

Owner's Manual

Airless Spray Technology

For professional use only

Do not use this equipment before reading this manual!

DP-6385 Airless Sprayer



NOTE: This guide manual is for Model DP-6385 airless paint sprayer, including the operation, cleaning and maintenance, please read this manual before using the machine.

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1、 Warning and special cautions

Warning!

Don't operation the equipment without reading the following special cautions

1. Special cautions when operating

- 1、 Never put your fingers,hands or any other part of the body into the spray jet.**
- 2、 Never point the spray gun at yourself or any other else**
- 3、 Never use the spray gun without the spray tip cover**
- 4、 Close the safety guard at any time except spraying and cleaning**
- 5、 Please release the pressure before the repair and the maintenance**
- 6、 Don't clean it with bleached water or solvent containing strong acid and alkali**
- 7、 It should be equipped with correspondent electric pressure stabilizing device.**
- 8、 Please operate the machine in a bright place**
- 9、 Never operate the machine in a place with sparks or combustible substances**
- 10、 Never operate the machine beyond 10 seconds without paints**
- 11、 Paints with glue, pellets ,strong corrosive or without solvent are prohibited.**
- 12、 This machine should only be linked with 220V electricity,380V electricity is prohibited, otherwise it will be burned**
- 13、 Never pull the electric wire**
- 14、 Never smoke when operating the machine**

2、 Introduction of contents and data



Motor	Permanent magnet DC motor 1300w
Voltage	220V-240V / 50hz, 110V/60Hz,
Max.pressure	210bar/3050psi
Paint delivery	2.2 L/min
Pressure Control Knob	Mechanical paint pressure controlling
Switch	Controlling the power on or off
PRIME/SPRAY Valve	Horizontal direction is for Prime state(ON) Vertical direction is for Spraying(OFF)
Oil Cup	Cup for oiling(PLS oil or 45#super sewing machine oil
Siphon Hose	Siphoning paints from bucket to the machine
Return Tube	Paints or solvent flows from here in return state
Standard accessories	1 airless pump machine 1 airless spray gun 1 high pressure hose 1 50cm extension pole 1 set repair kit

3、 Operation

Preparation before operation

1、 Tools:

Tools	Quantity
6 inch,8 inch,10 inch wrench	One each
“+”Screwdriver	One
Iron bucket	Two
Plastic bucket	One
Agitator or stirring stick	One
Preventive mask and uniform	One each
Brush	One
Rag	One
Electric meter	One
Electric wire within 30 meters,25mm ²	One roll
Electric pressure stabilizing device	One

2、 Preparation procedure

- 1、 Siphon Hose and Return Tube should be connected correctly and screw tightly.
- 2、 Connect 15 meter high pressure hose to the outlet fitting and screw tightly.
- 3、 Connect airless spray gun to the other end of hose with two wrenches and screw tightly
- 4、 Make sure the PRIME/SPRAY Valve is set horizontal state(ON)
- 5、 Inject 5-6 drops PLS oil at oil cup
- 6、 Check the voltage with a electric ammeter ,and make sure it is between 200 - 250V or 110V - 120V which is permitted by machine.
- 7、 Place the machine in a dry area at least 7.5 meters away from the operation area.

3、 When it is used for the first time

Because there is protective lubricating oil in new machine,you should use some soapsuds to wash it when using it for the first time,Follow the instructions as below:

- 1、 Put siphon hose in a clean water bucket added with little soapsuds
- 2、 Put Return Tube in a waste bucket
- 3、 Set the Pressure Control Knob middle pressure by which the machine could Work (Don't whirl too tight)
- 4、 Set the PRIME/SPRAY Valve horizontal
- 5、 Turn on the electricity
- 6、 Operate the machine to circulate the soapsuds until clean water flows out of the return tube
- 7、 Turn off the electricity

Preparation before spraying

Before spraying, make sure the paints is in harmonious proportion and is simply filtered, otherwise unpurified paints will cause wear and tear to the machine and reduce the machine's lifetime. Besides,circulate the special diluent,and then spray.Follow the instructions as below:

- 1、 Put siphon hose in a bucket full of special diluent or clean water
- 2、 Put return tube in a waste bucket
- 3、 Set Pressure Control Knob middle pressure by which the machine could work (Don't whirl too tight)

