

CHICAGO
Electric® Power Tools

HVLP ELECTRIC PAINT SPRAYER

Model 91772

ASSEMBLY AND OPERATING INSTRUCTIONS



Distributed Exclusively by
HARBOR FREIGHT TOOLS®

**TO PREVENT SERIOUS INJURY,
READ AND UNDERSTAND ALL WARNINGS
AND INSTRUCTIONS BEFORE USE.**

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For technical questions, please call 1-800-444-3353.

PRODUCT SPECIFICATIONS

Motor	115 V, 60 Hz, 450 Watt, Single Phase
Maximum Pressure	2-5 PSI
Air Intake	1500 Liters Per Minute
Hose	Twist Lock O-ring Connection, 7 Ft. Long
Includes: Viscosity Cup, Small Inflator, Shoulder Carry Strap, 1 Liter Paint Cup.	

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES



READ AND UNDERSTAND ALL INSTRUCTIONS
Failure to follow all instructions listed below may result in
electric shock, fire, and/or serious injury.
SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

ELECTRICAL SAFETY

4. **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
5. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system.
6. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
7. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
8. **Do not abuse the Power Cord. Never use the Power Cord to carry the tools or pull the Plug from an outlet. Keep the Power Cord away from heat, oil, sharp edges, or moving parts. Replace damaged Power Cords immediately.** Damaged Power Cords increase the risk of electric shock.
9. **When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W”.** These extension cords are rated for outdoor use, and reduce the risk of electric shock.

PERSONAL SAFETY

10. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
11. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.

12. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Carrying power tools with your finger on the Power Switch, or plugging in power tools with the Power Switch on, invites accidents.
13. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
14. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.
15. **Use safety equipment. Always wear ANSI-approved eye protection, face mask/respirator and protective clothing while spraying.**

TOOL USE AND CARE

16. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
17. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
18. **Do not use the power tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.
19. **Disconnect the Power Cord Plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
20. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
21. **Maintain tools with care. Keep tools clean.** Do not use a damaged tool. Tag damaged tools "Do not use" until repaired.
22. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

23. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

24. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
25. **When servicing a tool, use only identical replacement parts. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES

1. **Maintain labels and nameplates on the Sprayer.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. **Maintain a safe working environment.** Keep the work area well lit. Make sure there is adequate surrounding workspace. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use a power tool in areas near flammable chemicals, dusts, and vapors. Do not use this product in a damp or wet location.
3. **Always keep the extension cord away from moving parts on the tool.**
4. **Always spray in a well ventilated area to prevent health and fire hazards.**
5. **Never spray flammable materials near open flames or ignition sources.** Electrical arcs from motorized equipment can ignite flammable materials.
6. **Spray approved materials only.** Never spray corrosive materials, acids, toxic chemicals, fertilizers, pesticides, or highly flammable materials such as gasoline, kerosene etc.
7. **Never leave the Sprayer unattended when it is plugged into an electrical outlet.** Turn off the tool, and unplug it from its electrical outlet before leaving.
8. **Always unplug the Sprayer from its electrical outlet before performing and inspection, maintenance, or cleaning procedures.**
9. **Never spray towards people or animals.**
10. **Always mask the area surrounding the paint site to protect surrounding property and equipment from paint overspray.**

11. **WARNING:** The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm). (California Health & Safety code § 25249.5, *et seq.*)
12. **WARNING!** People with pacemakers should consult their physician(s) before using this product. Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker.

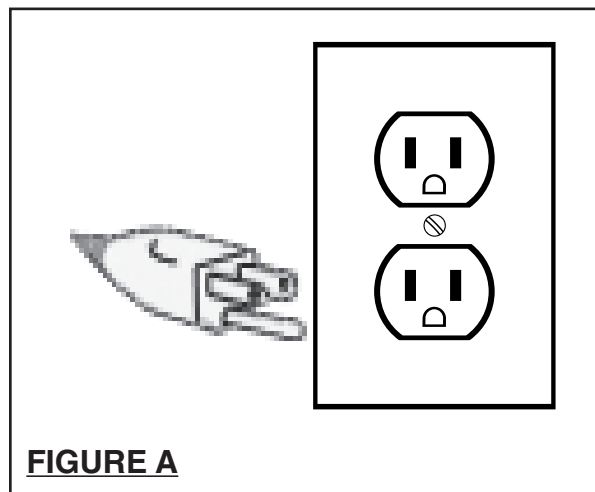
GROUNDING

WARNING!

