replace Electrical Board Assembly in reverse order. Adjust pressure. See **Pressure Calibration of the Electrical Control Board**, page 14.

## Pressure Calibration of the Electrical Control Board

1. Turn "Pressure Calibration" Trimpot adjustment on electrical control board in the counter clockwise direction at least 15 revolutions.
2. Connect 5000 psi glycerine pressure gauge on outlet of pump between fluid pump and airless hose to monitor Fluid Pump Pressure.
3. Start engine and run at maximum RPM. Turn prime Valve to open (Prime) position. Turn Pressure Control Knob to maximum position (fully clockwise).
4. Using an insulated screwdriver adjust "Pressure Calibration" Trimpot by turning clockwise until the clutch engages. When the clutch engages the pump will commence Priming. When pump is primed, turn the Prime Valve to the Closed (Pressure) Position.

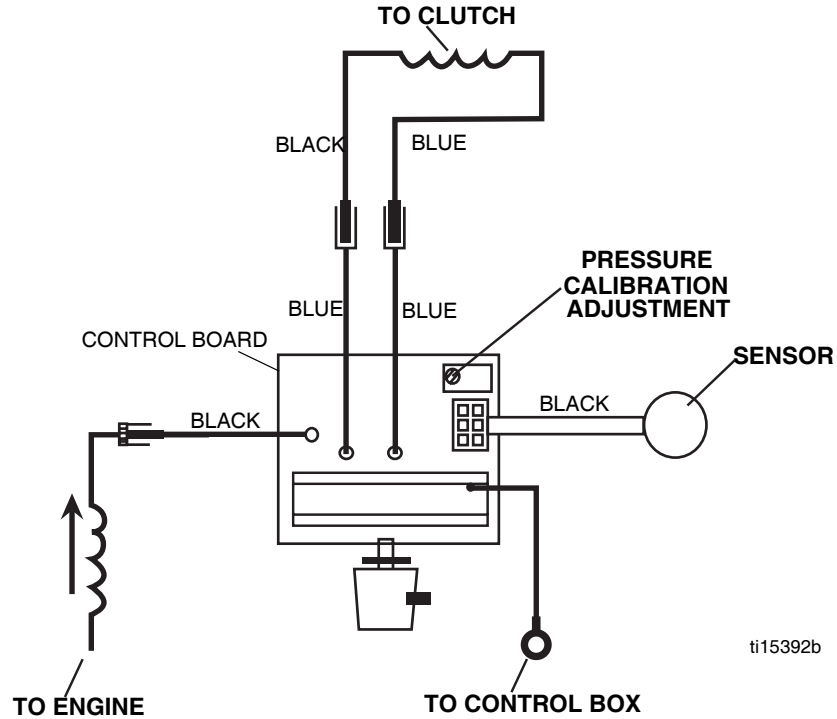
**NOTE:** The pump will begin to pressurize and the clutch will disengage at a low pressure. Continue turning the trimpot clockwise to increase pressure 3000 psi.

5. Trigger gun. The pressure should drop approximately 350-400 psi, the clutch will engage and build pressure to 3000 psi and disengage. Trigger gun several times to ensure proper pressure setting.
6. Turn Pressure Control Knob to minimum position. The clutch should disengage and pump stop moving.

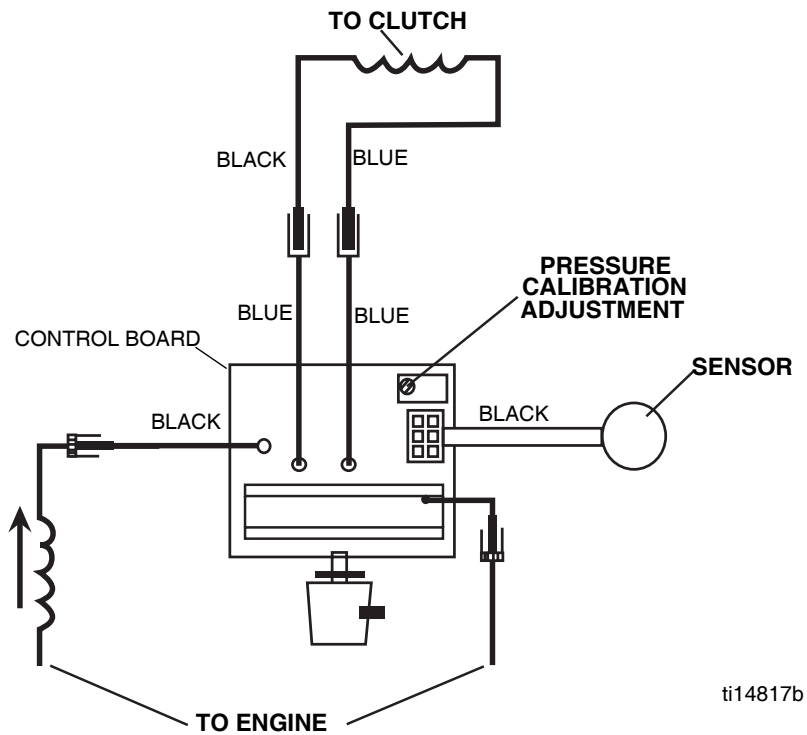
7. Secure leads with tie strap.

