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 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.

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 21ºC (70ºF). Flashpoint is the temperature that a fluid can produce enough vapors to ignite.
- Plastic can cause static sparks. Never hang plastic to enclosing 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-trichloroethene. 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.

**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 platted ductile iron, electroless nickel platted
  carbon steel, stainless steel, tungsten carbide, PTFE, thikol
  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)
Fluid section wetted parts:
  Electroless nickel platted ductile iron, electroless nickel platted
  carbon steel, stainless steel, tungsten carbide, PTFE, thikol
  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.

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 85 or higher, or 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.

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.

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.

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.

**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.

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.

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.

**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.

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.

**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.

8. Unlock the gun by turning the gun trigger lock to the unlocked position.

9. 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.

**Note:** This is a general guideline, and specific instructions may vary depending on the sprayer model and the materials being used. Always follow the manufacturer’s recommendations for safe and effective use of the sprayer.
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.

   **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.

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### 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.

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### 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.
3. 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.

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

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

Cleaning a Clogged Tip
1. Follow the “Pressure Relief Procedure” in the Operation section of this manual.
2. 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.
3. 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:
1. Lubricating the upper packings.
2. Cleaning the rock catcher.

Lubricating the Upper Packings
1. Clean out the paint that has seeped past the upper packings into the packing oil cup above the fluid section.
2. 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.
1. Loosen and remove the inlet screen from the siphon tube.
2. Clean thoroughly with the appropriate solvent.

13. 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.
14. 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.
15. Follow the “Pressure Relief Procedure” found in the Operation section of this manual.
16. Store the sprayer in a clean, dry area.

IMPORTANT: Do not store the sprayer under pressure.
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

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spitting gun</td>
<td>1. Air in system</td>
<td>1. Inspect connections for air leaks.</td>
</tr>
<tr>
<td></td>
<td>2. Dirty gun</td>
<td>2. Disassemble and clean.</td>
</tr>
<tr>
<td></td>
<td>4. Broken or chipped seat</td>
<td>4. Inspect and replace.</td>
</tr>
<tr>
<td>Gun will not shut off</td>
<td>1. Worn or broken needle &amp; seat</td>
<td>1. Replace.</td>
</tr>
<tr>
<td>Gun does not spray</td>
<td>1. No paint</td>
<td>1. Check fluid supply.</td>
</tr>
<tr>
<td></td>
<td>2. Plugged filter or tip</td>
<td>2. Clean.</td>
</tr>
</tbody>
</table>

### Fluid Section

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump delivers on upstroke only or goes up slowly and down fast</td>
<td>1. Lower foot valve ball is not seating due to trash or wear</td>
<td>1. Check upper seat and ball with water. If ball fails to seal, replace seat.</td>
</tr>
<tr>
<td>(commonly called downstroke dive)</td>
<td>2. Material too viscous to siphon.</td>
<td>2. Replace packing set if worn.</td>
</tr>
<tr>
<td></td>
<td>3. Air leaking in on siphon side or damaged siphon hose. Siphon may be</td>
<td>3. 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.</td>
</tr>
<tr>
<td></td>
<td>too small for heavy material.</td>
<td>4. Remove foot valve assembly. Clean and inspect. Test foot valve by filling with water; if ball fails to seal the seat, replace ball.</td>
</tr>
<tr>
<td>Pump delivers on down stroke only or goes up fast and down slowly</td>
<td>1. Upper ball is not seating due to trash or wear</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>2. Lower packing set is worn</td>
<td>2. Reseat balls by cleaning.</td>
</tr>
<tr>
<td>Pump moves up and down fast, delivering material</td>
<td>1. Material container is empty or material is too thick to flow through siphon hose</td>
<td>1. Replace.</td>
</tr>
<tr>
<td></td>
<td>2. Bottom ball stuck to foot valve seat</td>
<td>2. Clean or replace filter.</td>
</tr>
<tr>
<td></td>
<td>3. Siphon hose is kinked or loose</td>
<td>3. Check electrical service. Correct as required.</td>
</tr>
<tr>
<td>Pump moves up and down slowly when spray gun is shut off</td>
<td>1. Loose connections. Bleed valve is open partially or bleed valve is worn. Lower packing seat is worn.</td>
<td>4. Increase hose size to minimize pressure drop through hose and/or reduce hose length.</td>
</tr>
<tr>
<td></td>
<td>2. Upper and/or lower ball not seating</td>
<td></td>
</tr>
<tr>
<td>Not enough fluid pressure at gun</td>
<td>1. Spray tip is worn</td>
<td>1. Replace.</td>
</tr>
<tr>
<td></td>
<td>2. Outlet filter or gun filter is clogged</td>
<td>2. Clean or replace filter.</td>
</tr>
<tr>
<td></td>
<td>3. Low voltage and/or inadequate amperage</td>
<td>3. Check electrical service. Correct as required.</td>
</tr>
<tr>
<td></td>
<td>4. Hose size or length is too small or too long</td>
<td>4. Increase hose size to minimize pressure drop through hose and/or reduce hose length.</td>
</tr>
<tr>
<td>Pump chatters on up or down stroke</td>
<td>1. Solvent has caused upper packing to swell</td>
<td>1. Replace packing.</td>
</tr>
</tbody>
</table>