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

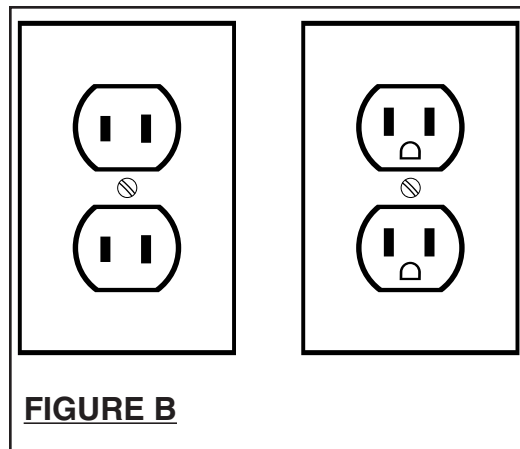
GROUNDING TOOLS: TOOLS WITH THREE PRONG PLUGS

1. Tools marked with “Grounding Required” have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. **(See Figure A.)**
2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool’s grounding system and must never be attached to an electrically “live” terminal. **(See Figure A.)**
3. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration. **(See Figure A.)**



DOUBLE INSULATED TOOLS: TOOLS WITH TWO PRONG PLUGS

4. Tools marked "Double Insulated" do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code. **(See Figure B.)**
5. Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration. **(See Figure B.)**



EXTENSION CORDS




1. **Grounded** tools require a three wire extension cord. **Double Insulated** tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. **(See Figure C, next page.)**
3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. **(See Figure C.)**
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Figure C.)**
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. **(See Figure C.)**

6. If you are using an extension cord outdoors, make sure it is marked with the suffix "W-A" ("W" in Canada) to indicate it is acceptable for outdoor use.
7. Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
8. Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (120 VOLT)					
NAMEPLATE AMPERES (At Full Load)	EXTENSION CORD LENGTH				
	25 FEET	50 FEET	75 FEET	100 FEET	150 FEET
0 - 2.0	18	18	16	16	16
2.1 - 3.4	18	18	16	14	14
3.5 - 5.0	18	18	16	14	12
5.1 - 7.0	18	16	14	12	12
7.1 - 12.0	16	14	12	10	-
12.1 - 16.0	14	12	10	-	-
16.1 - 20.0	12	10	-	-	-

FIGURE C *Based on limiting the line voltage drop to five volts at 150% of the rated amperes.

SYMBOLOLOGY

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
V ~	Volts Alternating Current
A	Amperes
n_oxxxx/min.	No Load Revolutions per Minute (RPM)

