



OPERATING INSTRUCTION

AIRLESS PAINT SPRAYERS



MAINTENANCE TIPS

- 1. There are two sides for the ball seat, both are chamfered; if one side is worn, change to the other side.
- 2. While changing the V-packings (upper and lower) for the piston rod, note that the convex side shall face the piston rod, then use a rubber hammer to hit the flat side of the V-packings to fit the piston rod.
- 3. While fastening the screws for the pump block, do not fasten one screw to maximum and then the other; fasten one screw to 90% depth first, then fasten the other to maximum, and later fasten the first to maximum.
- 4. There is one washer inside the pressure sensor; normally it will not break, but it cannot be left out.
- 5. After changing the upper V-packings, the nut shall be fully tightened using a bench clamp.
- 6. Before starting a new airless piston pump, double-check the two screws for the pump block and make sure they are fully fastened. Check again after changing new V-packings – the V-packings are made of high-polymer material and can expand after being stored or used.
- 7. It is critically important to open the PRIME VALVE before spraying or after changing the paint bucket. If air enters the piston pump system and you forget to open the PRIME VALVE before spraying, it will seriously damage the machine, as the compression ratio for coatings and for air differ.
- 8. The positive and negative poles of the motor must not be connected reversely via the carbon brush. If reversed, the motor turns the wrong way and, after some time, may become demagnetized. (For model X20 only.)
- 9. If the V-packings are broken there will be coating leakage; change the V-packings immediately, otherwise coatings may enter the gear box and damage it.
- 10. While turning the pressure knob, do not turn it too hard, as the electric parts inside the knob could be damaged.
- 11. There is a micro switch in every airless pump with a mechanical pressure-control system; its fixing screw is set properly before shipment. Do not change its position or the micro switch may not work properly. (For X20 model only.)
- 12. Quick check of the ball seat: after returning the PRIME VALVE to the spraying position, open the front cover. If the connecting rod stays in the upper position the ball inside the piston rod is damaged; if it stays in the lower position the ball seat is damaged.
- 13. If the airless piston pump is not fully cleaned after spraying, drywall coatings may stop the pressure sensor from working; always clean the pump fully after spraying.
- 14. If the fuse burns due to over-voltage, first check the capacitor; if it is good, check the bridge rectifier with a multimeter.
- 15. Quick check of the pressure-control board (mechanical systems): open the PRIME VALVE, then press the micro switch with a screwdriver. If the machine stops, the pressure-control board is fine.
- 16. If the pump has a manifold filter, clean it often after spraying – once per day recommended, at least once per week. A filter fully clogged by drywall coatings can burn the electronic board and pressure sensor; the fuse cannot protect them in this case.
- 17. For large airless piston pumps with high flow rate (mainly X45 and X51/X81), do not use short high-pressure hoses such as 3 m or 5 m – it may cause serious motor damage. Clean the machine and parts every time after finishing.
- 18. Tips need replacement after 4000-5000 m² depending on the abrasiveness of the paint.
- 19. The piston rod / V-packing and sintered-carbide ball need replacement after about 200 hours of spraying – especially when pressure drops or paint is hard to draw in.
- 20. For the permanent-magnet DC motor, the carbon brush needs replacement after 1500 hours, otherwise the motor will be damaged.
- 21. Check that every part is screwed on tightly before using the machine.
- 22. If the machine will be stored over 10 days, run it thoroughly with lubricating oil for rust protection and to prevent sticking inside the pump. (See CLEAN UP.)
- 23. For maintenance of the fluid pump, follow the instructions strictly and screw tightly. (See Service.)
- 24. Read the manual or contact the distributor for any problems. DO NOT disassemble the machine without professional staff.

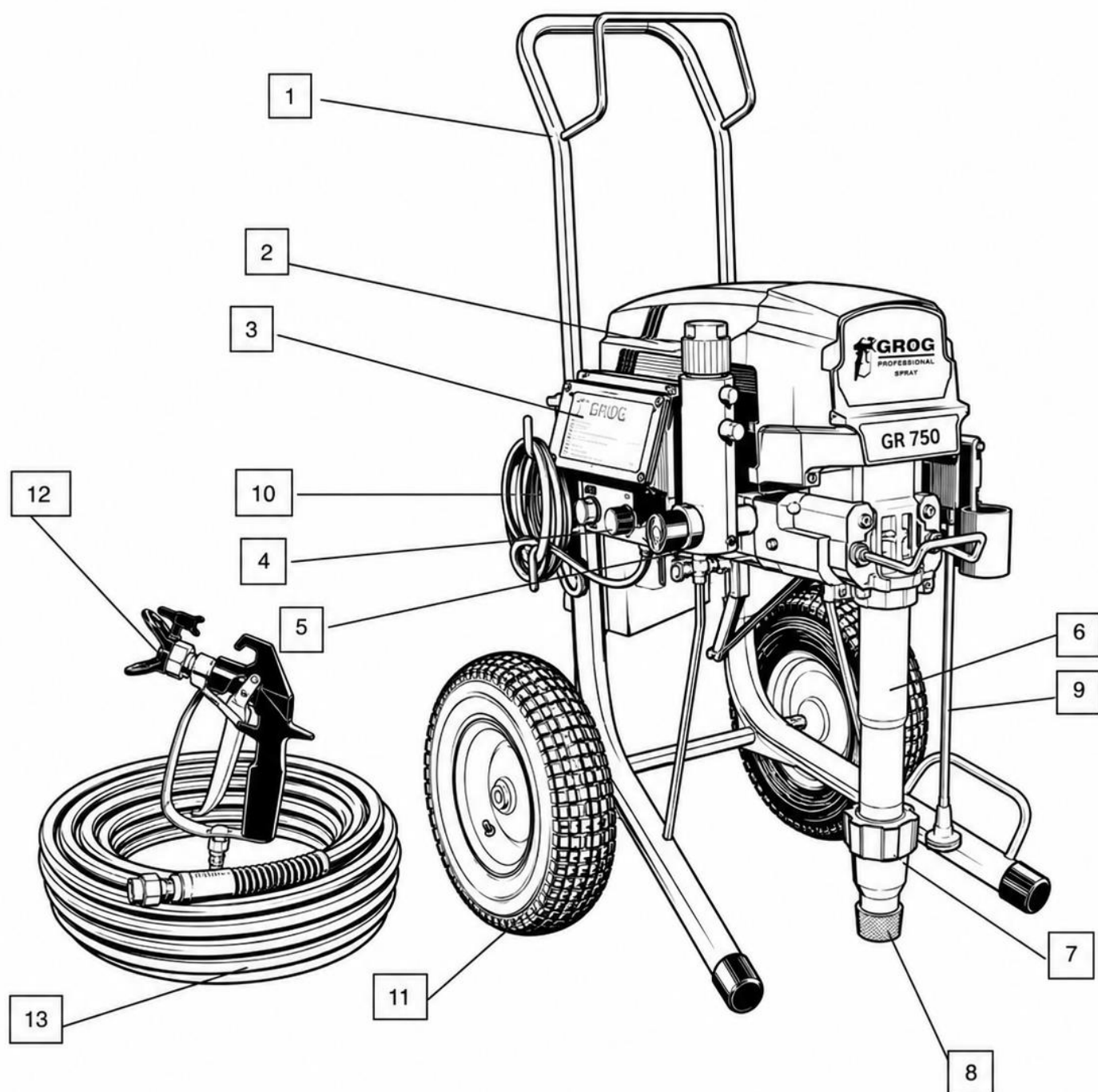
	FIRE AND EXPLOSION HAZARD Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion: • Do not spray flammable or combustible materials near an open flame or sources of ignition such as cigarettes, motors, and electrical equipment. • Paint or solvent flowing through the equipment is able to result in static electricity. Static electricity creates a risk of fire or explosion in the presence of paint or solvent fumes. All parts of the spray system, including the pump, hose assembly, spray gun, and objects in and around the spray area shall be properly grounded to protect against static discharge and sparks. Use Talenco-POWER conductive or grounded high-pressure airless paint sprayer hoses. • Verify that all containers and collection systems are grounded to prevent static discharge. • Connect to a grounded outlet and use grounded extensions cords. Do not use a 3-to-2 adapter. • Do not use a paint or a solvent containing halogenated hydrocarbons. • Keep spray area well-ventilated. Keep a good supply of fresh air moving through the area. Keep pump assembly in a well-ventilated area. Do not spray pump assembly. • Do not smoke in the spray area. • Do not operate light switches, engines, or similar spark producing products in the spray area. • Keep area clean and free of paint or solvent containers, rags, and other flammable materials. • Know the contents of the paints and solvents being sprayed. Read all Material Safety Data Sheets (MSDS) and container labels provided with the paints and solvents. Follow the paint and solvents Manufacturer's safety instructions. • Fire extinguisher equipment shall be present and working Sprayer generates sparks. When flammable liquid is used in or near the sprayer or for flushing or • Keep sprayer at least 20 feet (6 m) away from explosive vapors.
	ELECTRIC SHOCK HAZARD This equipment must be grounded. Improper grounding, set up, or usage of the system can cause electric shock. • Turn off and disconnect power cord before servicing equipment. • Use only grounded electrical outlets. • Use only 3-wire extension cords. • Ensure ground prongs are intact on power and extension cords. • Do not expose to rain. Store indoors.
	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 Talenco 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. • Do not leave the unit energized or under pressure while unattended. When the unit is not in use, turn off the unit and follow the Pressure Relief Procedure for turning off the unit Check hoses and parts for signs of damage. Replace any damaged hoses or parts. This system is capable of producing 3630 psi. Use Talenco replacement parts or accessories that are rated a minimum of 3000 psi

	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. ● Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.
 	EQUIPMENT MISUSE HAZARD Misuse can cause death or serious injury. ● Always wear appropriate gloves, eye protection, and a respirator or mask when painting. ● Do not operate or spray near children. Keep children away from equipment at all times. ● Do not overreach or stand on an unstable support. Keep effective footing and balance at all times. ● Stay alert and watch what you are doing. ● Do not leave the unit energized or under pressure while unattended. When the unit is not in use, turn off the unit and follow the Pressure Relief Procedure for turning off the unit. ● Do not operate the unit when fatigued or under the influence of drugs or alcohol. ● Do not kink or over-bend the hose. ● Do not expose the hose to temperatures or to pressures in excess of those specified by us. ● Do not use the hose as a strength member to pull or lift the equipment.
 	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.
	BURN HAZARD Equipment surfaces can become very hot during operation. To avoid severe burns, do not touch hot equipment. Wait until equipment has cooled completely.
	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. ● Please pay attention to know the specific hazards of the fluids before spraying. ● Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	PERSONAL PROTECTIVE EQUIPMENT You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This 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.

COMPONENT IDENTIFICATION

#	Component	Function
1	Cart / hose wrap rack	Carries the machine and stows the paint hose. (GR-750)
2	Filter assembly (manifold filter inside)	Reduces tip clogs and ensures a nice finish.
3	Smart control display (under the cover)	GR-390 with pressure gauge only. GR-490/GR-595/GR-695/GR-795/GR-1095/GR-650/GR-700/GR-750/GR-800H/GR-850 with digital pressure display.
4	Pressure regulator	Adjusts the pressure for different applications.
5	Prime / Spray valve	PRIME (pointing down) directs fluid to the prime tube. SPRAY (parallel) directs pressurized fluid to the paint hose. Automatically relieves pressure in over-pressure situations.
6	Fluid pump (piston rod & V-packing inside)	Drains fluid in the system during priming and pressure relief.
7	Suction tube / hose	Draws fluid from the paint pail into the pump. The tube must be screwed tightly, otherwise air enters and the desired pressure cannot be reached. GR-795/GR-1095/GR-650/GR-750/GR-800H/GR-850 use a suction tube; GR-190/GR-390/GR-490/GR-595/GR-695 use a suction hose.
8	Suction filter	Reduces tip clogs and ensures a nice finish.
9	Prime tube	
10	Power plug	Suitable for the destination country.
11	Wheel	Lets the machine stand and move on the ground.
12	Airless spray gun	Dispenses fluid.
13	High-pressure hose	Transports high-pressure fluid from the pump to the spray gun.

Parts marked with ** are wear parts.