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## Troubleshooting

### Hydraulic Motor

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil motor stalls at bottom (no unusual heat problems)</td>
<td>1. Fluid pump piston seat unthreaded</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>2. Valve sticking or oil motor trip rod shifter assembly separated</td>
<td>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.</td>
</tr>
<tr>
<td>Oil motor stalls at top (no unusual heat problems)</td>
<td>1. Valve sticking</td>
<td>1. Remove valve and check for scratches and rough movement when sliding it up and down. Replace valve and spool in this condition.</td>
</tr>
<tr>
<td></td>
<td>2. Broken spring retainer (valve rod assembly)</td>
<td>2. Replace valve rod assembly.</td>
</tr>
<tr>
<td></td>
<td>4. Air in hydraulic motor</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>5. Air in fluid pump</td>
<td>5. Stall at top can occur randomly when fluid pump picks up air. Reset valve. Avoid air in the fluid pump.</td>
</tr>
<tr>
<td>Low pressure (okay on down stroke, sluggish on up.stroke — high heat)</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>1. Blown piston seal</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>2. Cracked piston</td>
<td></td>
</tr>
<tr>
<td>Low pressure (both strokes - high heat)</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>2. Bad hydraulic pump</td>
<td></td>
</tr>
</tbody>
</table>

### Cause

1. Fluid pump piston seat unthreaded
2. Valve sticking or oil motor trip rod shifter assembly separated
3. Broken spring retainer (valve rod assembly)
4. Broken spring or valve rod
5. Air in hydraulic motor
6. Air in fluid pump

### Solution

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.
6. 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.
7. 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.
8. 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.
9. Replace hydraulic pump.
## Troubleshooting

### Spray Patterns

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tails</td>
<td>1. Inadequate fluid delivery</td>
<td>1. 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.</td>
</tr>
<tr>
<td>Hour glass</td>
<td>1. Inadequate fluid delivery</td>
<td>1. Same as above.</td>
</tr>
<tr>
<td>Distorted</td>
<td>1. Plugged or worn nozzle tip</td>
<td>1. Clean or replace nozzle tip.</td>
</tr>
<tr>
<td>Pattern expanding and contracting (surge)</td>
<td>1. Suction leak 2. Pulsating fluid delivery</td>
<td>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.</td>
</tr>
</tbody>
</table>
IMPORTANTES CONSIGNES DE SÉCURITÉ • Lire toutes ces consignes avant d’utiliser l’appareil. GARDER CES CONSIGNES.

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 blessure grave pouvant entraîner l’amputation. Une amputation peut en résulter. ON DOIT CONSULTER UN MÉDICIN 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 fûts 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’appareil.
• 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 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 pulvérissez 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
Certsains produits (peintures, solvants, insecticides ou autres) peuvent être nocifs s’ils sont inhalés ou entrés 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 dispoitifs 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 bombe et l’objet à pulvériser s’ils sont dans la même pièce bien ventilée (raligner 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 bombe 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 contenus 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 contenus 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’éclai est la température à laquelle le liquide peut créer suffisamment de vapeurs pour 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 antimoississure, le chlorure de méthylène et le trichlorométhane-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’utiliser 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 ne l’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 détectuosités. Ne jamais tenter de réparer un flexible ; remplacer ceux qui ont défaut par des modèles haute pression, avec mise à la terre.
- Ne faites pas de nouer avec le tuyau et ne le tordez pas trop. Le tuyau à vide peut présenter des fuites suite à l’usure, les nouer 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. 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.

**Instructons 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. Cela réduit les risques d’électrocution lors d’un court-circuit en permettant le courant de s’écouler par le fil de mise à la terre.

**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 dans une prise murale. Le fait de brancher le fil de mise à la terre et de ne pas le brancher sur 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 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.