8. Replace cover on unit. Ensure the leads are not pinched or damaged in the process of replacing covers.

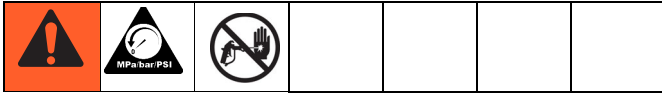
### Engine - Single Wire Models



### Engine - Double Wire Models



# Troubleshooting



General		
Problem	Cause	Solution
Unit doesn't prime	Airleak due to loose suction nut	Tighten suction nut.
	Airleak due to worn o-rings	Replace o-ring (108526) on suction seat and suction hose (331290), if so equipped.
	Hole in suction hose	Service outlet valve suction assembly.
	Stuck or fouled balls	
Unit primes but has poor or no pressure	Pressure set too low	Turn up pressure.
	Filter(s) are clogged	Clean or replace gun filter, inlet filter, and/or manifold filter.
	Outlet valve fouled/worn.	Service outlet valve.
	Prime/pressure relief valve bypassing	Clean or replace prime valve.
	Packings and/or piston worn	Tighten packing nut, repack unit.
Unit does not maintain good spraying pressure	Blown spray tip	Replace spray tip.
	Packings and/or pistons worn	Repack unit.
	Upper seat worn	Replace upper seat.



<b>Electrical</b>		
<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Clutch does not engage	Pressure Control Knob	Ensure the pressure control knob is in the maximum clockwise position.
	Poor Electrical Connection	Remove the clutch and electrical box covers. Check all electrical connections between the engine magneto, sensor, control board and clutch for loose connections or damaged leads.
	Magneto	Disconnect the two leads from the control board (blue) and the clutch assembly (black). Using a multimeter, with the engine at maximum RPM, pressure control knob in the maximum position and the prime valve open (priming) position, test the DC voltage across the boards lead (blue). This voltage must be 13-14 VDC. If the readings are correct, the board, sensor and magneto are functioning. See <b>Clutch Assembly</b> .  When the DC voltage from the board is not 13-14 VDC, disconnect the control board lead (black) from the engine magneto lead (pink), located on the side of the engine. With the engine at maximum RPM (3600), pressure control knob in maximum clockwise position and prime valve open (priming), read the AC voltage from the magneto lead to the sprayer frame. The reading should be 19-24 VAC. If outside this range, replace the magneto. If the magneto is producing proper voltage, see <b>Defective Sensor</b> .
	Defective Sensor	Test the sensor by reading the resistance between the red and black wires. The resistance runs between 1.5 - 3K ohms. A defective sensor usually shows no resistance (open). If the reading is outside standards, replace the sensor.  An alternative method of testing the sensor is to plug a new sensor into the board to see if the clutch will engage. <b>When using this method, ensure prime/pressure valve is in the prime position because the sensor plugged into the board is not measuring pressure in the fluid section.</b>
	Clutch Assembly	Check the spacing between the clutch field and plate. The gap should be about .015". If the gap is greater than .015, replace the clutch assembly.
	Electrical Control Board	If the magneto and sensor are functioning, replace the electrical control board.

Airless Spray Gun		
Problem	Cause	Solution
Coarse spray	Low pressure	Increase the pressure
Excessive fogging (over-spray)	High pressure	Reduce the pressure to satisfactory pattern distribution.
	Material too thin	Use less thinner
Pattern too wide	Spray angle too large	Use smaller spray angle tip
Pattern too narrow	Spray angle too small	Use larger spray angle tip (if coverage is OK, try tip in same tip group)
Too much material	Tip too large	Use smaller tip
	Material too thin	
	Pressure too high	Reduce pressure
Too little material	Tip too small	Use next larger tip Material too thick
Thin distribution in center of pattern "horns"	Worn tip	Change to new tip
	Wrong tip	Use nozzle with narrow spray angle
Thick skin on work	Material too viscous	Thin cautiously
	Application too heavy	Reduce pressure and/or use tip in next smaller tip size
Coating fails to close and smooth over	Material too viscous	Thin cautiously
	Orifice clogged	Clean carefully
Spray pattern irregular, deflected	Tip damaged	Replace with new tip
	Solvent balance	Use 1 to 3% "short solvents remainder "long" solvents (this is most likely to happen with material of low viscosity, lacquers, etc.)
Clogged screens	Extraneous material in paint	Clean screen
	Course pigments	Use coarse screen if orifice size allows.
	Poorly milled pigments (paint pigments glocculate)	Use courser screen, larger orifice tips. Obtain ball milled paint. If thinner had been added, test to see if a cover screen. Incompatible drop placed on top of paint mixes or flattens out on the paint mixture and thinners on the surface. If not, try different thinner in fresh batch of paint.

