SAFETY PRECAUTIONS

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

**WARNING**

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

**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.

**CAUTION**

THIS UNIT IS PROVIDED WITH A THERMALLY PROTECTED AUTOMATIC RESET. IF AN OVERLOAD OCCURS THE THERMALLY PROTECTED AUTOMATIC RESET DISCONNECTS THE MOTOR FROM THE POWER SUPPLY.

- The motor will restart without warning when the protector automatically resets.
- Always disconnect the motor from the power supply before working on the equipment.
- When the thermally protected automatic reset disconnects the motor from the power supply, relieve pressure by turning the priming valve to PRIME.
- Turn the ON/OFF switch to OFF.

**NOTE**: The cause of the overload should be corrected before restarting. See TROUBLESHOOTING.

**WARNING**

HAZARD: Injection injury - A high pressure stream of paint 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.

The maximum operating range of the gun is 2800 PSI fluid pressure.

**PREVENTION:**

- NEVER aim the gun at any part of the body.
- NEVER allow any part of the body to come in contact with the fluid stream. DO NOT come in contact with a fluid stream created by 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 PRIME/SPRAY knob must be turned to PRIME to relieve the pressure. Refer to the PRESSURE RELIEF PROCEDURE described in this manual.
- ALWAYS have the tip guard 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.
- Inspect the paint hose before each use. The paint hose can develop leaks from wear, kinking and abuse. A leak is capable of injecting material into the skin.
- NEVER use a spray gun which does not have a trigger lock or trigger guard in place and in working order.
- All accessories must be rated at or above 2800 PSI. This includes spray tips, guns, extensions, and hose.

**NOTE TO PHYSICIAN:**

Injection into the skin is a traumatic injury. It is important to treat the injury surgically 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, causing property damage and/or severe injury.

**PREVENTION:**

- Exhaust and fresh air introduction must be provided to keep the air within the spray area free from accumulation of flammable vapors.
- Avoid all ignition sources such as static electricity sparks, open flames, pilot lights, hot objects, cigarettes, and sparks from connecting and disconnecting power cords or working light switches.
- Fire extinguishing equipment must be present and in good working order.
- Keep the pump away from the spray area to avoid solvent and paint fumes.
- High velocity flow of material through equipment may develop static electricity. The equipment being used, as well as objects in and around the spray area must be properly grounded to prevent static discharge and sparks.
- Use only conductive or grounded high pressure fluid hoses for airless applications. Be sure that the gun is grounded properly through hose connections.
- Use extreme caution when using materials with a flashpoint below 70° F (21° C). A fluid’s flashpoint is the temperature at which vapors from the fluid could ignite if exposed to a flame or spark.
- Follow the material and solvent manufacturer's safety precautions and warnings.
- When flushing equipment use the lowest possible pressure.

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

**PREVENTION:**

- Do not use bleach.
- 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.

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HAZARD: HAZARDOUS VAPORS - Paints, solvents, insecticides, and other materials may be harmful if inhaled, causing severe nausea, fainting, or poisoning.

PREVENTION:

• Use a respirator or mask whenever there is a chance that vapors may be inhaled. Read all instructions with the mask to ensure that it will provide the necessary protection against the inhalation of harmful vapors.

HAZARD: GENERAL - May cause property damage or severe injury.

PREVENTION:

• Read all instructions and safety precautions before operating any equipment.
• Comply with 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.
• This high pressure airless pump is designed to be used with manufacturer authorized parts only. When using this pump with parts that do not comply with the minimum specifications and safety devices of the pump manufacturer, the user assumes all risks and liabilities.
• Before each use, check all hoses for cuts, leaks, abrasion or bulging of cover, as well as damage or movement of couplings. If any of these conditions exist, replace the hose immediately. Never repair a paint hose. Replace it with another grounded hose.
• All hoses, swivels, guns, and accessories used with this unit must be pressure rated at or above 2800 PSI.
• Do not spray on windy days.
• Wear protective eyewear.
• Protect skin from contact with toxic spray materials.

CAUTION

Use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that will accept the plug on the product. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. A 14 or 12 gauge cord is recommended.