**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 être responsables 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 de blessure, placer 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.
- Respectez toujours les directives de sécurité en vertu de l’Occupational Safety and Health Act (OSHA). Vous que la zone est bien sèche avant de faire démarrer le moteur.

**Évitement des fumées de combustion**

Les vapeurs ou les éclaboussures de carbone qui est un gaz toxique ; une exposition prolongée peut causer des symptômes respiratoires. Les fumées d’échappement contiennent du monoxyde de carbone, un gaz toxique ; une intoxication au monoxyde de carbone peut entraîner une perte de conscience et peut s’avérer mortelle.

**Faites attention à ne pas renverser de carburant dans une zone bien ventilée, moteur arrêté. Fumez pas et évitez toutes flammes ou étincelles dans la zone de remplissage de carburant ou dans une zone de stockage du carburant.**

**Remplissage du réservoir de carburant**

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 dans une zone bien ventilée, moteur arrêté. Fumez pas et évitez toutes flammes ou étincelles dans la zone de remplissage de carburant ou dans une zone de stockage du carburant.**

**Ne faites jamais fonctionner le moteur dans un endroit fermé ou confiné. Les vapeurs de carburant sont répandues dans le compartiment où le moteur est installé.**

**Le silencieux devient très chaud pendant le fonctionnement et reste chaud quelques temps après l’arrêt du moteur.**

**Ne faites jamais fonctionner le moteur dans un endroit fermé ou confiné. Les vapeurs de carburant sont répandues dans le compartiment où le moteur est installé.**

**Attention à ne pas ouvrir le couvercle du silencieux tant que le moteur est chaud.**

**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.**

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

PELIGRO: VAPORES PELIGROSOS

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

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:
• No rocíe en lugares cerrados.
• Evite todas las fuentes de ignición como las chispas de electricidad estática, las llamas expuestas, aparatos eléctricos, 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 metros (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 sumamente 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.
• Siempre enjuague la unidad dentro de un recipiente metálico con descargas eléctricas o encendedores para evitar la ignición de gas inflamables. La conexión de cables eléctricos o interruptores de luz operativos puede producir chispas.
• 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.

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 retrasar 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.
INFORMACIÓN DE SEGURIDAD IMPORTANTE • Lea toda la información de seguridad antes de operar el equipo. GURARDE 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 rigen 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 acoplamientos, las mangueras y las tapas de los filtros deben estar asegurados antes de operar la bomba de rociar. 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 acoplamientos. 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 eléctrico. Si es necesario reparar o reemplazar el cable o el enchufe, debe cumplir con las especificaciones mínimas y requisitos de seguridad del fabricante de la bomba.

• 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 eléctricas — 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 con un receptáculo de carga de conexión 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 planos. El alambre con aislamiento que tiene la superficial exterior de color verde con franjas amarillas o, si ellas es el alambre de conexión a tierra que debe conectarse al conductor 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, pidale a un electricista calificado que instale la toma apropiada.

No utilice este equipo para rociar agua o ácido.

IMPORTANTE: No cargue el equipo por el asa del carril durante la carga y descarga.
### Parts Lists and Service Instructions

#### Main Assembly

<table>
<thead>
<tr>
<th>Item</th>
<th>Part #</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>459-024</td>
<td>Motor/pump assembly</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>703-136</td>
<td>O-ring</td>
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<td>3</td>
<td>703-137</td>
<td>Swivel fitting assembly (includes item 2)</td>
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<td>4</td>
<td>944-030</td>
<td>Bleed valve</td>
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<td>5</td>
<td>451-136</td>
<td>Filter assembly</td>
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<td>6</td>
<td>451-139</td>
<td>Bleed hose</td>
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<td>7</td>
<td>730-334</td>
<td>Hose clamp</td>
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<td>8</td>
<td>449-934</td>
<td>Belt guard assembly</td>
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</tr>
<tr>
<td>9</td>
<td>--------</td>
<td>Hydraulic system</td>
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<tr>
<td>10</td>
<td>449-986</td>
<td>Belt, “V” (gas model)</td>
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<td>11</td>
<td>506-277</td>
<td>Convertokit, 9 HP, Honda, gasoline (gas model)</td>
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<tr>
<td>12</td>
<td>451-070</td>
<td>Cart assembly</td>
<td>1</td>
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<tr>
<td>13</td>
<td>862-428</td>
<td>Screw</td>
<td>2</td>
</tr>
<tr>
<td>14</td>
<td>862-002</td>
<td>Washer</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>506-279</td>
<td>Convertokit, DC electric, 115V (electric model, includes belt, not shown)</td>
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## Cart Assembly (P/N 451-070)

