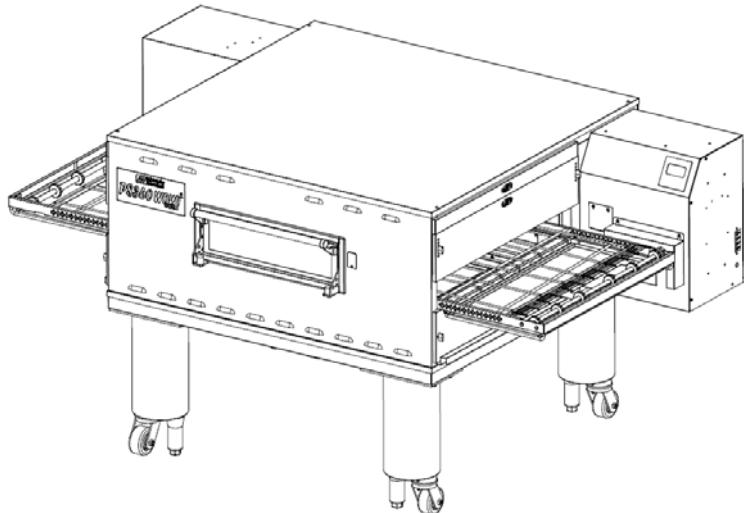


PS360G Series  
Gas  
Domestic & Std. Export  
ENGLISH



P/N: 70071  
Rev. J  
June 1<sup>st</sup>, 2019



## PS360G Series Gas Ovens

### **Model:**

- PS360G Gas
- PS360GWB Gas

### **Combinations:**

- Single Oven
- Double Oven (Two-Stack)
- Triple Oven (Three-Stack)

# **OWNER'S OPERATING AND INSTALLATION MANUAL**

*for domestic and standard export ovens*

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**NOTICE:**

This Owner's Operating and Installation Manual should be given to the user. The operator of the oven should be familiar with the function and operation of the oven.

This manual must be kept in a prominent, easily reachable location near the oven.

Ovens are shipped from the factory configured for use with Natural gas. If permitted by local, national and international codes, at the time of installation the oven may be converted to Propane gas operation. This conversion requires the use of a Gas Conversion Kit that is supplied with the oven. For CE-approved ovens, the conversion is described in the *Installation* section of this manual. For domestic and standard export ovens, instructions are included in the Gas Conversion Kit.

It is suggested to obtain a service contract with a Middleby Authorized Service Company (ASC).

**WARNING**

**IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE, OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY, OR DEATH. READ THE INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THE EQUIPMENT.**

**WARNING**

**DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.**

**ATTENTION**

**POUR VOTRE SÉCURITÉ, NE STOCKEZ PAS D'ESSENCE OU AUTRES VAPEURS ET LIQUIDES INFLAMMABLES PRÈS DE CE DISPOSITIF ET AUTRES DISPOSITIFS.**

**IMPORTANT**

An electrical wiring diagram for the oven is located inside the machinery compartment.

**IMPORTANT**

It is the customer's responsibility to report any concealed or non-concealed damage to the freight company. Retain all shipping materials until it is certain that the equipment has not suffered concealed shipping damage.

**NOTICE**

CONTACT YOUR MIDDLEBY AUTHORIZED SERVICE COMPANY TO INSTALL AND PERFORM MAINTENANCE AND REPAIRS AND IF NECESSARY TO CONVERT EQUIPMENT FOR USE WITH OTHER GASES. AN AUTHORIZED SERVICE COMPANY DIRECTORY IS SUPPLIED WITH YOUR OVEN.

**NOTICE**

Using parts other than genuine Middleby Marshall Factory manufactured parts relieves the manufacturer of all warranty and liability.

**NOTICE**

Middleby Marshall (Manufacturer) reserves the right to change specifications at any time.

**NOTICE**

The equipment warranty is not valid unless the oven is installed, started and demonstrated under the supervision of a factory certified installer.

**MISE EN GARDE:** Une installation, un réglage, une modification une réparation ou un entretien inadéquat peut provoquer des dommages matériels, des blessures ou la mort. Lisez soigneusement les instructions d'installation, d'utilisation et d'entretien avant d'installer ou de réparer cet équipement.

**NOTICE**

THE EQUIPMENT IS ONLY FOR PROFESSIONAL USE AND SHALL BE USED BY QUALIFIED PERSONNEL.

**RETAIN THIS MANUAL FOR FUTURE REFERENCE**

**MIDDLEBY MARSHALL**  
**NO QUIBBLE LIMITED WARRANTY**  
*(U.S.A. ONLY)*

MIDDLEBY MARSHALL HERINAFTER REFERRED TO AS "THE SELLER", WARRANTS EQUIPMENT MANUFACTURED BY IT TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR WHICH IT IS RESPONSIBLE. THE SELLER'S OBLIGATION UNDER THIS WARRANTY SHALL BE LIMITED TO REPLACING OR REPAIRING AT SELLER'S OPTION, WITHOUT CHARGE, ANY PART FOUND TO BE DEFECTIVE AND ANY LABOR AND MATERIAL EXPENSE INCURRED BY SELLER IN REPAIRING OR REPLACING SUCH PART. SUCH WARRANTY SHALL BE LIMITED TO THE ORIGINAL PURCHASER ONLY AND SHALL BE EFFECTIVE FOR A PERIOD OF ONE YEAR FROM DATE OF ORIGINAL INSTALLATION OR 18 MONTHS FROM DATE OF PURCHASE, WHICHEVER IS EARLIER, PROVIDED THAT TERMS OF PAYMENT HAVE BEEN FULLY MET.

This warranty is valid only if the equipment is installed, started, and demonstrated under the supervision of a factory-authorized installer.

Abuse, acts of God, belt jams, cleaning, customer abuse, insufficient utilities, lubrication, maintenance, non-oven related issues, preventative maintenance, or normal maintenance function including adjustment of airflow, burners, conveyor components, door mechanisms, microswitches, pilot burners, thermostats, and replacement of bushings, light bulbs, fuses, indicating lights and wear points, are not covered by this **no quibble warranty**.

Seller shall be responsible only for repairs or replacements of defective parts performed by Seller's authorized service personnel. Authorized service agencies are located in principal cities throughout the contiguous United States, Alaska, and Hawaii. This warranty is valid in the 50 United States and is void elsewhere unless the product is purchased through Middleby International with warranty included.

**The foregoing warranty is exclusive and in lieu of all other warranties, expressed or implied. There are no implied warranties of merchantability or of fitness for a particular purpose.**

The foregoing shall be the Seller's sole and exclusive obligation and Buyer's sole and exclusive remedy for any action, including breach of contract or negligence. In no event shall Seller be liable for a sum in excess of the purchase price of the item. Seller shall not be liable for any prospective or lost profits of the buyer.

***This warranty is effective on Middleby Marshall equipment sold on, or after January 1<sup>st</sup>, 2007.***

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**MIDDLEBY MARSHALL**  
**OVEN LIMITED WARRANTY**  
*(Non U.S.A.)*

The Seller warrants equipment manufactured by it to be free from defects in material and workmanship for which it is responsible. The Seller's obligation under this warranty shall be limited to replacing or repairing, at Seller's option, without charge, F.O.B. Seller's factory, any part found defective and any labor and material expense incurred by Seller in repairing or replacing such part. Such warranty is limited to a period of one year from the date of original installation or 15 months from date of shipment from Seller's factory, whichever is earlier, provided that terms of payment have been fully met. All labor shall be performed during regular working hours. Overtime premium will be charged to the Buyer.

**This warranty is not valid unless equipment is installed, started, and demonstrated under the supervision of a factory-authorized installer.**

Normal maintenance functions including lubrication, adjustment of airflow, thermostats, door mechanisms, microswitches, burners and pilot burners, and replacement of light bulbs, fuses, and indicating lights, are not covered by warranty.

Any repair or replacement of defective parts shall be performed by Seller's authorized service personnel. Seller shall not be responsible for any costs incurred if the work is performed by anyone other than the Seller's authorized service personnel.

When returning any part under warranty, the part must be intact and complete, without evidence of misuse or abuse, freight prepaid.

Seller shall not be liable for any consequential damages of any kind which occur during the course of installation of equipment, or which result from the use or misuse by Buyer, its employees or others of the equipment supplied hereunder, at Buyer's sole and exclusive remedy against Seller for any breach of the foregoing warranty or otherwise shall be for the repair or replacement of the equipment or parts thereof affected by such breach.

The foregoing warranty shall be valid and binding upon Seller if and only if Buyer loads, operates and maintains the equipment supplied hereunder in accordance with the instruction manual provided to Buyer. Seller does not guarantee the process of manufacture by Buyer or quality of product to be produced by the equipment supplied hereunder and Seller shall not be liable for any prospective or lost profits of Buyer.

The foregoing shall be Seller's sole and exclusive obligation and Buyer's sole and exclusive remedy for any action, whether in breach of contract or negligence. In no event shall Seller be liable for a sum in excess of the purchase price of the item.

**THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES WHATSOEVER, SPECIFICALLY THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

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## SECTION 1 - DESCRIPTION

### I. OVEN USES

The PS360G Series ovens can be used to bake and/or cook a wide variety of products, such as pizza, pizza-type products, cookies, sandwiches and others.