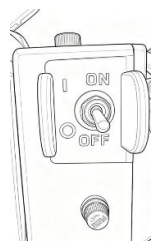


Model	GR-190	GR-390	GR-490
Power	750W	1000W	1000W
Flow Rate	1.7L/Min	2L/Min	2L/Min
Max. Tip Size	0.019	0.023	0.023
Max. Working Pressure	2900Psi	3000Psi	3000Psi
Picture			
Accessories	SG-3 Spray Gun, 517 Nozzle, 15m Hose, Suction Hose, Lube Oil, Manual	Spray Gun, 517 Nozzle, 15m Hose, Suction Hose, 50cm Extension Pole, Lube Oil, Manual	Spray Gun, 517 Nozzle, 15m Hose, Suction Hose, 50cm Extension Pole, Lube Oil, Manual
Model	GR-595	GR-695	GR-795
Power	1500W	2600W	3000W
Flow Rate	2.5L/Min	3.8L/Min	4L/Min
Max. Tip Size	0.025	0.029	0.031
Max. Working Pressure	227Bar/3300Psi	227Bar/3300Psi	227Bar/3300Psi
Picture			
Accessories	Spray Gun, 517 Nozzle, 15m Hose, Suction Hose, Lube Oil, Manual	Spray Gun, 521 Nozzle, 15m Hose, Suction Hose, Lube Oil, Manual	Spray Gun, 525 Nozzle, 20m Hose, Lube Oil, Manual

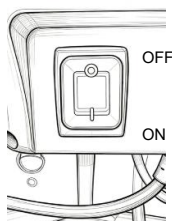
Model	GR-1095	GR-650	GR-700
Power	3000W	3000W	4000W
Flow Rate	5.5L/Min	6L/Min	8L/Min
Max. Tip Size	0.035	0.039	0.041
Max. Working Pressure	227Bar/3300Psi	227Bar/3300Psi	227Bar/3300Psi
Picture			
Accessories	Spray Gun, 527/531 Nozzle, 20m*1/4 Hose, Lube Oil, Manual	Heavy Duty Spray Gun, 527/531 Nozzle, 15m*3/8 Hose, whip Hose 1/4*2m Lube Oil, Manual	Heavy Duty Spray Gun, 339/341 Nozzle, 15m*3/8 Hose, whip hose 2m*1/4 Lube Oil, Manual
Model	GR-750	GR-800H	GR-850
Power	4000W	5500W	5500W
Flow Rate	9.2L/Min	6.5L/Min	15L/Min
Max. Tip Size	0.049	0.031	0.055
Max. Working Pressure	227Bar/3300Psi	350Bar/5075Psi	150Bar/2175Psi
Picture			
Accessories	Heavy Duty Spray Gun, 343/549 Nozzle, 25m*3/8 Hose, whip hose 2m*1/4 , Lube Oil, Manual	Heavy Duty Spray Gun, 525/529 Nozzle, 15m*3/8 Hose, 15m*1/4 Hose, whip hose 1.5m*1/4 Lube Oil, Manual	Heavy Duty Spray Gun, 549/555 Nozzle, 10m*1/2 Hose, 15m*1/2 Hose, whip hose 2m*3/8, Lube Oil, Manual

Follow the Pressure Relief Procedure whenever you stop spraying and before cleaning, checking, or servicing the equipment.

1. Turn power OFF. Unplug power cord.

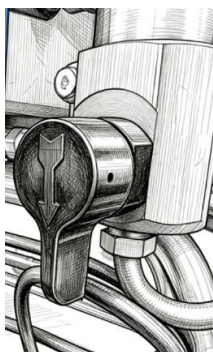


GR-390/GR-490/GR-595/GR-695

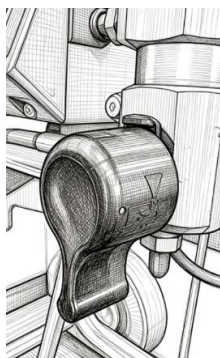


GR-190/GR-795/GR-1095/GR-650/GR-700/GR-750
GR-800H/GR-850

2. Turn Prime/Spray valve down to PRIME to relieve pressure.



GR-190/GR-390/GR-490

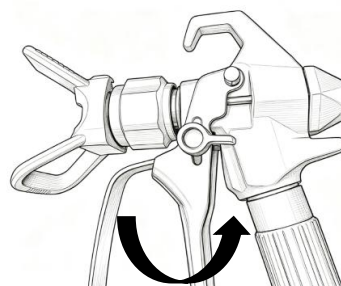


GR-595/GR-695/GR-795/GR-1095/GR-650/GR-700
GR-750/GR-800H/GR-850

3. Hold gun firmly to side of pail. Triggering the gun to relieve pressure.



4. Engage trigger lock.



Trigger Lock

Always engage the trigger lock when you stop spraying to prevent the gun from being triggered accidentally by hand or if dropped or bumped.

NOTE: Leave Prime/Spray valve in the PRIME position until you are ready to spray again.

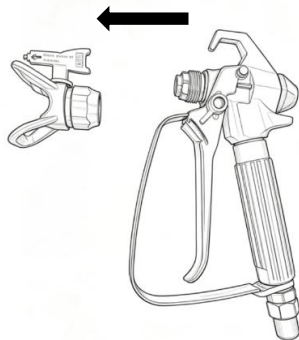
If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

Prepare the paint according to the manufacturer's recommendations.

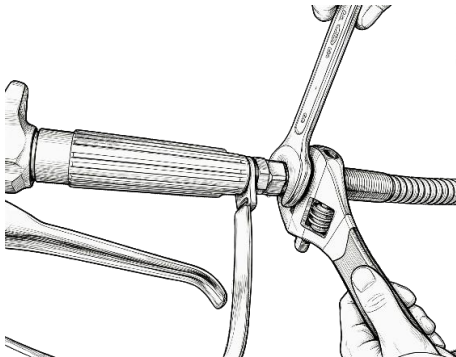
This is probably one of the most important steps toward trouble-free spraying!

Remove any skin that may have formed on the top of the paint. If necessary, thin the paint. Finally, strain the paint through a fine nylon mesh filter bag (available at most paint dealers) to remove particles that could clog the spray tip.

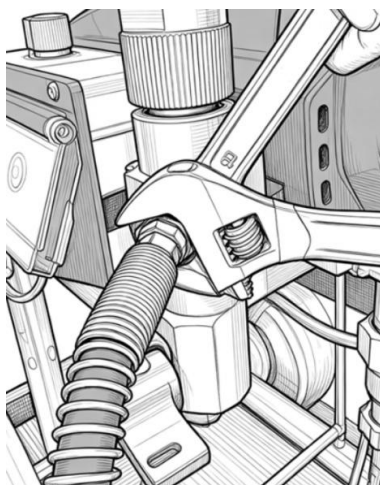
1. Unscrew tip and guard assembly from gun.



2. Uncoil hose and connect one end to gun. Use two wrenches to tighten securely and tightly.

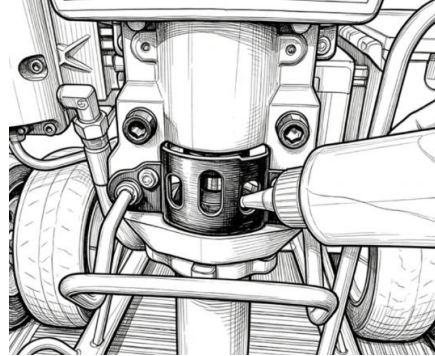


3. Connect other end of hose sprayer.



4. Oiling

Fill throat packing nut with lubricating oil(3~5 drops) to prevent premature packing wear, Do this every time when you spray.

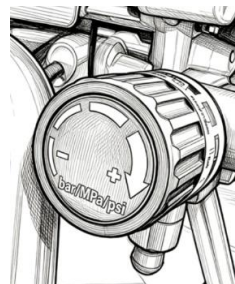


5. Check the electrical service

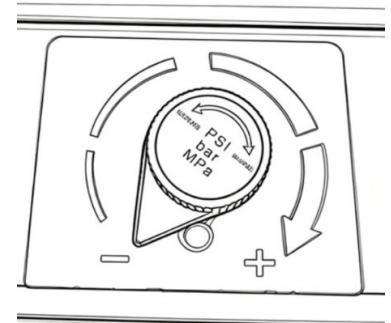
Be sure the electrical outlet is properly grounded. Longer extension cords may affect the sprayer performance. Use more spray hose, no longer extension cords.

6. Plug in the sprayer.

First be sure the ON/OFF switch is OFF and the pressure control is turned fully counterclockwise. Plug the sprayer into a grounded outlet that is at least 3 m away from the spray area to reduce the chance of a spark igniting, spray vapors or dust particles.



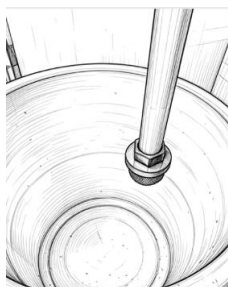
GR-190



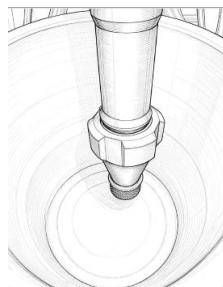
GR-210-GR-850

Pressure regulator valve

1. First be sure the ON/OFF switch is OFF.
2. Adjust Pressure Control counter clockwise to lowest pressure.
3. Place the suction hose into the coating barrel.

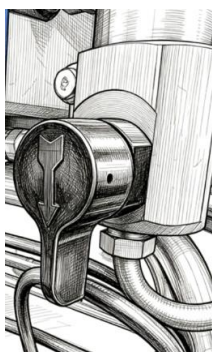


GR-190/GR-390/GR-490/GR-595/GR-695
GR-795/GR-1095

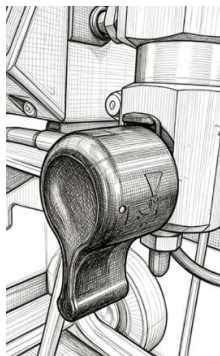


GR-650/GR-700/GR-750/GR-800H
GR-850

4. Pull up the Prime/Spray Valve down to Prime position.



GR-190/GR-390/GR-490



GR-595/GR-695/GR-795/GR-1095/GR-650/GR-700
GR-750/GR-800H/GR-850

5. Plug sprayer in a grounded cable socket.
6. Switch ON the machine.



GR-390/GR-490/GR-595/GR-695



GR-190/GR-795/GR-1095/GR-650/GR-700/GR-750
GR-800H/GR-850

7. Turn the Pressure Control clockwise, till the fluid is circulating in the prime tube.

8. Turn power switch OFF.

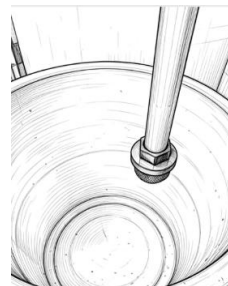


GR-390/GR-490/GR-595/GR-695

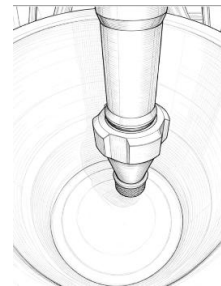


GR-190/GR-795/GR-1095/GR-650/GR-700/GR-750
GR-800H/GR-850

9. Transfer suction tube to paint pail and submerge suction tube in paint.

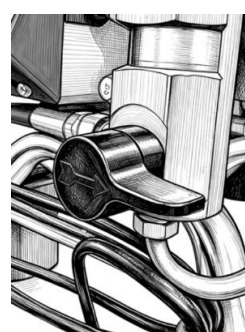


GR-190/GR-390/GR-490/GR-595/GR-695
GR-795/GR-1095

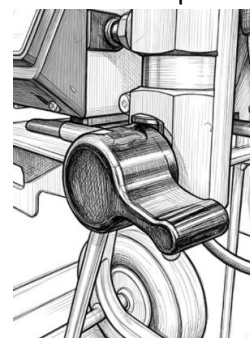


GR-650/GR-700/GR-750/GR-800H
GR-850

10. Turn power switch ON.
11. When you see paint coming out of prime tube:
 - (1). Point gun into waste pail.
 - (2). Unlock gun trigger lock.
 - (3). Pull and hold gun trigger.
 - (4). Turn Prime/Spray valve to SPRAY position



GR-190/GR-390/GR-490

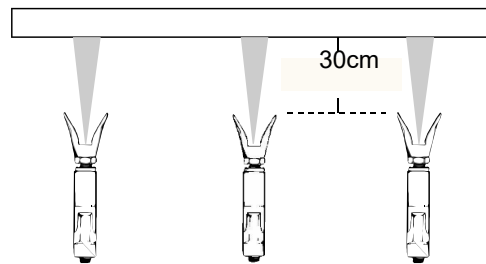
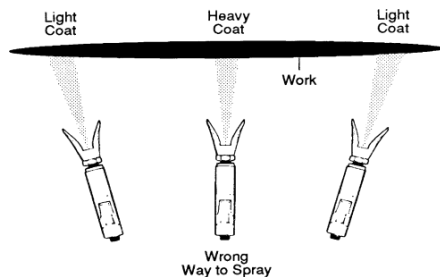


GR-595/GR-695/GR-795/GR-1095/GR-650/GR-700
GR-750/GR-800H/GR-850

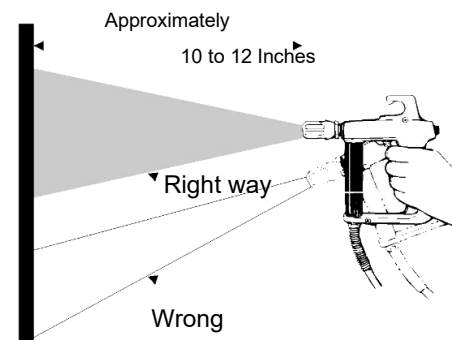
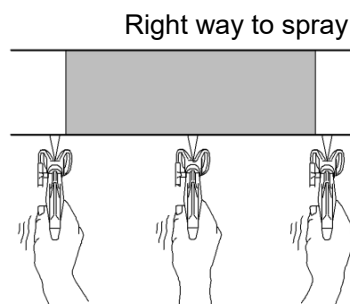
12. Continue to trigger gun into waste pail until you see only paint coming out of gun.
13. Release trigger. Engage trigger lock.
14. Transfer prime tube to paint pail and clip prime tube to suction tube.

