Operation/Repair/Parts

GS950 Airless Sprayers

3A4108B
EN

For professional use only.
Not approved for use in European explosive atmosphere locations.
For the application of architectural paints and coatings.

3300 psi (22.7 MPa, 227 bar) Maximum Working Pressure

Important Safety Instructions

Read all warnings and instructions in this manual and in related manuals.
Be familiar with the controls and the proper usage of the equipment.
Save these instructions.

Related Manuals:	
3A0479	Gun
3A4347	Pump

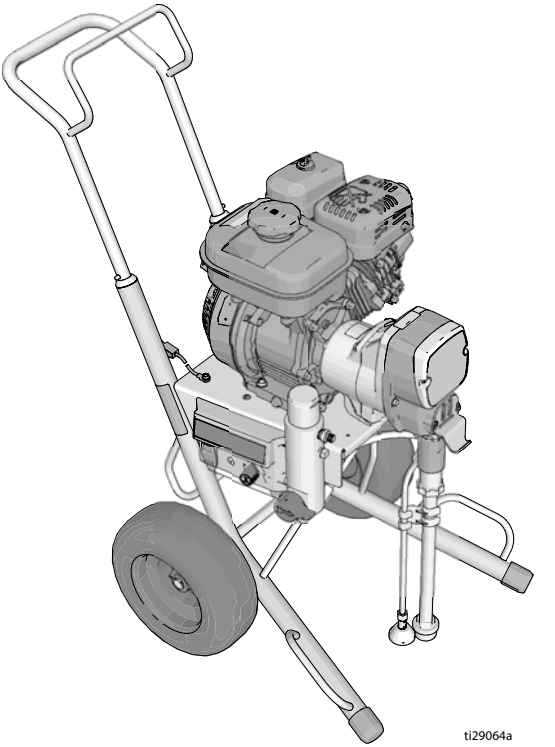


Table of Contents

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

⚠WARNING




FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Do not fill fuel tank while engine is running or hot; shut off engine and let it cool. Fuel is flammable and can ignite or explode if spilled on hot surface.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).
- Ground all equipment in the work area. See **Grounding** instructions.
- Never spray or flush solvent at high pressure.
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.
- Use only grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are antistatic or conductive.
- **Stop operation immediately** if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem.
- Keep a working fire extinguisher in the work area.

Warnings

⚠WARNING





SKIN INJECTION HAZARD

High-pressure spray is able to inject toxins into the body and cause serious bodily injury. In the event that injection occurs, **get immediate surgical treatment.**

- Do not aim the gun at, or spray any person or animal.
- Keep hands and other body parts away from the discharge. For example, do not try to stop leaks with any part of the body.
- Always use the nozzle tip guard. Do not spray without nozzle tip guard in place.
- Use Airlessco nozzle tips.
- Use caution when cleaning and changing nozzle tips. In the case where the nozzle tip clogs while spraying, follow the **Pressure Relief Procedure** for turning off the unit and relieving the pressure before removing the nozzle tip to clean.
- Equipment maintains pressure after power is shut off. Do not leave the equipment energized or under pressure while unattended. Follow the **Pressure Relief Procedure** when the equipment is unattended or not in use, and before servicing, cleaning, or removing parts.
- Check hoses and parts for signs of damage. Replace any damaged hoses or parts.
- This system is capable of producing 3300 psi. Use Airlessco replacement parts or accessories that are rated a minimum of 3300 psi.
- Always engage the trigger lock when not spraying. Verify the trigger lock is functioning properly.
- Verify that all connections are secure before operating the unit.
- Know how to stop the unit and bleed pressure quickly. Be thoroughly familiar with the controls.

CARBON MONOXIDE HAZARD

Exhaust contains poisonous carbon monoxide, which is colorless and odorless. Breathing carbon monoxide can cause death.

- Do not operate in an enclosed area.

⚠WARNING


EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer.Stay alert and watch what you are doing.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Do not use chlorine bleach.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.


MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.

- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.

Warnings

⚠WARNING

TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read Safety Dara Sheet (SDS) to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.

BURN HAZARD

Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:

- Do not touch hot fluid or equipment.

RECOIL HAZARD

Gun may recoil when triggered. If you are not standing securely, you could fall and be seriously injured.

PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

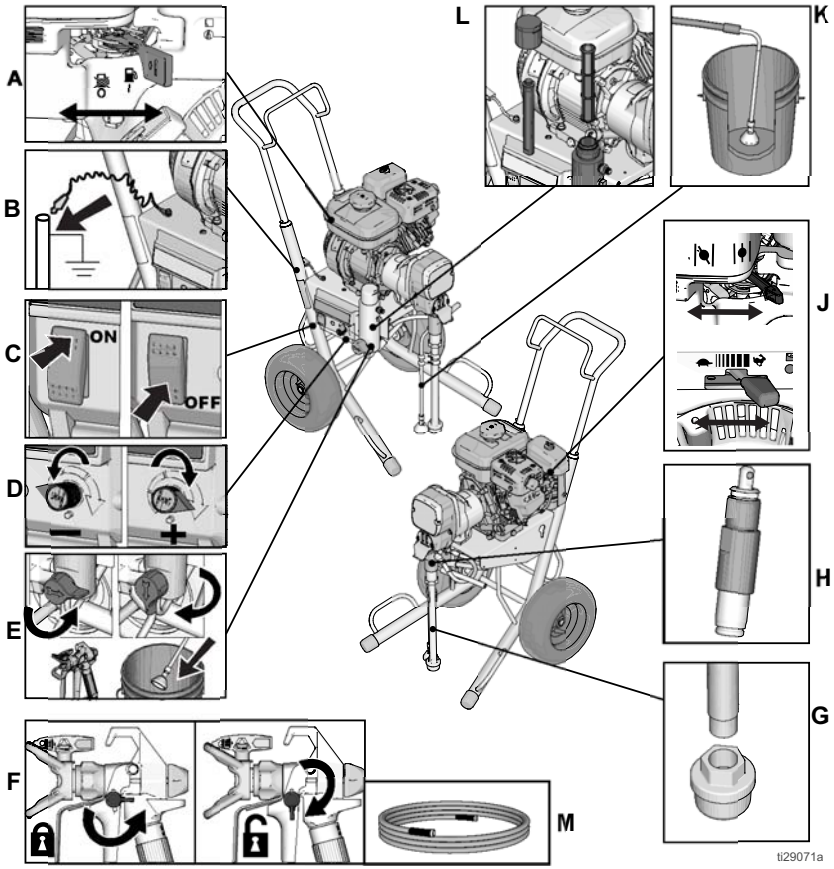
CALIFORNIA PROPOSITION 65

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

This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling.

Component Identification

Standard Models (GS950)



A	Engine ON/OFF Switch
B	Grounding Clamp
C	Pump On/Off Switch
D	Pressure Control
E	Prime Valve
F	Gun Trigger Lock
G	Strainer
H	Pump
J	Engine Controls
K	Drain Hose
L	Easy Out Pump Filter
M	Hose

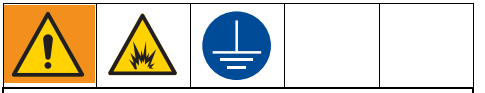
Pressure Relief Procedure

Follow the **Pressure Relief Procedure** whenever you see this symbol.

This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, or servicing the equipment.

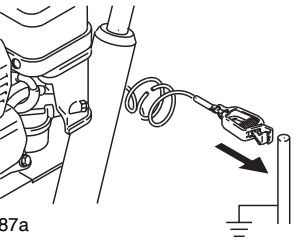
1. Engage trigger lock.
2. Turn engine ON/OFF switch to OFF.
3. Move pump switch to OFF and turn pressure control knob fully counterclockwise.
4. Disengage trigger lock. Hold metal part of gun firmly to side of grounded metal pail, and trigger gun to relieve pressure.
5. Engage gun trigger lock.
6. Turn prime valve down to DRAIN position. Leave prime valve down until ready to spray again.
7. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved:
   a. VERY SLOWLY loosen the tip guard retaining nut or the hose end coupling to relieve pressure gradually.
   b. Loosen the nut or coupling completely.
   c. Clear the obstruction in the hose or tip.

Grounding



This equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

To ground sprayer: Attach sprayer grounding clamp to earth ground.



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Air and fluid hoses: Use only electrically conductive hoses with a maximum of 500 ft. (150 m) combined hose length to ensure grounding continuity. Check electrical resistance of hoses. If total resistance to ground exceeds 29 megohms, replace hose immediately.