### II. OVEN COMPONENTS – See Figure 1-1

- A. **Conveyor Drive Motor (inside cabinet):** Moves the Conveyor Belting (65756)
- B. **Crumb Pans:** Catch crumbs and other materials that drop through the conveyor belt. One crumb pan is located at each end of the conveyor belt (PS360G Vented 35900-0255, PS360G Solid 35900-0038, PS360GWB Vented 72457, PS360GWB Solid 72511)
- C. **Conveyor:** Moves the food product through the oven.
- D. **End Plugs:** Allow access to the oven's interior.
- E. **Eyebrows:** Can be adjusted to various heights to lessen heat loss to the environment
- F. **Window:** Allows the user to access the food products within the baking chamber, or place product into the oven for shorter bake times. (60190)
- G. **Control Cabinet Doors:** Allow access to the oven's control components. No user serviceable parts are located within these cabinets.
- H. **Serial Plate:** Provides specifications for the oven pertinent to installation, operation and maintenance. Refer to *SECTION 2 – INSTALLATION* for details.
- I. **Control Panel (User Interface):** Allows user to adjust temperature, bake time and top and bottom air flow. Also provides diagnostic messages for oven operation.
- J. **Photo Sensor:** Puts oven into the Baking Mode when the beam is interrupted by product being placed on the belt (71166).
- K. **Door Photo Sensor:** Puts oven into the Baking Mode when the beam is interrupted by the front window being opened to insert product.
- L. **Circuit Breaker Resets:** Permits resetting breakers inside cabinet without opening door or touching the circuit breakers directly.
- M. **Gas Burner (inside left control cabinet):** Heat recirculating air within the oven cavity.
- N. **Blowers (not shown):** move heated air that recirculates through the oven cavity.
- O. **Fingers (inside top and bottom of oven cavity):** Direct air in controlled fashion to the product being baked through a pattern arrangement of extruded holes.

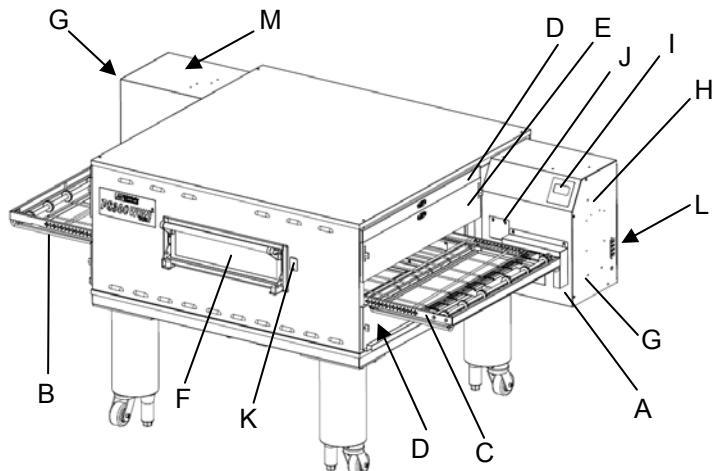


Figure 1-1

### III. OVEN SPECIFICATIONS – PS360G

**Table 1-1 Dimensions**

	<b>Single Oven</b>	<b>Double Oven</b>	<b>Triple Oven</b>
Overall Height	48.52" (1232.4 mm)	67.21" (1707.2 mm)	76.93" (1954.1 mm)
Overall Depth	57.50" (1458 mm)	57.50" (1458 mm)	57.50" (1458 mm)
Overall Length	92.00" (2337 mm)	92.00" (2337 mm)	92.00" (2337 mm)
Conveyor Width – Belt width is 32"	33.5" (850.9 mm)	33.5" (850.9 mm)	33.5" (850.9 mm)

#### Recommended Minimum Clearances

Rear of Oven to Wall	0" (0 mm)
Right Side of Oven to Wall	2" (50.8 mm)
Left Side of Oven to Wall	2" (50.8 mm)

**Table 1-2: General Specifications**

	<b>32" Belt</b>
Weight	1,100 lbs.
Rated Heat Input (per oven cavity)	119,900 BTU/hr (127MJ)
Maximum Operation Temperature	600°F (315 C)
Air Blowers	4 at 2,800 rpm
Warm-up Time	20 minutes to 500°F

**Table 1-3: Electrical Specifications**

<b>Main Blower Voltage</b>	<b>Control Circuit Voltage</b>	<b>Phase</b>	<b>Frequency</b>	<b>Current Draw</b>	<b>Poles</b>	<b>Wires</b>
208/240 VAC, 3φ	24VDC	1	50-60 Hz	9.9/8.5 Amps	2	3 Wire – L1, L2/N & GRND

**Table 1-4: Gas Orifice and Pressure Specifications**

<b>Gas Type</b>	<b>Main Orifice Diameter</b>	<b>Inlet Pressure</b>	<b>Manifold Pressure</b>	<b>Bypass Orifice</b>
Natural	#31 = 0.120" (3.00mm)	6-8" W.C. (1.49 – 1.99 kPa)	3.5" W.C. at manifold (0.87 kPa)	7/64" = 0.109" (2.77mm)
Propane/ULPG	#45 = 0.082" (2.083mm)	11-14" W.C. (2.7-3.5 kPa)	6.0" W.C. (1.49 kPa)	5/64" = 0.078" (1.98mm)

### GAS ORIFICE AND PRESSURE SPECIFICATIONS (PER OVEN CAVITY) – CE OVENS

Gas Type	Main Orifice Diameter	Orifice Manifold Pressure										Rated Heat Input
		I <sub>2H</sub>	I <sub>2L</sub>	I <sub>2E</sub>	I <sub>2E+</sub>	I <sub>3P</sub>	I <sub>3P</sub>	I <sub>3B/P</sub>	I <sub>3B/P</sub>	I <sub>3B/P</sub>	I <sub>3+</sub>	
Natural G20	.120" 3.048 mm	20mbar	--	20 mbar	20/25 mbar	--	--	--	--	--	--	3.5" w.c. 8.7mbar 35.2kW
Natural G25	.120" 3.048 mm	--	25 mbar	--	--	--	--	--	--	--	--	3.5" w.c. 8.7mbar 35.2kW
Butane G30	.0748" 1.90mm	--	--	--	--	--	--	28-30/50 mbar	30 mbar	37/50 mbar	28-30 mbar	10.0" w.c. 24.9 mbar 35.2kW
Propane G31	.0748" 1.90mm	--	--	--	--	37 mbar	50 mbar	--	30 mbar	37/50 mbar	37 mbar	10.0" w.c. 24.9 mbar 35.2kW

#### NOTE

Wiring Diagrams are contained in Section 5 of this Manual and are also located inside the oven control compartment. Additional electrical information is provided on the oven's serial plate.

## I. OVEN SPECIFICATIONS – PS360GWB

**Table 1-1 Dimensions**

	<b>Single Oven</b>	<b>Double Oven</b>	<b>Triple Oven</b>
Overall Height	48.52" (1232.4 mm)	67.71" (1719.9 mm)	77.43" (1966.8 mm)
Overall Depth	63.27" (1607 mm)	63.27" (1607 mm)	63.27" (1607 mm)
Overall Length	92.00" (2337 mm)	92.00" (2337 mm)	92.00" (2337 mm)
Conveyor Width – Belt width is 32"	39.5" (939.8 mm)	39.5" (939.8 mm)	39.5" (939.8 mm)

### Recommended Minimum Clearances

Rear of Oven to Wall	0" (0 mm)
Right Side of Oven to Wall	2" (50.8 mm)
Left Side of Oven to Wall	2" (50.8 mm)

**Table 1-2: General Specifications**

	<b>37" Belt</b>
Weight	1,200 lbs.
Rated Heat Input (per oven cavity)	170,000 BTU/hr (180MJ)
Maximum Operation Temperature	600°F (315 C)
Air Blowers	4 at 2,800 rpm
Warm-up Time	20 minutes to 500°F

**Table 1-3: Electrical Specifications**

<b>Main Blower Voltage</b>	<b>Control Circuit Voltage</b>	<b>Phase</b>	<b>Frequency</b>	<b>Current Draw</b>	<b>Poles</b>	<b>Wires</b>
208/240 VAC, 3φ	24VDC	1	50-60 Hz	9.9/8.5 Amps	2	3 Wire – L1, L2/N & GRND

**Table 1-4: Gas Orifice and Pressure Specifications**

<b>Gas Type</b>	<b>Main Orifice Diameter</b>	<b>Inlet Pressure</b>	<b>Manifold Pressure</b>	<b>Bypass Orifice</b>
Natural	#29 = 0.138" (3.5mm)	7-9" W.C. (1.7 – 2.2 kPa)	3.5" W.C. at manifold (0.87 kPa)	7/64" = 0.109" (2.77mm)
Propane/ULPG	0.094" (2.4mm)	11-14" W.C. (2.7-3.5 kPa)	6.0" W.C. at manifold (1.49 kPa)	5/64" = 0.078" (1.98mm)

## GAS ORIFICE AND PRESSURE SPECIFICATIONS (PER OVEN CAVITY) – CE OVENS

Gas Type	Main Orifice Diameter	$I_{2H}$	$I_{2L}$	$I_{2E}$	$I_{2E+}$	$I_{3P}$	$I_{3P}$	$I_{3B/P}$	$I_{3B/P}$	$I_{3B/P}$	$I_{3B/P}$	$I_{3+}$	Orifice Manifold Pressure	Rated Heat Input
Natural G20	.120" 3.048 mm	20mbar	--	20 mbar	20/25 mbar	--	--	--	--	--	--	--	3.5" w.c. 8.7mbar	35.2kW
Natural G25	.120" 3.048 mm	--	25 mbar	--	--	--	--	--	--	--	--	--	3.5" w.c. 8.7mbar	35.2kW
Butane G30	.0748" 1.90mm	--	--	--	--	--	--	28-30/50 mbar	30 mbar	37/50 mbar	28-30 mbar	10.0" w.c. 24.9 mbar	35.2kW	
Propane G31	.0748" 1.90mm	--	--	--	--	37 mbar	50 mbar	--	30 mbar	37/50 mbar	37 mbar	10.0" w.c. 24.9 mbar	35.2kW	

### NOTE

Wiring Diagrams are contained in Section 5 of this Manual and are also located inside the oven control compartment. Additional electrical information is provided on the oven's serial plate.

**THIS MANUAL MUST BE KEPT FOR FUTURE REFERENCE**

## SECTION 2 - INSTALLATION

### I. GENERAL

**WARNING** – After any conversions, readjustments, or service work on the oven:

- Perform a gas leak test
- Test for correct air supply, particularly to the burner blower.
- Test for proper combustion and gas supply
- Check that the ventilation system is in operation

**WARNING** – Keep the appliance area free and clear of combustibles.

**WARNING** – The oven must be installed on an even (level) non-flammable flooring and any adjacent walls must not be flammable. Recommended minimum clearances are specified in the Description section of this manual.

**WARNING** – Do not obstruct the flow of ventilation air to and from your oven. There must be no obstruction around or underneath the oven. Constructional changes to the area where the oven is installed shall not affect the air supply to the oven.

