



Owner's Manual

For professional use only

Do not use this equipment
before reading this manual!

PowerTwin 12000xLT DI



Model Number:

Gas Bare

459-350

Gas Complete

459-355

NOTE: This manual contains important warnings and instructions. Please read and retain for reference.



IMPORTANT SAFETY INFORMATION • Read all safety information before operating the equipment. SAVE THESE INSTRUCTIONS.



This symbol indicates a hazardous situation, which, if not not avoided could result in death or serious injury.



To reduce the risks of fire or explosion, electrical shock and the injury to persons, read and understand all instructions included in this manual. Be familiar with the controls and proper usage of the equipment.

WARNING: INJECTION INJURY

A high pressure paint stream produced by this equipment can pierce the skin and underlying tissues, leading to serious injury and possible amputation. See a physician immediately.



DO NOT TREAT AN INJECTION INJURY AS A SIMPLE CUT! Injection can lead to amputation. See a physician immediately.

The maximum operating range of the sprayer is 3300 PSI / 22.8 MPa fluid pressure.

PREVENTION:

- NEVER aim the gun at any part of the body.
- Do not aim the gun at, or spray any person or animal.
- NEVER allow any part of the body to touch the fluid stream. DO NOT allow body to touch a leak in the fluid hose.
- NEVER put your hand in front of the gun. Gloves will not provide protection against an injection injury.
- ALWAYS lock the gun trigger, shut the pump off, and release all pressure before servicing, cleaning the tip or guard, changing tip, or leaving unattended. Pressure will not be released by turning off the motor. The PRIME/SPRAY valve or pressure bleed valve must be turned to their appropriate positions to relieve system pressure. Refer to the PRESSURE RELIEF PROCEDURE described in this manual.
- ALWAYS keep the tip guard in place while spraying. The tip guard provides some protection but is mainly a warning device.
- ALWAYS remove the spray tip before flushing or cleaning the system.
- Paint hose can develop leaks from wear, kinking and abuse. A leak can inject material into the skin. Inspect the hose before each use. Do not use hose to lift or pull equipment.
- NEVER use a spray gun without a working trigger lock and trigger guard in place.
- All accessories must be rated at or above 3300 PSI / 22.8 MPa. This includes spray tips, guns, extensions, and hose.
- Do not leave the unit energized or under pressure while unattended. When the unit is not in use, turn off the unit and relieve the pressure in accordance with the PRESSURE RELIEF PROCEDURE described in this manual.
- Verify that all connections are secure before operating the unit. Unsecured parts may eject at great force or leak a high pressure fluid stream causing severe injury.
- Always engage the trigger lock when not spraying. Verify the trigger lock is functioning properly.

NOTE TO PHYSICIAN: Injection into the skin is a traumatic injury. It is important to treat the injury as soon as possible. DO NOT delay treatment to research toxicity. Toxicity is a concern with some coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.

WARNING: HAZARDOUS VAPORS

Paints, solvents, insecticides, and other materials can be harmful if inhaled or come in contact with the body. Vapors can cause severe nausea, fainting, or poisoning.



PREVENTION:

- Use a respirator or mask if vapors can be inhaled. Read all instructions supplied with the mask to be sure it will provide the necessary protection.
- Wear protective eyewear.
- Wear protective clothing as required by coating manufacturer.



WARNING: EXPLOSION OR FIRE

Solvent and paint fumes can explode or ignite. Property damage and/or severe injury can occur.



PREVENTION:

- Provide extensive exhaust and fresh air introduction to keep the air within the spray area free from accumulation of flammable vapors. Solvent and paint fumes can explode or ignite.
- Do not spray in a confined area.
- Avoid all ignition sources such as static electric sparks, open flames, pilot lights, electrical appliances, and hot objects. Connecting or disconnecting power cords or working light switches can make sparks. Paint or solvent flowing through the equipment is able to result in static electricity.
- Do not smoke in spray area.
- Fire extinguisher must be present and in good working order.
- Place pump at least 25 feet (7.62 meters) from the spray object in a well ventilated area (add more hose if necessary). Flammable vapors are often heavier than air. Floor area must be extremely well ventilated. The pump contains arcing parts that emit sparks and can ignite vapors.
- The equipment and objects in and around the spray area must be properly grounded to prevent static sparks.
- Keep area clean and free of paint or solvent containers, rags and other flammable materials.
- Use only conductive or grounded high pressure fluid hose. Gun must be grounded through hose connections.
- For electric units — power cord must be connected to a grounded circuit.
- Always flush unit into a separate metal container, at low pump pressure, with spray tip removed. Hold gun firmly against side of container to ground container and prevent static sparks.
- Follow the material and solvent manufacturer's warnings and instructions. Know the contents of the paints and solvents being sprayed. Read all Material Safety Data Sheets (MSDS) and container labels provided with the paints and solvents. Follow the paint and solvent manufacturer's safety instructions.
- Use extreme caution with liquids having a flash point of less than 21°C (70°F). Flashpoint is the temperature that a fluid can produce enough vapors to ignite.
- Plastic can cause static sparks. Never hang plastic to enclose a spray area. Do not use plastic drop cloths when spraying flammable materials.
- Use lowest possible pressure to flush equipment.
- Do not spray onto pump assembly.



WARNING: EXPLOSION HAZARD DUE TO INCOMPATIBLE MATERIALS

Will cause property damage or severe injury.



PREVENTION:

- Do not use materials containing bleach or chlorine.
- Do not use halogenated hydrocarbon solvents such as bleach, mildewcide, methylene chloride and 1,1,1-trichloroethane. They are not compatible with aluminum.
- Contact your coating supplier about the compatibility of material with aluminum.



IMPORTANT SAFETY INFORMATION • Read all safety information before operating the equipment. SAVE THESE INSTRUCTIONS.

WARNING: GENERAL

Can cause severe injury or property damage.

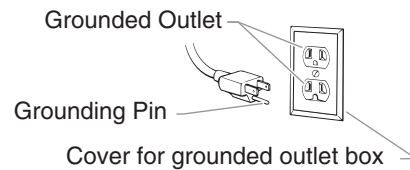
- Read all instructions and safety precautions before operating equipment.
- Follow all appropriate local, state, and national codes governing ventilation, fire prevention, and operation.
- The United States Government Safety Standards have been adopted under the Occupational Safety and Health Act (OSHA). These standards, particularly part 1910 of the General Standards and part 1926 of the Construction Standards should be consulted.
- Use only manufacturer authorized parts. User assumes all risks and liabilities when using parts that do not meet the minimum specifications and safety requirements of the pump manufacturer.
- All hoses, fittings, and filter parts must be secured before operating spray pump. Unsecured parts can eject at great force or leak a high pressure fluid stream causing severe injury.
- Before each use, check all hoses for cuts, leaks, abrasion or bulging of cover. Check for damage or movement of couplings. Immediately replace the hose if any of these conditions exist. Never repair a paint hose. Replace it with another grounded high-pressure hose.
- Do not kink or over-bend the hose. Airless hose can develop leaks from wear, kinking and abuse. A leak can inject material into the skin.
- Do not expose the hose to temperatures or pressures in excess of those specified by manufacturer.
- Do not spray outdoors on windy days.
- Wear clothing to keep paint off skin and hair.
- Do not operate or spray near children. Keep children away from the equipment at all times.
- Do not overreach or stand on an unstable support. Keep effective footing and balance at all times.
- Use lowest possible pressure to flush equipment.
- Stay alert and watch what you are doing.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- For electric units — Always unplug cord from outlet before working on equipment.
- Do not use the hose as a strength member to pull or lift the equipment.
- Do not lift by cart handle when loading or unloading.

Grounding Instructions

Electric models 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.

DANGER — Improper installation of the grounding plug can result in a risk of electric shock. If repair or replacement of the cord or plug is necessary, do not connect the green grounding wire to either flat blade terminal. The wire with insulation having a green outer surface with or without yellow stripes is the grounding wire and must be connected to the grounding pin.

Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.



IMPORTANT - Use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that will accept the plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. A 12 gauge cord is recommended. If an extension cord is to be used outdoors, it must be marked with the suffix W-A after the cord type designation. For example, a designation of SJTW-A would indicate that the cord would be appropriate for outdoor use.

Gasoline Engine Safety



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

- Honda engines are designed to give safe and dependable service if operated according to instructions. Read and understand the Honda Owner's Manual before operating the engine. Failure to do so could result in personal injury or equipment damage.
- To prevent fire hazards and to provide adequate ventilation, keep the engine at least 1 meter (3 feet) away from buildings and other equipment during operation. Do not place flammable objects close to the engine.
- Children and pets must be kept away from the area of operation due to a possibility of burns from hot engine components or injury from any equipment the engine may be used to operate.
- Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
- Gasoline is extremely flammable and is explosive under certain conditions.
- Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the refueling area or where gasoline is stored.
- Do not overfill the fuel tank. After refueling, make sure the tank cap is closed properly and securely.
- Be careful not to spill fuel when refueling. Fuel vapor or spilled fuel may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- Never run the engine in an enclosed or confined area. Exhaust contains poisonous carbon monoxide gas; exposure may cause loss of consciousness and may lead to death.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. To avoid severe burns or fire hazards, let the engine cool before transporting it or storing it indoors.
- Never ship/transport unit with gasoline in the tank.



DO NOT use this equipment to spray water or acid.

IMPORTANT: Do not lift by cart handle when loading or unloading.

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Specifications

Gas Sprayer

Gallons per minute (GPM)	3.15 (11.9 LPM)
Cycle rate per gallon.....	40 (10.5 cycles/liter)
Maximum tip sizes	1 gun = .058"
	2 guns = .040"
	3 guns = .034"
	4 guns = .030"
	5 guns = .026"
	6 guns = .024"
Maximum pressure	3300 PSI (22.8 MPa)
Power	Honda 9 HP, 4-stroke, single cylinder, overhead valve engine w/oil alert
Fuel capacity.....	1.6 US gallons (approx. 2.5 hours run time)
Halogenated solvent compatible.....	Yes
Weight.....	188 lbs. (85.3 kg.)
Inlet paint filter	10 mesh "Rock Catcher"
Outlet paint filter.....	50 mesh, 18 in. ²
Pump inlet.....	1" NPT(F)
Pump outlet.....	1/2" NPT(F) to paint filter
Paint filter hose connections.....	3/8" NPS(M) 3/8" NPT(F) (plugged)
Dimensions	46" L (116.8 cm) x 27" W (68.6 cm) x 34" H (86.6 cm)

Fluid section wetted parts:

Electroless nickel plated ductile iron, electroless nickel plated carbon steel, stainless steel, tungsten carbide, PTFE, thiokol impregnated leather, ultra high molecular weight polyethylene.

Electric Sprayer

Gallons per minute (GPM)	1.25 (4.7 LPM)
Cycle rate per gallon.....	40 (10.5 cycles/liter)
Maximum tip sizes	1 gun = .036"
	2 guns = .026"
	3 guns = .019"
Maximum pressure	3300 psi (22.8 MPa)
Power	2 HP DC Motor, 115V 15.5A, overload protected
Halogenated solvent compatible.....	Yes
Weight.....	192 lbs. (87.1 kg.)
Inlet paint filter	10 mesh "Rock Catcher"
Outlet paint filter.....	50 mesh, 18 in. ²
Pump inlet.....	1" NPT(F)
Pump outlet.....	1/2" NPT(F) to paint filter
Paint filter hose connections.....	3/8" NPS(M) 3/8" NPT(F) (plugged)
Dimensions	46" L (116.8 cm) x 27" W (68.6 cm) x 34" H (86.6 cm)

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Electroless nickel plated ductile iron, electroless nickel plated carbon steel, stainless steel, tungsten carbide, PTFE, thiokol impregnated leather, ultra high molecular weight polyethylene.

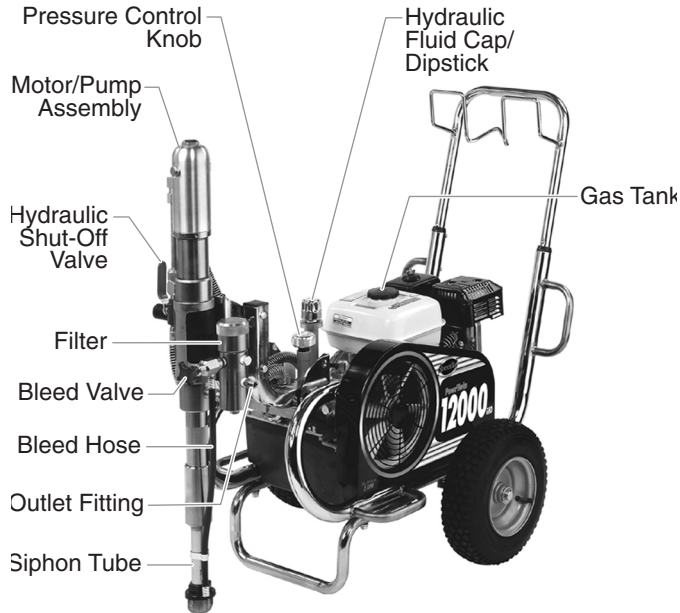


Introduction

Congratulations on having selected the finest airless sprayer available in the world. Speeflo piston pumps are tireless workhorses — so tough they are virtually indestructible, even under the most severe service. Speeflo designs and builds equipment with superior quality and reliability. Equipment that will last for years with minimal maintenance and downtime. This equipment will make you money year after year. We thank you for your purchase and welcome you to our large and growing family of Speeflo users.

The unique ability of this PowrTwin to operate with either gas or electric power provides you with the flexibility to work indoors or outside where no electricity is available.

Hydraulic drive makes possible the longest stroke and slowest cycling pumps in the industry, which translates into low maintenance and longer life. Electric sprayers operate quietly with no motor starting and stopping.



This PowrTwin is equipped with Speeflo's exclusive fluid pump. This technology will give you significantly longer rod, cylinder, and packing life than any other sprayer built in the world. This double ball piston pump employs a dependable and durable time-tested design. All pumps use thick, stainless steel rod and cylinder parts. Highly polished parts reduce friction, extend packing life, and avoid damage from corrosion and abrasion. More than 100,000 of these pumps are in operation around the world.

This PowrTwin offers other cost saving features:

- Freeze-proof pressure control
- Choice of power — gas, electric, or both
- Tungsten carbide reversible valve seats
- Self-adjusting packings
- Exclusive hand-tight swivel foot valve
- Large capacity inline paint filter
- Waterborne compatible
- "Floating Ball" pressure bleed valve

You have made an excellent choice. We know you will be pleased with your new PowrTwin. Thanks again for selecting Speeflo. We appreciate your business.

Operation

Fueling (gas engine)



Gasoline is extremely flammable and is explosive under certain conditions.

- ALWAYS turn the engine off before refueling.
- Refuel in a well-ventilated area.
- Do not smoke or allow flames or sparks in the refueling area or where gasoline is stored.
- Do not overfill the fuel tank. After refueling, make sure the tank cap is closed properly and securely.
- Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
- Avoid repeated or prolonged contact with skin or breathing of vapor.
- Keep out of the reach of children.

Fuel Specifications

- Use automotive gasoline that has a pump octane number of 86 or higher, or that has a research octane number of 91 or higher. Use of a lower octane gasoline can cause persistent "pinging" or heavy "spark knock" (a metallic rapping noise) which, if severe, can lead to engine damage.

NOTE: If "spark knock" or "pinging" occurs at a steady engine speed under normal load, change brands of gasoline. If spark knock or pinging persists, consult an authorized dealer of the engine manufacturer. Failure to do so is considered misuse, and damage caused by misuse is not covered by the engine manufacturer's limited warranty.

Occasionally you may experience light spark knock while operating under heavy loads. This is no cause for concern, it simply means your engine is operating efficiently.

- Unleaded fuel produces fewer engine and spark plug deposits and extends the life of the exhaust system components.
- Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt, dust, or water in the fuel tank.

Gasolines Containing Alcohol

If you decide to use a gasoline containing alcohol (gasohol), be sure its octane rating is at least as high as that recommended by the engine manufacturer. There are two types of "gasohol": one containing ethanol, and the other containing methanol. Do not use gasohol that contains more than 10% ethanol. Do not use gasoline containing methanol (methyl or wood alcohol) that does not also contain co-solvents and corrosion inhibitors for methanol. Never use gasoline containing more than 5% methanol, even if it has co-solvents and corrosion inhibitors.

NOTE: Fuel system damage or engine performance problems resulting from the use of fuels that contain alcohol is not covered under the warranty. The engine manufacturer cannot endorse the use of fuels containing methanol since evidence of their suitability is incomplete at this time.

Before buying gasoline from an unfamiliar station, try to find out if the gasoline contains alcohol. If it does, confirm the type and percentage of alcohol used. If you notice any undesirable operating characteristics while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

Operating the Swing Cart

 Use caution when operating the swing cart. Keep fingers and feet clear of moving parts.

The swing cart allows the motor/pump assembly to be rotated between two positions.

Position #1: Working Position

The vertical position of the motor/pump assembly is the working position. This position allows complete submersion of the siphon tube on the fluid section into a paint bucket. The maximum height paint bucket that can be used is 28 1/8" (71.4 cm).



Position #2: Transporting Position


The horizontal position of the motor/pump assembly is the transporting position. This position allows easy removal of the paint bucket and a sprayer height of 30" (76.2 cm) for ease of transportation.



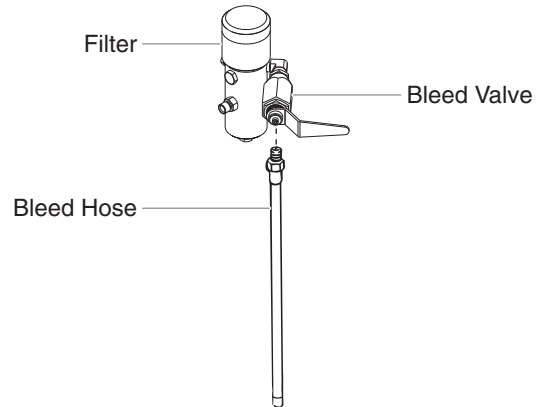
Use the following procedure to change the position of the motor/pump assembly.