Spray gun: Ground through connection to a properly grounded fluid hose and pump.

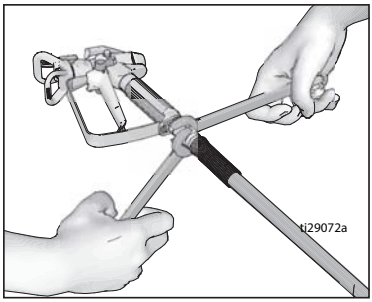
Solvent pails used when flushing: Follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

To maintain grounding continuity when flushing or relieving pressure: Hold metal part of the spray gun firmly to the side of a grounded metal pail, then trigger the gun.

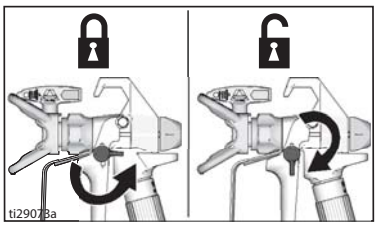
Setup

1. Connect appropriate high-pressure hose to sprayer.

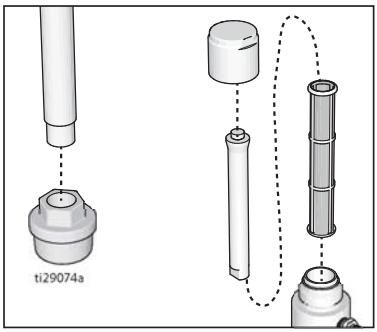
2. Connect hose to fluid inlet of spray gun and tighten securely.



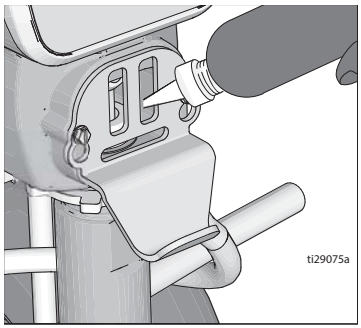
3. Engage gun trigger lock.



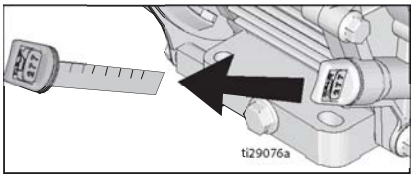
4. When spraying texture, remove inlet strainer and filter bowl screen when spraying materials.



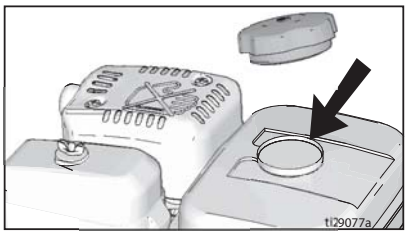
5. Fill throat packing nut with TSO to prevent premature packing wear. Do this each time you spray.



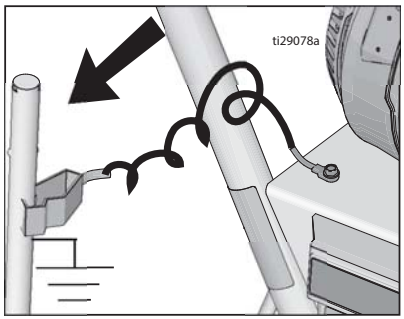
6. Check engine oil level. Add 5W-30 synthetic, if necessary.



7. Fill fuel tank.

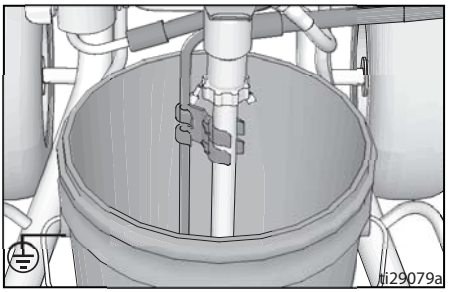


8. Attach sprayer grounding clamp to earth ground.

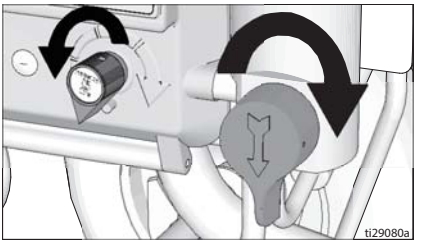


Startup

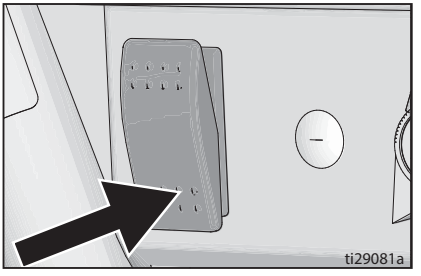
1. Place suction tube and drain tube in grounded metal pail partially filled with flushing fluid. Attach ground wire to pail and to earth ground.



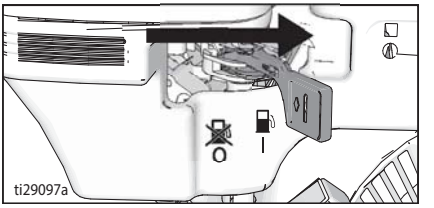
2. Turn prime valve down to DRAIN position. Turn pressure control counterclockwise to lowest pressure.



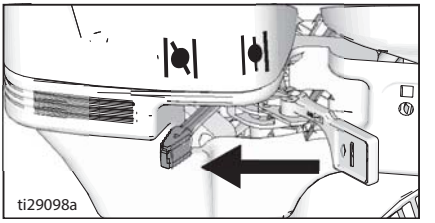
3. Set pump switch OFF.



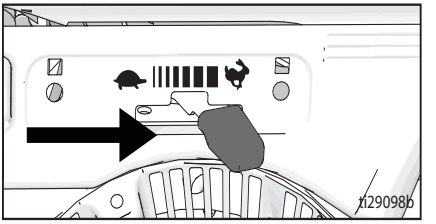
4. Start Engine
   a. Move fuel valve to open.



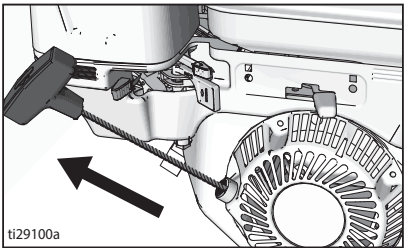
   b. Move choke to closed.



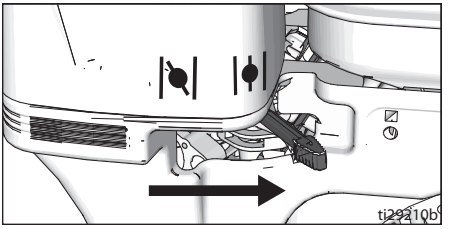
   c. Set throttle to fast.



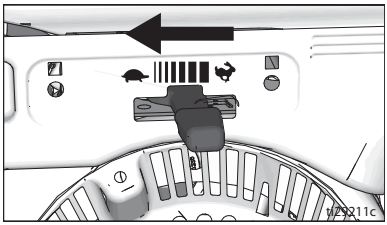
5. Pull rope to start engine.



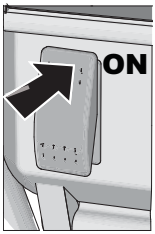
6. After engine starts, move choke to open.



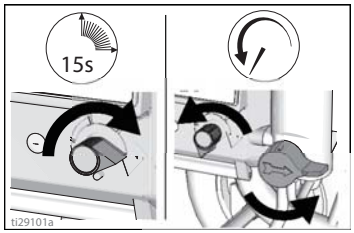
7. Set throttle to 50% setting to prime sprayer.



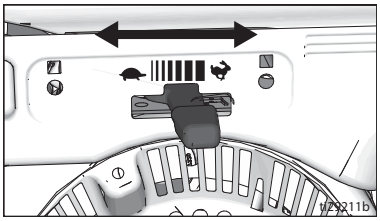
8. Turn pump switch to ON position.



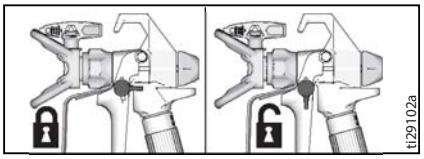
9. Increase pressure enough to start pump stroking and allow fluid to circulate for 15 seconds; turn pressure down and turn prime valve forward to SPRAY position.



10. Set throttle to desired setting.



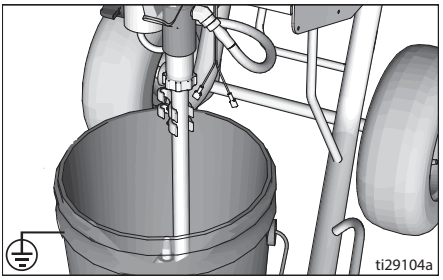
11. Disengage spray gun trigger lock.