**CAUTION:** To reduce the risk of fire, the appliance is to be mounted on floors of non-combustible construction with noncombustible flooring and surface finish and with no combustible material against the underside thereof, or on noncombustible slabs or arches having no combustible material against the underside thereof, such construction shall in all cases extend not less than 12 inches (304 mm) beyond the equipment on all sides.

**CAUTION:** For additional installation information, contact your local Authorized Service Agent.

**NOTE** – There must be adequate clearance between the oven and combustible construction. Clearance must also be provided for servicing and proper operation.

**NOTE** – An electrical wiring diagram for the oven is located inside the machinery compartment.

**NOTE:** All aspects of the oven installation, including placement, utility connections, and ventilation requirements, must conform to any applicable local, national, or international codes. These codes supersede the requirements and guidelines provided in this manual.

**NOTE:** In the USA, the oven installation must conform to local codes. In the absence of local codes, gas oven installations must conform to the National Fuel Gas Installation Code, ANSI Z223.1. Gas and electric ovens, when installed must be electrically grounded in accordance with local codes, or in the absence of local codes, with the Natural Electric Code (NEC), or ANSI/NFPA 70.

**NOTE:** In Canada, the oven installation must conform to local codes. In the absence of local codes, gas oven installations must conform to the Natural Gas Installation Code, CAN/CGA-B149.1 or Propane Gas Installation Code, CAN/CGA-B149.2, as applicable. Gas and electric ovens, when installed, must be electrically grounded in accordance with local codes, or in the absence of local codes, with Canadian Electrical Code, CSA C22.2.

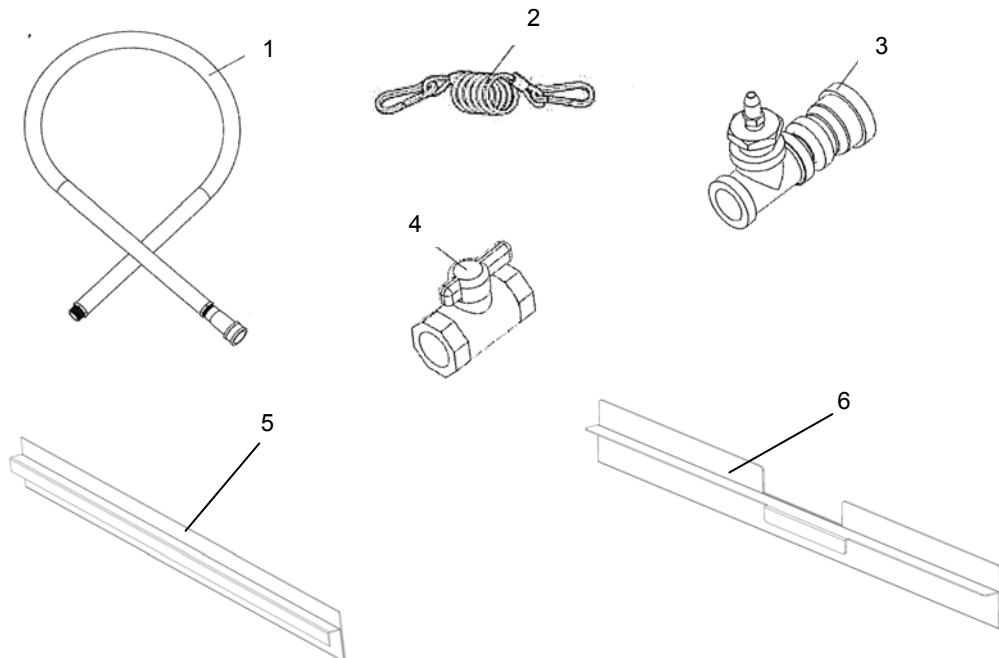
**NOTE:** In Australia, the oven installation must conform to AS/NZ5601 and carry local Authority or any other relevant statutory regulations.

## II. PS360G OVEN INSTALLATION – REQUIRED KITS & EQUIPMENT

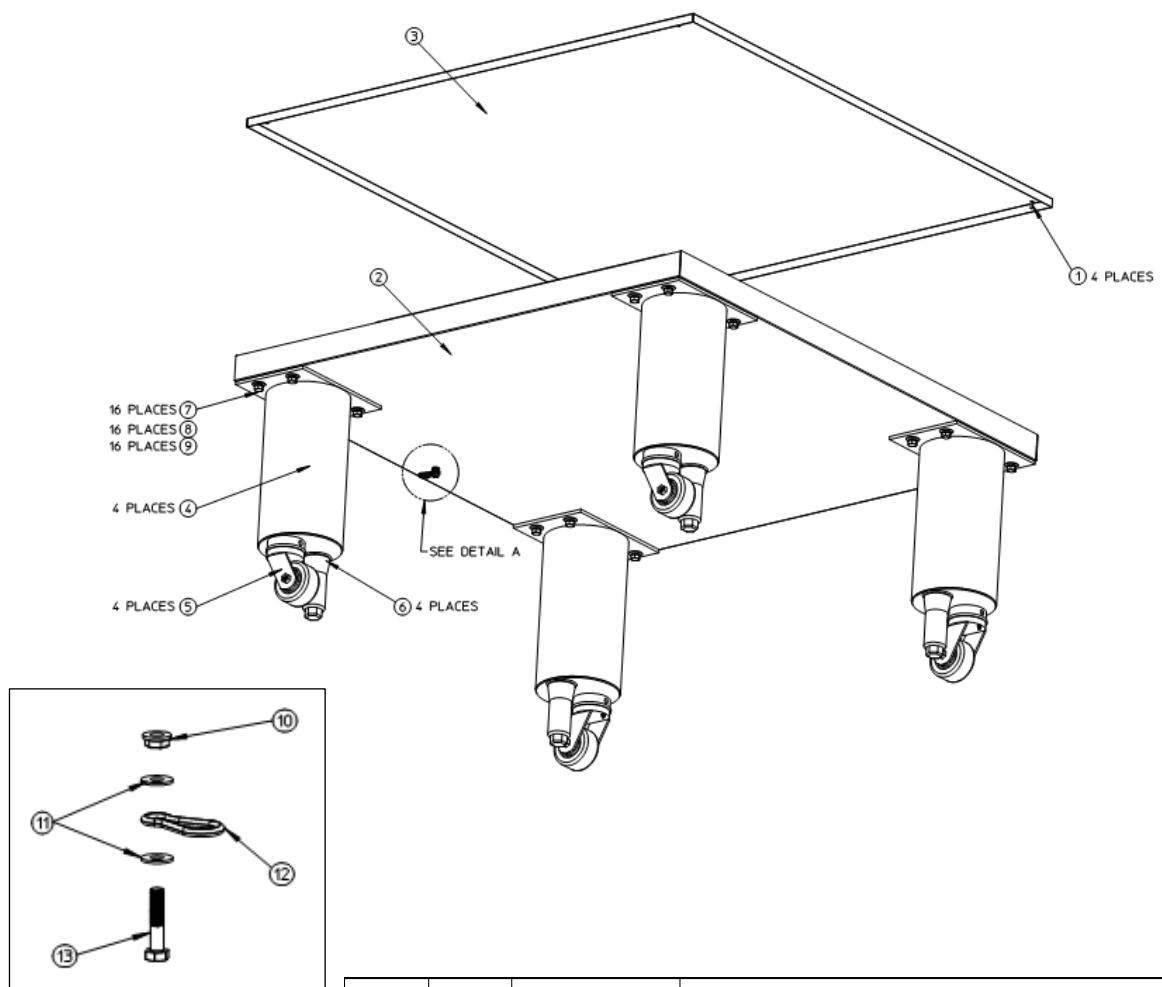
TYPE OF INSTALLATION	PS360G Installation Kit	Single Oven Kit Base w/ 15" Legs, Casters & Top	Double Oven Kit Base w/ 10" Legs, Casters & Top	Triple Oven Kit Base, Casters & Top
PS360G Single Gas Oven	69977	One (1) PN 69669	--	--
PS360G Double Gas Oven	70130	--	One (1) PN 70274	--
PS360G Triple Gas Oven	70131	--	--	One (1) PN 70275
PS360GWB Single Gas	72271	One (1) PN 70556		
PS360GWB Double Gas	72273		One (1) PN 71230	
PS360GWB Triple Gas	72274			One (1) PN 71231

### PARTS KITS FOR SERIES PS360G GAS OVEN INSTALLATION KIT (PN 69977)

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY
1	22361-0001	FLEXIBLE GAS HOSE 3/4"	1
2	22450-0228	RESTRAINT CABLE	1
3	50546	TAP AND ADAPTER	1
4	23115-0010	GAS BALL VALVE 3/4" X 3/4"	1
5	55027	CONVEYOR END STOP	1
6	61823	CONVEYOR BACK STOP	1