1. Holding the handle grip with one hand, pull the locking pin out of the locking hole on the cart with the other hand. This allows the motor/pump assembly mounted on the swing cart frame to move from one position to the other.
2. Let go of the locking pin once it is free of the locking hole.
3. Move the motor/pump assembly to the desired position. The locking pin is spring loaded and will automatically engage the locking hole on the swing cart at the new position.

Setup

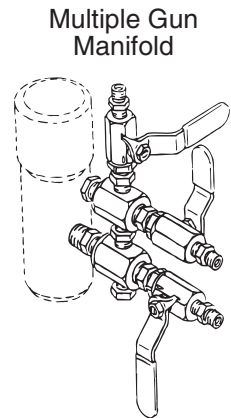
 Read, understand, and follow all warnings before starting or operating this sprayer.

1. Make sure the bleed hose is threaded into the bleed valve. It has factory installed PTFE tape on the fitting and should be tightened wrench tight.



2. Attach a minimum of 50' of nylon airless spray hose to the sprayer. Do not use PTFE tape or thread sealant on the spray hose connection.
3. Attach an airless spray gun to the spray hose. Do not attach the tip to the spray gun yet. Remove the tip if it is already attached.
 - a. To use two guns, remove the plug from the second gun outlet on the filter assembly. Connect a hose and gun to the outlet.

NOTE: The gas sprayer is engineered to handle up to 6 guns with .024" tips and the electric sprayer is engineered to handle up to 3 guns with .019" tips. For multiple gun operation, connect a multiple gun manifold to the single gun outlet. Connect a hose and gun to each outlet. Make sure the second gun outlet remains plugged.



4. Fill the oil cup 1/2 full with Speeflo Piston Lube (P/N 314-480) supplied by the factory. This extends packing life.
5. Check the hydraulic fluid level daily before starting the sprayer. The hydraulic fluid level should be at the "Full" mark on the dipstick. Refer to the Maintenance section of this manual for hydraulic system maintenance instructions.

IMPORTANT: Use of Speeflo's Coolflo™ Hydraulic Fluid (P/N 430-361) is mandatory in the hydraulic system. Do not use any other hydraulic fluid. Use of any other hydraulic fluid may seriously damage the hydraulic system and will void the warranty.

6. For gas models, check the engine oil level daily before starting the sprayer. The gasoline engine oil level is determined by the engine manufacturer. Refer to the engine manufacturer's service manual supplied with this sprayer.
7. For electric models, use a 20 amp service outlet. Always locate the electric model within 10 to 15 feet of the service outlet. Use a short electric cable and a long paint hose. Any extension cord will create some voltage drop. If an extension cord is necessary, use only a grounded 3-wire #12 gauge extension cord.

NOTE: If the sprayer is being operated in an area that is overloaded by other appliances or low voltage conditions, it is important to start the sprayer "unloaded." Tip the electric motor forward so that the belt is loosened and the motor starts without full load. This reduces the amperage draw on starting and may avoid tripping the circuit breaker.

8. Make sure the sprayer is grounded. All sprayers are equipped with a grounding lug. A grounding cable (not supplied) should be used to connect the sprayer to a true earth ground. Check your local electrical regulations for detailed grounding instructions. See the Accessories and Service Kits section near the back of this manual for grounding cable ordering information.



Proper grounding is important. This applies to both gas and electric powered models. The passage of some materials through the nylon fluid hose will build up a static electric charge, which if discharged, could ignite solvent vapors present and create an explosion.

9. Strain all paints with a nylon strainer to ensure trouble free operation and freedom from frequent cleaning of the inlet screen and gun filter.
10. Make sure the spray area is well ventilated to prevent hazardous operation with volatile solvents or exhaust fumes.



If lacquer or other flammable materials are to be sprayed, ALWAYS locate the sprayer outside the immediate spraying area. Failure to do so may cause an explosion.

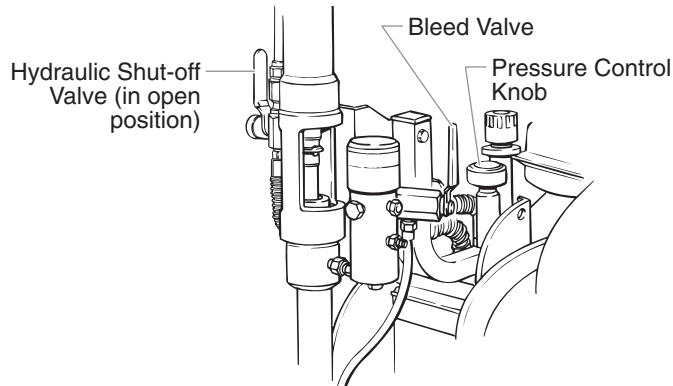
11. Locate the sprayer outside the immediate spraying area to avoid clogged air intake of the engine or electric motor with overspray.

Preparing a New Sprayer

If this sprayer is new, it is shipped with test fluid in the fluid section to prevent corrosion during shipment and storage. This fluid must be thoroughly cleaned out of the system with mineral spirits before you begin spraying.

IMPORTANT: Always keep the trigger lock on the spray gun in the locked position while preparing the system.

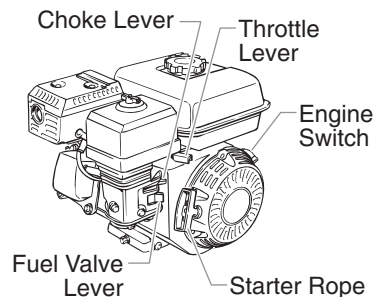
1. Place the siphon tube into a container of mineral spirits.
2. Place the bleed hose into a metal waste container.
3. Set the pressure to minimum by turning the pressure control knob fully counterclockwise.



4. Open the hydraulic shut-off valve located on the hydraulic pressure hose. The handle should be in line with the hose.
5. Open the bleed valve by rotating the bleed valve handle fully counterclockwise.
6. Start the engine or turn on the electric motor.

- a. To start the gas engine,

- move the fuel valve lever to the open position,
- move the throttle lever to its middle point,
- move the choke lever to the closed position for a cold engine or to the open position for a warm engine,



- turn the engine switch to the ON position, and
- pull the starter rope briskly until the engine starts.

- b. To start the electric motor, move the ON/OFF switch to the ON position.

7. Turn the pressure control knob clockwise approximately 1/3 of the way down to increase pressure until the sprayer cycles evenly and solvent flows freely from the bleed hose.
8. Allow the sprayer to run for 15–30 seconds to flush the test fluid out through the bleed hose and into the waste container.
9. Turn off the sprayer.
 - a. To turn off the gas engine,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the throttle lever to the slow position, and
 - turn the engine switch to the OFF position.
 - b. To turn off the electric motor,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the ON/OFF switch to the OFF position.

Preparing to Paint

Before painting, it is important to make sure that the fluid in the system is compatible with the paint that is going to be used.

NOTE: Incompatible fluids and paint may cause the valves to become stuck closed, which would require disassembly and cleaning of the sprayer's fluid section.

IMPORTANT: Always keep the trigger lock on the spray gun in the locked position while preparing the system.

1. Place the siphon tube into a container of the appropriate solvent.

NOTE: If you are spraying a water-based latex, flush with warm, clean water. If you are using any other material, check with the material manufacturer for a compatible solvent.

2. Place the bleed hose into a metal waste container.
3. Set the pressure to minimum by turning the pressure control knob fully counterclockwise.
4. Open the hydraulic shut-off valve located on the hydraulic pressure hose. The handle should be in line with the hose.
5. Open the bleed valve by rotating the bleed valve handle fully counterclockwise.
6. Start the engine or turn on the electric motor.
 - a. To start the gas engine,
 - move the fuel valve lever to the open position,
 - move the throttle lever to its middle point,
 - move the choke lever to the closed position for a cold engine or to the open position for a warm engine,
 - turn the engine switch to the ON position, and
 - pull the starter rope briskly until the engine starts.
 - b. To start the electric motor, move the ON/OFF switch to the ON position.
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9. Turn off the sprayer.
 - a. To turn off the gas engine,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the throttle lever to the slow position, and
 - turn the engine switch to the OFF position.
 - b. To turn off the electric motor,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the ON/OFF switch to the OFF position.

NOTE: Make sure that the spray gun does not have a tip or tip guard installed.

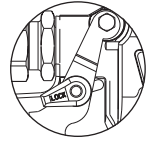
10. Close the bleed valve by rotating the bleed valve handle fully clockwise.
11. Start the engine or turn on the electric motor.
12. Turn the pressure control knob clockwise approximately 1/3 of the way down to increase pressure.
13. Unlock the gun by turning the gun trigger lock to the unlocked position.



Ground the gun by holding it against the edge of the metal container while flushing. Failure to do so may lead to a static electric discharge, which may cause a fire.



14. Trigger the gun into the metal waste container until the old solvent is gone and fresh solvent is coming out of the gun.
15. Lock the gun by turning the gun trigger lock to the locked position.
16. Set down the gun and increase the pressure by turning the pressure control knob slowly clockwise.
17. Check the entire system for leaks. If leaks occur, follow the “Pressure Relief Procedure” in this manual before tightening any fittings or hoses.
18. Follow the “Pressure Relief Procedure” in this manual before changing from solvent to paint.



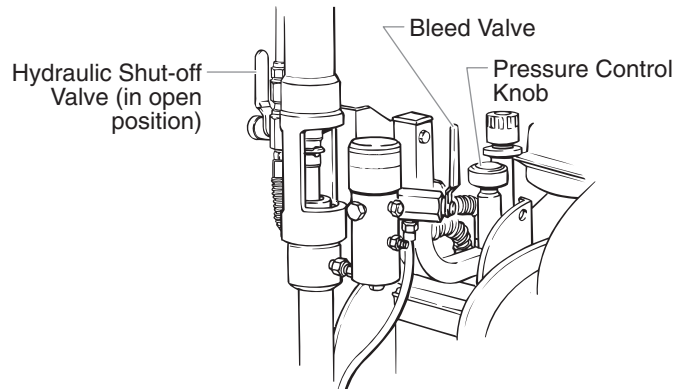
Trigger lock in locked position.



Be sure to follow the pressure relief procedure when shutting the sprayer down for any purpose, including servicing or adjusting any part of the spray system, changing or cleaning spray tips, or preparing for cleanup.

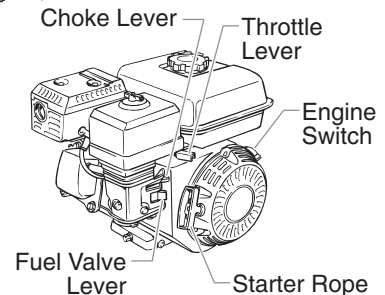
Painting

1. Place the siphon tube into a container of paint.
2. Place the bleed hose into a metal waste container.
3. Set the pressure to minimum by turning the pressure control knob fully counterclockwise.



4. Open the hydraulic shut-off valve located on the hydraulic pressure hose. The handle should be in line with the hose.
5. Open the bleed valve by rotating the bleed valve handle fully counterclockwise.
6. Start the engine or turn on the electric motor.
 - a. To start the gas engine,

- move the fuel valve lever to the open position,
- move the throttle lever to its middle point,
- move the choke lever to the closed position for a cold engine or to the open position for a warm engine,
- turn the engine switch to the ON position, and
- pull the starter rope briskly until the engine starts.



- b. To start the electric motor, move the ON/OFF switch to the ON position.
7. Turn the pressure control knob clockwise approximately 1/3 of the way down to increase pressure until the sprayer cycles evenly and paint flows freely from the bleed hose.
8. Turn off the sprayer.
 - a. To turn off the gas engine,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the throttle lever to the slow position, and
 - turn the engine switch to the OFF position.
 - b. To turn off the electric motor,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the ON/OFF switch to the OFF position.
9. Remove the bleed hose from the waste container and place it into the container of paint.
10. Close the bleed valve by rotating the bleed valve handle fully clockwise.
11. Start the engine or turn on the electric motor.
12. Turn the pressure control knob clockwise approximately 1/3 of the way down to increase pressure.
13. Unlock the gun by turning the gun trigger lock to the unlocked position.



Ground the gun by holding it against the edge of the metal container while flushing. Failure to do so may lead to a static electric discharge, which may cause a fire.



14. Trigger the gun into the metal waste container until all air and solvent is flushed from the spray hose and paint is flowing freely from the gun.
15. Lock the gun by turning the gun trigger lock to the locked position.
16. Turn off the sprayer.
17. Attach tip guard and tip to the gun as instructed by the tip guard or tip manuals.



Trigger lock in locked position.



POSSIBLE INJECTION HAZARD. Do not spray without the tip guard in place. Never trigger the gun unless the tip is in either the spray or the unclog position. Always engage the gun trigger lock before removing, replacing or cleaning tip.

18. Start the engine or turn on the electric motor.
19. Increase the pressure by turning the pressure control knob slowly clockwise and test the spray pattern on a piece of cardboard. Adjust the pressure control knob until the spray from the gun is completely atomized.

NOTE: Turning the pressure up higher than needed to atomize the paint will cause premature tip wear and additional overspray.

Pressure Relief Procedure



Be sure to follow the pressure relief procedure when shutting the sprayer down for any purpose, including servicing or adjusting any part of the spray system, changing or cleaning spray tips, or preparing for cleanup.

1. Lock the gun by turning the gun trigger lock to the locked position.
2. Turn off the sprayer.
 - a. To turn off the gas engine,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the throttle lever to the slow position, and
 - turn the engine switch to the OFF position.
 - b. To turn off the electric motor,
 - set the pressure to minimum by turning the pressure control knob fully counterclockwise,
 - move the ON/OFF switch to the OFF position.
3. Close the hydraulic shut-off valve on the hydraulic pressure hose.
4. Unlock the gun by turning the gun trigger lock to the unlocked position.
5. Hold the metal part of the gun firmly to the side of a metal waste container to ground the gun and avoid a build up of static electricity.
6. Trigger the gun to remove any pressure that may still be in the hose.
7. Lock the gun by turning the gun trigger lock to the locked position.
8. Place the bleed hose into the metal waste container.
9. Open the bleed valve by rotating the bleed valve handle fully counterclockwise.



Trigger lock in locked position.



Cleanup



Special cleanup instructions for use with flammable solvents:

- Always flush spray gun preferably outside and at least one hose length from spray pump.
- If collecting flushed solvents in a one gallon metal container, place it into an empty five gallon container, then flush solvents.
- Area must be free of flammable vapors.
- Follow all cleanup instructions.

IMPORTANT: The sprayer, hose, and gun should be cleaned thoroughly after daily use. Failure to do so permits material to build up, seriously affecting the performance of the sprayer.



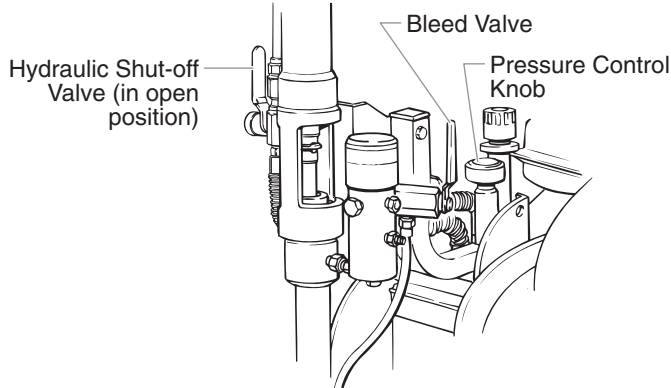
Always spray at minimum pressure with the gun nozzle tip removed when using mineral spirits or any other solvent to clean the sprayer, hose, or gun. Static electricity buildup may result in a fire or explosion in the presence of flammable vapors.

1. Follow the "Pressure Relief Procedure" found in the Operation section of this manual.
2. Remove the gun tip and tip guard and clean with a brush using the appropriate solvent.

- Place the siphon tube into a container of the appropriate solvent.

IMPORTANT: Use only compatible solvents when cleaning out oil based enamels, lacquers, coal tar, and epoxies. Check with the fluid manufacturer for the recommended solvent.

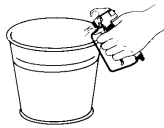
- Place the bleed hose into a metal waste container.
- Set the pressure to minimum by turning the pressure control knob fully counterclockwise.



- Open the hydraulic shut-off valve located on the hydraulic pressure hose. The handle should be in line with the hose.
- Open the bleed valve by rotating the bleed valve handle fully counterclockwise.
- Start the engine or turn on the electric motor.
- Allow the solvent to circulate through the sprayer and flush the paint out of the bleed hose into the metal waste container.
- Turn off the sprayer.
- Close the bleed valve by rotating the bleed valve handle fully clockwise.
- Start the engine or turn on the electric motor.



Ground the gun by holding it against the edge of the metal container while flushing. Failure to do so may lead to a static electric discharge, which may cause a fire.



- Trigger the gun into the metal waste container until the paint is flushed out of the hose and solvent is coming out of the gun.
- Continue to trigger the spray gun into the waste container until the solvent coming out of the gun is clean.

NOTE: For long-term or cold weather storage, pump mineral sprits through the entire system.

- Follow the "Pressure Relief Procedure" found in the Operation section of this manual.
- Store the sprayer in a clean, dry area.

IMPORTANT: Do not store the sprayer under pressure.

Cleaning a Clogged Tip

- Follow the "Pressure Relief Procedure" in the Operation section of this manual.
- If the tip clogs, rotate the tip handle 180° until the arrow on the handle is facing the opposite of the spray direction and the handle clicks in the reverse position.
- Trigger the gun once so that the pressure can blow the clog out. NEVER use the tip in the reverse position for more than ONE trigger pull at a time. This procedure can be repeated until the tip is free of clogging.