UNPACKING

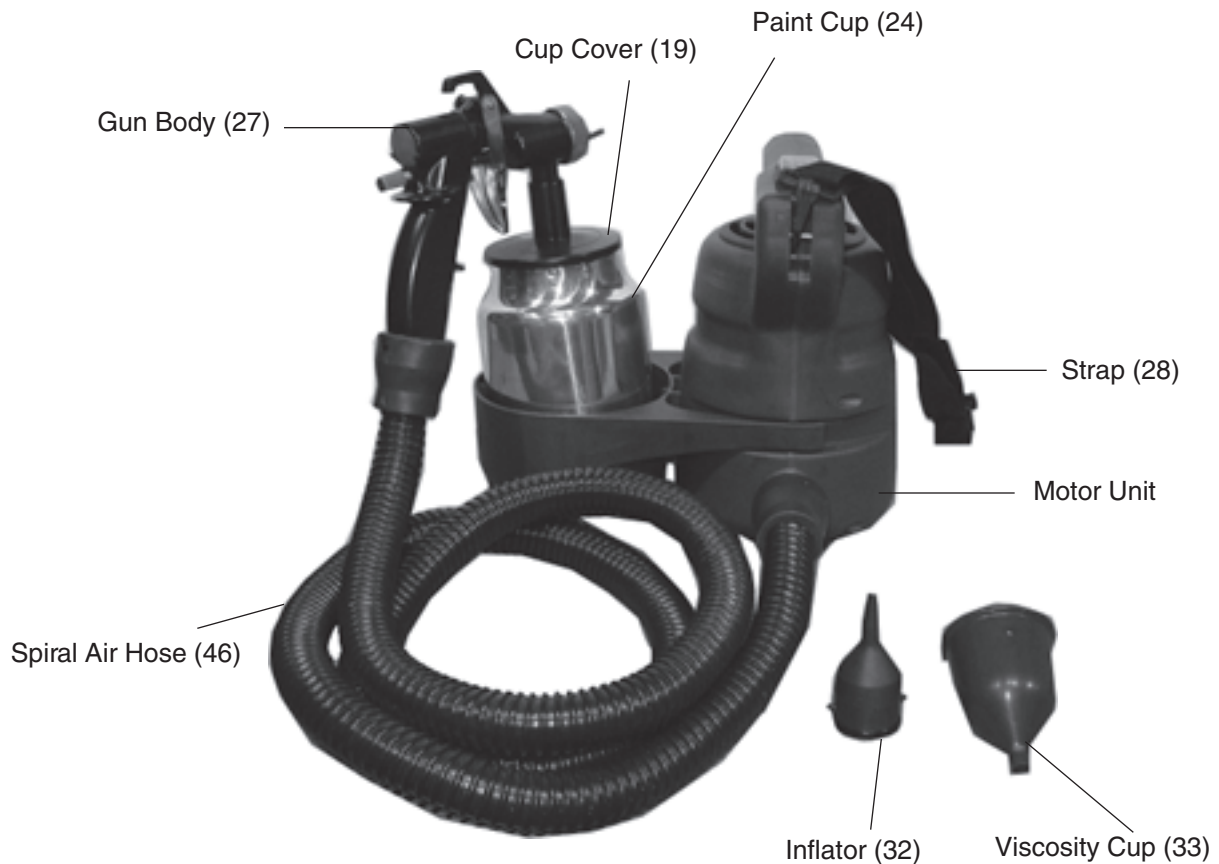
When unpacking, check to make sure all the parts shown on the **Parts List on page 14** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

ASSEMBLY AND OPERATING INSTRUCTIONS

NOTE: For additional information regarding the parts listed in the following pages, refer to the **Assembly Diagram on page 15**.

CAUTION: Always make sure the Power Cord of the Sprayer is unplugged from its electrical outlet *prior* to making any adjustments to the tool.

FIGURE 1



ASSEMBLY AND OPERATING INSTRUCTIONS (continued)

Refer to the Assembly Drawing on page 15 and FIGURE 1 on page 10.

Checking the Paint Viscosity

When using a HVLP (low pressure and high volume) spray gun the paint must be thinned to the proper viscosity. Viscosity indicates whether the material is very liquid (low viscosity) versus very thick (high viscosity). Viscosity is measured in the seconds it takes for the paint to flow through the viscosity meter (DINs). Ask your paint sales representative, check the paint container, or contact the manufacturer to find the paint's viscosity value.

Note: For use only with paints, never use textures or other materials. This Sprayer can use paints with viscosity values between 10 to 14 DINs. Most commonly used paints fall within this range and will not need to be thinned. Always check the viscosity of the material before using it in this Spray Gun.

