

POWDER COATING SYSTEM

Instruction Manual



WARNING:

READ INSTRUCTION CAREFULLY BEFORE OPERATING

POWDER COATING SYSTEM INSTRUCTIONS

ITEM	DESCRIPTION
MODEL #	PCGUN
POWER CONSUMPTION	115VAC, 60HZ or 240VAC, 50 HZ AMPS: 0.03A WATTS: 3.3W
VOLTAGE OUTPUT:	30kv, 35kv, 40kv, 45kv, 50kv +/-5kv
POWER CORD:	16 AWG, UL APPROVED
AIR SUPPLY:	10-15 PSI, DRY AIR 5 CFM
AIR INLET:	1/4" NPT THREAD

SAVE THIS MANUAL, ALL ORIGINAL PACKAGING AND YOUR INVOICE. WAR- RANTY WILL BE VOID IF UNIT IS NOT RETURNED IN ORIGINAL PACKAGING, WITH ALL ORIGINAL MATERIALS INCLUDED.

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

IMPORTANT NOTICE: THIS UNIT MUST BE OPERATED WITH MOISTURE FILTER IN PLACE. FILTER SHOULD BE CHANGED EVERY 10-15 LBS OF POWDER. ADDITIONAL MOISTURE TRAPS SHOULD BE INSTALLED IN YOUR COMPRESSOR AIRLINE.

THIS UNIT MUST BE THOROUGHLY CLEANED AFTER EVERY USE. IMPROPER CLEANING IS THE MAJOR CAUSE OF FAILURE. IMPROPER CLEANING WILL VOID THE WARRANTY. OTHER THAN THE FUSE, THERE ARE NO USER SERVICEABLE PARTS IN THE SYSTEM.

SAFETY WARNINGS AND PRECAUTIONS

- Do not use in damp or wet locations. Don't expose to rain. Keep work area well illuminated.
- Do not use in the presence of flammable gases or liquids.
- Do not make modifications to the power unit. No serviceable parts inside. Consult an electrician.
- Use eye protection. Always wear ANSI approved impact safety goggles. Wear an ANSI approved dust mask or respirator.
- Disconnect power. Unplug transformer when not in use.

- Avoid unintentional starting. Be sure the switch is in the Off position when not in use and before plugging in.
- Do not carry any tool with your finger on the trigger, whether it is plugged in or not.
- Do not use the tool if any switch does not turn On and Off properly.
- Guard against electric shock. Prevent body contact with grounded surfaces such as pipes, radiators, ranges and refrigerator enclosures.
- Never touch the object being coated with one hand while spraying with the other.
- When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool.
- Use proper size and type extension cord. If an extension cord is required, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool. This tool requires use of an extension cord of 0 to 10 amps capability (up to 50 feet), with wire size rated at 18 AWG. Longer extension cords require larger size wire. If you are using the tool outdoors, use an extension cord rated for outdoor use.
- Secure the transformer unit to a bench. The unit is robust, but dropping it may cause internal damage.
- Maintenance. For your safety, service and any repair should be performed by a qualified electrician.
- The powder dust is flammable when floating in the air.

Ventilate the area well.

Verify that there are no flames or ignition source nearby.

Control excess dust by cleaning up after each use.

Never vacuum up the dust using a non-explosion proof vacuum cleaner.

Never cure coated object in a gas oven as the fumes recreated can be flammable.

Only use an electric oven.

This machine will not use and touch the flammable and explosive powder or liquid when working, but never smoke while using the Powder Coating System.

SAFETY WARNINGS AND PRECAUTIONS CONT'D

- Avoid electrical shock!

Never touch the emitter (metal tip) of the Spray Gun. After use (and turned OFF).

Touch the emitter to the Ground Clip to discharge it.

Do not use the Spray Gun if you carry and use any electronic medical devices

Never touch the metal object during coating.

- Avoid powder contamination.