NOTE: Do not use more than 100 feet of extension cord. If you need to paint further than 100 feet from your power source, use more paint hose, not more extension cord. Shorter extension cords will ensure maximum electrical power for proper operation.

GROUNDING INSTRUCTIONS

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

WARNING

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.

This product is for use on a nominal 120 volt circuit and has a grounding plug that looks like the plug illustrated below. A temporary adapter which looks like the adapter illustrated in the figure below may be used to connect this plug to a 2 pole receptacle as shown if a properly grounded outlet is not available.

The temporary adapter should be used only until a properly grounded outlet as shown below can be installed by a qualified electrician. The green colored rigid ear lug or the grounding wire extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box cover. Whenever the adapter is used, it must be held in place by a metal screw.

![Grounding Diagram](image-url)
PREPARING TO PAINT

Attaching the Tip to the Gun
1. Lock the gun by turning the gun trigger lock so that it is parallel to the gun body.

2. Thread the spray tip onto the gun. Tighten the nut first by hand, then tighten more firmly with a wrench.

NOTE: When attaching the tip to the gun, align the tip guard as shown in the figure below, then tighten with a wrench.

WARNING
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.

Checking the Outlet Valve (optional)
1. Firmly press the optional pusher valve button on the side of the pump housing to make sure the outlet ball valve moves freely.

Attaching the Return Hose
1. Be sure that the motor switch is turned to OFF.
2. Screw the brass fitting found in the literature set into the return tube port on the side of the pump and tighten firmly by hand.

NOTE: Do not overtighten. Hand-tighten only. Some threads will be visible even when fully tightened.

3. If your brass fitting is ribbed, press the return tube onto the fitting securely. If your brass fitting is straight, thread the return tube through the clamp provided, press the tube onto the brass fitting, and secure the clamp.

Attaching the Paint Hose
1. Attach the high pressure hose to the paint hose port. Use an wrench to tighten the paint hose securely.

2. Attach the gun to the other end of the high pressure hose. Tighten securely with two wrenches.
3. Plug the sprayer into a properly grounded outlet or heavy duty grounded extension cord. Do not use more than 100 feet of cord. If you must spray a long distance from a power source, use more paint hose, not more extension cords. Use a minimum size of 16 gauge for power extension cords up to 50 feet in length, or 12 to 14 gauge for power extension cords between 50 and 100 feet in length.
PRESSURE RELIEF PROCEDURE

Follow this procedure after the unit is assembled and before any operation which involves the spray gun such as cleaning and maintenance or changing tips or accessories.

1. Turn the pressure control knob counterclockwise to its lowest setting.
2. Turn the PRIME/SPRAY knob to PRIME.
3. Trigger the gun to remove any pressure which may still be in the hose.
4. Lock the gun by turning the gun trigger lock so that it is parallel to the gun body.

**WARNING**

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.

PRIMING

Preparing to Prime

1. Place the unit so that the inlet valve is facing up and fill the inlet valve with water or with a light household oil.
2. Make certain that the PRIME/SPRAY knob is set to PRIME and that the pressure control knob is turned counterclockwise to the lowest pressure setting.
3. Turn the motor switch to ON.
4. Increase the pressure by turning the pressure control knob clockwise 1/2 turn.
5. Force the inlet valve to open and close by pushing on it with a screwdriver or the eraser end of a pencil. It should move up and down about 1/16 of an inch. Continue until water or oil is sucked into the sprayer. This will wet the moving parts and break loose any old paint residue.
6. Put the palm of your hand over the inlet. Turn the pressure control knob clockwise to its maximum setting. You should feel suction coming from the inlet valve. If you do not, see the section on cleaning and servicing the outlet valve.
7. Turn the pressure control knob counterclockwise to the minimum pressure setting.
8. Turn the motor switch to OFF.

Attaching the Suction Set

1. Attach the suction tube to the inlet valve and tighten firmly by hand. Be sure that the threads are straight so that the fitting turns freely.
2. Place the suction tube and the return tube into the paint.
3. Place the paint bucket onto the floor or hang on the pail bracket, depending on the model of pump you have.
**Priming the Pump**

1. Turn the pressure control knob counterclockwise to its lowest pressure setting.
2. Turn the PRIME/SPRAY knob to PRIME.
3. Turn the motor switch to ON.
4. Turn the pressure control knob clockwise to between half and full pressure. You should see the paint move through the suction tube to the pump. Let the unit prime 1 to 2 minutes after paint begins to flow through the return tube.

