



# S-3

## Airless Spray Gun

# Owner's Manual

For professional use only

Model Number 550-250

3900 PSI Maximum Operating Pressure/Stainless Steel Fluid Passages

## 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.

### **⚠ 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.**

### **⚠ WARNING**

**HAZARD: Injection injury — A high pressure fluid stream produced by this equipment can pierce the skin and underlying tissues, leading to serious injury and possible amputation. See a physician immediately.**

**DO NOT TREAT AN INJECTION INJURY AS A SIMPLE CUT! Injection can lead to amputation. See a physician immediately. The maximum operating range of the gun is 3900 PSI / 27 MPa fluid pressure.**

#### **PREVENTION:**

- 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 hand in front of the gun. Gloves will not provide protection against an injection injury.
- ALWAYS lock the gun trigger, shut pump off, and release all pressure before servicing, cleaning tip or guard, changing tip, or leaving unattended. Pressure will not be released by turning off the motor. The PRIME/SPRAY valve or pressure bleed valve must be turned to their appropriate positions to relieve system pressure. Refer to the PRESSURE RELIEF PROCEDURE described in the sprayer's Owner's Manual.
- ALWAYS keep tip guard in place while spraying. The tip guard provides some protection but is mainly a warning device.
- ALWAYS remove the spray tip before flushing or cleaning the system.
- Paint hose can develop leaks from wear, kinking and abuse. A leak can inject material into the skin. Inspect the hose before each use.
- NEVER use a spray gun without a working trigger lock and trigger guard in place.
- All accessories must be rated at or above the maximum operating pressure range of the airless sprayer. 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 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 AND FIRE - Solvent and paint fumes can explode or ignite. Severe injury and/or property damage can occur.**

#### **PREVENTION:**

- Provide extensive exhaust and fresh air introduction to keep the air within the spray area free from accumulation of flammable vapors.
- Avoid all ignition sources such as static electricity sparks, electrical appliances, flames, pilot lights, hot objects, and sparks from connecting and disconnecting power cords or working light switches.
- Do not smoke in spray area.
- Fire extinguisher must be present and in good working order.
- Place pump at least 25 feet (7.6 m) from the spray object in a well ventilated area (add more hose if necessary). Flammable vapors are often heavier than air. Floor area must be extremely well ventilated. The pump contains arcing parts that emit sparks and can ignite vapors.
- The equipment and objects in and around the spray area must be properly grounded to prevent static sparks.
- Use only conductive or grounded high-pressure fluid hose. Gun must be grounded through hose connections.
- Power cord must be connected to a grounded circuit.
- Always flush unit into separate metal container, at low pump pressure, with spray tip removed. Hold gun firmly against side of container to ground container and prevent static sparks.
- Follow material and solvent manufacturer's warnings and instructions.
- Use extreme caution when using materials with a flashpoint below 70° F (21° C). Flashpoint is the temperature at which a fluid can produce enough vapors to ignite.
- Plastic can cause static sparks. Never hang plastic to enclose spray area. Do not use plastic drop cloths when spraying flammable materials.
- Use lowest possible pressure to flush equipment.

#### **GAS ENGINE (WHERE APPLICABLE)**

Always place pump outside of structure in fresh air. Keep all solvents away from engine exhaust. Never fill fuel tank with a running or hot engine. Hot surface can ignite spilled fuel. Always attach ground wire from pump to a grounded object. Refer to engine owner's manual for complete safety information.

**HAZARD: EXPLOSION HAZARD DUE TO INCOMPATIBLE MATERIALS - Will cause severe injury or property damage. Some pumps and accessories contain aluminum and cannot be used with halogenated hydrocarbon solvents. Follow the prevention section if your pump or accessories are not compatible with halogenated hydrocarbon solvents. The S-3 Airless Spray Gun is compatible with halogenated hydrocarbon solvents.**

#### **PREVENTION:**

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



**HAZARD: HAZARDOUS VAPORS -** Paints, solvents, insecticides, and other materials can be harmful if inhaled or come in contact with body. Vapors can cause severe nausea, fainting, or poisoning.