1. The key to a good paint job is an even coating over the entire surface. With spray painting, this is done by using even strokes, with your arm moving at a constant speed and keeping the spray gun a constant distance from the surface.

2. As much as possible, 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.

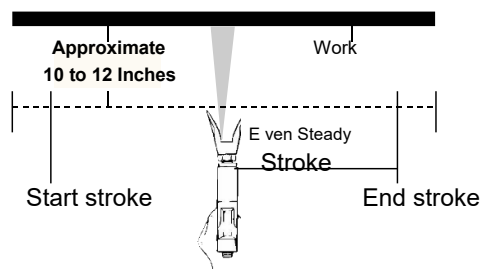


3. Keep the spray gun perpendicular to the surface, otherwise one end of the pattern will be thicker than the other.



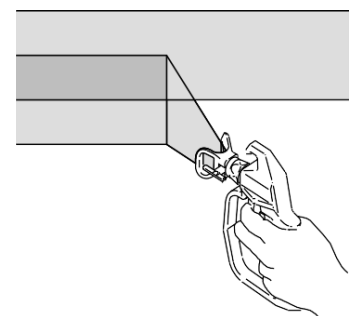
4. In most cases, the best spraying distance is 10 to 12 inches (25-30cm) between the spray tip and the surface.

5. The spray gun should be triggered off at the end of each stroke and on again at the beginning of the next. This avoids paint buildup at the end of the stroke which may result in runs and sags. Triggering at the end of the stroke also saves paint and results in a better-looking job. (See picture below)



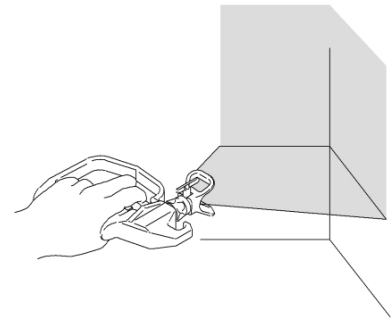
6. The correct speed for moving the gun will allow a full, wet coating to be applied without runs or sags. Lapping each stroke about 40% over the previous stroke produces uniform paint thickness. Spraying in a uniform pattern alternately from right to left and then left to right, provides a professional finish. (See picture on the right)

One way to do this is to point the spray tip at the edge of the last stroke before triggering the gun on.



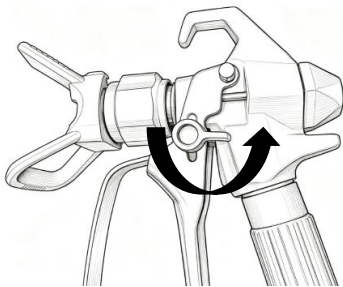
7. When taking a short break from painting (up to 1 hr.), lock the spray gun trigger **OFF**, reduce pressure to its minimum (zero) setting and set the unit to Prime position. Turn sprayer off and unplug. Refer to Pressure Relief Procedure.

8. For interior corners, such as on a bookcase or inside a cabinet aim the gun toward the center of the corner to spray. By dividing the spray pattern this way, the edges on both sides are sprayed evenly.

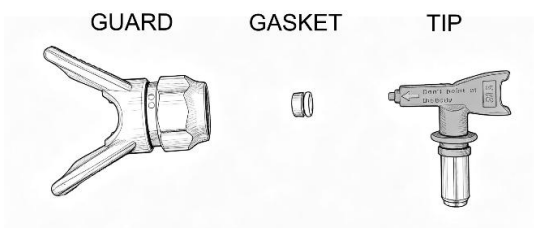


Install Tip & Guard on Spray Gun

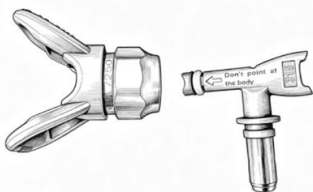
1. Engage trigger lock.



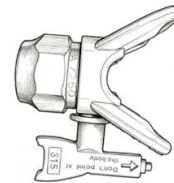
2. Verify tip and guard parts are assembled in order shown.



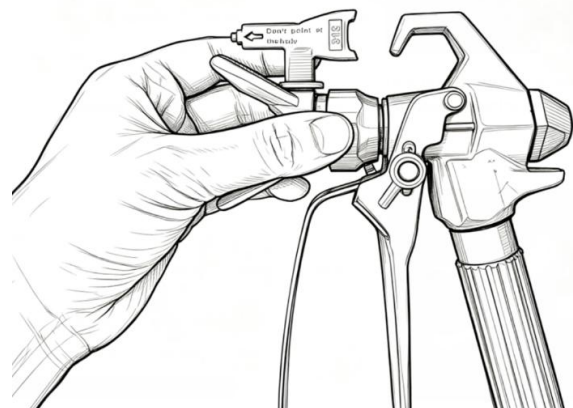
3. Use tip to align seat



4. Tip must be pushed in guard all the way into guard.



5. Screw tip and guard assembly on gun. Tighten retaining nut.



Selecting Tip Hole Size

Tips come in a variety of hole sizes for spraying a range of fluids. Your sprayer includes an 0.017 in (0.43 mm) tip or maybe 0.019" (0.48mm) for use in most spraying applications. For narrow or smaller surfaces (cabinet, fence, railings), pattern width of 6 inches is the best choice, it will provide sharper definition and more control; For large surfaces (Ceilings/walls), a wider spray pattern width of 10 to 12 inches is your best choice to cover large areas more quickly.

Using a good-quality spray tip that is appropriately sized for your painting project is critical to achieving good spraying results, the spray tip controls the amount of paint applied and the area the spray pattern will cover. A range of tip sizes classified by both hole size and spray pattern width can be used, based on 3 factors;

1; Coating/painting 2; Surface being sprayed 3; Sprayer's ability to support the tip hole size.

A key difference is sprayers is the maximum tip they can support. Choose your sprayer based on the coating types you'll be spraying, and make sure the largest tip (hole size) you plan to use is within the maximum tip size range the sprayer can support.

It is always best to have a machine with more capacity, Fox example, if you plan to use .017 tip frequently, your sprayer's capacity should be one tip hole size larger (.019 tip), this allows for tip wear, which causes the tip hole size to increase.

Choosing the Correct Tip

Consider coating and surface to be sprayed. Make sure you use best tip hole size for that coating and best fan width for that surface.

Tip Hole Size

Tip hole size controls flow rate - the amount of paint that comes out of the gun.

HINTS:

- Use larger tip hole sizes with thicker coatings and smaller tip hole sizes with thinner coatings.

Fan Width Fan width is the size of the spray pattern, which determines the area covered with each stroke. Narrower fans deliver a thicker coat, and wider fans deliver a thinner coat.

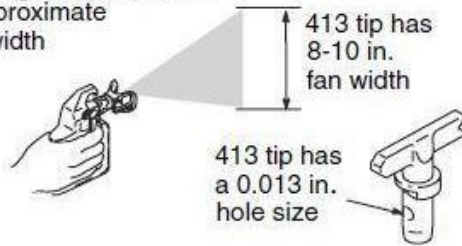
Tip Hole Size	Coatings				
	Stains	Enamels	Primers	Interior Paints	Exterior Paints
Spray Pressure Setting	Low Spray	Low Spray	High Spray	High Spray	High Spray
0.011 in.(0.28mm)	✓				
0.013 in.(0.33mm)	✓				
0.015 in.(0.38mm)		✓	✓	✓	✓
0.017in.(0.43mm)		✓	✓	✓	✓
0.019in.(0.48mm)			✓	✓	✓
0.021in.(0.53mm)					✓

Understanding Tip Number

The last three digits of tip number contain information about hole size and fan width on surface when gun is held

12 in. (30.5 cm) from surface being sprayed.

First digit when doubled
= approximate
fan width



Last two digits = tip hole size in thousands of an inch

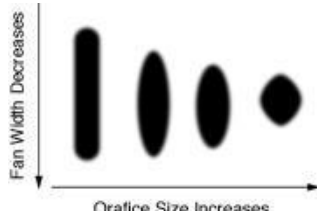
Tip Part No.	Fan Width 12 in.(305 mm) from surface	Hole Size
311	6-8 in (152-203 mm)	0.011in.(0.28mm)
411	8-10 in (203-254 mm)	0.011in.(0.28mm)
313	6-8 in (152-203 mm)	0.013in.(0.33mm)
413	8-10 in (203-254 mm)	0.013in.(0.33mm)
415	8-10 in (203-254 mm)	0.015in.(0.38mm)
515	10-12 in (254-305 mm)	0.015in.(0.38mm)
417	8-10 in (203-254 mm)	0.017in.(0.43mm)
517	10-12 in (254-305 mm)	0.017in.(0.43mm)

Reversible Tip Selection Chart

Orifice Size	Fan Width - Inches					Flow Rate		Application	Filter
	4" – 6" Fan	6" – 8" Fan	8" – 10" Fan	10" – 12" Fan	12" – 14" Fan	gpm	L/min		
0.011"	211	311	411	511	611	0.12	0.45	Stain or Lacquer	150mesh (red)
0.013"	213	313	413	513	613	0.18	0.68		
0.015"	215	315	415	515	615	0.24	0.91	Oil Base Paint	100mesh (yellow)
0.017"	217	317	417	517	617	0.31	1.17	Latex Paint / Acrylic / Enamel	100mesh
0.019"	219	319	419	519	619	0.38	1.44		60mesh (white)
0.021"		321	421	521	621	0.47	1.78		
0.023"		323	423	523	623	0.57	2.16	Heavy latex	60mesh (white)
0.025"		325	425	525	625	0.67	2.54		
0.027"			427	527	627	0.77	2.91		
0.029"		329	429	529	629	0.90	3.41	Elastomeric / Blockfiller / Primer /	30mesh (green)
0.031"		331	431	531	631	1.03	3.90		
0.033"		333	433	533	633	1.17	4.43		
0.035"		335		535		1.31	4.98		
0.043"	243	343	443	543	643	1.98	7.51		

Important things to know about tip wear

It's important to replace a tip when it becomes worn, this ensures you will have a precise spray pattern, maximum productivity and a quality finish. When tip wears, the hole (orifice) size increases and spray pattern width decreases.



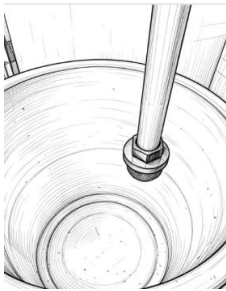
Tip life varies by coating, Extend tip life by spraying at the lowest pressure that breaks up (atomizes) the coating into a complete spray pattern.

As with all spray equipment, your sprayer must be cleaned properly or it will not operate properly. Clogged are the most common causes of problems. If followed, these guidelines will insure trouble free performance from your sprayer.

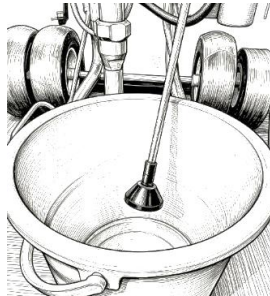
1. Do pressure relief procedure.

Remove siphon tube set from paint and place in flushing fluid.

Note: Use water for water base paint and mineral spirits for oil base paint.

