



## **Introduction from the Owner**

Powder-X Coating Systems, LLC was established in 2000 in Huntsville, Alabama. The vision of the company was to open a new market in powder coating equipment by establishing the first powder coating batch systems offerings for both new entrepreneurs and companies who wished to bring powder coating in-house. This equipment would be supported by industry leading customer service, quality, and training.

Since our inception, Powder-X has established itself as the world leader as a supplier of batch powder coating systems.

Others have tried to enter the market – many have failed – a few have seen some success – but none have the longevity and track record of Powder-X.

And for that we say “Thank You”. Thank you for putting your trust into our team and allowing us to provide you with your powder coating solution.

Please keep this manual in a safe, accessible location. It serves as not only your guide to installation, but also to successful operations, maintenance, and other useful information. This manual will serve as a very important tool for you moving forward.

Thank you again for choosing Powder-X and please let us know if there’s anything we can do to help you along your coating journey.

Joey R. Golliver  
CEO

For Sales, Service, Training, or Technical Support, please call our office at 888-326-4840



## **Powder-X Warranty Statement**

Powder-X Coating Systems warrants this product to be free from defects in workmanship and materials, under normal use and conditions, for a period of one (1) year for the original invoice date (date the deposit was received). The manufacturer's stated maintenance procedures must be followed and documented. This warranty covers parts only - labor not included. This warranty is conditional and is only in effect by the end user giving Powder X written notice of any alleged defect and that defect being confirmed by Powder-X Coating Systems, Inc. Any attempt by the end user to repair alleged defects or any further use of the equipment after the alleged defect has been reported serves as grounds to void the warranty. Any addition of, removal of, or replacement of any Powder-X provided part by any other part of any other manufacturer is subject to warranty violation and cancellation. This includes but is not limited to all motors, control panel components, fans, bearings, filters, burners, and any other part deemed by Powder-X Coating Systems, Inc. to have an effect, either direct or indirect, on the factory designed and defined operation of the equipment.

All replacement parts are shipped via standard ground shipping. Overnight shipping is an additional charge and is not always available. Shipping and handling fees are to be paid for by the customer. The manufacturer agrees, at its option during the warranty period, to repair and defect in material or workmanship or to furnish a repaired or refurbished product of equal value in exchange without charge (except for a fee for shipping, handling, packing, return postage, and insurance which will be incurred by the customer). Such repair or replacement is subject to verification of the defect or malfunction and proof of purchase as confirmed by showing the model number on original dated sales receipt.

Failure to operate this equipment in a clean environment is grounds for voidance of the warranty. Failure to operate this equipment in any manner other than described in this manual is grounds for voidance of the warranty. Late/incomplete payments void all warranties.

This warranty and its provisions are in lieu of any other warranties written, expressed, or implied. Powder-X Coating Systems does not authorize or assume any person or company, albeit employee, distributor, or other, to change this stated warranty.

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## Warranty Procedure

- \*. Document your concern in as much detail as possible. Send the documentation via email to your Customer Support Specialist
  
- \*. Contact your Customer Support Specialist at 888-326-4840 and let them know the request has been submitted.
  
- A Powder-X Technical Specialist will review your request and will contact you back as soon as possible.
  
- If a warranty part is requested and deemed prudent, the end user must issue a purchase order to Powder-X prior to the part being shipped. The replacement part will be shipped via ground shipment.
  
- Upon receipt of the part, the customer must return the defective part immediately to Powder-X for inspection. If the part is deemed to have a manufacturer's defect, the customer will receive a credit for that part. If the part is deemed to be damaged by negligence of the end user, the end user is responsible for the cost of the part, including any fees for late payment.
  
- If the defective part is not sent back to Powder-X within 5 days of the delivery of the replacement part, then the Customer is responsible for the cost of the part, including any fees for late payment

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## **Before You Begin – Important Points**

- Read and familiarize yourself with all sections of this manual before beginning installation.
- Powder-X Coating Systems manufactured equipment is highly engineered to operate at the safest and most efficient levels possible. The environment the equipment is installed in and standard equipment maintenance are paramount to the operation of this equipment. Keep this in mind when choosing your location.
- Codes vary from municipality to municipality. Although this equipment was manufactured to standard interpretation of the latest editions of NFPA 33, NFPA 86, and the National Fire Code, local code interpretation may differ. Code interpretation by Local Authorities always takes precedence and should be followed precisely. Begin your code research prior to installation of the equipment as there may be code that dictates placement, such as distance from walls, etc. The local Fire Marshall is a great place to start.
- The equipment provided uses only U.S. made components. All burners, fans, and lights are U.L. listed. Ovens and booths are not, unit, listed. Listing an entire unit would be impossible due to the large number of sizes offered and the fact that testing would have to be at the actual location of operation. This is due to how much the environment the equipment is located in can affect the operation.
- This manual provides a set of base instructions that work for most models. Throughout the instructions, you will be referred to the drawing section, which will contain both basic drawings and drawings pertaining to your equipment. Keep this booth at hand throughout the entire installation.
- Many parts look very similar. Be sure to pay very close attention to the instructions as placing an incorrect part will result in disassembly and may damage your equipment.

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- Only qualified personnel that are equipped with the proper tools should perform installation. All wiring requires a licensed electrician to validate warranty. All utility hook-ups must be done by licensed contractor to validate warranty.
- Powder-X Coating Systems does not employ a factory installation crew. Authorized installation supervision on-site is offered at a cost.
- Powder-X Coating Systems equipment requires authorized parts. Replacing any component of your equipment with components not obtained thru Powder-X Coating Systems or components authorized prior to their replacement can void your warranty. For all component needs, contact our offices at 888-326-4840.
- Proper maintenance of your equipment will extend the equipment's life expectancy as well as help your equipment run more efficiently. Failure to properly maintain your equipment can also result in your warranty being voided. Refer to the maintenance section of this manual and set procedures accordingly.
- Your equipment will arrive broken down and crated and/or skidded. Removal from the truck will require a forklift that is a minimum lifting capacity of 4,000 pounds. Fork extensions may be helpful and are suggested.

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## Tools Required for Installation

- Forklift (Minimum 4,000 pound lifting capacity. with extensions) – Used for unloading truck and for aiding installation.
- Good Measuring Tape - Used to determine footprint and to identify parts by size
- Chalk Line – Use to mark a square footprint
- 4' or larger level – Used to make sure all parts are level and plumb during installation
- Hammer Drill with 3/8" masonry bit - Used for floor anchors
- Hammer – used for driving in floor anchors
- Rubber Mallet – Used for shifting parts (if necessary) without damaging them
- Multiple Ladders - Used for assembly of walls and roof panels
- Man-Lifts (2) – Although not always available to everyone, these save time on installation of roof panels and are a safer option than ladders.
- Clamps – Used for holding panels in place once level while screws and/or bolts are installed
- Drill with multiple bits – Used to drill out any holes where insulation may be blocking access
- Hex head attachments for drill – Used to install self-tapping screws and to quicken the process of tightening bolts.
- Socket set with ratchet – Used to install and tighten bolts
- Wrench set – Used to install and tighten bolts
- Pry bar – Used to help align doors and/or panels

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## Tools Required for Installation

- High Temperature Caulk (not provided) - This can be purchased at any home improvement store. Use caulk that is rated above 600 degrees. Since Powder-X ovens run on a negative cabin pressure, they are constantly drawing air into the cabin. During installation of the floor track, you will most likely discover that your floor isn't perfectly level. You may see gaps where your track meets the floor. We recommend that you caulk where the floor track meets the floor on both the inside and outside of the oven. This will help prevent trash from pulling into the oven.
- Clear Caulk (not provided)- This can be purchased at any home improvement store. Since all Powder-X booths are designed to exceed all minimum airflow requirements that are set by code, it is very important that your booth be well sealed. This is especially true inside of the collector (behind the filters) and where your floor track meets your floor. The use of caulk around these seams will greatly increase your filter life and will reduce the likelihood of powder escaping your booth.
- Double-sided tape OR sealing caulk (not provided)– This is needed to seal the glass that covers the light holes on the roof of the booth. Because codes vary greatly in different areas, Powder-X does not provide anything to seal the glass to the top of the booth. It is recommended that the glass be sealed to the booth to prevent the glass from sliding and possibly falling into the booth.

