Eastwood® DO THE JOB RIGHT.®

Part #68076

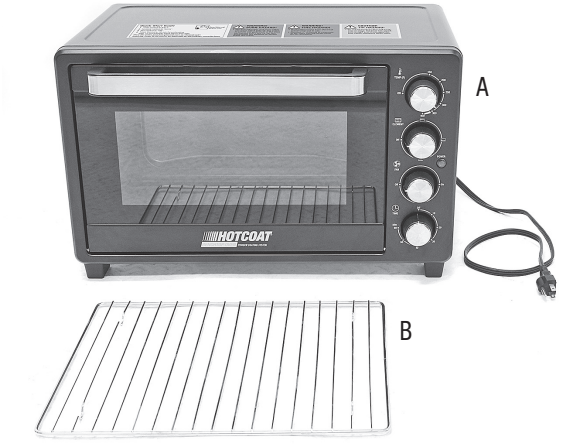
HOTCOAT BENCHTOP POWDER COATING OVEN

OPERATING INSTRUCTIONS

The **EASTWOOD HOTCOAT BENCHTOP POWDER COATING OVEN** combines generous internal volume in a convenient, compact package with big oven features. Selectable upper and lower Heating Elements, and air Circulation Fan allow optimum control of heat distribution inside the Oven. The Oven Door window presents a convenient view of parts during the critical "flow-out" stage, enabling proper setting of the built-in Timer for the desired cure time. Couple this oven with any of Eastwood's HotCoat Powder Coating Guns and start coating brackets, housings, and other small to medium-sized parts right in your home shop or garage.

CONTENTS

- **(1)** Eastwood HotCoat BenchTop Powder Coating Oven **[A]**
- **(1)** Rack **[B]**



SPECIFICATIONS

Electrical Rating:	120V / 50/60Hz / 1 Ph
Heating Power:	1600W
Heating Elements:	Top: 2x 400W
	Bottom: 2x 400W
Minimum Ambient Temperature:	50°F
Oven Chamber Temperature Range:	150 - 400°F
Timer Range:	0 - 60 min.
Circulation Fan:	Yes
Rack Levels:	3 (Top / Middle / Bottom)
Internal Volume (W x D x H):	15.12" x 12.83" x 10.71" (384 x 326 x 272mm)
	1.2 ft^3 (34L)
Power Cord Length:	31.5" (0.80m)
Overall Dimensions:	20.55" x 15.47" x 13.19" (522 x 393 x 335mm)
Weight:	14.6 lbs (6.62kg)
Certification:	ETL

SAFETY INFORMATION

The following explanations are displayed in this manual, on the labeling, and on all other information provided with this product:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠ NOTICE

NOTICE is used to address practices not related to personal injury.

⚠ READ INSTRUCTIONS

- Thoroughly read and understand these product instructions before using.
- Keep these product instructions for future reference.

⚠ WARNING BURN HAZARD!

- The Oven Chamber and parts within can reach 400°F [204°C]. The exterior panels and glass Door of the Oven can exceed 200°F [93°C]. **DO NOT** touch these hot surfaces or severe burns will result.

- Be cautious while loading and unloading parts from the Oven. Always wear protective, heat-resistant gloves and verify the Heating Elements are OFF before interacting with the Oven Door, Chamber, Rack or parts to avoid burns.
- Allow sufficient time for parts to cool before interacting with them to avoid burns.

⚠ WARNING FIRE HAZARD!

- Unplug/disconnect from electrical power when not in use.
- Maintain 4" [100mm] of clearance to the sides and top of the Oven for air circulation.
- Do not place items on top of the Oven or store items on top of it. The exterior panels of the Oven can exceed 200°F [93°C] which may cause combustion.
- Keep flammable materials a minimum of 24" [610mm] from the Oven to minimize risk of combustion.

⚠ WARNING SHOCK HAZARD!

- Do not operate the Oven if the power plug or cord has been damaged, if the Oven has been dropped or damaged, or if the Oven is malfunctioning in any way. Damaged Ovens may result in electrical shock or fire.
- Do not operate in damp or wet location. Do not immerse any part of the Oven in water or other liquids. Not for use outdoors.
- Unplug before cleaning.
- This Oven uses a polarized plug as a safety feature. If the plug does not fit fully in the outlet, contact a licensed electrician. Do not defeat this safety feature.