**Test the Pattern**

Good, Full



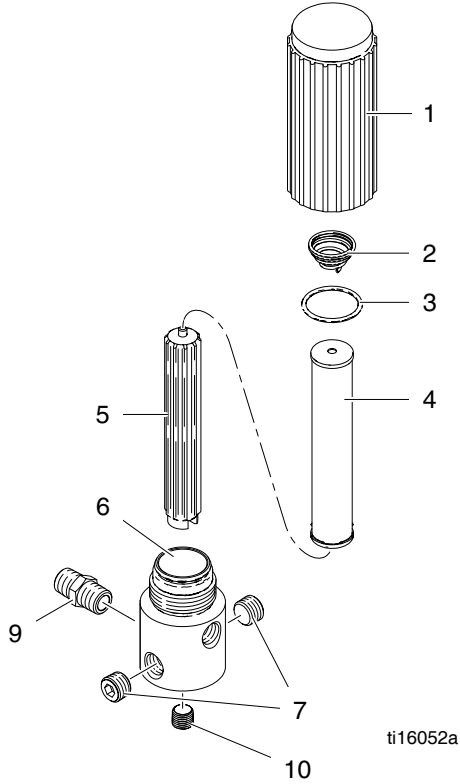
Spotty Pattern,  
Increase Pressure



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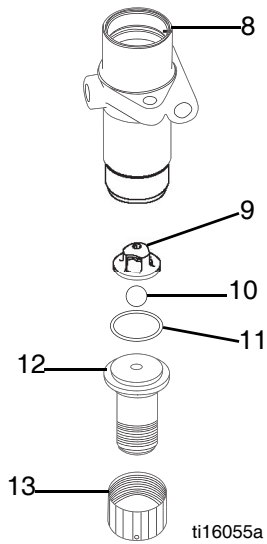
# Parts

## Manifold Filter (866480)



Ref.	Part	Description	Qty
1	867145	COVER	1
2		SPRING	1
3	867377	O-RING	1
4	867214	FILTER 60 MESH	1
5	867647	SUPPORT	1
6	867077	BASE	1
7	867420	PLUG	2
9	867309	NIPPLE 3/8"M x 1/4"M	1
10	557391	PLUG 1/4"	1