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## Oven Installation

### STEP 1 – OVEN LOCATION

- This oven is an engineered piece of high quality equipment and should be treated as such. Handle all parts and components with care.
- The oven should be located at or above grade and should be on a level floor that is within 1/8" level. If the floor isn't level, the floor track must be shimmed (not provided) during installation. A floor that isn't level may cause issues with doors opening and closing. In these cases, the floor will need to be ground so the doors don't drag.
- The oven must be installed on a non-combustible floor.
- Most local code requires a minimum of 3 feet of clearance between the oven and any wall or ceiling. Always follow local code.
- Per NFPA Code, explosion proof must be built into the oven. This is achieved in the doors and ceiling panels – thus doors and ceilings must not be confined.
- Per NFPA 86, no equipment that produces an open flame, such as the burner on this oven, can be located within 20 feet of a spray area that sprays flammable material, unless they are separated by a partition.

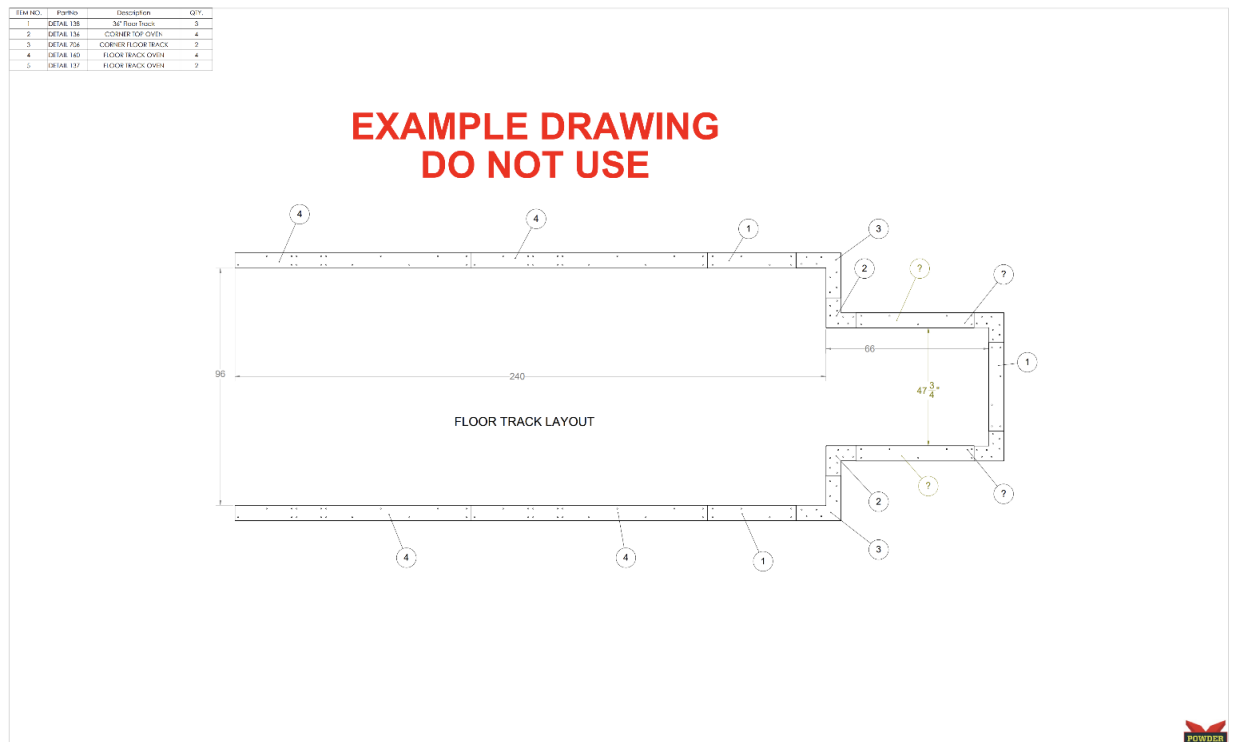
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## STEP 2 – CREATE THE FOOTPRINT OF THE OVEN

- Floor must be level.
- Begin by drawing the layout on your floor with chalk line. Refer to the drawing section of this manual for the layout. It will be similar to the example drawing below.
- Be sure to make sure your layout is perfectly square. You can check this by measuring corner-to-corner (front right to rear left) and then the other corner-to-corner (front left to rear right) and make sure the measurements are the same. If not, you have more of a diamond shape and the oven will not be square. If the oven isn't square, it will not go together correctly.
- Do NOT begin installation until the next step(s) are completed



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### **STEP 3 – CREATE THE FOOTPRINT OF THE BURNER BOX(es)**

- In the drawing section, locate your burner box location(s).
- Mark your floor for the location of the burner box(es).
- Draw all 4 sides of the burner box(es) with a chalk line.
- Be sure to make sure your layout is perfectly square. You can check this by measuring corner-to-corner (front right to rear left) and then the other corner-to-corner (front left to rear right) and make sure the measurements are the same. If not, you have more of a diamond shape and the oven will not be square. If the oven isn't square, it will not go together correctly.

### **STEP 4 – LOCATE THE 4 SMALL TrueX CORNER FLOOR TRACKS**

- Locate the small TrueX floor corner tracks. You should have 4 small corner tracks for every burner box on the oven. Set these to the side. These are powder coated black.
- The small corner tracks make up the burner box corners (all 4 corners).
- Note: If your oven has doors on one end, you will also have 2 larger TrueX Corner Floor Tracks. If your oven has doors on both ends, you will not have the 2 larger TrueX Corner Floor Tracks

### **STEP 5 - INSTALL BURNER BOX FLOOR TRACK**

- Lay the 4 small TrueX corner tracks in place at the corners of the burner box. These should lay to the outside edge of the chalk line you have drawn on the floor.
- Lay out your burner box floor track based on the drawing of the floor track located in the drawing section of this manual. The track should lay to the outside edge of the lines that you have on the floor.
- Using a hammer drill with a 3/8" bit, drill holes in concrete thru the holes for the floor track. You don't have to drill every hole but make sure to drill enough that the floor track is stable. Typically, holes are drilled diagonally every other hole.
- Locate your box of provided hardware. Only remove what you need from the box so you can keep everything together until needed.
- Find the Red Head Industrial Fasteners in your hardware box.
- Insert Red Head Industrial Fastener into the drilled hole. Using a hammer, drive down until flush.
- Using a socket, tighten the bolts of the Red Head Industrial Fasteners. Do not over-tighten.