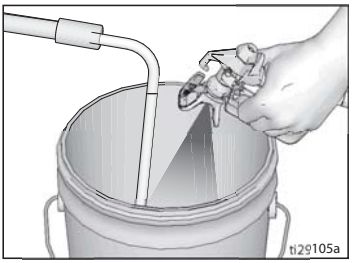
12. Hold gun against grounded metal flushing pail. Trigger gun and increase fluid pressure slowly until pump runs smoothly.

Inspect fittings for leaks. Do not stop leaks with your hand or a rag! If leaks occur, turn sprayer OFF immediately. Perform **Pressure Relief Procedure** steps 1-3, page 8. Tighten leaky fittings. Repeat **Startup** procedure steps 1-5. If no leaks, continue to trigger gun until system is thoroughly flushed. Proceed to step 6.

13. Place siphon tube in material pail.

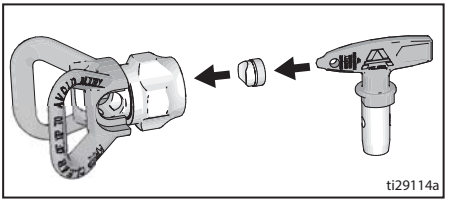


14. Trigger gun again into flushing fluid pail until material appears.

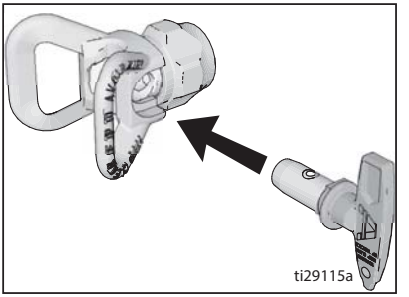


Tip Guard Assembly

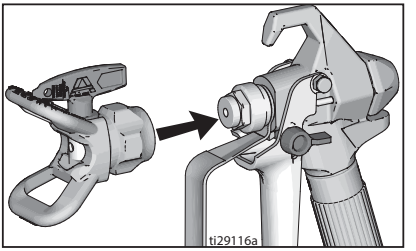
1. Perform **Pressure Relief Procedure**, page 8.
2. Engage gun trigger lock. Insert seat and seal using end of finger hold.



3. Insert tip.

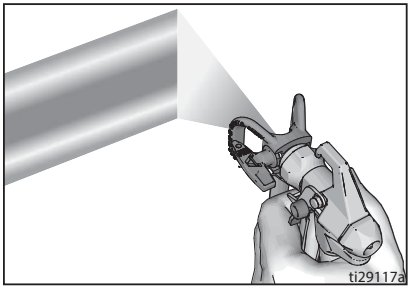


4. Screw assembly onto gun. Tighten.

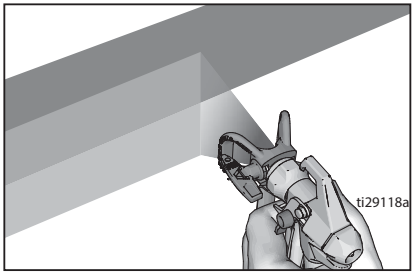


Spray

1. Spray test pattern. Increase pressure to eliminate heavy edges. Use smaller tip size if pressure adjustment can not eliminate heavy edges.



2. Hold gun perpendicular, 10-12 in. (25-30 cm) from surface. Spray back and forth. Overlap by 50%. Trigger gun after moving and release before stopping.

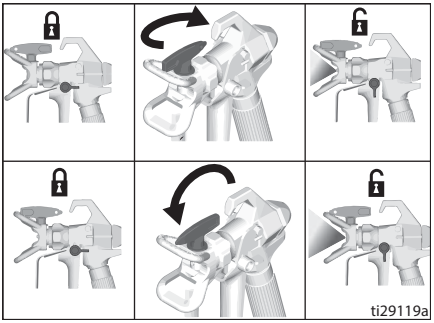


Clearing Tip Clogs

To avoid serious injury, never point gun at your hand or into a rag.

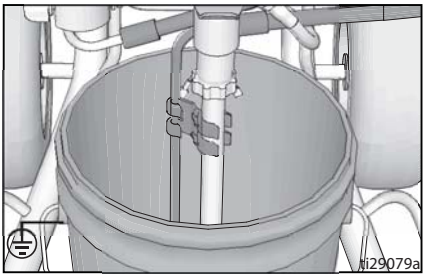
1. Release trigger, engage trigger lock. Rotate tip. Disengage trigger lock. Trigger gun to clear clog.

2. Engage trigger lock. Return tip to original position. Disengage trigger lock and continue spraying.



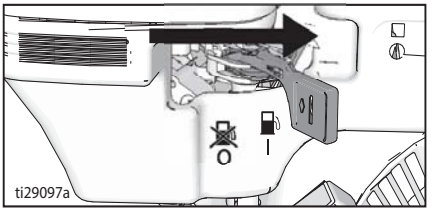
Cleanup

1. Perform **Pressure Relief Procedure**, steps 1 - 4. Remove siphon tube set from paint and place in flushing fluid. Remove tip guard from gun.

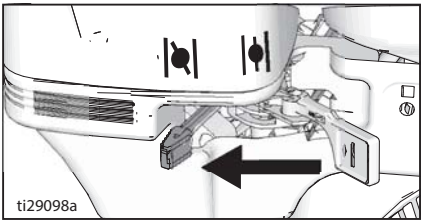


NOTE: Use water for water-base paint, mineral spirits for oil-base paint, or other solvents recommended by manufacturer.

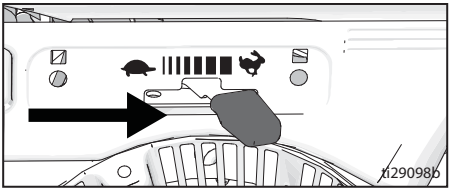
2. Start Engine
   a. Move fuel valve to open.



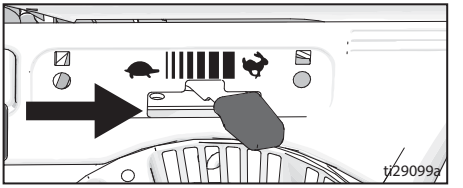
   b. Move choke to closed.



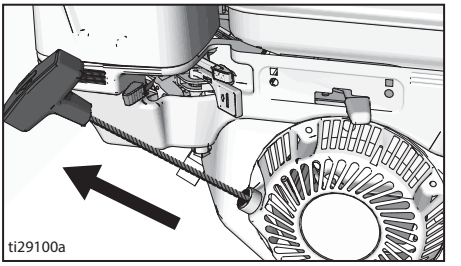
   c. Set throttle to fast.



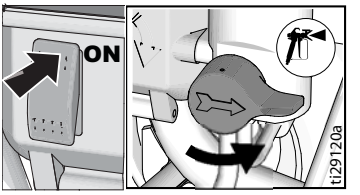
   d. Set engine switch to ON.



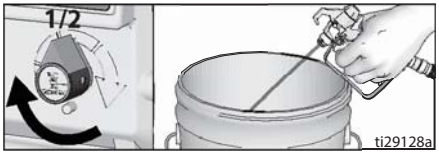
3. Pull rope to start engine.



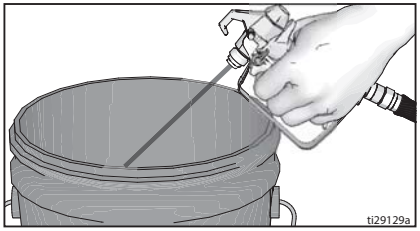
4. Turn pump switch ON. Turn prime valve forward to SPRAY position.



5. Increase pressure to 1/2. Hold gun against paint pail. Disengage trigger lock. Trigger gun until flushing fluid appears.

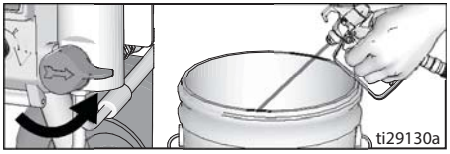


6. Move gun to waste pail, hold gun against pail, trigger gun to thoroughly flush system. Release trigger and engage trigger lock.