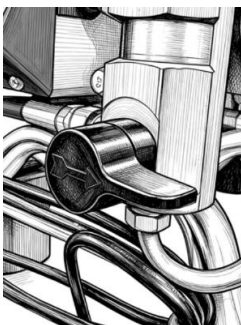


PAINT

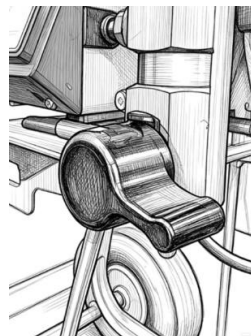


FLUSH

2. Turn power On, turn prime/spray valve up to close drain valve.

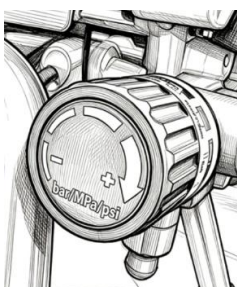


GR-190/GR-390/GR-490

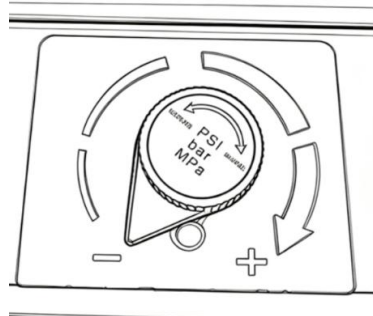


GR-595/GR-695/GR-795/GR-1095/GR-650/GR-700
GR-750/GR-800H/GR-850

3. Increase the pressure to about to 1/2 maximum take the trigger safety OFF, trigger gun until flushing fluid appears.



GR-190

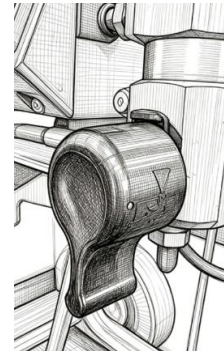
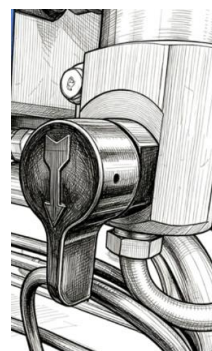


X210-GR-850

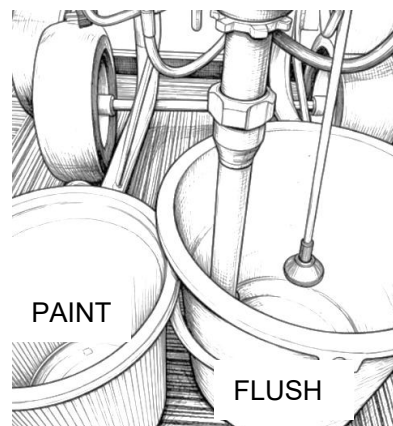
4. Move the gun to waste pail, hold gun against pail, trigger gun to thoroughly flush system, release trigger and put trigger safety ON.



5. Turn prime valve down to open drain valve and allow flushing fluid to circulate for 15 seconds to clean drain tube.



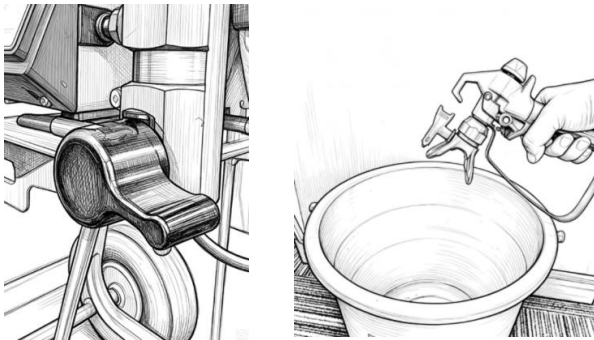
6. Raise siphon tube above flushing fluid and run sprayer for 15 or 30 seconds to drain fluid.



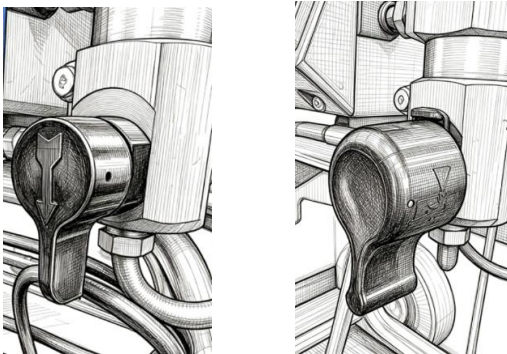
PAINT

FLUSH

7. Turn up prime valve up to close drain valve.
Trigger gun into flushing pail to purge fluid from hose, Turn Power **OFF**.



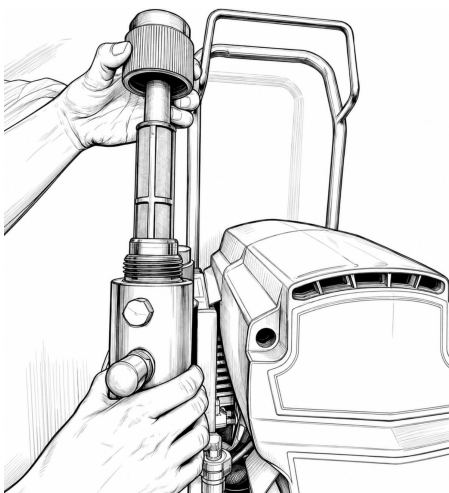
8. Turn prime valve down to open drain valve.
Unplug sprayer.



GR-190/GR-390/GR-490

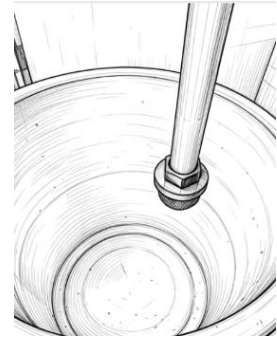
GR-595/GR-695/GR-795/GR-1095/GR-650/GR-700
GR-750/GR-800H/GR-850

9. Remove filters from gun and sprayer, if installed. Clean and inspect, install filters.

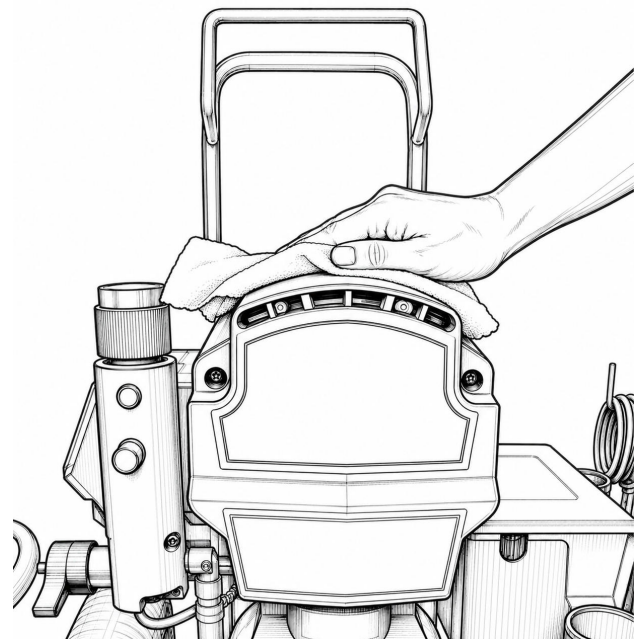


10. If flushing with water, flush again with mineral spirits, or pump armor, to leave a protective coating to prevent freezing or corrosion.

11. **IF** the machine will be storage for over 10 days, after you cleaned the machine thoroughly, please take off the suction tube, hose&gun, and pour about 10ml WHITE lubricating oil into the fluid pump. Then switch on the machine and let it keep running (PRIME POSITION) for 5 seconds(once you can see the oil in the prime tube). This will prevent the wet parts inside being stuck, corrosive or rusted.



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



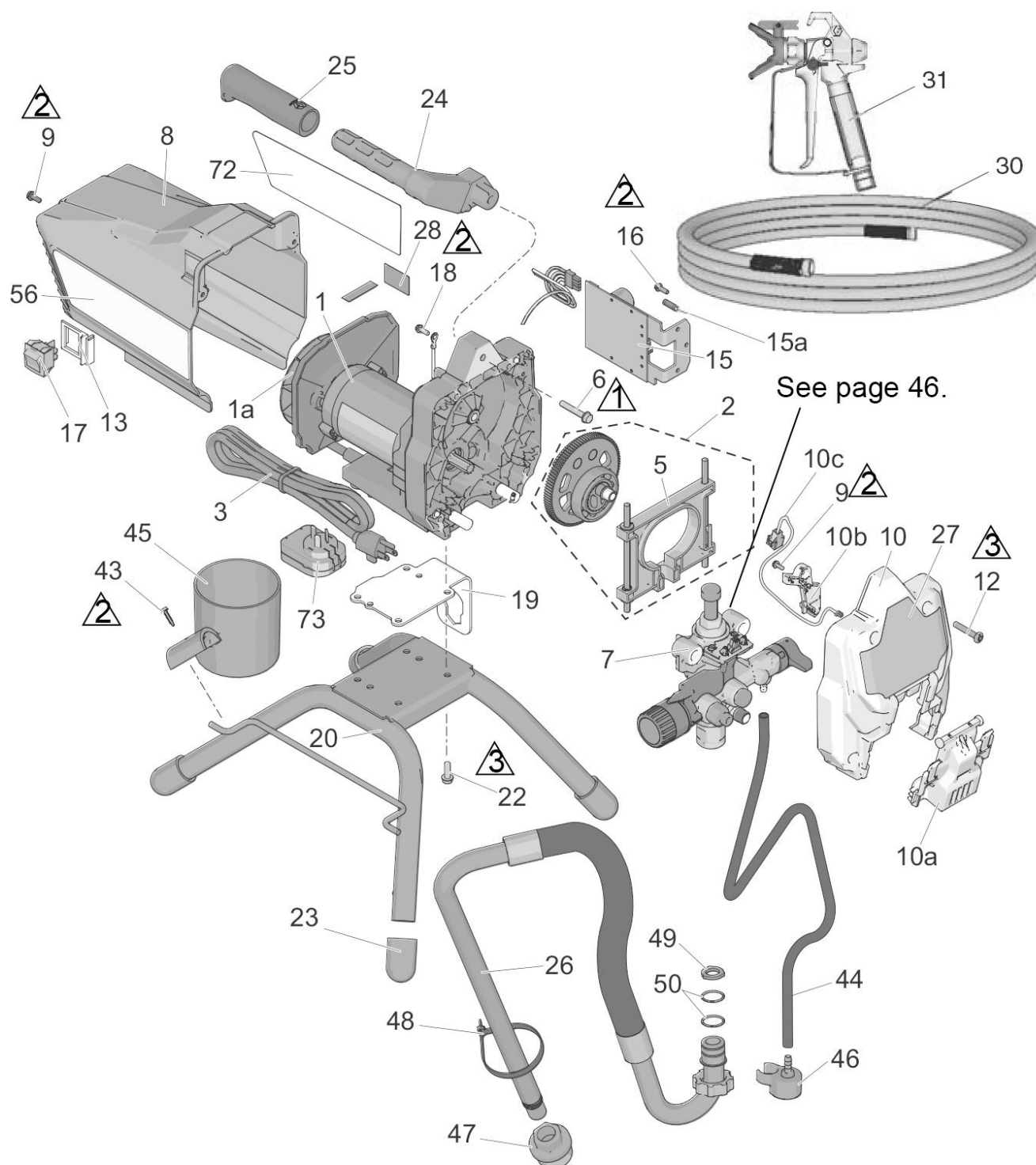
Problem	Cause	Solution
Power switch is on and sprayer is plugged in, but motor does not run, and pump does not cycle.	Pressure is set at zero pressure.	Turn pressure control knob clockwise to increase pressure setting.
	Motor or control is damaged.	Please contact with your supplier or GROG directly.
	Electric outlet is not providing power.	• Try a different outlet or plug in something that you know is working to test outlet. • Reset building circuit breaker or replace fuse.
	Extension cord is damaged.	Replace extension cord.
	Sprayer electric cord is damaged.	Check for broken insulation or wires. Replace electric cord if damaged.
	Paint and/or water is frozen or hardened in pump.	Unplug sprayer from outlet. If frozen do NOT try to start sprayer until it is completely thawed or you may damage the motor, control board and/or drivetrain. Make sure power switch is OFF. Place sprayer in a warm area for several hours. Then plug in power cord and turn sprayer ON. Slowly increase pressure setting to see if motor will start. If paint is hardened in sprayer, pump packings, valves, drivetrain or pressure switch may need to be replaced. Please contact with your supplier or contact with GROG directly.

Problem	Cause	Solution
Sprayer starts up but does not draw in paint.	Unit will not prime or has lost prime	Replace prime Unit
	No paint. Suction tube not totally immersed in paint	Immerse suction tube in paint
	Suction set filter clogged.	Clean filter.
	Suction tube loose at inlet valve	Clean connection and tighten
	Inlet valve is leaking	Clean inlet valve. Be sure the ball seat is not nicked or worn and that ball seats well, Reassemble valve.
	Pump packings are worn	Replace pump packings.
	Piston rod worn or damaged.	Clean or replace
Pump cycles but does not build up pressure.	Pump is not primed.	Prime pump.
	Inlet screen is clogged.	Clean debris off inlet screen and make sure suction tube is immersed in fluid.
	Suction tube is not immersed in paint.	Make sure suction tube is immersed in paint.
	Suction tube is leaking.	Tighten suction tube connection. Inspect for cracks or vacuum leaks. If cracked or damaged, replace suction tube.
	Prime/Spray Valve is worn or obstructed with debris.	Clean the valve or replace a new one.
Pump cycles, but paint only dribbles or spurts when spray gun is triggered.	Pressure is set too low.	Slowly turn Pressure Control Knob clockwise to increase pressure setting which will turn motor on to build pressure.
	O-ring in pump is worn or damaged	Replace O-rings
	Inlet valve ball is packed with material	Clean inlet valve,
	Spray tip is clogged	Unclog spray tip
	Fluid filter is clogged.	Clean or replace fluid filter
	Spray gun fluid filter is clogged.	Clean or replace gun fluid filter,
	Spray tip is too large or worn.	Replace tip.

