# LineCoat 26G

# **Owner's Manual**



Model Numbers 7/8" Diffuser

0555029

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

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## **Safety Precautions**

This manual contains information that must be read and understood before using the equipment. When you come to an area that has one of the following symbols, pay particular attention and make certain to heed the safeguard.

# **AWARNING**

This symbol indicates a potential hazard that may cause serious injury or loss of life. Important safety information will follow.

**A** CAUTION

This symbol indicates a potential hazard to you or to the equipment. Important information that tells how to prevent damage to the equipment or how to avoid causes of minor injuries will follow.

NOTE: Notes give important information which should be given special attention.

# **AWARNING**

Airless units develop extremely high spraying pressures.





- Never put your fingers, hands or any other parts of the body into the spray jet.
- Never point the spray gun at yourself or anybody else.
- Never use the spray gun without the safety guard.

#### Attention! Danger of injury by injection!

In case of injury to skin caused by coating materials or solvents consult a doctor immediately. Inform the doctor of the type of coating material or cleaning agent with which the injury was caused

The operating instructions state that the following points must always be observed before starting up:

- 1. Faulty units should not be used.
- 2. Secure spray gun using the safety catch on the trigger.
- 3. Ensure that the unit is properly earthed.
- 4. Check the permissible operating pressures.
- 5. Check all connections for leaks.

The instructions regarding regular cleaning and maintenance of the unit must be strictly observed. Before any work is done on the unit or for every break in work the following rules must be observed:

- 1. Release the pressure from the spray gun and hose.
- Secure the spray gun using the safety catch on the trigger.
- 3. Turn off the motor.

#### Be safety-conscious!

All local regulations in force must be observed. In order to ensure safe operation of the airless systems the safety regulations listed below must be followed:

- 1. In order to avoid dangers, read the operating instructions carefully and follow the instructions laid down in them.
- 2. Do not use materials with a flash point below 21°C (70°F).
- 3. The use of this unit is prohibited in workshops which are covered under the explosion prevention regulations.
- Never spray near sources of ignition; e.g. open flames, cigarettes — also cigars and pipes are sources of ignition — sparks, hot wires and hot surfaces, etc.
- 5. Attention! Danger of injury by injection!

Never point the spray gun at yourself or anyone else. Never put your fingers or hands into the spray jet. The very high spraying pressures can cause very serious injuries. Never use the spray gun without the safety guard.





When installing and removing the tip and during breaks in work the spray gun must always be secured, so that it cannot be activated.

- Wear respiratory equipment when spraying. The operator must be provided with a protective mask.
  - In order to prevent work related illness, the manufacturer's regulations for the materials, solvents, and cleaning agents used must be observed when preparing, working with and cleaning the unit. Protective clothing, gloves and, in certain cases, protective skin cream are necessary to protect the skin.
- The spray gun and high pressure hose between the unit and spray gun must be of a sufficient standard for the pressure produced in the unit.
  - The permissible operating pressure for the high-pressure hose, the manufacturer and date of manufacture must be indicated by a permanent identification marking on the hose. Furthermore, it must be constructed so that the electrical resistance between the connections to the unit and the spray gun is equal to or less than one megohm.
- 8. Under certain conditions the flow speed can cause an electrostatic charge on the unit. This could cause sparks or flames on discharging. It is, therefore, important that the unit is always earthed over the electrical installation. The contact should be made using a shockproof socket earthed in accordance with the regulations.



Attention! Please observe the following when working inside and outside:

No solvent gasses should be carried to the unit. No solvent gasses should form near the unit. Set up the unit on the opposite side to the object being sprayed. When spraying outdoors, take the wind direction into account. When working indoors there must be sufficient ventilation to ensure that the solvent gasses are carried away. A minimum distance of 6.1m (20') must be observed between the unit and object being sprayed.

- 10. Extraction equipment should be installed by the user in accordance with the local regulations.
- 11. The objects being sprayed must be earthed.
- 12. When cleaning the unit, solvent should never be sprayed into a container with only a small opening (bunghole). An explosive gas/air mixture is likely to form. The container must be earthed.
- 13. Cleaning the unit.

A harsh jet should never be used to spray the unit. In particular a high-pressure cleaner or high-pressure steam cleaner should never be used. There is a danger that water will penetrate into the unit and cause a short-circuit.

14. Pulling the trigger causes a recoil force to the hand that is holding the spray gun.

The recoil force of the spray gun is particularly powerful when the tip has been removed and a high pressure has been set on the airless high-pressure pump. Therefore, when cleaning without tip set the pressure control valve to the lowest pressure.

- The mains plug should always be disconnected from the socket when work is being carried out on the electrical components.
- 16. Work or repairs should only be carried out on electrical equipment by a trained electrician, even if the work is described in the operating instructions. No liability will be accepted for incorrectly installed electrics.
- Positioning when the ground is uneven.
   The front of the unit must point downward so that the machine does not slip away.

HAZARD: Injection injury - A high pressure stream produced by this equipment can pierce the skin and underlying tissues, leading to serious injury and possible amputation.

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

#### PREVENTION:

- The maximum operating range of the unit is 23 MPa (3300 PSI) fluid pressure.
- NEVER aim the gun at any part of the body.
- NEVER allow any part of the body to touch the fluid stream.
   DO NOT allow body to touch a leak in the fluid hose.
- NEVER put your hand in front of the gun. Gloves will not provide protection against an injection injury.
- ALWAYS lock the gun trigger, shut the fluid pump off and release all pressure before servicing, cleaning the tip guard, changing tips, or leaving unattended. Pressure will not be released by turning off the engine. The bleed valve must be turned fully counterclockwise to relieve the pressure. Refer to the PRESSURE RELIEF PROCEDURE described in this manual.
- The tip guard must always be in place while spraying. The tip guard provides some protection against injection injuries but is mainly a warning device.
- ALWAYS remove the spray tip before flushing or cleaning the system.
- The paint hose can develop leaks from wear, kinking and abuse. A leak can inject material into the skin. Inspect the hose before each use.

#### **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.

HAZARD: EXPLOSION OR FIRE - Solvent and paint fumes can explode or ignite. Severe injury and/or property damage can occur.

#### PREVENTION:

- Fire extinguisher must be present and in good working order.
- Use only conductive or earthed high pressure fluid hose. Gun must be earthed through hose connections.
- The pump must be connected to an earthed object. Use the green earthing wire to connect the pump to a water pipe, steel beam, or other electrically earthed surface.
- Use lowest possible pressure to flush equipment.

HAZARD: EXPLOSION HAZARD DUE TO INCOMPATIBLE MATERIALS - Will cause severe injury or property damage.

#### PREVENTION:

- Do not use materials containing bleach or chlorine.
- Do not use halogenated hydrocarbon solvents such as methylene chloride and 1,1,1 - trichloroethane. They are not compatible with aluminum and may cause an explosion. If you are unsure of a material's compatibility with aluminum, contact your coating's supplier.

HAZARD: GENERAL - This product can cause severe injury or property damage.

#### PREVENTION:

- Use only manufacturer authorized parts. User assumes all risks and liabilities when using parts that do not meet the minimum specifications and safety devices of the pump manufacturer.
- 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 earthed high-pressure hose.
- ALWAYS follow the material manufacturer's instructions for safe handling of paint and solvents.
- Clean up all material and solvent spills immediately.
- Wear ear protection. This unit can produce noise levels above 85 dB(A).
- Wear protective eyewear.
- · Do not spray on windy days.

## **Earthing Instructions**

Electric models must be earthed. In the event of an electrical short circuit, earthing reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having an earthing wire with an appropriate earthing plug. The plug must be plugged into an outlet that is properly installed and earthed in accordance with all local codes and ordinances.

DANGER — Improper installation of the earthing 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 earthing wire to either flat blade terminal. The wire with insulation having a green outer surface with or without yellow stripes is the earthing wire and must be connected to the earthing pin.

Check with a qualified electrician or serviceman if the earthing instructions are not completely understood, or if you are in doubt as to whether the product is properly earthed. 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**

# **AWARNING**

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

- Gas engines are designed to give safe and dependable service if operated according to instructions. Read and understand the engine Owner's Manual before operating the engine. Failure to do so could result in personal injury or equipment damage.
- 2. 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.
- 4. 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.
- 7. 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.
- 10. 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.
- 11. Never ship/transport unit with gasoline in the tank.

# **A** CAUTION

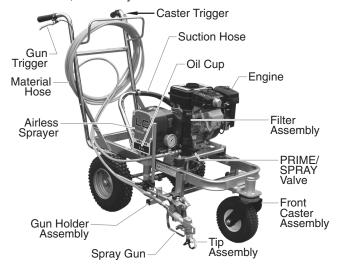
Do not lift by cart handle when loading or unloading.

## **Specifications**

Opcomodions	
Liters per minute (LPM)	2.8 (.75 GPM)
Maximum tip sizes	
	2  guns = .019" (.48  mm)
Maximum pressure	23 MPa (3300 PSI)
Power	4.5 HP, 4-stroke, single cylinder, overhead valve engine w/oil alert
Fuel capacity	
	approx. 3 hours run time
Halogenated solvent compatible	
Weight	107 kg (235 lbs.)
Inlet paint filter	10 mesh "rock catcher"
Outlet paint filter	60 mesh
Pump inlet	
Pump outlet	1/2" NPT(F) to paint filter
Paint filter hose connections	1/4" NPS(M)
	3/8" NPT(F) (plugged)
Dimensions	150 cm L (59") x
	69 cm W (27") x
	102 cm H (40")

## **General Description**

This airless line striper is a precision power tool used to spray many types of material for many types of applications including parking lots, curbs, and athletic fields. Read and follow this instruction manual carefully for proper operating instructions, maintenance, and safety information.



## **Operation**

# **AWARNING**

This equipment produces a fluid stream at extremely high pressure. Read and understand the warnings in the Safety Precautions section at the front of this manual before operating this equipment.

#### Setup

Perform the following procedure before starting the engine of a gas-powered line striper.