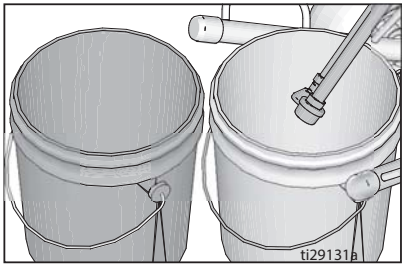


7. Turn prime valve down to DRAIN position and allow flushing fluid to circulate until flushing fluid appears clear.

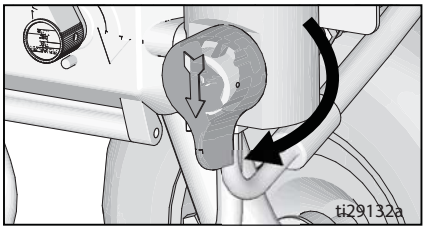
8. Turn prime valve forward to SPRAY position. Trigger gun into flushing pail to purge fluid from hose.



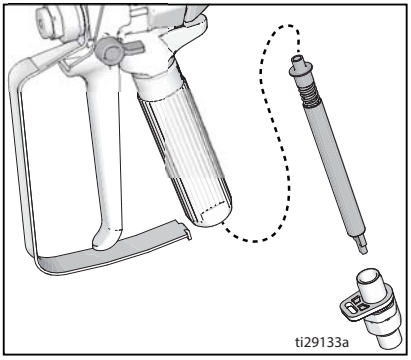
9. Raise siphon tube above flushing fluid and run sprayer for 15 to 30 seconds to drain fluid. Turn pump switch and engine OFF.



10. Turn prime valve down DRAIN position.

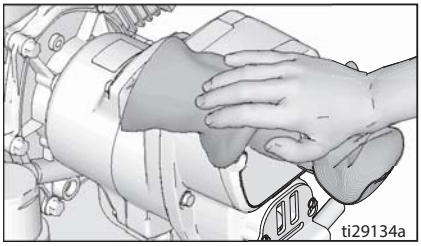


11. Remove filters from gun and sprayer, if installed. Clean and inspect. Install filters.

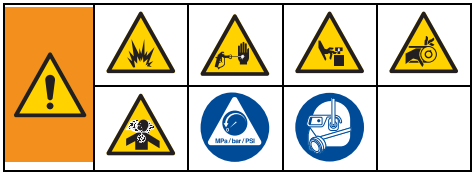


12. If flushing with water, flush again with mineral spirits, or Pump Life to leave a protective coating to prevent freezing or corrosion.

13. Wipe sprayer, hose and gun with a rag soaked in water or mineral spirits.



Maintenance



NOTE: For detailed engine maintenance and specifications, refer to separate Briggs & Stratton Owner's Manual, supplied.

DAILY: Check engine oil level and fill as necessary.

DAILY: Check hose for wear and damage.

DAILY: Check that all hose fittings are secure.

DAILY: Check gun safety for proper operation.

DAILY: Check pressure drain valve for proper operation.

DAILY: Check and fill the gas tank.

DAILY: Check level of TSO in displacement pump packing nut. Fill nut, if necessary. Keep TSO in nut to help prevent fluid buildup on piston rod and premature wear of packings and pump corrosion.

AFTER THE FIRST 5 HOURS OF OPERATION:

Drain engine oil and refill with clean oil. Reference Briggs & Stratton Engines Owner's Manual for correct oil viscosity.

WEEKLY: Remove engine air filter cover and clean element. Replace element, if necessary. If operating in an unusually dusty environment: check filter daily and replace, if necessary.

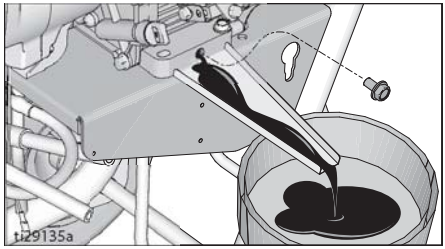
Replacement elements can be purchased from your local Briggs & Stratton dealer.

AFTER EACH 50 HOURS OF OPERATION:

Change engine oil. Reference Briggs & Stratton Engines Owner's Manual for correct oil viscosity.

SPARK PLUG: See Briggs & Stratton supplied Engines Owner's Manual for recommended spark plug replacement.

Use the supplied engine oil funnel when draining oil.



Troubleshooting

PROBLEM	CAUSE	SOLUTION
Engine will not start	Engine switch is OFF.	Turn engine switch ON.
	Engine is out of gasoline.	Refill gas tank.
	Engine oil level is low.	Try to start engine. Replenish oil, if necessary.
	Spark plug disconnected or damaged.	Connect spark plug cable or replace spark plug.
	Engine is cold.	Use choke.
	Oil is seeping into combustion chamber.	Remove spark plug. Pull starter 3 to 4 times. Clean or replace spark plug. Start engine. Keep sprayer upright to avoid oil seepage.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Engine operates, but displacement pump does not operate.	Pump switch is OFF.	Turn pump switch ON.
	Pressure setting too low.	Turn pressure adjusting knob clockwise to increase pressure.
	Fluid filter is dirty.	Clean filter.
	Tip or tip filter is clogged.	Clean tip or tip filter (see gun manual).
	Displacement pump piston rod is stuck due to dried paint.	Repair pump (see pump manual).
	Connecting rod is worn or damaged.	See Parts.
	Drive housing is worn or damaged.	See Parts.
	Electrical power is not energizing clutch field.	See Parts. With pump switch ON and pressure turned to MAXIMUM, use a test light to check for power between clutch test points on control board. Remove clutch wires from control board and measure resistance across clutch coil. At 70° F, the resistance must be between 1.2 + 0.2 W; if not, replace pinion housing. Have pressure control checked by authorized dealer.
	Clutch is worn, damaged, or incorrectly positioned.	Adjust or replace clutch. See page 25.
	Pinion assembly is worn or damaged.	Repair or replace pinion assembly. Page 25.

PROBLEM	CAUSE	SOLUTION
Pump output is low	Strainer is clogged.	Clean strainer.
	Piston ball is not seating.	Service piston ball (see pump manual).
	Piston packings are worn or damaged.	Replace packings (see pump manual).
	O-ring in pump is worn or damaged.	Replace o-ring (see pump manual).
	Intake valve ball is not seating properly.	Clean intake valve (see pump manual).
	Intake valve ball is packed with material.	Clean intake valve (see pump manual).
	Engine speed is too low.	Increase throttle setting (see operation).
	Clutch is worn or damaged.	Adjust or replace clutch. Page 25.
	Pressure setting is too low.	Increase pressure (see operation).
	Fluid filter, tip filter or tip is clogged or dirty.	Clean filter (see gun manual).
	Large pressure drop in hose with heavy materials.	Use larger diameter hose and/or reduce overall length of hose. Use of more than 100 ft of 1/4 in. hose significantly reduces performance of sprayer. Use 3/8 in. hose for optimum performance (50 ft minimum).
Excessive paint leakage into throat packing nut	Throat packing nut is loose.	Remove throat packing nut spacer. Tighten throat packing nut just enough to stop leakage.
	Throat packings are worn or damaged.	Replace packings (see pump manual).
	Displacement rod is worn or damaged.	Replace rod (see pump manual).
Fluid is spitting from gun	Air in pump or hose.	Check and tighten all fluid connections. Reprime pump (see operation).
	Tip is partially clogged.	Clear tip (see gun manual).
	Fluid supply is low or empty.	Refill fluid supply. Prime pump (see operation). Check fluid supply often to prevent running pump dry.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Pump is difficult to prime	Air in pump or hose.	Check and tighten all fluid connections. Reduce engine speed and cycle pump as slowly as possible during priming.
	Intake valve is leaking.	Clean intake valve. Be sure ball seat is not nicked or worn and that ball seats well. Reassemble valve.
	Pump packings are worn.	Replace pump packings (see pump manual).
	Paint is too thick.	Thin the paint according to the supplier's recommendations.
	Engine speed is too high.	Decrease throttle setting before priming pump (see operation).
Clutch squeaks each time clutch engages	Clutch surfaces are not matched to each other when new and may cause noise.	Clutch surfaces need to wear into each other. Noise will dissipate after a day of run time.
High engine speed at no load	Worn engine governor.	Replace or service engine governor.

Fluid Pump Runs Constantly

1. Perform **Pressure Relief Procedure**, page 8, turn prime valve forward to SPRAY position, and turn power switch OFF.
2. Remove control box cover.

Troubleshooting Procedure:

With a pressure gauge plumbed into the paint hose, start the engine. Turn pump switch ON. Does sprayer exceed maximum pressure?

NO → Pump problem. See the proper fluid pump manual for the sprayer for further troubleshooting procedures.

YES ↓

Disconnect clutch wires from control board (see diagram, page 24). Does the pump stop running?