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<td>590-502</td>
<td>Handle</td>
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<td>2</td>
<td>590-507</td>
<td>Snap button</td>
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<td>590-506</td>
<td>Handle washer</td>
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<td>590-508</td>
<td>Roll pin</td>
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<td>590-504</td>
<td>Handle sleeve</td>
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<td>590-100</td>
<td>Retaining ring</td>
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<td>870-004</td>
<td>Washer</td>
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<td>451-064</td>
<td>Swing arm axle</td>
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<td>Cotter pin</td>
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<td>670-109</td>
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<td>451-052</td>
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<td>19</td>
<td>451-455</td>
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## Belt Guard Assembly (P/N 449-934)

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<tr>
<td>1</td>
<td>449-217</td>
<td>Belt guard</td>
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<td>2</td>
<td>858-636</td>
<td>Screw</td>
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<td>Lockwasher</td>
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<td>4</td>
<td>862-411</td>
<td>Nut</td>
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<td>5</td>
<td>449-185</td>
<td>Belleville washer</td>
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<td>862-001</td>
<td>Flat washer</td>
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<td>449-187</td>
<td>Clip</td>
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<td>449-198</td>
<td>Flat washer</td>
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<td>449-166</td>
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<td>10</td>
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</table>
### 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). 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.

### Item List

<table>
<thead>
<tr>
<th>Item</th>
<th>Part #</th>
<th>Description</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>1</td>
<td>235-018</td>
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(2–4, 6, 8, 9, 12, 18, 19, and 24)
7. 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).

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

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

10. Remove rod seal (24), being extremely careful not to scratch the seal groove in the motor/pump block (25).

11. 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.

12. Remove piston (17) and lift out valve rod assembly (20).

13. Remove piston seal (18) and o-ring (19).

14. Remove trip retainers (1), trip springs (3), and balls (4) from cylinder head (11). Remove o-rings (2) from trip retainers (1).

15. 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.

16. Inspect piston rod (21) and cylinder (23) for wear, scratches, and dents. Replace if damaged.

17. 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

1. 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 and a pipe wrench can be used to tighten the cylinder into motor/pump block (25).

2. 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.

3. 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.

4. 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.

5. 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.

6. Install piston seal (18) with lips facing downward. Carefully install o-ring (19). Expand the ring and stretch it sufficiently for installation.

7. 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.

8. 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).

9. Replace the connecting rod pin and retainer ring.

10. 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).

11. Raise piston rod (21) to top position and thread lock ring (22) all the way up on upper threads of cylinder (23).

12. 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.

13. 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.

14. 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.

15. Install o-ring (8) onto cylinder head plug (7). Tighten.

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.
Hydraulic Motor Cut-Away

Torque flex locknut to 10 ft./lbs. (146N/m). Use blue Loctite.

Torque head plug to 15 ft./lbs. (219 N/m). Do not over-tighten o-ring seal.

Torque trip retainers to 15 ft./lbs. (365 N/m). Do not over-tighten o-ring seal.

Torque piston retainers to 75 ft./lbs. (1095 N/m). Use red Loctite.

Seal lip must face up.

Use blue Loctite on lock ring.

Seal lip must face down.

Use blue Loctite on lock ring.

Seal lip must face up.

Use hydraulic sealant.

Valve rod assembly is factory set and permanently Loctited. Do not disassemble.

Fluid Section

**Fluid Section**

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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 upper groove of 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

Oil cup area for piston lube packing lubricant.

Peaks of upper packings must face up.

Torque outlet valve housing to 75 ft./lbs. (1095 N/m). Use blue Loctite.

Peaks of lower packings must face down.

Lubricate O-ring.
Hydraulic System

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<td>Acorn nut</td>
<td>1</td>
</tr>
<tr>
<td>43</td>
<td>449-107</td>
<td>Mounting plate retainer</td>
<td>1</td>
</tr>
<tr>
<td>44</td>
<td>449-135</td>
<td>Spacer</td>
<td>1</td>
</tr>
<tr>
<td>45</td>
<td>862-480</td>
<td>Screw, HH</td>
<td>1</td>
</tr>
<tr>
<td>46</td>
<td>451-121</td>
<td>Elbow (not shown)</td>
<td>1</td>
</tr>
<tr>
<td>47</td>
<td>941-555</td>
<td>Ball valve (not shown)</td>
<td>1</td>
</tr>
</tbody>
</table>