Protect your lungs by using an approved dust mask.

Never cure objects in an electric oven that is used for food also. Ventilate the area well.

Wear an activated charcoal respirator when oven curing the coated object.

Smokers Beware: Thoroughly wash hands and face before smoking. Keep all smoking materials away from the powder area. Powder on smoking materials will burn when lit, and you may be inhaling paint fumes.

The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Unpacking

When unpacking, check to make sure the following parts are included (Refer to the Parts List and Assembly Drawing at the end of this manual): Spray Gun, Foot Switch, Transformer, Moisture Filter, Two Powder Cups, Ground Clip Cable, Three Scatter Tips, Instruction Booklet. All these parts must be returned if the unit is shipped back.

Preparation

1. Setup an air supply with an air pressure regulator and moisture trap (do not use an inline air oiler). The air compressor must provide an air pressure of 10 to 15 PSI.
2. Select a safe location for spraying and curing with adequate lighting, active ventilation, no flame or ignition source, dry, clean, and covered -- free of flammable material.
3. Note: Performance of this tool may vary depending on variations in local line volt- age. Extension cord usage may also affect tool performance.

4. Wear an activated charcoal filter respirator when curing the coating.
5. Have disposable dust masks available for use when powder spraying.
6. Have a pair of vinyl gloves for use when handling the powder and sprayed objects.
7. Use ANSL approved eye safety glasses.
8. If using an extension cord, it must have a ground prong.
9. Setup a dedicated electric oven(with adequate ventilation) for curing the coated objects with a temperature capability from 300 to 500 degrees F.
10. Clean the object to be powder coated of any old coatings, rust, grease and oil.
11. WARNING: Never use a gas oven. Never use a home oven that is also used for food. Contamination of food will occur.

Operation

1. Place or hang the cleaned object to be coated near the ventilation system.
2. If the object has grooves or recesses, position the object so that gravity assists the powder mist to fall into the grooves or recesses.
3. Connect the Disposable Moisture Separator (8) to the Spray Gun (2).
4. Before opening the powder, shake the can vigorously to 'fluff-up' the powder. Open the powder coating container, and using a piece of clean paper as a guide, pour the powder into the Cup.
5. Unscrew the Cup (4) from the Spray Gun (2) and fill with up to 3 inches of powder.
6. Turn the Cup upside down and place on a clean piece of paper.

7. Put on a pair of disposal vinyl gloves.
8. Turn the Spray Gun upside down and screw the Cup back into the Spray Gun.
9. Reseal powder container.
10. Connect the 1/4 inch air hose to the Disposable Moisture Separator (8).
11. Attach the Ground Clip (10) to the metal object being coated.
Securely attach the Ground Clip to an area that is not being coated if possible. The connection is absolutely necessary to draw the electrically charged (power) particles to the metal object.
12. Turn ON the Power Switch (17) of the Control Box (1).
13. Turn ON the compressor and adjust the air pressure to between 10 and 15 PSI. This can be done at the compressor if it has a pressure value, or on the Spray Gun by adjusting the Pressure Reducer Valve (18)
14. Press the Spray Gun Trigger (7) and Pedal Switch (11) at the same time and test the spray pattern on a piece of scrap metal.
15. The Trigger controls the air and powder flow. The Pedal Switch controls the electrical charge. If the pattern is too small or too large, change the Scatter Tip (12). Remember that the pointed end of the Scatter Tip faces toward the Spray Gun and screws on. The spray pattern can also be adjusted using the Regulating Screw (14): loosen to expand the pattern, tighten to reduce the pattern size.
16. When coating, keep the Spray Gun approximately eight inches from the metal object.
17. Point the Spray Gun toward the object at different angles to guarantee that all areas are coated.