The flow from the spray tip is at very high pressure. Contact with any body part may be dangerous. Do not place finger on gun outlet. Do not point the gun at any person. Never operate the spray gun without the proper tip guard.

Maintenance



Before proceeding, follow the Pressure Relief Procedure outlined previously in this manual. Additionally, follow all other warnings to reduce the risk of an injection injury, injury from moving parts or electric shock. Always unplug the sprayer before servicing!

Daily Maintenance

Two daily procedures are required for routine operator maintenance on this sprayer:

- Lubricating the upper packings.
- Cleaning the rock catcher.

Lubricating the Upper Packings

- Clean out the paint that has seeped past the upper packings into the packing oil cup above the fluid section.
- Fill the packing oil cup 1/2 full with Piston Lube (P/N 314-480) supplied by the factory. This will extend packing life.

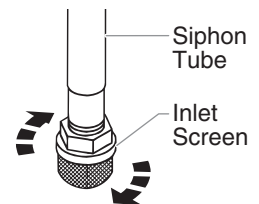
NOTE: Do not over-fill the oil cup so that it overflows and drips into the paint.



Cleaning the Inlet Screen

The inlet screen will clog and must be cleaned at least once a day.

- Loosen and remove the inlet screen from the siphon tube.
- Clean thoroughly with the appropriate solvent.



Maintaining the Filter Assembly

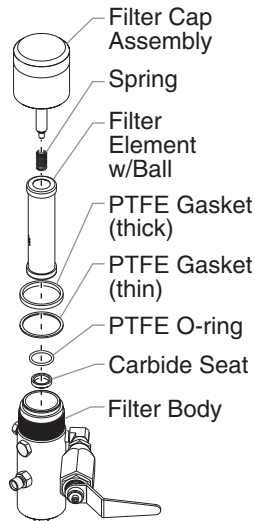
Clean the filter regularly. Dirty or clogged filters can greatly reduce filtering ability and cause a number of system problems including poor spray patterns, clogged spray tips, etc.

Cleaning

To clean the filter, perform the following procedure.

1. Follow the "Pressure Relief Procedure" found in the Operation section of this manual.
2. Remove the filter cap assembly and spring.
3. Pull the filter element with ball straight out of the filter body.
4. Clean inside the filter body, filter element with ball, and filter cap assembly using the appropriate solvent.

NOTE: Use care in handling parts as dirt, debris, scratches, or nicks may prevent o-rings or gaskets from sealing. This filter element filters from the inside out. Be sure to clean the filter element thoroughly on the inside. Soak in solvent to loosen hardened paint or replace.



Inspection

Inspect all parts of the filter assembly before reassembly.

1. Inspect the ball inside the filter element. If the ball has pressure cuts or scratches, replace the filter element.
 - a. If the ball is cut, remove the PTFE o-ring using an o-ring pick and remove the carbide seat.
 - b. Check the seat for nicks or grooves. If the seat is damaged, replace.

NOTE: Removal of the PTFE o-ring will damage the o-ring and require replacement.

2. Remove the spring from the spring guide on the filter cap.
 - a. Measure the length of the spring uncompressed. If it measures less the 3/4" from end to end, replace.
 - b. Push the spring back onto the spring guide until it "snaps" back into position.
3. Inspect the two PTFE gaskets and the PTFE o-ring for deformity, nicks, or cuts. Replace, if needed.

NOTE: The PTFE gaskets, PTFE o-ring, and spring are packaged in Filter Service Kit P/N 930-050.

Reassembly

After cleaning and inspecting all parts, reassemble the filter.

1. Place the carbide seat into the filter body. Make sure the beveled side of the seat is facing up.
2. Place the PTFE o-ring into the groove on the outer diameter of the carbide seat.
3. Place the filter element with ball into the filter body.

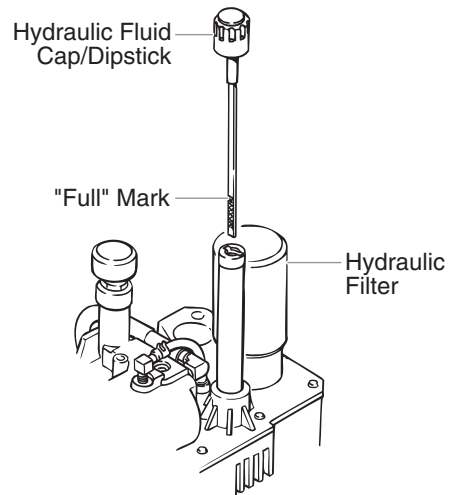
NOTE: The top and bottom of the filter element with ball are identical.

4. Push the spring back onto the spring guide of the filter cap until it "snaps" back into position, if not already done.
5. Place the thin PTFE gasket onto the step at the top of the filter body.
6. Place the thick PTFE gasket onto the top of the thin gasket.
7. Tighten the filter cap assembly onto the filter body.

Maintaining the Hydraulic System

IMPORTANT: Use of Speeflo's Coolflo™ Hydraulic Fluid is mandatory in the PowrTwin hydraulic system. Do not use any other hydraulic fluid. Use of any other hydraulic fluid may seriously damage the hydraulic system and will void the warranty.

1. Check the hydraulic fluid daily. It should be at the "Full" mark on the dipstick. If it is low, add only Speeflo Coolflo™ Hydraulic Fluid (P/N 430-361). Never add or change hydraulic fluid except in a clean, dust-free area. Contamination of the hydraulic fluid will shorten hydraulic pump life and may void warranty.



2. Change the hydraulic fluid every twelve months. Drain the old fluid from the tank and fill with 4 quarts of Speeflo Coolflo™ Hydraulic Fluid. Start the sprayer at just enough pressure to operate the fluid section. Run the sprayer at this low pressure for at least 5 minutes. This removes air from the system. Check the fluid level after this procedure. Do not over-fill.

NOTE: When replacing the hydraulic filter during a fluid change, it may be necessary to add up to one additional quart of hydraulic fluid.

3. The hydraulic system has an external, replaceable hydraulic filter. Change the filter every twelve months.
4. The hydraulic pump should not be serviced in the field. If service on the hydraulic pump is required, it must be returned to Speeflo.

Maintaining the Fluid Section

If the sprayer is going to be out of service for an extended period of time, it is recommended that following cleanup a mineral spirits and oil mixture be introduced as a preservative. Packings may tend to dry out from lack of use. This is particularly true of the upper packing set for which upper packing lubricant Piston Lube (P/N 314-480) is recommended in normal usage.

If the sprayer has been out of service for an extended period of time, it may be necessary to prime the pump with solvent. It is extremely important that the threads on the siphon tube/hose coupling are properly sealed. Any air leakage will produce erratic operation of the sprayer and may damage the system. The up and the down strokes should be approximately equal in time (one should not be faster than the other). A fast up or down stroke may indicate air in the system or malfunctioning valve or seats (see the Troubleshooting section).

Basic Engine Maintenance (gas engine)

- For detailed engine maintenance and technical specifications refer to the separate gasoline engine manual.
- All service to the engine should be performed by an authorized Honda Power Equipment dealer. To locate a dealer in your area, look in the Yellow Pages of your telephone directory under Gasoline Engines, Garden & Lawn Equipment & Supplies, Lawn Mowers, etc.
- The Honda engine is warranted exclusively by American Honda Motor Co., Inc.
- Use a premium quality motor oil certified to meet or exceed U.S. Automotive requirement SG. or SF. SAE 10W30 is recommended for general all temperature use. Other viscosities may be required in other climates.
- Use only a (NGK) BP6ES or BPR6E spark plug. Gap the plug to 0.028 to 0.031 In. (0.7 to 0.8 mm) Always use a spark plug wrench.

Daily

1. Check engine oil level, and fill as necessary.
2. Check gasoline level, and fill as necessary.



Always follow the fueling procedure outlined earlier in this manual.

First 20 Hours

1. Change engine oil.

Every 100 Hours

1. Change engine oil.
2. Clean the sediment cup.
3. Clean and re-gap the spark plug.
4. Clean the spark arrestor.

Weekly

1. Remove the air filter cover and clean the element. In very dusty environments, check the filter daily. Replace the element as needed. Replacement elements can be purchased from your local Honda dealer.

Engine Operation and Service

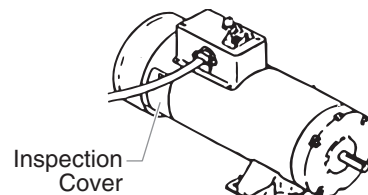
1. Clean and oil air filter pad on gasoline engine every 25 hours or once weekly. Do not permit the air intake screen around the fly wheel of the gas engine to load up with paint or trash. Clean it regularly. The service life and efficiency of the gas engine model depends upon keeping the gasoline engine running properly. Change the oil in the engine every 100 hours. Failure to observe this may result in engine overheating. Consult the engine manufacturer's service manual provided.
2. To conserve fuel, service life, and efficiency of the sprayer, always operate the gasoline engine at the lowest RPM at which it runs smoothly without laboring and delivers the amount required for the particular painting operation. Higher RPM does not produce higher working pressure. The gasoline engine is connected to the hydraulic pump by a pulley combination designed to produce full paint delivery at maximum RPM.
3. The warranty on gasoline engines or electric motors is limited to the original manufacturer.

Replacing the Motor Brushes (electric motor)

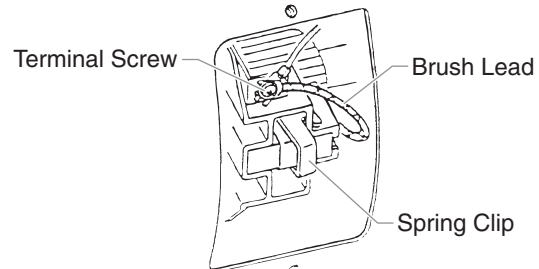
Perform this procedure using Motor Brush Kit P/N 978-050. The kit consists of two brushes, two springs, and two clips.

NOTE: Brushes should be replaced when they are worn to less than 1/2 inch. Check and replace both brushes at the same time.

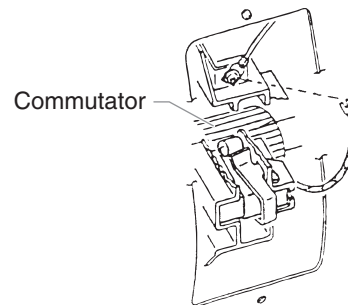
1. Remove both inspection covers on the motor.



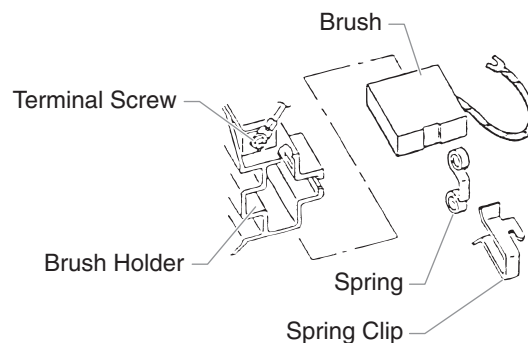
2. Push in the spring clip to unhook it, then pull it out..



3. Loosen the terminal screw. Pull the brush lead away, but leave the motor lead in place. Remove the brush and spring.
4. Inspect the commutator for burning, excessive pitting or gouging. A black color on the commutator is normal.



5. Install the new brush so its lead slides in the long slot of the brush holder. Push the terminal under the terminal screw washer. Ensure the motor lead is still connected at the screw. Tighten the screw.



6. Place the spring on the brush as shown above. Push in and hook the spring clip. Repeat this procedure for the other side.
7. Reinstall both inspection covers.



If electric motor overloads and stops running, IMMEDIATELY turn the motor off and follow the Pressure Relief Procedure in the Cleanup section of this manual. Wait until the motor cools (approximately 30 minutes). Then push in the bubble top, manual reset button, turn the motor on and pressurize the system.

For CSA approved sprayers only: The ON/OFF switch is also the RESET!

Troubleshooting

Airless Gun

Problem

Spitting gun

Cause

1. Air in system
2. Dirty gun
3. Needle assembly out of adjustment
4. Broken or chipped seat

Solution

1. Inspect connections for air leaks.
2. Disassemble and clean.
3. Inspect and adjust.
4. Inspect and replace.

Gun will not shut off

1. Worn or broken needle & seat
2. Needle assembly out of adjustment
3. Dirty gun

1. Replace.
2. Adjust.
3. Clean.

Gun does not spray

1. No paint
2. Plugged filter or tip
3. Broken needle in gun

1. Check fluid supply.
2. Clean.
3. Replace.

Fluid Section

Problem

Pump delivers on upstroke only or goes up slowly and down fast (commonly called downstroke dive)

Cause

1. Lower foot valve ball is not seating due to trash or wear
2. Material too viscous to siphon.
3. Air leaking in on siphon side or damaged siphon hose. Siphon may be too small for heavy material.

Solution

1. Remove foot valve assembly. Clean and inspect. Test foot valve by filling with water; if ball fails to seal the seat, replace ball.
2. Thin material — contact manufacturer for proper thinning procedures.
3. Tighten all connections between pump and paint container. If damaged, replace. Switch to larger diameter siphon set.

Pump delivers on down stroke only or goes up fast and down slowly

1. Upper ball is not seating due to trash or wear
2. Lower packing set is worn

1. Check upper seat and ball with water. If ball fails to seal, replace seat.
2. Replace packing set if worn.

Pump moves up and down fast, delivering material

1. Material container is empty or material is too thick to flow through siphon hose
2. Bottom ball stuck to foot valve seat
3. Siphon hose is kinked or loose

1. Refill with new material. If too thick, remove siphon hose, immerse fluid section in material, and start pump to prime. Add thinner to material. Change to bigger siphon set. Open bleed valve to remove air and restart pump.
2. Remove foot valve. Clean ball and seat.
3. Straighten.

Pump moves up and down slowly when spray gun is shut off

1. Loose connections. Bleed valve is open partially or bleed valve is worn. Lower packing seat is worn.
2. Upper and/or lower ball not seating

1. Check all connections between pump and gun. Tighten as necessary. If material is flowing from bleed hose, close bleed valve or replace, if necessary. Should none of the above be evident, replace lower packing.
2. Reseat balls by cleaning.

Not enough fluid pressure at gun

1. Spray tip is worn
2. Outlet filter or gun filter is clogged
3. Low voltage and/or inadequate amperage
4. Hose size or length is too small or too long

1. Replace.
2. Clean or replace filter.
3. Check electrical service. Correct as required.
4. Increase hose size to minimize pressure drop through hose and/or reduce hose length.

Pump chatters on up or down stroke

1. Solvent has caused upper packing to swell

1. Replace packing.

Troubleshooting

Hydraulic Motor

Problem

Oil motor stalls at bottom (no unusual heat problems)

Cause

1. Fluid pump piston seat unthreaded
2. Valve sticking or oil motor trip rod shifter assembly separated

Solution

1. If connecting rod is okay, remove cylinder head plug and pop valve down. Replace plug and start machine. If machine cycles up and stops at bottom again, then problem is piston seat on fluid pump. Check piston seat. Repair or replace as necessary. If piston seat is okay and problem does not change, check oil motor.
2. Remove valve and check for scratches and rough movement when sliding it up and down. Replace valve and spool in this condition. Check trip rod for possible separation and spool in this condition. Check trip rod for possible separation.

Oil motor stalls at top (no unusual heat problems)

1. Valve sticking
2. Broken spring retainer (valve rod assembly)
3. Broken spring or valve rod
4. Air in hydraulic motor

1. Remove valve and check for scratches and rough movement when sliding it up and down. Replace valve and spool in this condition.
2. Replace valve rod assembly.
3. Replace valve rod assembly.
4. Reset valve. Purge Air, generally accomplished by low pressure cycling of motor/pump assembly for 5–10 minutes. Check for causes of air introduction:
 - Loose fittings in tank.
 - Loose fittings on hydraulic pump.
 - Loose hose connections.
 - Low oil in reservoir.
5. Stall at top can occur randomly when fluid pump picks up air. Reset valve. Avoid air in the fluid pump.

Low pressure (okay on down stroke, sluggish on up.stroke — high heat)

NOTE: Engine labors on upstroke, idles back at stall on the down stroke.

1. Blown piston seal
2. Cracked piston

1. Before dismantling oil motor, start machine. With pump cycling under pressure, touch the hydraulic cylinder and the head to see if cylinder or head gets hotter. This will help determine if piston seal is blown or piston nut is broken. If heat is on the head, check the o-rings on spool valve.
2. Dismantle oil motor and check piston seals cylinder bore and piston nut. Pay special attention to piston nut. It can be cracked and not show externally.

Low pressure (both strokes - high heat)

NOTE: Engine labors at stall on both strokes.

1. Blown center o-rings on spool valve
2. Bad hydraulic pump

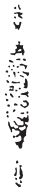
1. Before dismantling oil motor, start machine. With pump cycling under pressure, touch the head to see if the head becomes hotter. This will help determine if center o-ring is blown on spool valve. If hot, remove and replace o-ring.
2. Replace hydraulic pump.

Troubleshooting

Spray Patterns

Problem

Tails



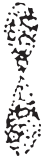
Cause

1. Inadequate fluid delivery

Solution

1. Fluid not atomizing correctly:
Increase fluid pressure. Change to smaller tip orifice size. Reduce fluid viscosity. Reduce hose length. Clean gun and filter(s). Reduce number of guns using pump.

Hour glass



1. Inadequate fluid delivery

1. Same as above.

Distorted



1. Plugged or worn nozzle tip

1. Clean or replace nozzle tip.

Pattern expanding and contracting (surge)



1. Suction leak
2. Pulsating fluid delivery

1. Inspect for suction hose leak.
2. Change to a smaller tip orifice size. Install pulsation dampener in system or drain existing one. Reduce number of guns using pump. Remove restrictions in system; clean tip screen if filter is used.