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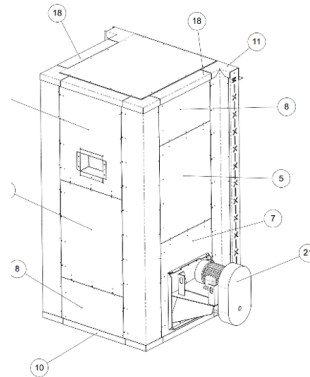
**STEP 6 – LOCATE THE 2 LARGE TrueX CORNER FLOOR TRACKS (NOTE: IF YOU HAVE DOORS ON BOTH ENDS, YOU WILL NOT HAVE THESE PIECES and WILL SKP THIS STEP**

- Locate the large TrueX floor corner tracks. These are powder coated black.
- Lay the two large TrueX floor corner tracks at the corners of the rear wall of the oven. The track should lay to the outside edge of the lines that you have on the floor.
- DO NOT install yet.

**STEP 7 – INSTALL REMAINING OVEN FLOOR TRACK**

- Locate all floor track. It is 6" wide and has multiple hole locations. Set all floor track to the side.
- Lay out your floor track based on the drawing of the floor track. The track should lay to the outside edge of the lines that you have on the floor.
- The floor track should butt up end-to-end. It should meet your installed Burner Box Track and your two large TrueX corner floor track pieces.
- Make sure this completes the perimeter of your oven prior to installation. The track should be a near perfect fit to the perimeter drawn.
- Although the parts to your oven were cut on a state-of-the-art Fiber Laser, small discrepancies may cause the track to not come to the front edge of the oven. If not, pull the track to the front end and very small gaps between the tracks (less than 1/8") are acceptable. Before making these adjustments, double check measurements
- Using a hammer drill with a 3/8" bit, drill holes in concrete thru the holes for the floor track. You don't have to drill every hole but make sure to drill enough that the floor track is stable. Typically, holes are drilled diagonally every other hole.
- Locate your box of provided hardware. Only remove what you need from the box so you can keep everything together until needed.
- Find the Red Head Industrial Fasteners in your hardware box.
- Insert Red Head Industrial Fastener into the drilled hole. Using a hammer, drive down until flush.
- Using a socket, tighten the bolts of the Red Head Industrial Fasteners. Do not over-tighten.

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#### STEP 8 – BUILD THE BURNER BOX WALLS

- Begin by building the burner box. Refer to the drawings section of this manual for guidance
- Locate the small TrueX corners. There are 4 of these for every burner box. These are pre-built insulated corners. Set to the side.
- Locate the wall panel that has the cut out for the oven burner. This panel is 3' wide, insulated, with a rectangle cutout that the burner will go in. Set this panel to the side.
- Refer to your exploded view drawing in the drawing section. Your custom oven may require 1' wide and/or 2' wide wall panels to complete the back wall of the burner box. Find these panels and set to the side.
- **IMPORTANT POINT: All insulated panels are either male/female or male/male. The sides can be recognized by the large M for male or F for female. The male edge of a male/female panel always fits inside the female edge of a male/female panel.**
- Place a small TrueX corner (that you set aside earlier in this step) into a small TrueX floor track **AT THE LEFT REAR OF THE BURNER BOX**. When standing inside the burner box and holding this corner up, **the FEMALE EDGE MUST BE on the LEFT** and the **MALE EDGE MUST BE on the RIGHT**. Be sure to set the panel all the way down into the channel.
- Using your assembly drawing as a guide, place the remaining rear walls (that you set aside earlier in this step) in place. Be sure to set the panels completely into the floor track and make sure the male edges are pushed completely into the female panels

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- **VERY IMPORTANT NOTE:** As you look at this standing wall from what will be the **INSIDE** of the burner box, you should now have an **exposed FEMALE edge** of a corner panel on the left and an **exposed MALE edge** of a corner panel on the right.
- Using a 4' or larger level, make sure this wall is level and plumb.
- Once the wall is level and plumb, locate the large box of self-tapping screws ( #10-16 self drilling screw) in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the sides of floor track and into the wall panels. Do this on both the inside and outside of the floor track. **DO NOT SKIP SCREWS.**
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Female edge of the wall panels and into the fully inserted male edges. Do this on both the inside and outside of the walls. **DO NOT SKIP SCREWS.**
- Using the drawings section as reference, locate the Recirculation Fan Wall. This wall is square and has a very large square hole for the Recirculation fan. Sit this panel to the side.
- Depending on the height of your oven you may have one or more panels that are the same width of the Recirculation Fan Wall section that will stack on top of it during installation. Refer to your exploded view drawing in the drawings section. Find these panels and sit to the side
- Depending on the size of your oven, the Recirculation Fan Wall sections may fit into small corners or may have 1' and or 2' panels that complete that side of the burner box wall. Refer to your exploded view drawing in the drawings section. Find these panels and sit to the side.
- Locate one of the small TrueX corner panels (set aside earlier).
- **IMPORTANT NOTE: Before installing these panels, look very closely at the Recirculation Fan Wall Panel (set aside earlier). Note that there is one edge that is marked NEITHER MALE or FEMALE (with an M or an F). THIS EDGE MUST GO DOWN INTO THE TRACK.**
- Begin placing these panels per the drawing into the burner box floor track that is on the left-hand side (as standing on what will be the inside of the burner box).
- Be sure to set the panels completely into the floor track and make sure the male edges are pushed completely into the female panels.
- Using a 4' or larger level, make sure this wall is level and plumb.
- Once the wall is level and plumb, locate the large box of self-tapping screws in your hardware box.

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- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the sides of floor track and into the wall panels. Do this on both the inside and outside of the floor track. **DO NOT SKIP SCREWS.**
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Female edge of the wall panels and into the fully inserted male edges. Do this on both the inside and outside of the walls. **DO NOT SKIP SCREWS.**
- Refer to your exploded view drawing. Determine what size wall panels that are needed to complete the right side (when looking from inside of the burner box) wall panel. Set these panels to the side.
- Locate the final small TrueX corner panels (set aside earlier).
- Begin placing these panels per the drawing into the burner box floor track that is on the right-hand side (as standing on what will be the inside of the burner box).
- Be sure to set the panels completely into the floor track and make sure the male edges are pushed completely into the female panels.
- Using a 4' or larger level, make sure this wall is level and plumb.
- Once the wall is level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the sides of floor track and into the wall panels. Do this on both the inside and outside of the floor track. **DO NOT SKIP SCREWS.**
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Female edge of the wall panels and into the fully inserted male edges. Do this on both the inside and outside of the walls. **DO NOT SKIP SCREWS.**