- 4、 Set PRIME/SPRAY Valve horizontal
- 5、 Turn on electricity
- 6、 Let the machine work for 15-30 seconds,until clean diluent flow out of return tube
- 7、 Turn off electricity
- 8、 Set PRIME/SPRAY Valve vertical
- 9、 Turn on electricity
- 10、 Open safety guard
- 11、 Point the spray gun at the inside of waste bucket,pull the trigger until clean solvent flows out so that old solvent in paint tube and spray gun flows out
- 12、 Close safety guard(see upper picture)
- 13、 Slowly set Pressure Control Knob high pressure(Whirl tight)
- 14、 Carefully check every component whether it leaks,in that case,release the pressure according to the “pressure releasing procedure” then whirl tight where it leaks

Spraying

- 1、 Put siphon hose into painting bucket
- 2、 put return tube into waste bucket
- 3、 Set Pressure Control Knob middle pressure by which the machine could work
(Don't whirl too tight)
- 4、 Set PRIME/SPRAY Valve horizontal

- 5、 Turn on electricity
- 6、 Make the machine work until the paints flow out of return tube
- 7、 Turn off electricity
- 8、 Remove return tube into painting bucket
- 9、 Set PRIME/SPRAY Valve vertical
- 10、 Turn on electricity
- 11、 Open safety guard
- 12、 Point spray gun at the inside of waste bucket,pull the trigger until paints spray out so that remnants solvent flows out
- 13、 Close safety guard
- 14、 Turn off electricity
- 15、 Load spray tip cover and spray tip,whirl tight
- 16、 Turn on electricity
- 17、 Slowly set Pressure Control Knob middle pressure or high pressure,try it somewhere else,and slowly increase paints pressure until paints are totally atomized,and then it can be operated

Procedure of releasing pressure

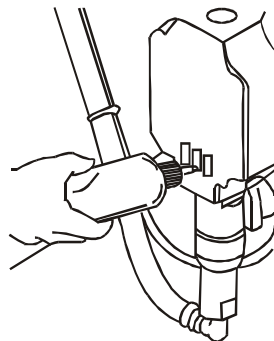
Warning

Release pressure according to pressure releasing procedure, in the course of cleaning, maintenance, repair or interruption

- 1、 Close safety guard
- 2、 Turn on electricity
- 3、 Set Pressure Control Knob low pressure (whirl loose)
- 4、 Open safety guard, reverse the spray tip by 180°
- 5、 Point spray jet at the inside of paint bucket, pull the trigger release the pressure inside the machine and the tube
- 6、 Close safety guard
- 7、 Set PRIME/SPRAY Valve horizontal, let out all the remnants pressure

Daily Maintenance Measures

- 1、 Before every operation, check whether electricity complies with requirements
- 2、 Before every operation, inject 5-6 drops PLS oil at oil cup



- 3、 After spraying,clean thoroughly machine and component.
- 4、 After cleaning,roll the soft pipe avoiding tying a knot
- 5、 In case of long-term setting aside, protective solution should be used to circulate inside the machine,in order to prevent component from being corroded, Finally let the machine siphon a little lubricating oil,and inject PSL oil or 45# sewing machine oil

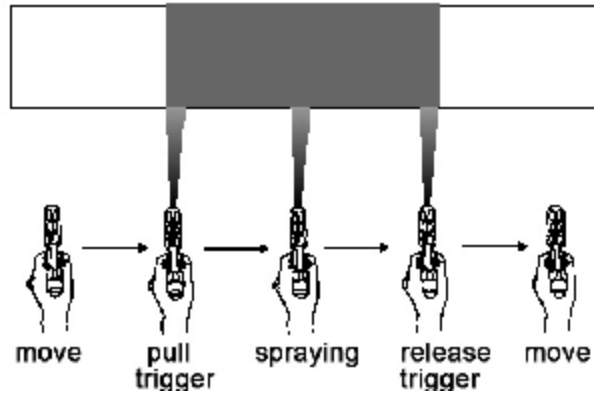
4、 Spraying Technique

The following techniques,if followed,will assure professional painting results.