⚠ CAUTION DROP HAZARD!

- Only utilize the Oven on level, stable surfaces. The Oven is front heavy, especially when the Oven Door is open. Exercise caution when opening the Door. Personal injury and property damage may result if the Oven drops.

⚠ NOTICE

- Only use the Oven in well ventilated areas.
- **DO NOT** hang parts from the Heating Elements or permanent damage to the Oven will occur.
- Be sure that all items being powder coated can withstand temperatures of 400°F [204°C] or greater.
- Parts should never be rested on the Oven Door to minimize risk of damaging the glass or hinge.
- Do not leave the Oven Door open when the Heating Elements are powered. This wastes energy, will result in the Oven Chamber being under-temp, and presents a burn hazard. Open the Oven door as little as possible for best temperature accuracy and powder curing.
- The Oven is not intended to operate in ambient air temperatures below 50°F. If operating below this temperature the Oven may not be able to maintain a suitable powder curing temperature.
- This Oven is intended for powder coat curing only. **DO NOT** use the Oven to bake food or other unrelated items.
- Do not use the Oven as a makeshift powder coating booth.

SET UP

LOCATION

Place the Oven on a secure, stable, level surface at a safe and comfortable working height. The area must be free of clutter, flammables, and allow for ample air circulation around the Oven.

Be cautious about letting the Oven Door fall freely over an edge. The Door has significant weight and could cause instability as it flips open.

CONNECTING THE OVEN TO A POWER SOURCE

The Eastwood HotCoat BenchTop Powder Coating Oven requires a dedicated 120 VAC, 15 AMP, circuit breaker protected outlet. The plug installed on the Oven is a NEMA 5-15P and should be used with a NEMA 5-15P receptacle. If unsure about your electrical setup contact a licensed electrician.

If using an extension cord is required, use a minimum 12 AWG cord for up to 50 feet. We recommend using our Heavy Duty Extension Cord for optimal performance: Eastwood item #31739 25ft Heavy Duty 110V Extension Cord.

CONTROL PANEL AND OVEN CHAMBER

CONTROL PANEL (FIG 1)

1. **TEMP Control Knob.** Rotate to adjust the temperature setting from 150 - 400°F. Turn fully counterclockwise for OFF setting. Typically, you will be in the 350 - 400°F range for powder coat curing.
2. **ELEMENT Control Knob.** Rotate to set the Heating Elements being used. OFF/Top/Bottom/Both. Utilizing BOTH Elements is recommended for the best performance.
3. **POWER Indicator.** Illuminates when the Timer is set and able to deliver power to the Elements.
4. **FAN Knob.** Set the Circulation Fan ON or OFF. Turning the Fan ON is recommended for the best heat distribution.
5. **TIME Knob.** Rotate clockwise to turn Oven ON. Set Timer from 0 - 60 minutes. The Timer must be set for the Oven to power the Elements. Turn the knob fully counterclockwise to turn the Timer OFF. You will hear a bell ding when the Timer disengages.

OVEN CHAMBER (FIG 2)

[a] Heating Elements

[b] Circulation Fan

[c] Rack

[d] Rack Support Grooves

FIG. 1

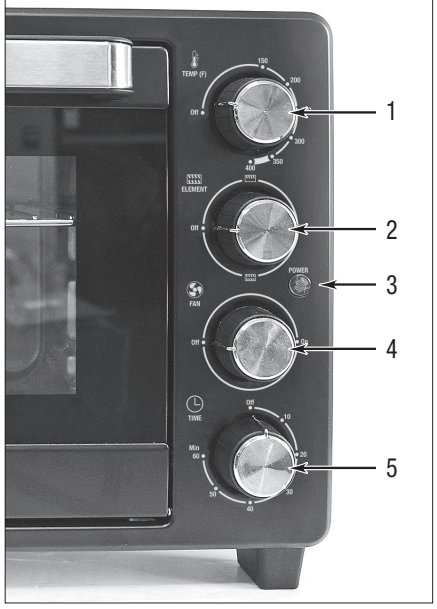
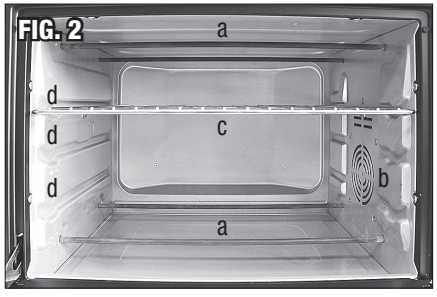


FIG. 2



OVEN OPERATION

PREPARATION

- Before loading parts, plan which Rack position works best for your parts. There are three Support Groove levels the Rack may be used with **(FIG 2)**.
- When curing large or heavy parts it is best to use the lower Rack level.