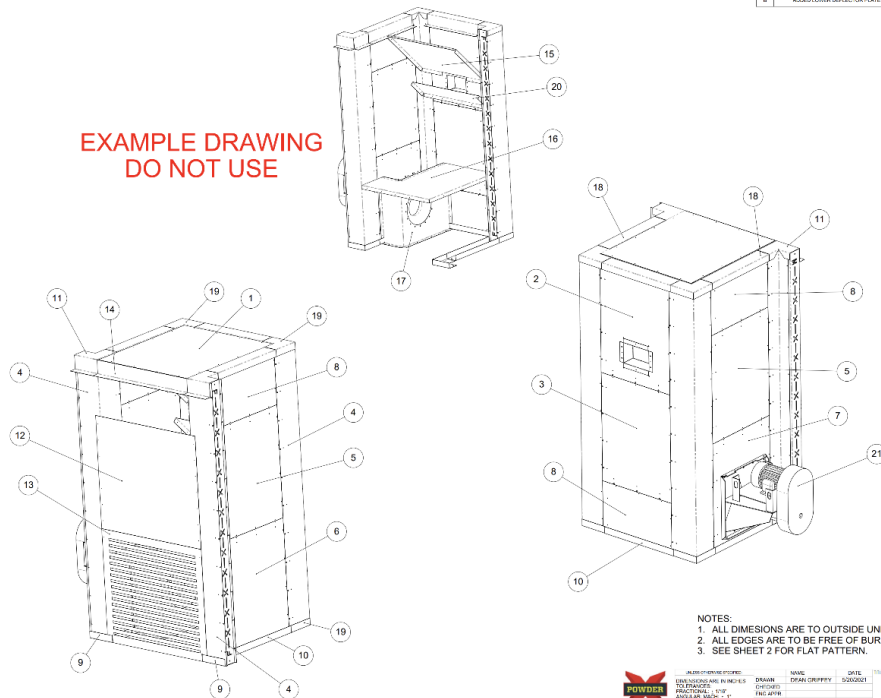
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ITEM NO.	PartNo	Description	QTY.
1	ASSEMBLY 124	55.0" Burner Roof Panel Plug 18	1
2	ASSEMBLY 166	BURNER WALL ASST V2240F	1
3	ASSEMBLY 147	SMALL JOSH BURNER	1
4	ASSEMBLY 707	120" Small Corner	4
5	ASSEMBLY 206	48x48 Box Plug 30	2
6	ASSEMBLY 709	48x48 Box Plug 30	1
7	ASSEMBLY 710	48x48 Box Plug 30	1
8	ASSEMBLY 711	48x48 Box Plug 30	3
9	DETAIL 136	CORNER TOP OVERTH	9
10	DETAIL 138	3x2 Floor Track	3
11	DETAIL 141	2 CORNER BURNER ROOF TRACK	2
12	DETAIL 146	4 Burner Cover Hole	1
13	DETAIL 147	Recessed Access Panel Cover	1
14	DETAIL 148	ANGLE ROOF SUPPORT CLIP	2
15	DETAIL 149	AN Deflector Hole	1
16	DETAIL 176	18gauge Box Hole	1
17	DETAIL 177	18gauge Burner Hole	1
18	DETAIL 731	36in Roof Track	3
19	DETAIL 732	7 ROOF TRACK CORNER	4
20	DETAIL 737	BURNER LOWER DEFLECTOR PLATE	1
21	PLUG PAN	18 INCH PLUG PAN	1

REVISIONS				
REV	DESCRIPTION	DATE	BY	APPROVED
A	UPDATED FOR	3/28/21	SP	
B	ADDED LOWER DEFLECTOR PLATE	6/8/21	END	

EXAMPLE DRAWING  
DO NOT USE



NOTES:  
1. ALL DIMENSIONS ARE TO OUTSIDE UNLESS OTHERWISE NOTED.  
2. ALL EDGES ARE TO BE FREE OF BURRS AND SHARP EDGES.  
3. SEE SHEET 2 FOR FLAT PATTERN.



DATE	BY	APPROVED
3/28/21	SP	
6/8/21	END	

BURNER BOX  
WITH 18 PLUG  
FAN V2 BURNER

## STEP 9 – INSTALL THE BURNER BOX ROOF TRACK

- Locate the small TrueX roof corner tracks. You should have 4 small roof corner tracks for every burner box on the oven. Set these to the side. These are powder coated black. Part #11 in above example drawing.
- NOTE: 2 of these corners are for the back corners of the burner box and the other 2 are for the front corners. The front and rear corner roof tracks are different. The roof corner tracks for the back wall of the burner box have the bent lip on the inside of the corners.
- Using a ladder, carefully place the corner tracks completely down on the top of the small TrueX corner panels. The bent lip of the roof tracks always goes to the INSIDE of the oven. If necessary, use a rubber mallet to drive down flush.

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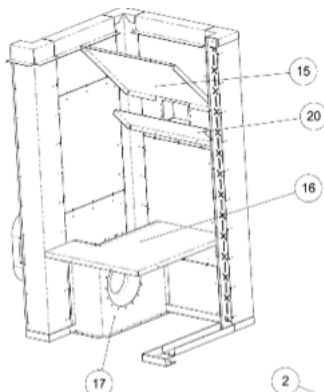
- Locate the remaining roof tracks that complete the burner box. Install as above.

#### STEP 10 – INSTALL THE BURNER BOX ROOF

- Refer to the drawings section for the size of the burner box roof panel.
- Carefully place the burner box roof panel into place. It sits inside the burner box walls and onto the lips of the roof track. Make sure that 3 male sides of the roof panels face the 3 walls of the burner box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the bent lip of the track - up and into the burner box roof panel. **DO NOT SKIP SCREWS.**
- Refer to the drawing and locate the Two L - shaped support brackets that attaches to the front of the burner box. They are sandwiched together and attached to the burner box face. One leg is used to support the burner box roof and the other is used to support the rear oven roof panel.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the support bracket and into the face of the small TrueX corners.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the support bracket and bottom of the burner roof panel.

#### STEP 11 – INSTALL THE HEAT DEFLECTOR SHIELD IN TOP OF THE BURNER BOX

- Refer to the drawings section for the oven and locate the burner box. Notice the diagonal deflector that is located in the top of the burner box. Locate this part. It is part # 15 in example shown here. It may be numbered differently on your drawing.
- The deflector shield directs the hot air that is blowing up through the burner box from the burner box into the top of the oven. This panel will attach to the rear burner box wall, both burner box side walls, and the burner box roof. It will be at approximately a 45 degree angle.



- Installation of the deflector shield will take two persons - each on a ladder. One to hold the shield in place and the other to attach the shield to the inside of the burner box.

- Carefully place the burner box deflector shield into place. Ensure that it is touching on all four sides.

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### STEP 12 – INSTALL THE OVEN BURNER and GAS TRAIN

- Locate the box that contains your burner and gas train. This is a large box.
- Open the box that contains the burner and remove the packaging materials. Be careful not to discard any paperwork in the box. Remove all paperwork and put it inside your owners manual.
- Remove the gas train from the box and carefully set to the side. Please note, this is VERY FRAGILE and should be handled with care.
- Locate the clear bag inside the box that contains the small metal tubes and the gasket. Remove the gasket from this package.
- Carefully remove the burner from the box. It is suggested that two people are used for this.
- Notice the square pattern of holes on the burner. Look at the rear of your burner box that was previously assembled on the oven. You will notice a square cutout where the burner will insert and the holes that correspond with the holes on the burner.
- **IMPORTANT** - The drawing may show a filter on covering the fresh air intake on the burner. Those filter boxes are not for this burner/gas train combination. It is important, however, that the air going into the burner is CLEAN. It is recommended that the fresh air intake for the burner be pulled from outside when possible but ALWAYS from a clean air source.
- From inside the burner box, insert the provided large bolts (with flat washer) through the bolt holes for the burner. Note: Someone will need to stay inside the burner box and hold the bolts in place while the burner is mounted.
- On the outside of the burner box, install the burner gasket by pushing onto the protruding bolts. Cut holes in the gasket as needed.
- Using two persons, line up the protruding bolts with the holes in the burner and carefully insert the burner into the square hole and onto the bolts.
- DO NOT RELEASE AND SUPPORT ON THE BURNER UNTIL NUTS ARE PLACED ON BOLTS AND TIGHTENED.
- Install a provided flat washer, then a lock washer, then a nut onto the bolts. Snug all bolts before tightening any of them. The burner needs to sit uniformly flush against the oven wall to prevent leakage of air.