**PREVENTION:**

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

**HAZARD: GENERAL -** Can cause severe injury or property damage.

**PREVENTION:**

- Read all instructions and safety precautions before operating equipment.
- Follow all appropriate local, state, and national codes governing ventilation, fire prevention, and operation.
- The United States Government Safety Standards have been adopted under the Occupational Safety and Health Act (OSHA). These standards, particularly part 1910 of the General Standards and part 1926 of the Construction Standards should be consulted.
- Use only manufacturer authorized parts. User assumes all risks and liabilities when using parts that do not meet the minimum specifications and safety 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 hose if any of those conditions exist. Never repair a paint hose. Replace with a grounded high-pressure hose.
- All hoses, swivels, guns, and accessories must be pressure rated at or above the maximum operating pressure range of the airless sprayer.
- Do not spray outdoors on windy days.
- Wear clothing to keep paint off skin and hair.
- Always unplug cord from the outlet before working on equipment.

## Specifications

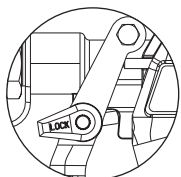
Maximum operating pressure .....3900 PSI (27 MPa)  
Material inlet thread size.....NPSM 1/4"  
Diffuser thread size.....7/8 - 14 UNF-2A  
Wetted parts material .....High-grade stainless steel, urethane, polyethylene, nylon, hard metal  
Operating temperature range .....40°F to 104°F (5°C to 40°C)  
Maximum material temperature ....109°F (43°C)  
Maximum sound output .....81 dB(A)\*  
Weight.....1.3 lbs. (590 g)

\*Measurement location: 1.5' away from the coating surface, 1.5' behind the spray gun, spray pressure 1700 PSI, tip size 0.021"

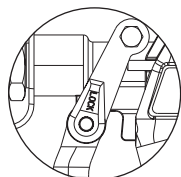
## Using the Gun Trigger Lock

Always engage the gun's trigger lock when the gun is not in use.

1. To lock the trigger, rotate the trigger lock forward until it stops.
2. To unlock the trigger, rotate the trigger lock backward until it is vertical.



Trigger locked (gun will not spray)



Trigger unlocked (gun will spray)

## Setup

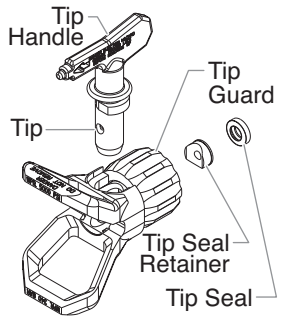
**WARNING**

Never attempt to assemble, change, or clean the gun, tip, or tip guard without first relieving pressure from the spray system. Follow the "Pressure Relief Procedure" in the sprayer's Owner's Manual.

**WARNING**

Always use a tip safety guard for added protection against injection. Beware that the guard alone will not prevent injection. Never cut off tip guard! Always engage gun trigger lock when the gun is not in use. Before servicing equipment, consult Owner's Manuals and follow all warnings.

1. Set up the sprayer. Refer to the instructions in the sprayer's Owner's Manual.
2. Attach a grounded, airless spray hose to the material inlet on the gun. Using two wrenches (one on the gun and one on the hose), tighten securely.
3. With the tip and tip guard off the gun, start the sprayer. Flush and prepare the spray system according to the sprayer's Owner's Manual. Inspect the spray system to make sure that all fittings are secure and that there are no leaks.
4. Perform the "Pressure Relief Procedure" described in the sprayer's Owner's Manual.
5. Using the arrow head on the tip handle, insert the tip seal and tip seal retainer into the back of the tip guard. Press in for final adjustment.
6. Insert the tip into the slot on the tip guard.
7. Thread the tip guard onto the gun. Position the tip guard in the desired spraying position and tighten securely.