NO → Mechanical problem in the clutch pinion assembly (clutch may be close to the rotor).

YES ↓

Make sure clutch wires are plugged in (see diagram, page 24). Do the clutch test points read 10-18 DC volts?

NO → Check for a short from the two clutch wires to the frame. If shorted, repair or replace faulty wire.

YES ↓

Unplug transducer from control board.

NO → Replace the control board.

YES ↓

Bad transducer.
Replace and test with a new one.

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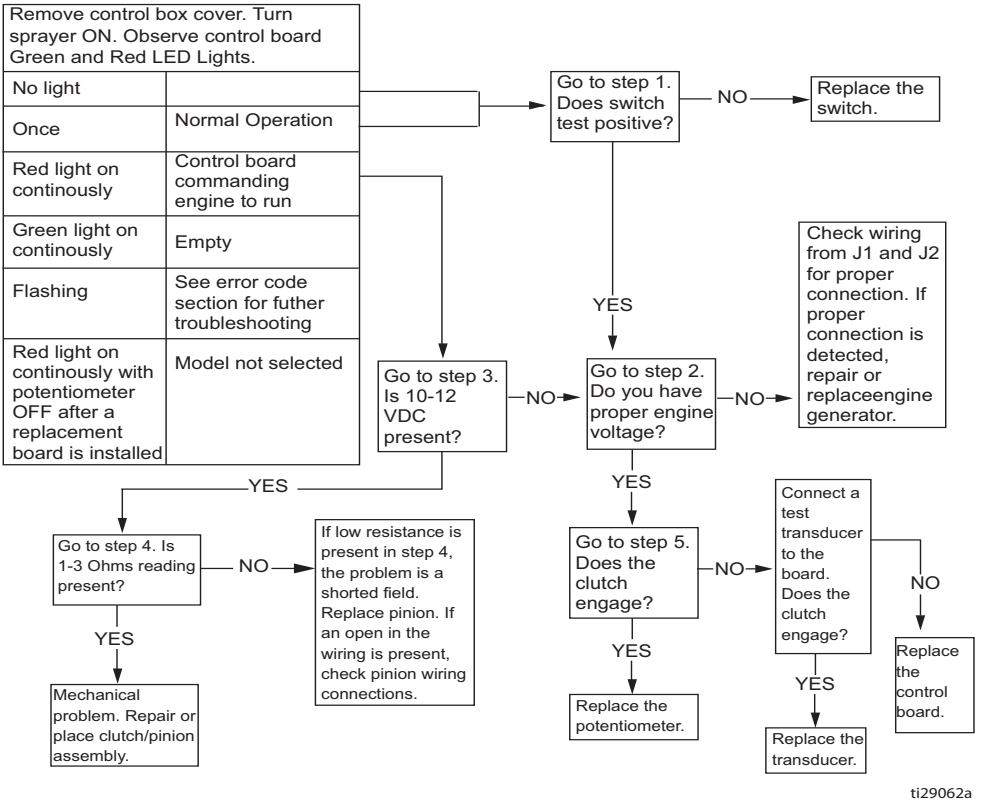
Control Board Malfunction

Troubleshooting Procedure
(see following page for actual steps):



Error Code Section

Error codes appear on control board as a blinking red LED.

1. Remove two screws (71) and swing down cover (70a).
2. Start engine.
3. Count number of Red LED blinks.

LED BLINKS	SPRAYER OPERATION	INDICATION	ACTION
RED BLINKS 2 TIMES	Sprayer stops. Engine is running.	Exceeded pressure limit.	1. Check fluid path for clogs, such as clogged filter. 2. Use Airlessco paint hose, 1/4 in. x 50 ft minimum. Smaller hose or metal braid hose may result in pressure spikes. 3. Replace transducer if fluid path is not clogged and proper hose is used.
RED BLINKS 3 TIMES	Sprayer stops. Engine is running.	Pressure transducer faulty, bad connection or broken wire.	1. Check transducer connection. 2. Disconnect and reconnect transducer plug to ensure good connection with control board socket. 3. Open prime valve. Replace sprayer transducer with known good transducer and run sprayer. Replace transducer if sprayer runs or control board if sprayer does not run.
RED BLINKS 5 TIMES	Sprayer stops. Engine is running.	High clutch current.	1. Check wiring connections. 2. Measure: 1.2 + 0.2 Ω across clutch field at 70°F. 3. Replace clutch field assembly.
Constant green LED	Sprayer stops. Engine is running.	Loss of paint to pump or severe pressure loss.	1. Check for empty paint condition, clogged inlet strainer, failed pump or severe leak. 2. Reduce pressure and turn pump switch OFF and ON to restart pump.

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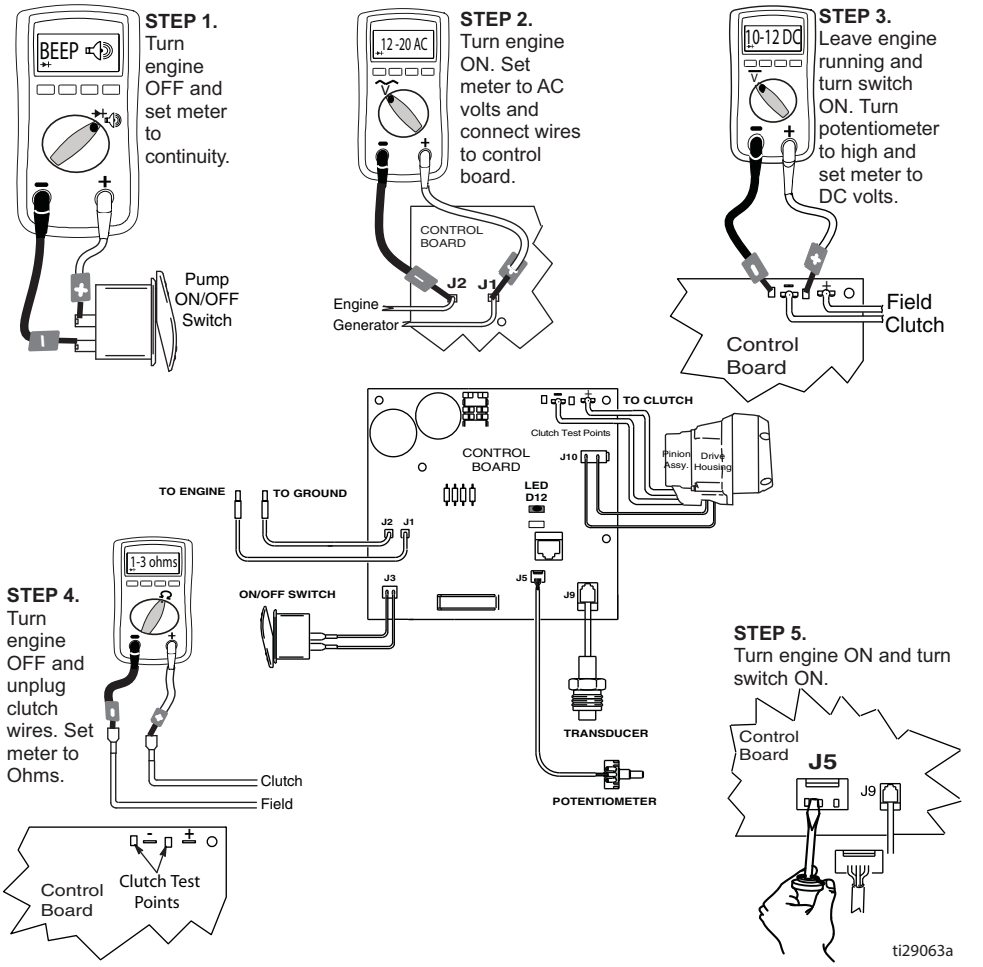
After a fault, follow these steps to restart sprayer:
1. Correct fault correction
2. Turn sprayer OFF
3. Turn sprayer ON

Control Board Malfunction (Steps)



STEP 1. Turn engine OFF and set meter to continuity.

STEP 2. Turn engine ON. Set meter to AC volts and connect wires to control board.

STEP 3. Leave engine running and turn switch ON. Turn potentiometer to high and set meter to DC volts.

STEP 4. Turn engine OFF and unplug clutch wires. Set meter to Ohms.

STEP 5. Turn engine ON and turn switch ON.