Torque and Sealant Guide

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Use blue Loctite on threads</td>
</tr>
<tr>
<td>4</td>
<td>Torque to 10 ft./lbs. (13.5 N/m)</td>
</tr>
<tr>
<td>8</td>
<td>Use hydraulic sealant</td>
</tr>
<tr>
<td>9</td>
<td>Torque to 20 FT/LBS (28 N/m)</td>
</tr>
<tr>
<td>13</td>
<td>Use hydraulic sealant</td>
</tr>
<tr>
<td>16</td>
<td>Use blue Loctite on threads</td>
</tr>
<tr>
<td>16</td>
<td>Torque to 8 FT/LBS (11 N/m)</td>
</tr>
<tr>
<td>18</td>
<td>Torque to 8 FT/LBS (11 N/m)</td>
</tr>
<tr>
<td>20</td>
<td>Use hydraulic sealant</td>
</tr>
<tr>
<td>21</td>
<td>Use hydraulic sealant</td>
</tr>
<tr>
<td>22</td>
<td>Use hydraulic sealant</td>
</tr>
<tr>
<td>28</td>
<td>Torque to 15 FT/LBS (20,5 N/m)</td>
</tr>
<tr>
<td>29</td>
<td>Torque to 15 FT/LBS (20,5 N/m)</td>
</tr>
<tr>
<td>45</td>
<td>Torque to 15 FT/LBS (20,5 N/m)</td>
</tr>
</tbody>
</table>
### Gas Convertokit (P/N 506-277)

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

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Part #</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>506-259</td>
<td>Cover</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>860-501</td>
<td>Nut stop</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>860-002</td>
<td>Lock washer</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>860-004</td>
<td>Flat washer</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>860-535</td>
<td>Screw</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>978-040</td>
<td>Circuit breaker reset</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>506-260</td>
<td>ON/OFF switch</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>978-350</td>
<td>Motor, DC-Electric, 2 HP, 50 / 60 Hz, 115 V</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>977-228</td>
<td>Pulley</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>590-068</td>
<td>Handle grip</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>335-017</td>
<td>Handle</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>860-552</td>
<td>Screw</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>459-018</td>
<td>Mount plate</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>506-255</td>
<td>Rectifier (not shown)</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>506-258</td>
<td>Fan (not shown)</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>449-181</td>
<td>Belt, &quot;V&quot; (not shown)</td>
<td>1</td>
</tr>
</tbody>
</table>
### Bleed Valve Assembly (P/N 944-030)

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

### Filter Assembly (P/N 451-136)

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

### 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

<table>
<thead>
<tr>
<th>Item</th>
<th>Part #</th>
<th>Description</th>
<th>1-Gun Add-On</th>
<th>Add-A-Gun Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>814-002</td>
<td>Nipple, Hex</td>
<td>1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>814-004</td>
<td>Nipple, Hex</td>
<td>3/8&quot;</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>940-553</td>
<td>Valve, Ball</td>
<td>1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>941-555</td>
<td>Valve, Ball</td>
<td>3/8&quot;</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>227-006</td>
<td>Nipple, Hex</td>
<td>1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>808-555</td>
<td>Nipple, Hex</td>
<td>3/8&quot;</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>227-033</td>
<td>Plug, Pipe</td>
<td>1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>970-100</td>
<td>Block, Manifold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>814-004</td>
<td>Nipple, Hex</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Multiple Gun Add-On Manifold Assemblies

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
<th>2 Gun</th>
<th>3 Gun</th>
<th>4 Gun</th>
<th>2-GUN</th>
<th>3-GUN</th>
<th>4-GUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>975-111</td>
<td>1 Gun Add-On, 1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>975-311</td>
<td>1 Gun Add-On, 3/8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>975-200</td>
<td>Add-A-Gun Kit, 1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>975-300</td>
<td>Add-A-Gun Kit, 3/8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SAE O-Ring Fitting Installation**

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

**Step 3:**
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!)

**Step 4:**
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.
- Bent washer allows for o-ring extrusion.

**Accessories and Service Kits**
These items may be purchased separately from your local Speeflo distributor.

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

**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.

<table>
<thead>
<tr>
<th>Tip Size</th>
<th>Spray Material</th>
<th>Filter Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>.011 – .013</td>
<td>Laquers and stains</td>
<td>100 mesh filter</td>
</tr>
<tr>
<td>.015 – .019</td>
<td>Oil and latex</td>
<td>50 mesh filter</td>
</tr>
<tr>
<td>.021 – .026</td>
<td>Heavy bodied latex and blockfillers</td>
<td>5 mesh filter</td>
</tr>
</tbody>
</table>

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.