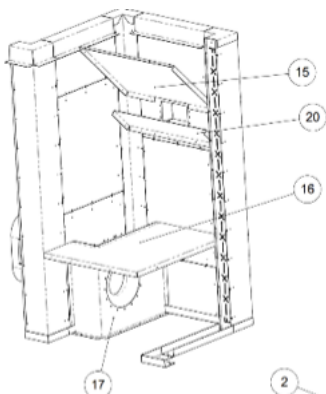
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- Locate the gas train that was set aside earlier. Note the connection point on the gas train that attaches to the oven burner.
- On the side of the burner, locate the gas train connection point. Note: on the opposite side of the burner, directly across from that connection point is a cover. The cover and the connection point are interchangeable so that the gas train can be installed to either side of the burner.
- Install the burner train to the burner. Be sure to completely tighten. Your gas contractor should check for leaks.
- Set the two small metal tubes that were in the bag with the gas train gasket near the burner. Your gas contractor should install these. They have fittings on the burner train and the burner and connect the two. NOTE: These are safeties and **MUST BE INSTALLED** for proper operation.

### STEP 13 - INSTALL THE BURNER LOWER SAFETY AIR SHIELD

- Locate the burner lower shield. This piece installs inside the burner box and goes below the burner. It deflects the air coming up thru the burner box just before it reaches the flame. It is part # 20 on the example shown. It may be numbered differently on your particular drawing. See your drawing section for clarification.



- This panel must be level and must be located just under the bolts that were used to install the burner.

- Hold the burner lower shield in place. It should bolt to the wall under the burner and to the two side walls of the burner box.

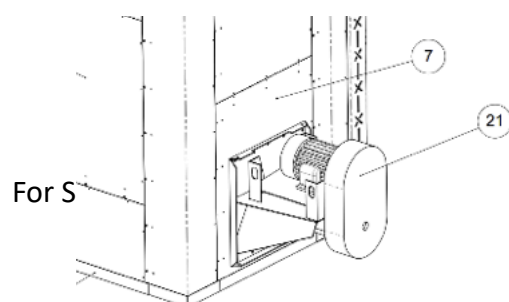
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the burner shield and into the inner burner box walls. **DO NOT SKIP SCREWS.**

### STEP 14 – INSTALL RECIRCULATION PLUG FAN

- Locate the recirculation plug fan. This is the large fan located on the skid by itself.
- The recirculation plug fan will slide into the large square hole on the burner box side.

Part# 21 in this example.

•NOTE: The burner is very heavy and will require multiple people to align.



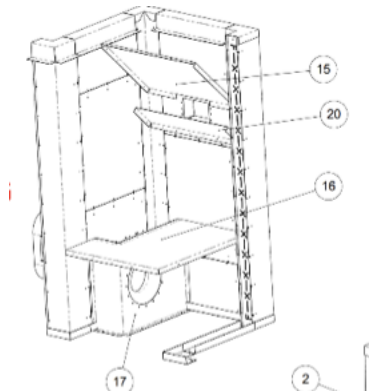
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- **SIT THE LARGE CONE ASIDE THAT IS ON THE SKID WITH THE FAN. YOU WILL NEED THIS SOON.**
- From inside the burner box, insert the provided large bolts (with flat washer) through the bolt holes for the recirculation fan. Note: Someone will need to stay inside the burner box and hold the bolts in place while the recirculation fan is mounted.
- Line up the protruding bolts with the holes on the recirculation fan. Slide the recirculation fan through the large square hole in the burner box.
- NOTE: It is recommended that the recirculation fan be leveled and braced (not provided) to support the weight and keep it level during operation.
- Install a provided flat washer, then a lock washer, then a nut onto the bolts. Snug all bolts before tightening any of them. The recirculation fan needs to sit uniformly flush against the oven wall to prevent leakage of air.

#### **STEP 15 – INSTALL AIR INTAKE PANELS**

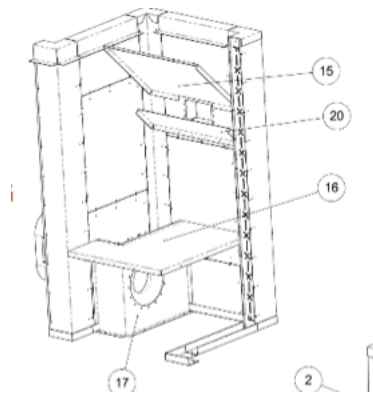
- The Air Intake panels are two parts that go inside the burner box and surround the fan. It is important to look very carefully at the drawing for correct orientation of these panels.
- Part #17 on the example below is the L-shaped intake panel. Before installing this panel, you will need to bolt the Air Inlet Cone that was pulled from the skid with the plug fan onto this panel.
- Install the large L-Shaped air intake panel. This panel is bent and sits on the floor in front of the fan blades inside the burner box. This panel will mount to two burner box walls and will anchor to the floor. It is Part # 17 on this example drawing but may be numbered differently on your drawing. The cone faces into the fan.



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- NOTE: Before attaching to the floor or the walls, spin the fan by hand and make sure that it is not rubbing against the Inlet Cone or Air Intake Panel. This is a very close fitting part and you may have to move it slightly to get proper alignment. Do this BEFORE anchoring.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Air Intake Panel and into the inner burner box walls. DO NOT SKIP SCREWS
- Using a hammer drill with a 3/8" bit, drill holes in concrete thru the holes for the Air Intake Panel.
- Find the Red Head Industrial Fasteners in your hardware box.
- Insert Red Head Industrial Fastener into the drilled hole. Using a hammer, drive down until flush.
- Using a socket, tighten the bolts of the Red Head Industrial Fasteners. Do not over-tighten.
- Locate the Air Intake Top Panel. This panel sits atop the panel that was just installed.
- Reference drawing for proper orientation and alignment. It is Part #16 on this example but may be numbered differently on your drawing. Pay close attention to orientation.



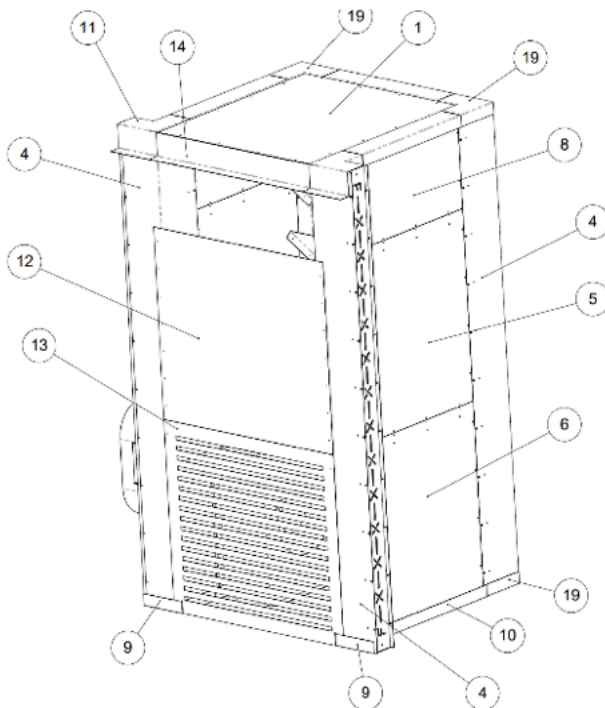
- Sit panel into place and make sure it is level.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Air Intake Panel and into the inner burner box walls. DO NOT SKIP SCREWS

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### STEP 16 - INSTALL BURNER BOX INSIDE COVER

- The Burner Box Inside Cover Panels are used to cover the burner box from the inside of the oven. Parts # 12 and # 13 in this drawing. See drawing section for clarification.