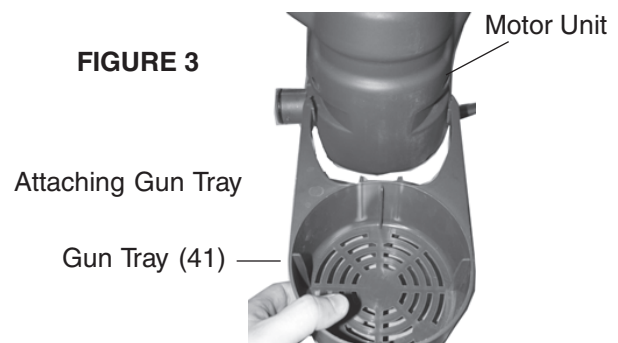
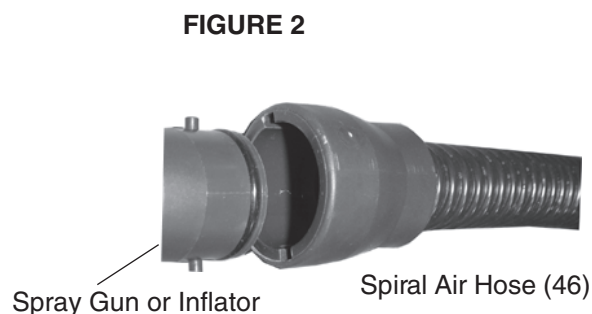
To measure the viscosity of your paint, you will need the Viscosity Cup (33), a small container, and a timepiece with a second hand. Fill the Viscosity Cup (33) with paint (holding it over the container), and immediately begin to time how long it takes the Viscosity Cup (33) to empty. The time it takes to empty the Viscosity Cup (33) is the viscosity of the paint. If the paint is outside of the range (10-14 DINs), take the appropriate measures to thin it (see manufacturer's instructions).

Preparing the Object to be Painted.

1. Thoroughly clean the object or area that you are painting. Remove any old paint, scaling, or rust from the surface.
2. If necessary, make the surface smooth (using sandpaper).
3. Read the instructions on the paint can to determine whether or not you need to apply a fixative/adhesive to the surface to save paint.

Preparing the Spray Gun

1. After making sure the paint is the proper viscosity, thoroughly mix the paint.
2. Remove the Cup Cover (19) (twist counterclockwise) and fill the Paint Cup (24) to just below the top.
3. Replace the Cup Cover (19). Twist clockwise.
4. Connect the Spray Gun to the Spiral Air Hose (46) by snapping it into place. All connections snap into place as illustrated in **FIGURE 2** below.



ASSEMBLY AND OPERATING INSTRUCTIONS (continued)

5. Secure the Spray Gun in the Gun Tray (41). If the Gun Tray (41) is not attached to the Motor Unit, attach it as shown in **FIGURE 3** on page 11.
 6. To adjust the type of spray required, loosen the Lock Ring (17) and rotate the Fluid Tip (16) for a horizontal, vertical, or round spray. Practice spraying on scrap material to get the feel of the adjustments. When finished, tighten the Lock Ring (17). **Note:** Horizontal and vertical sprays are recommended for larger surfaces, and round sprays are used for small objects or difficult to reach areas.
 7. Plug in the unit.
 8. Place the Strap (28) over your shoulder.
 9. Turn on the Switch (31). See **FIGURE 4**.
 10. Pointing the Spray Gun at scrap material for practice, gently squeeze the Trigger (25) to begin spraying.
 11. To adjust the paint flow, turn the Fluid Needle Screw (1) while pulling the Trigger (25), until the correct flow is obtained.
- Note:** Never cover the Vent (18), and never hold the Spray Gun upside down. Covering the vent will halt paint flow, and holding the Spray Gun upside down will spill out paint.
12. The Spray Gun should be moved with a regular motion, keeping a consistent distance from the object. The Spray Gun must always be parallel to the surface of the object being painted. Let go of the Trigger (25) after each pass.
- Note:** Avoid circular motions as they may damage the finish of the surface.
13. When you are finished, release the Trigger (25) and turn off the Switch (31).
- Warning!** Air may still be in the Spiral Air Hose (46) after turning off the unit. Always point the unit at scrap material or into a bucket and fire the unit after turning it off.