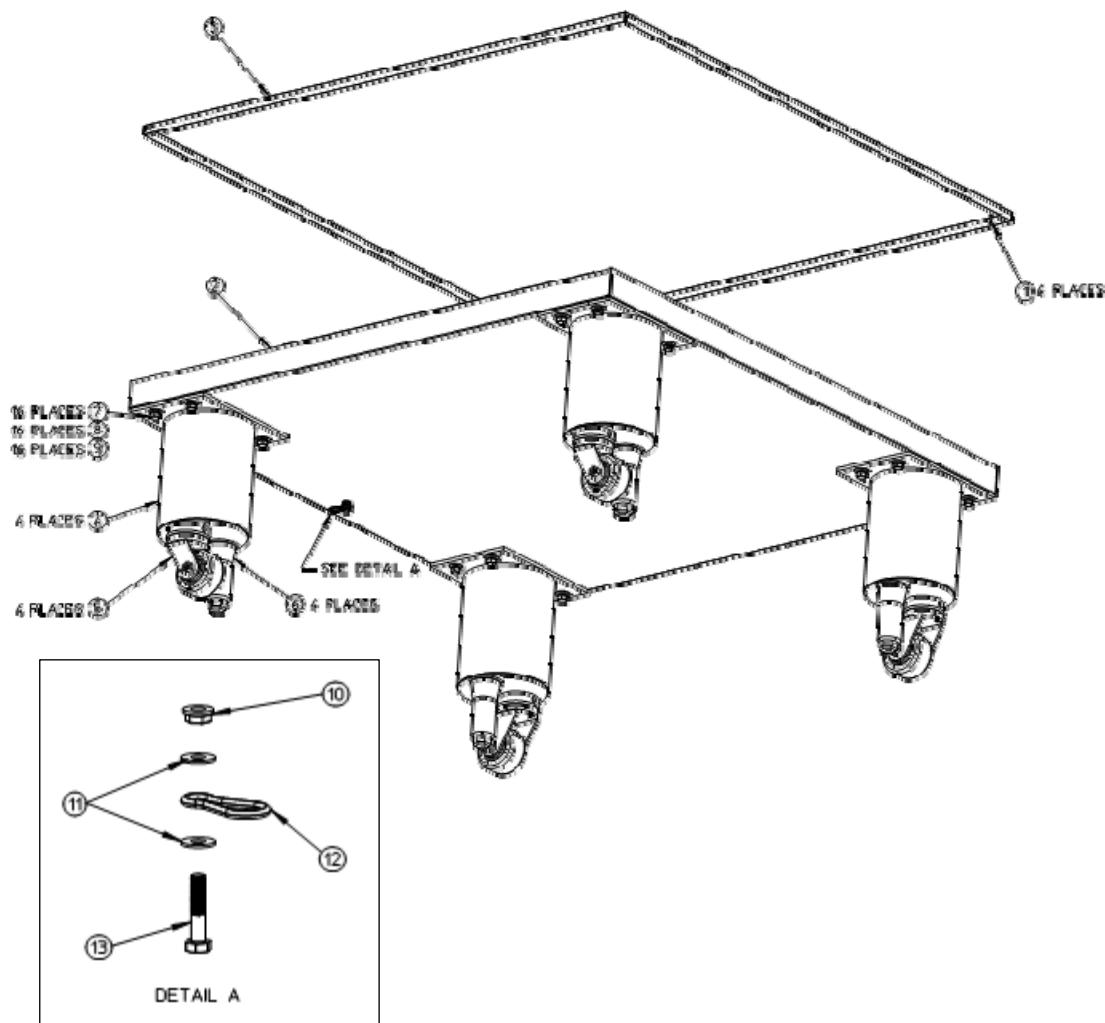


## A. PN 69669 – SINGLE OVEN BASE/TOP KIT



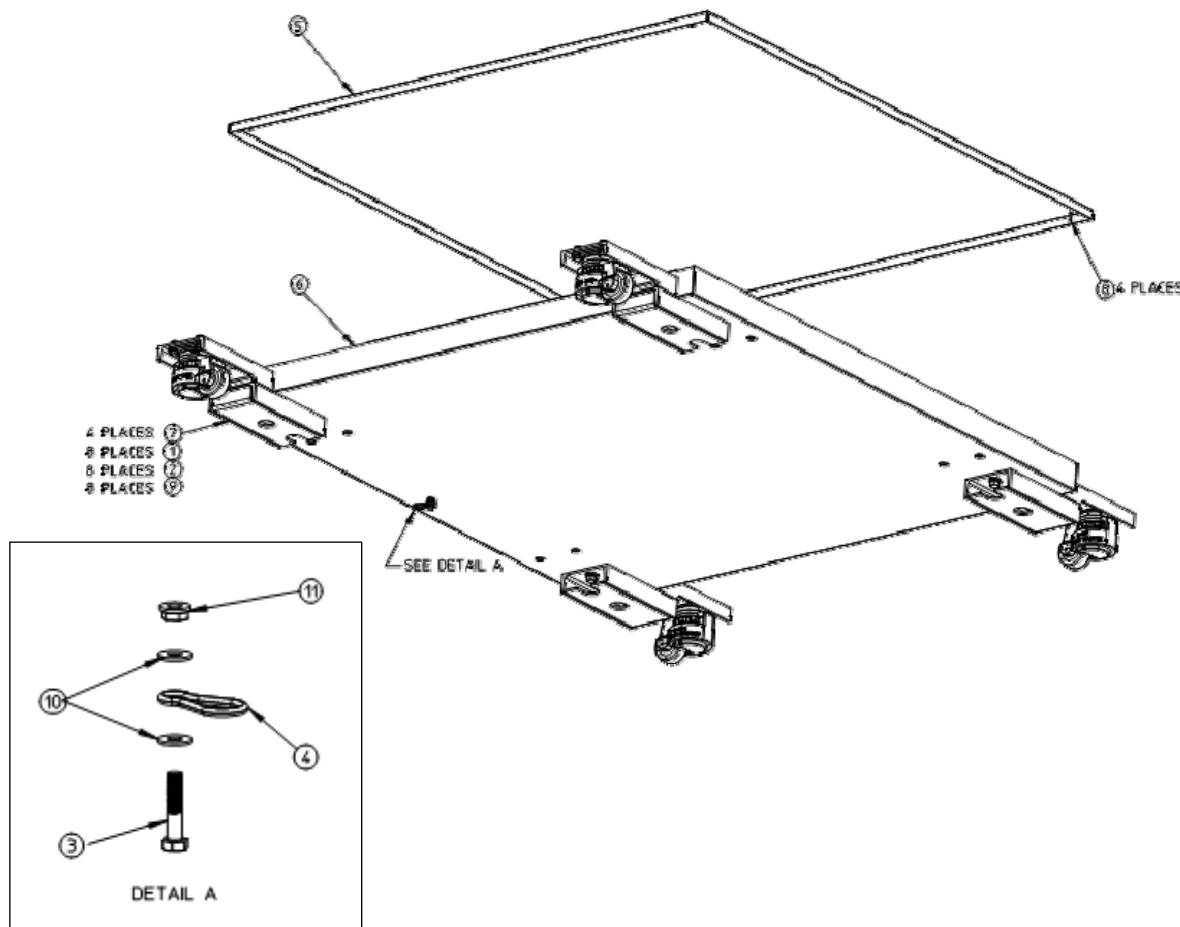
ITEM	QTY	PART NO.	DESCRIPTION
14	1	22450-0228	DEVICE,RESTRAINING (NOT SHOWN) (REF)
13	1	61832	SCREW, HEX 5/16-18 1-1/2"
12	1	61833	CLIP,SPRING 5/16" OPENING
11	2	B301A8847	WASHER,FLAT 5/16 X 3/4 X 1/16
10	1	31239	NUT,HEX FLANGE LOCKING 5/16-18
9	16	21426-0004	WASHER,LOCK 1/2 18-8
8	16	21216-0018	SCR,HHCS 1/2-13X1-1/4 18-8
7	16	21416-0003	WASHER,FLAT 1/2 18-8
6	4	22450-0028	STUD,LEG 6" ADJUST 3/4"
5	4	58930	CASTER,STUD W/BRAKE 4" WHEEL
4	4	61828	WLDMT, LEG 15"
3	1	68808	PNL,OUTER TOP
2	1	69670	ASSY,BASE 360G
1	4	7A2S15	SCR,MS STR TRSHD 10-32X3/4 NP