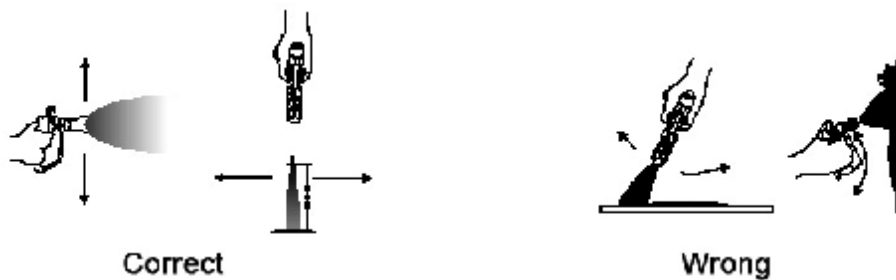
Hold the gun perpendicular to the surface and always at equal distance from the surface.Depending on the type of material,surface,or desired spray pattern,the gun should be held at a distance of 30 to 35 cm

Move the gun either across or up and down the surface at a steady rate.Moving the gun at a consistent speed conserves material and provides even coverage.The correct spraying speed allows a full,wet coat of paint to be applied without runs or sags.Holding the gun closer to the surface deposits more paint on the surface and produces a narrower spray pattern.Holding the gun farther from the surface produces a thinner coat and wider spray pattern.If runs,sags,or excessive paint occur,change to a spray tip with a smaller orifice.If there is an insufficient amount of paint on the surface or you desire to spray faster,a large orifice tip should be selected.

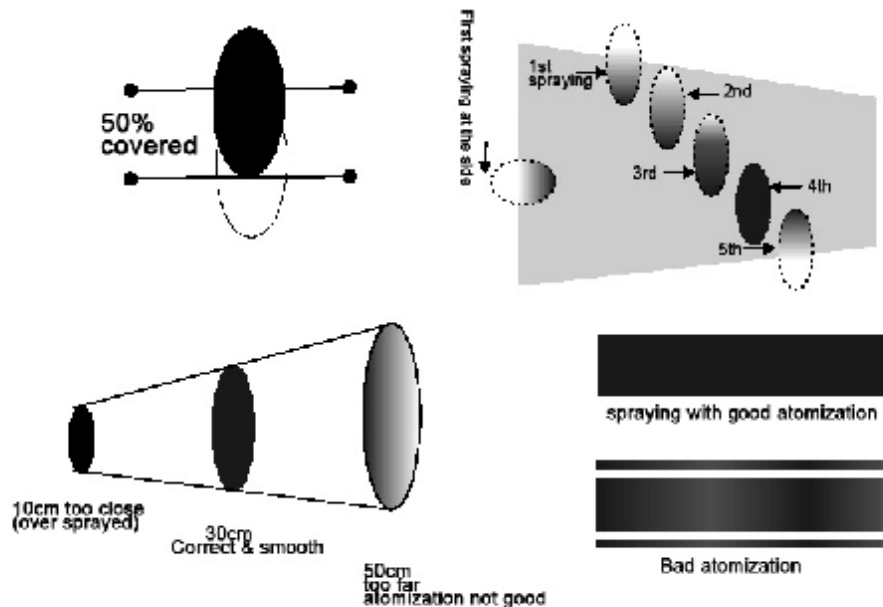
Maintain uniform spray stroke action.Spray alternately from left to right and right to left.Begin movement of the gun before the trigger is pulled.



Avoid arcing or holding the gun at an angle..This will result in an uneven finish.



Proper lapping(overlap of spray pattern)is essential to an even finish.Lap each stroke.If you are spraying horizontally,aim at the bottom edge of the preceding stroke,so as to lap the previous pattern by 50%



For corner and edge,split the center of the spray pattern on the corner or edge and

spray vertically so that both adjoining sections receive approximately even amounts of paint.

When spraying with a shield, hold it firmly against the surface. Angle the spray gun slightly away from the shield and toward the surface. This will prevent paint from being forced underneath.

Shrubs next to houses should be tied back and covered with a canvas cloth. The cloth should be removed as soon as possible. Our gun extensions are extremely helpful in these situations. Nearby objects such as automobiles, outdoor furniture, etc. should be moved or covered whenever in the vicinity of a spray job. Be careful of any other surrounding objects that could be damaged by overspray.

