Operation/Repair/Parts

HSS9950 Hydraulic Sprayers

3A4102B
EN

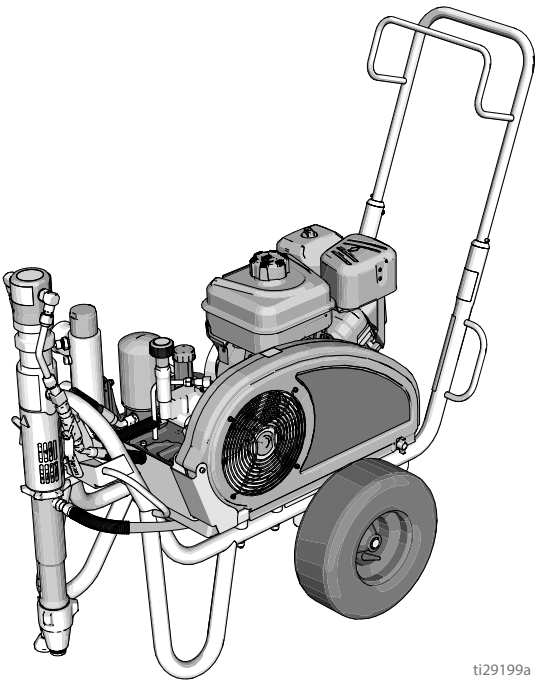
For professional use only.
Not approved for use in European explosive atmosphere locations.
For the application of architectural paints and coatings.

3300 psi (22.7 MPa, 227 bar) Maximum Working Pressure

Important Safety Instructions

Read all warnings and instructions in this manual and in related manuals.
Be familiar with the controls and the proper usage of the equipment.
Save these instructions.

Related Manuals:	
3A0413	Gun
334654	Pump
310812	Electric Motor



ti29199a

Table of Contents

Electric Motor Kit Options

Kit Number	Sprayer Model	Description
248946		240VAC, 50Hz

*Performance is limited when using electric motor vs. internal combustion engine

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 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.

Electric Motor Warnings

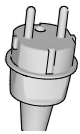
⚠WARNING

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 230V circuit and has a grounding plug similar to the plugs illustrated in the figure below.

230V



- 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 grounding plug and a grounding 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.
- Verify that all containers and collection systems are grounded to prevent static discharge. Do not use pail liners unless they are anti static or conductive.
- Connect to a grounded outlet and use grounded extensions cords.
- Do not use a paint or a solvent containing halogenated hydrocarbons.
- Do not spray flammable or combustible liquids in a confined area.
- Keep spray area well-ventilated. Keep a good supply of fresh air moving through the area.
- Sprayer generates sparks. Keep pump assembly in a well ventilated area at least 20 feet (6.1 m) from the spray area when spraying, flushing, cleaning, or servicing. Do not spray pump assembly.
- Do not smoke in the spray area or spray where sparks or flame is present.
- 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 Safety Data Sheets (SDS) 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.

ELECTRIC SHOCK HAZARD

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

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

Internal Combustion Engine Warnings

⚠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 fuel.
- 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 anti static 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.

CARBON MONOXIDE HAZARD

Exhaust contains poisonous carbon monoxide, which is colorless and odorless. Breathing carbon monoxide can cause death.

- Do not operate in an enclosed area.

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.

Electric Motor/Internal Combustion Engine Warnings

⚠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.
- Equipment maintains pressure after power is shut off. Do not leave the equipment energized or under pressure while unattended. Follow the **Pressure Relief Procedure** when the equipment is unattended or not in use, and before servicing, cleaning, or removing parts.
- Check hoses and parts for signs of damage. Replace any damaged hoses or parts.
- This system is capable of producing 3300 psi (22.8 MPa, 228 bar). Use Airlessco replacement parts or accessories that are rated a minimum of 3300 psi (22.8 MPa, 228 bar).
- Always engage the trigger lock when not spraying. Verify the trigger lock is functioning properly.
- Verify that all connections are secure before operating the unit.
- Know how to stop the unit and bleed pressure quickly. Be thoroughly familiar with the controls.

⚠WARNING

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- 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 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.
- Do not spray with a hose shorter than 25 feet.
- 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.

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.
- Do not use chlorine bleach.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

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.

Warnings

⚠WARNING

ENTANGLEMENT HAZARD

Rotating parts can cause serious injury.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Do not wear loose clothing, jewelry or long hair while operating equipment.
- 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 SDSs 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.

RECOIL HAZARD

Gun may recoil when triggered. If you are not standing securely, you could fall and be seriously injured.

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. Protective equipment includes but is not limited to:

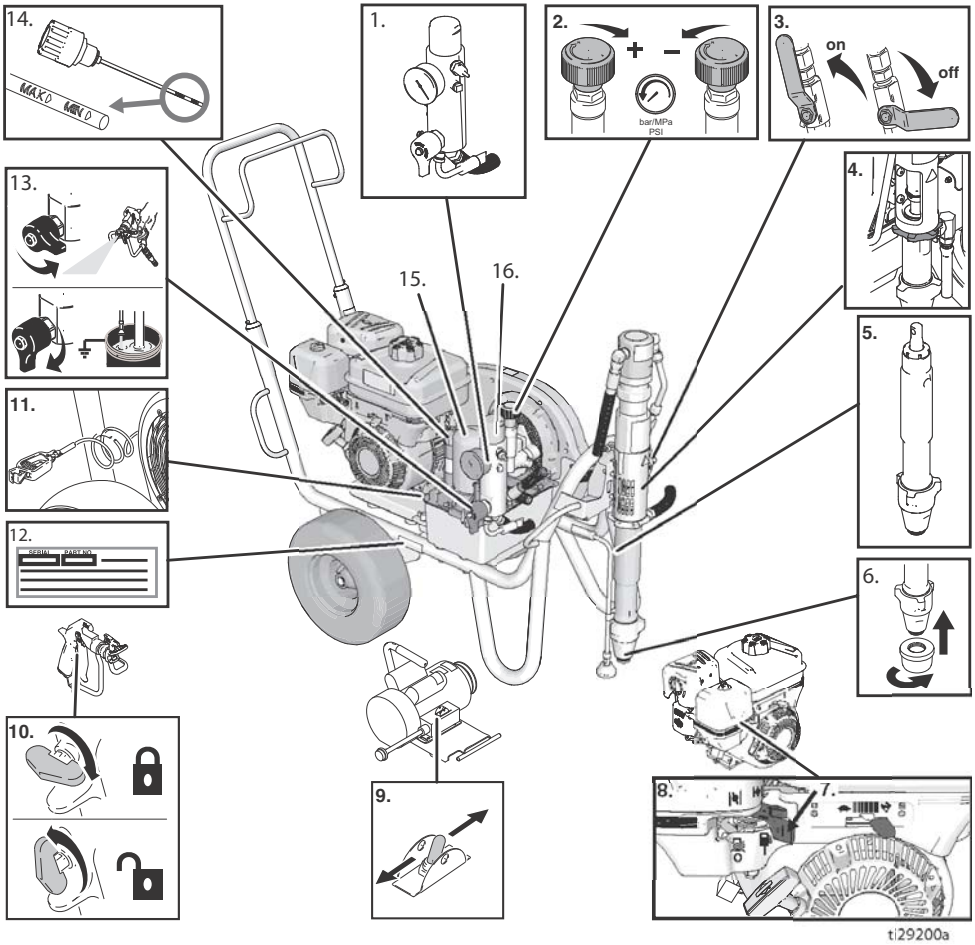
- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

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.

This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

Component Identification

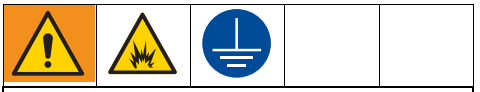


1	Pressure Gauge
2	Pressure Control
3	Hydraulic Pump Valve
4	Threaded Pump Connection
5	Displacement Pump
6	Inlet Strainer
7	Engine On/Off Switch
8	Engine Controls
9	Electric Motor On/Off Switch

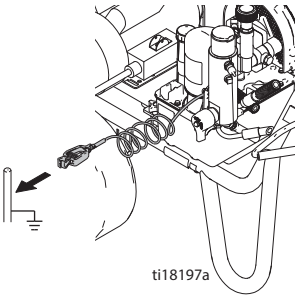
10	Gun Trigger Lock
11	Grounding Clamp
12	Serial Number Tag
13	Prime/Drain Valve
14	Hydraulic Oil Cap / Dipstick
15	Hydraulic Oil Filter
16	Paint Filter

Grounding

Grounding Procedure for Gas Engine



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

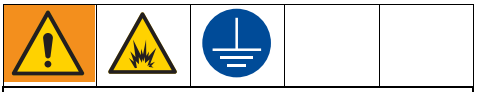


To ground sprayer: Attach sprayer grounding clamp to earth ground.