- Ensure that the suction hose and the return hose are attached and secure.
- Position the spray gun.
   Loosen the gun support bar knob and slide the gun support bar to the desired position (side-toside). Tighten the hex screw securely.
  - b. Loosen the gun holder clamp knob and slide the spray gun to the desired vertical and horizontal position (front-to-back).
     Tighten the knob securely.



NOTE: The height of the spray gun affects the width of the spray pattern (i.e., the lower the gun, the smaller the line width). Tip size also affects line width.

- 3. Turn the pressure control knob fully counterclockwise to its lowest pressure setting.
- 4. Make sure the pump ON/OFF switch is in the OFF position.
- Fill the fluid section oil cup with approximately one tablespoon of separating oil (P/N 0279920).

## **A** CAUTION

Never operate unit for more than ten seconds without fluid. Operating this unit without fluid will cause unnecessary wear to the packings.

Check the engine oil level. The gasoline engine oil level is determined by the manufacturer. Refer to the engine manufacturer's service manual (supplied). 8. Close the fuel shut-off lever and fill the gas tank with gasoline. Use only high quality, unleaded gasoline.

NOTE: The gun support bar and the spray gun can be mounted on either side of the sprayer. To move the gun support bar:

- a. Loosen the gun support bar knob.
- b. Slide the gun support bar out of its mounting bracket on the cart frame.
- c. Slide the gun support bar into the mounting bracket on the opposite side of the cart frame.
- d. When the gun support bar is in the desired position, tighten the gun support bar knob.
- e. Re-adjust the position of the spray gun.

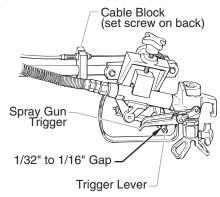
#### Adjusting the Trigger Tension

Use the following procedure to adjust the spring tension of the trigger lever on the gun holder assembly. The trigger lever pulls and releases the spray gun trigger when operated from the trigger on the cart. The proper tension ensures that the gun will shut off when the gun trigger is released. To ensure proper tension, there should be approximately a 1/32" to 1/16" gap between the trigger lever and the spray gun trigger.

# **A** CAUTION

Always keep the trigger lock on the spray gun in the locked position while making adjustments to the system.

- 1. Using a 5/32" hex wrench, loosen the set screw on the cable block.
- 2. Move the cable block in the appropriate direction to create a gap of 1/32" to 1/16" between the trigger lever and spray gun trigger.
  - a. Slide the cable block toward the gun to increase the gap between the trigger lever and spray gun trigger.
  - b. Slide the cable block away from the gun to decrease the gap between the trigger lever and spray gun trigger.



3. Tighten the set screw securely.

#### Preparing a New Sprayer

If this unit 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.

# **A** CAUTION

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

- 1. Place the suction hose into a container of mineral spirits that has a flash point of 60°C (140°F) or above.
- 2. Place the return hose into a metal waste container.
- 3. Turn the pressure control knob fully counterclockwise to its lowest pressure setting.
- 4. Move the PRIME/SPRAY valve to the PRIME position.
- 5. Move the engine ON/OFF switch to the ON position.

- 6. Start the engine:
  - a. Open the fuel valve lever.
  - b. Move the throttle lever away from the gas tank.
  - c. Close the engine choke lever.
  - d. Holding the frame with one hand, pull Fuel Valve the starter rope

Lever rapidly and firmly. Continue to hold the rope as you let it return. Pull and return the rope until the engine starts.

Choke Lever

Throttle

Engine

Switch

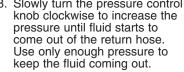
Starter Rope

ON/OFF

Pump ON/OFF

Switch

7. Turn on the sprayer by moving Pressure the pump ON/OFF switch to the Control ON position. Knob 8. Slowly turn the pressure control



- 9. Allow the sprayer to run for 15-30 seconds to flush the test fluid out through the return hose and into the waste container.
- 10. Turn the pressure control knob fully counterclockwise to its lowest setting.
- Turn off the sprayer by moving the pump 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.

# **A** CAUTION

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

- 1. Place the suction hose into a container of the appropriate solvent for the material being sprayed (refer to recommendations of the material manufacturer). An example of the appropriate solvent is water for latex paint.
- 2. Place the return hose into a metal waste container.
- 3. Turn the pressure control knob fully counterclockwise to its lowest pressure setting.
- 4. Move the PRIME/SPRAY valve to the PRIME position.
- 5. Move the engine ON/OFF switch to the ON position.
- 6. Start the engine:
  - a. Open the fuel valve lever.
  - b. Move the throttle lever away from the gas tank.
  - c. Close the engine choke lever.
  - d. Holding the frame with one hand, pull the starter rope rapidly and firmly. Continue to hold the rope as you let it return. Pull and return the rope until the engine starts.
- 7. Turn on the sprayer by moving the pump ON/OFF switch to the ON position.
- 8. Slowly turn the pressure control knob clockwise to increase the pressure until fluid starts to come out of the return hose. Use only enough pressure to keep the fluid
- 9. Allow the sprayer to run for 15–30 seconds to flush the old solvent out through the return hose and into the metal waste container.
- 10. Turn the pressure control knob fully counterclockwise to its lowest setting.
- Turn off the sprayer by moving the pump ON/OFF switch to the OFF position.



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

- 12. Move the PRIME/SPRAY valve to the SPRAY position.
- 13. Turn on the sprayer.
- Turn the pressure control knob slowly clockwise to increase pressure.
- 15. Unlock the gun by turning the gun trigger lock to the unlocked position.

# **AWARNING**

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



- Trigger the gun into the metal waste container until the old solvent is gone and fresh solvent is coming out of the gun.
- 17. Lock the gun by turning the gun trigger lock to the locked position.
- Set down the gun and increase the pressure by turning the pressure control knob slowly clockwise to its highest setting.
- 19. Check the entire system for leaks. If leaks occur, turn the sprayer off and follow the "Pressure Relief Procedure" in this manual before tightening any fittings or hoses.
- 20. Follow the "Pressure Relief Procedure" in this manual before changing from solvent to paint.

# **AWARNING**

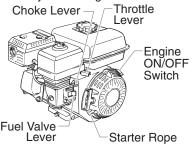
Be sure to follow the pressure relief procedure when shutting the unit down for any purpose, including servicing or adjusting any part of the spray system, changing or cleaning spray tips, or preparing for cleanup.

### **Painting**

- 1. Place the suction hose into a container of paint.
- 2. Place the return hose into a metal waste container.
- 3. Turn the pressure control knob fully counterclockwise to its lowest pressure setting.
- 4. Move the PRIME/SPRAY valve to the PRIME position.
- 5. Move the engine  $\ensuremath{\mathsf{ON}}\xspace/\ensuremath{\mathsf{OFF}}\xspace$  switch to the  $\ensuremath{\mathsf{ON}}\xspace$  position.
- 6. Start the engine:
  - a. Open the fuel valve lever.
  - b. Move the throttle lever away from the gas tank.

c. Close the engine choke lever.

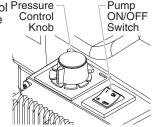
d. Holding the frame with one hand, pull the starter rope rapidly and firmly. Continue to hold the rope as you let it return. Pull and return the rope until the engine starts.



Turn on the sprayer by moving the pump ON/OFF switch to the ON position.

8. Slowly turn the pressure control knob clockwise to increase the pressure until fluid starts to come out of the return hose. Use only enough pressure to keep the fluid coming out.

Allow the sprayer to run until paint is coming through the return hose into the metal waste container.



- Turn the pressure control knob fully counterclockwise to its lowest setting.
- Turn off the sprayer by moving the pump ON/OFF switch to the OFF position.

- 12. Remove the return hose from the waste container and place it in its operating position above the container of paint.
- 13. Move the PRIME/SPRAY valve to the SPRAY position.
- 14. Turn on the sprayer.
- 15. Turn the pressure control knob slowly clockwise to increase pressure.
- Unlock the gun by turning the gun trigger lock to the unlocked position.

# **AWARNING**

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.



- 17. 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.
- 18. Lock the gun by turning the gun trigger lock to the locked position.
- Turn the pressure control knob fully counterclockwise to its lowest setting.
- 20. Turn off the sprayer.
- 21. Attach tip guard and tip to the gun as instructed by the tip guard or tip manuals.

# **AWARNING**

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.

- 22. Turn on the sprayer.
- 23. Increase the pressure by turning the pressure control knob slowly clockwise. Test the spray pattern and line position on a long piece of roofing felt or cardboard.
  - Adjust the pressure control knob until the spray from the gun is completely atomized. Try to keep the pressure control knob at the lowest setting that maintains good atomization.

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

- b. Check for proper line width and position. If adjustment to the position of the spray gun is required, refer to the "Setup" procedure earlier in this section.
- 24. Make sure that the spray gun completely shuts off when the gun trigger is released. If adjustment to the trigger tension is required, refer to the "Adjusting the Trigger Tension" procedure earlier in this section.

## **Operating the Front Caster**

The front caster on the cart is designed to track the sprayer in either a straight line or allow free motion. Standing behind the sprayer, the trigger on the left handle of the cart controls the operation of the front caster.

- To lock the front caster in the straight line position, squeeze then release the caster trigger and move the sprayer forward.
- 2. To allow free motion of the front caster, squeeze and hold the caster trigger.

# Pressure Relief Procedure AWARNING

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

 Lock the gun by turning the gun trigger lock to the locked position.



- 2. Turn off the sprayer by moving the pump ON/OFF switch to the OFF position.
- 3. Turn off the engine by moving the engine ON/OFF switch to the OFF position.
- Turn the pressure control knob counterclockwise to its lowest setting.
- Unlock the gun by turning the gun trigger lock to the unlocked position.
- Hold the metal part of the gun firmly to the side of a metal container to ground the gun and avoid a build up of static electricity.
- 5. Trigger the gun to remove any pressure that may still be in the hose.
- Lock the gun by turning the gun trigger lock to the locked position.
- 7. Move the PRIME/SPRAY valve to the PRIME position.