**CAUTION**

Always reduce the pressure to zero before changing the position of the priming knob. Failure to do so may cause damage to the paint pump diaphragm.

**WARNING**

If the pressure control knob is reduced to zero and the PRIME/SPRAY knob is still on SPRAY while the sprayer is operating, there will be high pressure in the hose and spray gun until the priming knob is turned to PRIME or until the spray gun is triggered to relieve the pressure.

**SPRAYING**

**Spraying Technique**

The key to a good paint job is an even coating over the entire surface. This is done by using even strokes. Keep your arm moving at a constant speed and keep the spray gun at a constant distance from the surface. The best spraying distance is 10 to 12 inches between the spray tip and the surface.

Keep the spray gun at right angles to the surface. This means moving your entire arm back and forth rather than just flexing your wrist.

![Diagram showing proper spraying technique](image)

The spray gun should be triggered by turning it on and off with each stroke. This will save paint and avoid paint buildup at the end of the stroke. Do not trigger the gun during the middle of a stroke. This will result in an uneven spray and splotchy coverage.

![Diagram showing proper way to trigger the spray gun](image)

Overlap each stroke by about 30%. This will ensure an even coating. When you stop painting, lock the gun trigger lock, turn the pressure control knob counterclockwise to its lowest setting and set the priming knob to PRIME. Turn the motor switch to OFF and unplug the sprayer.

If you expect to be gone more than 1 hour, follow the short term clean up procedure described in the CLEANUP section of this manual.

**Practice**

1. Be sure that the paint hose is free of kinks and clear of objects with sharp cutting edges.
2. Turn the pressure control knob counterclockwise to its lowest setting.
3. Turn the PRIME/SPRAY knob to SPRAY.
4. Turn the pressure control knob clockwise to its highest setting. The paint hose should stiffen as paint begins to flow through it.
5. Unlock the gun trigger lock by turning the switch so that it is parallel to the handle.
6. Trigger the spray gun to bleed air out of the hose.
7. When paint reaches the spray tip, spray a test area to check the spray pattern.
8. Use the lowest pressure setting necessary to get a good spray pattern. If the pressure is set too high, the spray pattern will be too light. If the pressure is set too low, tailing will appear or the paint will spatter out in gobs rather than in a fine spray.

If the Spray Tip Becomes Clogged
The spray gun is equipped with a reversible tip which allows you to blow out any particles of old paint or other contaminants that may obstruct the paint flow through the tip. If the spray pattern becomes distorted or stops completely while the gun is triggered on, follow these steps:
1. Release the trigger and lock the gun by turning the gun trigger lock so that it is parallel to the gun body.
2. Rotate the reversible tip cylinder arrow 180° so that the point of the arrow is toward the rear of the gun.
3. Unlock the trigger and squeeze it open, pointing the gun at a scrap piece of wood or cardboard. This allows pressure in the paint hose to blow out the obstruction. When the nozzle is clean, paint will come out in a straight, high pressure stream.
4. Release the trigger and re-lock it.
5. Reverse the tip so the arrow points forward again.
6. Unlock the trigger and resume spraying.

Cleaning the Spray Gun Filter
The spray gun includes a filter to catch particles before they reach the spray tip. If this filter becomes clogged or obstructed it will reduce the flow of paint, changing the spray pattern and possibly damaging the filter.
This filter must be cleaned daily. If the material being used is old or contains hardened particles, then the filter should be cleaned approximately every 4 hours.
If the filter is not cleaned at the proper time, it will plug from the top down. When there is about 1 inch of filter that isn't plugged, the heavy flow of paint will blow pin holes in the filter. Holes in the filter will allow unwanted particles to get into the spray tip, causing the spray tip to clog.