Air and fluid hoses: Use only electrically conductive hoses with a maximum of 500ft. (150 m) combined hose length to ensure grounding continuity. Check electrical resistance of hoses. If total resistance to ground exceeds 29 megaohms, replace hose immediately.

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

Grounding Procedure for Electric Motor



ELECTRIC SHOCK HAZARD

Improper grounding can cause electric shock.

- Turn off and disconnect power cord before servicing equipment.
- This equipment must be grounded. Connect only to grounded electrical outlets.
- Use only 3-wire extension cords.
- Ensure ground prongs are intact on power and extension cords.
- Do not expose to rain. Store indoors.
- All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.

The sprayer cord includes a grounding wire with an appropriate grounding contact.

If using the electric motor, plug must be plugged into an actual outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.

Power Requirements

- 230V units require 230 VAC, 50/60 Hz, 16A, 1 phase

Extension Cords

Use an extension cord with an undamaged ground contact. If an extension cord is necessary, use a 3-wire, 12 AWG (2.5 mm²) minimum.

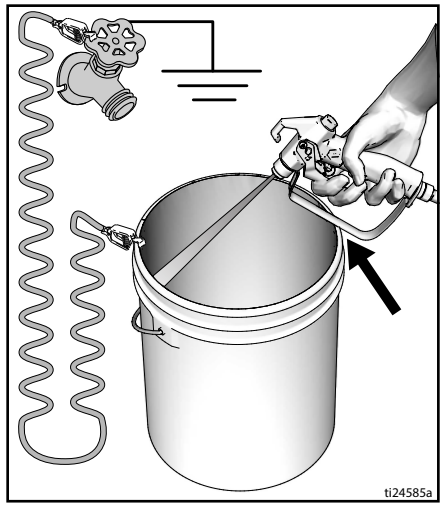
NOTE: Smaller gauge or longer extension cords may reduce sprayer performance.

Grounding of Pails

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 non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

Always ground a metal pail: connect a ground wire to the pail. Clamp one end to the pail and the other end to a true earth ground such as a water pipe.

To maintain ground continuity when sprayer is flushed or pressure is relieved: hold metal part of spray gun firmly to the side of a grounded metal pail then trigger the gun.

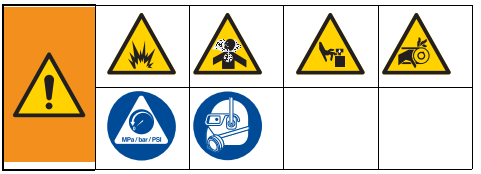


Circuit Protection

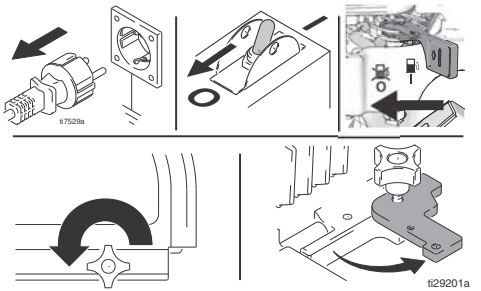
Connect sprayers only to circuits which have the properly sized circuit breaker and/or fuses (for unit power requirements see **Technical Data**, page 39).

Setup

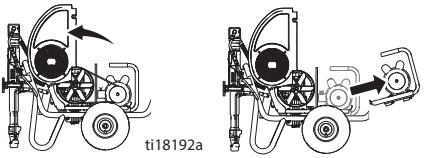
Change Engine or Motor



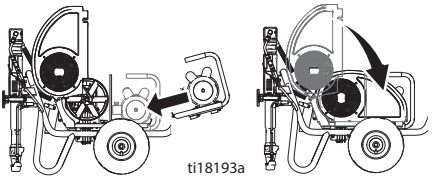
1 Turn motor OFF and unplug or turn engine to the OFF/STOP position. Loosen belt guard knob and motor clamp. Perform **Pressure Relief Procedure**, page 15.



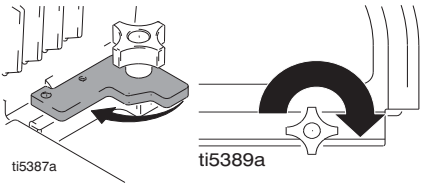
2 Lift belt guard. Remove belt. Tilt engine/motor and remove engine/motor.



3 Tilt engine/motor. Install engine/motor. Install belt. Lower belt guard.

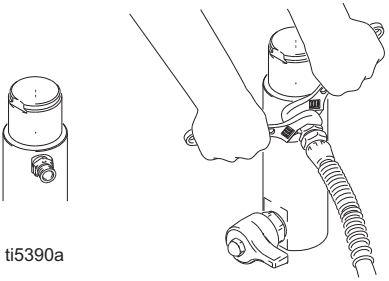


4 Swivel motor clamp. Tighten motor clamp and belt guard knob.

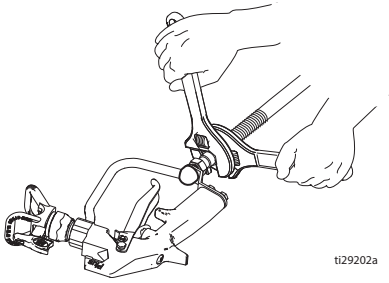


Complete Setup

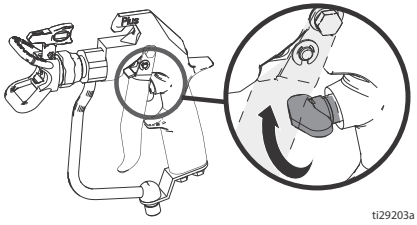
1. Connect appropriate high-pressure hose to sprayer.



2. Install hose to spray gun and tighten securely.

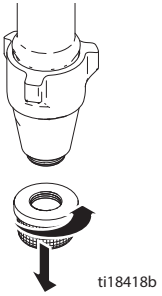


3. Engage gun trigger lock.

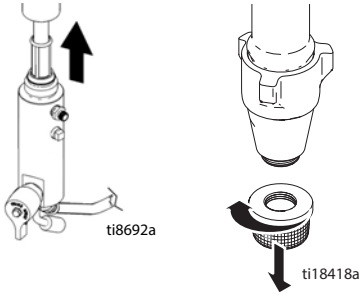


4. Remove Tip Guard.

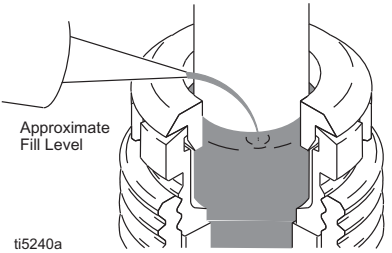
5. Screw inlet strainer to bottom of suction hose and hand tighten securely.



6. When spraying texture, remove inlet strainer and filter bowl screen.

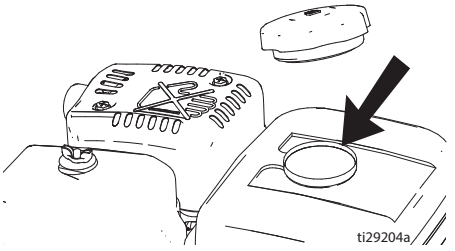


7. Fill throat packing nut with packing seal fluid to prevent premature packing wear. Do this each time you spray.

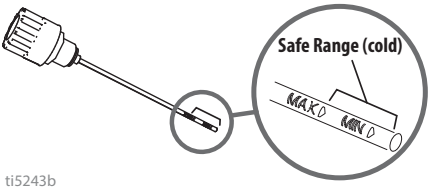


8. Check engine oil level.

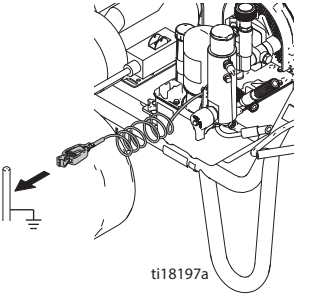
9. Fill fuel tank.



10. Check hydraulic oil level. Add only Hydraulic Oil, ISO Grade 46, 169236 (5 gallon/18.9 liter) or 207428 (1 gallon/3.8 liter). Hydraulic tank capacity is 1.25 gallon (4.75 liters).

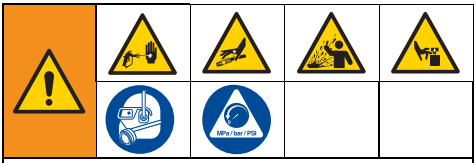


11. Attach sprayer grounding clamp to earth ground.



Pressure Relief Procedure

Follow the **Pressure Relief Procedure** whenever you see this symbol.

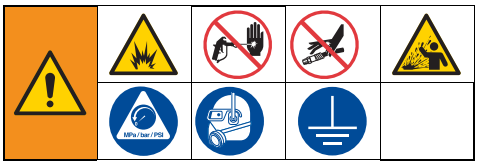


This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing the equipment.