Practice

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

5、 Cleaning

- 1、 Let out the pressure and the paints inside the machine according to the “Pressure Releasing Procedure”.
- 2、 Unload the spray tip and its cover.
- 3、 Put Siphon Hose into special diluent or clean water bucket.
- 4、 Put Return Tube into waste bucket.
- 5、 Set PRIME/SPRAY Valve horizontal.
- 6、 Set Pressure Control Knob middle pressure (Don't whirl too tight).
- 7、 Turn on electricity.
- 8、 Circulate the solvent inside the machine and let out the remnants paints until clean solvent or clean water flows out of Return Tube.
- 9、 Turn off electricity
- 10、 Set PRIME/SPRAY Valve vertical and open safety guard.
- 11、 Turn on electricity.
- 12、 Pull the trigger and make solvent or clean water wash paints pipe and remnants paints inside the spray gun until clean solvent or clean water sprays out.
- 13、 Close safety guard.
- 14、 Load spray tip cover and open safety guard.
- 15、 Reverse the spray tip by 180°, keep pulling the trigger for 1-2 seconds (in order to clean spray tip), then unload the spray tip and its cover and then wash them with a brush (Take care that the spray tip contains a white seat and spray tip holder, please keep them in good preservation).
- 16、 Wipe the overall of the machine, Paints pipe and the spray gun with a rag

containing solvent or clean water until the overall is totally clean without any paints.

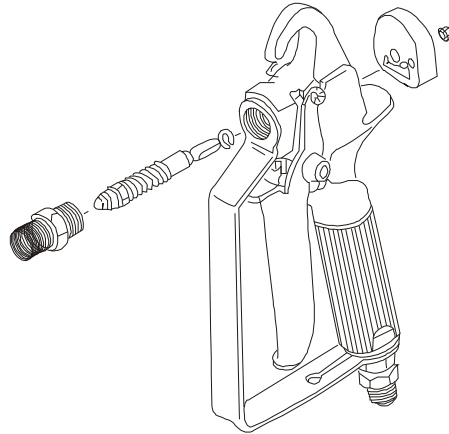
17、 Inject 5-6 drops PLS oil at oil cup

18、 Put the machine in a dry,sanitary and ventilatory palce.

6 、 Repairs

Before repairing,Please make sure where the fault is,Otherwise, unnecessary disassembly will severely affect the machine's function and greatly reduce the machine's life.Besides,in the course of repair,Please wear standard uniform and protective tools.Repair it in a bright and ventilatory place.and prepare a bucket of clean solvent.Clean the components at all times.

Introduction of components of airless spray gun:



Procedure of repairing siphon components

Before the maintenance or repair, siphon hose and return tube should be unloaded, and then they can be repaired or maintained. Follow the instructions as below:

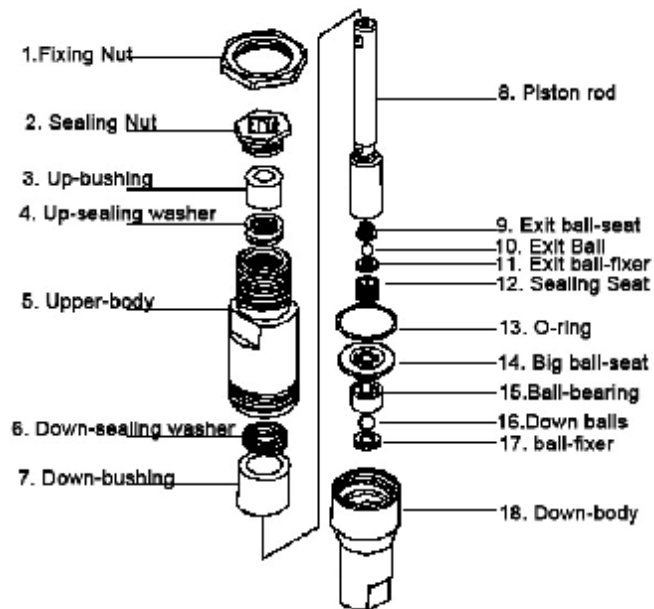
- 1、 Whirl loose and unload six screws on the upper front cover with “+”Screwdriver.
- 2、 Whirl loose and unload Return Tube with wrench.
- 3、 Remove the Siphon Hose Clip, and take Siphon Hose out of the Foot Valve Housing.
- 4、 To facilitate the operation, incline the machine a little backward when taking siphon hose out.