**NOTE: The arrow on the tip handle should be pointing in the forward direction for spraying.**

## Operation

1. Make sure the arrow on the tip handle is pointing in the forward direction for spraying.
2. Start the sprayer. Refer to the instructions in the sprayer's Owner's Manual.
3. Adjust the fluid pressure on the sprayer until the spray is completely atomized. Always spray at the lowest pressure necessary to get the desired results.

**NOTE: The spray tip determines the size of spray pattern and coverage. When more coverage is needed, use a larger tip instead of increasing fluid pressure.**

4. To clear a clogged tip:
  - a. Rotate the tip 180° so that the arrow on the tip handle is pointing opposite the spray direction.
  - b. Trigger the gun once so that the pressure can blow the clog out.

**CAUTION**

Never pull the trigger more than once at time with the tip in the reverse position.

- c. Continue this procedure until the tip is clear of the clog.

## Changing a Tip

Tips can be removed and replaced easily without disassembling the gun.

### **⚠ WARNING**

Never attempt to change or clean the tip or tip guard without first performing the “Pressure Relief Procedure.”

1. Perform the “Pressure Relief Procedure” described in the sprayer’s Owner’s Manual.
2. Remove the tip from the slot on the tip guard.
3. Insert the new tip into the slot on the tip guard. The arrow on the tip handle should be pointing in the forward direction for spraying.

### Removing the Seal and Tip Seal

1. Remove the tip and tip guard from the spray gun.
2. Remove the seal and tip seal from the back of the tip guard.

### Identifying Tip Sizes

To identify tip sizes, use the following formula. A “517” tip size will be used in this example.

The first digit multiplied by two represents the size of the spray pattern when spraying 12” away from the work surface:

$$5 \times 2 = 10” \text{ spray pattern}$$

The second two digits represent the diameter of the orifice on the tip:

$$17 = .017” \text{ orifice}$$

**NOTE: Worn spray tips will adversely affect the spray pattern and result in reduced production, poor finish, and wasted material. Replace worn tips immediately.**

## Cleanup

Maintaining a clean gun is important to ensure trouble-free operation. Flush the gun after each use and store in a dry location. Do not leave the gun or any of its parts in water or solvents.

### **⚠ WARNING**

**Special cleanup instructions for use with flammable solvents:**

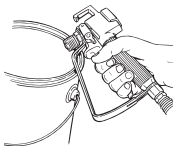
- Always flush spray gun preferably outside and at least one hose length from spray pump.
- If collecting flushed solvents in a one gallon metal container, place it into an empty five gallon container, then flush solvents.
- Area must be free of flammable vapors.
- Follow all cleanup instructions.

### **⚠ CAUTION**

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

### **⚠ WARNING**

Always spray at minimum pressure with the tip and tip guard 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. Hold the gun firmly against a metal container while flushing.



## Maintenance

### **⚠ WARNING**

Follow all safety precautions as described in the Safety Precautions section of this manual before proceeding.

**NOTE: Refer to the Parts List section in this manual for part identification.**

## Replacing/Serviceing the Packing Seal Assembly

If your spray gun leaks or spits at the tip when you release the trigger, the needle or seat is worn, damaged, or dirty and must be replaced or cleaned.

### **⚠ WARNING**

Never attempt to perform maintenance on the spray gun without first performing the “Pressure Relief Procedure” from the sprayer’s Owner’s Manual.

1. Perform the “Pressure Relief Procedure” and disconnect the fluid hose from the gun.
2. Remove the end cap and the packing spring from the rear of the gun head.
3. Using a 3/8” socket, remove the packing seal assembly from the rear of the gun head.
4. Soak the removed parts in the appropriate solvent and wipe clean.
5. Inspect the parts for wear or damage and use new parts during reassembly of the gun, when necessary.

**NOTE: Lubricate all packings and moving parts before reassembly with a lithium-based grease.**

6. Make sure the two retractor pins inside the gun head are still in the correct position.
7. Insert the packing seal assembly into the rear of the gun head and thread it by hand until it stops.
8. Using a 3/8” socket, tighten the packing seal assembly. Torque to 5 Nm (3.7 ft./lbs.).
9. Grease both ends of the packing spring and place it over the packing seal assembly in the gun head.
10. Place the end cap over the packing spring so that the pilot inside the end cap seats inside the packing spring.
11. Push the end cap toward the gun head while threading it into the gun head. Using a wrench, tighten the end cap securely.
12. Perform the “Adjusting the Packing Seal Assembly” procedure described below.