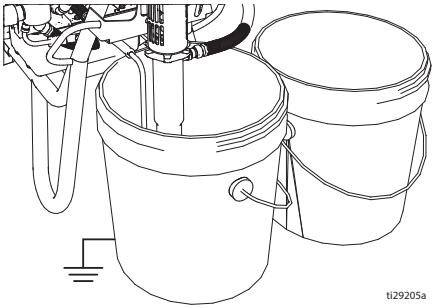
1. Engage trigger lock.
2. Turn sprayer OFF:
   - Turn gas engine or electric motor ON/OFF switch to OFF.

   OR
   - Unplug power cord to electric motor.
3. Move pump valve to OFF and turn pressure control knob fully counter-clockwise to lowest setting.
4. Disengage trigger lock. Hold metal part of gun firmly to side of grounded metal pail, and trigger gun to relieve pressure.
5. Engage gun trigger lock.
6. Turn prime valve down to DRAIN position. Leave prime valve down until ready to spray again.
7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved:
   a. VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually.
   b. Loosen nut or coupling completely.
   c. Clear hose or tip obstruction.

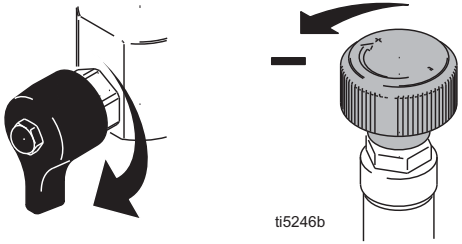
Startup (Internal Combustion Models)



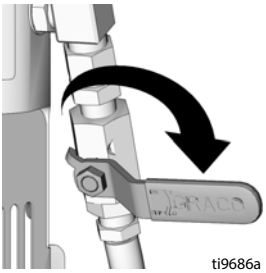
1. Place displacement pump in grounded metal pail partially filled with flushing fluid. Attach ground wire to pail and to earth ground.



2. Turn prime valve down to DRAIN position. Turn pressure control counterclockwise to lowest pressure.

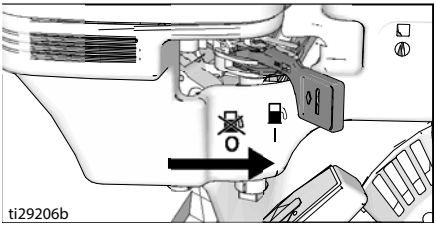


3. Set hydraulic pump valve OFF.

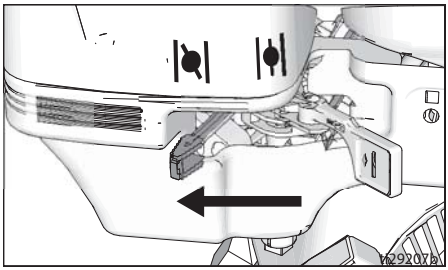


4. Start gasoline engine:

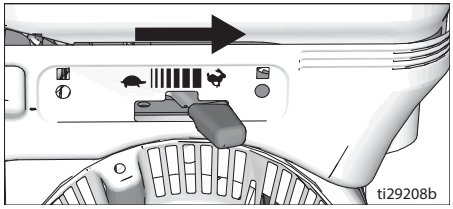
   a. Move fuel valve to open.



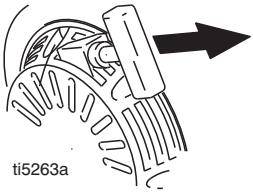
   b. Move choke to closed.



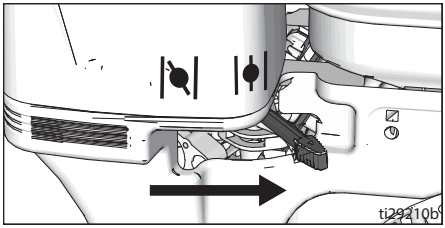
   c. Set throttle to fast.



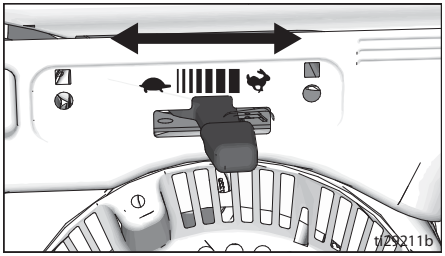
   d. Pull starter rope.



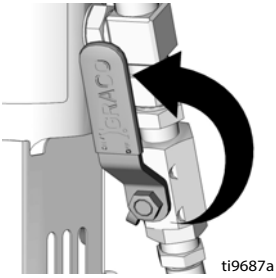
e. After engine starts, move choke to open.



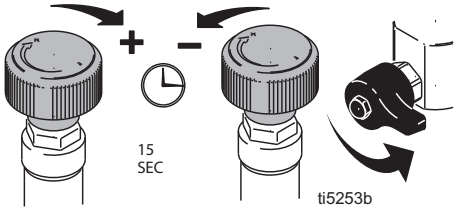
f. Set throttle to desired setting.



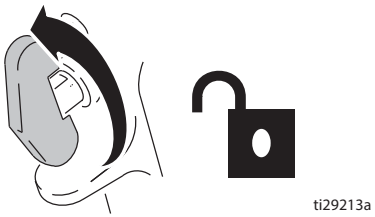
5. Set hydraulic pump valve ON (hydraulic motor is now active).



6. Increase pressure enough to start hydraulic motor stroking and allow fluid to circulate for 15 seconds; turn pressure down, turn prime valve horizontal.

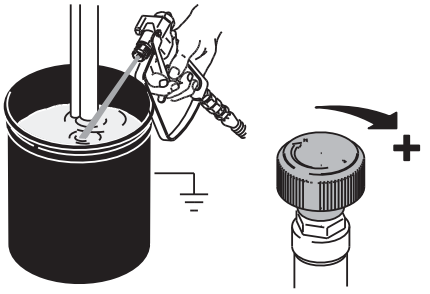


7. Disengage spray gun trigger lock.



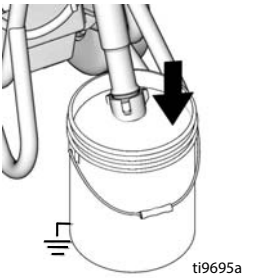
8. Hold gun against grounded metal flushing pail. Trigger gun and increase fluid pressure slowly until pump runs smoothly. Release trigger and allow sprayer to build pressure. Engage trigger lock.

High-pressure spray is able to inject toxins into the body and cause serious bodily injury. Do not stop leaks with hand or rag.

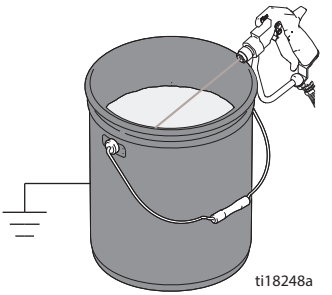


9. Inspect for leaks. If leaks occur, turn sprayer OFF immediately. Perform **Pressure Relief Procedure**, page 15. Tighten leaky fittings. Repeat **Startup** procedure steps 2-8. If no leaks, continue to trigger gun until system is thoroughly flushed.

10. Place siphon tube in paint pail.

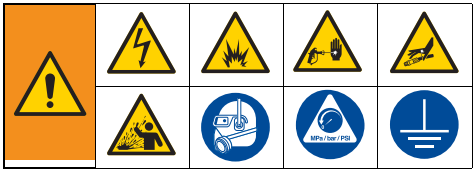


11. Trigger gun again into flushing fluid pail until paint appears.

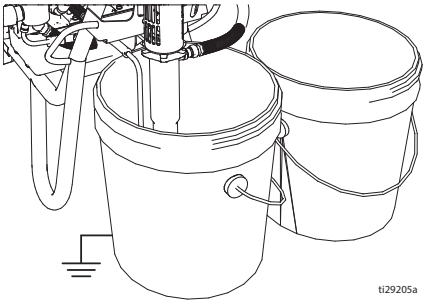


12. Assemble Tip and Guard, page 21.

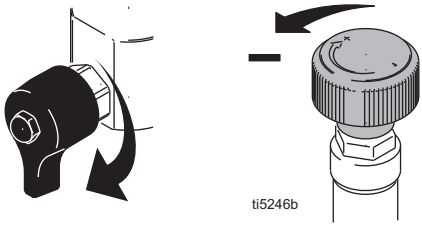
Startup (Electric Models)



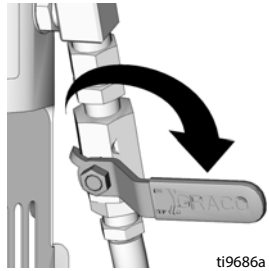
1. Place displacement pump in grounded metal pail partially filled with flushing fluid. Attach ground wire to pail and to earth ground.



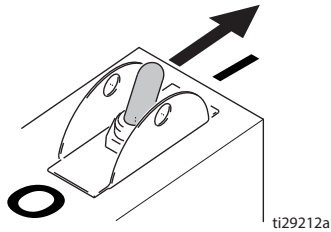
2. Turn prime valve down. Turn pressure control counterclockwise to lowest pressure.