▲Procedure of repairing Ball Valve:Among all the components,Ball Valve is mostly likely to get blocked up for incomplete cleaning,which could cause abnormal operation.Therefore,it's very important to clean and maintain the Ball Valve.The following is the procedure of disassembling the Ball Valve.

- 1、 Remove the whole pump with the wrench as well as Foot Ball Valve.
- 2、 Carefully check and clean every part. In case of damage, it should be replaced.
- 3、 Whirl loose the Upper Ball Valve and remove it from the Piston Rod with the wrench,check whether it is blocked up or it has any wear and tear.Clean or replace it when necessary.
- 4、 Check whether Foot Ball Valve is blocked up or has any wear and tear.Clean or replace it when necessary.
- 5、 After the cleansing of the Ball Valve, assemble it into Siphon Components to the same sequence.

Note:When Foot Ball Valve gets blocked up, it usually couldn't siphon.If Foot Ball Valve works normally,please disassemble Upper Ball Valve.Use clean soft cotton rag to clean Ball Valve.Hard Substances are prohibited.

▲ Replacing Of Sealing Washer:



- 1、Unload and disassemble the pump according to “Procedure of repairing maintaining Ball Valve”.
- 2、Carefully check the Piston Rod and sealing washer. Replace it immediately in case of wear and tear.
- 3、Assemble the components of Piston Rod and whirl them tight with the wrench.
- 4、Inlay Upper Sealing Washer (“U”tip should be downward) and upper Bushing into retainer nut, and assemble the sealing nut into the pump, whirl it tight.
- 5、Assemble the finished Piston Rod upwards from the bottom of upper pump, and knock the Piston Rod gently into the Upper Pump with a hammer until the Piston Rod reaches the correct position.

Remarks: Drop a little lubricating oil when assembling the Piston Rod and all the components.

- 6、 Whirl tight the retainer nut with the wrench.
- 7、 Then assemble the lower sealing washer and the lower bushing into the bottom of the Upper Valve Housing.
- 8、 Whirl tight the finished lower Valve Housing Components, Lower Ball Valve and the Upper Valve Housing.
- 9、 Inlay the whole finished Piston Rod into the “N”.
- 10、 Wring upward the Pump until the Pump is coherent with the Pump Housing.
- 11、 Whirl tight the Locker Nut.
- 12、 Assemble the Siphon Hose onto the lower Pump and Stabilize it.
- 13、 Assemble the Return Tube onto the Siphon Components and whirl it tight.
- 14、 Assemble the front cover and stabilize it with nuts.
- 15、 Operate the machine according to the “Operation Procedure” and check whether it leaks.