## Cleanup

# **AWARNING**

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.

# **A** CAUTION

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 unit.

# **AWARNING**

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.

- Follow the "Pressure Relief Procedure" found in the Operation section of this manual.
- 2. Remove the gun tip and tip guard and clean with a brush using the appropriate solvent.
- Place the suction hose into a container of the appropriate solvent (refer to recommendations of the material manufacturer). An example of the appropriate solvent is water for latex paint.
- 4. Place the return hose into a metal waste container.
- 5. Move the PRIME/SPRAY valve to its PRIME position.
- 6. Move the engine ON/OFF switch to the ON position and start the engine.
- 7. Turn on the sprayer by moving the pump ON/OFF switch to the ON position.

  Pressure Control Knob
- Slowly turn the pressure control knob clockwise to increase the pressure until fluid starts to come out of the return hose.
- Allow the solvent to circulate through the sprayer and flush the paint out of the return hose into the metal waste container.
- e Control Knob ON/OFF Switch

Pump

- Turn the pressure control knob fully counterclockwise to its lowest setting.
- Turn off the sprayer by moving the ON/OFF switch to the OFF position.

- 12. Move the PRIME/SPRAY valve to its SPRAY position.
- 13. Turn on the sprayer.
- 14. Turn the pressure control knob slowly clockwise to increase pressure.

# **AWARNING**

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.



- 15. 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.
- 16. 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.

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

# **A** CAUTION

Do not store the sprayer under pressure.

### Cleaning the Spray Tip

- Flush the gun with solvent immediately after the work is completed.
- 2. Oil the sliding pins to prevent them from seizing up.

Should the spray tip become clogged, reverse the spray tip with the lever and pull the trigger. Once the obstruction comes out of the spray tip, release the trigger, reverse the spray tip back to the spray pattern setting, and resume spraying.



# **AWARNING**

Do not attempt to clean the tip with your finger.

Do not use a needle or other sharp pointed instrument to clean the tip. The hard tungsten carbide is brittle and can be chipped.

#### **Maintenance**

# **AWARNING**

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.

NOTE: All Honda engine work should be performed by a Honda authorized service center.

## **General Repair and Service Notes**

The following tools are needed when repairing this sprayer:

Phillips screwdriver 3/8" hex wrench needle-nose pliers 5/16" hex wrench adjustable wrench 1/4" hex wrench rubber mallet 3/16" hex wrench flat-blade screwdriver 1/8" hex wrench 1/2" open-end wrench 7/8" open-end wrench

 Before repairing any part of the sprayer, read the instructions carefully, including all warnings.



Never pull on a wire to disconnect it. Pulling on a wire could loosen the connector from the wire.



- Test your repair before regular operation of the sprayer to be sure that the problem is corrected. If the sprayer does not operate properly, review the repair procedure to determine if everything was done correctly. Refer to the Troubleshooting section to help identify other possible problems.
- Make certain that the service area is well ventilated in case solvents are used during cleaning. Always wear protective eyewear while servicing. Additional protective equipment may be required depending on the type of cleaning solvent. Always contact the supplier of solvents for recommendations.
- If you have any further questions concerning your Wagner airless sprayer, contact a Wagner Authorized Service Center.

## **Maintaining the Engine**



When transporting a sprayer with a gas engine, make sure the fuel is shut off.

NOTE: For detailed engine specifications and maintenance, refer to the separate engine manual supplied with this sprayer.

#### Important Facts Concerning this Sprayer

This gas-powered sprayer contains a clutch that engages when the sprayer is pumping. The sprayer's pressure control system engages and disengages the clutch to control pressure. To prevent unnecessary wear to the clutch, it is advisable to adjust the engine speed and pressure setting to limit the amount of times the clutch engages and disengages. To reduce clutch wear, refer to the following examples.

#### Example:

Operating one gun with a .019 tip — reduce the engine speed by adjusting the throttle to a low or medium setting and increase pressure only until the heavy ends of the spray pattern have been eliminated.

#### Example:

Operating one gun with .023 tip — increase engine speed to a high setting and increase pressure until the heavy ends of the spray pattern have been eliminated.

#### **Example:**

Spraying light-bodied materials at low pressure — to reduce surging at the gun and to decrease clutch wear, reduce the engine speed to idle and reduce pressure until the desired spray pattern is achieved.

#### **Routine Engine Maintenance**

#### Daily

- · Check and fill the gas tank.
- After the first 20 hours of operation, drain the oil and refill with clean oil. Check the engine oil level and fill as necessary.

#### weekiy

- Remove the cover of the air filter and clean the element. Replace the element if necessary. If operating in an unusually dusty environment, check the filter daily and replace if necessary. (Replacement elements can be purchased from your local Wagner dealer.)
- · After each 50 hours of operation: Change the engine oil.

#### Spark Plug

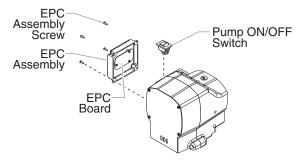
- Use only a (NKG) BP6ES plug.
- Gap the plug 0.025" 0.030" (0.7 0.8 mm).
- Make sure to use a spark plug wrench when installing and removing the plug.

### Replacing the Pump ON/OFF Switch

# **AWARNING**

Electrostatic discharge (ESD) potential could cause damage to electronic pressure control. Use Wagner ESD wrist strap P/N 0507958 or equivalent when working on electronic pressure control.

- 1. Perform the Pressure Relief Procedure.
- Using a Phillips screwdriver, remove the four screws that secure the electronic pressure control (EPC) assembly to the EPC housing. Carefully remove the EPC assembly from the housing. Gently move the assembly away from the sprayer and allow the assembly to hang from the housing.
- 3. Locate the bottom of the pump ON/OFF switch inside the EPC housing.



- 4. Disconnect the switch wires from the pump ON/OFF switch. Remember the locations of each of the two wires (label the wires, if necessary).
- Depress the mounting tabs on each corner of the pump ON/OFF switch inside the EPC housing and remove the switch through the top of the housing.
- 6. Snap the new pump ON/OFF switch into the switch hole in the EPC housing.
- 7. Connect the two switch wires to the new pump ON/OFF switch. Make sure the wires are connected to the corresponding terminals from which they were removed (refer to the labels created earlier in this procedure or the electrical schematic in the Parts List section of this manual).
- 8. Carefully place the EPC assembly over the EPC housing taking care not to pinch any wires.
- 9. Install the four screws that secure the EPC assembly to the EPC housing. Tighten securely.

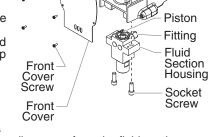
# Replacing the Gears and/or Slider Assembly

- Using a Phillips screwdriver, remove the four front cover screws. Remove the front cover.
- 2. Start the engine (refer to the procedures in the Operation section of this manual). Turn the pressure control knob clockwise to its maximum pressure setting.
- Toggle the pump ON/OFF switch between the ON and OFF positions in short bursts until the slider assembly and piston stop at the bottom of their stroke (in their lowest position).
- Turn off the engine and perform the Pressure Relief Procedure.

NOTE: If replacing the slider assembly, the fluid section must be removed from the pump housing.



- Using a 11/16" openend wrench, loosen and remove the fluid hose from the fitting on the back of the fluid section.
- Using a 3/8" hex wrench, remove the two socket screws that secure the fluid section to the pump housing.
- 7. Remove the fluid section by pulling it straight down from the pump housing until the dowel pins



Pump

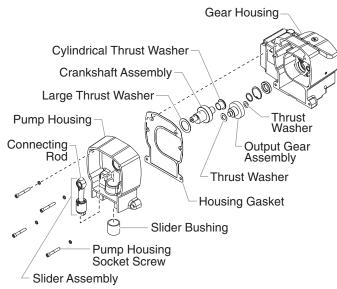
Housing

Slider

Assembly

on the pump housing disengage from the fluid section housing. Then, pull the fluid section forward to disengage the piston from the T-slot on the slider assembly.

- 8. Using a 1/4" hex wrench, remove the four socket screws that secure the pump housing to the gear housing.
- 9. Slide the pump housing away from the gear housing.
- Remove and clean the housing gasket. Replace if damaged.
- Slide the crankshaft assembly, with the two thrust washers out from the gear housing side of the pump housing.
- 12. Remove the output gear assembly with the two thrust washers.
- 13. Thoroughly clean the crankshaft assembly, the output gear assembly, and all the thrust washers.



- 14. Inspect all parts for excessive wear and replace if damaged or worn. If the crankshaft or output gear assembly are replaced, replace the corresponding thrust washers as well.
- 15. Inspect the pinion gear on the end of the drive shaft for wear. Replace if damaged or worn (refer to the "Servicing the Clutch Assembly" procedure in this section).

NOTE: If any of the gears are worn and require replacement, check the grease in the gear housing for metal particles or shavings.

Remove the contaminated grease. Replace the grease that has been removed with fresh Lubriplate GR-132 grease.

- Slide the slider assembly up and out of the slider bushing in the front of the pump housing.
- 17. Check the parts for wear.
  - a. If the slider bushing is scored or out of round it should be replaced.