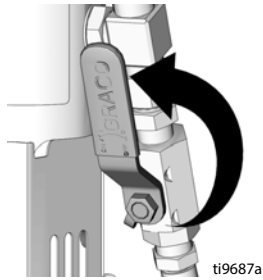
3. Set hydraulic pump valve OFF.



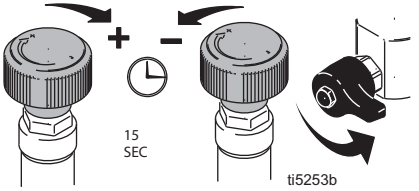
4. Plug cord into outlet.
5. Turn motor ON.



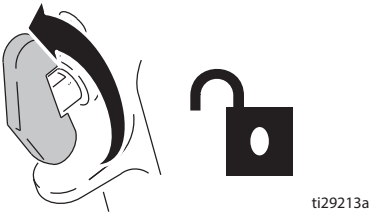
6. Set hydraulic pump valve ON (hydraulic motor is now active).



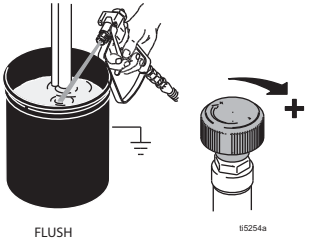
7. Increase pressure enough to start hydraulic motor stroking and allow fluid to circulate for 15 seconds; turn pressure down, turn prime valve horizontal.



8. Take spray gun trigger safety OFF.



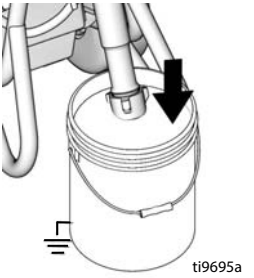
9. Hold gun against grounded metal flushing pail. Trigger gun and increase fluid pressure slowly until pump runs smoothly.



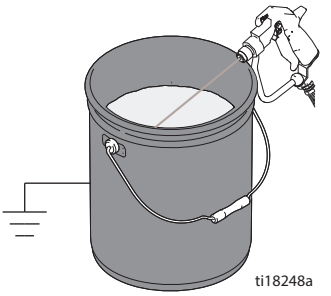
High-pressure spray is able to inject toxins into the body and cause serious bodily injury. Do not stop leaks with hand or rag.

10. Inspect fittings for leaks. If leaks occur, turn sprayer OFF immediately. Perform **Pressure Relief Procedure**, page 15. Tighten leaky fittings. Repeat **Startup** procedure steps 2-8. If no leaks, continue to trigger gun until system is thoroughly flushed.

11. Place displacement pump in paint pail.



12. Trigger gun again into flushing fluid pail until paint appears.

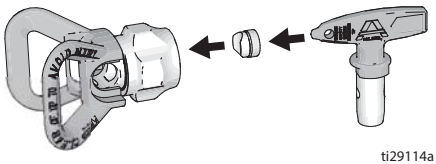


13. Assemble Tip and Guard, page 21.

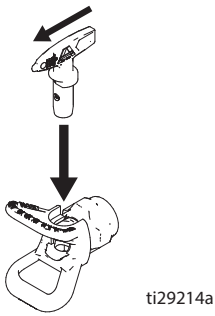
How to Spray

Tip and Guard Assembly

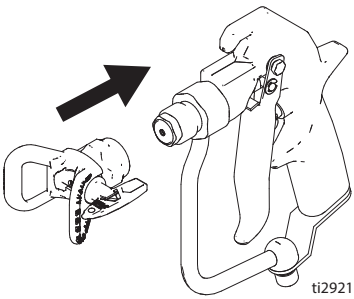
1. Perform **Pressure Relief Procedure**, page 15.
2. Engage gun trigger lock. Insert seat and seal using end of finger hold.



3. Insert tip and face forward.

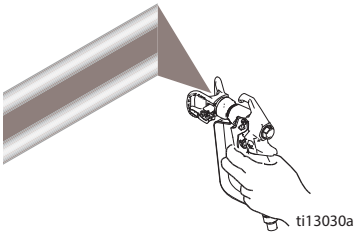


4. Screw assembly onto gun. Tighten.

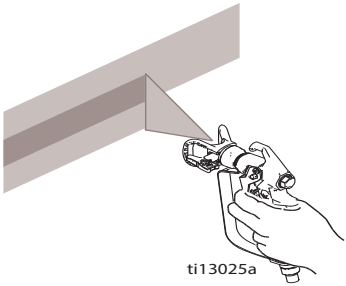


Spray

1. Spray test pattern. Increase pressure to eliminate heavy edges. Use smaller tip size if pressure adjustment can not eliminate heavy edges.

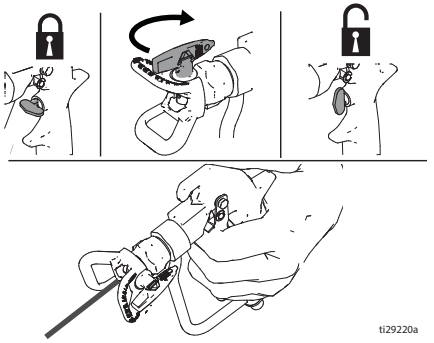


2. Hold gun perpendicular, 10-12 in. (25-30 cm) from surface. Spray back and forth. Overlap by 50%. Trigger gun after moving and release before stopping.

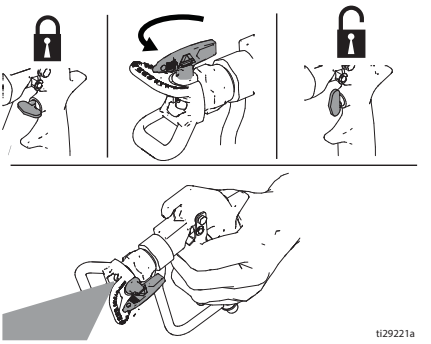


Clear Tip Clogs

1. Release trigger, engage trigger lock. Rotate tip. Disengage trigger lock. Trigger gun to clear clog.



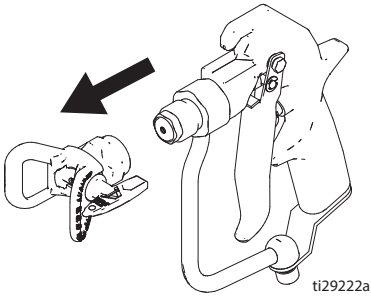
2. Engage trigger lock. Return tip to original position. Disengage trigger lock and continue spraying.



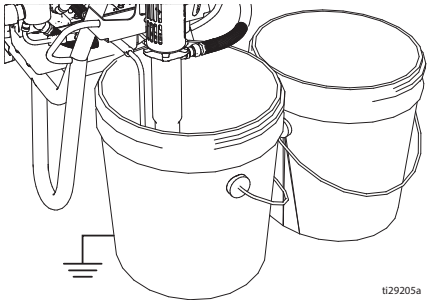
Clean Up

1. Perform **Pressure Relief Procedure**, page 15.

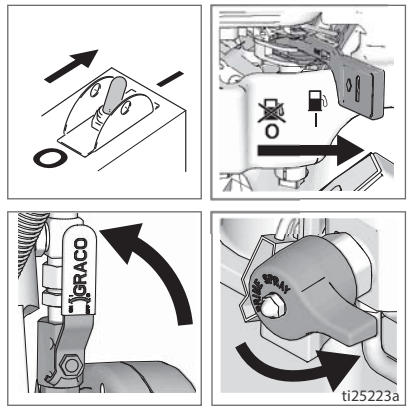
2. Remove Guard and tip.



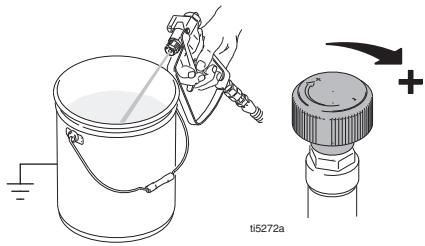
3. Remove displacement pump from paint and place in flushing fluid. Use water for water-based paint and mineral spirits for oil based paint.



4. Turn motor switch ON or turn engine ON and start engine. Turn hydraulic pump valve ON. Turn prime valve forward to SPRAY position.

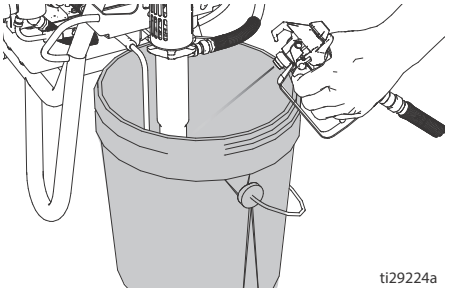


5. Hold gun against pail. Disengage trigger lock. Turn pressure control up until motor begins to drive pump. Trigger gun until flushing fluid appears.