Problem	Cause	Solution
Sprayer draws up paint but drops away when gun is opened	Worn spray tip	Replace with new tip.
	Suction set filter clogged	Clean filter.
	Gun or spray tip filter plugged.	Clean or replace filter. Keep extra filters on hand
	Paint too heavy or coarse.	Thin or strain paint
	Worn V-packing assembly.	Replace
	Inlet valve worn or damaged.	Replace valve
Tip assembly leaks	Assembled incorrectly	Check assembly.
	Worn seal.	Replace seal.
Spray gun won't spray	Spray tip, gun filter or tip clogged	Clean spray tip
	filter plugged	Clean or replace gun or filter.
	Spray tip in Clean position	Put tip in Spray position
Paint tailing.	Pressure is set too low.	Increase pressure
	Gun, tip, or suction filter plugged.	Clean filters
	Suction tube loose	Tighten suction tube fitting
	Tip worn.	Replace tip
	Paint too thick	Thin paint
Thermal overload tripped	Motor over heated.	Allow to cool 15 to 30 min.
	Paint build up on motor.	Clean paint from motor.
	Unit sitting in hot sun.	Move to a shady location
No display, sprayer operates.	Display is damaged or had bad connection.	Check connection, replace display
Fan pattern varies dramatically while spraying. OR Sprayer does not turn on promptly when resuming spraying.	Pressure control switch is worn and causing excessive pressure variation.	Please contact with your supplier or GROG
Paint leaks down outside of pump.	Pump packings are worn	Replace pump packings.

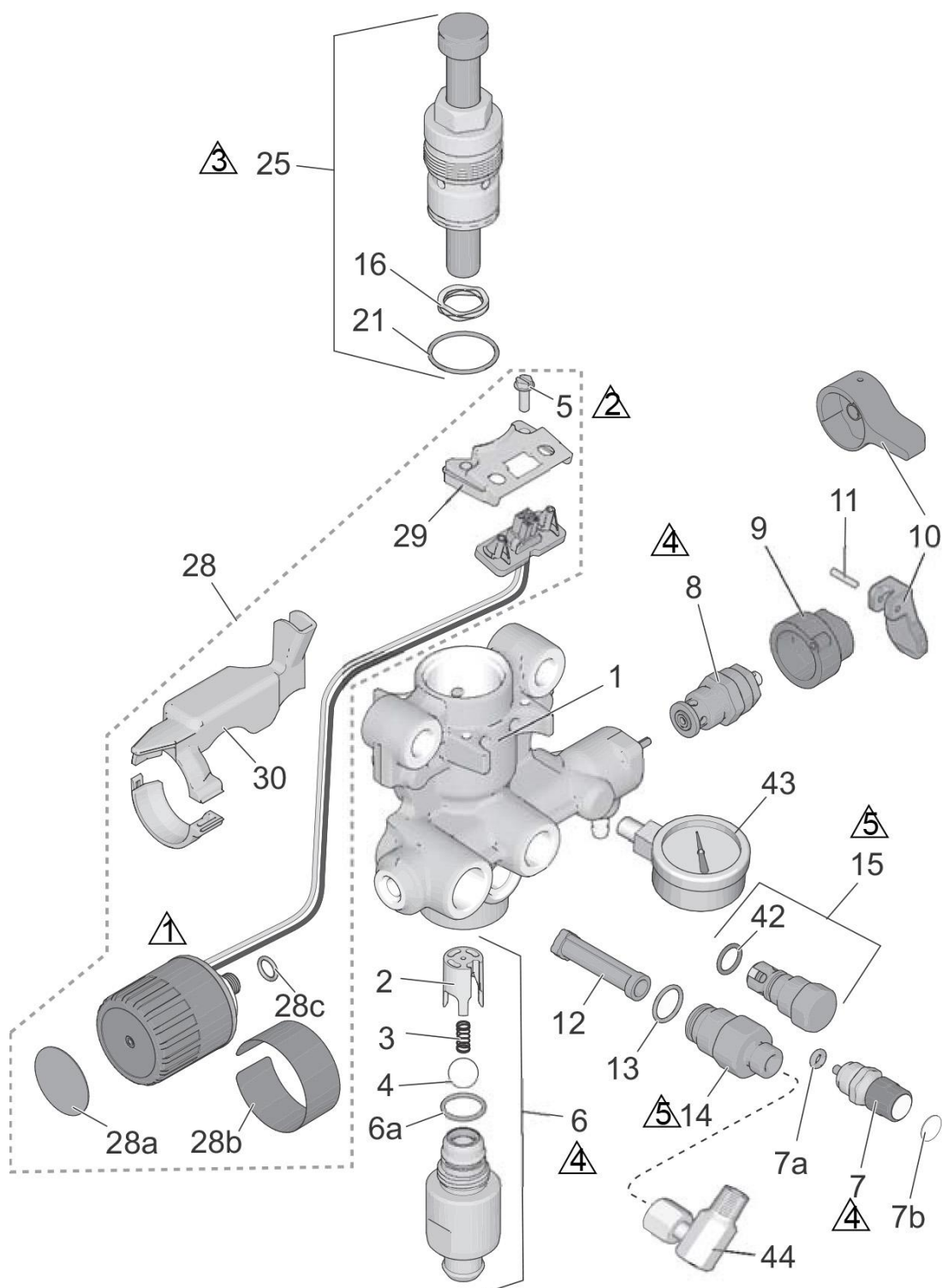
Display error code E-01	High temperature protection	Solution: Clean dirt from the radiator; the drive will return to normal after cooling down.
Display error code E-02	Communication fault	Solution: Check the communication connection signal wire between the sensor board and the motor drive. If the signal wire is normal, return to the manufacturer for repair.
Display error code E-03	Pressure Sensor error	Solution: Check if the sensor has poor contact or replace it.
Display error code E-04	Motor-to-drive controller connection or mechanical fault.	Solution: Check the connection between the motor and the drive, and check for mechanical jamming. After confirming normal operation, replace the drive for testing to distinguish between motor or drive faults, then return the faulty component for repair.
Display error code E-05	Motor or drive overcurrent fault.	Solution: See E-04.
Display error code E-06	IPM protect.	Solution: Same as E-05.
Display error code E-07	Cleaning state pressure > 10 MPa.	Solution: Open the spray gun or adjust the pressure control potentiometer to the normal position.

Display error code E-08	Power supply undervoltage.	Solution: Check the power supply voltage or whether the socket is faulty.
Display error code E-09	No material.	Solution: Add material, return the pressure setting knob to zero, then readjust to the required pressure point.
Display error code E-10	Motor overtemperature protection.	
Display error code E-11	Power supply overvoltage.	Solution: Check the power supply voltage or whether the socket is faulty.
Display error code E-12	Display error code E-11	Please repair the Hall sensor as soon as possible.

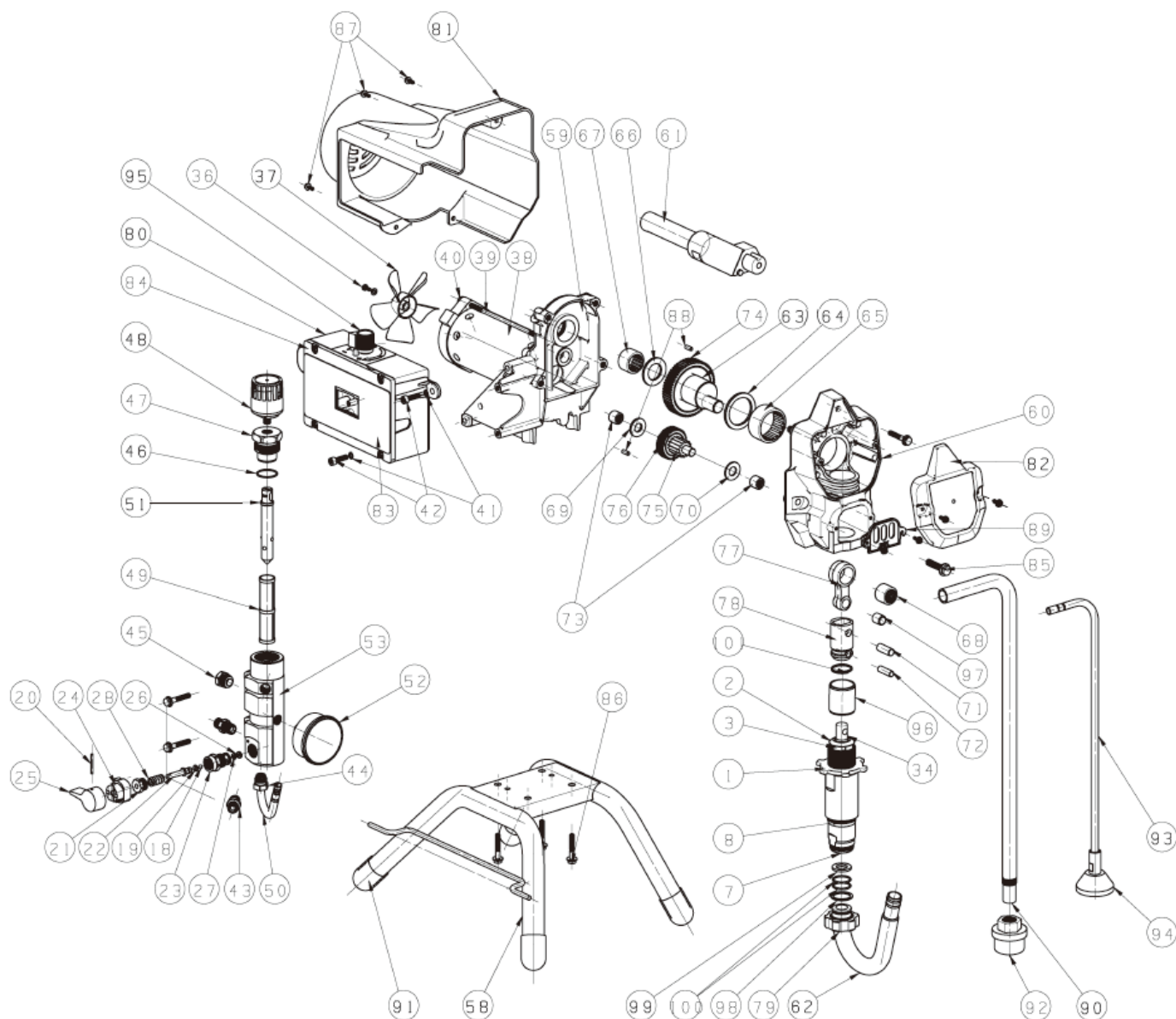


Ref. Part	Description	Qty.	Ref. Part	Description	Qty.
1	KIT, motor <i>includes 1a</i>		20	FRAME, standmount	1
	120V, Model 17H211	1	22	SCREW, hwh, thread forming	4
	230V, Model 17H214	1	23	CAP, leg	4
1a	KIT, fan		24	HANDLE, sprayer	1
	120V, Model 17H211	1	25	GRIP, handle	1
	230V, Model 17H214	1	26	TUBE, suction, assembly <i>includes 47, 49, 50</i>	1
2	KIT, gear and yoke <i>includes 5</i>	1	27	LABEL, front	1
3	CORD, power		30	HOSE, cpld, 1/4 in. x 50 ft	
	120V, Model 17H211	1		Model 17H211	1
	230V, Model 17H214	1		Model 17H214	1
5	KIT, yoke	1	31	GUN, spray, SG3	
6	SCREW, mach, hwhd	1		Model 17H211	1
7	PUMP, displacement	1		Model 17H214	1
8	SHIELD, motor <i>includes 9, 56</i>	1	43	SCREW, drill, HWH	1
9	SCREW, mach, hwhd 10-24 x 0.5 in.	3	44	TUBE, drain <i>includes 46, 48</i>	1
10	KIT, cover, front <i>includes 9, 10a, 10b, 10c, 12</i>	1	45	CUP, suction/drain	1
10a	COVER, pump, locking	1	46	DEFELCTOR, barbed	1
10b	COVER, wire	1	47	STRAINER, 7/8-14	1
10c	CABLE, PC, jumper	1	48	STRAP, tie	1
12	SCREW, mach, Torx, pan hd	4	49	WASHER, hose	1
13	SWITCH, bracket	1	50	O-ring	2
15	KIT, control <i>includes 15a, 16</i>		56▲	LABEL, warning	
	120V, Model 17H211	1		Model 17H211	1
	230V, Model 17H214	1		Model 17H214	1
15a	FUSE, 12.5A slow blow	1	57▲	CARD, medical alert (not shown)	
16	SCREW, plastite	1		EN, ES, FR	1
17	SWITCH, rocker	1		EN, ZH, KO	1
18	SCREW, mach, slot, hex whd	1	72	LABEL, side, GX 19	1
19	PLATE, motor, mount	1	73	PLUG, converter, Model 17H214 only	1

▲Replacement Danger and Warning labels, tags, and cards are available at no cost.