- b. If the slider assembly is scored or the connection between the connecting rod and slider assembly exhibits movement other than pivoting movement, the slider assembly should be replaced. The slider assembly also should be replaced if the connecting rod bearing shows signs of wear.
- c. Any parts that will be reused should be cleaned thoroughly, including the connecting rod. Also, clean the crankshaft pin that the connecting rod bearing rides on.
- d. If the slider bushing requires replacement, a press must be used. Position the pump housing so that the bushing is facing the arbor on the press. Position the new bushing on top of the old bushing. Lower the arbor on the press to contact the new bushing and press the new bushing into the bore. As the new bushing is pressed into the bore, the old bushing is pressed out of the bore. The new bushing is in place when it is flush with the bore wall on the pump housing.
- 18. Coat the output gear assembly and each side of its thrust washers with fresh Lubriplate GR-132 grease. Place the thrust washers on their proper shaft of the output gear assembly.
- 19. Lubricate the output gear assembly with fresh Lubriplate GR-132 grease. Insert the gear assembly into its bore in the gear housing, gear end first. The teeth on the gear will mate with the teeth on the drive shaft pinion.
- Generously coat all surfaces of the cylindrical crankshaft assembly thrust washer with fresh Lubriplate GR-132 grease.
- 21. Slip the flat end of the cylindrical thrust washer behind the gear on the output gear assembly, lining its bore up with the gear housing bearing bore for the crankshaft assembly.
- 22. Lubricate the crankshaft assembly gear with fresh Lubriplate GR-132 grease. Slide the gear side shaft of the crankshaft through the cylindrical thrust washer and into its bore within the gear housing.
- Position the pin on the end of the crankshaft towards the bottom of the gear housing (the bottom dead center position).
- 24. Lubricate both faces of the large crankshaft assembly thrust washer with fresh Lubriplate GR-132 grease. Place the thrust washer onto the crankshaft against the gear.
- 25. Place the housing gasket over the gear housing dowel pins.
- 26. Lubricate the outside of the slider assembly and the inside of the slider bushing with oil. Fill the slider cup with Lubriplate 1242 grease (the slider cup is the area on the slider assembly where the connecting rod and slider join and pivot).
- 27. Insert the slider assembly into the slider bushing so that the small dimple on the face of the connecting rod faces the open side of the pump housing.
- 28. Carefully place the pump housing assembly in front of the gear housing assembly, lining up the gear housing dowel pins with their corresponding holes in the pump housing. Slide the pump housing onto the gear housing until there is no gap between the housings and gasket.

NOTE: While sliding the pump housing into place, the crankshaft pin will begin to protrude from the bearing in the center of the pump housing. Position the slider assembly so that as the crankshaft pin protrudes from the main bearing, it engages the connecting rod bearing.

# **A** CAUTION

Do not force the pump housing and gear housing together.

- 29. Locate the four socket screws and lock washers that secure the pump housing to the gear housing. The longer screws (2.25") are fastened into the top internal holes. The shorter screws (2") are fastened into the bottom external bosses.
- 30. Using a 1/4" hex wrench, snug and tighten the socket screws in a crossing pattern. Torque to 200–230 in./lbs.

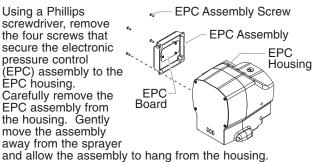


- 31. If the fluid section was removed, reinstall by engaging the notch in the top of the piston with the groove in the bottom of the slider assembly. Push the fluid section up toward the pump housing until the dowel pins in the pump housing engage the holes in the fluid section housing.
- 32. Insert the two socket screws that secure the fluid section to the pump housing and alternately snug, tighten, and torque the screws to 400-440 in./lbs.
- 33. Position the front cover over the pump housing. Secure the front cover using the four front cover screws.
- 34. Using a 11/16" open-end wrench, attach the fluid hose to the fitting on the back of the fluid section. Tighten securely.

## Replacing the Electronic Pressure Control (EPC) Assembly

Electrostatic discharge (ESD) potential could cause damage to electronic pressure control. Use Wagner ESD wrist strap P/N 0507958 or equivalent when working on electronic pressure control.

- Perform the Pressure Relief Procedure.
- 2. Using a Phillips screwdriver, remove the four screws that secure the electronic pressure control (EPC) assembly to the EPC housing. Carefully remove the EPC assembly from the housing. Gently move the assembly away from the sprayer



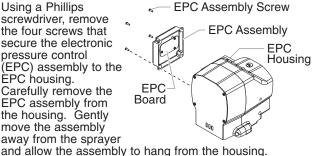
- 3. Remember the locations of all the wire connections on the EPC board (refer the electrical schematic located in the Parts List section of this manual). If necessary, label all the connections so that they can be replaced in their exact location when the assembly is replaced.
- Disconnect all the wires from the EPC board.
- 5. Connect all the wires to the new EPC assembly board (refer to the labels created earlier in this procedure or the electrical schematic in the Parts List section of this manual).
- 6. Carefully place the EPC assembly over the EPC housing taking care not to pinch any wires.
- 7. Install the four screws that secure the EPC assembly to the EPC housing. Tighten securely.
- Take the sprayer to a Wagner Authorized Service Center for re-calibration.

## Replacing the Transducer

# **AWARNING**

Electrostatic discharge (ESD) potential could cause damage to electronic pressure control. Use Wagner ESD wrist strap P/N 0507958 or equivalent when working on electronic pressure control.

- 1. Perform the Pressure Relief Procedure.
- 2. Using a Phillips screwdriver, remove the four screws that secure the electronic pressure control (EPC) assembly to the EPC housing. Carefully remove the EPC assembly from the housing. Gently move the assembly away from the sprayer

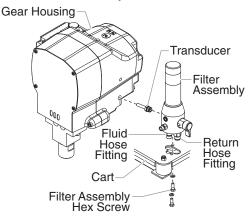


- 3. Locate the transducer wire in the EPC housing. This wire will be protruding from a hole in the lower left hand corner of the EPC housing. Disconnect this wire from the EPC board (it has a phone jack-style connector).
- 4. Break off the locking tab from the phone jack-style connector at the end of the transducer wire.
- 5. Using a 7/8" open-end wrench, loosen and remove the fluid hose from the fitting on the bottom of the filter assembly.
- 6. Remove the return hose from the fitting on the bottom of the filter assembly.
- 7. Using a 1/2" socket, remove the two hex screws that secure the filter assembly to the cart.
- Lift the filter assembly off the cart so that the transducer tube moves out of the hole in the gear housing. Gently pull the transducer wire through the housing until it is fully disengaged from the hole.
- 9. Mount the filter assembly in a vise for easy access to the transducer.



#### Do not over-tighten the vise.

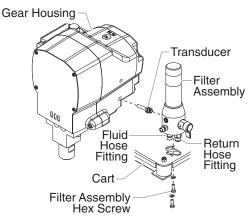
- 10. Using a 3/4" open-end wrench, turn the transducer nut counterclockwise to remove the transducer from the filter housing.
- 11. Locate the new transducer. Make sure that there is a white, Teflon o-ring on the end of the transducer that gets inserted into the filter housing.
- 12. Insert the transducer into the filter housing port. Rotate the transducer nut clockwise to tighten it into the filter housing. Torque the nut to 360-400 in./lbs.
- 13. Remove the filter assembly from the vise.



- 14. Insert the phone jack-style connector on the new transducer wire into the hole in the gear housing from which the old transducer wire was removed. Push the wire and connector until the connector is visible in the EPC housing.
- 15. Gently pull the wire into the EPC housing while moving the filter assembly to its mounting point on the cart. Guide the end of the transducer tube into the hole in the gear
- 16. Mount the filter assembly to the cart using the two hex screws and lock washers. Torque the screws to 100-130 in./lbs.
- 17. Using a 7/8" open-end wrench, attach the fluid hose to the fitting on the bottom of the filter assembly. Tighten securely.
- 18. Push the return hose firmly into the fitting on the bottom of the filter assembly. Pull on the hose to make sure it has engaged within the fitting.
- 19. Plug the phone jack-style connector on the transducer wire into the socket on the EPC board from which the old connector was removed.
- 20. Carefully place the EPC assembly over the EPC housing taking care not to pinch any wires.



- 21. Install the four screws that secure the EPC assembly to the EPC housing. Tighten securely.
- Take the sprayer to a Wagner Authorized Service Center for re-calibration.
- 23. After re-calibration, pressurize the system and check for leaks.

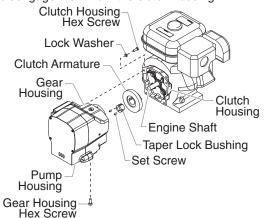


## **Servicing the Clutch Assembly**

NOTE: When replacing the clutch armature, the clutch rotor must be replaced also. This will allow for even wear and maximum life on clutch parts.

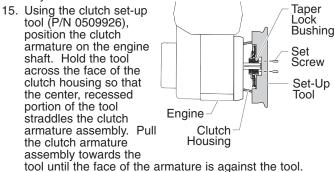
#### Removing/Replacing the Clutch Armature Assembly

- 1. Perform the Pressure Relief Procedure.
- 2. Using a 11/16" open-end wrench, loosen and remove the fluid hose from the fitting on the back of the fluid section.
- 3. Hold the transducer tube with a pliers to prevent it from rotating and turn the transducer nut counterclockwise using a 3/4" open-end wrench. When the nut disengages the filter housing, carefully remove the transducer from the filter housing.
- Locate the wire that exits the rear of the electronic pressure control (EPC) housing and connects to the wire harness on the engine. Disconnect this wire from its connector at the engine wire harness.
- 5. Using a 1/2" wrench, remove the four hex screws and lock washers that secure the clutch housing to the gear housing.
- 6. Using a 9/16" socket, remove the two hex screws that secure the gear housing to the cart.
- 7. Slide the pump and gear housings away from the engine to disengage them from the clutch housing.



 Locate the clutch armature assembly on the end of the engine shaft. Note the two set screws as well as the unused, threaded hole in the taper lock bushing at the center of the clutch hub.

- 9. Using an 1/8" hex wrench, remove the two set screws from the taper lock bushing
- 10. Thread one of the set screws into the unused, threaded hole on the taper lock bushing. As the screw tightens, the bushing will loosen. Once the bushing has loosened enough, slide the clutch armature assembly off the engine shaft.
- 11. To replace the clutch armature assembly, line up the three holes in the taper lock bushing with the three holes in the clutch armature and insert the bushing into the center of the clutch armature.
- 12. Line up the key on the taper lock bushing with the keyway on the engine shaft and slide the assembly onto the shaft with the holes facing out.
- 13. Apply blue Loctite to the two set screws and insert the screws into the taper lock bushing. Tighten the set screws only two turns at this time.