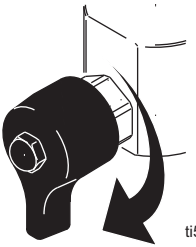


Clean Up

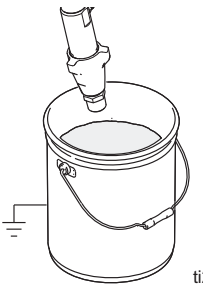
6. Move gun to waste pail, hold gun against pail, trigger gun to thoroughly flush system. Release trigger and engage trigger lock.



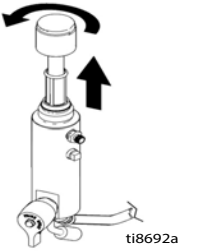
7. While continuing to trigger gun, turn prime valve down. Then release gun trigger. Allow flushing fluid to circulate until fluid comes out of drain tube clear.



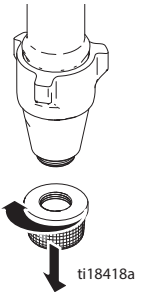
8. Raise displacement pump above flushing fluid and run sprayer for 15 to 30 seconds to drain fluid. Turn hydraulic valve OFF. Turn engine OFF or turn electric motor OFF and unplug.



9. Engage trigger lock. Remove filters from gun and sprayer, if installed. Clean and inspect. Reinstall filters.

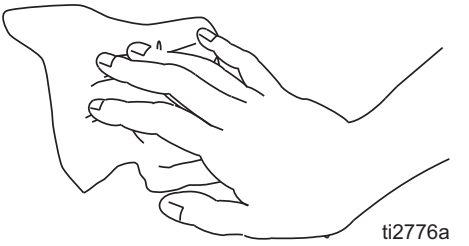


10. Unscrew and remove inlet strainer. Clean and replace strainer if necessary.

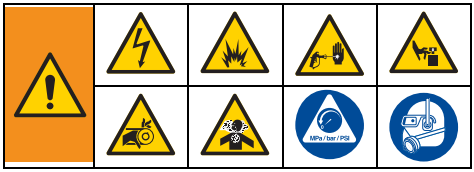


11. If flushing with water, flush again with mineral spirits, or Pump Life, to leave a protective coating to prevent freezing or corrosion.

12. Wipe sprayer, hose and gun with a rag soaked in water or mineral spirits.



Maintenance



NOTE: For detailed engine maintenance and specifications, refer to separate Briggs & Stratton Vanguard Engine Owner's Manual, supplied.

DAILY: Check engine oil level and fill as necessary.

DAILY: Check hydraulic oil level and fill as necessary.

DAILY: Check hose for wear and damage.

DAILY: Check gun trigger lock for proper operation.

DAILY: Check prime/drain valve for proper operation.

DAILY: Check and fill the fuel tank.

DAILY: Check that displacement pump is tight.

DAILY: Check level of Packing Seal Fluid (PSF) in displacement pump packing nut. Fill nut, if necessary. Keep PSF in nut to help prevent fluid buildup on piston rod and premature wear of packings and pump corrosion.

GASOLINE ENGINE, AFTER THE FIRST 5 HOURS OF OPERATION: Drain engine oil and refill with clean oil. Reference Briggs & Stratton Vanguard Engine Owner's Manual for correct oil grade.

WEEKLY: Remove engine air filter cover and clean element. Replace element, if necessary. If operating in an unusually dusty environment: check filter daily and replace, if necessary.

Replacement elements can be purchased from your local Briggs & Stratton Vanguard dealer.

WEEKLY/DAILY: Remove any debris or media from hydraulic rod.

AFTER EACH 50 HOURS OF OPERATION: Change engine oil. Reference Briggs & Stratton Vanguard Engines Owner's Manual for correct oil viscosity.

SEMI-ANNUALLY: Check belt wear. Replace if necessary.

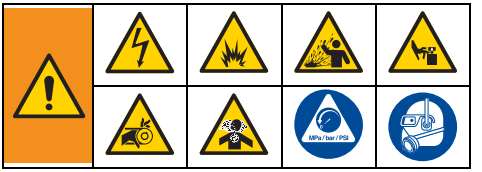
AFTER EACH 100 HOURS OF OPERATION: Change gear reduction oil. Reference Briggs & Stratton Engine Owner's Manual for correct gear reduction oil type.

AFTER EACH 500 HOURS OR 3 MONTHS OF OPERATION: Replace hydraulic oil and filter with hydraulic oil 169236 (5 gallon/20 liter) or 207428 (1 gallon/3.8 liter) and filter 246173. Oil change interval dependent on environmental conditions.

YEARLY OR 2000 HOURS: Replace belt.

SPARK PLUG: Use Briggs & Stratton part number 491055. Gap plug to 0.028 to 0.031 in. (0.7 to 0.8 mm). use spark plug wrench when installing and removing plug.

Troubleshooting



Problem	Cause	Solution
Internal combustion engine pulls hard (won't start)	Hydraulic pressure is too high	Turn hydraulic pressure knob counterclockwise to lowest setting
Gasoline engine does not start	Switch OFF, low oil, no gasoline	Consult engine manual
	Fuel shut off valve closed	Open fuel shut off valve
Gasoline engine does not work properly	Faulty engine	Consult engine manual
Internal combustion engine operates, but displacement pump does not operate	Hydraulic pump valve is OFF	Set hydraulic pump valve ON
	Pressure setting too low	Increase pressure
	Displacement pump outlet filter (if used) is dirty or clogged	Clean the filter
	Tip or tip filter (if used) is clogged	Remove tip and/or filter and clean
	Hydraulic fluid too low	Shut off sprayer. Add fluid*
	Belt worn or broken or off	Replace.
	Hydraulic pump worn or damaged	Bring sprayer to distributor for repair
	Dried paint seized paint pump rod	Service pump. See pump manual.
	Hydraulic motor not shifting	Set pump valve OFF. Turn pressure down. Turn engine OFF. Pry rod up or down until hydraulic motor shifts.
Displacement pump operates, but output is low on upstroke	Piston ball check not seating properly	Service piston ball check. See pump manual.
	Piston packings worn or damaged	Replace packings. See pump manual.
Displacement pump operates, but output is low on down stroke and/or on both strokes	Piston packings worn or damaged	Tighten packing nut or replace packings. See pump manual.
	Intake valve ball check not seating properly	Service intake valve ball check. See pump manual.
	Hydraulic oil filter is dirty	Replace filter.
Paint leaks and runs over side of wet cup	Loose wet cup	Tighten wet cup enough to stop leakage
	Throat packings worn or damaged	Replace packings. See pump manual.

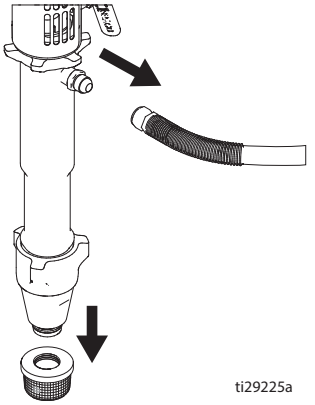
Problem	Cause	Solution
Excessive leakage around hydraulic motor piston rod wiper	Piston rod seal worn or damaged	Replace parts. See pump manual.
Fluid delivery is low	Pressure setting too low	Increase pressure
	Displacement pump outlet filter (if used) is dirty or clogged	Clean or replace.
	Hydraulic motor is worn or damaged	Bring sprayer to distributor for repair.
	Large pressure drop in fluid hose	Reduce length or increase diameter.
The sprayer overheats	Paint buildup on hydraulic components	Clean
	Oil level is low	Fill with oil
Spitting from gun	Fluid supply is low or empty	Refill supply container
Pump noise	Hydraulic fluid too low	Shut off sprayer. Add fluid*
Electric motor does not operate	Power switch is not ON	Turn power switch ON
	Tripped circuit breaker	Check circuit breaker at power source. Reset motor switch
*Check hydraulic fluid level often. Do no allow it to become too low.		

Standard Series Pump

Removal

See pump manual 334654 for pump repair.

1. Flush pump.
2. Perform **Pressure Relief Procedure**, page 15.
3. Remove strainer and paint hose.



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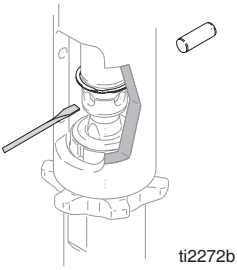
4. Push retaining ring up; push out pin.



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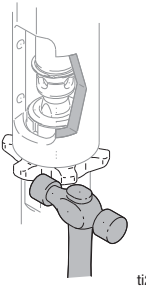
5. Loosen jam nut. Unscrew pump.