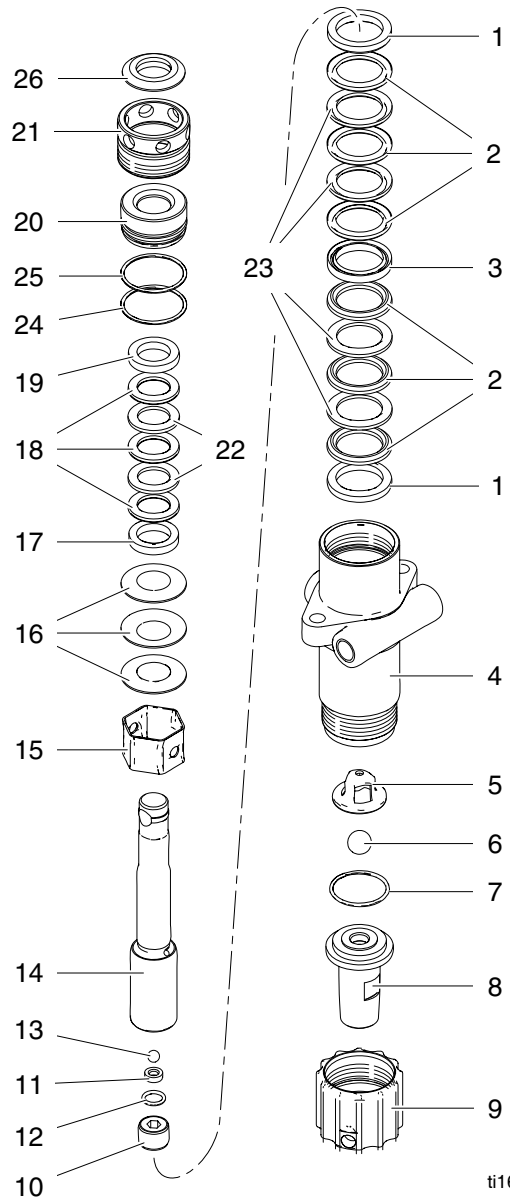
## Inlet Valve



Ref.	Part	Description	Qty
8	331011	FLUID PUMP BODY	1
9	331029	SUCTION BALL GUIDE	1
10	331030	SUCTION BALL	1
11	108526	O-RING	1
12	331292	SUCTION SEAT	1
13	331034	SUCTION NUT	1

# Packing Replacement

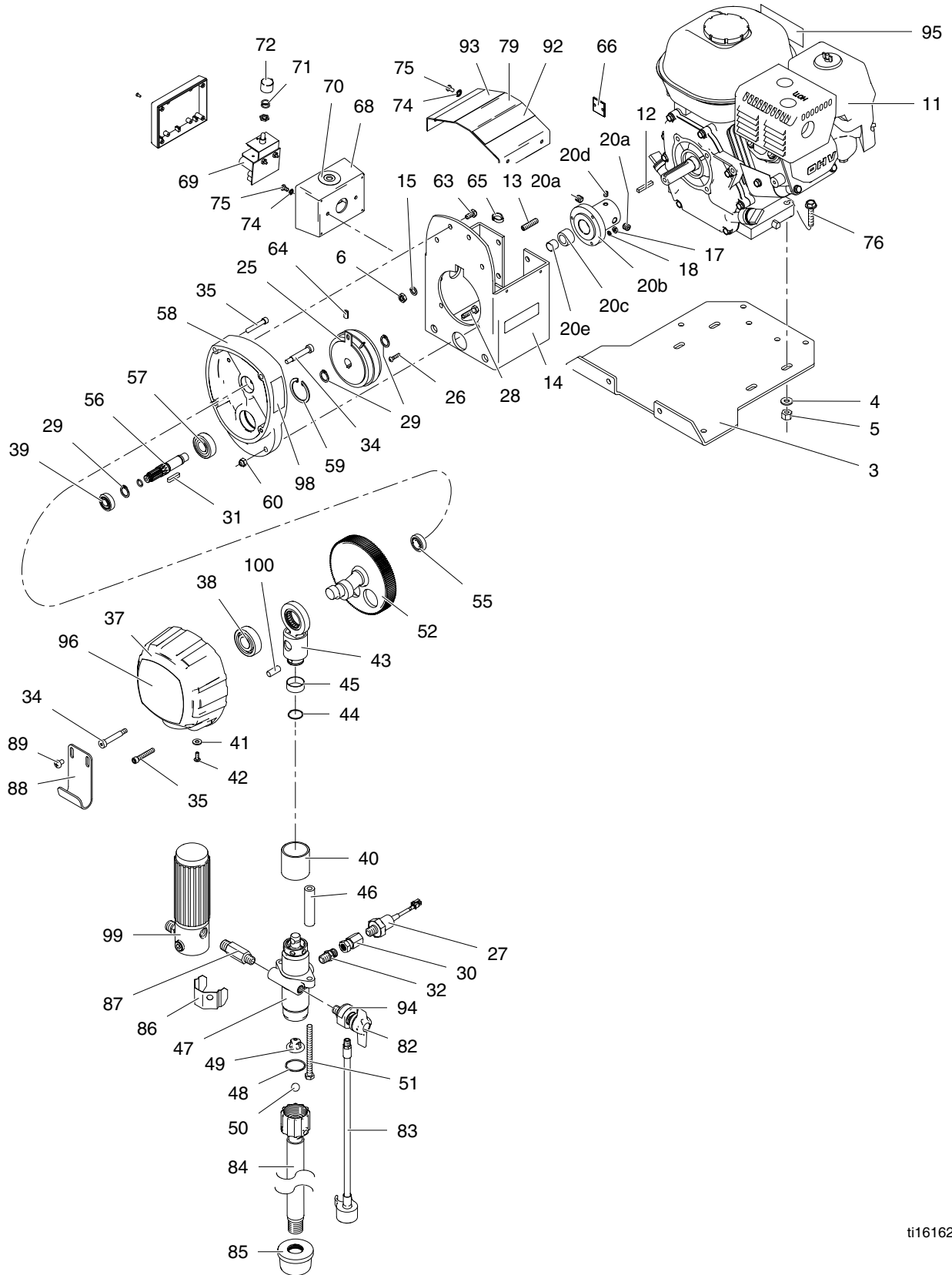
Ref.	Part	Description	Qty
1*	331014	MALE GLAND	2
2*	331016	PACKING POLYETHYLENE	6
3*	331308	FEMALE ADAPTOR	1
4	331011	FLUID PUMP BODY	1
5	331029	SUCTION BALL GUIDE	1
6*	331030	SUCTION BALL	1
7*	108526	O-RING	1
8	331292	SUCTION SEAT	1
9	331034	SUCTION NUT	1
10+	331314	OUTLET SEAT RETAINER	1
11+	331026	OUTLET SEAT	1
12+*	111457	O-RING	1
13+*	331027	OUTLET BALL	1
14+	331708	PISTON	1
15*	331018	SPACER	1
16*	331025	WASHER, SPRING	3
17*	331022	MALE GLAND	1
18*	331023	PACKING POLYETHYLENE	3
19*	331021	FEMALE GLAND	1
20	331019	PACKING HOLDER	1
21	331037	PACKING NUT	1
22*	331307	PACKING LEATHER	2
23*	331306	PACKING LEATHER	4
24*	107313	WHITE O-RING	1
25*	108771	O-RING	1
26	867783	CAP	1
*	331210	PACKING KIT	
+	331093	PISTON ASSEMBLY	