- 15. While holding the clutch armature assembly against the tool, use an 1/8" hex wrench and alternately tighten the set screws into the taper lock bushing. Torque to 65–75
- 16. Make sure the friction surface of the clutch armature is clean and free from oil or grease.

# Removing the Clutch Rotor, Clutch Field, and Drive Shaft Assembly

- Follow steps 1–7 in "Removing/Replacing the Clutch Armature Assembly."
- Locate the clutch rotor assembly, which will be protruding out from the gear housing. Note the locations of the three socket screws and the two empty, threaded holes on the clutch rotor.
- Using a 3/16" hex wrench, remove the three socket screws and lock washers that secure the clutch rotor to the drive shaft assembly.
- 4. Thread two of the socket screws into the empty, threaded holes and tighten alternately. This will push the clutch rotor away from the drive shaft assembly and pinion.

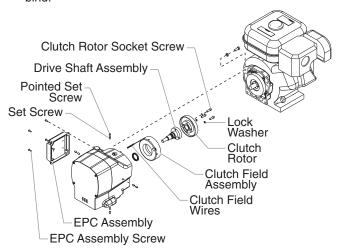
# **AWARNING**

Electrostatic discharge (ESD) potential could cause damage to electronic pressure control. Use Wagner ESD wrist strap P/N 0507958 or equivalent when working on electronic pressure control.

- Using a Phillips screwdriver, remove the four screws that secure the EPC assembly to the EPC housing. Carefully remove the EPC assembly from the housing.
- 6. Locate the two clutch field wires that pass from the gear housing into the EPC housing through a grommet in the back of the EPC housing. Remember the wire connection terminals on the EPC assembly (label if necessary) and disconnect the wires. Gently move the EPC assembly away from the housing and rest it on the work surface by the control housing.
- 7. Locate the four pairs of set screws that secure the clutch field to the gear housing. They are located on the exterior of the gear housing at the 12, 3, 6, and 9 o'clock positions while facing the clutch field end of the gear housing. Using an 1/8" hex wrench, remove the setscrews. Remember the location of the two clutch field wires with respect to the grommet and EPC housing.

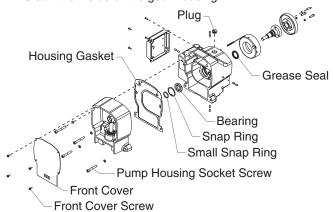


 Carefully slide the clutch field out of the gear housing, keeping the field square to the gear housing so it does not bind.



# NOTE: To remove the drive shaft assembly, the pump housing first must be removed from the gear housing.

- Using a Phillips screwdriver, remove the four front cover screws. Remove the front cover.
- 10. Using a 11/16" open-end wrench, loosen and remove the fluid hose from the fitting on the back of the fluid section.
- 11. Using a 1/4" hex wrench, remove the four socket screws that secure the pump housing to the gear housing.
- 12. Slide the pump housing away from the gear housing.
- Remove and clean the housing gasket. Replace if damaged.
- 14. Locate the drive shaft pinion that is protruding from the front side of the gear housing. Remove the small snap ring that is located on the drive shaft hub in front of the ball bearing that is supporting the drive shaft.
- 15. From the opposite side of the gear housing (clutch side) slide the drive shaft assembly out of the gear housing.
- 16. Inspect the grease seal located inside the bore from which the drive shaft was removed. Replace if worn or damaged. To remove the grease seal, use a flat blade screwdriver to carefully pry the seal from the bore.
- 17. Clean the inside of the gear housing.



# Installing the Clutch Rotor Assembly, Clutch Field and Drive Shaft Assembly

- If the drive shaft grease seal was removed, press a new seal into the bore from which the old seal was removed.
- From the clutch side of the gear housing, insert the drive shaft assembly into the bore, through the grease seal, and through the ball bearing on the gear side of the gear housing.
- From the gear side of the gear housing, insert the snap ring into the groove on the drive shaft hub in front of the ball bearing.
- 4. Place the housing gasket over the gear housing dowel pins.
- 5. Carefully place the pump housing assembly in front of the gear housing assembly, lining up the gear housing dowel pins with their corresponding holes in the pump housing. Slide the pump housing onto the gear housing until there is no gap between the housings and gasket.

# **A** CAUTION

#### Do not force the pump housing and gear housing together.

- Locate the four socket screws and lock washers that secure the pump housing to the gear housing. The longer screws (2.25") are fastened into the top internal holes. The shorter screws (2") are fastened into the bottom external bosses.
- 7. Using a 1/4" hex wrench, snug and tighten the socket screws in a crossing pattern. Torque to 200–230 in./lbs.
- Line up the four holes around the outside of the clutch field with the four set screw holes in the gear housing. The clutch field wires should be at approximately the 1 or 2 o'clock position.
- Route the two clutch field wires through the grommet and into the EPC housing.
- Carefully slide the clutch field into its bore in the gear housing until it "bottoms out" within the housing. Do not pinch the clutch field wires during installation.
- 11. Thread one of the pointed set screws into its hole. Using an 1/8" hex wrench, rotate the screw slowly until it contacts the clutch field. Do not tighten the set screw. The tip of the set screw should mate with the drill point hole in the field. Check the clutch field for rotation. If it rotates within its bore, the set screw is not seated within the drill point.
- 12. When the set screw is properly seated, install the remaining three pointed set screws. **Do not tighten the set screws.**
- 13. Using a crossing pattern, tighten each of the pointed setscrews until they are snug. Once all four pointed set screws are snug, use a crossing pattern to tighten and torque the set screws to 60–70 in./lbs.

# **A** CAUTION

It is very important to evenly snug, tighten, and torque the clutch field pointed set screws in a crossing pattern. This ensures the clutch field will stay centered in the gear housing.

- 14. Install the remaining four set screws over the four pointed set screws. Using an 1/8" hex wrench, tighten each of the set screws in a crossing pattern until they are snug. Once all four set screws are snug, use a crossing pattern to tighten and torque the set screws to 60–70 in./lbs.
- 15. Line up the three screw holes and dowel pin hole on the clutch rotor with the screw holes and dowel pin on the drive shaft assembly hub. Place the clutch rotor onto the hub.
- 16. Using a 3/16" hex wrench, thread the three socket screws and lock washers through the clutch rotor and into the drive shaft assembly hub. Evenly snug, tighten, and torque the socket screws to 75–85 in/lbs.
- 17. Make sure the friction surface of the clutch rotor is clean and free from oil or grease.



# **AWARNING**

Electrostatic discharge (ESD) potential could cause damage to electronic pressure control. Use Wagner ESD wrist strap P/N 0507958 or equivalent when working on electronic pressure control.

- 18. Locate the two clutch field wires in the EPC housing. Gently pull the wires fully into the EPC housing so that there is no slack in the gear housing. Connect the wires to their proper terminals on the EPC board (refer to the labels created earlier in this procedure or the electrical schematic in the Parts List section of this manual).
- 19. Carefully place the EPC assembly over the EPC housing taking care not to pinch any wires.
- 20. Install the four screws that secure the EPC assembly to the EPC housing. Tighten securely.

# Mating the Gear Housing and the Clutch Housing

- Place the gear housing assembly onto the cart in front of the clutch housing. Line up the dowel pins in the gear housing with their corresponding holes in the clutch housing. Slide the gear housing assembly onto the clutch housing until there is no gap between the housings.
- 2. Thread the four hex screws and lock washers through the clutch housing and into the gear housing.
- 3. Using a 1/2" wrench, snug and tighten the hex screws in a crossing pattern. Torque to 140–155 in./lbs.
- Using a 9/16" socket, thread the two hex screws that secure the gear housing to the cart through the underside of the cart and into the gear housing. Torque to 100–120 in./lbs.
- 5. Connect the wire from the EPC housing to its mating connector on the engine wire harness.
- Make sure that there is a white Teflon o-ring on the end of the transducer that gets inserted into the filter housing. Insert the transducer into the filter housing port.
- Hold the transducer tube with a pliers to prevent it from rotating, and turn the transducer nut clockwise with a 3/4" open-end wrench to tighten it into the filter housing. Torque the nut to 360–400 in./lbs.

#### Checking the Clutch Gap

- Remove the plastic plug from the top of the clutch housing. Look through the port to locate the clutch armature and the clutch rotor.
- 2. Check the gap between the clutch armature and the clutch rotor using a .016" feeler gauge and a .035" feeler gauge.
  - a. Insert each feeler gauge through the port and into the gap between the clutch armature and the clutch rotor. The .016" feeler gauge should fit in the gap. The .035" feeler gauge should not fit in the gap.
  - b. Pull the engine pull cord several times to rotate the clutch armature, checking the gap with each feeler gauge between each pull.
  - c. If the .016" gauge does not fit or the .035" gauge does fit at any checkpoint, the gap must be readjusted. This is done by relocating the clutch hub and armature assembly on the engine shaft. Refer to the "Removing/Replacing the Clutch Armature Assembly" procedure.

## **Servicing the Fluid Section**

Use the following procedures to service the valves and repack the fluid section.

- 1. Using a Phillips screwdriver, remove the four front cover screws. Remove the front cover.
- Start the engine (refer to the procedures in the Operation section of this manual). Turn the pressure control knob clockwise to its maximum pressure setting.
- Toggle the pump ON/OFF switch between the ON and OFF positions in short bursts until the slider assembly and piston rod stop at the bottom of their stroke (in their lowest position).
- 4. Turn off the engine and perform the Pressure Relief Procedure.

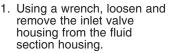
# **AWARNING**

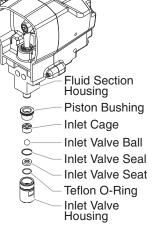
Before proceeding, follow the Pressure Relief Procedure outlined previously in this manual. Additionally, follow all other warnings to reduce the risk of an injection injury, injury from moving parts or electric shock.