- The slotted Burner Box Cover Panel goes mounted first. It sits on the floor and goes covers the fan.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Inside Cover Panel and into the TrueX Small Corners on each side. **DO NOT SKIP SCREWS**
- Stack and attach (one at a time) the remaining Burner Box Inside Cover Panels. See Drawings for clarification.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Air Intake Panel and into the inner burner box walls. **DO NOT SKIP SCREWS**

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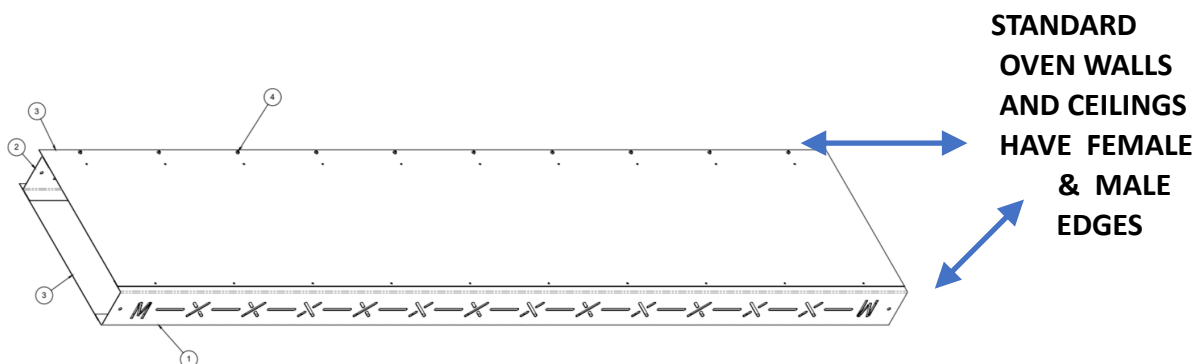


### STEP 17 – INSTALL REAR WALL OF OVEN

- Using your assembly drawing as a guide, place the rear oven walls in place one at a time. Be sure to set the panels completely into the floor track and make sure the male edges are pushed completely into the female panels. These are the 2' insulated panels.
- Using a 4' or larger level, make sure each wall is level and plumb.
- Once each wall is level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the sides of floor track and into the wall panels. Do this on both the inside and outside of the floor track. **DO NOT SKIP SCREWS.**
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Female edge of the wall panels and into the fully inserted male edges. Do this on both the inside and outside of the walls. **DO NOT SKIP SCREWS**
- Install roof track on rear wall. Do NOT screw roof track to rear wall.

### STEP 18 – INSTALL OVEN WALLS, ROOF TRACK, AND ROOF

- **Locate the two oven walls (four on ovens with doors on each end) that have one long edge as smooth (no M or F cutouts). These are the front walls that go directly behind the door frames. Set these aside. On ovens with doors on one end, they go on last. On ovens with doors on each end, they will be first and last. There is also on roof panel that has the one long smooth edge for front.**



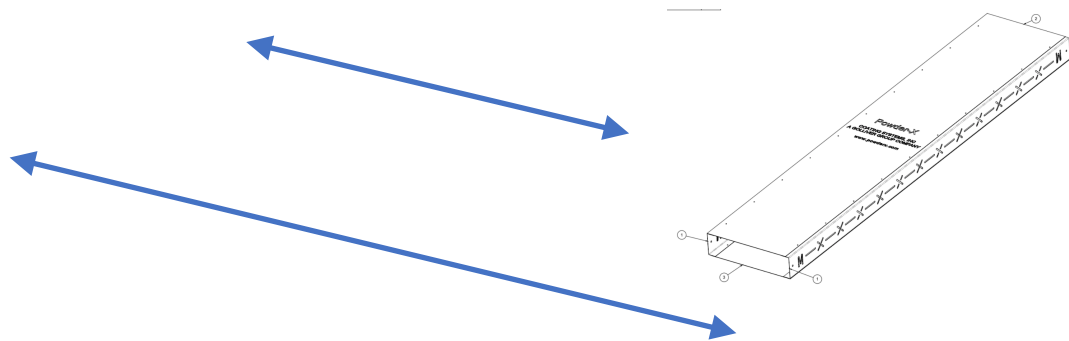
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**FRONT OVEN WALLS AND CEILINGS HAVE A MALE EDGE AND A FLUSH EDGE**

Flush edge

Male edge



- Using your assembly drawing as a guide, place the oven walls in place one at a time. Be sure to set the panels completely into the floor track and make sure the male edges are pushed completely into the female panels. These are the 2' insulated panels.
- Using a 4' or larger level, make sure each wall is level and plumb.
- Once each wall is level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the sides of floor track and into the wall panels. Do this on both the inside and outside of the floor track. **DO NOT SKIP SCREWS.**
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Female edge of the wall panels and into the fully inserted male edges. Do this on both the inside and outside of the walls. **DO NOT SKIP SCREWS.**
- **IMPORTANT: Walls will have nothing to support them from falling over as being built. Only build the walls long enough for roof track and roof panels to be installed. The walls and roof should be built a section at a time for rigidity, safety, square, level, and plumb.**
- The Roof track should be installed in sections as you move forward. Using a ladder, carefully place the roof tracks completely down on the top of the wall panels. The bent

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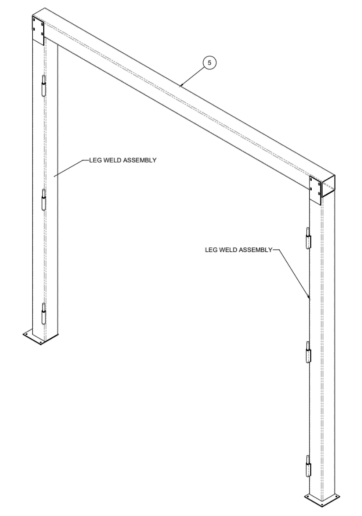


lip of the roof tracks always goes to the INSIDE of the oven. If necessary, use a rubber mallet to drive down flush

- **Note: The roof track is not screwed to the oven walls.**
- Refer to the drawings section for the size of the roof panels.
- Carefully place the roof panels into place. They sit inside the walls and onto the lips of the roof track. Make sure each roof panel is pushed flush into the previous roof panel. The seams of the roof panels should align closely with the seams of the wall panels.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the bent lip of the track - up and into the roof panels. DO NOT SKIP SCREWS.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the Female edge of the roof panels and into the fully inserted male edges. Do this on both the inside and outside of the roof panels. DO NOT SKIP SCREWS.

#### 19 - INSTALL DOOR FRAMES

- There are a set of 3 pieces that make up the door frame for each end of the oven that gets doors. These parts are heavy gauge tube steel (6" x 6") and are powder coated black. Locate these parts



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- Using self tapping screws, install rope gasket to the front face of the front wall panels and ceiling panel. This helps seal the door frames and the header panel to the actual oven.