TECH TIP: Using aluminum foil to cover the Rack is highly recommended to avoid accumulation of cured powder on the Rack. This is particularly relevant for the Rack's sides because powder accumulation there can cause difficulty sliding it in and out of the Support Grooves.

- When curing small parts that can easily slip through the Rack, it is best to hang them from the Rack with it in the upper level. Jumbo paperclips bent into an S configuration work well as hooks. Safety wire (Eastwood #43045) and welding wire also work well to make improvised hangers.

CALIBRATION

For the most precise cure, Eastwood recommends verifying the Oven Chamber temperature. The following guidelines are best practice:

- Eastwood recommends using an accurate (±5°F) oven thermometer (Eastwood #68139) or type K thermocouple to verify the Oven Chamber temperature.
- Alternatively, you may use an IR thermometer (Eastwood #31223). Note that various factors can affect the accuracy significantly:
  - The emissivity of the material being shot must be known and set in the IR thermometer computer for compensation. Powder coat emissivity is typically 0.91-0.95, but metallic flake will reduce it to around 0.65. Matte black impact sockets with a manganese-phosphate coating have an emissivity of approximately 0.92.
  - IR thermometers have a distance to spot (D:S) ratio that can often be found on the thermometer or in the instruction manual. This means as distance from the part increases the area being measured is larger. Measurements should be taken within 12" for best accuracy, particularly on smaller parts, such as impact sockets.
  - Indirect shooting angles affect results. Measurements should be taken close to perpendicular to the surface.
  - Direct line of sight is required. IR thermometers are not capable of taking temperatures through the glass Oven Door. They will only measure the surface of the glass itself.
  - Using an object with significant thermal mass is ideal because when you open the door the part temperature will not drop rapidly. 3/4" (19mm) or larger deep impact sockets are good for this purpose.

- To verify temperature setting accuracy, set the oven to your desired cure temperature. Allow the Oven a minimum 15 minutes to warm up, then observe the temperature of the Oven Chamber. Make slight adjustments as needed to get your cure temperature.
  NOTE: When using an IR thermometer open the door quickly and immediately take your measurement then close the door and allow a few minutes for the temperature to stabilize before measuring again. The temperature of the Oven Chamber drops rapidly with the door open.
- Once satisfied with the steady state temperature of the Oven, you can mark this point for future reference.
  NOTE: This set point may change depending on the ambient temperature. If the ambient temperature varies significantly, always reverify the set point.

> **⚠ NOTICE**
> **DO NOT hang parts from the Heating Elements or permanent damage to the Oven will occur.**

> **⚠ NOTICE**
> **Do not leave the Oven Door open when the Heating Elements are powered. This wastes energy, will result in the Oven Chamber being under-temp, and presents a burn hazard. Open the Oven door as little as possible for best temperature accuracy and powder curing.**

PREPARING AND CURING PARTS

- To pre-heat the Oven, set the desired temperature. You will typically be at or near the maximum setting for curing. Turn BOTH Heating Elements on unless you have a particular reason to use just one.
- Turn the Circulation Fan ON and set the Timer to about 20 minutes for a pre-heat. The Oven typically takes a minimum of 15 minutes to stabilize at the set temperature. Depending on the ambient air temperature this time can vary.
- Place the powder coated part in the Oven. You must wait for the powder to change from its dry solid state to a "glossy" liquid state as the part gets up to temperature. This is called the "flow out" or "gloss over". The time the powder is in this liquid state and "flows" is called the gel-time.
- **Once the entire part has glossed over or "flowed out", set the Timer to 20 minutes or as specified by the powder manufacturer.**
- After this time has elapsed, verify the Oven Timer has reset to OFF, and the Heating Elements are turned OFF.
- The part should be allowed to naturally cool to ambient air temperature. Open the Oven Door for ventilation or remove and place the part in a location safe for cooling. Allow ample time for the part to cool before handling it.
- Disconnect the Oven from electrical power source if finished using it.