Round pattern



1. Worn tip
2. Fluid too heavy for tip

1. Replace tip.
2. Increase pressure. Thin material. Change nozzle tip.



IMPORTANTES CONSIGNES DE SÉCURITÉ • Lire toutes ces consignes avant d'utiliser l'appareil. GARDER CES CONSIGNES.



Indique une situation à risque, laquelle, si elle n'est pas évitée, peut entraîner des blessures graves, voire la mort.



Pour réduire les risques d'incendie ou d'explosion, de choc électrique et de blessure, vous devez lire et comprendre les directives figurant dans ce manuel. Familiarisez-vous avec les commandes et l'utilisation adéquate de l'équipement.

DANGER : INJECTION CUTANÉE

Le jet de haute pression produit par cet appareil peut transpercer la peau et les tissus sous-jacents, causant des blessures graves pouvant entraîner l'amputation.



NE PAS TRAITER CE TYPE DE BLESSURE COMME UNE SIMPLE COUPURE! Une amputation peut en résulter. ON DOIT CONSULTER UN MÉDECIN SUR-LE-CHAMP.

La pression maximale de ce pulvérisateur est d'environ 3 300 PSI / 22,8 MPa.

MESURES PRÉVENTIVES :

- Ne pas pointer le pistolet vers une partie du corps.
- Ne pas pointer le pistolet vers une personne ou un animal; ne pas pulvériser non plus de produit dessus.
- NE JAMAIS mettre une partie du corps devant le jet de produit. NE JAMAIS toucher les fuites du flexible de pulvérisation.
- NE JAMAIS mettre la main, même gantée, devant le pistolet (les gants n'offrent aucune protection contre les blessures par injection).
- TOUJOURS verrouiller la détente, arrêter la pompe et relâcher toute la pression avant d'effectuer la maintenance de l'appareil ou de le laisser sans surveillance, d'en nettoyer le protège-embout ou l'embout, ou de remplacer ce dernier. La pression ne sera pas relâchée par le simple arrêt du moteur; pour ce faire, on doit se servir du bouton PRIME/SPRAY (se reporter à la section COMMENT LIBÉRER LA PRESSION, du présent manuel).
- TOUJOURS s'assurer que le protège-embout est en place avant de pulvériser. Il est cependant à noter que, s'il assure une certaine protection, ce dispositif joue surtout un rôle préventif.
- TOUJOURS retirer l'embout avant de vidanger ou de nettoyer l'appareil.
- TOUJOURS inspecter le flexible avant de commencer; celui-ci peut présenter des fuites attribuables à l'usure, à une flexion excessive ou à un traitement abusif, lesquelles fuites présentent des risques d'injection cutanée. Ne pas utiliser le flexible pour soulever ou tirer l'équipement.
- NE JAMAIS utiliser de pistolet sans verrou de détente et protège-doigts.
- Tous les accessoires (pistolets, embouts, rallonges, flexibles etc.) doivent pouvoir subir une pression nominale de 3 300 PSI / 22,8 MPa ou plus.
- Ne laissez pas l'appareil sous tension ou sous pression quand vous en éloignez. Quand vous n'utilisez pas l'appareil, éteignez-le et libérez la pression conformément aux instructions COMMENT LIBÉRER LA PRESSION, du présent manuel.
- Vérifiez que toutes les connexions sont bien serrées avant d'utiliser l'appareil. Toute pièce qui n'est pas fixée solidement risque d'être projetée violemment ou d'entraîner la fuite d'un jet de liquide à une pression extrêmement élevée, ce qui pourrait causer des blessures graves.
- Verrouillez toujours la détente quand vous ne pulvériser pas. Vérifiez que le verrou de la détente fonctionne correctement.

REMARQUE À L'INTENTION DES MÉDECINS :

Les injections cutanées sont des lésions traumatiques; il importe donc de les traiter sans délai. On NE DOIT PAS retarder ce traitement sous prétexte de vérifier la toxicité du produit en cause, celle-ci n'étant conséquente que dans le cas d'injection directe de certains produits dans le système sanguin. Il pourrait s'avérer nécessaire de consulter un plasticien ou un spécialiste en chirurgie reconstructive de la main.

DANGER : ÉMANATIONS DANGEREUSES

Certains produits (peintures, solvants, insecticides ou autres) peuvent être nocifs s'ils sont inhalés ou entrent en contact avec l'organisme. Les émanations de ces produits peuvent provoquer de graves nausées, évanouissements ou empoisonnements.



MESURES PRÉVENTIVES :

- Se servir d'un masque ou d'un respirateur s'il y a risque d'inhalation (lire toutes les directives concernant ces dispositifs afin de s'assurer qu'ils offrent la protection requise).
- Porter des lunettes de protection.
- Porter les vêtements de protection prescrits par le fabricant du produit utilisé.



DANGER : EXPLOSION OU INCENDIE

Les émanations de certains produits peuvent exploser ou s'enflammer, et risquent d'entraîner des dommages matériels ou de graves blessures.



MESURES PRÉVENTIVES :

- S'assurer que l'aire de travail est dotée de moyens d'évacuation d'air vicié et d'introduction d'air frais pour éviter l'accumulation de vapeurs inflammables. Les vapeurs dégagées par la peinture ou les solvants peuvent provoquer une explosion ou s'enflammer.
- Ne pas pulvériser de produit dans un endroit clos.
- Ne pas travailler près de sources d'ignition (décharges électrostatiques ou étincelles provoquées par le branchement/ débranchement d'appareils ou la commutation d'interrupteurs, d'appareils électriques, flammes nues, veilleuses, objets chauds, etc.). La peinture ou le solvant s'écoulant dans l'équipement peut générer de l'électricité statique.
- Ne pas fumer dans l'aire de travail.
- L'aire de travail doit être munie d'un extincteur en bon état de marche.
- Prévoir un espace d'au moins 7.62 mètres entre la pompe et l'objet à pulvériser s'ils sont dans la même pièce bien ventilée (rallonger le flexible au besoin). Les vapeurs inflammables étant souvent plus lourdes que l'air, l'espace au-dessus du plancher doit être particulièrement bien aéré. La pompe contient des pièces qui produisent des arcs et émettent des étincelles pouvant enflammer les vapeurs.
- Les appareils et objets à l'intérieur ou à proximité de l'aire de travail doivent être adéquatement mis à la terre pour éviter les décharges électrostatiques.
- Veillez à ce que la zone soit propre et exempte de contenants de peinture ou de solvant, chiffons ou autres matériaux inflammables.
- Les flexibles dont on se sert doivent être conçus pour subir les pressions élevées et faits de matériaux conducteurs ou mis à la terre adéquatement; le pistolet sera mis à la terre par le biais de ses raccords aux flexibles.
- Pour les appareils électriques — Le cordon d'alimentation doit être branché à un circuit trifilaire.
- L'appareil doit toujours être vidangé à basse pression, embout retiré, dans un contenant métallique distinct. Tenir le pistolet contre la paroi du contenant de manière à mettre ce dernier à la terre et à prévenir les décharges électrostatiques.
- Toujours respecter les mises en garde et les directives du fabricant des produits et solvants utilisés. On doit connaître les produits contenus dans les peintures et solvants qu'on pulvérise. Lire les fiches techniques santé-sécurité (FTSS) et les étiquettes des contenants fournies avec les peintures et solvants. Suivre les consignes de sécurité du fabricant de peinture et de solvant.
- S'entourer de toutes les précautions possibles lorsqu'on utilise des produits ayant un point d'éclair inférieur à 21°C (70°F). Le point d'éclair est la température à laquelle le liquide peut créer suffisamment de vapeurs et s'enflammer.
- Le plastique est générateur de décharges électrostatiques; ne jamais en suspendre pour fermer une aire de travail ou en utiliser en guise de toile de protection lorsqu'on pulvérise un produit inflammable.
- Se servir de la pression la plus basse possible pour vidanger l'appareil.
- Ne pas pulvériser de produit sur la pompe.



DANGER : EXPLOSION CAUSÉE PAR DES PRODUITS INCOMPATIBLES

Ce type d'explosion peut entraîner des dommages matériels ou des blessures graves.



MESURES PRÉVENTIVES :

- Ne pas utiliser de produits contenant du chlore ou du javellisant.



IMPORTANTES CONSIGNES DE SÉCURITÉ • Lire toutes ces consignes avant d'utiliser l'appareil. GARDER CES CONSIGNES.

- Ne pas utiliser de solvants à base de halons comme l'eau de javel, les agents antimoussure, le chlorure de méthylène et le trichloroéthane-1-1-1, lesquels ne sont pas compatibles avec l'aluminium.
- Communiquer avec le fournisseur du produit concerné pour en connaître la compatibilité avec l'aluminium.

DANGER : GÉNÉRALITÉS

D'autres dangers peuvent entraîner des dommages matériels ou des blessures graves.

- Lire toutes les directives et consignes de sécurité avant d'utiliser l'appareil.
- Observer tous les codes locaux, provinciaux, d'état et nationaux régissant la ventilation, la prévention des incendies et le fonctionnement de l'appareil.
- Aux États-Unis, le gouvernement a adopté des normes de sécurité en vertu de l'Occupational Safety and Health Act (OSHA). Le cas échéant, on doit les consulter, notamment les parties 1910 des normes générales et 1926 des normes de construction.
- N'utilisez que les pièces autorisées par le fabricant; les utilisateurs qui choisiront d'utiliser des composants dont les caractéristiques techniques et les exigences en matière de sécurité sont inférieures devront en assumer tous les risques et responsabilités.
- Tous les raccords, les tuyaux et les bouchons de remplissage doivent être fixés solidement en place avant d'utiliser la pompe de pulvérisation. Toute pièce qui n'est pas fixée solidement risque d'être projetée violemment ou d'entraîner la fuite d'un jet de liquide à une pression extrêmement élevée, ce qui pourrait causer des blessures graves.
- Avant chaque utilisation, examiner tous les flexibles afin de confirmer l'absence de coupures, de fuites, d'abrasions ou de renflements. Vérifier également l'intégrité des raccords. Remplacer sans délai les pièces qui semblent présenter des défauts. Ne jamais tenter de réparer un flexible; remplacer ceux qui font défaut par des modèles haute pression, avec mise à la terre.
- Ne faites pas de noeud avec le tuyau et ne le tordez pas trop. Le tuyau à vide peut présenter des fuites suite à l'usure, les noeuds ou les mauvais traitements. Une fuite risque d'injecter du produit dans la peau.
- N'exposez pas le tuyau à des températures ou des pressions supérieures à celles spécifiées par le fabricant.
- Ne pas pulvériser à l'extérieur par grands vents.
- Porter des vêtements aptes à protéger la peau et les cheveux du produit utilisé.
- Ne pas utiliser le pistolet ou ne pas pulvériser de produits en présence d'enfants à proximité. Éloigner les enfants de l'équipement en tout temps.
- Ne pas s'étirer ni ne travailler sur un support instable. Toujours garder les deux pieds au sol pour rester en équilibre.
- Se servir de la pression la plus basse possible pour vidanger l'appareil.
- Rester vigilant et faire attention à ce que l'on fait.
- Ne pas se servir de l'équipement en cas de fatigue ou si vos aptitudes sont affaiblies par la consommation de drogues ou de boissons alcoolisées.
- Pour les appareils électriques — Débranchez toujours le cordon électrique de la prise avant de travailler sur l'équipement.
- N'utilisez pas le tuyau pour tirer ou soulever l'équipement.
- Ne pas soulever par la poignée de chariot en chargeant ou en déchargeant.

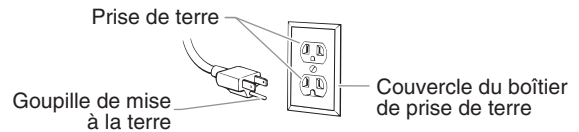
Instructions de mise à la terre

Les modèles électriques doivent être mis à la terre. La mise à la terre réduit les risques d'électrocution lors d'un court-circuit en permettant au courant de s'écouler par le fil de mise à la terre. Cet appareil est muni d'un cordon électrique avec fil de mise à la terre ainsi que d'une fiche de terre. La fiche doit être branchée sur une prise installée correctement et mise à la terre conformément à la réglementation et aux codes en vigueur.

DANGER — Une prise de terre mal branchée peut être à l'origine d'électrocutions. S'il s'avère nécessaire de réparer ou de remplacer le cordon électrique ou la fiche, ne pas brancher le fil vert de mise à la terre sur l'une ou l'autre des bornes à broche plate. Le fil recouvert d'un isolant vert avec ou sans rayures jaunes est le fil de mise à la terre et doit être branché sur la broche de mise à la terre.

Si vous ne comprenez pas les instructions de mise à la terre ou si

vous n'êtes pas sûr que l'appareil est correctement mis à la terre, contactez un électricien agréé. Ne pas modifier la fiche d'origine. Si la prise ne convient pas à la fiche, faites installer la prise adéquate par un électricien agréé.



IMPORTANT : Utiliser uniquement une rallonge à trois fils munie d'une fiche de terre dans une prise secteur mise à la terre correspondant au type de fiche de l'appareil. S'assurer que votre rallonge est en bon état. Lorsque vous utilisez une rallonge, assurez-vous qu'elle soit d'un calibre suffisant pour supporter l'intensité du courant requise par l'appareil. Une rallonge trop mince entraîne une chute de tension, une diminution de l'intensité et une surchauffe. Une rallonge de calibre 12 est recommandée. Si vous devez utiliser une rallonge à l'extérieur, celle-ci doit comprendre la marque W-A après la désignation indiquant le type de cordon. Par exemple, la désignation SJTW-A indique que le cordon est conçu pour être utilisé à l'extérieur.

Sécurité des moteurs à essence



Les produits chimiques contenus dans les vapeurs d'échappement de cet appareil sont reconnus par l'État de la Californie (États-Unis) comme étant cancérigènes. Ils peuvent également entraîner des anomalies congénitales ou d'autres dangers pour la santé.

- Les moteurs Honda sont conçus pour fonctionner en toute sécurité et avec une fiabilité maximale s'ils sont utilisés conformément aux instructions. Veuillez lire et comprendre le manuel de l'utilisateur de Honda avant de faire fonctionner le moteur. Le non-respect de ces consignes peut entraîner des dommages matériels ou des blessures physiques graves.
- Pour éviter tout risque d'incendie et fournir une ventilation adéquate, placez le moteur à une distance minimale de 1 mètre (3 pieds) des immeubles et d'autres équipements pendant son fonctionnement. Ne placez pas d'objets inflammables à côté du moteur.
- Tenez les enfants et les animaux domestiques à l'écart de la zone de travail; vous éviterez ainsi tout risque de brûlures sur les pièces chaudes du moteur et de blessures entraînées par les accessoires utilisés par le moteur pour son fonctionnement.
- Sachez comment arrêter rapidement le moteur, et assurez-vous que vous avez bien compris le fonctionnement de toutes les commandes. Ne permettez jamais à une personne de faire fonctionner le moteur sans connaître les instructions nécessaires.
- L'essence est extrêmement inflammable et explosive dans certaines conditions.
- Remplissez le réservoir de carburant dans une zone bien ventilée, moteur arrêté. Ne fumez pas et évitez toutes flammes ou étincelles dans la zone de remplissage de carburant ou dans une zone de stockage du carburant.
- Veillez à ne pas faire déborder le réservoir de carburant. Après remplissage, assurez-vous que le bouchon du réservoir est solidement vissé.
- Faites attention à ne pas renverser de carburant lors du remplissage du réservoir. Les vapeurs ou les éclaboussures de carburant peuvent s'enflammer. En cas d'éclaboussures, assurez-vous que la zone est bien sèche avant de faire démarrer le moteur.
- Ne faites jamais fonctionner le moteur dans un endroit fermé ou confiné. Les fumées d'échappement contiennent du monoxyde de carbone qui est un gaz toxique; une exposition prolongée peut entraîner une perte de conscience et peut s'avérer mortelle.
- Le silencieux devient très chaud pendant le fonctionnement et reste chaud quelque temps après l'arrêt du moteur. Faites attention à ne pas toucher le silencieux tant qu'il est chaud. Pour éviter des brûlures graves ou des risques d'incendie, laissez le moteur refroidir avant de le transporter ou de le ranger à l'intérieur.
- Ne transportez jamais le moteur si le réservoir est plein.



Ne pas utiliser cet appareil pour vaporiser de l'eau ou de l'acide.

IMPORTANT : Ne pas soulever par la poignée du chariot lors du chargement ou du déchargement.



INFORMACIÓN DE SEGURIDAD IMPORTANTE • Lea toda la información de seguridad antes de operar el equipo. **GUARDE ESTAS INSTRUCCIONES.**



Indica una situación peligrosa que, de no evitarse, puede causar la muerte o lesiones graves.



Para reducir los riesgos de incendios, explosiones, descargas eléctricas o lesiones a las personas, lea y entienda todas las instrucciones incluidas en este manual. Familiarícese con los controles y el uso adecuado del equipo.

PELIGRO: LESIÓN POR INYECCIÓN

El flujo de pintura a alta presión que produce este equipo puede perforar la piel y los tejidos subyacentes, ocasionando lesiones graves y posible amputación. CONSULTE A UN MÉDICO INMEDIATAMENTE.



¡NO TRATE LA LESIÓN POR INYECCIÓN COMO UNA CORTADURA SIMPLE! La inyección puede ocasionar amputación. Consulte a un médico inmediatamente.

La gama operativa máxima de la pistola es de 3300 PSI / 22.8 MPa de presión del líquido.