## B. PN 70274 – DOUBLE OVEN BASE/TOP KIT

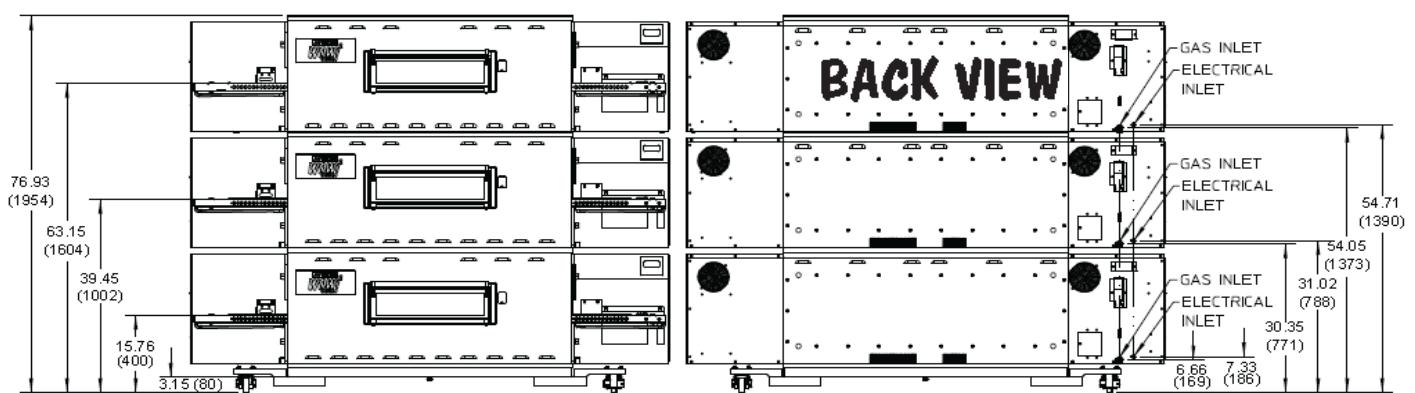
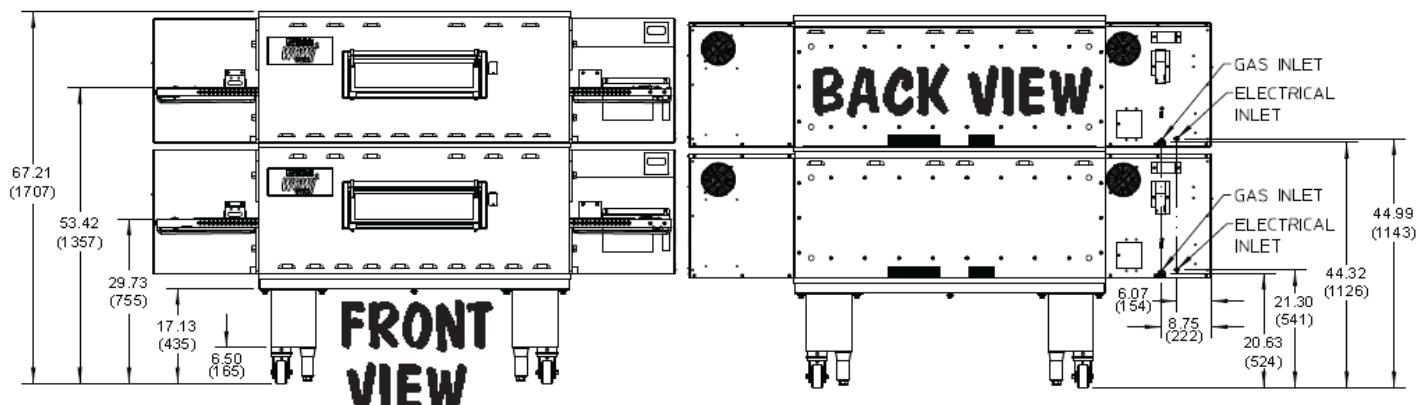
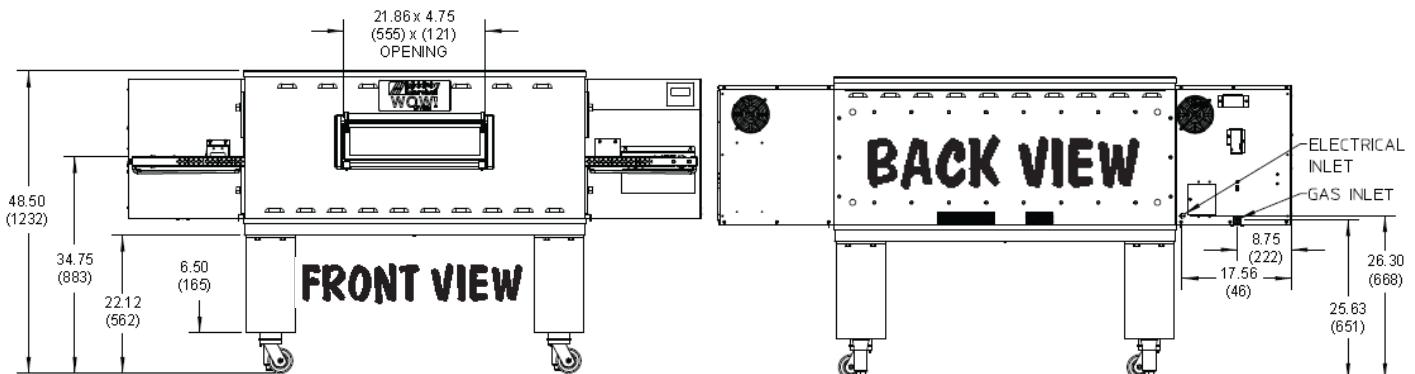
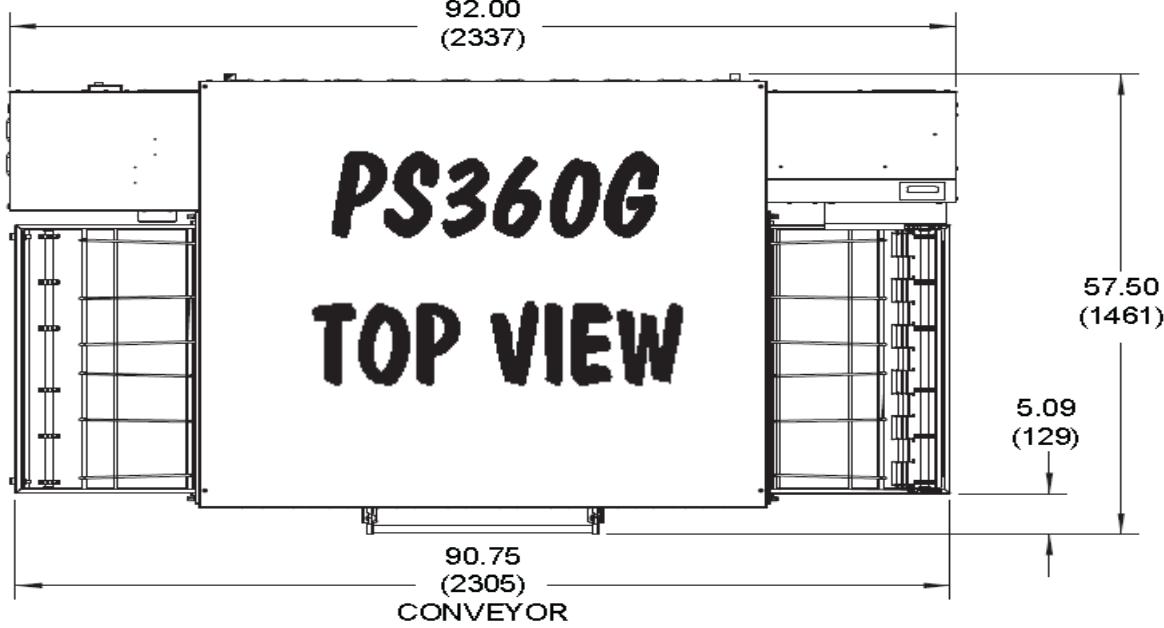


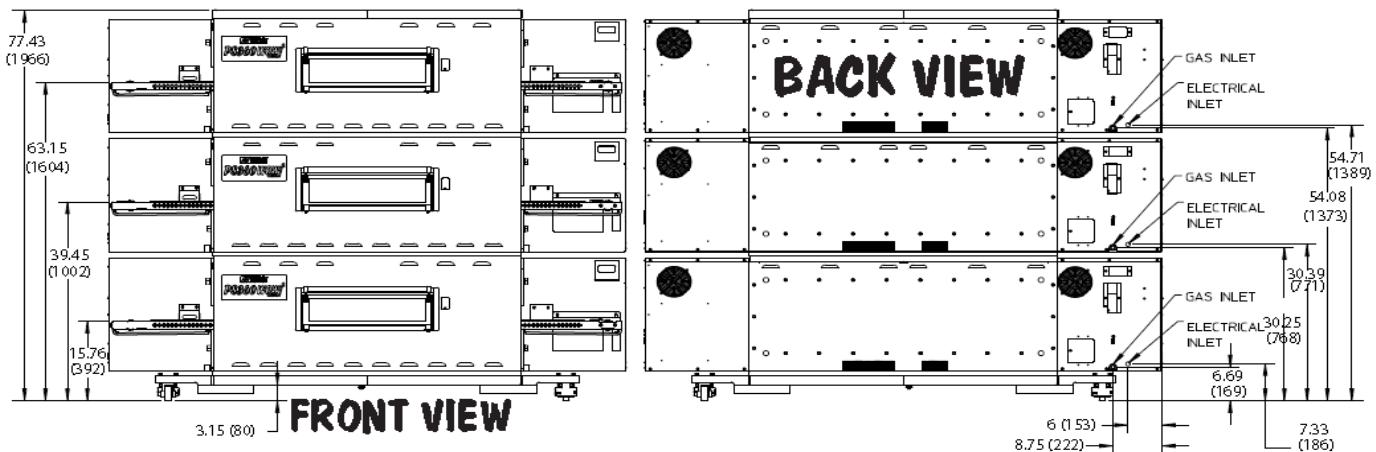
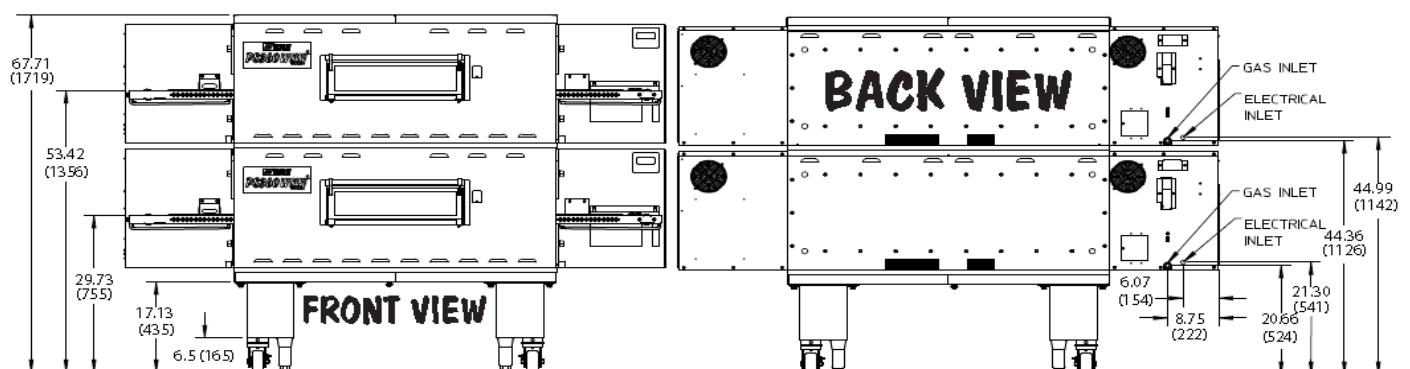
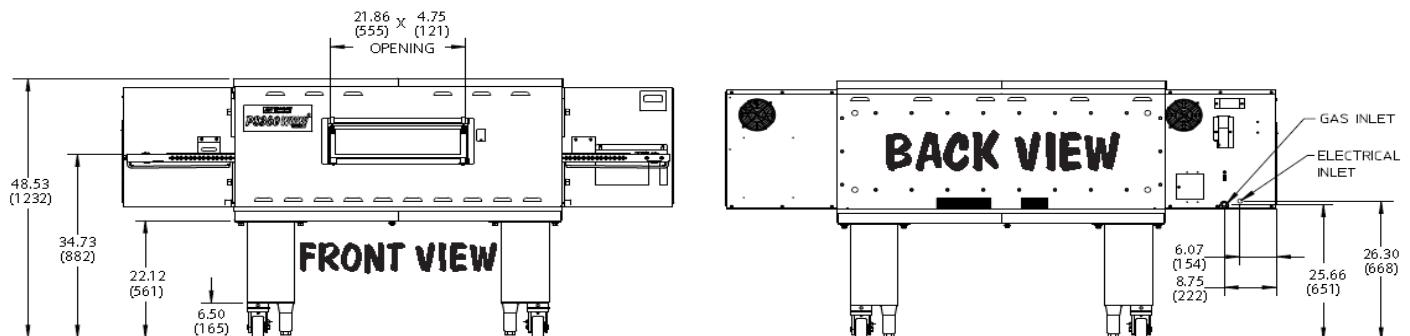
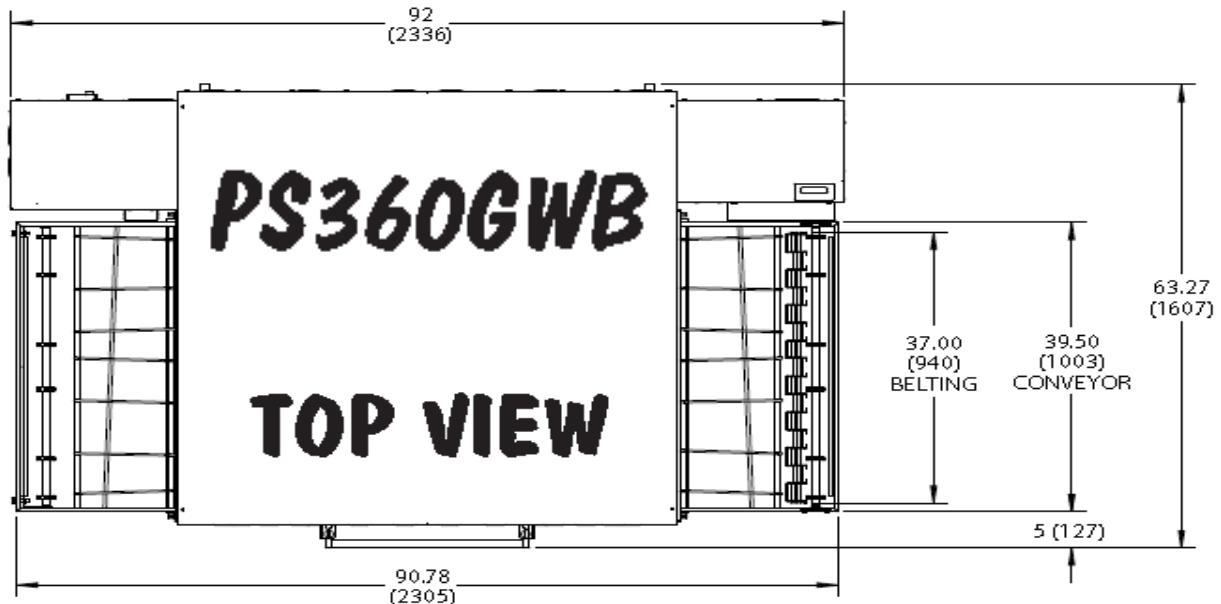
ITEM	QTY	PART NO.	DESCRIPTION
14	1	22450-0228	DEVICE,RESTRAINING (NOT SHOWN) (REF)
13	1	61832	SCREW, HEX 5/16-18 1-1/2"
12	1	61833	CLIP,SPRING 5/16" OPENING
11	2	B301A8847	WASHER,FLAT 5/16 X 3/4 X 1/16
10	1	31239	NUT,HEX FLANGE LOCKING 5/16-18
9	16	21426-0004	WASHER,LOCK 1/2 18-8
8	16	21216-0018	SCR,HHCS 1/2-13X1-1/4 18-8
7	16	21416-0003	WASHER,FLAT 1/2 18-8
6	4	22450-0028	STUD,LEG 6" ADJUST 3/4"
5	4	58930	CASTER,STUD W/BRAKE 4" WHEEL
4	4	70049	WLDMT, LEG 10"
3	1	68808	PNL,OUTER TOP
2	1	69670	ASSY,BASE 360G
1	4	7A2S15	SCR,MS STR TRSHD 10-32X3/4 NP