Cleaning Filter During Painting Process

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.
1. Turn the pressure control knob counterclockwise to the minimum setting and turn the PRIME/SPRAY knob to PRIME. This will bleed off the pressure in the paint hose and filter. Trigger the gun to be sure that the pressure is gone. Refer to the PRESSURE RELIEF PROCEDURE section.
2. Lock the spray gun by turning the gun trigger lock parallel to the gun body.
3. Remove the spray gun from the hose using two adjustable wrenches.
4. Unclip the bottom of the knuckle guard from the filter housing by pulling outward from the filter housing.
5. Unscrew the filter housing using an adjustable wrench on the nut at the bottom of the housing.
6. Remove the filter. Do not lose the spring and the sealing washer located in the bottom of the filter housing.
7. Clean the filter thoroughly or replace it with a new filter. To clean the filter, rinse it thoroughly in water or the type of solvent appropriate to the paint you are using. If this is not sufficient, use a natural or nylon bristle brush dipped in water or the appropriate solvent. Do not use a wire brush or any sharp instrument on the filter.
8. Insert the top of the filter into the gun body under the tip of the spray gun.
9. Replace the spring and sealing washer into the base of the filter housing.
10. Slide the filter housing over the filter and use a wrench to tighten it securely.
11. Clip the knuckle guard to the base of the filter housing.
12. Attach the hose to the gun. Use two adjustable wrenches to tighten it securely.
13. Turn the PRIME/SPRAY knob to SPRAY. Increase the pressure to its previous setting and resume spraying.

Cleaning the Suction Set Screen
The screen at the bottom of the suction set may also need cleaning. Check it every time you change paint buckets. Remove the screen by pulling it out of the retainer with a plier. Clean the screen with water or solvent and a soft-bristle brush.
**CLEAN UP**

**Overnight Storage**

**Shutdown**
1. Lock the gun by turning the gun trigger lock parallel with the gun body.
2. Turn the pressure control knob counterclockwise to the minimum setting.
3. Turn the PRIME/SPRAY knob to PRIME.
4. Turn the motor switch to OFF and unplug the sprayer.
5. For latex materials only, pour 1/2 cup water slowly on the top of the paint to prevent the paint from drying. For other materials, seal the paint container with a piece of plastic while the suction tube is still in the paint.
6. Wrap the spray gun assembly in a damp cloth and place it in a plastic bag. Seal the bag shut.

7. Place the sprayer in a safe place out of the sun for short-term storage.

**Startup**
1. Remove the gun from the plastic bag.
2. Stir the water into the paint for latex materials. Remove the seal from the paint bucket and stir the paint for all other materials.
3. Check to be sure that the PRIME/SPRAY knob is set to PRIME and that the pressure is completely reduced.
4. Plug sprayer in and turn the motor switch to ON.
5. Turn the PRIME/SPRAY knob to SPRAY and gradually turn the pressure control knob clockwise to increase the pressure.
6. Test the sprayer on a practice piece and begin spraying.

---

**Long-term Storage**

**WARNING**

Do not allow paint to build up on the motor or the motor will overheat. Do not allow flammable solvents to come in contact with the motor or they could ignite.

**NOTE:** You will need a bucket, cleaning solution, a toothbrush, a wrench and cleaning rags.

**Clearing the Suction Tube**
1. Lock the gun by turning the gun trigger lock parallel with the gun body.
2. Turn the pressure control knob counterclockwise to the minimum setting.
3. Turn the PRIME/SPRAY knob to PRIME
4. Turn the motor switch to OFF and unplug the sprayer.
5. Remove the suction tube from the paint and hold it above a bucket of water or solvent. Leave the return tube in the paint bucket.

**NOTE:** If spraying with latex paint, use warm soapy water for cleaning. If using oil or alkyd-based paints, use mineral spirits or paint thinner.

**CAUTION**

Do not use mineral spirits or paint thinner on latex paint, or the mixture will turn into a jelly-like substance which is difficult to remove.