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# Notes

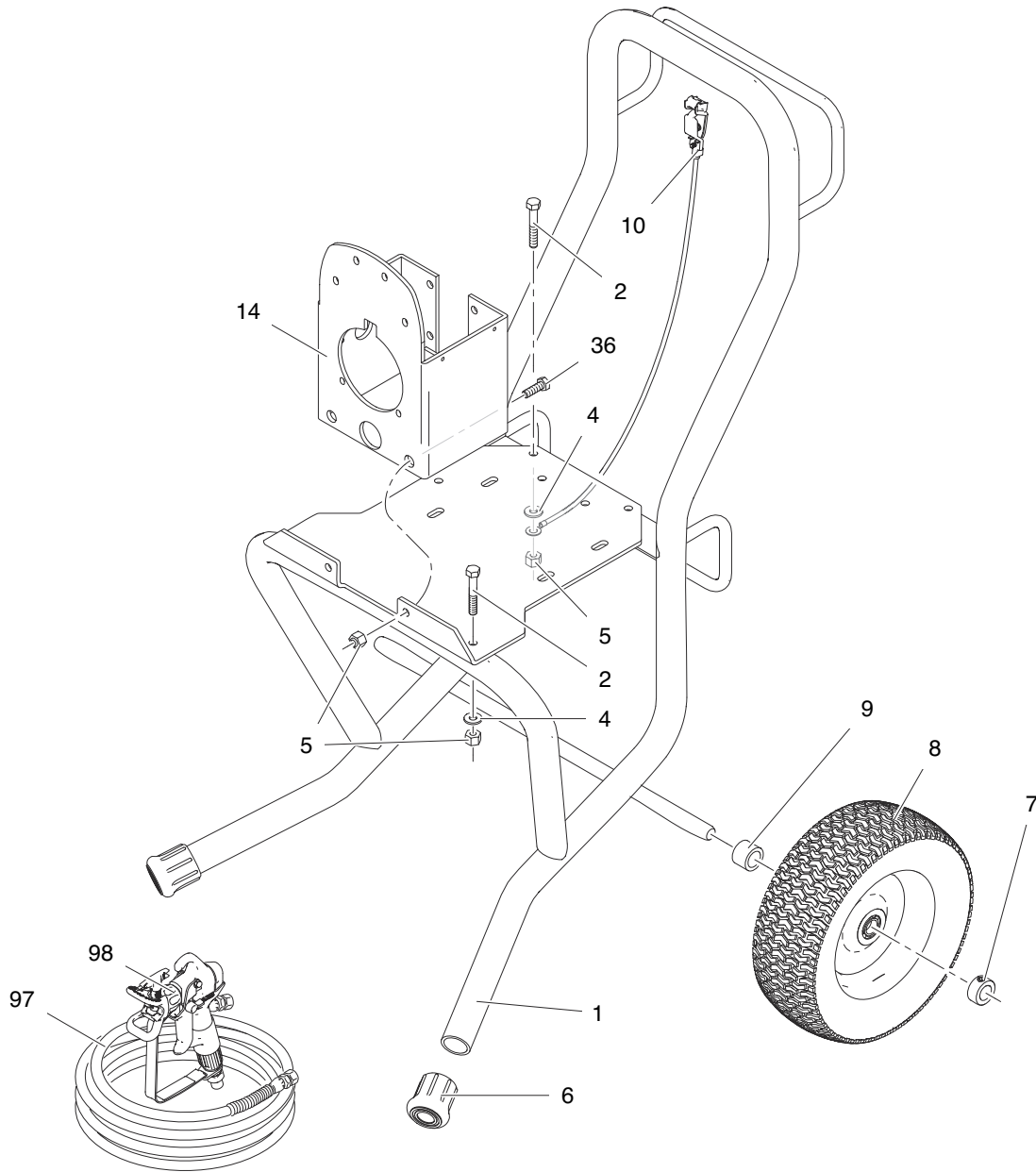

# Motor and Drive



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Ref.	Part	Description	Qty	Ref.	Part	Description	Qty
3	305343	BRACKET MOUNTING PLATE	1	64+	331178	TRIM,EDGE	1
4	100527	WASHER,PLAIN	4	65+	103473	STRAP,TIE,WIRE	1
5	110838	NUT,LOCK	4	66+■	867306	BASE,MOUNTING,WIRE,HAR- NESS	1
6+	110005	NUT, JAM, HEX	4	68	305277	ENCLOSURE,CONTROL BOARD, MACHINED	1
11+	114530	ENGINE,GAS,5.5HP,HONDA	1	69	301282	CONTROL,PRESS. CONTROL	1
12+■	866212	KEY,SQUARE,3/16 X 1.35	1	70	342520	LABEL PRESSURE	1
13+	331496	SCREW,SET, 5/16-24	4	71	331184	SPACER 3/8 ID .54 OD .23L	1
14+	24E115	BRACKET,MOUNTING,(WELD- MENT)	1	72	867291	KNOB	1
15+	100214	WASHER,LOCK	4	74+	100718	WASHER	2
17+■		NUT,LOCKING,DISTORTED THREAD	3	75+	331342	SCREW,10-24 X.50 PH PN HD	2
18+	112917	WASHER,LOCK,SPRING	3	76	110837	SCREW,FLANGE,HEX	4
20+■		ADAPTER, CLUTCH ASSY	1	79	305268	COVER,ENGINE MOUNT	1
20a		SCREW,SET,3/8-24 X .38	2	82	866428	VALVE,RELIEF/PRIMING	1
20b		ADAPTER, CLUTCH	1	83	301348	HOSE,BYPASS 12" LG.	1
20c		BUSHING	1	84	866479	TUBE,SUCTION,SUBASSEMBLY	1
20d		SCREW,SET, SOCKET HEAD	1	85	187190	STRAINER	1
20e■		BUSHING,PTFE LINED	1	86	331111	COVER,COVER - GUARD	1
25+■		CLUTCH,ELECTROMAGNETIC	1	87	866133	FITTING 3/8->1/4 NPT	1
26+■		SCREW,PAN HEAD,PHILLIPS	3	88	331336	HOOK,PAIL	1
27+	331294	SENSOR,SENSOR ASSY	1	89	113783	SCREW,MACH,PNH	2