## C. PN 70275 – TRIPLE OVEN BASE/TOP KIT



ITEM	QTY	PART NO.	DESCRIPTION
11	1	31239	NUT,HEX 5/16 KEPS
10	2	B301A8847	WASHER,FLAT 5/16 X 3/4 X 1/16
9	8	A27750	WASHER,FLAT .531X1.00X.062
8	4	7A2S15	SCR,MS STR TRSHD 10-32X3/4 NP
7	4	70059	ASSY,OUTRIGGER LEVELING CASTER
6	1	69670	ASSY,BASE 360G
5	1	68808	PNL,OUTER TOP
4	1	61833	CLIP,SPRING 5/16" OPENING
3	1	61832	SCREW, HEX 5/16-18 1-1/2"
2	8	21422-0016	WASHER,LOCK PT 1/2 SPLIT
1	8	2001048	SCR,CAP HX HD 1/2-13X1-3/8 ZP
ITEM QTY PART NO. DESCRIPTION			





## II. VENTILATION SYSTEM

### IMPORTANT

Where national or local codes require the installation of fire suppression equipment or other supplementary equipment, DO NOT mount the equipment directly to the oven.

MOUNTING SUCH EQUIPMENT ON THE OVEN MAY:

- VOID AGENCY CERTIFICATIONS
- RESTRICT SERVICE ACCESS
- LEAD TO INCREASED SERVICE EXPENSES FOR THE OWNER

#### A. Requirements

**CAUTION:** *Gas oven installations REQUIRE a mechanically driven ventilation system with electrical air sensing control.*

A mechanically driven ventilation system is **STRONGLY RECOMMENDED** for electric oven installations.

**PROPER VENTILATION OF THE OVEN IS THE RESPONSIBILITY OF THE OWNER.**

#### B. Recommendations

NOTE THAT THE HOOD DIMENSIONS SHOWN IN FIGURE 2-5 ARE RECOMMENDATIONS ONLY. LOCAL, NATIONAL, AND INTERNATIONAL CODES MUST BE FOLLOWED WHEN INSTALLING THE VENTILATION SYSTEM. ANY APPLICABLE CODES SUPERCEDE THE RECOMMENDATIONS SHOWN IN THIS MANUAL. IN AUSTRALIA, COMPLIANCE TO REGULATIONS AS5601/AG601 IS MANDATORY.

The rate of air flow exhausted through the ventilation system may vary depending upon the oven configuration and hood design. Consult the hood manufacturer or ventilation engineer for these specifications.

To avoid negative pressure condition in the kitchen area, return air must be brought back to replenish the air that was exhausted. A negative pressure in the kitchen can cause heat related problems to the oven components as if there were no ventilation at all. The best method of supplying return air is through heating, ventilation and air conditioning (HVAC) system. Through the HVAC system, the air can be temperature-controlled for summer and winter. Return air can also be brought in directly from outside the building, but detrimental effects can result from extreme seasonal hot and cold temperatures from the outdoors.

**NOTE:** Return air from the mechanically driven system must not blow at the opening of the baking chamber. Poor oven baking performance will result.

#### C. Other ventilation concerns

1. Special locations, conditions, or problems may require the services of a ventilation engineer or specialist.
2. Inadequate ventilation can inhibit oven performance.
3. It is recommended that the ventilation system and duct work be checked at prevailing intervals as specified by the hood manufacturer and/or HVAC engineer or specialist.

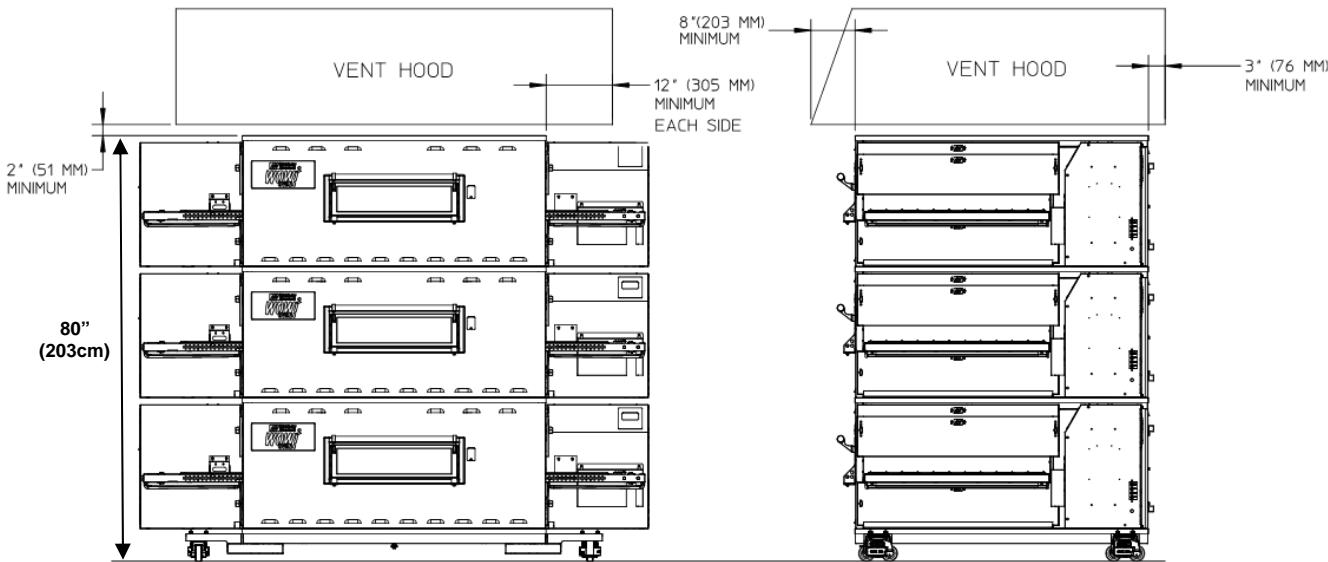


FIG 2-5. Ventilation System Dimensional

### III. ASSEMBLY

#### A. Top Panel and Base Pad Assembly

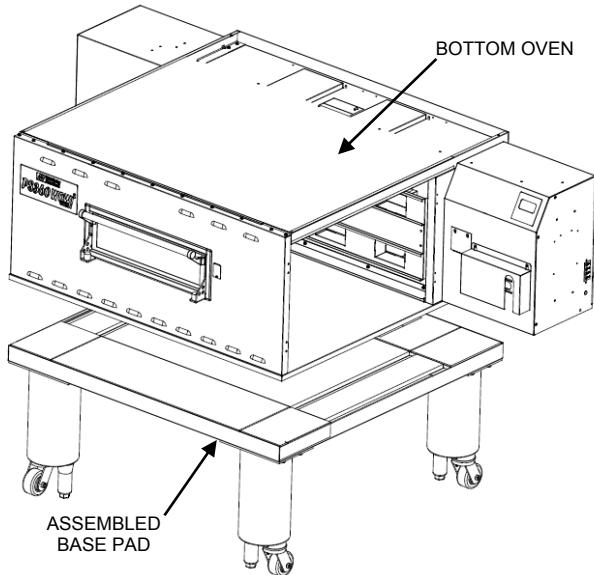
1. Install the four leg extensions onto the base pad using the 1/2"-13 x 1-1/4" screws, 1/2" flat washers and 1/2" lockwashers supplied in the Base Pad Kit. See Figure 2-6. Check that the orientation of the adjustable 6" leg holes in the leg bottom is consistent (all to the inside or all to the outside). The adjustable leg mounting hole is closer to the edge of the leg than the caster mounting hole. Install the spring clip for the oven restraining cable to the hole in the bottom middle of the base pad per the DETAIL A of the base pad kit drawing (pages 6-8). This clip will attach to the restraint cable that keeps the oven from moving too far when installed on casters.
2. Install one caster and one adjustable 6" leg onto each leg extension and tighten securely in place.
3. Install the lower oven cavity onto the base pad. See Fig 2-7.
4. For single ovens ONLY:

Install the top panel using the screws included in the base pad kit, as shown in Fig 2-8. Then, skip ahead to Part C, Restraint Cable Installation.

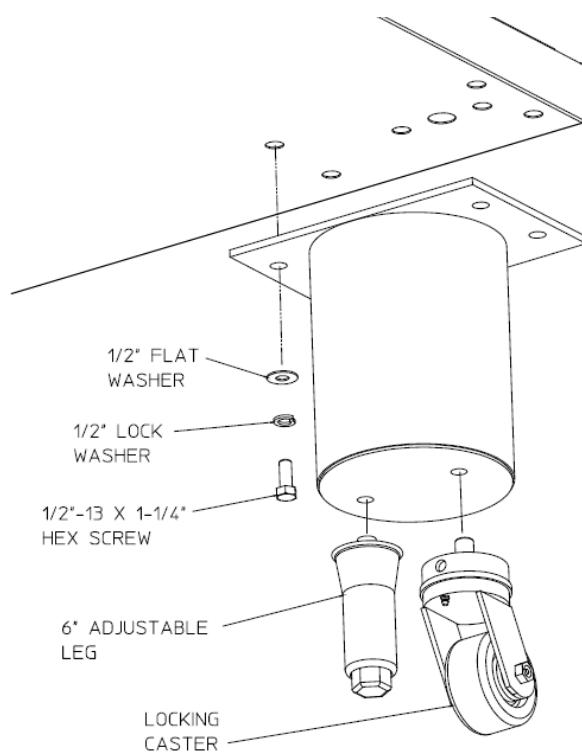
For double or triple ovens:

Continue on to Part B, Stacking. Note that the top panel should NOT be installed for double and triple ovens until after stacking the oven cavities.

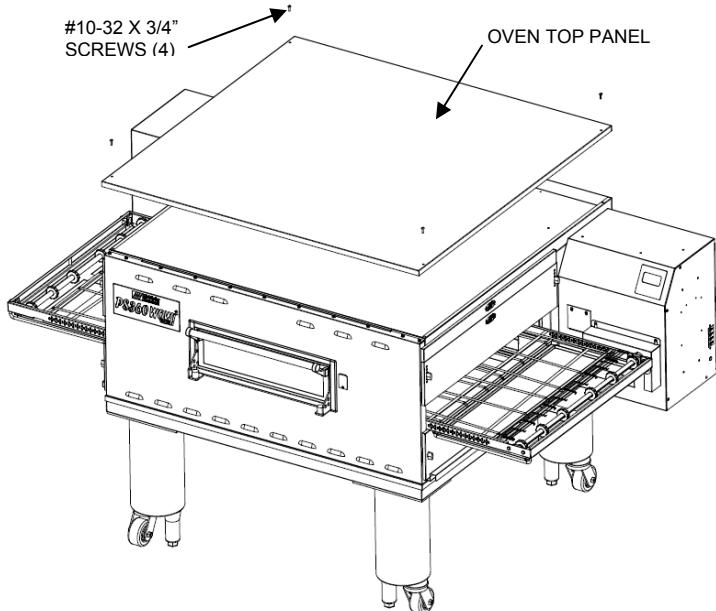
**Fig 2-7. Base Pad Installation**



**Fig 2-6. Leg Extension and Caster Installation**



**Figure 2-8. Top Panel Installation**



**NOTE:** DO NOT install top panel onto double or triple ovens until AFTER stacking the oven cavities. See Part B, Stacking.

## B. Stacking

For single ovens, skip ahead to Part C, Restraint Cable Installation.

### IMPORTANT

Middleby Marshall STRONGLY RECOMMENDS that the PS360G Gas oven cavities be stacked by AUTHORIZED PERSONNEL.

Contact your Middleby Marshall authorized Service Agent for complete stacking instructions.

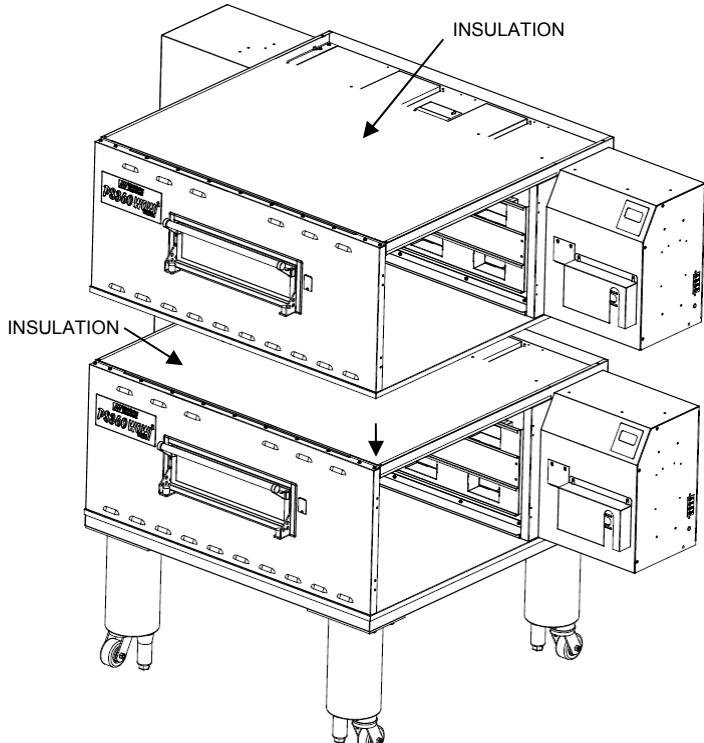
1. Stack an oven cavity on top of the lower oven. Check the following:

- Insulation is installed on the lower oven top.
- All four sides of the lower lip (on the bottom edge of the oven cavity) overlap the top of the lower oven
- The oven is level
- The oven is firmly seated and the top insulation layer is installed smoothly and fully covering the metal panel.

See Figure 2-9.

2. For triple ovens, repeat Step 1 to install the top oven cavity.
3. Install the top panel using the screws included in the base pad kit, as shown in Figure 2-10.

**Figure 2-9. Stacking**

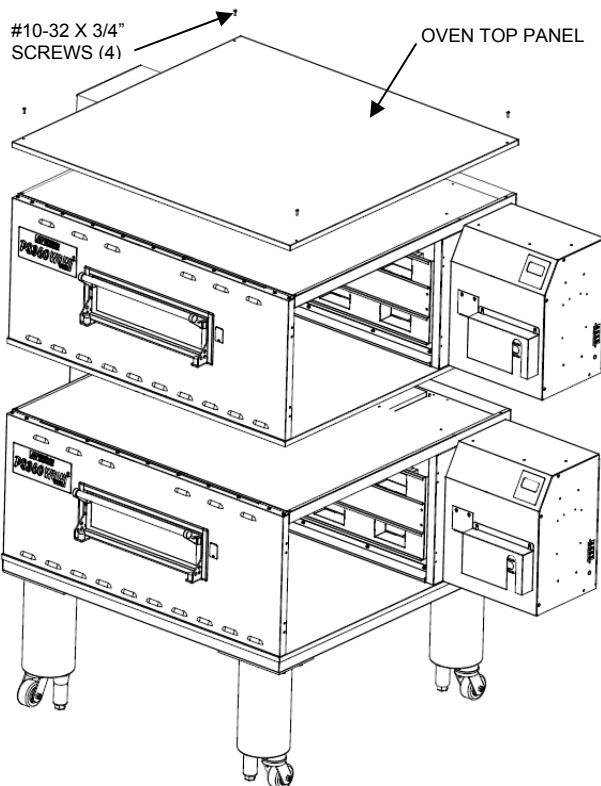


## C. Restraint Cable Installation

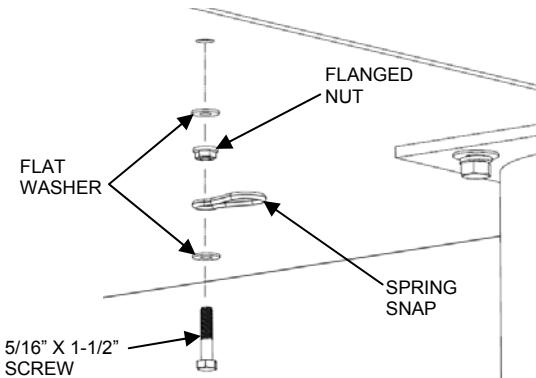
Because the oven is equipped with casters, a restraint cable assembly must be installed to limit the movement of the appliance without depending upon the connector and the quick disconnect device or its associated piping. One end of the cable is anchored to the snap clip on the underside of the base pad while the other is anchored to the wall. See Figure 2-11.

After connecting the restraint cable, move the oven to its final location. Adjust the bottom (hex) sections of the adjustable legs so that the casters are off the floor. For triple ovens, lock the two front casters.