6. Plug the sprayer in and turn the motor switch to ON.
7. Turn the pressure control knob to 1/2 maximum pressure. This will draw the remaining paint in the suction tube through the pump, down the return tube and into the paint bucket.
8. Turn the pressure control knob counterclockwise to the minimum pressure setting.
9. Trigger the gun to relieve pressure and lock the gun.
10. Remove the spray tip, guard and washer and place them into a container of water or appropriate solvent for the type of material with which you are painting.
11. Place the attached suction tube and return tube into a container of water or appropriate solvent for the type of material with which you are painting.
12. Increase the pressure to 1/2 the maximum pressure. Let the water or solvent circulate for 2-3 minutes to flush paint out of the pump, the suction tube and the return tube.

**Clearing the Paint Hose**
1. To save paint left in the hose, release the gun trigger lock, place the gun body with the spray tip removed against the paint container, and carefully trigger the gun into the container.

2. Turn the pressure control knob counterclockwise to the minimum pressure setting.
3. Turn the PRIME/SPRAY knob to SPRAY.
4. Turn the pressure control knob slowly until paint starts to flow into the bucket. As soon as the water or solvent starts to come into the bucket, release the trigger.
5. Change to clean water or solvent and continue circulating for another 5 minutes to thoroughly clean the hose, pump and spray gun.
6. Turn the pressure control knob counterclockwise to its lowest setting.
7. Turn the PRIME/SPRAY knob to PRIME.
8. Trigger the gun to remove any pressure which may still be in the hose.
9. Lock the gun by turning the gun trigger lock so that it is parallel to the gun body.
10. Turn the motor switch to OFF.

**Clearing the Gun**
1. Remove the spray gun from paint hose using two adjustable wrenches.
2. Remove the filter housing from the gun. Place the gun and the filter assembly into a container of water or solvent to soak.
3. Cover the paint container and set it aside.
4. Clean the spray tip and gun filter with a soft brush. Assemble the spray tip in the cleaning position with the arrow pointing to the back of the gun.
5. Attach the paint hose to the gun and tighten using two wrenches.
6. Turn the motor switch to ON.
7. Unlock gun trigger by turning the gun trigger lock so that it is parallel to the gun handle.
8. Turn the PRIME/SPRAY knob to SPRAY and point the gun to the side of the cleaning bucket.
9. Trigger the gun and gradually turn the pressure control knob clockwise to 1/2 pressure. Continue to trigger the gun for approximately 30 seconds.
10. Turn the pressure control knob counterclockwise to its lowest setting.
11. Turn the PRIME/SPRAY knob to PRIME.
12. Trigger the gun to remove any pressure which may still be in the hose.
13. Lock the gun by turning the gun trigger lock so that it is parallel to the gun body.
14. Turn the motor switch to OFF.

**Preparing the Sprayer for Long-term Storage**
1. Remove the tip assembly and raise the suction set above the cleaning solution.
2. Turn the motor to ON.
3. Turn the PRIME/SPRAY knob to SPRAY.
4. Turn the pressure control knob clockwise to 1/2 power and allow the suction tube to run dry.
5. Remove the large suction tube from the inlet valve and point the gun into the cleaning bucket.
6. Unlock the gun and trigger it into the cleaning bucket until the hose is pumped dry.
7. Lock the gun and turn the pressure control knob counterclockwise to its lowest setting.
8. Turn the PRIME/SPRAY knob to PRIME.
9. Lay the sprayer back on its handle so that the inlet valve is facing upward.
10. Clean the threads of the inlet valve with a damp cloth.
11. Fill the inlet valve with a light household oil. Slowly increase the pressure to distribute the oil through the pump.
12. Turn the PRIME/SPRAY knob to SPRAY to distribute the oil.
13. Replace the large suction tube onto the inlet valve.
14. Turn the pressure control knob counterclockwise to its lowest setting.
15. Turn the PRIME/SPRAY knob to PRIME.
16. Trigger the gun to remove any pressure which may still be in the hose.
17. Lock the gun by turning the gun trigger lock so that it is parallel to the gun body.
18. Turn the motor switch to OFF.
19. Remove and clean the suction set filter in clean water or the appropriate solvent. Use a soft brush. Return the suction set filter to its original position.
20. Wipe the entire unit, hose and gun with a damp cloth to remove accumulated paint.

**NOTE:** Proper cleaning and oiling of the pump after use are the most important steps you can take to insure proper operation after storage.