Ref. Part	Description	Qty.	Ref. Part	Description	Qty.
1	HOUSING, pump	1	12	KIT, filter (Not installed on all models.)	1
2	GUIDE, ball	1	13	PACKING, O-ring	1
3	SPRING, compression	1	14	KIT, repair outlet	1
4	BALL, 0.5 in.	1		<i>includes 12, 13</i>	
5	SCREW, mach, slot HWH	2	15	KIT, outlet valve repair	1
6	KIT, inlet housing			<i>includes 42</i>	
	<i>includes 2, 3, 4, 6a</i>		16	SPRING, valve	1
	Models 24Y680,	1	21	PACKING, O-ring	1
	17G183, 17H218,		25	KIT, repair, piston pump	1
	17H219, 17H221			<i>includes 16, 21</i>	
	Models 17H211,	1	28	KIT, pressure control	
	17H214			<i>includes 5, 28a, 28b,</i>	
	Models 17F924,	1		28c, 29, 30	
	17G184, 17H222,			Models 17H211,	1
	17H223			17H214	
6a	PACKING, O-ring	1		Models 24Y680,	1
7	KIT, PushPrime	1		17F924, 17G183,	
	<i>includes 7a, 7b</i>			17G184, 17H218,	
7a	PACKING, O-ring	1		17H219, 17H221,	
7b	LABEL, PushPrime			17H222, 17H223	
8	KIT, valve, drain,		28a	LABEL, control	1
	<i>includes 9, 10, 11</i>		28b	LABEL, control	1
	Models 17H211,	1	28c	O-ring	1
	17H214		29	BRACKET, electrical	1
	Models 24Y680,	1		connector	
	17F924, 17G183,		30	KIT, shield, wire	
	17G184, 17H218,			Models 17H211,	1
	17H219, 17H221,			17H214	
	17H222, 17H223			Models 24Y680,	1
9	BASE, valve			17F924, 17G183,	
	Models 17H211,	1		17G184, 17H218,	
	17H214			17H219, 17H221,	
10	HANDLE, valve, drain			17H222, 17H223	
	Models 17H211,	1	42	PACKING, O-ring	1
	17H214		43	GAUGE, pressure	1
	Models 24Y680,	1		Models 17F924,	
	17F924, 17G183,			17G184, 17H222,	
	17G184, 17H218,			17H223	
	17H219, 17H221,		44	FITTING, swivel	1
	17H222, 17H223			Models 17F924,	
	<i>includes 11</i>			17G184, 17H222,	
11	PIN, grooved Models	1		17H223	
	17H211, 17H214				



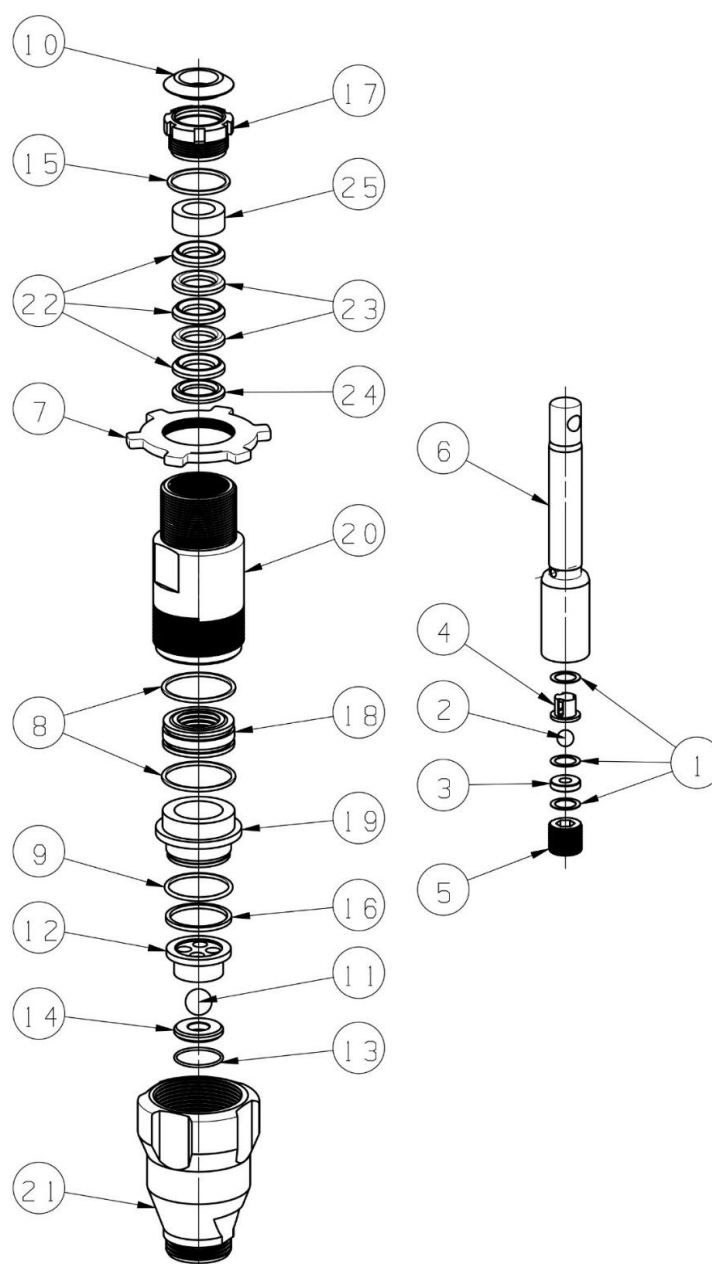
PC NO	PART NAME	QTY
101	Under-hanging connecting pipe below 1095	1
100	595 plastic pipe sealing ring	2
98	595 plastic pipe inner gasket	1
97	595 oil-free cleaning agent	1
96	595 steal sleeve	1
95	Rotary shaft small parts	1
94	Backflow pipe end	7
93	L-tpe backflow pipe	1
92	400 plastic pipe valve	1
91	Support sleeve	4
90	400-type plastic pipe	1
89	Fuel filler baffle	1
88	595 gearbox housing	2
87	M4X0.7 long 9.75	12
86	M6X1.0 long 35	7
85	M8X1.25 long 35.5	4
84	400 upper cover	1

83	400 Display Screen Sticker	1
82	500 Front Cover Shell	1
81	500 Rear Cover Shell	1
80	595 Circuit Board Aluminum Shell	1
79	595 Suction Pipe Nut	1
78	490 (595, 695) Connecting Rod Lower Section	1
77	490 (595, 695) Connecting Rod Upper Section	1
76	595 Pinion Gear	1
75	595 Pinion Gear Shaft	1
74	595 Gearwheel	1
73	SCE78 Bearing	2
72	695 Connecting Rod Pin	1
71	595 Connecting Rod Pin	1
70	695 Pinion Gear Shaft Thin Gasket	1
69	595 Pinion Gear Shaft Thick Gasket	1
68	BHA1112Z Bearing	1
67	BHA1412Z Bearing	1
66	595 Eccentric Shaft Small Gasket	1
65	SCE2414 Bearing	1
64	595 Eccentric Shaft Gasket	1

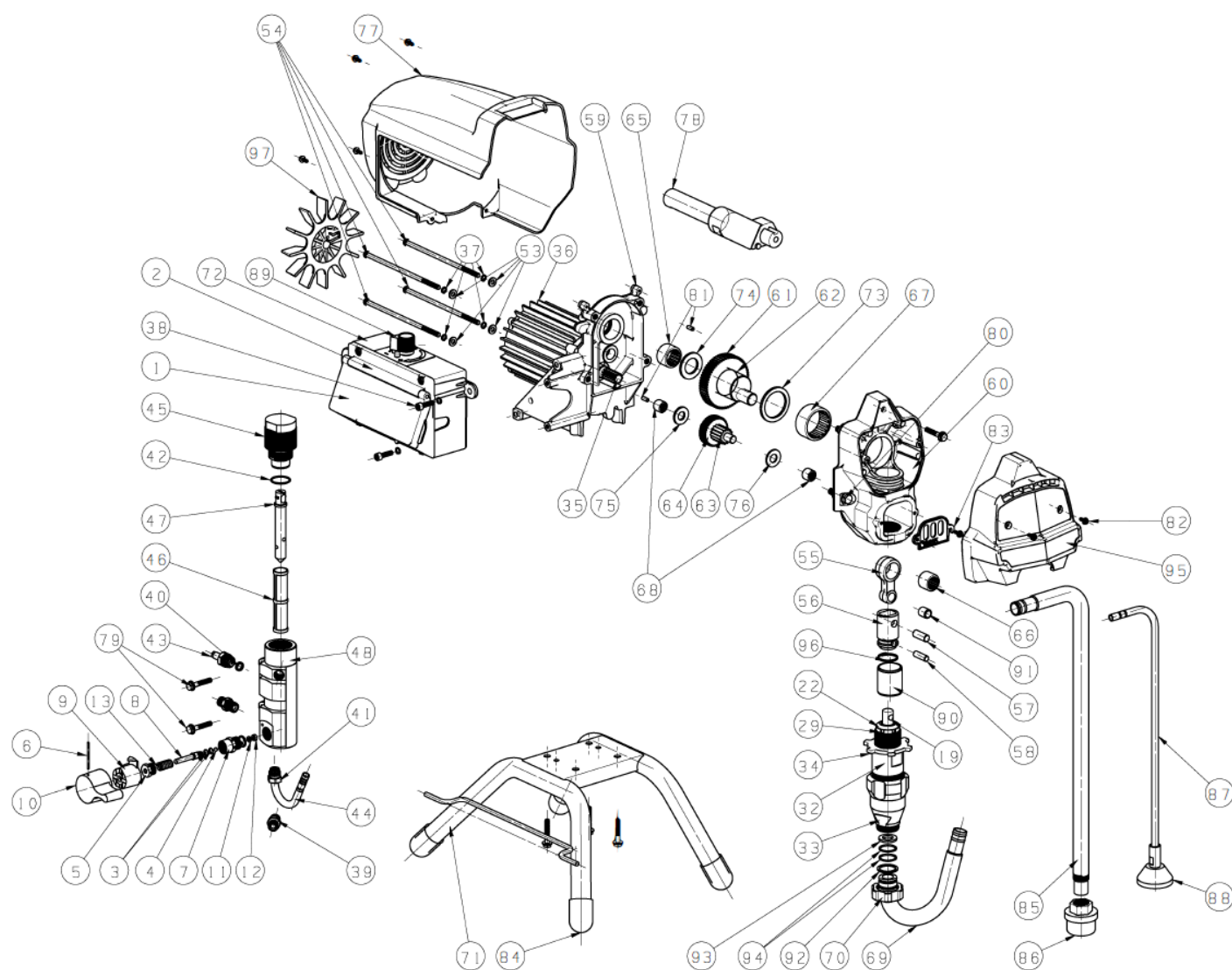
63	595 Eccentric Shaft	1
62	595 Bent Suction Pipe	1
61	595 Handle Grip	1
60	595 Modified S Front Face	1
59	400 Motor End Cover	1
58	595 Bracket	1
57	490 Upper Gasket of Seal Ring	1
56	490 Lower Gasket of Seal Ring	1
55	490 Type Upper Cowhide Seal Ring	2
54	490 Upper V-type Seal Ring	3
53	400 Filter	1
52	400 Filter Pressure Gauge	1
51	595 Filter Core	1
50	Return Pipe Elbow	1
49	595 Filter Screen	1
48	X20 Pressure Control Knob	1
47	400 Filter Nut	1
46	490 Filter Seal Ring	1
45	400 Sensor Plug	1
44	Return Pipe Elbow Nut	1
43	490 Type Discharge Port Joint	2