PREVENCIÓN:

- NUNCA apunte la pistola a ninguna parte del cuerpo.
- No apunte con la pistola ni rocíe a cualquier persona o animal.
- NUNCA deje que ninguna parte del cuerpo toque el flujo de líquido. NO deje que el cuerpo toque una fuga de la manguera de líquido.
- NUNCA ponga la mano frente a la pistola. Los guantes no protegen contra una lesión por inyección.
- SIEMPRE ponga el seguro del gatillo, apague la bomba y libere toda la presión antes de dar servicio, limpiar la boquilla o protección, cambiar la boquilla o dejar la pistola sin supervisión. No se libera la presión al apagar el motor. Debe girarse la perilla PRIME/ SPRAY (CEBAR/ROCIAR) a PRIME (CEBAR) para aliviar la presión. Consulte el PROCEDIMIENTO PARA ALIVIAR LA PRESIÓN descrito en este manual.
- SIEMPRE mantenga la protección de la boquilla en su sitio al rociar. La protección de la boquilla sirve principalmente de dispositivo de advertencia.
- SIEMPRE retire la boquilla rociadora antes de enjuagar o limpiar el sistema.
- La manguera de pintura puede presentar fugas por desgaste, dobleces y maltrato. La fuga puede inyectar material traspasando la piel. Inspeccione la manguera antes de cada uso. No use mangueras para levantar o tirar del equipo.
- NUNCA use una pistola rociadora sin contar con el seguro y la protección del gatillo.
- Todos los accesorios deben tener capacidades nominales de 3300 PSI / 22.8 MPa como mínimo. Esto incluye las boquillas rociadoras, pistolas, extensiones y manguera.
- No deje el aparato con corriente ni con presión cuando nadie esté pendiente de ella. Cuando no utilice el aparato, apáguelo y libere la presión siguiendo las instrucciones del PROCEDIMIENTO PARA ALIVIAR LA PRESIÓN descrito en este manual.
- Antes de utilizar el aparato, verifique que todas las conexiones son seguras. Las partes no aseguradas pueden ser expulsadas con gran fuerza o filtrar fluido a alta presión y provocar lesiones severas.
- Ponga siempre el seguro del gatillo cuando no esté pulverizando. Verifique que el seguro del gatillo funciona correctamente.

NOTA PARA EL MÉDICO: La inyección a través de la piel es una lesión traumática. Es importante tratar la lesión tan pronto sea posible. NO retrase el tratamiento para investigar la toxicidad. La toxicidad es un factor a considerar con ciertos revestimientos inyectados directamente en la corriente sanguínea. Puede ser aconsejable consultar con un cirujano plástico o un cirujano especialista en reconstrucción de las manos.

PELIGRO: VAPORES PELIGROSOS

Las pinturas, solventes, insecticidas y demás materiales pueden ser nocivos si se inhalan o toman contacto con el cuerpo. Los vapores pueden causar náuseas graves, desmayos o envenamamiento.



PREVENCIÓN:

- Use un respirador o mascarilla si pueden inhalarse los vapores. Lea todas las instrucciones suministradas con la mascarilla para revisar que brinde la protección necesaria.
- Use lentes protectores.
- Use ropa protectora según lo indique el fabricante del revestimiento.



PELIGRO: EXPLOSIÓN O INCENDIO

Los vapores de solventes y pinturas pueden explotar o inflamarse. Pueden producirse daños materiales, lesiones graves o ambos.



PREVENCIÓN:

- Cuente con escape y entrada de aire fresco para mantener el aire dentro de la zona de aplicación sin acumulaciones de vapores inflamables. Los gases producidos por solventes o pinturas pueden causar explosiones o incendios.
- No rocíe en lugares cerrados.
- Evite todas las fuentes de ignición como las chispas de electricidad estática, las llamas expuestas, appliances eléctricas, las luces piloto y los objetos calientes. La conexión o desconexión de cables eléctricos o interruptores de luz operativos puede producir chispas. Si la pintura o el solvente fluyen por el equipo se puede generar electricidad estática.
- No fume en el área de aplicación.
- Debe haber un extintor de incendios en buen estado.
- Coloque la bomba de pintura a un mínimo de 7.62 meters (25 pies) del objeto a pintar dentro de un área bien ventilada (añada más manguera si es necesario). Los vapores inflamables son generalmente más pesados que el aire. El área debe estar suavemente bien ventilada.
- El equipo y los objetos dentro y alrededor del área a pintar deben estar debidamente conectados a tierra para evitar las chispas de estática.
- Mantenga el área limpia y libre de contenedores de pintura o solvente, trapos y otros materiales inflamables.
- Use solamente una manguera conductora o conectada a tierra para líquidos a alta presión. La pistola debe conectarse a tierra a través de las conexiones de la manguera.
- Para las aparatos eléctricos — Debe conectarse el cable eléctrico a un circuito a tierra.
- Siempre enjuague la unidad dentro de un recipiente metálico separado, con la bomba a baja presión y habiendo sacado la boquilla rociadora. Sostenga la pistola firmemente contra el costado del recipiente para conectar a tierra el mismo y evitar chispas de estática.
- Siga las advertencias e instrucciones del fabricante del material y del solvente. Conozca los contenidos de las pinturas y los solventes con los que rocía. Lea todas las Hojas de Datos sobre Seguridad de Materiales (MSDS) y las etiquetas del contenedor provistas con las pinturas y los solventes. Siga las instrucciones de seguridad del fabricante de pinturas o solventes.
- Tenga muchísimo cuidado al usar materiales cuyo punto de ignición sea inferior a 70°F (21°C). El punto de inflamación es la temperatura a la que un fluido puede producir vapores suficientes para encenderse.
- El plástico puede causar chispas de estática. Nunca cuelgue plásticos para cerrar una zona a pintar. No use mantas plásticas al aplicar materiales inflamables.
- Use la presión más baja posible para enjuagar el equipo.
- No rocíe el ensamblaje de la bomba.



PELIGRO: POSIBLE EXPLOSIÓN DEBIDO A MATERIALES INCOMPATIBLES

Causará daños materiales o lesiones graves.



PREVENCIÓN:

- No use materiales que contengan blanqueador o cloro.
- No use solventes de hidrocarburos halogenados como blanqueador, mohocida, cloruro de metileno y 1,1,1 tricloroetano.



INFORMACIÓN DE SEGURIDAD IMPORTANTE • Lea toda la información de seguridad antes de operar el equipo. **GUARDE ESTAS INSTRUCCIONES.**

No son compatibles con el aluminio.

- Diríjase al proveedor de revestimientos para obtener los datos de compatibilidad del material con el aluminio.

PELIGRO: GENERAL

Puede causar daños materiales o lesiones graves.

PREVENCIÓN:

- Lea todas las instrucciones y las precauciones de seguridad antes de operar el equipo.
- Siga todos los códigos locales, estatales y nacionales correspondientes que rijan la ventilación, prevención de incendios y operación.
- Se han adoptado las normas de seguridad del Gobierno de los Estados Unidos según la Ley de seguridad ocupacional y salud (Occupational Safety and Health Act, OSHA). Deben consultarse estas normas, particularmente el apartado 1910 de las Normas generales y el apartado 1926 de las Normas de construcción.
- Utilice solamente componentes autorizados por el fabricante. El usuario asume todo riesgo y responsabilidad al utilizar componentes que no cumplan con las especificaciones mínimas y requisitos de seguridad del fabricante de la bomba.
- Todos los acopladores, las mangueras y las tapas de los filtros deben estar asegurados antes de operar la bomba de rocío. Las partes no aseguradas pueden ser expulsadas con gran fuerza o filtrar fluido a alta presión y provocar lesiones severas.
- Antes de cada uso, revise todas las mangueras en busca de cortes, fugas, abrasión o hinchazón de la cubierta. Revise si hay daños o movimiento de los acoplamiento. Cambie inmediatamente la manguera si existe alguna de estas condiciones. Nunca repare una manguera de pintura. Cámbiela por otra manguera conectada a tierra apta para alta presión.
- No retuerza ni doble la manguera en exceso. En la manguera airless pueden aparecer fugas a causa del desgaste, de retorcimientos o de un mal uso. Una fuga puede inyectar material en la piel.
- No exponga la manguera a temperaturas o presiones que superen las especificadas por el fabricante.
- No pinte en exteriores en días con viento.
- Use ropa que mantenga la pintura alejada de la piel y el cabello.
- No lo opere ni rocíe cerca de los niños. Mantenga a los niños alejados del equipo en todo momento.
- No se asome ni se pare sobre soportes inestables. Mantenga siempre la posición firme y el equilibrio efectivos.
- Use la presión más baja posible para enjuagar el equipo.
- Manténgase alerta y mire lo que hace.
- No utilice la unidad cuando se encuentre cansado o bajo la influencia de las drogas o el alcohol.
- Para las aparatos eléctricos — Desenchufe siempre el cable antes de trabajar en el equipo.
- No utilice la manguera como elemento de fuerza para tirar del equipo o levantarlo.
- No levantar por la manija del carro al cargar o descargando.

Instrucciones para conectar a tierra

Los modelos eléctricos deben estar conectados a tierra. En caso de que ocurra un corto circuito, la conexión a tierra reduce el riesgo de choque eléctrico al proporcionar un alambre de escape para la corriente eléctrica. Este producto está equipado con un cable que tiene un alambre de conexión a tierra con un enchufe de conexión a tierra apropiado. El enchufe se debe enchufar en una toma de corriente que se haya instalado y conectado a tierra debidamente, de acuerdo con todos los códigos y estatutos locales.

PELIGRO — Una instalación inapropiada del enchufe de conexión a tierra puede dar como resultado el que exista un riesgo de choque eléctrico. Si es necesario reparar o reemplazar el cable o el enchufe, no conecte el alambre de conexión a tierra a ninguno de los terminales de hoja planas. El alambre con aislamiento que tiene la superficie exterior de color verde con franjas amarillas o sin ellas es el alambre de conexión a tierra que debe conectarse al conector de conexión a tierra.

Verifique con un electricista o técnico de servicio calificado si las instrucciones para conectar a tierra no le han quedado completamente claras, o si duda que el producto haya quedado conectado a tierra de manera apropiada. No modifique el enchufe que se proporciona. Si el enchufe no entra en la toma de corriente, pídale a un electricista calificado que instale la toma apropiada.

Tomacorriente aterrado



Terminal de tierra

Tapa de la caja del tomacorriente aterrado

IMPORTANTE: Use solamente extensiones trifilares que tengan un enchufe de conexión a tierra de 3 hojas y un receptáculo de triple ranura que acepte el enchufe del producto. Asegúrese de que su extensión esté en buenas condiciones. Cuando use una extensión, asegúrese de usar una que sea lo suficientemente resistente como para soportar la corriente que descargue su producto. Un cable de un tamaño menor causará una caída de voltaje en la línea que dará como resultado una pérdida de energía y un sobrecalentamiento. Se recomienda usar un cable de calibre 12. Si se utiliza un cable de extensión en el exterior, tiene que estar marcado con el sufijo W-A después de la designación del tipo de cable. Por ejemplo, SJTW-A para indicar que el cable es apropiado para uso en exteriores.

Seguridad del motor de gasolina



El escape del motor de esta unidad contiene productos químicos que el Estado de California reconoce que causan cáncer, defectos congénitos u otros daños a la reproducción.

- Los motores Honda han sido diseñados para ofrecer un servicio seguro y fiable, si son manejados de acuerdo con las instrucciones. Lea y comprenda el Manual del Propietario de Honda antes de hacer funcionar el motor. Si no hace esto, podrían producirse lesiones personales o daños en el equipo.
- Para evitar riesgos de incendio y proporcionar una ventilación adecuada, mantenga el motor como mínimo a 1 metro (tres pies) de edificios y de otros equipos durante su funcionamiento. No coloque objetos inflamables cerca del motor.
- Los niños y los animales de compañía deben mantenerse alejados del área de trabajo, debido a la posibilidad de quemaduras producidas por los componentes calientes del motor o de daños producidos por el equipo al que haga funcionar el motor.
- Conozca el modo de detener rápidamente el motor, y entienda el funcionamiento de todos los controles. No permita que nadie haga funcionar el motor sin las instrucciones adecuadas.
- La gasolina es extremadamente inflamable y es explosiva en determinadas circunstancias.
- Reabastézcase de combustible en una zona bien ventilada y con el motor apagado. No fume ni permita que haya llamas ni chispas en el área de reabastecimiento de combustible ni donde se almacene la gasolina.
- No llene excesivamente el tanque de combustible. Tras repostar, asegúrese de que la tapa del tanque está adecuadamente cerrada y asegurada.
- Tenga cuidado de no derramar combustible cuando realice el reabastecimiento. Los vapores del combustible o el combustible derramado pueden inflamarse. Si se derrama combustible, asegúrese de que el área esté seca antes de arrancar el motor.
- Nunca haga funcionar el motor en un área cerrada o reducida. Los gases de escape contienen monóxido de carbono tóxico: su exposición puede causar la pérdida del conocimiento y puede originar la muerte.
- El silenciador se calienta mucho durante el funcionamiento y permanece caliente durante un tiempo después de que el motor esté parado. Tenga cuidado de no tocar el silenciador mientras está caliente. Para evitar quemaduras graves o riesgos de incendio, deje que el motor se enfríe antes de transportarlo o almacenarlo en el interior.
- Nunca transporte una unidad con gasolina en el tanque.

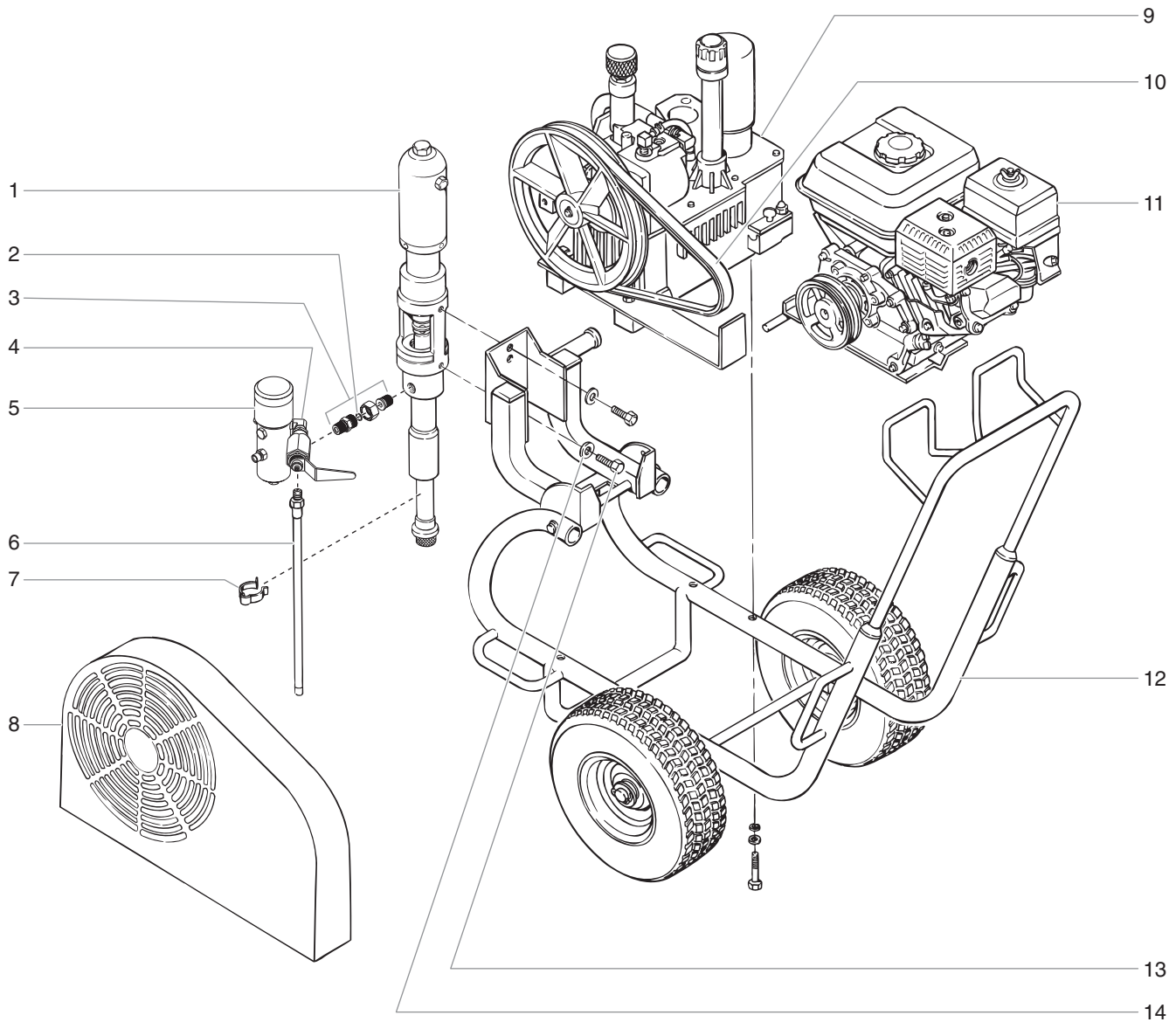


No utilice este equipo para rociar agua o ácido.

IMPORTANTE: No cargue el equipo por el asa del carrito durante la carga y descarga.