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MAINTENANCE
Follow these procedures when encountering problems indicated in the troubleshooting section.

Removing and Cleaning the Inlet Valves
1. Be certain that the sprayer is off.
2. Remove the inlet valve assembly using a 27 millimeter socket or box end wrench.
3. Test movement of the valve by pushing on it from the open end of the valve housing with a screwdriver or the eraser end of a pencil. It should move about 1/16 of an inch. If it does not move, it should be cleaned or replaced.
4. Thoroughly clean the valve assembly with water or the appropriate solvent. Use a small brush.
5. If you have properly cleaned the valve and water drips out of the bottom, the valve is worn and needs to be replaced. A properly seated valve filled with water and held vertically will not drip.
6. Install a new or cleaned valve in the pump block and then fill the valve with light oil or solvent.

NOTE: The inlet valve must be oiled after every job. This will reduce or eliminate priming problems the next time the sprayer is used.

NOTE: This spring is manufactured to a very specific tension. Do not put in an unauthorized substitute. See the paint pump assembly parts diagram for the proper replacement part number. An extra spring is included in the kit set.

3. Remove the seat and ball assembly.
4. Clean all parts thoroughly. If the ball or seat show any sign of wear or damage, replace them with new parts. This carbide ball must seal tightly against its seat for the valve to function properly.
5. Cover all parts with a thin coat of light oil before reassembling.

NOTE: You will need to align the ridge on the seat with the groove in the pump housing when reassembling.

6. Drop in the valve ball.
7. Insert the protector and spring and replace the valve body. Be sure that the O-ring is positioned properly and that the tongue on the cap fits inside the spring.
8. Tighten the valve body securely with an adjustable wrench. Do not overtighten.

Removing and Cleaning the Outlet Valve
It may be necessary to remove and clean the outlet valve or to replace parts inside the valve worn out through normal use.

NOTE: Wear on the ball is almost impossible to detect visually. To test for a worn outlet valve assembly, turn the pressure control knob clockwise to its highest setting and run water only through the sprayer for 10 to 15 minutes without triggering the gun. If the valve is defective, the end cap will get very hot to the touch. If it is functioning properly, it will stay approximately the same temperature as the water running through it.

1. Remove the outlet valve body with a wrench.
2. Remove and clean the ball stop and small spring inside the valve using a wire hook or tweezers. Replace the spring if it is broken or worn.