#### Servicing the Valves

The design of the fluid section allows access to the inlet valve and seat as well as the outlet valve and seat without completely disassembling the fluid section. It is possible that the valves may not seat properly because of debris stuck in the inlet valve seat or outlet valve seat. Use the following instructions to clean the valves and reverse or replace the seats.

# NOTE: Keep the sprayer in the upright position for this procedure.





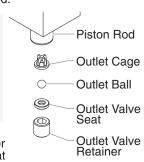
Clean out any debris in the inlet valve housing and examine the valve housing and seat. If the inlet valve seat is damaged, reverse the seat to the unused side or replace the seat.

# NOTE: If the inlet valve seat is reversed or replaced, the inlet valve ball must be replaced.

3. Using a 3/8" hex wrench, loosen and remove the outlet valve retainer from the piston rod.

NOTE: Always service the outlet valve with the piston rod attached to the pump. This will prevent the piston rod from rotating during disassembly of the outlet valve.

 Clean out any debris and examine the outlet valve retainer and seat. If the outlet valve seat is damaged, reverse to the unused side or replace the seat.



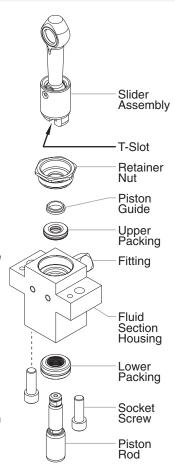
NOTE: If the outlet valve seat is reversed or replaced, the outlet ball must be replaced.

- 5. Remove, clean, and inspect the outlet cage and outlet ball. Replace if they are worn or damaged.
- 6. Reassemble the valves by reversing the steps above.

#### Repacking the Fluid Section

NOTE: The factory-installed packings are red in color. The replacement packings in the packing replacement kit are white.

- 1. Remove the inlet valve and outlet valve assemblies using the steps in the "Servicing the Valves" procedure above.
- 2. Using a 11/16" open-end wrench, loosen and remove the fluid hose from the fitting on the back of the fluid section.
- 3. Using a 3/8" hex wrench, remove the two socket screws that secure the fluid section to the pump housing.
- 4. Remove the fluid section by pulling it straight down from the pump housing until the dowel pins on the pump housing disengage form the fluid section housing. Then, pull the fluid section forward to disengage the piston from the T-slot on the slider assembly.
- 5. Slide the piston rod out through the bottom of the fluid section housing.
- 6. Using a wrench, loosen and remove the retainer nut and piston guide from the fluid section housing.
- 7. Remove the upper and lower packings from the fluid section housing.



NOTE: Be careful not to scratch, score, or otherwise damage the inside of the fluid section housing during removal of the packing assemblies.

- 8. Clean the fluid section housing thoroughly
- 9. Locate the new upper and lower packing assemblies. Remove the piston insertion tool from the upper packing and the seal sizing tool from the lower packing.
- 10. Pack the areas between the packing lips with grease (included in repacking kit). Lubricate the o-rings on the exterior of the packings with grease.

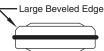
11. Insert the upper packing Raised Lin assembly into the top of the fluid section housing with the raised lip facing down into the housing.

Insert the lower packing assembly into the bottom of the fluid section housing with the large beveled edge facing toward the housing (beveled edge will be facing up when the housing is upright).

13 Inspect the piston rod for wear and replace if necessary.

Install upper packing with raised lip facing down.





Install lower packing so large beveled edge will be facing up when the fluid section housing is upright.

14 Reassemble the outlet valve assembly into the piston rod using the new outlet valve seal and outlet ball that came with the repacking kit. Apply blue Loctite to the threads of the outlet valve retainer. Torque the outlet valve retainer to 150 in./lbs.

NOTE: Use the T-slot on the slider assembly to hold the piston rod in position while securing the outlet valve retainer.

# **A** CAUTION

Never use a wrench on the piston rod itself. This could cause damage to the piston and cause leakage.

- 15. Insert the new piston guide into the retainer nut. Thread the retainer nut into the fluid section housing until it is hand tight.
- 16. Slide the piston guide tool (included in the repacking kit) over the top of the piston rod.

NOTE: Coat the piston guide tool and the piston rod with grease before inserting them into the fluid section housing.

17. Insert the piston rod into the bottom of the fluid section housing, through the lower packing, through the upper packing, and out through the retainer nut. Using a rubber mallet, tap the bottom of the piston rod lightly until the piston rod is in position in the fluid section housing.

NOTE: Make sure the raised lip on the bottom of the lower packing assembly is fully outside the packing around the piston rod after insertion of the piston rod.

- 18. Using a wrench, tighten the retainer nut. Torque to 550-600 in./lbs.
- 19. Slide the top of the piston rod into the T-slot on the slider assembly.
- 20. Position the fluid section underneath the pump housing by lining up the pump housing dowel pins with their respective holes in the top of the fluid section housing. Push the fluid section up towards the pump housing, engaging the dowel pins, until the fluid section housing rests against the pump housing.
- 21. Insert the two socket screws that secure the fluid section to the pump housing and alternately snug, tighten, and torque the screws to 400-440 in./lbs.
- 22. Reassemble the inlet valve using the new inlet valve seal, o-ring, and inlet valve ball. Thread the inlet valve assembly into the fluid section housing and torque to 350-400 in./lbs.
- 23. Position the front cover over the pump housing. Secure the front cover using the four front cover screws.
- 24. Using a 11/16" open-end wrench, attach the fluid hose to the fitting on the back of the fluid section. Tighten securely.
- 25. Turn on the sprayer by following the procedure in the "Operation" section of this manual and check for leaks.

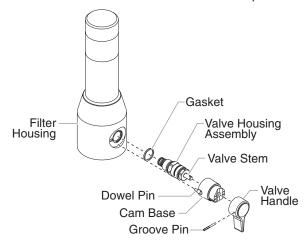
NOTE: Repacking kit P/N 0509909 is available. For best results use all parts supplied in this kit.



## Replacing the PRIME/SPRAY Valve

Perform the following procedure using PRIME/SPRAY valve replacement kit P/N 0507690.

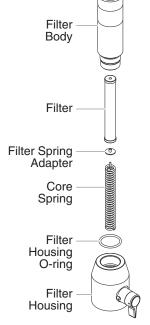
- 1. Drive the groove pin out of the valve handle.
- 2. Remove the valve handle and the cam base.
- 3. Using a wrench, loosen and remove the valve housing assembly.
- Make sure the gasket is in place and thread the new valve housing assembly into the filter housing. Tighten securely with a wrench.
- Place the cam base over the valve housing assembly. Lubricate the cam base with grease and line up the cam with the filter block using the dowel pin.
- Line up the hole on the valve stem with the hole in the valve handle.
- 7. Insert the groove pin into the valve handle and through the valve stem to secure the valve handle in position.



## Replacing the Filter

- Loosen and remove the filter body by hand.
- 2. Remove the filter and core spring from the filter housing.
- 3. Remove the core spring from inside the filter.
- Inspect the filter. Based on inspection, clean or replace the filter.
- Inspect the filter housing o-ring. Based on inspection, clean or replace the o-ring.
- Slide the new or cleaned filter over the core spring with the filter spring adapter in place. Place the filter and core spring into the center of the filter housing.
- Clean the inside of the filter body.
- Slide the filter body over the filter and thread it into the filter housing until secure.

NOTE: The filter body should be hand-tightened, but make sure it is seated fully into the filter housing.

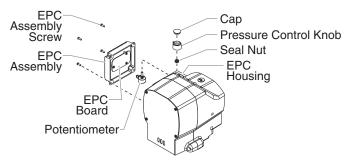


### **Replacing the Potentiometer**

# **AWARNING**

Electrostatic discharge (ESD) potential could cause damage to electronic pressure control. Use Wagner ESD wrist strap P/N 0507958 or equivalent when working on electronic pressure control.

- 1. Perform the Pressure Relief Procedure.
- Pry off the pressure control knob cap to expose the knob tension nut.
- 3. Turn the pressure control knob fully counterclockwise to the minimum pressure setting.
- Using a 5/16" socket, loosen the tension nut in the center of the knob. Remove the knob.
- 5. Using a Phillips screwdriver, remove the four screws that secure the electronic pressure control (EPC) assembly to the EPC housing. Carefully remove the EPC assembly from the housing. Gently move the assembly away from the sprayer and allow the assembly to hang from the housing.



- 6. Hold the potentiometer inside the EPC housing while using a 1/2" thin wall socket to remove the seal nut that secures the potentiometer to the mounting plate. Remove the potentiometer from the EPC housing.
- Carefully remove the potentiometer wires from their connection point on the EPC board.
- Insert the stem of the new potentiometer through the hole in the mounting plate from inside the EPC housing.
   Position the protruding tab on the potentiometer face into the hole on the underside of the mounting plate (the wires will face the open side of the EPC housing).
- 9. Thread the seal nut onto the threaded portion of the stem and tighten using a 1/2" thin wall socket.



#### Do not over-tighten the seal nut.

- 10. Turn the potentiometer stem fully counterclockwise.
- 11. Place the pressure control knob on the potentiometer stem with the indicator tab resting at the "minimum pressure" tab on the mounting plate.
- 12. Tighten the knob tension nut using a 5/16" socket.



Do not over-tighten the knob tension nut. Over-tightening will damage the potentiometer.

- 13. Connect the potentiometer wires to the EPC board. The protruding tab on the EPC board connector will mate with the slot on the potentiometer wires connector. The connector on the end of the potentiometer wires and the connector on the EPC board will mate only one way. Do not force the connectors together.
- 14. Carefully place the EPC assembly over the EPC housing taking care not to pinch any wires.
- Install the four screws that secure the EPC assembly to the EPC housing. Tighten securely.