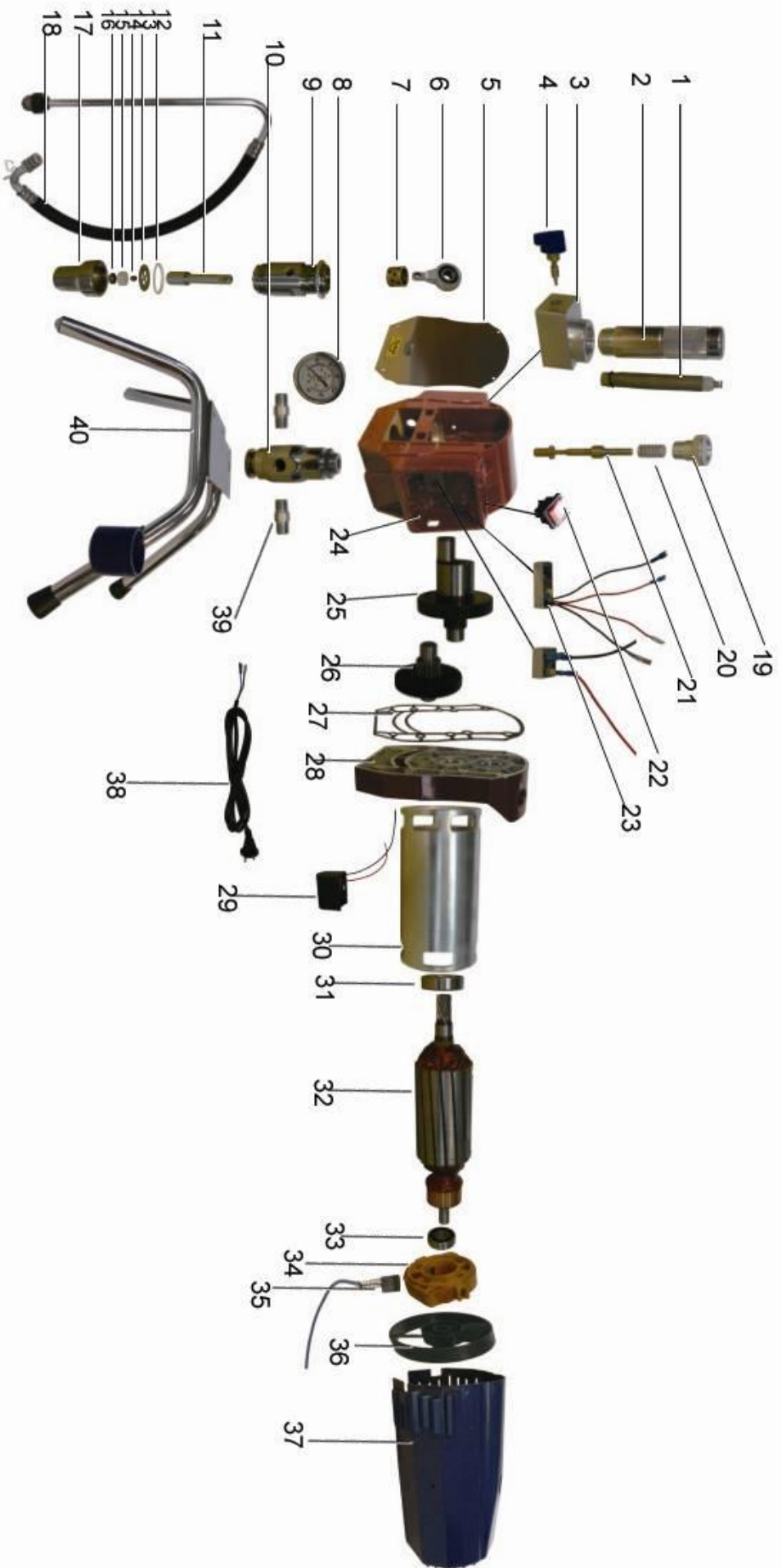
7、 General problems and troubleshooting

Problem	Cause	Solution
The unit will not run.	1、 The unit is not plugged in.	1、 Plug the unit in.
	2、 Tripped breaker.	2、 Reset the breaker.
	3、 The pressure is set too low (pressure control knob set at minimum setting does not supply power to unit).	3、 Turn the pressure control knob clockwise to supply power to the unit and increase the pressure setting.
	4、 Faulty or loose wiring.	4、 Inspect or take to a authorized service center.
	5、 Excessive motor temperature.	5、 Allow motor to cool.
The unit will not prime.	1、 The PRIME/SPRAY valve is in the SPRAY position.	1、 Rotate the PRIME/SPRAY valve clockwise to the PRIME position.
	2、 Air leak in the siphon tube/suction set.	2、 Check the siphon tube/suction set connection and tighten or re-tape the connection with Teflon tape.
	3、 The pump filter and/or inlet screen is clogged.	3、 Remove the pump filter element and clean.Remove the inlet screen and clean.
	4、 The siphon tube/suction set is clogged.	4、 Remove the siphon tube/suction set and clean.
The unit will not build or maintain pressure.	1、 The spray tip is worn.	1、 Replace the spray tip following the instructions that came with the spray gun.
	2、 The spray tip is too large.	2、 Replace the spray tip with a tip that has a smaller orifice following the instructions that came with the spray gun.
	3、 The pressure control knob is not set properly.	3、 Turn the pressure control knob clockwise to increase the pressure setting.
	4、 The pump filter, gun filter,or inlet screen is clogged.	4、 Remove the pump filter element and clean.Remove the gun filter and clean.Remove the inlet screen and clean.
	5、 Material flows from the return hose when the PRIME/SPRAY valve is in the SPRAY position.	5、 Clean or replace the PRIME/SPRAY valve.
	6、 There is external fluid leak.	6、 Check for external leaks at all connections.Tighten connections,if necessary.
	7、 Air leak in the siphon tube/suction set.	7、 Check the siphon tube/suction set connection and tighten or re-tape the connection with Teflon tape.
	8、 Worn valve seats	8、 Reverse or replace the valve seats following the “Servicing the Fluid Section”procedure in the Maintenance section of this manual.
	9、 Motor powers but fails to rotate	9、 Take unit to a authorized service center.
Fluid leakage at the upper end of the fluid section.	1、 The upper packings are worn.	1、 Repack the pump following the “Servicing the Fluid Section”proceduer in the Maintenance section of this manual.