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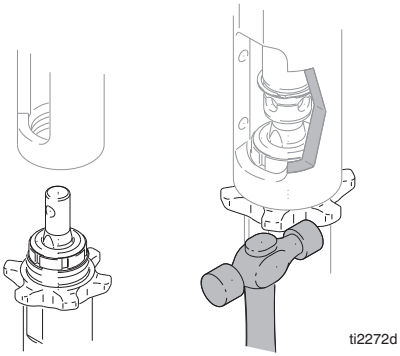
Installation

NOTICE

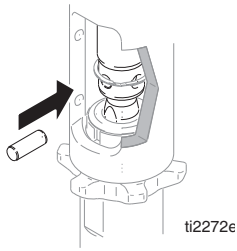
If pump jam nut loosens during operation, the threads of the bearing housing and drive train will be damaged. Tighten jam nut as specified.

1. Screw jam nut to bottom of pump threads. Screw pump completely into manifold. Unscrew pump from manifold until pump outlet aligns with hose. Hand tighten jam nut, then tap 1/8 to 1/4 turn with hammer.

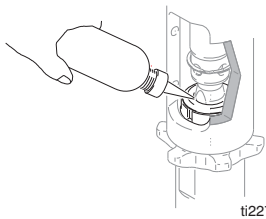


If pin is loose, parts could break off and project through the air, resulting in serious injury or property damage. Make sure pin is properly installed.

2. Slowly pull engine starter rope until pump rod pin hole is aligned with hydraulic rod hole. Push pin into hole. Push retaining ring into groove.

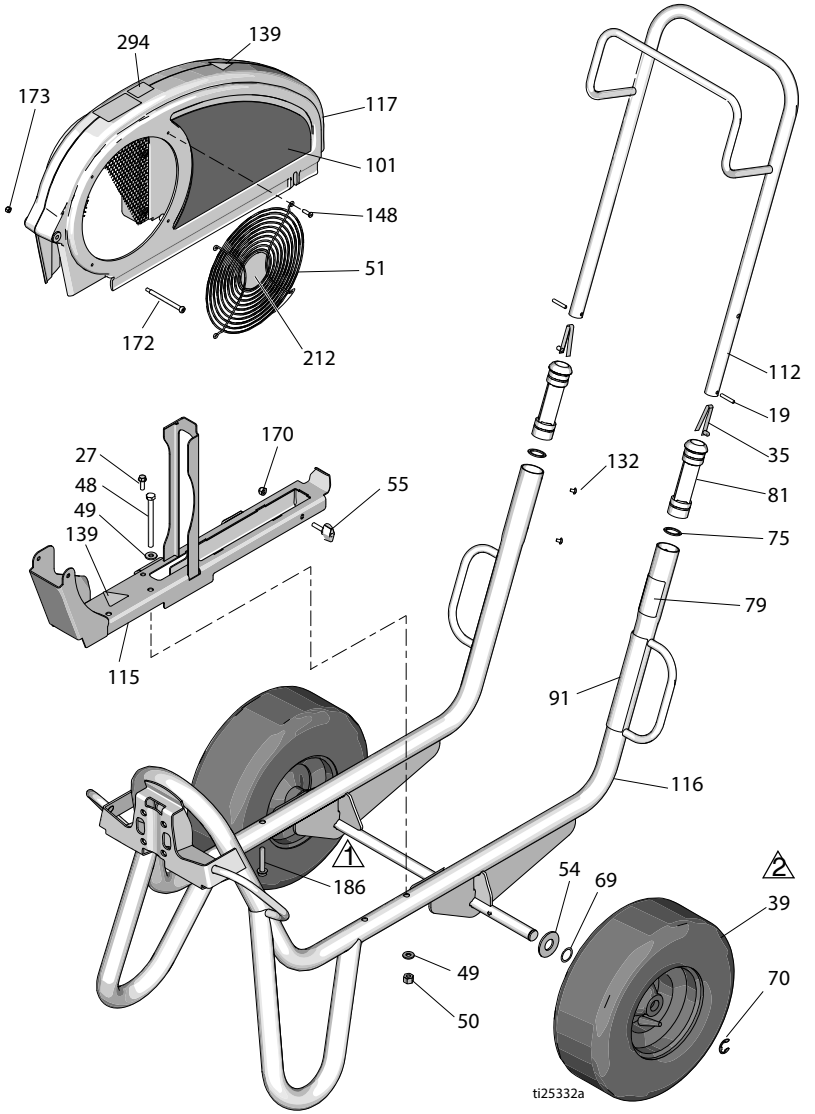


3. Fill packing nut with Packing Seal Fluid.



HSS9950 Frame and Belt Guard Parts

Ref.	Torque	Ref.	Torque
1	120-130 in-lb (13.6 - 14.7 N•m)	2	Inflate tires to 25-35 psi (1.7-2.4 bar)



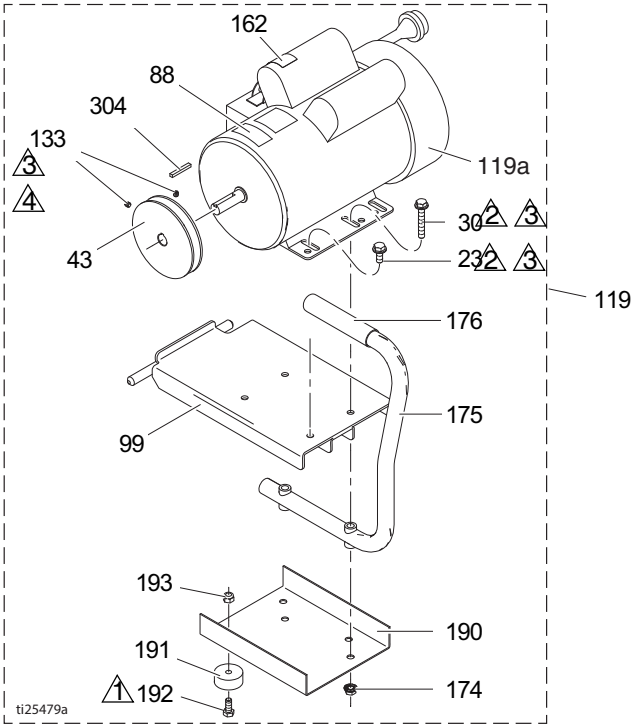
HSS9950 Frame and Belt Guard Parts List

Ref.	Part	Description	Qty.
19	101354	PIN, spring, straight	2
27	260212	SCREW, hex washer hd, thd form	1
35	112827	BUTTON, snap	2
39	119509	WHEEL, pneumatic	2
48	867539	SCREW, cap, hex hd	2
49	100527	WASHER, plain	4
50	110838	NUT, lock	2
51	117284	GRILL, fan guard	1
54	156306	WASHER, flat	2
55	17D813	NUT, hand	1
69	116038	WASHER, wave spring	2
70	120211	RING, retaining, e-ring	2
75	15J645	WASHER	2
79▲	189246	LABEL, warning	1
	17D947	LABEL, warning, multi-languages	1
81	192027	SLEEVE, cart	2
91▲	194317	LABEL, warning	1
	16N948	LABEL, warning, ISO	1
	17D947	LABEL, warning, multi-languages	1
101	17M705	LABEL, brand, side	1
112	24M397	HANDLE, cart	1
115	24M086	RAIL, belt guard, assy	1
116	24M085	FRAME, cart, weldment	1
117	17M995	GUARD, belt assembly, painted (includes 51, 139, 148, 172, 173)	1
132	109032	SCREW, mach, pnh	4
139▲	16M768	LABEL, warning	2
148	115477	SCREW, mach, torx pan hd	4
170	102040	NUT, lock, hex	1
172	119434	SCRWE, shoulder, skt hd	1
173	116969	NUT, lock	1
294	16D576	LABEL, made in USA	1

▲*Danger and Warning labels are available at no cost.*

HSS9950 Electric Motor Parts

Ref.	Torque	Ref.	Torque
1	25-30 in-lb (2.9 - 3.4 N•m)	3	Apply Loctite 242
2	215-235 in-lb (24.3 - 26.6 N•m)	4	58-62 in-lb (6.6 - 7.0 N•m)



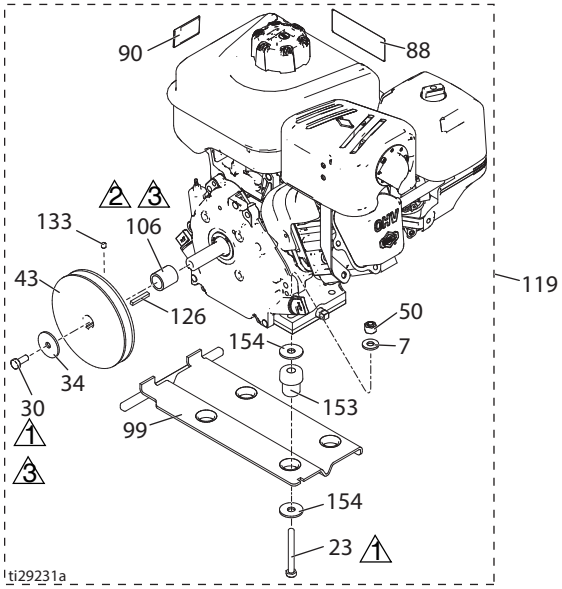
Ref.	Part	Description	Qty.
23	110963	SCREW, cap, flange head	2
30	114653	SCREW, cap, flange head	2
43	15E588	PULLEY	1
44	116914	BELT, V-Grip-notch (not shown)	1
88▲	15K616	LABEL, caution	1
99	15E585	BRACKET, mounting, elec. motor	1
119	248946	KIT, 3.0 hp (includes all parts listed on this page)	1
119a	15E669	MOTOR, electric 3 HP, 230V AC	1
133	100002	SCREW, set	2
162▲	189930	LABEL, warning	1
174	110996	NUT, hex, flange head	4