Tightening the PRIME/SPRAY Knob
Sometimes the two allen screws holding the PRIME/SPRAY knob outer cover will vibrate loose. This allows the cover to turn without changing the valve setting. If this happens, loosen the screw with a 1/16 allen wrench, turn the knob to SPRAY and tighten the screw.
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<th>Solution</th>
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<td>1. The sprayer is not plugged in.</td>
<td>1. Plug the sprayer in.</td>
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<td>2. The ON/OFF switch is set to OFF.</td>
<td>2. Turn the ON/OFF switch to ON.</td>
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<td>3. A fuse is blown in the sprayer.</td>
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<td>4. Low or no voltage is coming from the wall plug.</td>
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<td>5. Turn the PRIME/SPRAY knob to PRIME.</td>
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<td>6. Replace the extension cord.</td>
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<td></td>
<td>7. The thermal overload on the sprayer is tripped.</td>
<td>7. Allow the motor to cool and move the sprayer to a cooler spot.</td>
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<td>8. Take the sprayer to a Wagner Authorized Service Center.</td>
</tr>
<tr>
<td>The sprayer starts up but does not draw in paint when the PRIME/SPRAY</td>
<td>1. The unit will not prime properly or has lost prime.</td>
<td>1. Try to prime the unit again.</td>
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<tr>
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<td>2. The paint bucket is empty or the suction tube is not totally</td>
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<td></td>
<td>6. The outlet valve is stuck.</td>
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<td></td>
<td>9. There is a problem with the diaphragm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. The hydraulic oil level is low or empty.</td>
<td></td>
</tr>
<tr>
<td>The sprayer draws up paint but the pressure drops when the gun is</td>
<td>1. The spray tip is worn.</td>
<td>1. Replace the spray tip with a new tip.</td>
</tr>
<tr>
<td>triggered.</td>
<td>2. The suction set filter is clogged.</td>
<td>2. Clean the suction set filter.</td>
</tr>
<tr>
<td></td>
<td>3. The gun or spray tip filter is plugged.</td>
<td>3. Clean or replace the proper filter. Always keep extra filters on</td>
</tr>
<tr>
<td></td>
<td>4. The paint is too heavy or coarse.</td>
<td>hand.</td>
</tr>
<tr>
<td></td>
<td>5. The outlet valve assembly is dirty or worn.</td>
<td>4. Thin or strain the paint.</td>
</tr>
<tr>
<td></td>
<td>6. The inlet valve assembly is damaged or worn.</td>
<td>5. Clean or replace the outlet valve assembly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Replace the inlet valve.</td>
</tr>
<tr>
<td>The spray gun will not shut off.</td>
<td>1. The inlet or outlet valve ball or ball seat is worn.</td>
<td>1. Take the sprayer to a Wagner Authorized Service Center.</td>
</tr>
<tr>
<td></td>
<td>2. Foreign matter or paint has built up between the ball and the</td>
<td>2. Take the sprayer to a Wagner Authorized Service Center.</td>
</tr>
<tr>
<td>seat.</td>
<td>seat.</td>
<td></td>
</tr>
<tr>
<td>The spray gun leaks.</td>
<td>1. Internal parts of the gun are worn or dirty.</td>
<td>1. Take the sprayer to a Wagner Authorized Service Center.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The tip assembly leaks.</td>
<td>1. The tip was assembled incorrectly.</td>
<td>1. Check the tip assembly and assemble properly.</td>
</tr>
<tr>
<td></td>
<td>2. A seal is worn.</td>
<td>2. Replace the seal.</td>
</tr>
<tr>
<td>The spray gun will not spray.</td>
<td>1. The spray tip, the gun filter or the tip filter is plugged.</td>
<td>1. Clean the spray tip, gun filter or tip filter.</td>
</tr>
<tr>
<td></td>
<td>2. The spray tip is in the CLEAN position.</td>
<td>2. Put the tip in the SPRAY position.</td>
</tr>
<tr>
<td>The paint pattern is tailing.</td>
<td>1. The pressure is set too low.</td>
<td>1. Increase the pressure.</td>
</tr>
<tr>
<td></td>
<td>2. The gun, the tip, or the suction filter is plugged.</td>
<td>2. Clean the filters.</td>
</tr>
<tr>
<td></td>
<td>3. The suction tube is loose at the inlet valve.</td>
<td>3. Tighten the suction tube fitting.</td>
</tr>
<tr>
<td></td>
<td>4. The tip is worn.</td>
<td>4. Replace the spray tip.</td>
</tr>
<tr>
<td></td>
<td>5. The paint is too thick.</td>
<td>5. Thin the paint.</td>
</tr>
<tr>
<td>The thermal overload tripped and shut off the sprayer.</td>
<td>1. The motor overheated.</td>
<td>1. Allow to cool for 30 minutes.</td>
</tr>
<tr>
<td></td>
<td>2. The extension cord is too long or is too small a gauge.</td>
<td>2. Allow to cool for 30 minutes and replace the extension cord with a</td>
</tr>
<tr>
<td></td>
<td>3. Paint has built up on the motor.</td>
<td>shorter extension or a thicker gauge cord.</td>
</tr>
<tr>
<td></td>
<td>4. The motor was started while the sprayer was under pressure.</td>
<td>3. Clean the paint from the motor.</td>
</tr>
<tr>
<td></td>
<td>5. The sprayer was sitting in the hot sun.</td>
<td>4. Restart the sprayer in the PRIME mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Move the sprayer out of the sun.</td>
</tr>
</tbody>
</table>

NOTE: When the PRIME/SPRAY valve is on SPRAY and there is flow through the return tube, remove the PRIME/SPRAY valve and clean or replace it.

NOTE: The electric motor should always be kept clean and dry. Paint acts as an insulator. Too much paint on the motor will cause the motor to overheat.