- One at a time, set each of the two door support frames into place. They should be pushed tightly against the rope gasket seal.
- Using a 4' or larger level, make sure each support is level and plumb.
- Using a hammer drill with a 3/8" bit, drill holes in concrete thru the holes for the Air Intake Panel.
- Find the Red Head Industrial Fasteners in your hardware box.
- Insert Red Head Industrial Fastener into the drilled hole. Using a hammer, drive down until flush.
- Using a socket, tighten the bolts of the Red Head Industrial Fasteners. Do not over-tighten.
- Install the Horizontal Door Frame section. Make sure the door stop is oriented facing down and toward the inside of the oven.
- Using the provided hardware, attach the Horizontal Door Frame section the the vertical door supports.

#### **STEP 20 – INSTALL DOOR HEADER**

- Refer to drawings and locate door header panel and track.
- Install the Door Header Support Track to the top of the Horizontal Door Frame using provided screws.
- Carefully lift the door header and sit completely down into the door header panel support track.
- Using a 4' or larger level, make sure each wall is level and plumb.
- Once each wall is level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the sides of header support track and into the header panel.

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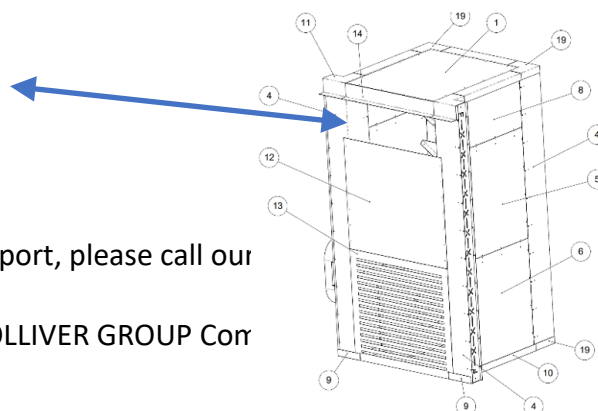
- Refer to the drawing and locate the Header Trim Pieces. These pieces are used to tie the header to the oven. There are 2 side pieces, a roof piece, and a piece for the inside of the oven.
- Put the top trim piece on the header so that it fits over the front of the header. Using self tapping screws, attach to the front of the header. Pull the header snugly against the oven. Using self-tapping screws, attach the top trim piece to the top of the oven.
- Install the two side trim pieces per drawing using self tapping screws.
- Install the inside trim piece per drawing using self-tapping screws.

#### STEP 21 – INSTALL PLENUM SUPPORT BRACKETS

**Note:** Each installation is different depending on the location of the burner. If your burner is on the end of the oven, follow direction as shown. If you have a side burner, the ends will have a side panel on each end of the plenum assembly. The install is different because you start with the side plenum panel, space it 12” from end of the back wall then install plenum supports as shown below.

- Refer to drawings and locate L shaped plenum supports.
- For ease of installation, starting from the back wall of the oven. Using a tape measure and a marker, measure 18” down from the side of the roof on each side wall and mark the spot. **STOP**
- **BEFORE PROCEEDING: MAKE SURE YOUR MARK IS BELOW THE HEIGHT OF THE OPENING AT THE TOP OF THE BURNER BOX.** This hole is where the air blows into the oven and the plenum must be below this hole. Depending on your floor and how level your panels were installed, the 18” mark may need to be adjusted slightly.

**PLENUM MUST BE BELOW THIS OPENING**



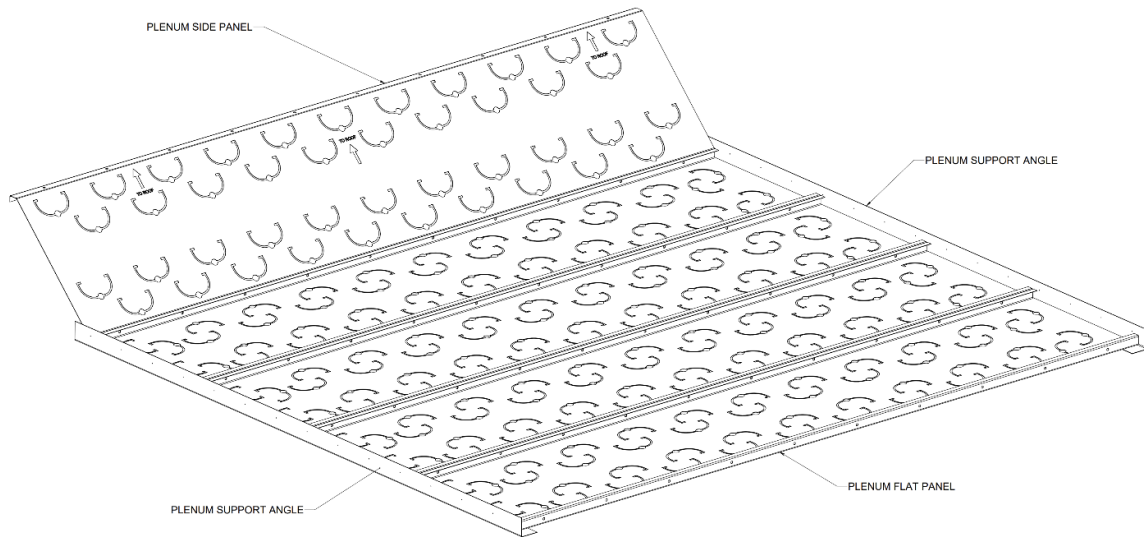
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- Once you have confirmed the markings on each wall are below the bottom of the opening, use a measuring tape, a level, and a chalk line to mark a line down the full length of each wall.
- Install supports with the bottom edge of the support on the line and the leg of the L shaped support going upwards. When the plenum sits on this support, the screws for this support will be up inside the plenum. See drawing below.
- Using a 4' level, be sure plenums supports are level with the leg of the L shaped support facing up toward the roof.
- Once the support is level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the flange of the support to the wall using the holes in the support, DO NOT SKIP SCREWS.
- Do not install the next set of plenum support until you install plenum panels (see step 22)
- Once the plenum panels are installed add next set of plenum supports as before.
- Check level and distance before each install of plenum supports.

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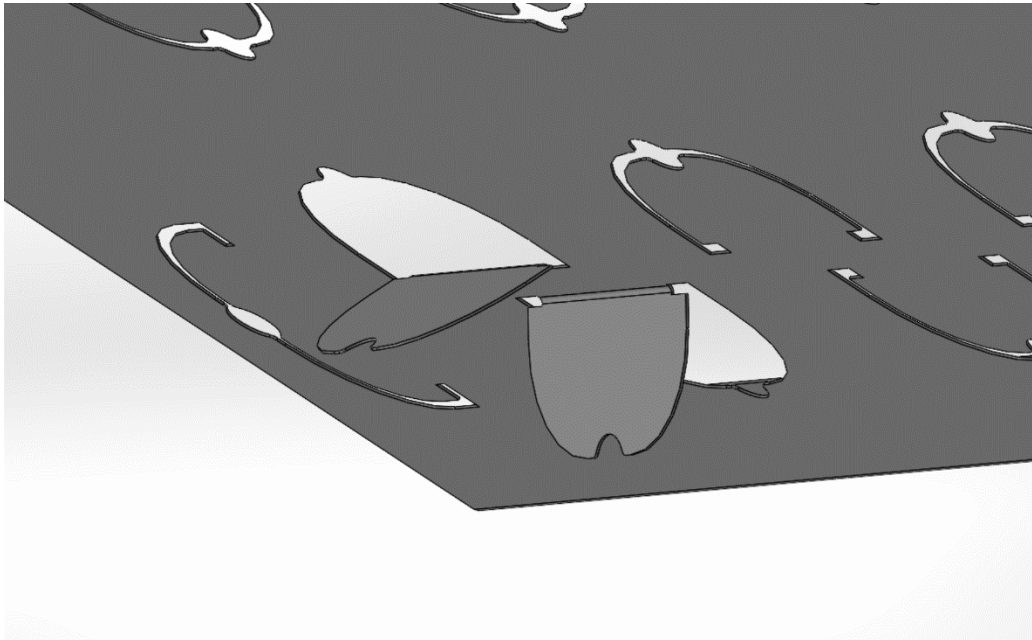
## STEP 22 - INSTALL PLENUM