Pinion Assembly/Clutch Armature/Clamp

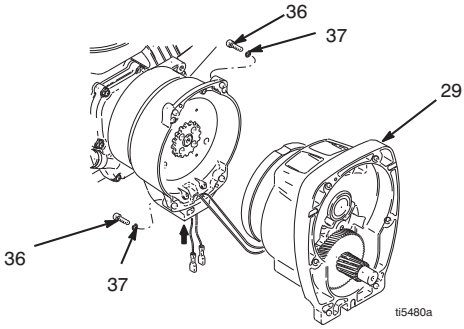
Pinion Assembly/Clutch Armature Removal

Pinion Assembly

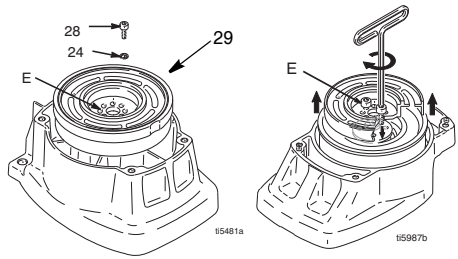
If pinion assembly (29) is not removed from clutch housing (19), do 1. through 3.

Otherwise, start at 4.

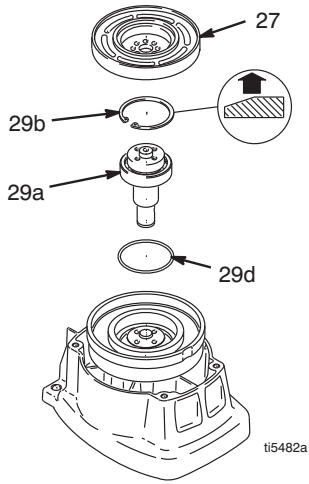
1. Remove drive housing.
2. Disconnect clutch cable connectors from inside of pressure control.
   a. Remove two screws (71) and swing down cover (70a).
   b. Disconnect engine leads from board to engine.
   c. Remove strain reliefs 70r and 130.
3. Remove four screws (36) and pinion assembly (29).



4. Place pinion assembly (29) on bench with rotor side up.
5. Remove four screws (28) and lock washers (24). Install two screws in threaded holes (E) in rotor. Alternately tighten screws until rotor comes off.



6. Remove retaining ring (29b).
7. Turn pinion assembly over and tap pinion shaft (29a) out with plastic mallet.

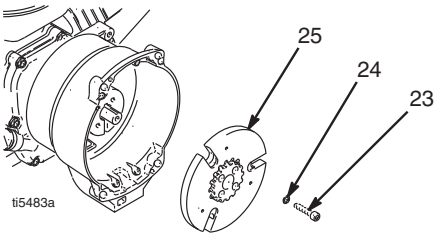


Clutch Armature

8. Use an impact wrench or wedge something between clutch armature (25) and clutch housing to hold engine shaft during removal.

9. Remove four screws (23) and lock washers (24).

10. Remove armature.



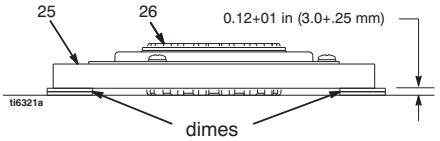
Installation

Clutch Armature

1. Lay two stacks of two dimes on smooth bench surface.

2. Lay armature (25) on two stacks of dimes.

3. Press center of hub (26) down to bench surface.



4. Install armature (25) on engine drive shaft.

5. Install four screws (23) and lock washers (24) with torque of 125 in-lb.

Pinion Assembly

1. Check o-ring (29d) and replace if missing or damaged.

2. Tap pinion shaft (29a) in with plastic mallet.

3. Install retaining ring (29b) with beveled side facing up.

4. Place pinion assembly on bench with rotor side up.

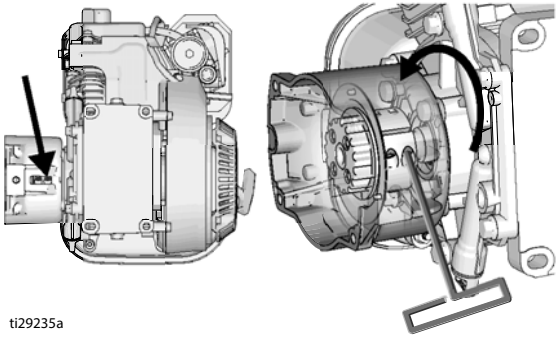
5. Apply thread sealant to screws. Install four screws (28) and lock washers (24). Alternately torque screws to 125 in-lb until rotor is secure. Use threaded holes to hold rotor.

6. Install pinion assembly (29) with four screws (36) and washers (37).

7. Connect clutch cable connectors to inside of pressure control.

Clamp Removal

1. Remove engine.
2. Drain gasoline from tank according to Briggs & Stratton manual.
3. Tip engine on side so gas tank is down and air cleaner is up.
4. Loosen two screws (24) on clamp (22).
5. Push screwdriver into slot in clamp (22) and remove clamp.



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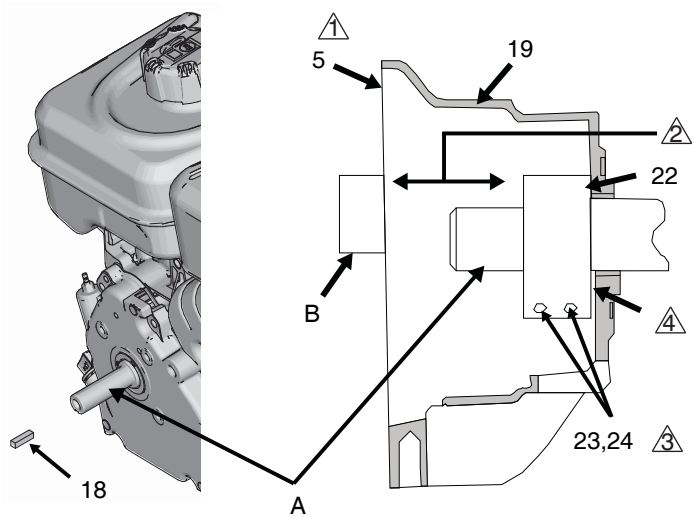
Clamp Installation

1. Install engine shaft key (18).
2. Tap clamp (22) onto engine shaft (A). Maintain dimension shown note 2. Chamfer must face engine.
3. Check dimension: Place rigid, straight steel bar (B) across face of clutch housing (19). Use accurate measuring device to measure distance between bar and face of clamp. Adjust clamp as necessary. Torque two screws (24) to 125 ±10 in-lb (14 ±1.1 N•m).

1. Face of clutch housing
2. 1.550 ± .010 in. (39.37 ± .25 mm)
3. Torque to 125 ± 10 in-lb (14 ±1.1 N•m)
4. Chamfer this side



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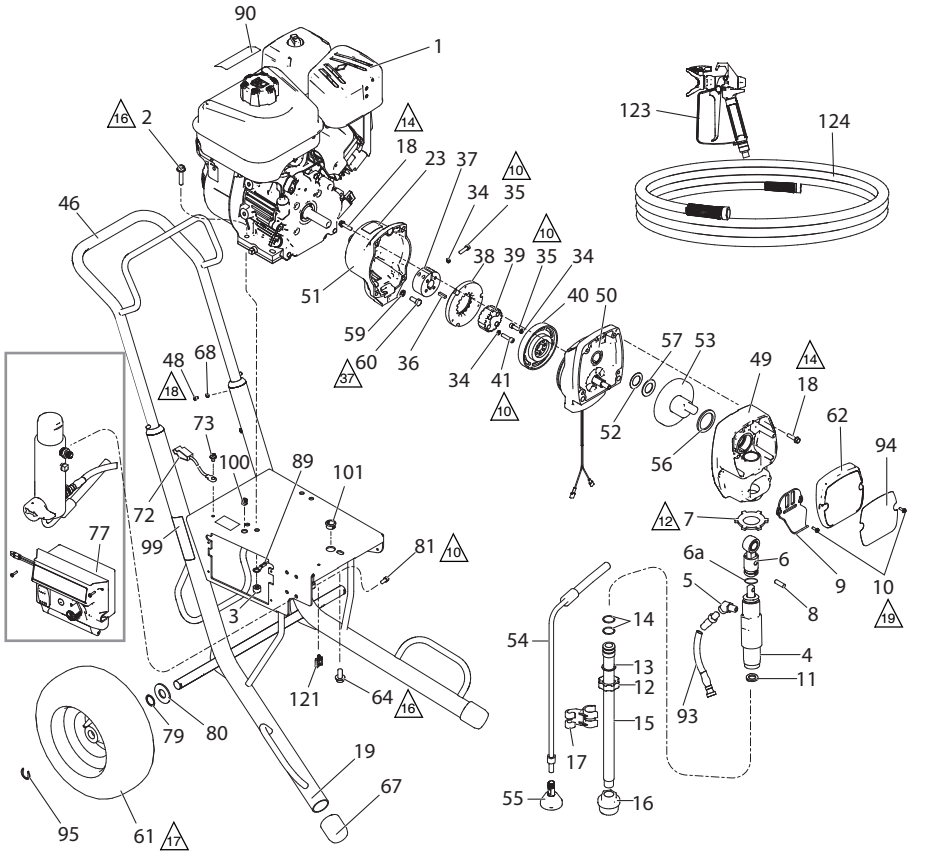
Parts Drawing - GS950