28+	867496	SCREW,1/4-20 X1.125 HX HD	2	92▲	342473	LABEL GENERAL WARNING	1
29+*■	867474	RING,RETAINING,EXTER- NAL,15MM	2	93▲	342506	LABEL NEVER/ALWAYS LP&SL	1
30+	867238	SWIVEL,FTG- SWIVEL, 1/4 X 1/4	1	94	342524	LABEL- PRIME VALVE	1
31+■	867290	KEY,5MM X 25MM	1	95	342461	LABEL, ENGINE SPEED	1
32+	162453	FITTING,(1/4 NPSM X 1/4 NPT)	1	96	16F584	LABEL,AIRLESSCO, GS800, FRONT	1
34*	866338	SCREW,SHOUL- DER,SOCKET,MODIFIED	2	98	342522	LABEL, PRIME VALVE	1
35*	107445	SCREW,CAP, SCH	2	99	866480	ASSY, FILTER	1
37	331537	COVER-MACHINED STRIPER	1	100	866082	PIN	1
38	331046	BALL BEARING 6204	1	101*	114819	GREASE (not shown)	1
39	867056	BEARING,BALL	1	+	305341	MOTOR, & PUMP ASSY	1
40	331061	SLEEVE BEARING	1	*	305310	GEARBOX & PUMP ASSY	1
41	331103	WASHER .562 .250 .060 .ST	2	■	301666	CLUTCH HUB ASSY	1
42	331197	SCREW,10-24 X .50 .FLHD	2				
43*	331038	YOKE,CROSSHEAD ASSY	1				
44*	331062	SPRING,RET. SPRING	1				
45*	331117	SLEEVE,	1				
46*	331074	SPACER 2.691 LONG	2				
47*	866482	PUMP,PAINT,ASSY, 5/8 STROKE	1				
48	108526	PACKING,O-RING, PTFE	1				
49	331029	RETAINER,PUMP	1				
50	331030	BALL,BALL .500 GR100 ...SS 440	1				
51*	867539	SCREW,5/16-18 X3.75 HX HD	2				
52*	331590	GEAR - CRANK .32 ASSY	1				
55*	331047	BEARING,BALL	1				
56*	305340	SHAFT,PINION	1				
57*	867079	BEARING,BALL	1				
58*	305287	HOUSING,END BELL MACHINED	1				
59*	867467	RETAINER,RING INTERNAL 40MM	1				
60+		NUT 1/4-20 JAM NY-LOCK ST	2				
63+	100333	SCREW,CAP,HEX HD	4				