Parts Lists and Service Instructions

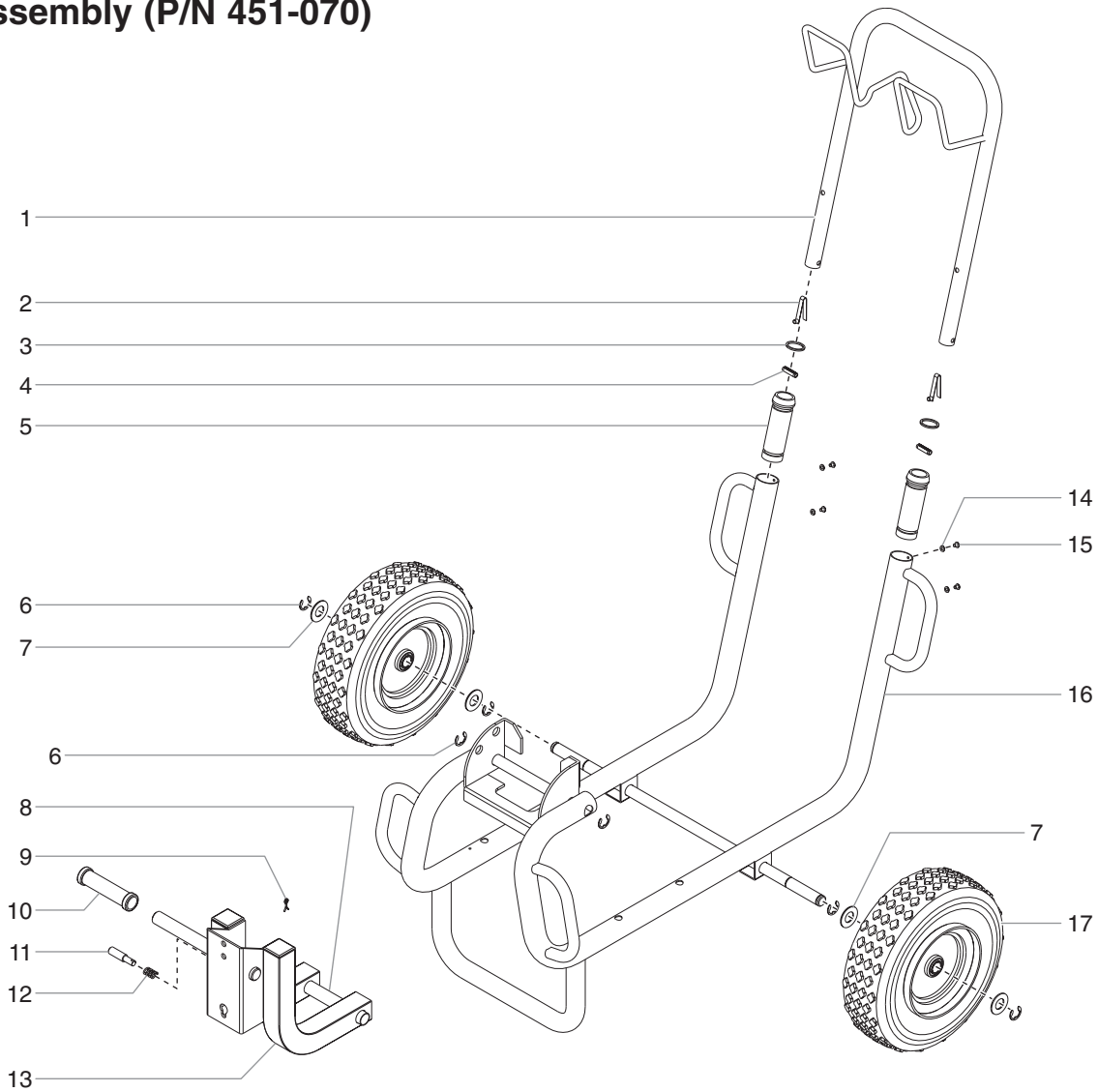
Main Assembly



Item	Part #	Description	Quantity
1	459-024	Motor/pump assembly	1
2	703-136	O-ring	1
3	703-137	Swivel fitting assembly (includes item 2) .	1
4	944-030	Bleed valve.....	1
5	451-136	Filter assembly	1
6	451-139	Bleed hose	1
7	730-334	Hose clamp	1
8	449-934	Belt guard assembly.....	1

Item	Part #	Description	Quantity
9	-----	Hydraulic system	1
10	449-986	Belt, "V" (gas model).....	1
11	506-277	Convertokit, 9 HP, Honda, gasoline (gas model)	1
12	451-070	Cart assembly	1
13	862-428	Screw	2
14	862-002	Washer	2
15	506-279	Convertokit, DC electric, 115V (electric model, includes belt, not shown)...	1

Cart Assembly (P/N 451-070)

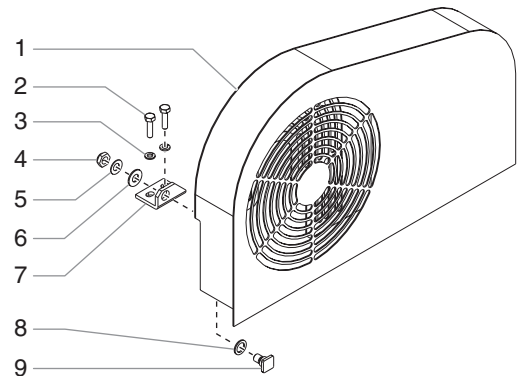


Item	Part #	Description	Quantity
1	590-502	Handle	1
2	590-507	Snap button	2
3	590-506	Handle washer.....	2
4	590-508	Roll pin.....	2
5	590-504	Handle sleeve.....	2
6	590-100	Retaining ring.....	6
7	870-004	Washer.....	4
8	451-064	Swing arm axle	1
9	759-034	Cotter pin	1
10	451-074	Grip	1

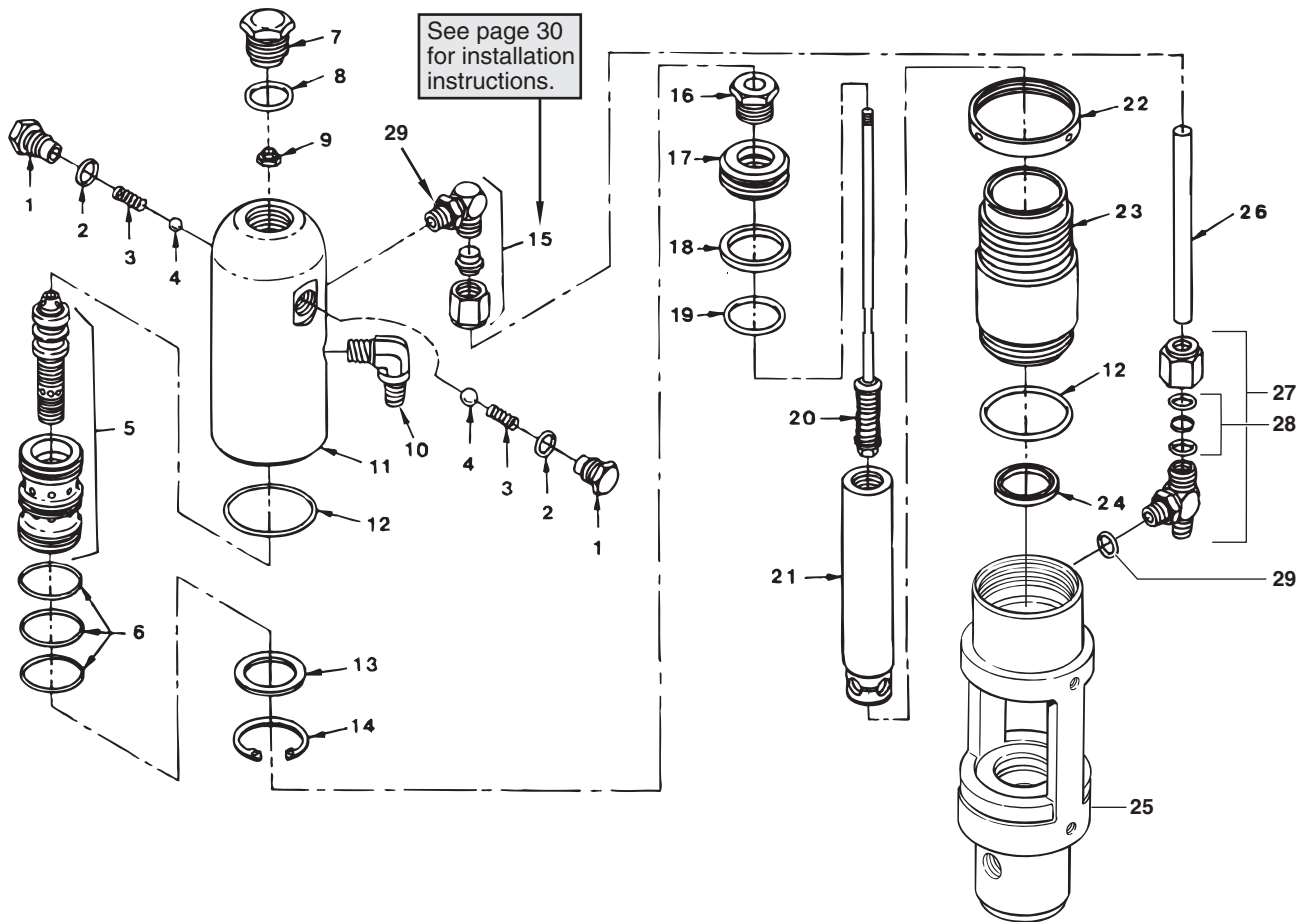
Item	Part #	Description	Quantity
11	451-113	Lock pin	1
12	451-112	Spring	1
13	451-059	Swing arm.....	1
14	856-002	Lock washer.....	4
15	856-921	Screw	4
16	451-053	Frame	1
17	670-109	Wheel.....	2
18	451-052	Plug (not shown).....	2
19	451-455	Cart handle spacer (not shown)	1

Belt Guard Assembly (P/N 449-934)

Item	Part #	Description	Quantity
1	449-217	Belt guard	1
2	858-636	Screw	2
3	858-002	Lockwasher.....	2
4	862-411	Nut	1
5	449-185	Belleville washer.....	1
6	862-001	Flat washer	1
7	449-187	Clip.....	1
8	449-198	Flat washer	1
9	449-166	Bolt.....	1
	313-2663	Label (not shown)	



Hydraulic Motor



Item	Part #	Description	Quantity
1	235-018	Trip retainer	2
2	141-007	O-ring	2
3	325-005	Trip spring,	2
4	569-016	Ball, SS.....	2
5	441-908	Spool / sleeve set.....	1
6	441-152	O-ring	3
7	235-030	Cylinder head plug	1
8	441-217	O-ring	1
9	858-811	Flex lock nut.....	1
10	451-121	Elbow, 90°.....	1
11	235-112	Cylinder head	1
12	431-032	O-ring	2
13	431-053	Sleeve retainer	1
14	431-054	Retainer ring.....	1
15	192-000	Elbow.....	1
16	235-022	Piston retainer screw.....	1
17	235-014	Piston	1
18	235-027	Piston seal.....	1
19	235-026	O-ring	1
20	236-021	Valve rod assembly	1
21	236-948	Piston rod	1
22	235-001	Lock ring.....	1
23	236-007	Cylinder	1
24	235-028	Rod seal	1
25	236-829	Motor/pump block.....	1
26	236-029	Motor tube	1
27	235-125	Tee.....	1
28	431-019	O-ring kit.....	1
29	700-499	O-ring	2
	235-050	Motor service kit, minor (includes items 2-4, 6, 8, 9, 12, 18, 19, and 24)	

Servicing the Hydraulic Motor

Perform this procedure using the necessary parts from Motor Service Kit — Minor (P/N 235-050). If the hydraulic motor is operable, start the machine and jog the piston rod (21) into its top position.

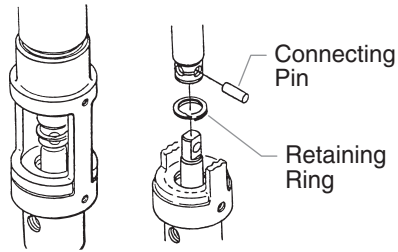
NOTE: Servicing of the hydraulic motor should be carried out in a clean, dust free area only. Any dust or metallic particles left in the motor or entering it on reassembly may damage the critical parts and affect its service life and warranty. All parts should be inspected for absolute cleanliness.

Disassembling the Hydraulic Motor

1. Disconnect the pressure hose from the elbow (34 and 35 in Hydraulic System parts list) on the back of the hydraulic pump.
2. Remove the two mounting screws and two lock washers (13 and 14 in Main Assembly parts list) that attach the motor/pump assembly to the cart.
3. Place the motor/pump assembly in a vise, holding it securely by the motor/pump block (25).
4. Remove cylinder head plug (7).
5. Loosen lock ring (22) with a spanner wrench and unthread tube retaining nut on tee (27). Loosen tube retaining nut on elbow (15). Slide the nut down. Push motor tube (26) into tee (27) far enough to clear elbow (15). Slowly unthread cylinder head (11) and lift it just high enough above the cylinder (23) to reach the valve rod assembly (20) with vise grip pliers.
6. The piston rod (21) should be near the top of its stroke for disassembly. It may be necessary to use a wood or nylon driver to push the piston rod up to its top position.

- Grip the valve rod securely with vise grip pliers and then remove the FlexLoc nut (9) from the top of the valve rod assembly (20). Be careful that spool (5) does not fall. The cylinder head (11) can now be lifted off. Unthread the cylinder (23) from the motor/pump block (25). Note: An extra lock ring (22) can be used to jam the two lock rings together on the cylinder and a pipe wrench can be used to unthread the cylinder (23) from the motor/pump block (25).

- To remove the connecting pin, slide the retaining ring down with a small screwdriver, and then push the connecting pin out.



- Remove the piston rod assembly from the motor/pump block (25).

- Remove rod seal (24), being extremely careful not to scratch the seal groove in the motor/pump block (25).
- Place the piston retainer screw (16) on the piston rod assembly in a vise. Slide a long bar through the hole at the base of the piston rod for leverage, and unthread the piston rod from the piston retainer screw.
- Remove piston (17) and lift out valve rod assembly (20).
- Remove piston seal (18) and o-ring (19).
- Remove trip retainers (1), trip springs (3), and balls (4) from cylinder head (11). Remove o-rings (2) from trip retainers (1).
- Remove retaining ring (14) and sleeve retainer (13). Gently tap spool/sleeve set (5) out of cylinder head (11) using a wood or nylon rod.
- Inspect piston rod (21) and cylinder (23) for wear, scratches, and dents. Replace if damaged.
- Inspect spool valve (5) for wear. Replace if necessary. spool valve should move smoothly and freely with no force by holding in a vertical position. If it does not, it can cause the motor to stall.

Reassembling the Hydraulic Motor

- Separate spool/sleeve set (5). Place o-rings (6) onto sleeve. Lubricate o-rings with hydraulic oil. Gently push the sleeve into cylinder head (11) with the flatter side of the sleeve facing out. Use a nylon rod to tap sleeve down until it reaches its full depth. Do not use any other type of tool that might damage or leave particles or residue on the sleeve. Install the spool through the top of the cylinder head, down into the sleeve.

IMPORTANT: Do not use Piston Lube pump packing lubricant. It is a solvent and will severely damage seals and O-Rings of the hydraulic motor.

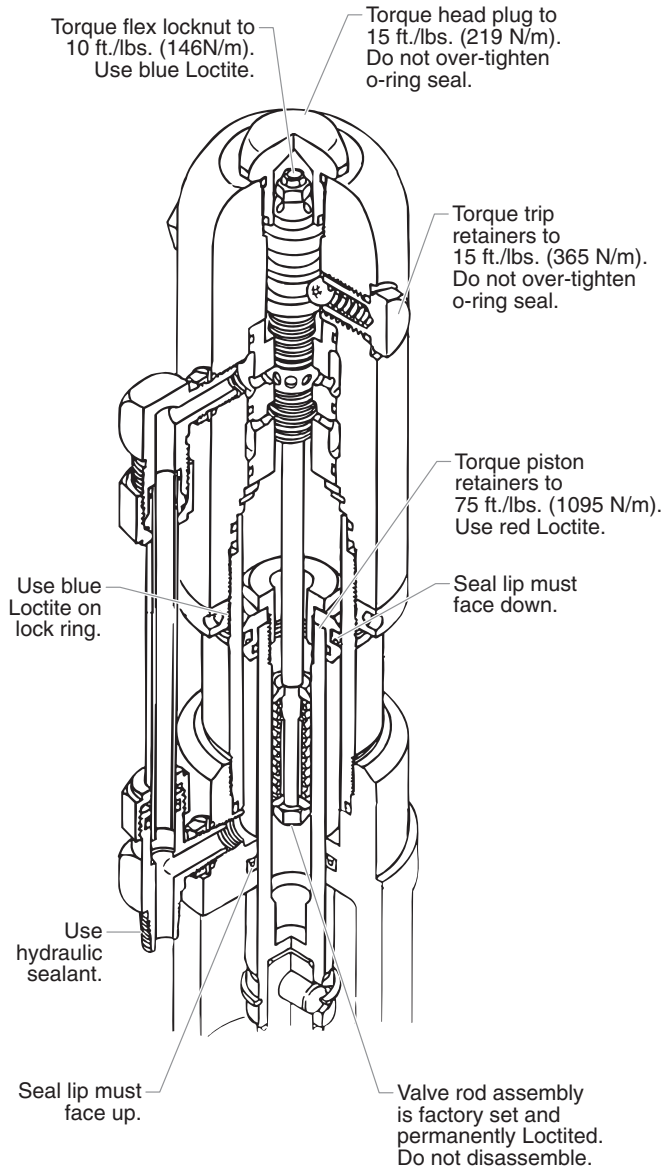
- Install o-rings (2) on trip retainers (1). Install trip retainer balls (4) followed by springs (3) which, when installed, will hold spool/sleeve set (5) in proper place for assembly.
- Install sleeve retainer (13) followed by snap ring (14) into cylinder head (11), which will hold valve sleeve in place. Install o-ring (12) in the o-ring groove of the cylinder head.
- Replace lower seal (24) in motor/pump block (25). Be sure the open portion of the seal is facing upward (V). This seal requires no special tool.
- Place piston rod (21) in vise. Inspect valve rod assembly (20) for any damage. Make sure the lock nut at the bottom of the valve rod assembly (20) is secure. DO NOT remove. Then, place into piston rod (21) as illustrated. Install o-ring (19), lubricating it well and replacing piston (17) onto piston rod (21). Put one drop of blue Loctite on the piston retainer screw (16). Tighten piston retainer screw until piston is locked into place. Check valve rod assembly (20) for normal spring action at this time.