Part Specifications:

Ref.	Instruction
10	Torque to 115-135 in-lb (12.9-15.2 N•m)
12	Torque to 70-80 ft-lb (94.9-108.4 N•m)
14	Torque to 130-150 in-lb (14.6-16.9 N•m)
16	Torque to 17-23 ft-lb (23.0-31.1 N•m)

Ref.	Instruction
17	Inflate tires to 28-32 psi (1.93-2.21 bar/0.193-0.221 MPa)
18	Torque to 25-35 in-lb (2.8-3.9 N•m)
19	Torque to 30-35 in-lb (3.3-3.9 N•m)
37	Torque to 170-190 in-lb (19.2-21.4 N•m)



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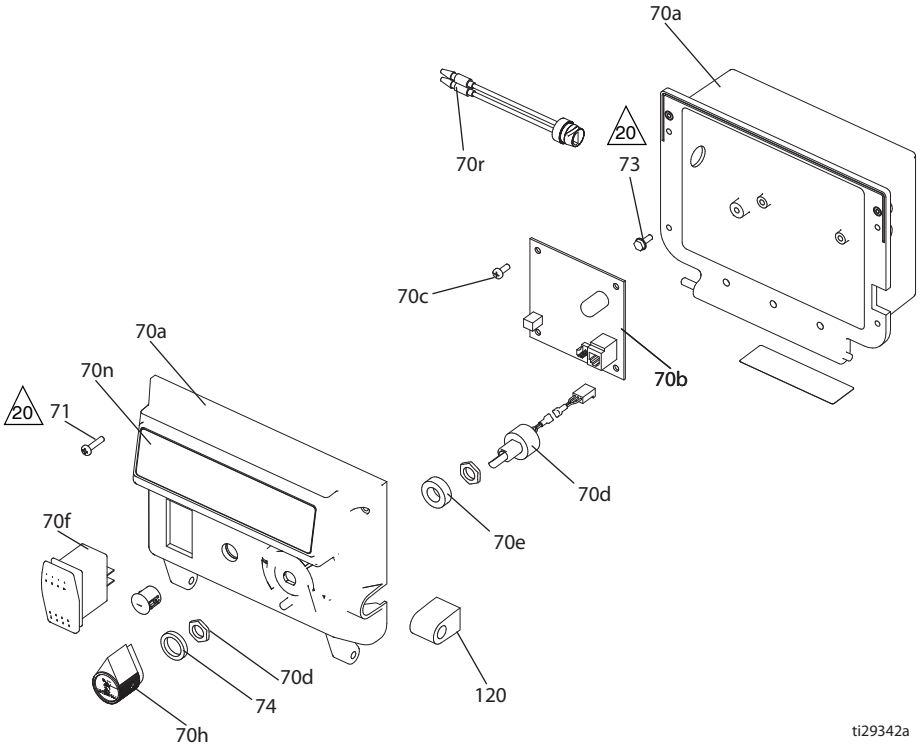
Parts List - GS950

Ref.	Part	Description	Qty
1	17M303	ENGINE, gasoline, 5.5 HP	1
2	110837	SCREW, flange, hex	2
3	110838	NUT, lock	2
4	17M988	PUMP, displacement (AP)	1
	17M989	PUMP, displacement (NA)	1
5	119789	FITTING, elbow, street, 45°, 1/4 npt	1
6	287053	ROD, connecting	1
6a	196750	SPRING, retaining	1
7	195150	NUT, jam, pump	1
8	196762	PIN, straight	1
9	15C146	HOOK, pail	1
10	117501	SCREW, mach, hex washer hd	4
11	115099	WASHER, garden hose	1
12	15E813	NUT, jam	1
13	15B652	WASHER, suction	1
14	103413	O-RING	2
15	15E805	TUBE, intake	1
16	246385	STRAINER, 7/8-14 unf	1
17	276888	CLIP, drain line	1
18	119426	SCREW, mach, hex washer hd	8
19	287411	FRAME, cart	1
23	17M541	LABEL	1
34	105510*	WASHER, lock, spring (hi-collar)	10
35	108803	SCREW, hex, socket head	6
36	183401	KEY, parallel	1
37	193680	COLLAR, shaft	1
38	*	ARMATURE, clutch, 4 in.	1
39	*	HUB, armature	1
40	*	ROTOR, clutch, 4 in.	1
41	101682*	SCREW, cap, sch	4
46	287489	HANDLE, cart	1
48	109032	SCREW, mach, pnh	4
49	25M518	HOUSING, drive	1
50	17R785	HOUSING, pinion	1
51	17M314	HOUSING, clutch, mach	1
52	116074	WASHER, thrust	1
53	287484	CRANK *includes 52, 56, 57*	1
54	244240	HOSE, coupled, *includes 55*	1
55	241920	DEFLECTOR, threaded	1
56	180131	BEARING, thrust	1
57	107434	BEARING, thrust	1
59	100214	WASHER, lock	4
60	108842	SCREW, cap, hex hd	4
61	119420	WHEEL, pneumatic	2
62	277019	COVER, front	1
64	112395	SCREW, cap, flng hd	1
67	15C871	CAP, leg	2
68	100020	WASHER, lock	4
72	237686	WIRE, ground assembly w/clamp	1
73	112798	SCREW, thread forming, hex hd	1
77	17M316	BOX, control	1
79	116038	WASHER, wave spring	2
80	156306	WASHER, flat	2
81	113161	SCREW, flange, hex hd	3
89	119579	CONDUCTOR, ground	1
90▲	194126	LABEL, warning	1
93	15C709	HOSE, coupled	1
94	17M533	LABEL, brand	1
95	15E891	CLIP, retaining	2
99▲	15F638	LABEL, warning	1
100	114678	BUSHING, strain relief	1
101	119569	BUSHING, strain relief	1
111▲	290228	LABEL, caution	1
121	114687	CLIP, retainer	1
123	17N201	GUN, Prolight 500	1
124	HSE1450	HOSE, coupled, 1/4 in. x 50 ft	1
135	15F354	FUNNEL, oil (not shown)	1
▲	16Y631	LABEL, warning	1
▲	16Y632	LABEL, warning	1
▲	16Y633	LABEL, warning	1
▲	194931	LABEL, warning	1
▲	194935	LABEL, warning	1
▲	194932	LABEL, warning	1
▲	16N948	LABEL, ISO warning	1
▲	17A134	LABEL, safety	1
▲	179960	LABEL, safety	1
▲	24X434	LABEL, warning	1
	17R218	LABEL, prime	1

▲ *Replacement Danger and Warning Labels, Tags and Cards are available at no cost.*

* *Included in Clutch Replacement Kit 241109.*

Control Box 17M316



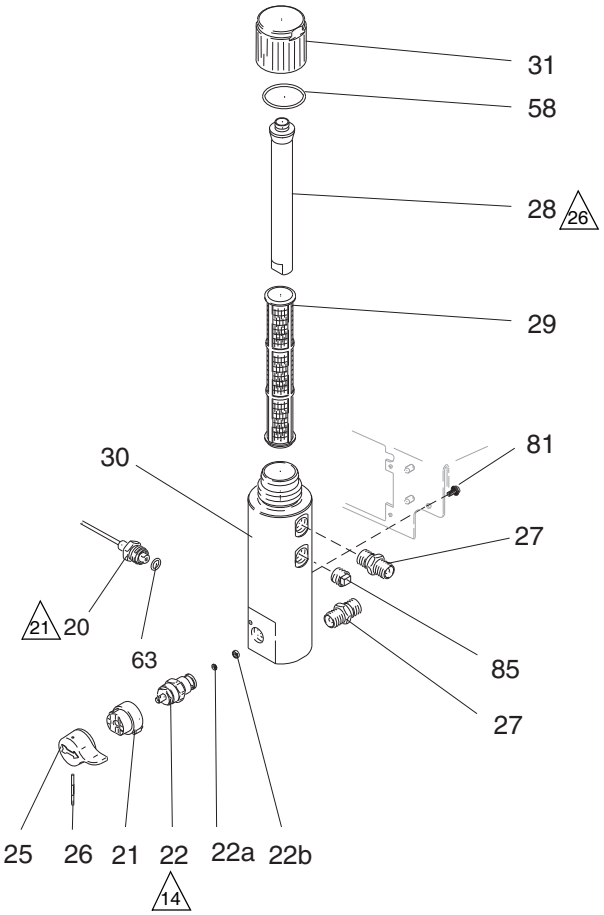
Ref.	Part	Description	Qty
70	17M316	CONTROL BOX	
70a	17M317	BOX	1
70b	287486	KIT, repair, control board	1
70c	117317	SCREW, plastite, pan head	4
70d	256219	POTENTIOMETER	1
70e	198650	SPACER, shaft	1
70f	116752	SWITCH, rocker	1
70h	116167	KNOB, potentiometer	1
70n	17M492	LABEL, brand	1
70r	119545	BUSHING, strain, relief	1