42	595 Circuit Aluminum Housing Mounting Screw	2
41	M6 Spring Washer	2
40	700 Motor Flange Nut	2
39	700 Motor Extended Screw	2
38	750W Motor	1
37	750W Motor Fan	1
36	750W Motor Fan Fixing Screw	1
35	750W Motor Shaft Gasket	1
34	400 Plunger Rod	1
33	400 Plunger Rod Screw	1
32	595 Upper Ball Valve Ball Cover	1
31	595 Upper Ball Valve Seat	1
30	7.938 Tungsten Steel Ball	1
29	595 Plunger Rod Copper Sheet	3
28	490 Return Valve Spring	1
27	490 Return Valve Seat	1
26	490 Return Valve Plastic Washer	1
25	490 Regulating Valve Handle	1
24	490 Regulating Valve Seat	1
23	490 Type Return Valve Housing	1
22	490 Return Valve Core	1

21	490 Return Valve Nut	1
20	490 Elastic Cylindrical Pin	1
19	490 Return Valve Core Seal Ring	1
18	490 Return Valve Core Ball	1
17	400 Lower Seal Ring	1
16	490 Type Fixed Nut Seal Ring	1
15	400 Bushing Large Seal Ring	1
14	400 Bushing Small Seal Ring	1
13	400 Lower Ball/Cylinder Liner Seal Ring	1
12	495 Lower Seal Ring	2
11	400 Lower Ball Valve Seat Seal Ring	1
10	400 Lower Ball Valve Ball Cover Upper Gasket	1
9	400 Lower Ball Valve Ceramic Ball	1
8	400 Cylinder Liner	1
7	400 Lower Ball Valve Cylinder Liner	1
6	400 Bushing	1
5	490 Lower Ball Valve Ball Cover	1
4	595 - 1095 Lower Ball Valve Seat	1
3	490 Type Fixed Nut	1
2	595 Pump Body Dust Cover	1
1	595 Lock Nut	1



2 5	490 Gasket on Seal Ring	1
2 4	490 Gasket under Seal Ring	1
2 3	490 Upper Leather Seal Ring	2
2 2	490 Upper V-type Seal Ring	3
2 1	495 Lower Ball Valve Cylinder Liner	1
2 0	495 Cylinder Liner	1
1 9	495 Bushing	1
1 8	495 Lower Seal Ring	1
1 7	490 Type Fixing Nut	1
1 6	400 Gasket on Lower Ball Cover	1
1 5	490 Type Fixing Nut Seal Ring	1
1 4	595 - 1095 Lower Ball Valve S Seat	1
1 3	490 Lower Balve Seat Seal Ring	1
1 2	490 Lower Ball Valve Ball Cover	1
1 1	12.7 Alloy Ball	1
1 0	595 Pump Body Dust Cover	1
9	495 Bushing Seal Ring	1
8	495 Lower Seal Ring	2
7	595 Lock Nut	1
6	595 Lock Nut	1
5	595 Plunger Rod	1
4	595 Plunger Rod Screw	1
3	595 Upper Ball Valve Seat	1
2	7.938 Tungsten Steel Ball	1
1	595 Plunger Rod Copper Sheet	3
P C N O	P A R T N A M E	Q T Y



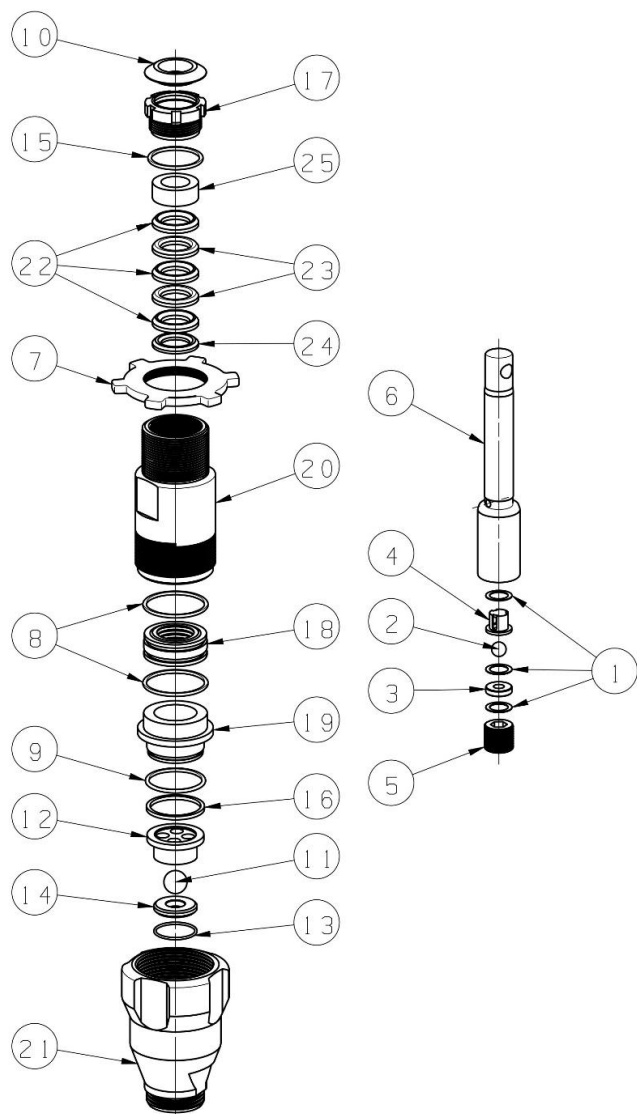
9 7	Fan	1
9 6	Connecting Rod Retaining Spring for Below 1095	1
9 5	595PC Front Cover	1
9 4	595 Suction Pipe Seal Ring	2
9 3	595 Suction Pipe Inner Gasket	1
9 2	595 Suction Pipe Gasket	1
9 1	595 Oil-Free Bushing	1
9 0	595 Copper Bushing	1
8 9	Knob Small Part	1
8 8	Return Pipe End	1
8 7	L-Shaped Return Pipe	1
8 6	595 Suction Filter Screen	1
8 5	595L-Type Suction Pipe	1
8 4	Bracket Foot Cover	4
8 3	Oil Filler Baffle	1

8 2	M4 x 0.7 length 9.75	1 2
8 1	595 gearbox pin	2
8 0	M8 x 1.25 length 35.5	4
7 9	M6 x 1.0 length 35	8
7 8	595 handle	1
7 7	595 PC rear cover	1
7 6	595 pinion shaft thin washer	1
7 5	595 pinion shaft thick washer	1
7 4	595 eccentric shaft small washer	1
7 3	595 eccentric shaft washer	1
7 2	595 circuit board aluminum case	1
7 1	595 bracket	1
7 0	595 suction tube nut	1
6 9	595 bent suction tube	1
6 8	SCE78 bearing	2
6 7	SCE2414 bearing	1
6 6	BHA1112Z bearing	1
6 5	BHA1412Z bearing	1
6 4	595 pinion	1
6 3	595 pinion shaft	1
6 2	595 eccentric shaft	1

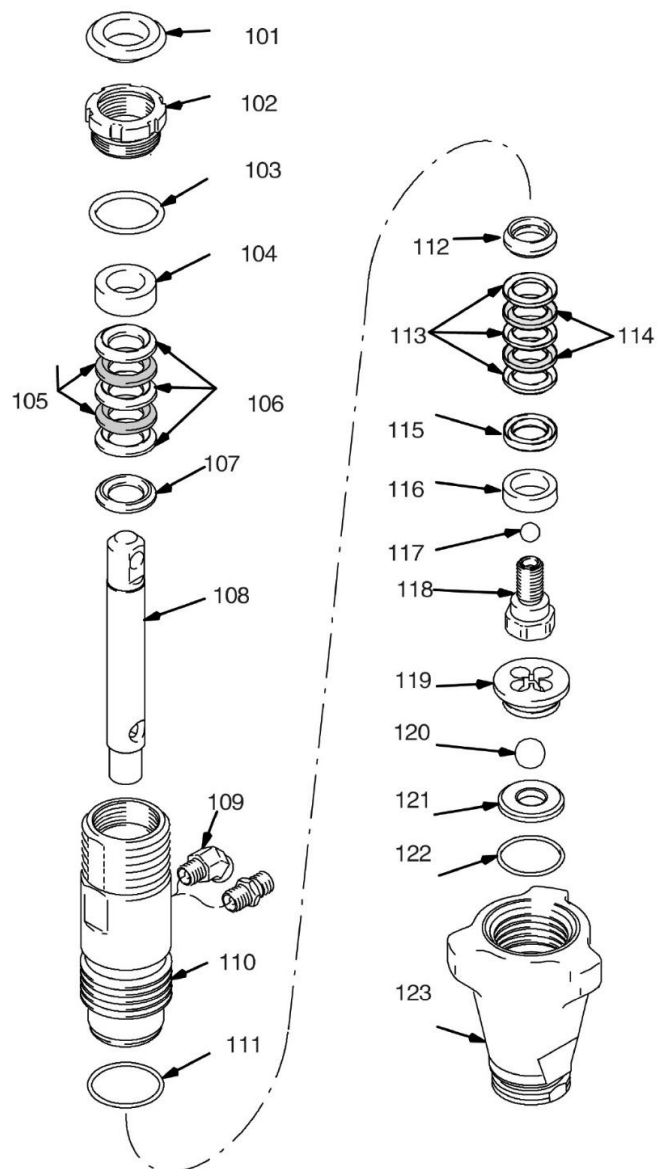
6 1	595 Large Gear	1
6 0	595 Front Face	1
5 9	595 Front Face	1
5 8	595 Motor End Cover	1
5 7	695 Connecting Rod Pin	1
5 6	490 (595, 695) Connecting Rod Lower Section	1
5 5	490 (595, 695) Connecting Rod Upper Section	1
5 4	895 Motor Extended Screw	4
5 3	895 Motor Extended Screw Washer	4
5 2	490 Seal Ring Upper Washer	1
5 1	490 Seal Ring Lower Washer	1
5 0	490 Type Upper Leather Seal Ring	2
4 9	490 Upper V-Type Seal Ring	3
4 8	595 (695, 895) Filter Ring	1
4 7	595 Filter Element	1
4 6	595 Filter Screen	1
4 5	590 Type Filter Nut	1
4 4	Return Pipe Elbow	1
4 3	1095 Filter Sensor Nut	1

4 2	490 Filter Seal Ring	1
4 1	Return Pipe Elbow Nut	1
4 0	1095 Sensor Seal Ring	1
3 9	490 Discharge Port Joint	2
3 8	595 Circuit Aluminum Housing Mounting Screw	2
3 7	M6 Spring Washer	6
3 6	595 Motor	1
3 5	595 Motor Shaft	1
3 4	595 Lock Nut	1
3 3	495 Lower Ball Valve Cylinder Liner	1
3 2	495 Cylinder Liner	1
3 1	495 Bushing	1
3 0	495 Lower Seal Ring	1
2 9	490 Fixing Nut	1
2 8	400 Lower Ball Valve Ball Cover Upper Gasket	1
2 7	490 Fixing Nut Seal Ring	1
2 6	595 - 1095 Lower Ball Valve Seat	1
2 5	400 Lower Ball Valve Seat Seal Ring	1
2 4	490 Lower Ball Valve Ball Cover	1
2 3	12.7 Alloy Ball	1
2 2	595 Pump Body Dust Cover	1

2 1	495 Bushing Seal Ring	1
2 0	495 Lower Sealing Ring	2
1 9	595 Plunger Rod	1
1 8	595 Plunger Rod Screw	1
1 7	595 Upper Ball Valve Ball Cover	1
1 6	595 Upper Ball Valve Seat	1
1 5	7.938 Tungsten Steel Ball	1
1 4	595 Plunger Rod Copper Plate	3
1 3	1095 Return Valve Spring	1
1 2	1095 Return Valve Plastic Washer	1
1 1	1095 Return Valve Seat	1
1 0	1095 Return Valve Seat	1
9	1095 Regulating Valve Knob	1
8	1095 Regulating Valve Seat	1
7	1095 Return Valve Core	1
6	1095 Return Valve Housing	1
5	1095 Elastic Cylindrical Pin	1
4	1095 Return Valve Nut	1
3	1095 Return Valve Core Seal Ring	2
2	595 Upper Cover	1
1	595 Transparent Cover	1