- Install piston seal (18) with lips facing downward. Carefully install o-ring (19). Expand the ring and stretch it sufficiently for installation.
- With motor/pump block (25) still in vise, install lower seal (24) by pushing it towards its groove with a properly sized blunt rod. Then complete installation with the fingers. No tool is necessary. Do not twist the seal.
- Pre-lubricate the piston and valve rod assembly with Coolflo™ hydraulic fluid (P/N 430-361). Install piston rod (21) into motor/pump block (25) with a gently pushing and rotating motion to work the piston rod in through the seal (24).

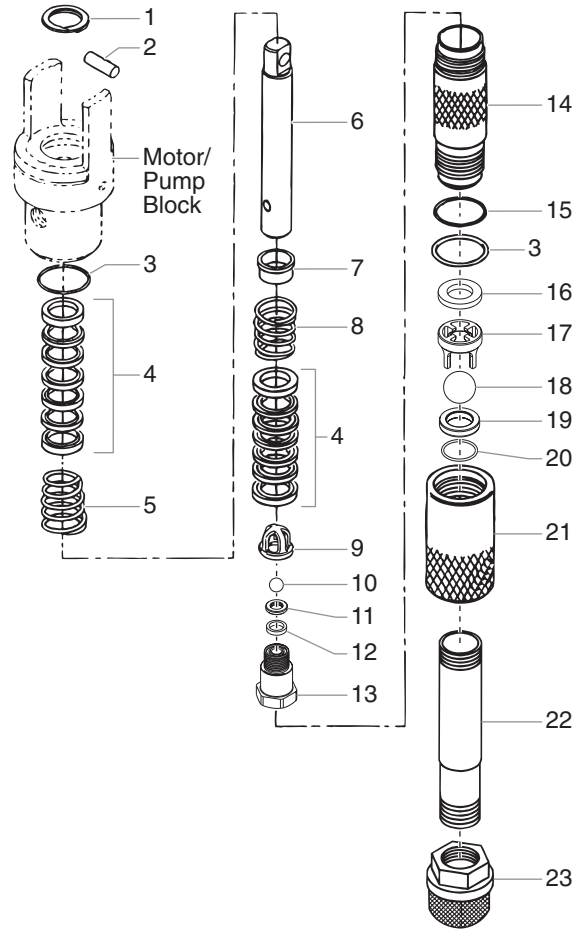
NOTE: Inspect the bottom of piston rod (21) for nicks or sharp areas that could damage the piston seal during installation through the motor/pump block (25).

- Replace the connecting rod pin and retainer ring.
- Install o-ring (12) on cylinder wall. Lubricate ring and inner wall. With the piston rod held firmly, the cylinder should be gently driven over the piston seal with a rubber mallet. Tightly thread the cylinder into motor/pump block (25).
- Raise piston rod (21) to top position and thread lock ring (22) all the way up on upper threads of cylinder (23).
- Pull valve rod assembly (20) up as far as it will travel and grasp it with vise grip pliers. Then install cylinder head (11), already assembled, over valve rod until the top threads of the valve rod pass through the top of the spool/sleeve set (5). The valve rod threads must be clean and free of oil. Place one drop of blue Loctite on threads of flex lock nut (9) and thread nut onto valve rod to full tight position (do not over-tighten) while holding valve rod below with vise grip pliers.
- Thread cylinder head (11) down onto the cylinder (23) and then back off just enough to reassemble hydraulic fittings and motor tube (26). Tighten lock ring with spanner wrench to hold cylinder head in position.
- The tee assembly (27) and the elbow (15) use an o-ring (28) to seal on the outer diameter (O.D.) of the motor tube (26). The O.D. of the motor tube should be free of scratches or sharp edges. The lock nuts on these fittings first should be hand tightened, then wrench tightened another half turn.
- Install o-ring (8) onto cylinder head plug (7). Tighten.

Hydraulic Motor Cut-Away



Fluid Section



Item	Part #	Description	Quantity
1	143-019	Retaining ring	1
2	143-118	Connecting pin	1
3	145-031	O-ring, PTFE	2
4	138-153	Packing set, leather/UHMWPE/steel	2
5	142-004	Upper packing spring	1
6	144-117	Displacement rod	1
7	138-001	Spring retainer	1
8	142-003	Lower packing spring	1
9	451-085	Outlet valve cage	1
10	138-225	Outlet valve ball	1
11	236-012	Outlet valve seat	1
12	236-032	Seal washer	1
13	236-031	Outlet valve housing	1
14	144-822	Pump cylinder	1
15	140-009	O-ring	1
16	236-030	Wave washer	1
17	236-141	Foot valve cage	1
18	178-700	Foot valve ball	1
19	143-026	Foot valve seat	1
20	143-025	Seat o-ring	1
21	459-019	Foot valve housing	1
22	449-983	Siphon tube	1
23	710-046	Inlet screen	1
	144-500	Fluid section service kit, major (includes items 6, 14, and fluid section service kit, minor P/N 144-050)	
	144-050	Fluid section service kit, minor (includes items 1, 3, 4, 10, 12, 15, 18, 20, and Loctite P/N 426-051)	
	459-021	Foot valve assembly (includes items 17-21)	
	236-050	Outlet valve assembly (includes items 9-13)	

Servicing the Fluid Section

IMPORTANT: Use of non-Speeflo service parts may void warranty. Ask for original parts made by Speeflo for best services. This pump should receive a routine servicing after approximately 1,000 hours of use. Earlier servicing is required if there is excessive leakage from the top packing or if pump strokes become faster on one stroke or the other. The use of Speeflo Piston Lube (P/N 314-480) is recommended as an upper packing lubricant. Do not substitute oil, water, or solvent for an upper packing lubricant.

Disassembling the Fluid Section

1. Remove the siphon tube (22). Unthread the foot valve housing (21) and the pump cylinder (14) with a strap wrench.
2. Slide the retaining ring (1) up with a small screwdriver, then push the connecting pin (2) out.
3. Pull the displacement rod (6) through the lower cavity of the motor/pump block.
4. Remove the PTFE o-ring (3), upper packing spring (5), and upper packing set (4) from the motor/pump block.
5. Hold the displacement rod (6) in a vise by the flats at the top of the displacement rod and remove the outlet valve housing (13) with a wrench while holding the displacement rod horizontal with a wooden support, if necessary. Remove the seal washer (12), outlet valve seat (11), outlet valve ball (10), outlet valve cage (9), lower packing set (4), lower packing spring (8), and spring retainer (7).
6. Using a 1/2" extension bar attached to a 1/2" drive ratchet, insert the end of the extension bar into the square opening of the foot valve cage (17) inside the foot valve housing (21). Unscrew and remove the foot valve cage along with the wave washer (16) from the foot valve housing.
7. Remove the PTFE o-ring (3), foot valve ball (18), foot valve seat (19), and seat o-ring (20) from the foot valve housing (21).
8. Remove the o-ring (15) from the pump cylinder (14).

Reassembling the Fluid Section

NOTE: Use PTFE tape on all threaded pipe connections.

1. Place a new seat o-ring (20) into the groove in the bottom of the foot valve housing (21).
2. Inspect the foot valve seat (19) for wear. If one side is worn, flip the seat to the unused side. If both sides are worn, install a new seat. Place the new or flipped seat (worn side down) into the bore at the bottom of the foot valve housing (21).
3. Place a new foot valve ball (18) onto the foot valve seat (19). Using a 1/2" extension bar attached to a 1/2" drive ratchet, insert the end of the extension bar into the square opening of the foot valve cage (17) and screw the cage into the foot valve housing (21). Torque the cage to 300 in./lbs. (25 ft./lbs.).
4. Place the wave washer (16) on top of the foot valve cage (17).
5. Insert a new PTFE o-ring (3) into the groove of the foot valve housing (21). Lubricate the o-ring using oil or grease.
6. After soaking the leather packings in oil (preferably linseed oil), reassemble the lower packing set (4). Place the set onto the outlet valve housing (13) with the peak of the "V" packings pointing down toward the hex on the outlet valve housing.
7. Inspect the outlet valve seat (11) for wear. If one side is worn, flip the seat to the unused side. If both sides are worn, use a new seat. Insert the outlet valve cage (9), new outlet valve ball (10), new or flipped seat (worn side away from ball), and a new seal washer (12) into the displacement rod (6).
8. Clean the threads on the outlet valve housing (13) and coat the threads with blue Loctite #242. Make sure the Loctite is only on the threads.

9. Place the lower packing spring (8) onto the outlet valve housing (13) followed by the spring retainer (7).
10. Screw the displacement rod (6) and the outlet valve housing (13) together. Tighten in a vise to 900 in./lbs. (75 ft./lbs.).
11. Insert the PTFE o-ring (3) into the upper groove of the motor/pump block.
12. Insert the upper packing set (4) into the motor/pump block with the peak of the "V" packings pointing up toward the motor.

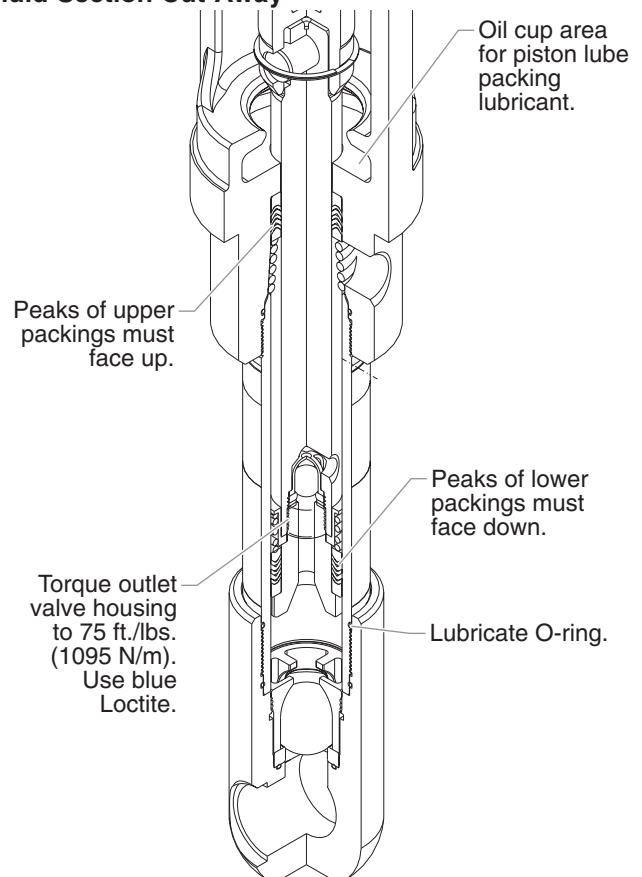
NOTE: The packings must be soaked in oil before installation.

13. Place the upper packing spring (5) into the motor/pump block with the small tapered end facing up toward the motor/pump block.
14. Insert the displacement rod (6) up through the upper packings in the motor/pump block.
15. Align the holes in the displacement rod (6) and the hydraulic piston rod and insert the connecting pin (2). Replace the retaining ring (1) over the connecting pin.
16. Thread the short threads of the pump cylinder (14) into the motor/pump block and tighten with a strap wrench.
17. Place the o-ring (15) onto the top groove of the pump cylinder (14).
18. Thread the foot valve housing (20) onto the pump cylinder (14), tighten with a strap wrench.
19. Install the siphon tube (22).

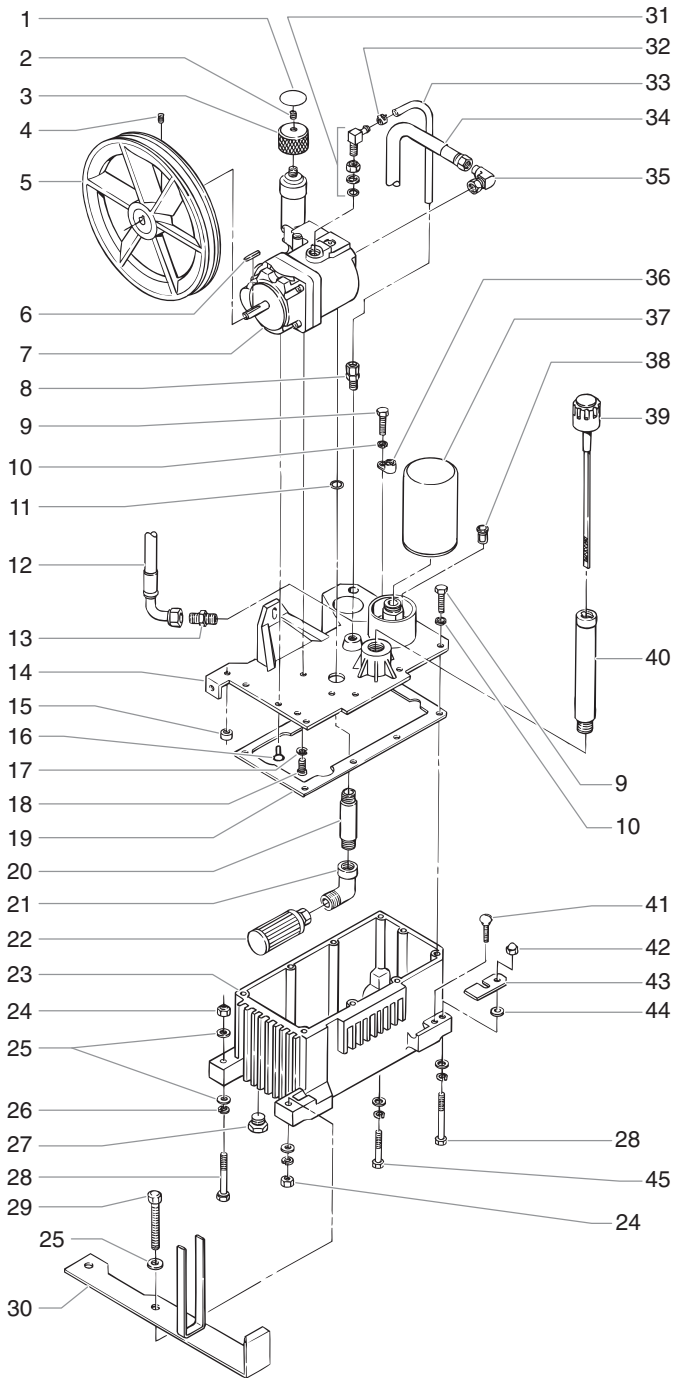
NOTE: It is not necessary to over-tighten the foot valve. O-ring seals perform sealing function without excessive tightening. Full thread engagement is sufficient.

For siphon tube attachment, it is critically important that the threads of the siphon tube fit snugly into the foot valve with the tube PTFE-taped and sealed to prevent air leakage.

Fluid Section Cut-Away



Hydraulic System

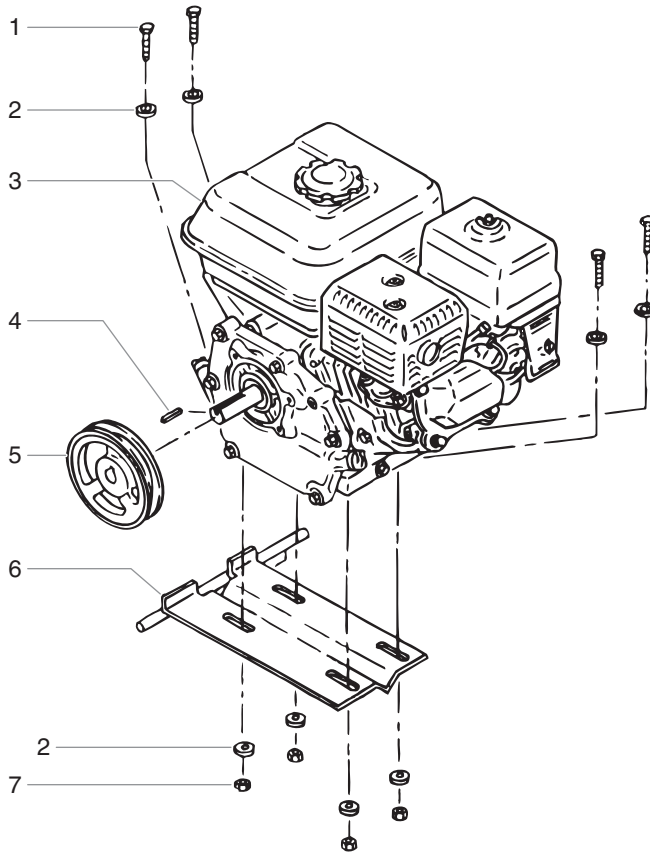


Item	Part #	Description	Quantity
1	313-755	Knob decal	1
2	862-414	Set screw.....	1
3	448-243	Pressure control knob	1
4	860-520	Set screw.....	1
5	449-195	Pulley/fan assembly	1
6	448-494	Key, pump (.156 x .156 x 1 ^{3/16})	1
7	449-752	Hydraulic pump	1
8	431-042	Tube connector	1
9	858-636	Screw, HH	8
10	858-002	Lock washer	10
11	325-031	O-ring	1
12	451-115	Return hose assembly	1
13	451-029	Fitting.....	1
14	449-616	Tank cover	1
15	858-609	Clinch nut	1
16	858-621	Socket screw	2
17	859-001	Washer	2
18	858-624	Screw	2
19	449-605	Tank gasket	1
20	112-208	Nipple	1
21	472-500	Elbow, street.....	1
22	448-208	Inlet screen.....	1
23	449-623	Hydraulic tank.....	1
24	862-411	Flex lock nut.....	2
25	862-001	Flat washer.....	6
26	862-002	Lock washer	4
27	449-212	Plug	1
28	862-493	Screw, HH	2
29	862-496	Tap bolt.....	1
30	449-982	Shield	1
31	192-228	Elbow.....	1
32	449-126	Hose clamp	1
33	420-250	Tubing, PTFE.....	1
34	451-114	Pressure hose assembly	1
35	192-051	Elbow.....	1
36	101-205	Ground lug.....	1
37	451-220	Hydraulic filter.....	1
38	449-609	Hydraulic by-pass.....	1
39	449-626	Hydraulic fluid cap/dipstick.....	1
40	449-614	Tube assembly	1
41	862-438	Thumb screw.....	1
42	862-402	Acorn nut	1
43	449-107	Mounting plate retainer	1
44	449-135	Spacer	1
45	862-480	Screw, HH	1
46	451-121	Elbow (not shown).....	1
47	941-555	Ball valve (not shown).....	1