Ref.	Part	Description	Qty
71	116585	SCREW, pan, X recess, sst	2
73	113160	SCREW, mach, slot, hex wash hd	4
74	15C973	GASKET	1
120	16Y415	GASKET, transducer	1
130	119545	BUSHING, strain, relief	1

Part Specifications:

Ref.	Instruction
20	Torque to 8-12 in-lb (0.9-1.3 N•m)

Filter (GS950)



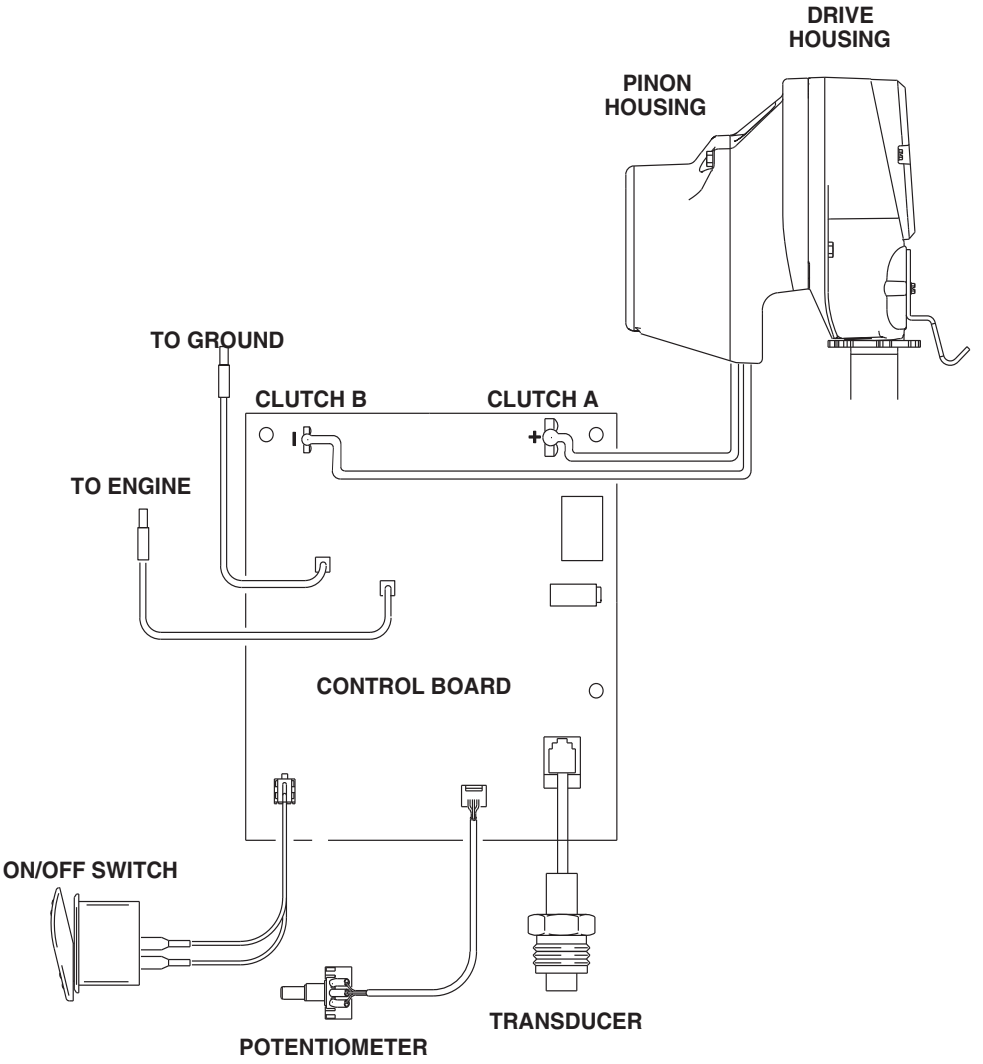
Ref.	Part	Description	Qty
20	243222	TRANSDUCER, pressure control, *includes 63*	1
21	224807	BASE, valve	1
22	235014	VALVE, drain, *includes 22a, 22b*	1
25	15C780	HANDLE,	1
26	15C972	PIN, grooved	1
27	196177	NIPPLE, adapter	2
28	15C766	TUBE, diffusion	1
29	244067	FILTER, fluid	1
30	15E284	HOUSING, filter	1
31	287285	CAP, filter, *includes 28, 58*	1
58	117285	O-RING	1
63	111457	O-RING	1
81	113161	SCREW, flange, hex hd	3
85	15G331	PLUG, pipe	1

Part Specifications:

Ref.	Instruction
14	Torque to 130-150 in-lb (14.6-16.9 N•m)
21	Torque to 35-45 ft-lb (47.4-61.0 N•m)
26	Torque to 90-110 in-lb (10.1-12.4 N•m)

Pressure Control Wiring Diagrams

GS950



Technical Data

GS950		
	US	Metric
Engine		
Vanguard 5.5 Hp (205 cc)		
Power Rating @ 3400 RPM	5.5 Hp	4.1 KW
Sprayer		
Maximum Working Pressure	3300 psi	227 bar, 22.7 MPa
Maximum Delivery Rating	0.75 gpm	2.84 lpm
Inlet Paint Strainer	12 mesh (1523 micron) stainless steel screen, reusable	12 mesh (1523 micron) stainless steel screen, reusable
Outlet Paint Filter	60 mesh (250 micron) stainless steel screen, reusable	60 mesh (250 micron) stainless steel screen, reusable
Pump Inlet Size	1 1/4-12 UNF-2A	1 1/4-12 UNF-2A
Fluid Outlet Size	1/4 npsm from fluid filter	1/4 npsm from fluid filter
Maximum Tip Size:	1 Gun with 0.027 in. tip	1 Gun with 0.027 in. tip
Dimensions		
Weight:	100 lb	45.4 kg
Height (handle extended):	40.8 in.	103.6 cm
Length (handle extended):	35.0 in.	88.9 cm
Width:	22.3 in.	56.6 cm
Wetted parts	zinc- and nickel-plated carbon steel, PTFE, nylon, polyurethane, UHMW, fluoroelastomer, acetal, leather, aluminum, tungsten carbide, stainless steel, chrome plating	
Noise Level:		
Sound Power	102 dBa per ISO 3744	102 dBa per ISO 3744
Sound Pressure	87 dBa measured at 3.1 ft	87 dBa measured at 1 m

Notes

Airlessco Standard Warranty

Airlessco warrants all equipment referenced in this document which is manufactured by Airlessco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Airlessco, Airlessco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Airlessco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Airlessco's written recommendations.

This warranty does not cover, and Airlessco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Airlessco component parts. Nor shall Airlessco be liable for malfunction, damage or wear caused by the incompatibility of Airlessco equipment with structures, accessories, equipment or materials not supplied by Airlessco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Airlessco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Airlessco distributor for verification of the claimed defect. If the claimed defect is verified, Airlessco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Airlessco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

AIRLESSCO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY Airlessco. These items sold, but not manufactured by Airlessco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Airlessco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Airlessco be liable for indirect, incidental, special or consequential damages resulting from Airlessco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Airlessco, or otherwise.

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Airlessco Information

For the latest information about AIRLESSCO products, visit www.airlessco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER OR FOR SERVICE, contact your Airlessco distributor, or call 1–800–223-8213 to identify the nearest distributor.

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Airlessco reserves the right to make changes at any time without notice.

Original Instructions. This manual contains English. MM 3A4108

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