Ref.	Part	Description	Qty.
175	246214	HANDLE, conversion	1
176	111700	GRIP, handle	1
190	15F217	PLATE, isolator, bottom	1
191	113817	BUMPER	4
192	100057	SCREW, cap, hex hd	4
193	111040	NUT, lock, insert, nylock, 5/16	4
304	117632	KEY, square 3/16 x 1.25	1

▲*Danger and Warning labels are available at no cost*

HSS9950 Gasoline Engine Parts

Ref.	Torque	Ref.	Torque
1	120-130 in-lb (13.6 - 14.7 N•m)	3	Apply Loctite 242
2	58-62 in-lb (6.6 - 7.0 N•m)		



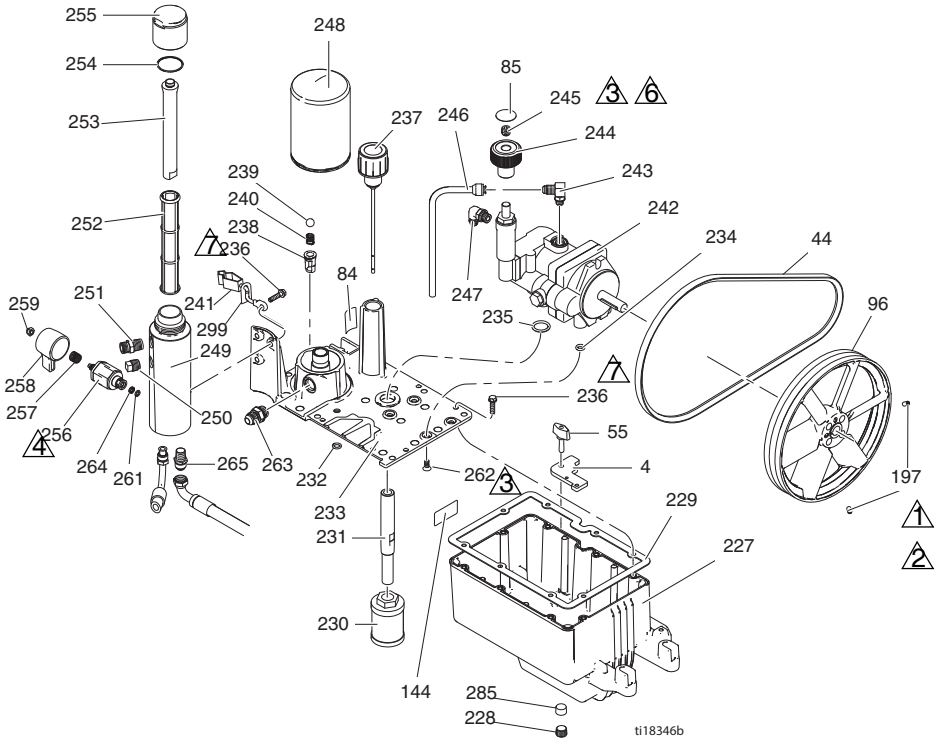
Ref.	Part	Description	Qty.
7	100023	WASHER, flat	4
23	113664	SCREW, cap, hex hd	4
30	108842	SCREW, cap, hex hd	1
34	112717	WASHER	1
43	116908	PULLEY, 5.50 in.	1
44	119433	BELT, V-Grip-notch (not shown)	1
50	110838	NUT, lock	4
88▲	194126	LABEL, warning	1
90▲	16Y720	LABEL, warning, ISO engine	1
99	15F157	BRACKET, mounting, engine	1

Ref.	Part	Description	Qty.
106	15B314	SLEEVE, motor shaft	1
119	17M315	KIT, gas engine 6.5 hp (includes all parts listed on this page)	2
119a	17M304	ENGINE, 6.5 gas	1
126	117632	KEY, square, 3/16 x 1.25	1
133	100002	SCREW, set	1
153	15E888	DAMPENER, motor mount	4
154	108851	WASHER, plain	8

▲*Danger and Warning labels are available at no cost*

HSS9950 Reservoir & Filter Parts

Ref.	Torque	Ref.	Torque
1	58-62 in-lb (6.6 - 7.0 N•m)	5	15-25 in-lb (1.7 - 2.8 N•m)
2	Apply Loctite 242	6	Apply Loctite 277
3	90-110 in-lb (10.2 - 12.4 N•m)	7	110-120 in-lb (12.4 - 13.6 N•m)
4	355-395 in-lb (40.1 - 44.6 N•m)		

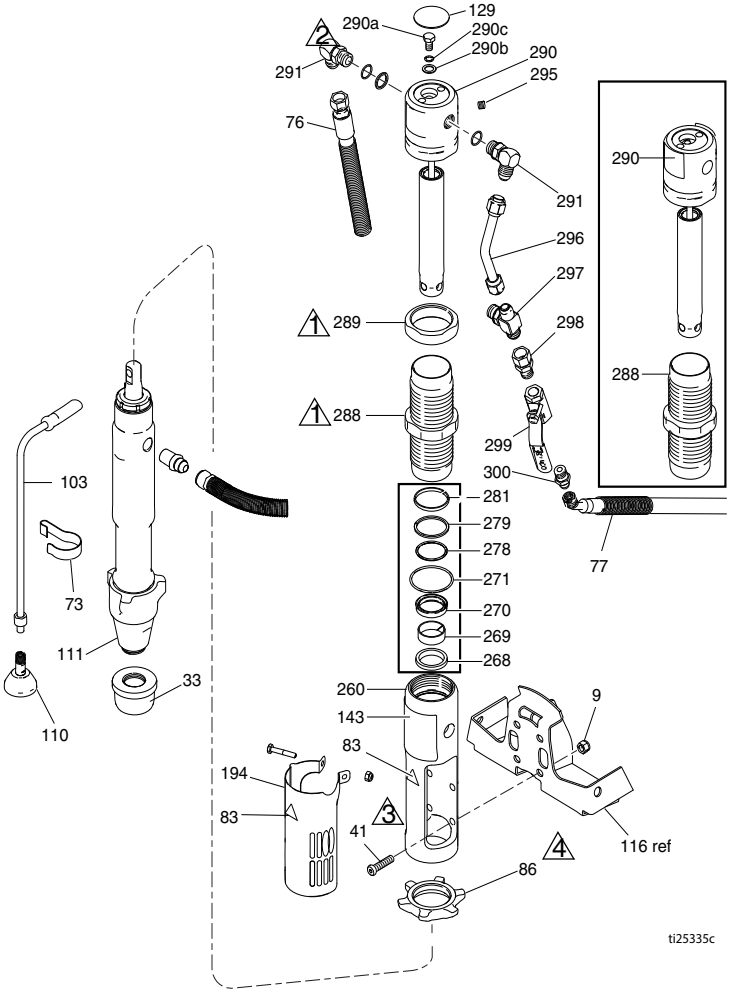


HSS9950 Reservoir & Filter Parts List

Ref.	Part	Description	Qty.
4	15E476	BRACKET, retainer, motor	1
44	116914	BELT, V, AX42 (electric)	1
	119433	BELT, V, AX41 (gas)	
55	15D813	NUT, hand	1
84	16P142	LABEL, hydraulic fluid	1
85	15A464	LABEL, control	1
96	15E410	PULLEY, fan	1
197	120087	SCREW, set, 1/4 x 1/2	2
227	277400	TANK, reservoir	1
228	101754	PLUG, pipe	1
229	120604	GASKET, reservoir	1
230	116919	FILTER	1
231	15E587	TUBE, suction	1
232	154594	PACKING, o-ring	1
233	15H766	COVER, reservoir	1
234	107188	PACKING, o-ring	4
235	156401	PACKING, o-ring	1
236	119426	SCREW, mach, hex washer hd	11
237	120726	CAP, breather, filter	1
238	198841	RETAINER, ball, pressure bypass	1
239	100084	BALL, metallic	1
240	116967	SPRING, compression	1
241	237686	WIRE, ground assembly w clamp	1
242	249003	PUMP, hydraulic	1
243	110792	FITTING, elbow, male, 90°	1
244	15B438	KNOB, pressure	1
245	117560	SCREW, set, socket head	1
246	246167	TUBE, hydraulic, case drain	1
247	116829	FITTING, elbow, hydraulic w/o rings	1
248	246173	FILTER, oil, spin on	1
249	15E599	HOUSING, filter	1
250	15G331	PLUG, pipe	1
251	196178	ADAPTER, nipple	1
252	244067	FILTER, fluid	1
253	15C766	TUBE, diffusion	1
254	117285	PACKING, o-ring	1
255	15C765	CAP, filter	1
256	287879	VAVLE, drain, assy	1
257	114708	SPRING, comp	1
258	15G563	HANDLE, valve	1
259	116424	NUT, cap	1
261	193710	SEAL, seat, valve	1
262	117471	SCREW, mach, hex flat head	4
263	120184	FITTING, hydraulic	1
264	193709	SEAT, valve	1
265	122533	FITTING, elbow, 45°	1
266	804582	GAUGE, pressure	1
285	116618	MAGNET	1
299	290079	LABEL, ground warning, English	1
	16Y633	LABEL, ground warning, Chinese	1