### Adjusting the Packing Seal Assembly

### **⚠ WARNING**

Proper adjustment of the packing seal assembly is essential to ensure positive shut-off when the trigger is released.

1. Insert an 1/8” hex wrench through the hole in the center of the end cap until it seats inside the packing seal adjustment screw.
2. Turn the packing seal adjustment screw clockwise until the ball on the packing seal assembly can be felt seating into position. Then, turn the screw 1/4 turn more for proper tension.

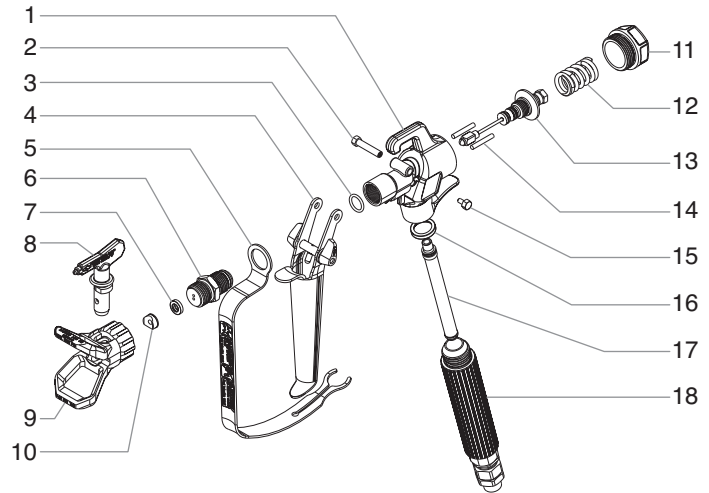
## Replacing/Removing the Filter

1. Pull the bottom of the trigger guard forward so that it comes loose from the handle assembly.
2. Loosen and remove the handle assembly from the gun head.
3. Pull the old filter out of the gun head.
4. Slide the new filter, tapered end first, into the gun head.
5. Make sure all the parts are clean and the handle seal is in position inside the gun head.
6. Thread the handle assembly into the gun head until secure.
7. Snap the trigger guard back onto the handle assembly.

## Filter Chart

Part Number	Application	Filter Type	Color of Filter Body
550-274	Synthetic resin, enamels, clean varnishes, stains azures	Extrafine	red
550-273	Base coat enamels, primer enamels, fillers, marking paints, textured enamels	Fine	yellow
550-271	Emulsions, latex paints, acrylic paints	Medium	white
550-272	Filler paints, large area surfaces	Coarse	green

## Parts List



Item	Part #	Description	Quantity
1	550-253	Gun head .....	1
2	550-254	Trigger screw, long .....	1
3	550-255	Diffuser o-ring .....	1
4	550-256	Trigger assembly, 4-finger gun .....	1
5	580-532	Trigger guard .....	1
6	550-257	Diffuser, 7/8" (includes item 3) .....	1
7	651-020	Tip seal .....	1
8	661-517	Tip assembly (see accessory catalog for additional sizes) .....	1
9	661-012	Tip guard, 7/8" .....	1
10	651-040	Tip seal retainer .....	1
11	550-258	End cap .....	1
12	550-259	Packing spring .....	1
13	550-264	Packing seal assembly .....	1
14	550-265	Retractor pin .....	2
15	580-513	Trigger screw, short .....	1
16	560-038	Handle seal .....	1
17	550-271	Filter, medium .....	1
18	550-266	Handle/swivel assembly, 1/4 NPS .....	1
19	550-251	S-3 label (not shown) .....	1
	550-275	Gun repair kit, 7/8" diffuser (includes items 3, 6, and 13)	

## Warranty

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

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

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

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