490/595 Pump



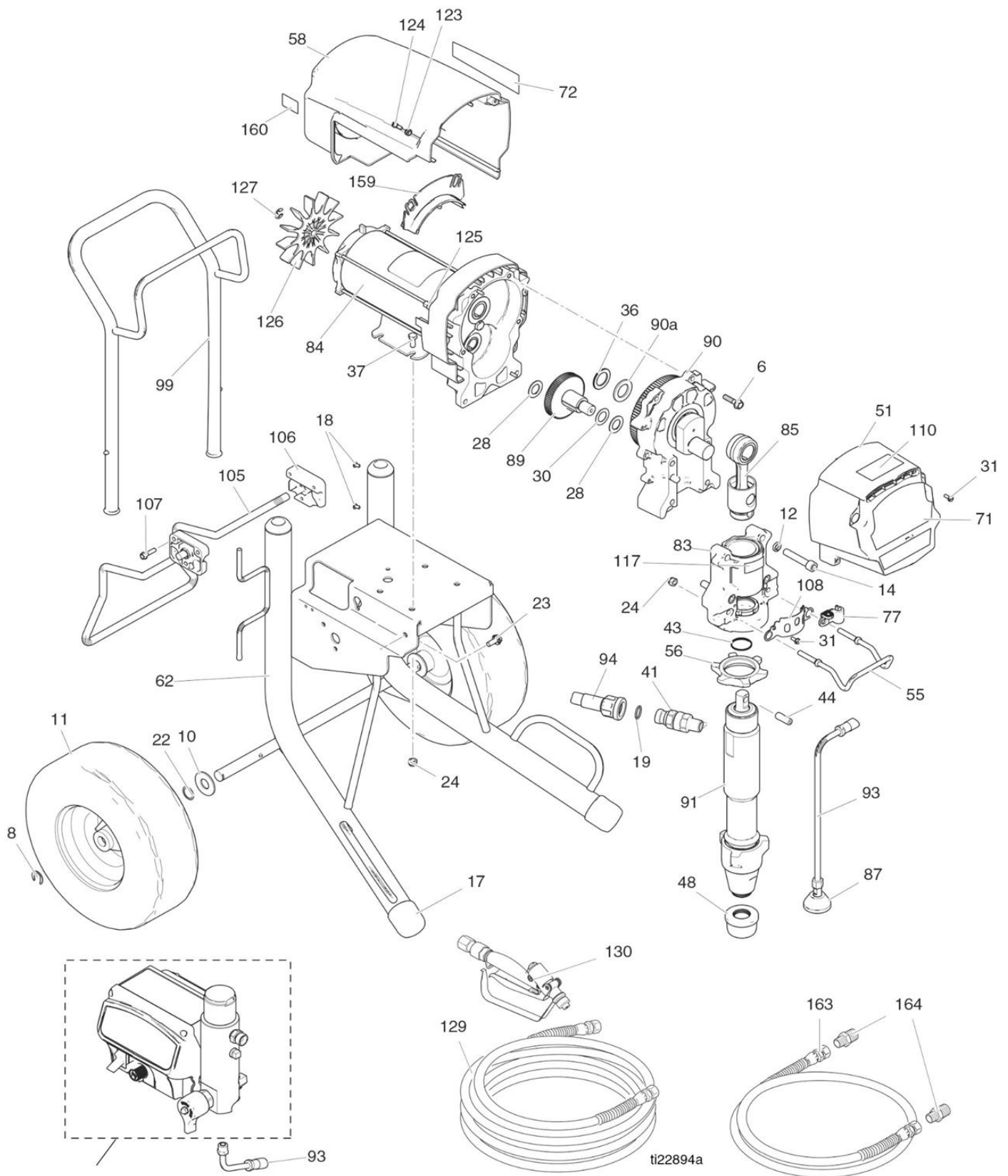
695 Pump

2 5	490 Gasket on Seal Ring	1
2 4	490 Gasket under Seal Ring	1
2 3	490 Upper Leather Seal Ring	2
2 2	490 Upper V-type Seal Ring	3
2 1	495 Lower Ball Valve Cylinder Liner	1
2 0	495 Cylinder Liner	1
1 9	495 Bushing	1
1 8	495 Lower Seal Ring	1
1 7	490 Type Fixing Nut	1
1 6	400 Gasket on Lower Ball Cover	1
1 5	490 Type Fixing Nut Seal Ring	1
1 4	595 - 1095 Lower Ball Valve S Seat	1
1 3	490 Lower Balve Seat Seal Ring	1
1 2	490 Lower Ball Valve Ball Cover	1
1 1	12.7 Alloy Ball	1
1 0	595 Pump Body Dust Cover	1
9	495 Bushing Seal Ring	1
8	495 Lower Seal Ring	2
7	595 Lock Nut	1
6	595 Lock Nut	1
5	595 Plunger Rod	1
4	595 Plunger Rod Screw	1
3	595 Upper Ball Valve Seat	1
2	7.938 Tungsten Steel Ball	1
1	595 Plunger Rod Copper Sheet	3
PC NO	PART NAME	QTY

490/595 Pump

NO.	NAME
101	Guide sleeve
102	fasten the screw nut
103	O-ring
104	Positioning sleeve
105	Leather seal
106	UPE seals
107	Positioning sleeve
108	Plunger rod
109	On the wire connector
110	Steel sleeve
111	O-ring
112	Positioning sleeve
113	UPE seals
114	Leather seal
115	Positioning sleeve
116	Under the scraper
117	Small ball
118	Steel ball seat
119	Positioning flower blue
120	Big ball
121	Big ball seat
122	O-ring
123	Under the steel body

695 Pump



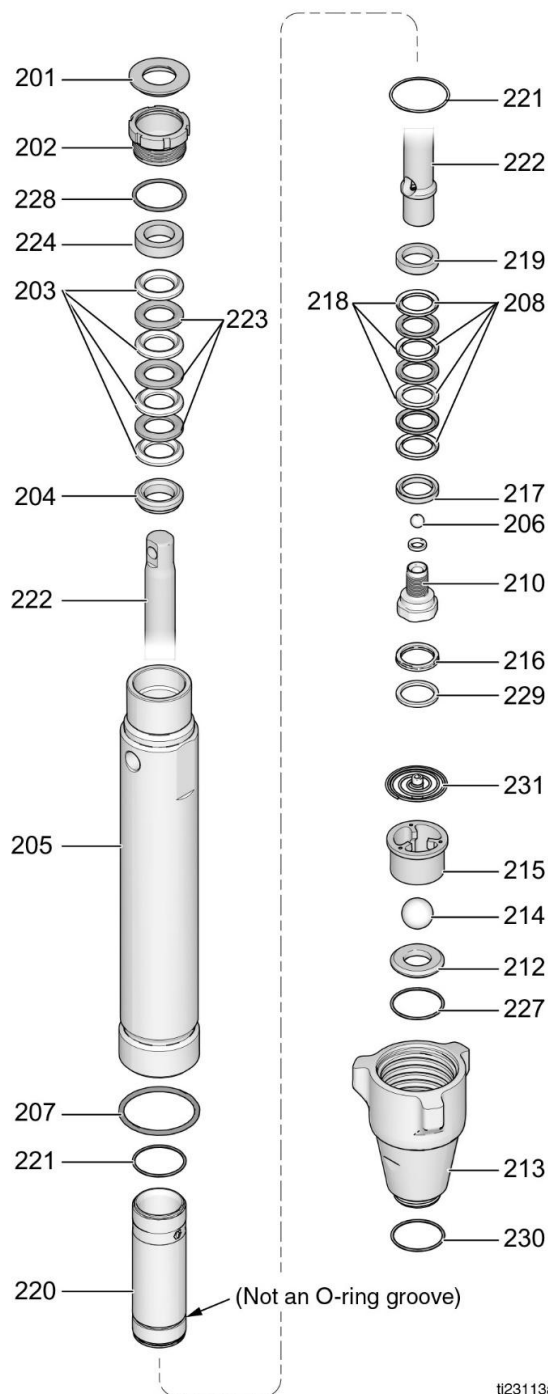
Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
6		SCREW, mach, torx, hex	6	85		ROD, connecting; <i>includes 43, 44</i>	1
8		CLIP, retaining	2	87		DEFLECTOR, threaded	1
10		WASHER, flat	2	89		GEAR, combination;	1
11*		WHEEL, pneumatic	2			<i>includes 28, 30</i>	
12		WASH, lock, spring	4	90		HOUSING, drive;	1
14		SCREW, cap, socket hd	4			<i>includes 6, 36, 90a</i>	
17		CAP, leg	2	90a		WASHER, race, thrust	1
18		SCREW, mach, pnh	4	91		PUMP, displacement	1
19		O-RING	1	93		HOSE, drain; <i>includes 87</i>	1
22		WASHER, wave spring	2	94		HOSE, coupled; <i>includes 19</i>	1
23		SCREW, cap, flng hd	2	99		HANDLE, cart	1
24		NUT, lock	6	105		HANGER, stand, cart	1
28		WASHER, thrust	2	106		CAM, cart	2
30		WASHER, thrust	1	107		SCREW, mach, hex washer	4
31		SCREW, machine, hex washer hd	6	108		SHIELD, pump rod	1
36		WASHER, thrust	1	110		LABEL, Standard series	1
37		SCREW, cap, hex hd	4	117		LABEL, torque	1
41		VALVE, check, quick disc	1	123		GROMMET, cover	2
43		SPRING, retaining	1	124		SCREW, shoulder, hex, washer	3
44		PIN, pump	1	125		SPACER, standoff	2
48		STRAINER, (1-11 1/2 NPSM)	1	126		FAN, motor	1
51		COVER, drive, plastic, painted;	1	127		SCREW, mach, torx, pan, hd	1
		<i>includes 31</i>		128▲		TAG, WARNING (not shown)	1
55		HANGER, pail	1	129		HOSE, cpld, 1/2 in. x 50 ft	1
56		NUT, retaining	1	130		GUN, spray, texture	1
58		SHIELD, motor, painted;	1	159		BAFFLE	1
		<i>includes 123, 124</i>		160		LABEL, Made in USA	1
62		FRAME, cart	1	163		HOSE, cpld, 3/8 in. x 3 ft	1
71		LABEL, Mark X	1	164		ADAPTER	2
72		LABEL, Mark X	1	166		GUARD, RAC X	1
77		CLIP, drain line	1				
83		HOUSING, bearing; <i>includes 12,</i>	1				
		<i>14, 24, 31, 55, 77, 108, 117</i>					
84		MOTOR, electric;					
		<i>includes 125, 126, 127</i>					

▲ Extra Danger and Warning tags and labels available free.

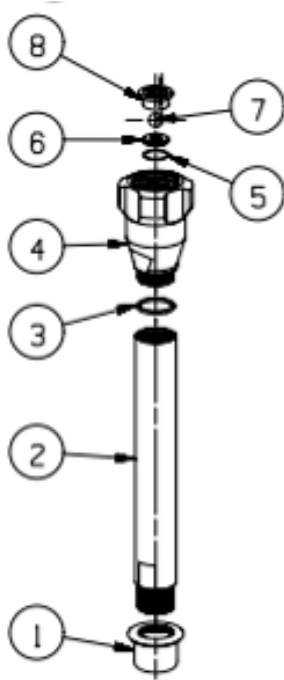
Ref.	Part	Description	Qty.
201*†		SEAL, throat	1
202		NUT, packing	1
203*†		V-PACKING, throat, V-Max, UHMWPE, blue	4
204*†		GLAND, male, throat	1
205		CYLINDER, pump	1
		Model 16X423	
		Model 16X425	
206		BALL, check	1
		Model 16X423(Stainless steel)	
		Model 16X425 (Ceramic)	
207*†		PACKING, o-ring	1
208*†		V-PACKING, piston, V-MAX, UHMWPE, blue	4
210		VALVE, piston	1
212		KIT, seat, carbide	1
		Model 16X423 (includes 214, 227)	
		Model 16X425 (includes 214, 227, 231)	
213		VALVE, intake (foot)	1
		Model 16X423	
		Model 16X425	
214		BALL, check, inlet	1
		Model 16X423 (Stainless steel)	
		Model 16X425 (Ceramic)	
215		GUIDE, ball	1
		Model 16X423	
		Model 16X425	
216*†		WIPER, piston	1
217*†		GLAND, female, piston	1
218		V-PACKING, leather, piston 16X423, 16X425	3
219*†		GLAND, male, piston	1
220		SLEEVE, cylinder	1
221*†		O-RING, ptfe	2
222		ROD, piston	1
		Model 16X423	
		Model 16X425	
223*†		V-PACKING, leather, throat	3
224*†		GLAND, female, throat	1
227*†		O-RING, ptfe	1
228*†		O-RING	1
229*†		WASHER, backup	1
230		O-RING, fluoroelastomer (Model 16X423 only)	1
231		SPRING, intake, ball	1
		Model 16X423	
		Model 16X425	

* These parts are also included in Repair Kit 249123 (SST balls), which may be purchased separately.

† These parts are also included in Repair Kit 17A578 (ceramic balls), which may be purchased separately.



t123113a



PC NO	PART NAME	QTY
1	Suction Filter	1
2	Suction Tube	1
3	O Ring	1
4	Lower Ball Valve Cylinder	1
5	Lower Ball Valve Seal Ring	1
6	Lower Ball Valve Seat	1
7	Lower Ball Valve Ball	1
8	Lower Ball Valve Ball Cover	1