- Refer to drawings and locate plenum panels. There are two types of panels, the flat panel and the end panel (see above). The end has a 45 degree bend on the end flange.
- Locate the end panels and set them aside.
- Locate the flat panels and slide them with the flanges up toward the roof. Install all flat panels until you reach the end of the support.
- Bolt the panels together BEFORE they are screwed to the plenum support brackets.
- Once panels are level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the flange of the support and attach panels using the holes in the support, DO NOT SKIP SCREWS.
- Once all panels are attached return to step 21 and repeat. Until all flat panels are installed, leave the last panel loose, you must attach it to the side panel before installation.
- Locate side panel and bolt to last flat panel before installing.
- Install last panel assembly with side panel facing the roof.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the flange of the side panel and attach panels to roof on the inside, DO NOT SKIP SCREWS.

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### STEP 23 - OPEN PLENUM HOLES (VERY IMPORTANT STEP)



- For best performance and even heating, once the plenum is installed you must bend down 100% of the openings to at least 45 degrees. This will allow the heat to be distributed evenly inside of the oven. **Failure to open ALL the plenum holes will not allow the oven to heat properly and will cause back pressure and damage to components and will void the warranty.**
- If you have areas that need more heat, increase the opening to balance air flow.
- **NOTE: A photo of the installed plenum with open vents will be required on the Warranty Validation Form.**

### STEP 24 - INSTALL EXHAUST FAN

- Locate exhaust fan, mesh cover, frame cover.
- Locate mesh cover and frame cover. These go inside the oven and cover the exhaust fan hole. You will bolt these with ¼-20 x 7 inch bolts, located in your hardware box.
- The mesh panel is placed against the wall.

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- The frame cover holes are lined up with holes in wall panel.
- Frame cover and mess cover are bolted through the wall panel and flat washer, lock washer and nuts are tightened.
- 8" metal tube (not included) is inserted in wall hole from outside until flush with mesh cover.
- Fan unit is aligned with end of tube, once the tube and fan are aligned.
- Find the Red Head Industrial Fasteners in your hardware box.
- Insert Red Head Industrial Fastener into the drilled hole. Using a hammer, drive down until flush.
- Using a socket, tighten the bolts of the Red Head Industrial Fasteners. Do not over-tighten.

#### STEP 25 - INSTALL DOORS


- Locate door assembly, Left and Right hand.
- **Caution: before moving doors, the panel inserts are loose and will fall out if stood up.**
- Remove panel inserts and set aside.
- Place O-ring spacers on the hinge pins on door frame opening.
- Stand door frame up and move to door opening.
- Installing the door frame is just lining up the door hinge with the door hinge pins on the opening frame.
- The doors open out, pay attention to which is right and left hand door.
- Once door frames are installed locate panel assembly and insert into door. The panels are installed from the outside of the oven.
- Pay attention to holes on the panel for door handle.
- Once upper and lower panel is in door located door handle assy.
- Door handle was to be assembled, handle bolts to plate with ¼-20 x .5 bolts.
- Once handle is assembled, align handle with holes in door panel and frame. This bolts together with ¼-20 x 4 bolts, flat washer, lock washer and nut.
- Once panels are level and plumb, locate the large box of #10-16 self-tapping screws in your hardware box.
- Using a drill with a hex head attachment, install self-tapping screws thru the holes in the flange of the door panel to door frame, DO NOT SKIP SCREWS.
- Check door swing, should open smoothly without any rubbing on floor or frame.
- Locate door latch located in hardware box.

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- This will be mounted on the door frame opening above the right door. This should be located in a position to catch the right door when closed toward the center of the opening.
- This will be attached to the frame opening with ¼-14 x 1.25 self drilling screws, located in the hardware box.

#### STEP 26 – INSTALL DOOR SEALS and LATCHES

- Locate the floor sweep gasket in the hardware box.
- 
- At the bottom of the door with it closed. Place the gasket touching the floor and against the inside bottom edge of the door.
  - Locate the large box of ¼-14 self-tapping screws in your hardware box.
  - Using a drill with a hex head attachment, install self-tapping screws every 12” into the inside of the door panel.
  - Repeat on the second door.
  - Locate door seal in the hardware box. This is the same seal you used on the door frame.
  - Install the seal in the door between the over lapping area of the door.
  - This will be attached to the frame opening with ¼-14 x 1.25 self drilling screws, located in the hardware box.
  - To install shut door, align the seal with the vertical edge of door.
  - Once aligned, start at the bottom and attach seal to the door.
  - Using a drill with a hex head attachment, install self-tapping screws thru seal into the door frame every 12 inched, DO NOT SKIP SCREWS.
  - NOTE: The oven will operate with a negative pressure. The doors will seal firm but not necessarily tightly. Because of the negative pressure, air should not leak from this area.
  - Locate the provide Friction Latches in the hardware box. Close doors firmly and attach latches

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#### **STEP 27 – INSTALL CONTROL PANEL**

- **Control panel must be installed per local code**

#### **STEP 28 – INSTALL SAFETY SWITCHES**

- Air flow safety switches are provided. These switches insure air flow requirements are being met.

#### **STEP 29 – HAVE LICENSED ELECTRICIAN WIRE OVEN**

- Wiring schematics are provided in this manual. A licensed electrician is needed to pull and land all interconnect wiring and main wiring. The license number, name, and contact information will be required on the Warranty Validation Form.

#### **STEP 30 – HAVE LICENSED CONTRACTOR CONNECT UTILITIES**

- All utilities must be connected by a licensed technician. The license number, name, and contact information of the technician will be required on the Warranty Validation Form.

#### **STEP 31 – HAVE LICENSED CONTRACTOR INSTALL EXHAUST DUCT**

- Exhaust stack required is typically Class B Double Wall. Local code may supersede this requirement. NOTE: The exhaust must go outside of the building because of heat and burnt gas fumes. The exhaust stack must have a cap to prevent intrusion of animals and precipitation. Exhaust roof cap MUST be high flow with no restriction. Exhaust caps that restrict air flow may cause safety switches to inadvertently fail to make. A photo of the installed stack will be required on the Warranty Validation Form.

#### **STEP 32 – PERFORM ALL READINGS AND SUBMIT WARRANTY VALIDATION FORM FOR REVIEW**

- **This form must be completed, submitted, and approved prior to start-up of the oven for warranty validation. Start-up of the oven without signed Warranty Validation Approval form from a Powder-X Factory Authorized Technician will immediately void the warranty.**

#### **STEP 33 - SEE OVEN START-UP PAGE**

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