Hydraulic Motor & Displacement Pump Parts

Ref.	Torque	Ref.	Torque
1	145-155 ft-lb (196.6 - 210.2 N•m)	3	140-160 in-lb (15.8 - 18.1 N•m)
2	12-18 ft-lb (16.3 - 24.4 N•m)	4	70-80 ft-lb (94.9 - 108.5 N•m)



Hydraulic Motor & Displacement Pump Parts List

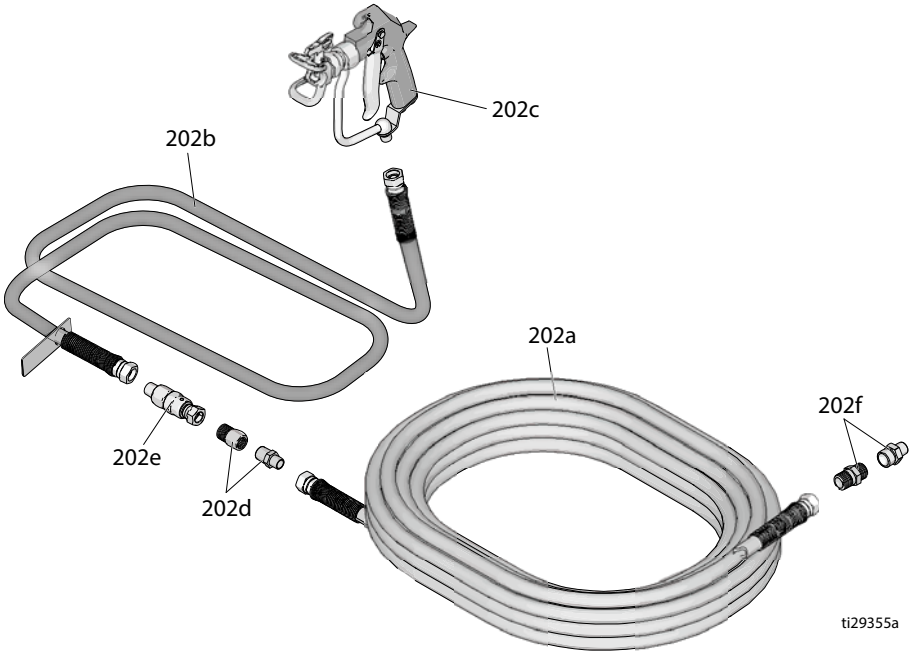
Ref.	Part	Description	Qty.
9	101566	NUT, lock	4
33	189920	STRAINER, (1-11 1/2 npsm)	1
41◆	107210	SCREW	4
63	17A073	HOSE, coupled	1
64	121319	FITTING, adapter, npt	1
73	198542	CLIP, spring	1
76	15K642	HOSE, hydraulic, return	1
77	15K641	HOSE, hydraulic, supply	1
83▲◆	15H108	LABEL, warning	1
86	193394	NUT, retaining	1
103	243993	HOSE, drain	1
110	241920	DEFLECTOR, threaded	1
111	24W999	PUMP, displacement	1
129◆	15B063	LABEL, warning	1
143	17M704	LABEL, brand, front	1
194	24X474	COVER, shield	1
260◆	15E243	MANIFOLD, adapter	1
268◆+	117739	WIPER, rod	1
269◆+	112342	BEARING, rod	1
270◆+	112561	PACKING, block	1
271◆+	112561	PACKING, o-ring	1
278◆+	108014	PACKING, o-ring	1
279◆+	178226	SEAL, piston	1
281◆+	178207	BEARING, piston	1
288◆	248991	SLEEVE, hydraulic	1
289◆	15A726	NUT, jam	1
290◆	17M996	KIT, repair, trip rod (includes 129, 278, 279, 281, 295)	1
290a◆	106276	SCREW, cap, hex head	1
290b◆	155685	PACKING, o-ring	1
290c◆	178179	WASHER, sealing	1
291◆	117607	FITTING, elbow std thd	2
295◆	100139	PLUG, pipe	1
296◆	15E596	TUBE, hydraulic, supply	1
297◆	117609	FITTING, tee, branch, str thd	1
298	117328	FITTING, nipple, straight	1
299	512149	VALVE, ball	1
300	116813	FITTING, nipple, hydraulic	1

▲ *Danger and Warning labels are available at no cost*

◆ *Included in Hydraulic Motor Repair Kit 24C838*

+ Included in Seal Kit 246174

HSS9950 Spray Gun & Hose Parts



Ref.	Part No.	Description	Qty
202a	HSE3850	HOSE, grounded, nylon, black; 3/8 in. ID; cpld 3/8-18 npsm; 50 ft (15 m); spring guards both ends	1
	278499	HOSE, grounded, nylon, blue; 1/2 in. ID; cpld 1/2 npsm(f); 3300 psi (227 bar), 50 ft (15 m); spring guard both ends	1
202b	191239	HOSE, grounded, nylon, blue; 3/8 in. ID; cpld 3/8 npsm(f); 11 ft 10 in. (3.6 m); spring guards both ends; 3300 psi (227 bar, 22.7 MPa)	1
202c	24E382	GUN, spray, ARV631	1

Ref.	Part No.	Description	Qty
202d	159841	ADAPTER, 3/8 x 1/4 in. npt	1
	159239	ADAPTER, 1/2 x 3/8 in. npt(m)	1
202e	239663	SWIVEL, straight	1
202f	196178	ADAPTER, nipple	1
	183285	ADAPTER, 3/8 x 1/2 in. npt(m)	1

Technical Data

HSS9950 Electric		
	US	Metric
Maximum fluid working pressure	3300 psi	22.7 MPa, 227 bar
Hydraulic reservoir capacity	1.25 gallons	4.75 liters
Motor	3.0 HP	2.2 kW
Voltage, Amperage Frequency Phase	220 VAC, 15.0 A, 50 Hz, 1 phase	220 VAC, 15.0 A 50 Hz, 1 phase
Maximum tip size	0.039	
Maximum free-flow delivery	1.56 gpm	5.9 l/min
Hose connection	3/8 npsm (f) - NA/AP; 1/2 npsm(f) EMEA	
Cycles per gallon	80	21.1
Sound Levels (Measured at maximum normal load conditions)		
Motor HP	3.0	
Sound pressure, per ISO 3744	80 dBa	
Sound power, per ISO 3744	95	
Inlet/Outlet Sizes		
Fluid inlet size in.	1 npsm (m)	
Fluid outlet size in.	3/8 npsm (m) - NA/AP	1/2 npsm (m) - EMEA
Weight		
	187 lb.	85 kg
Width		
	26.5 in.	67 cm
Length (Handle bar retracted)		
	47.7 in.	121 cm
Height (Handle bar retracted)		
	35.5 in.	90 cm

Technical Data

HSS9950 Gas		
	US	Metric
Maximum fluid working pressure	3300 psi	22.7 MPa, 227 bar
Hydraulic reservoir capacity	1.25 gallons	4.75 liters
Maximum hydraulic pressure	1855 psi	12.8 MPa,128 bar
Engine - Vanguard	205 cc (6.5 HP @ 3900 RPM)	205 cc (4.8 KW @ 3900 RPM)
Maximum tip size	0.053	
Maximum free-flow delivery	2.35 gpm	8.9 l/min
Hose connection	3/8 npsm (f) - NA/AP; 1/2 npsm(f) EMEA	
Noise (dBa)		
Maximum sound pressure, per ISO 3744	88 dBa	
Maximum sound power, per ISO 3744	103 dBa	
Inlet/Outlet Sizes		
Fluid inlet size	1 npsm (m)	
Fluid outlet size	3/8 npsm (m) - NA/AP	1/2 npsm (m) - EMEA
Weight		
	187 lbs.	85 kg
Width		
	26.5 in.	67 cm
Length		
	47.7 in.	121 cm
Height (Handle bar retracted)		
	35.5 in.	90 cm

Notes

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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Original Instructions. This manual contains English. MM 3A4102
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