	Troubleshooting	g
<u>Problem</u>	Cause	Solution
The unit will not run.	The pressure is set too low.	<ol> <li>Turn the pressure control knob clockwise to supply power to the unit and increase the pressure setting.</li> </ol>
	2. Faulty or loose wiring.	Inspect or take to a Wagner authorized service center.
	3. The gas tank is empty.	3. Fill the gas tank.
The unit will not prime.	The PRIME/SPRAY valve is in the SPRAY position.	Rotate the PRIME/SPRAY valve clockwise to the PRIME position.
	Air leak in the siphon tube/suction set.	Check the siphon tube/suction set connection and tighten or re-tape the connection with Teflon tape.
	3. The pump filter and/or inlet screen is	Remove the pump filter element and clean.     Remove the inlet screen and clean.
	clogged. 4. The siphon tube/suction set is clogged.	Remove the siphon tube/suction set and clean.
The unit will not build or maintain pressure.	1. The spray tip is worn.	Replace the spray tip following the instructions that came with the spray gun.
mamam process.	2. The spray tip is too large.	<ol><li>Replace the spray tip with a tip that has a smaller orifice following the instructions that came with the spray gun.</li></ol>
	<ol><li>The pressure control knob is not set properly.</li></ol>	Turn the pressure control knob clockwise to increase the pressure setting.
	The pump filter, gun filter, or inlet screen is clogged.	Remove the pump filter element and clean.     Remove the gun filter and clean. Remove the inlet screen and clean.
	<ol><li>Material flows from the return hose when the PRIME/SPRAY valve is in the SPRAY position.</li></ol>	5. Clean or replace the PRIME/SPRAY valve.
	6. Air leak in the siphon tube/suction set.	<ol><li>Check the siphon tube/suction set connection and tighten or re-tape the connection with Teflon tape.</li></ol>
	7. There is external fluid leak.	7. Check for external leaks at all connections. Tighten connections, if necessary.
	<ol><li>There is an internal fluid section leak (packings are worn and/or dirty, valve balls are worn).</li></ol>	8. Clean the valves and service the fluid section following the "Servicing the Fluid Section" procedure in the Maintenance section of this manual.
	9. Worn valve seats	<ol> <li>Reverse or replace the valve seats following the "Servicing the Fluid Section" procedure in the Maintenance section of this manual.</li> </ol>
Fluid leakage at the upper end of the fluid section.	The upper packings are worn.	Repack the pump following the "Servicing the Fluid Section" procedure in the Maintenance section of this manual.
	2. The piston rod is worn.	Replace the piston rod following the      "Servicing the Fluid Section" procedure in      the Maintenance section of this manual.



## **Troubleshooting**

		··ອ
<u>Problem</u>	<u>Cause</u>	Solution
Excessive surge at the spray gun.	Wrong type of airless spray hose.	<ol> <li>Replace hose with a minimum grounded textile braid airless p hose.</li> </ol>
	2. The spray tip worn or too large.	<ol><li>Replace the spray tip following instructions that came with the</li></ol>
	3. Excessive pressure.	<ol> <li>Rotate the pressure control know counterclockwise to decrease s pressure.</li> </ol>
Poor spray pattern.	The spray tip is too large for the material being used.	Replace the spray tip with a ne spray tip following the instruction came with the spray gun.
	<ol><li>Incorrect pressure setting.</li></ol>	2. Rotate the pressure control knows

3. Insufficient fluid delivery.

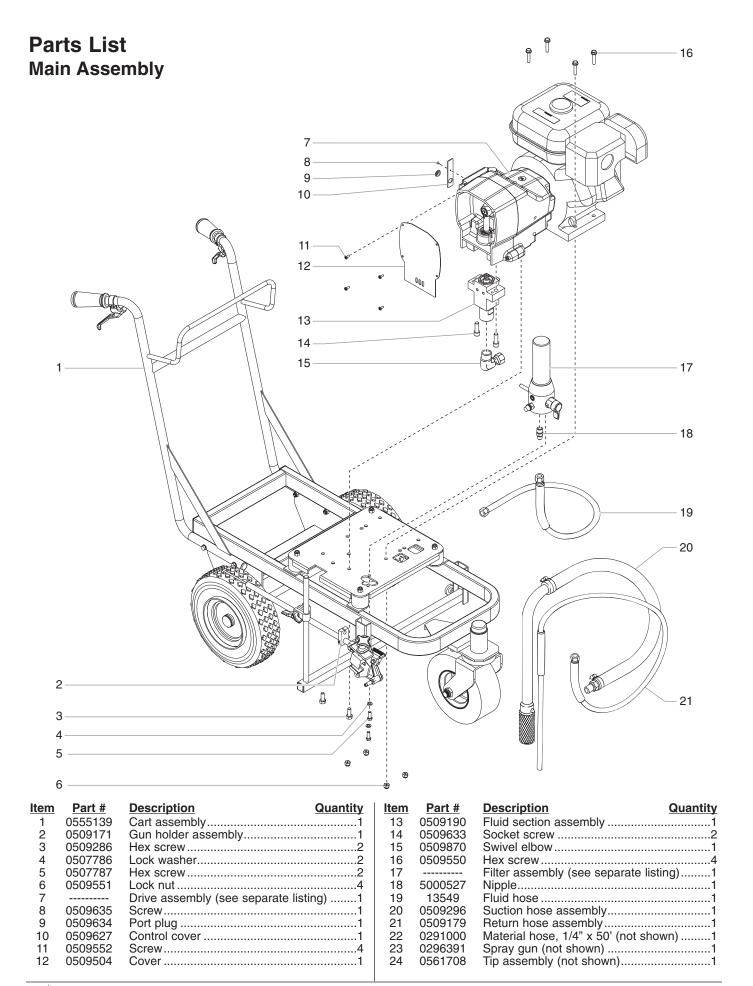
viscous.

4. The material being sprayed is too

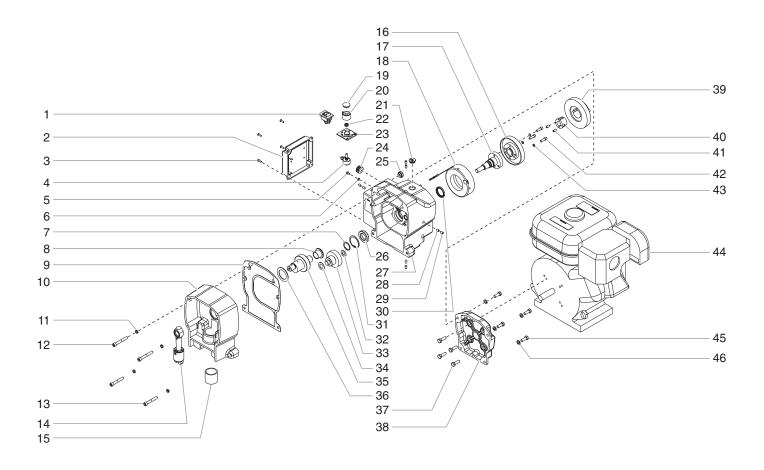
1. The pressure adjustment is too low. The unit lacks power.

- m of 50' of 1/4" paint spray
- ng the e spray gun.
- nob spray
- new or smaller tions that
- nob to adjust the pressure for a proper spray pattern.
  3. Clean all screens and filters.
- 4. Add solvent to the material according to the manufacturer's recommendations.
- 1. Rotate the pressure control knob clockwise to increase the pressure setting.



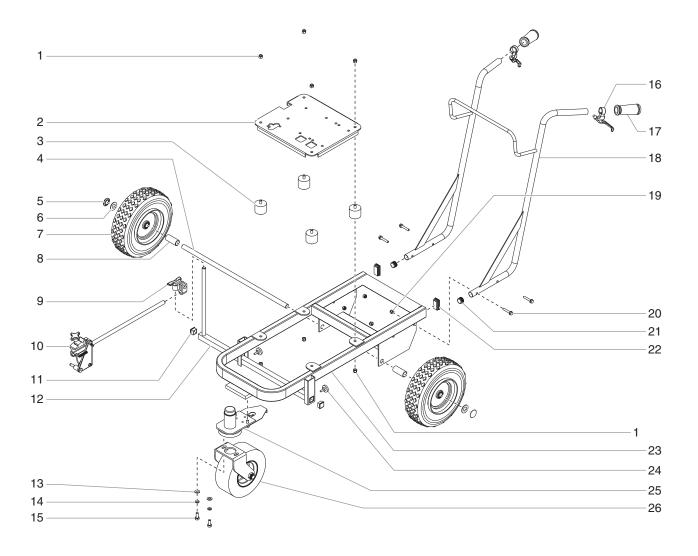


# **Drive Assembly**



<u>Item</u>	Part #	<u>Description</u> <u>Quantity</u>	<u>Item</u>	Part #	<u>Description</u> <u>Quantity</u>
1	9850936	ON/OFF switch1	26	0509646	Bearing1
2	0509558	Electronic pressure control assembly1	27	0509141	Gear housing
3	0509556	Screw4			(includes items 26, 30, and 311
4	0507973	Potentiometer1	28	0509614	Set screw, cone point4
5	9800340	Ground screw1	29	0509613	Set screw, cup point4
6	9822113	Lock washer1	30	0509647	Grease seal1
7	0509605	Retaining ring1	31	0509645	Retaining ring1
8	0509604	Thrust washer1	32	0509603	Thrust washer, 1/2"1
9	0509495	Gasket1	33	0509606	Output gear assembly1
10	0509140	Pump housing assembly	34	0509599	Thrust washer, 5/8"1
		(includes item 15)1	35	0509607	Crankshaft assembly1
11	0509541	Lock washer4	36	0509600	Thrust washer1
12	0509539	Socket screw, 2.25"2	37	0509538	Screw4
13	0509540	Socket screw, 2"2	38	0509494	Clutch housing1
14	0509138	Slider assembly1	39	0509611	Clutch armature assembly
15	0509644	Bronze bearing1			(includes items 40, and 41(2))1
16	0509610	Clutch rotor1	40	0509571	Taper lock bushing (includes item 41(2))1
17	0509609	Drive shaft assembly1	41	0509573	Set screw2
18	0509612	Clutch field assembly1	42	0509638	Socket screw3
19	0507748	Cap1	43	0509637	Lock washer3
20	0507740	Pressure control knob1	44	0555613	Engine, 4.0 HP1
21	0509574	Plug1	45	0509615	Hex screw4
22	0507749	Seal nut1	46	0507786	Lock washer4
23	0509557	Mounting plate1	NOT	- All -1	defeat considerate and the constance of the con-
24	0507784	Grommet, 7/16"1	NOI		ctrical work should be performed by a
25	0509531	Grommet, liquid tight1		wagne	r authorized service center.