18. When completed, the object should be completely coated with a dull, opaque coat of powder.

WHEN FINISHED SPRAYING

1. Remove your foot from the Pedal Switch (11),
2. Press the Control Box Power Switch (17) to the OFF position.
3. Unplug the Control Box power cord from the electrical outlet.
4. **WARNING:** The Spray Gun is still electrically charged. Discharge Conducting Pole before touching or you could be shocked. Touch the Conducting Pole (9) to the Ground Clip (10) to discharge any residual electricity.
5. Wipe the Scatter Tip off with a clean cloth.

CURING

1. Wear an activated charcoal respirator.
2. **WARNING:** The fumes produced during curing are hazardous to your health. Do not inhale them.
3. With the oven preheated to the desired temperature (300 to 500 degrees F), place the object on the oven rack, close the door, and turn the ventilation system ON.
4. Typical curing time is 5-15 minutes. Check the Powder Coating container for recommended curing time and temperature. If the object is large, curing may take more time.
5. Curing time begins when the part reaches the recommended curing temperature. Use an Infrared Thermometer to determine part temperature.

6. The power coating should melt to a smooth, gloss finish all over the object.
7. Check the curing object often to prevent over-curing, which can cause roughness to the surface.
8. When cured, turn the oven OFF and open the oven door slightly to allow the object to cool gradually before removing. When the object is cooled too rapidly, a dull finish may result.

TIPS AND TRICKS

- To remove an orange peel effect after curing, wet-sand the object with 400 grit sandpaper, dry, and repeat the coating process. Applying the coating too thickly can cause this effect. • Polish with traditional paint polishes.
- Lightly buff with a loose wheel and white rouge compound to remove imperfections. • Thoroughly clean the Cup before changing powders. • Some powders are made from polyester, while others are made from polyurethane. A mixture of both can cause pitting of the coated object. Do not mix different types of powder.
- Porous metal objects may need a thorough cleaning with a brush and pre-painting cleaning solutions. • If the powder starts to buildup in one place, blow off with light air pressure. Moisture in the air will cause powder buildup. Replace the Disposable Moisture Separator (8).
- Poor powder fluidization can be caused by low air pressure. Adjust the air pressure or replace the Disposable Moisture Separator. The Cup should have at least one inch of powder during coating. • Use automotive paint remover containing Methylene Chloride to remove a cured coating.

CLEANING THE POWDER COATING SYSTEM

1. Wear disposable vinyl gloves.
2. Unplug the Control Box line cord from the electrical outlet.
3. Discharge the Conducting Pole (9) to the Ground Clip (10).
4. Disconnect the air hose from the Spray Gun.
5. Remove the Cup and pour any remaining powder back into its original container.
6. Using compressed air at high pressure (100 PSI), blow out the Cup and all other parts that have collected powder.
7. Use a Microfiber cloth to wipe down all areas.
8. Remove trigger and plunger. Thoroughly clean the orifice and spray trigger and plunger with Silicone Spray.
9. Remove Regulating Screw (14) clean inside threads and orifice.
10. Uncontaminated powder residue can be stored and reused. Use silica gel packets.
11. Store powder and Powder Coating System in a box located in a cool, clean and dry location

WARRANTY/REPAIR SERVICE

Unit is warrantied to be free of manufacturing defects for 30 days after invoice date. Customer must contact Caswell Inc to discuss any problems. We will offer technical assistance to ensure product is being used correctly, and may issue an RMA so that the unit can be returned for repair.