STORAGE

- Disconnect the Oven from the electrical power source when not in use.
- Store with the Door closed to prevent dust and debris accumulation in the Oven Chamber.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Oven Does Not Reach 400°F	Insufficient Electrical Power to Oven	Verify the Oven is on a dedicated 120 VAC, 15 Amp circuit. If using an extension cord, verify it has minimum 12AWG wire and does not exceed 50 feet in length.
	Temp Control Knob Not Set to 400°F	Make sure the TEMP Control Knob is set to 400°F. Follow the instructions in **PREPARATION** to verify the temperature of the Oven Chamber.
	Oven Door Not Closed	Verify the Oven Door is fully closed and is not venting heat.
	Low Ambient Temperature	Make sure you are not attempting to operate the Oven in ambient air temperatures below 50°F. The Oven may not be capable of maintaining 400°F in these conditions.
Parts Take Too Long To "Flow Out"	Oven is Not Reaching 400°F	Purchase an inexpensive oven thermometer from your local grocery store. Place it on the Rack and set the TEMP Control Knob to 400°F. After minimum 15 minutes with the Door closed, observe the temperature on the thermometer. Adjust the TEMP Control Knob to achieve as close 400°F as possible. It is recommended to mark this set point on the Control Panel for future repeatability.
	Element Control Knob Not Set to Both	Verify the ELEMENT Control Knob is set to use Both the Upper and Lower Heating Elements. Using only the Top or Bottom will prolong the time the Oven takes to achieve 400°F and it may have difficulty maintaining it.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Parts Burnt with Yellow/ Brown Appearance	Cure Time Too Long	Frequently check for flow out before setting the Timer to get the most accurate cure. Heavier parts will take longer to flow out and lighter parts will not take as long.
	Cure Temperature Too High	Reduce Oven Chamber temperature. Make sure the TEMP Control Knob is set to the powder manufacturer's recommended cure temperature. Follow the instructions in **PREPARATION** to verify the temperature of the Oven Chamber. Note that powder clear coats are often cured at a lower temperature and are more sensitive to over curing.

NOTES

ADDITIONAL ITEMS

R&D MUST-HAVE ACCESSORIES

#33278
Eastwood PCS-250 Dual Voltage Powder Coating Gun

#68139
Oven Thermometer

Parts not included

#15556
Eastwood Paint and Powder Coating Stand

OPTIONAL ITEMS

#14104	Eastwood Beginner's Powder Coating Handbook
#43045	0.041" Stainless Steel Safety Wire, 1lb. Spool
#58041	High-Temp Silicone Caps and Plugs
#16315	High Temperature Polyester Masking Tape 1/8" x 72 yd
#16316	High Temperature Polyester Masking Tape 1/4" x 72 yd
#16317	High Temperature Polyester Masking Tape 1/2" x 72 yd
#16318	High Temperature Polyester Masking Tape 3/4" x 72 yd
#16319	High Temperature Polyester Masking Tape 1" x 72 yd
#16321	High Temperature Polyester Masking Tape 2" x 72 yd
#16315	High Temperature Fiberglass Masking Tape 1/2" x 36 yd
#16315	High Temperature Fiberglass Masking Tape 1" x 36 yd
#32054	Fine Line High Temperature Masking Tape 1/8" x 72 yd
#32055	Fine Line High Temperature Masking Tape 1/4" x 72 yd
#15862	Eastwood Powder Coating Polish
#10288Z	High-Temp Lab Metal Filler
#43090	Safety Goggles
#31575	Rockwood Valved Dust Mask (10-Pack)
#11949Z	Eastwood Low VOC Pre Paint Prep Aerosol 12 oz
#55070 / 55071	Leather MIG Welding Gloves (M / L)
#55068 / 55068	Leather TIG Welding Gloves (M / L)

Visit eastwood.com for complete info and pricing.

If you have any questions about the use of this product, please contact
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