# **Cart Assembly (P/N 0555139)**

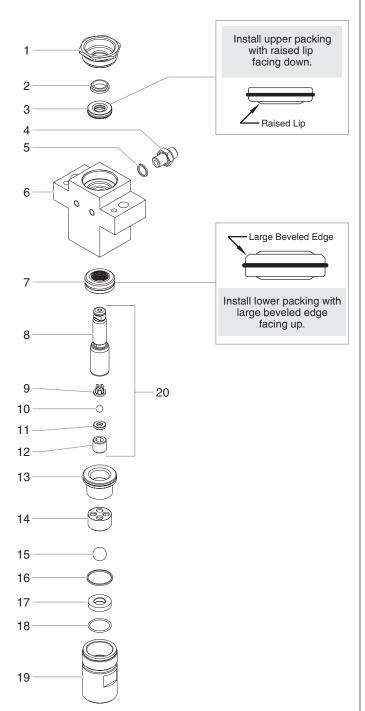


Hex screw Trigger lever Handle grip. Handle weld
Handle grip .
i idiidic Wold
Lock nut
Hex screw
End cap
Plug
Frame
Knob
Caster asser
Wheel assen
Gun cable (n
Caster contro

<u>Description</u>	Quantity
Hex screw	2
Trigger lever	2
Handle grip	
Handle weldment	
Lock nut	4
Hex screw	
End cap	
Plug	2
Frame	1
Knob	
Caster assembly (see sepa	rate listing)1
Wheel assembly (see sepa	
Gun cable (not shown)	
Caster control cable (not sh	



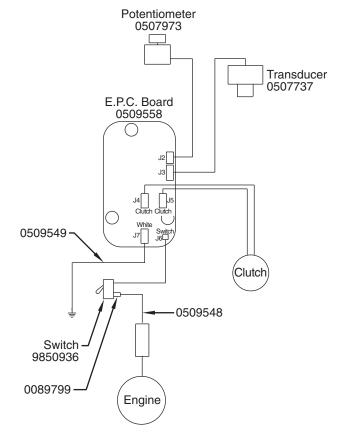
## Fluid Section Assembly (P/N 0509190)



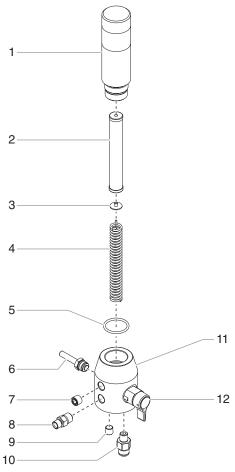
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Part # 0509594 0509584 0509585 0509585 0509578 0509519 0509588 0295307 0508672 0551620 13481 0509591 0509583 0509591 0509583 0509581 0509592 0509582 0509593	Description Retainer nut Piston guide Upper packing assembly Fitting Gasket Fluid section housing Lower packing assembly Piston Outlet cage Outlet ball Outlet valve seat Outlet valve retainer Piston bushing Inlet cage Inlet ball Inlet valve seat	1111111111111
	0509909 0509929	Repacking kit (includes items 2, 3, 5, 10, 15, 16, 18) Lower packing insertion tool	

NOTE: When repacking the fluid section, make sure the raised lip on the bottom of the lower packing is fully outside the packing around the piston rod after insertion of the piston rod.

## **Electrical Schematic**



## **Filter Assembly**

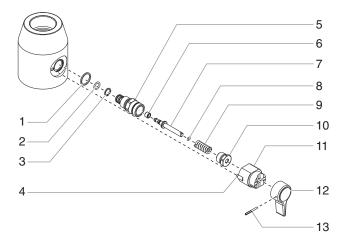


<u>Item</u>	Part #	<u>Description</u> <u>Quantity</u>
1	0294705	Filter body1
2	0508748	Filter, 60 mesh1
3	0508724	Filter spring adapter1
4	0508749	Core spring1
5	14072	O-ring, Teflon1
6	0555599	Transducer1
7	0507739	Plug1
8	0508750	Outlet fitting1
9	0507738	Plug1
10	0507691	Fitting1
11	0509682	Filter housing1
12	0555602	PRIME/SPRAY valve assembly1

## Labels

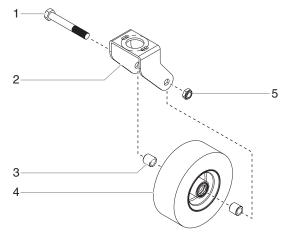
<u>Part #</u>	<u>Description</u>
0509867	Warning label, explosion
0509866	Warning label, injection
0295805	Shock hazard label
0509819	"No Oil" label

# PRIME/SPRAY Valve Assembly (P/N 0555602)



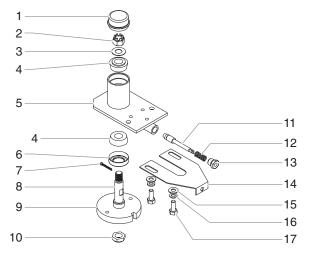
<u>Item</u>	Part #	<u>Description</u>	Quantity
1	0507745	Gasket	
2	0508741	O-ring, Teflon	1
3	0507741	O-ring, Viton	
4	0507736	Dowel pin	
5	0555601	Valve housing	
6	0507746	Valve seat	1
7	0507743	Valve stem	
8	0508742	O-ring, Viton	1
9	0507747	Spring	
10	0507742	Valve retainer	
11	0507735	Cam base	
12	0508744	Valve handle	
13	0508745	Groove pin	1

## **Wheel Assembly**



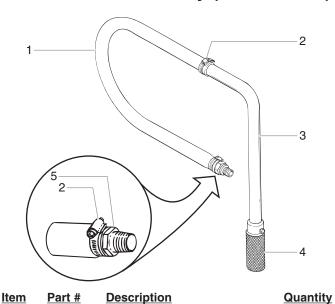
<u>Item</u>	Part #	<u>Description</u>	Quantity
1	0509284	Axle	1
2	0509279	Frame	1
3	0509283	Spacer	2
4	0509282	Wheel	1
5	0509251	Lock nut	1

## **Caster Assembly**



<u>ltem</u>	Part #	<u>Description</u>	Quantity
1	0509263	Cap	1
2	0509225	Castle nut	1
3	0509227	Spring washer	
4	0509260	Taper bearing	2
5	0509978	Caster housing	1
6	0509262	Taper bearing seal	
7	0509226	Cotter pin	
8	0509281	Caster shaft	
9	0509280	Caster ring	1
10	0509251	Lock nut	
11	0509975	Caster lock pin	1
12	0509228	Lock spring	
13	0509976	Spring retainer	1
14	0509977	Cable bracket	1
15	0509295	Flat washer	2
16	0509292	Lock washer	
17	0509553	Hex screw	2

## Suction Hose Assembly (P/N 0509296)



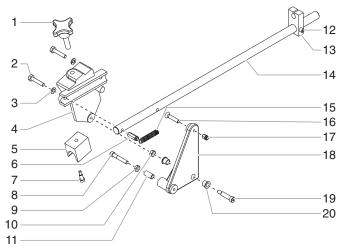
Hose, 40".....1

Hose clamp ......2

Intake screen.....1

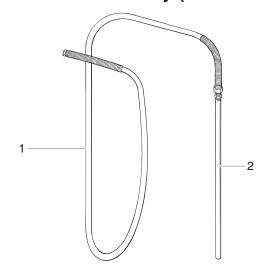
Adapter.....1

## **Gun Holder Assembly (P/N 0509171)**



ltem	Part #	Description	Quantity
1	0555317	Gun clamping knob	
2	0509775	Hex screw	2
3	0509772	Lock washer	2
4	0509201	Gun holder	1
5	0555324	Clamp block	1
6	0509242	Spring holder, long	1
7	0555326	Shoulder screw	
8	0509776	Screw	1
9	0509774	Jam nut	1
10	0509773	Hex nut	1
11	0509214	Sleeve bearing	1
12	0509777	Set screw	1
13	0509723	Cable block	1
14	0509207	Support arm	1
15	0509771	Return spring	1
16	0509220	Screw	
17	0509241	Spring holder, short	1
18	0509202	Trigger lever	1
19	0509778	Screw	
20	0509213	Flanged bearing	1

## Return Hose Assembly (P/N 0509179)



<u>ltem</u>	Part #	<u>Description</u>	<b>Quantity</b>
1	0509746	Hose assembly	1
2	0509764	Tube	1

0509229

0509761

0509763

0509762

0509760

2

4

## **Patents**

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

			9			
6,031,352	5,848,566	5,769,321	5,725,364	5,671,656	5,435,697	5,228,842
5,346,037	5,252,210	5,217,238	5,192,425	4,908,538	4,768,929	4,744,571
D384,676	6,179,222	5,934,883	4,723,892			

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

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Nederland	Wagner Spraytech Nederland b.v. • Zonnebaan 10 • NL-3606 CA Maarssenbroek 0 30 / 2 41 41 55
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Great Britain	Wagner Spraytech (UK) LTD. • Unit 3, Haslemere Way, Tramway Industrial Estate • Banbury, Oxon OX 16 8TY  10 0 12 95 / 26 53 53
Ireland	Mark John LTD. • 50 C Robinhood Industrial Estate • Clondalkin • Co. Dublin   ¶ 51 61 22
New Zealand	Wagner Spraytech (NZ) LTD. • Auckland Office • 308 Church Street • Te Papapa, Auckland (09) 641 169
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