Torque and Sealant Guide

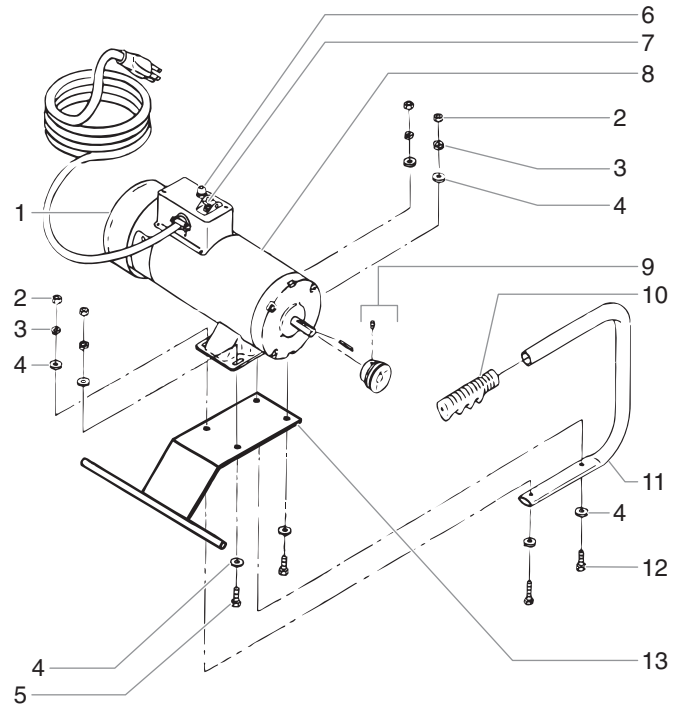
Item	Description
4	Use blue Loctite on threads
4	Torque to 10 ft./lbs. (13.5 N/m)
8	Use hydraulic sealant
9	Torque to 20 FT/LBS (28 N/m)
13	Use hydraulic sealant
16	Use blue Loctite on threads
16	Torque to 8 FT/LBS (11 N/m)
18	Torque to 8 FT/LBS (11 N/m)
20	Use hydraulic sealant
21	Use hydraulic sealant
22	Use hydraulic sealant
28	Torque to 15 FT/LBS (20,5 N/m)
29	Torque to 15 FT/LBS (20,5 N/m)
45	Torque to 15 FT/LBS (20,5 N/m)

Gas Convertokit (P/N 506-277)



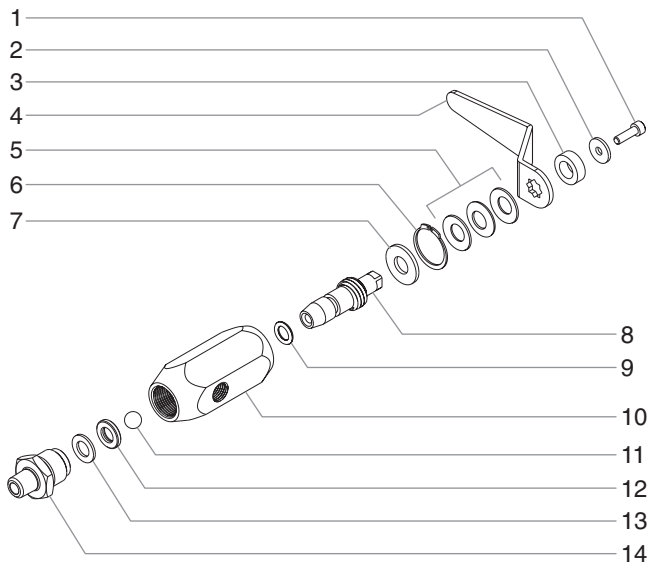
<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Quantity</u>
1	860-460	Screw	4
2	862-001	Flat washer	8
3	764-021	Engine, gas 9 HP, Honda	1
4	980-307	Key	1
5	459-008	Pulley	1
6	459-003	Mounting plate, gas engine	1
7	862-410	Stop nut	4
8	449-986	Belt, "V" (not shown, not part of assembly)	

DC — Electric Convertokit (P/N 506-279)



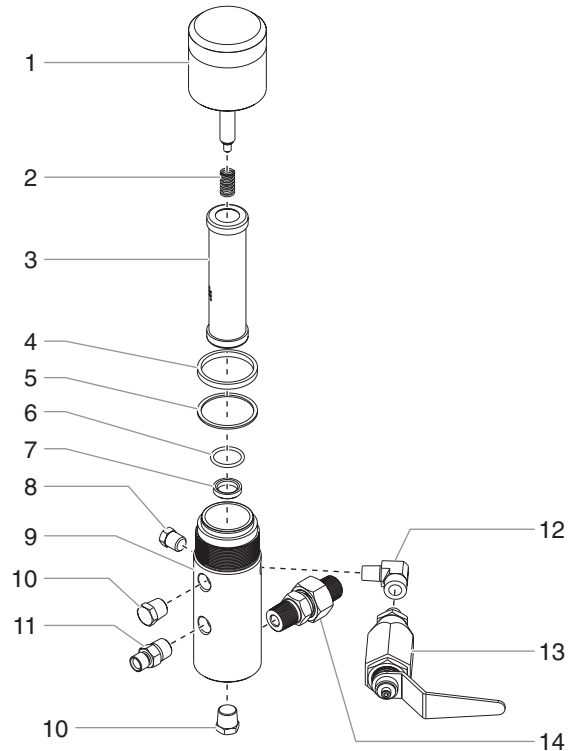
<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Quantity</u>
1	506-259	Cover	1
2	860-501	Nut stop	4
3	860-002	Lock washer	4
4	860-004	Flat washer	8
5	860-535	Screw	2
6	978-040	Circuit breaker reset	1
7	506-260	ON/OFF switch	1
8	978-350	Motor, DC-Electric, 2 HP, 50 / 60 Hz, 115 V	1
9	977-228	Pulley	1
10	590-068	Handle grip	1
11	335-017	Handle	1
12	860-552	Screw	2
13	459-018	Mount plate	1
14	506-255	Rectifier (not shown)	1
15	506-258	Fan (not shown)	1
16	449-181	Belt, "V" (not shown)	1

Bleed Valve Assembly (P/N 944-030)



Item	Part #	Description	Quantity
1	944-047	Hex screw.....	1
2	944-029	Flat washer.....	1
3	944-046	Spacer.....	1
4	944-034	Valve handle.....	1
5	944-035	Spring washer.....	3
6	944-036	Retaining ring.....	1
7	944-029	Valve washer.....	1
8	944-011	Valve stem.....	1
9	944-038	Stem o-ring.....	1
10	944-031	Valve housing.....	1
11	944-039	Ball.....	1
12	944-043	Valve seat.....	1
13	944-044	Valve seal.....	1
14	944-013	Valve seat retainer.....	1

Filter Assembly (P/N 451-136)



Item	Part #	Description	Quantity
1	930-937	Filter cap assembly.....	1
2	930-020	Spring.....	1
3	930-005	Filter element, 5 M, w/ball.....	1
	930-006	Filter element, 50 M, w/ball.....	
	930-007	Filter element, 100 M, w/ball.....	
4	920-006	Gasket, PTFE (thick).....	1
5	920-070	Gasket, PTFE (thin).....	1
6	891-193	O-ring, PTFE.....	1
7	180-909	Seat, tungsten carbide.....	1
8	227-027	Pipe plug.....	1
9	930-920	Filter body.....	1
10	227-033	Pipe plug.....	2
11	808-550	Hex fitting, 3/8".....	1
12	810-555	Elbow, 90°.....	1
13	944-030	Bleed valve.....	1
14	703-137	Swivel fitting assembly.....	1
	930-050	Filter service kit (includes items 2, 4, 5, and 6)	

Specifications

Maximum Working Pressure.....5000 psi (34.5 MPa)

Filter Area.....18 In² (116 cm²)

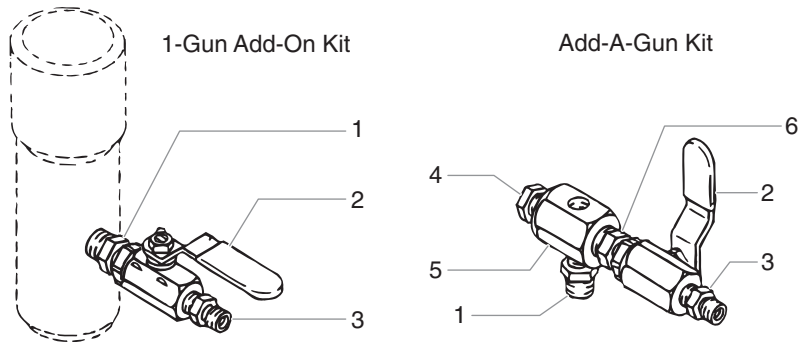
Outlet Ports.....(1) 1/4" NPT(F) for bleed valve

(1) 3/8" NPT(F) with 3/8 NPSM(M) hose connection
(1) 3/8" NPT(F) plugged for additional gun hookup

Wetted Parts.....Carbon steel with electroless nickel plating, stainless steel, tungsten carbide, PTFE

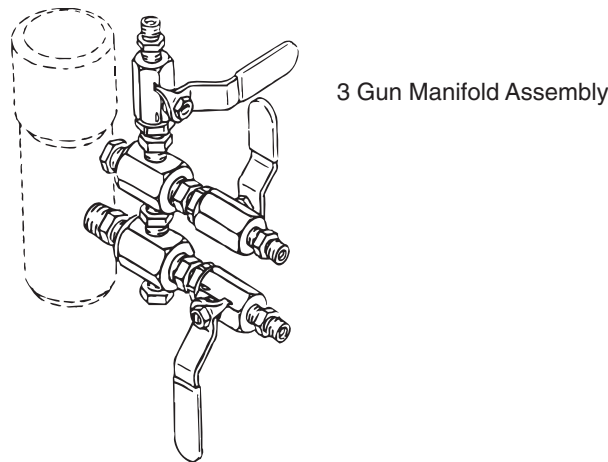
Gun Manifold Assemblies (Optional)

Single Gun Add-On Manifold Assemblies



Item	Part #	Description	975-111 1 Gun Add-On 1/4"	975-311 1 Gun Add-On 3/8"	975-200 Add-A-Gun Kit 1/4"	975-300 Add-A-Gun kit 3/8"
1	814-002	Nipple, Hex	1		1	
	814-004	Nipple, Hex		1		1
2	940-553	Valve, Ball	1		1	
	941-555	Valve, Ball		1		1
3	227-006	Nipple, Hex	1		1	
	808-555	Nipple, Hex		1		1
4	227-033	Plug, Pipe			1	1
5	970-100	Block, Manifold			1	1
6	814-004	Nipple, Hex			1	1

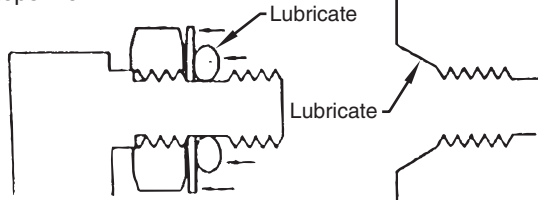
Multiple Gun Add-On Manifold Assemblies



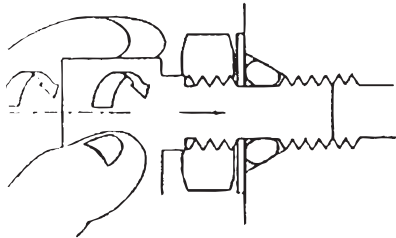
Part #	Description	975-212 2 Gun 1/4"	975-213 3 Gun 1/4"	975-214 4 Gun 1/4"	975-312 2-GUN 3/8"	975-313 3-GUN 3/8"	975-314 4-GUN 3/8"
975-111	1 Gun Add-On, 1/4"	1	1	1			
975-311	1 Gun Add-On, 3/8"				1	1	1
975-200	Add-A-Gun Kit, 1/4"	1	2	3			
975-300	Add-A-Gun Kit, 3/8"				1	2	3

SAE O-Ring Fitting Installation

Steps 1 & 2:

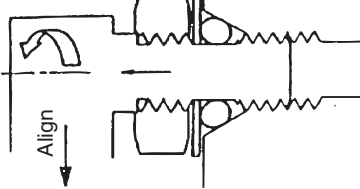


Step 3:



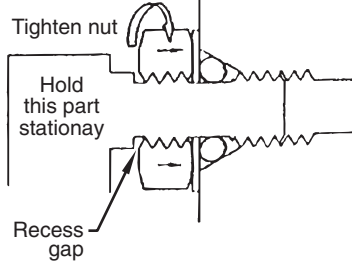
1. Pull washer and o-ring back as far as possible.
2. Lubricate o-ring and entrance port.

Step 4:



3. Screw fitting in until washer pushes o-ring into entrance and sits flat against port. (Do not tighten! - only do this step hand tight to compress o-ring into port!)
4. Back fitting out no more than one complete turn to align as required.

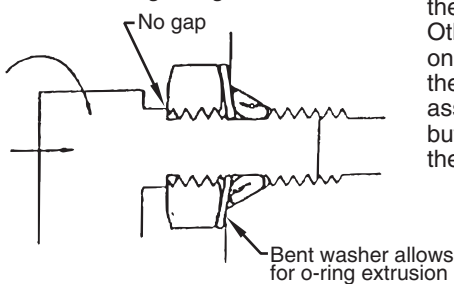
Step 5:



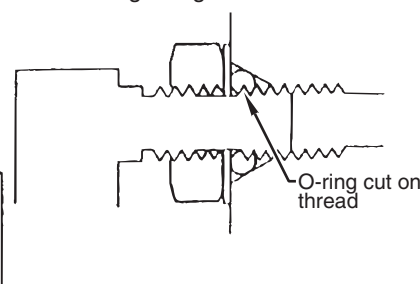
5. Torque nut wrench tight holding backup on fitting. This should expose a recess gap behind the nut which can act as an indicator that the fitting is assembled correctly. (This is a feature for a specific version of this fitting only - which screws into the cylinder head. Other fittings, as the ones which attach to the hydraulic pump, assemble the same but may not have the indicator.)

Cautions:

Avoid screwing fitting in too far.



Avoid leaving fitting too far out.



Accessories and Service Kits

These items may be purchased separately from your local Speeflo distributor.

Part #	Description
103-830	5 Gal. Siphon Hose Assembly w/Rock Catcher 1" x 4.5'
103-808	55 Gal. Siphon Hose Assembly w/Rock Catcher 1" x 6.5'
103-627	Rock Catcher
930-004	Paint Filter Element, 0 Mesh (for mastics)
930-005	Paint Filter Element, 5 Mesh (for multicolors and heavy materials)
930-006	Paint Filter Element, 50 Mesh (for latex and normal architectural materials)
930-007	Paint Filter Elements, 100 Mesh (for stains, lacquers and fine materials)
550-100	S-5 Gun w/Tip
550-110	S-5 Gun, Tip, and 1/4" Hose Kit
101-208	Grounding Clamp
101-212	Grounding Wire, 12 Gauge x 25'
314-480	Piston Lube, 8 oz.
314-482	Liquid Shield Plus, 1 quart
430-362	Coolflo™ Hydraulic Fluid, 1 quart
430-361	Coolflo™ Hydraulic Fluid, 1 gallon
975-212	2-Gun Manifold with Ball Valves, 1/4"
975-213	3-Gun Manifold with Ball Valves, 1/4"
975-312	2-Gun Manifold with Ball Valves, 3/8"
975-313	3-Gun Manifold with Ball Valves, 3/8"
808-550	3/8" NPS(M) x 3" hex fitting

Airless Tip Selection

Tips are selected by the orifice size and fan width. The proper selection is determined by the fan width required for a specific job and by the orifice size that will supply the desired amount of fluid and accomplish proper atomization.

For light viscosity fluids, smaller orifice tips generally are desired. For heavier viscosity materials, larger orifice tips are preferred. Please refer to the chart below.

NOTE: Do not exceed the pump's recommended tip size.

The following chart indicates the most common sizes and the appropriate materials to be sprayed.

Tip Size	Spray Material	Filter Type
.011 - .013	Laquers and stains	100 mesh filter
.015 - .019	Oil and latex	50 mesh filter
.021 - .026	Heavy bodied latex and blockfillers	5 mesh filter

Fan widths measuring 8" to 12" (20 to 30 cm) are most preferred because they offer more control while spraying and are less likely to plug.

Notes/Nota



Limited Warranty

Titan Tool, Inc., ("Titan") warrants that at the time of delivery to the original purchaser for use ("End User"), the equipment covered by this warranty is free from defects in material and workmanship. With the exception of any special, limited, or extended warranty published by Titan, Titan's obligation under this warranty is limited to replacing or repairing without charge those parts which, to Titan's reasonable satisfaction, are shown to be defective within twelve (12) months after sale to the End User. This warranty applies only when the unit is installed and operated in accordance with the recommendations and instructions of Titan.

This warranty does not apply in the case of damage or wear caused by abrasion, corrosion or misuse, negligence, accident, faulty installation, substitution of non-Titan component parts, or tampering with the unit in a manner to impair normal operation.

Defective parts are to be returned to an authorized Titan sales/service outlet. All transportation charges, including return to the factory, if necessary, are to be borne and prepaid by the End User. Repaired or replaced equipment will be returned to the End User transportation prepaid.

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Patents

These products are covered by one or more of the following U.S. patents:

5,947,381 5,749,528 5,660,332 5,425,506 4,611,758 4,508,268

Material Safety Data Sheets (MSDS) are available on Titan's website or by calling Customer Service.



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