	2、 The piston rod is worn.	2、 Replace the piston rod following the “Servicing the Fluid Section” proceduer in the Maintenance section of this manual.
Excessive surge at the spray gun..	1、 Wrong type of airless spray hose.	1、 Replace hose with a minimum of 5m(50´)*10mm(1/4”)grounded textile braid airless paint spray hose.
	2、 The spray tip worn or too large.	2、 Replace the spray tip
	3、 Excessive pressure.	3、 Rotate the pressure control knob counterclockwise to decrease spray pressure.
Poor spray pattern.	1、 The spray tip is too large for the material being used.	1、 Replace the spray tip with a new or smaller spray tip
	2、 Incorrect pressure setting.	2、 Rotate the pressure control knob to adjust the pressure for a proper spray pattern.
	3、 Insufficient fluid delivery.	3、 Clean all screens and filters.
	4、 The material being sprayed is too viscous.	4、 Add solvent to the material according to the manufacturer´ s recommendations.
The unit lacks power.	1、 The pressure adjustment is too low.	1、 Rotate the pressure control knob clockwise to increase the pressure setting.
	2、 Improper voltage supply.	2、 Connect the input voltage to the proper voltage for the unit.

8、 Parts Listing

Number	Description	Number	Description
1	Inline-filter for surge tank	21	Pressure control rod
2	Surge tank	22	On/off switch
3	Surge tank seat	23	PIC electric control board/Relay
4	Prime/Spray valve	24	Gear Box Housing
5	Front cover	25	Crankshaft/Gear assembly
6	Piston guide/Slider assembly	26	2nd Stage Armature Gear
7	Self-lubricating bearing	27	Sealing gasket
8	Pressure gage	28	Motor front cover
9	Piston pump kit	29	Capacitor
10	Piston pump kit	30	Magnetic cylinder
11	Piston rod	31	Bearing
12	Gasket	32	Motor
13	Outlet valve cage	33	Bearing
14	Outlet valve ball	34	Rear motor cover
15	Packing set	35	Electrical brush
16	Inlet valve ball	36	Fan
17	Pump manifold / bottom pump	37	Motor cover
18	Suction tube	38	Cable
19	Pressure control knob	39	Paint outlet fitting
20	Pressure control spring	40	Feet



9、 Accessories

Airless Tip Selection:

Tips are selected by the orifice size and fan width. The proper selection is determined by the fan width required for a specific job and by the orifice size that will supply the desired amount of fluid and accomplish proper atomization.

For light viscosity fluids, smaller orifice tips generally are desired. For heavier viscosity materials, larger orifice tips are preferred. Please refer to the chart below.

NOTE: Do not exceed the sprayer's recommended tip size.

The following chart indicates the most common sizes and the appropriate materials to be sprayed.

Tip Size	Spray Material	Filter Type
.011-.013	Lacquers and stains	100 mesh filter
.015-.019	Oil and latex	60 mesh filter
.021-.026	Heavy bodied latex and blockfillers	30 mesh filter

Fan widths measuring 8" to 12" (20 to 30 cm) are preferred because they offer more control while spraying and are less likely to plug.