# Frame Assembly (331447)



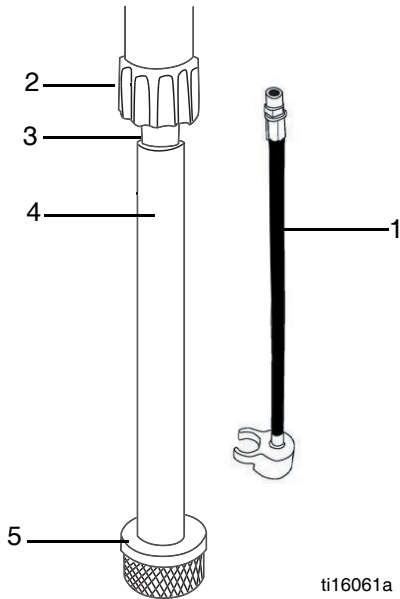
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Ref. Part	Description	Qty	Ref. Part	Description	Qty
1	331436 FRAME LP800G	1	10	866149 CLAMP,GROUNDING ASSY	1
2	111302 SCREW,CAP,HEX HD	4	14	24E115 BRACKET,MOUNTING,(WELD-MENT)	1
4	100527 WASHER,PLAIN	4	36	124227 SCREW	2
5	110838 NUT,LOCK	4	97	HSE3850 HOSE 3/8" x 50' (24F574)	1
6	331048 BOOT,RUBBER BOOT	2	865675	HOSE 3/8" X 50' (16M531)	1
7	143029 COLLAR,SCREW,SET (SPECIAL ID)	2	98	289316 GUN,500,2 FINGER,ASM,PACK-AGED (24F574)	1
8	867736 WHEEL-10' OD X3.5"W 150LB	2	24H289	GUN, 009 (16M531)	1
9	866356 SPACER .75 LG PVC	2			



# Suction Assemblies

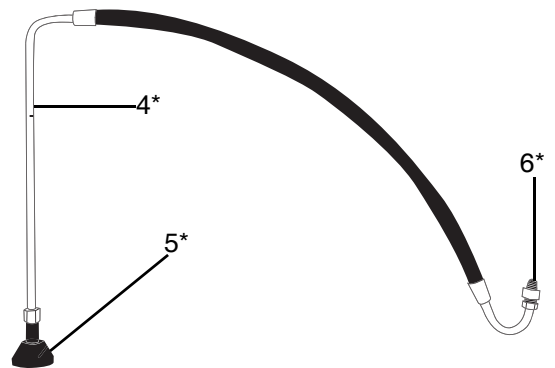
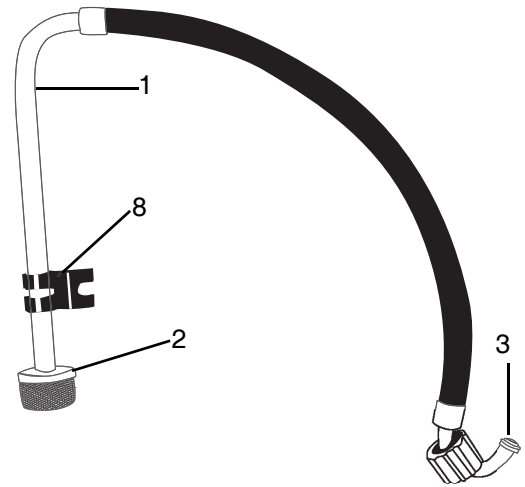
Standard Suction Assy (331284)



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Ref.	Part	Description	Qty
1	301348	BYPASS HOSE ASSY	1
2	331034	SUCTION NUT	1
3	331292	SUCTION SEAT ASSY	1
4	331400	INLET TUBE	1
5	187190	INLET STRAINER	1