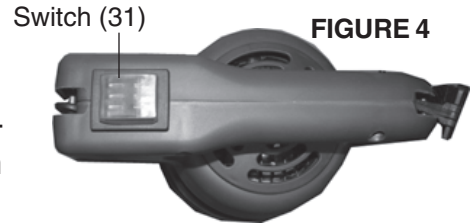



FIGURE 4

Troubleshooting

Problem	Cause	Solution
The Paint Drips on object to be painted	<ul style="list-style-type: none"> - product too diluted - spray adjustment - slow sprayer movement - clogged gun - distance problem 	<ul style="list-style-type: none"> - add undiluted product - reduce paint flow - faster sprayer movement - let go of Trigger when reversing - increase distance between gun and object
Weak or irregular spray	<ul style="list-style-type: none"> - product too diluted - spray adjustment - fast movement - gun clogged - gun distance 	<ul style="list-style-type: none"> - add undiluted product - increase paint flow - move slower - clean gun - increase distance between gun and object
No Paint Coverage	<ul style="list-style-type: none"> - product not diluted enough - paint too thick - gun clogged - hose broken - Filter (30) clogged - Grainy paint - Cup Cover (19) not closed 	<ul style="list-style-type: none"> - add thinner - check viscosity and adjust - clean gun - replace hose - replace filter - filter paint through cheesecloth - tightly close Cup Cover (19)

Note: A small Inflator (32) accessory comes with this unit. To fill a raft or air mattress, attach the inflator as shown in **FIGURE 2** on page 11. When the inflator is attached to the object being inflated, start the unit using the Switch (31). Turn off the unit when the object is inflated. **Read the instruction manual of the object to be inflated to determine the recommended and maximum PSI for filling the object. You will have to check the air pressure of the object by using a separate air pressure gauge (not included). Do not overinflate. Overinflating may cause the object to explode.**

INSPECTION, MAINTENANCE, AND CLEANING

1.  **WARNING!** Make sure the Power Switch (31) of the Motor Unit is in its “OFF” position and that the tool is unplugged from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.
2. **BEFORE EACH USE**, inspect the general condition of the Sprayer. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use. **Do not use damaged equipment.**
3. **After each use, clean the gun immediately.** Open the Cup Cover (19) and remove the Paint Cup (24). Replace left over paint in its container and seal the container. Pour small amounts of thinner into the Paint Cup (24) and replace the Cup Cover (19). Fire the Spray Gun into a paint waste receptacle until the thinner comes out completely clean. Repeat if necessary. Clean off any trace of paint from the Spray Gun. Clean off the Gasket (20) that is under the Cup Cover (19).
4. Clean the Fluid Nozzle (15) and the Fluid Needle (4). First, unlock and remove the Lock Ring (17), and Fluid Tip (16). Completely loosen the Fluid Needle Screw (1). Remove the Needle Spring (2) and push out the Fluid Needle (4). Do not use tools as they will bend the part. Put the parts in a container with thinner and clean them. Replace them in the proper order. Refer to the Assembly Drawing on page 15.
5. Run water through the Spiral Air Hose (46) making sure it is clean inside. Disconnect the Spiral Air Hose from spray gun or inflator and the motor unit, then allow it to dry before reassembly.
6. Make sure the Gasket (20) on the Paint Cup (24) is not torn or broken. If it is, replace it immediately. Always make sure the Gasket (20) is on correctly.