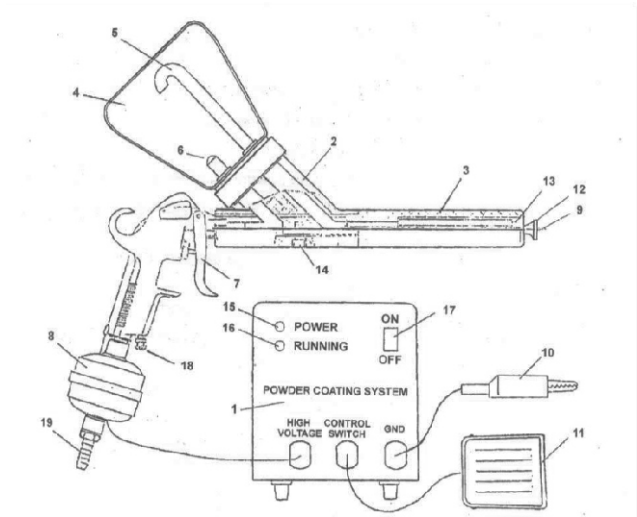
If an RMA is issued, product must be shipped in its original containers, and be insured for its full value. All components must be returned, including cups, filters, tips and instruction booklet.

The unit must be thoroughly cleaned prior to shipping. All traces of powder must be removed. Improper cleaning is the #1 cause of system clogging and failure. **CLEAN YOUR GUN!**

TROUBLESHOOTING

PROBLEM	SOLUTION
I can't get the powder to come out evenly	Set pressure to approx 20psi. Put only 1-2" of powder in gun. Shake vigorously, then adjust Regulating Screw (14)
Powder runs straight through the gun.	Too much powder in gun. Insufficiently fluidized.
Sticky Trigger	Move the trigger then remove the nut that holds the trigger in place now slowly pull the plunger out and clean it and the trigger goes in. Spray the plunger and O Ring with Permatex Silicone Spray Lubricant. Move the trigger back and forth if it still sticks repeat the cleaning and reapply the silicone.
Changing colors without contaminating colors.	Set out your colors for the day, and shoot them in order e.g., white first, red, then blue, then black. Clean the gun completely.
Cleaning the gun	Use compressed air to blow off the excess powder. Use a microfiber cloth to wipe down all parts. Disassemble the trigger and plunger and thoroughly clean this area. Apply Silicone spray to plunger and O ring. Do NOT store the gun with powder in it, or unclean.
Powder clumps	Usually caused by humid air. Process should be done in a de-humidified or air conditioned room if conditions warrant it. Store powder in sealed units with silica gel packets included. Place silica gel in warm oven for 30 minutes to thoroughly dry them out before use. Change the moisture filter frequently. Ensure compressor has inline moisture trap.
Power Light does not come on.	Check there is power to the unit. Blown fuse – replace.
No charge when foot pedal is depressed	Place gun end within 1/4" of the ground clip, then press foot pedal with the unit on. You should see a blue spark jump across. If not, the foot pedal may need replacing. Consult an electrician to do this work. High voltages.

Parts List



Item #	Description	Item #	Description
1	Control Box	2	Spray Gun
3	Spray Gun Pipe	4	Cup
5	Air Outlet Pipe	6	Air Input Pipe
7	Trigger	8	Moisture Filter
9	Conducting Pole	10	Ground Clip
11	Pedal Switch	12	Scatter Tip
13	Emitter	14	Regulating Screw
15	Power Indicator Light	16	Running Indicator Light
17	Power Switch	18	Pressure Reducer Valve
19	Hose Adapter		

NOTE: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts. The manufacturer and/or distributor has provided the parts diagram in this manual as a reference tool only. Neither the manufacturer nor 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 state 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, or arising out of his or her installation of replacement parts.



HPI Verification Services

Certificate of Conformity

This is to certify that the product listed below conforms to the essential health and safety requirements of the
EU Safety of Machinery Directive

2006/42/EC

Certificate Number

VM1001-003-I-012

Date of Issue

05-Nov-15

Date of Expiry

05-Nov-20

Manufacturer

YongKang HongJing Electric Appliance Co., Ltd.
Room 6, 2nd Building, No.216 Chongxin Road, Economy
zone, Yongkang, China, 321300

Product Name/Ref.

Paint Coating machine

Description of Product

Types: PC02, PC03

Standards Applied

EN ISO 12100:2010, EN 1953:2013, EN 60204-1:2006/AC:2010

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