Optional Suction Assy (331238)

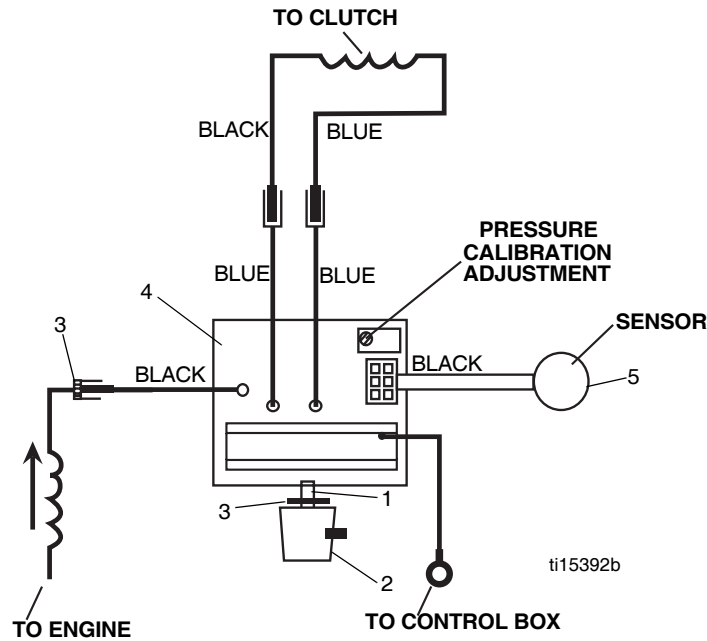


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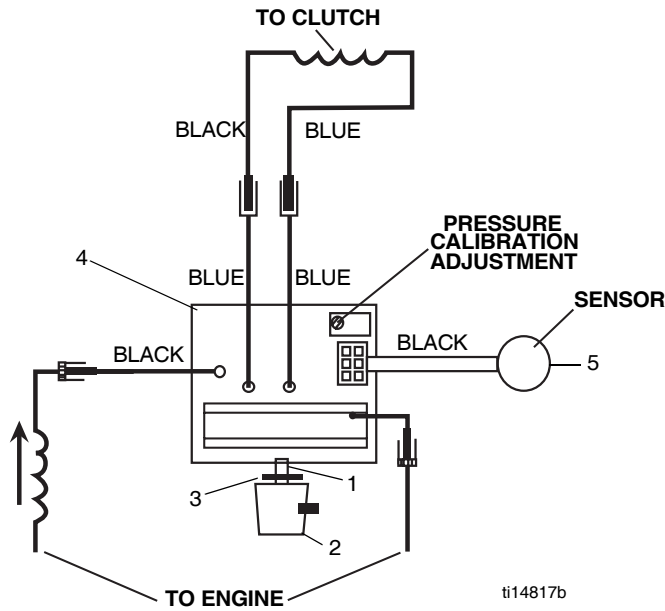
Ref.	Part	Description	Qty
1	331290	SUCTION HOSE ASSY	1
2	187651	INLET STRAINER	1
3	120777	PTFE O-RING	1
4*		DRAIN HOSE	1
5*	241920	THREADED DEFLECTOR	1
6*	867759	MALE CONNECTOR	1
7	865721	INCLUDES (4, 5, 6, 8)	
8	276888	DRAIN LINE CLIP	

# Electrical System

## Engine - Single Wire Models



## Engine - Double Wire Models



Ref.	Part	Description	Qty	Ref.	Part	Description	Qty
1	331184	SPACER	1	4	865676	CONTROL BOARD	1
2	867291	KNOB	1	5	866334	SENSOR	1
3	867352	O-RING	1				

# Technical Data

<b>Airless Paint Sprayer</b>		
	<b>US</b>	<b>Metric</b>
Maximum working pressure	3000 psi	20.7 MPa, 207 bar
Honda GX160 Engine		
ANSI Power Rating @3600 RPM	5.5 Horsepower	4.1KW
Maximum delivery	0.80 gpm	3.6 lpm
Maximum tip size	0.029	
Fluid outlet npsm	1/4 in.	
Noise Level		
Sound Power†	105 dBa	
Sound Pressure**	96 dBa	
Wetted parts	zinc and nickel-plated carbon steel, nylon, stainless steel, PTFE, acetal, leather, UHMWPE, aluminum, tungsten carbide	
Notes		
<p>** Sound pressure measured at 3.1 feet (1m) from equipment.                      † Sound power measured per ISO- 3744.</p>		

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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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Original Instructions. This manual contains English. MM 3A1186

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*Revised January 2014*