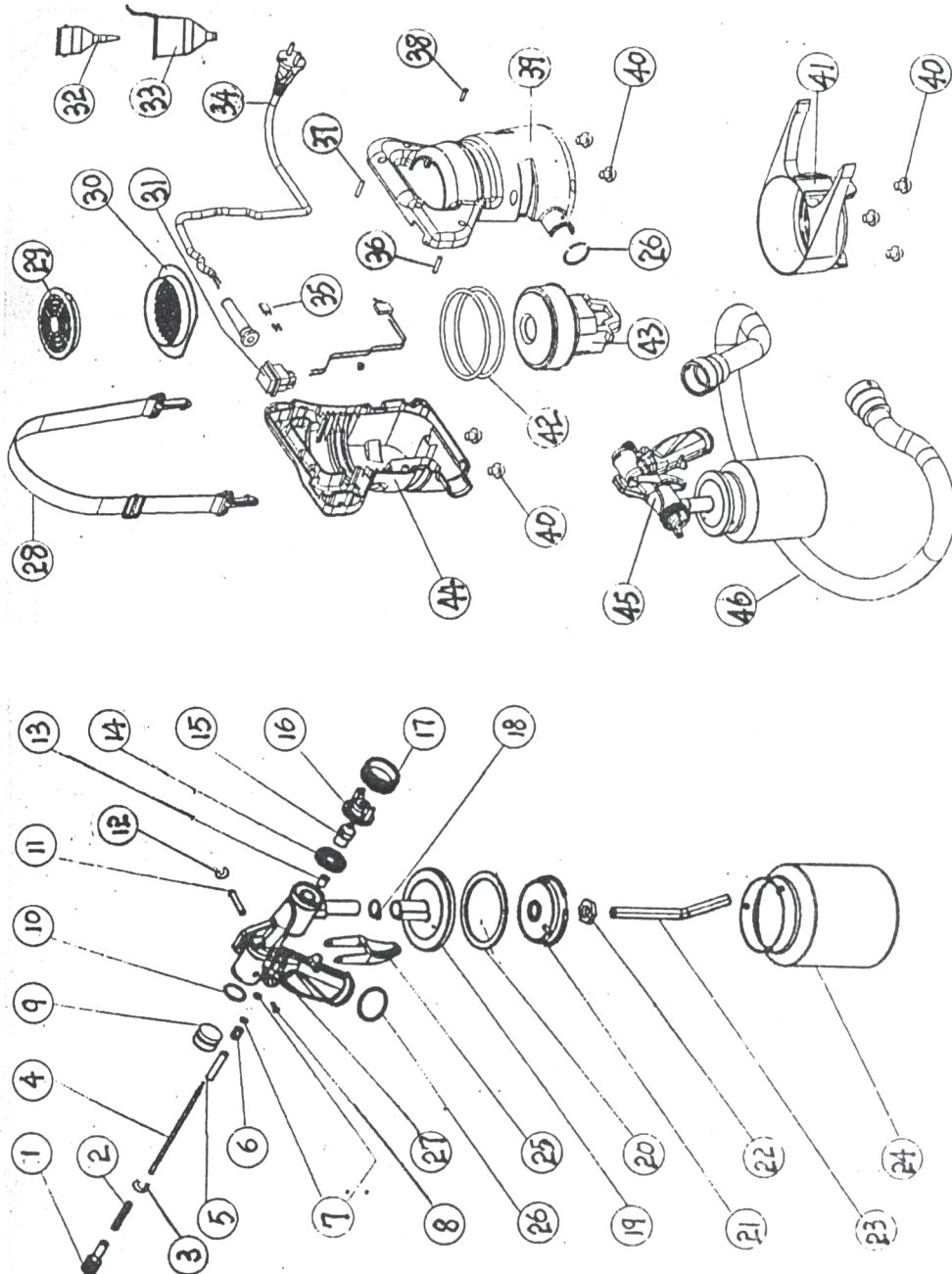
PARTS LIST

Part	Description	Qty.	Part	Description	Qty.
1	Fluid Needle Screw	1	24	Paint Cup	1
2	Needle Spring	1	25	Trigger	1
3	Washer	1	26	Handle O-ring	2
4	Fluid Needle	1	27	Gun Body	1
5	Needle Cover	1	28	Strap	1
6	Needle Sealing Thread	1	29	Exhaust Cover	1
7	Gasket	2	30	Filter	1
8	Bolt	1	31	Switch	2
9	Plug	1	32	Inflator	1
10	Washer	1	33	Viscosity Cup	1
11	Pin	1	34	Cord	1
12	Washer	1	35	Pin Board	1
13	Sealing Thread Head	1	36	Front Turbine Shell Pin	1
14	Sealing Ring Head	1	37	Back Turbine Shell Pin	1
15	Fluid Nozzle	1	38	Fixed Turbine Pin	8
16	Fluid Tip	1	39	Left Turbine Shell	1
17	Lock Ring	1	40	Pad	7
18	Vent	1	41	Gun Tray	1
19	Cup Cover	1	42	Turbine O-ring	1
20	Gasket	1	43	Turbine	1
21	Inner Cover	1	44	Right Turbine Shell	1
22	Hex Thread	1	45	Combined Gun Body	1
23	Material Tube	1	46	Spiral Air Hose	1

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

ASSEMBLY DIAGRAM



NOTE: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

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