**FIGURE 2-10. Top Panel Installation**



**FIGURE 2-11. Installing the Restraint Cable**



The restraint cable is connected to the spring snap located at the back-center of the base underside. The  $\frac{3}{4}$ " eyebolt must be anchored to the wall or floor to attach the other end of the restraint cable.

## D. Conveyor Installation

1. Unfold the conveyor as shown in Figure 2-12. Then begin to slide the conveyor into the end of the oven. The conveyor can only be installed from the side of the oven where the drive motors are located.
2. Continue moving the conveyor into the oven until the frame protrudes equally from each end of the oven. Check that the crumb tray supports located on the underside of the conveyor frame rests firmly against the lower end plugs, as shown in Figure 2-13.
3. When the conveyor is positioned properly, check for freedom of movement of the conveyor belt by pulling it for about 2 to 3 feet (0.6- 1.0 m) with your fingers. The drive and idler shafts must rotate smoothly, and the belt must move freely without rubbing on the inside of the oven. If not, then re-align the belting.
4. Check the Tension of the conveyor belt as shown in Figure 2-14. The belt should lift about 1" (25mm). **DO NOT OVER TIGHTEN THE CONVEYOR BELT.**

**NOTE:** If necessary, the belt tension can be adjusted by turning the conveyor adjustment screws, located at the idler (non-control) end of the conveyor. See Figure 2-14.

Figure 2-12. Conveyor Installation

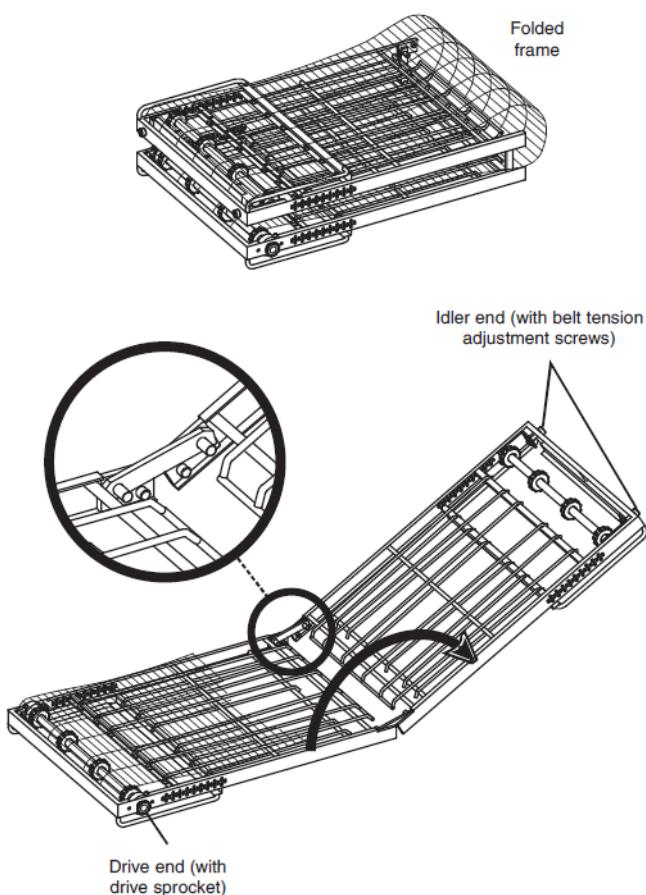


Figure 2-13

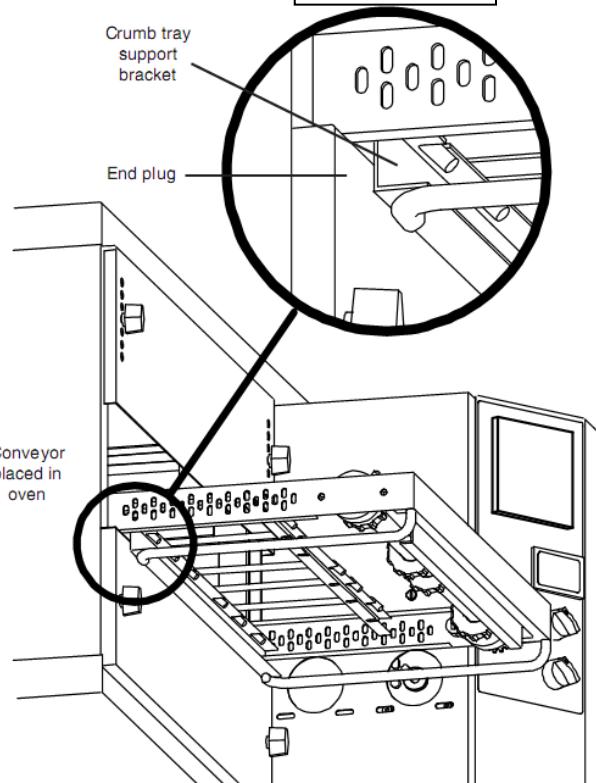
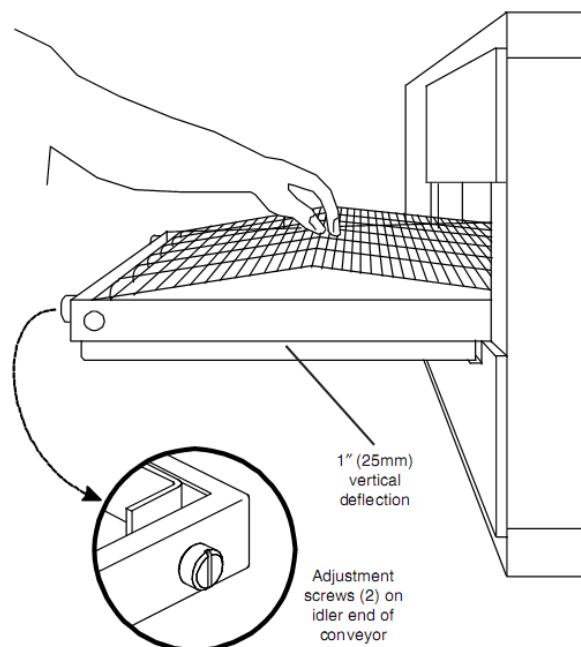


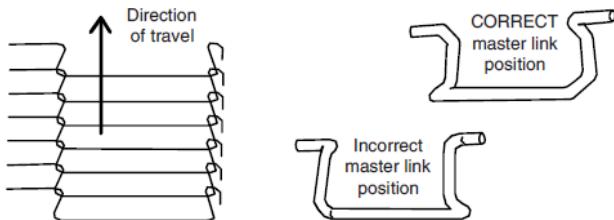
Figure 2-14. Conveyor Belt Tension



- If it is necessary to add or remove conveyor links to achieve the correct tension, OR if it is necessary to reverse the conveyor belt for correct orientation, the belt will need to be removed from the conveyor frame. If this is necessary, perform the following procedure:

- Remove the conveyor assembly from the oven and place it flat on the floor.
- Remove the master links using long-nose pliers. Then, roll up the belt along the length of the conveyor frame.
- Add or remove belt links as necessary to achieve the correct belt tension.
- Replace the belt on the conveyor frame. Check that the conveyor belt links are oriented as shown in Figure 2-15, and that the smooth side of the conveyor belt faces UP.
- Connect the inside master links. Check that the links are oriented as shown in Figure 2-15.
- Connect the outside master links. Note that the outside master links each have an open hook on one side. This hook aligns with the hooks along the sides of the other conveyor links. See Figure 2-15.
- Replace the conveyor into the oven.

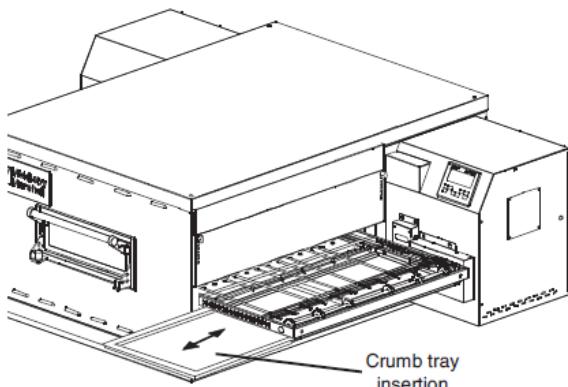
**Figure 2-15. Conveyor and Master Link orientation**



#### E. Final Assembly

- Install the crumb trays underneath the conveyor as shown in Figure 2-16.

**Figure 2-16. Crumb Trays**



#### CONVEYOR BELT REVERSAL

Conveyor belt reversal consists of three steps:

- Physically reversing the conveyor belt
- Resetting the conveyor travel direction through the User Interface.
- Switching the photo sensor.

#### REVERSING THE CONVEYOR BELT

Remove the conveyor from the oven and find the master link location. Remove master links and remove the belt from the conveyor frame. Reassemble the belt back onto the frame (in the reverse direction) and reinstall the master links. Replace the conveyor assembly in the oven.

#### RESETTING DIRECTION

See OVEN CONFIGURATION MENU in the PS360G TECH GUIDE. Direction is changed through the User Interface with no wiring changes necessary.

**CAUTION:** *Shock hazard in compartments electrical filters are electrically alive.*



#### SWITCHING PHOTO SENSOR

**CAUTION:** *Disconnect power before switching Photo Eye.*



Remove the three screws securing the access door to the unit. Open the access door and disconnect the connector fitting to the photo eye assembly. Remove the two screws securing the photo eye assembly to the control box. Remove the four nuts securing the photo eye to the housing. Rotate the photo eye 180 degrees and affix the photo eye with the four nuts. On the opposite control box, remove the two screws holding the cover where the photo eye assembly will be positioned. Secure the photo eye assembly in position with the two screws. Place the photo eye cover on the opposite control box, where the photo eye assembly was removed, and secure the two screws. Secure the access door with the three screws. Remove the three screws securing the access door on the opposite side. Open the access door, where the photo eye is now positioned, and connect the photo eye connector fitting. Secure the access door with the three screws. Apply power to the unit. Adjust the photo eye height by loosening the two screws securing the photo eye assembly and sliding the photo eye assembly either up or down, such that the beam is approximately 1/4 inch above the belt.

**Note:** This procedure is MUCH easier in reduced light.

Replace all covers.

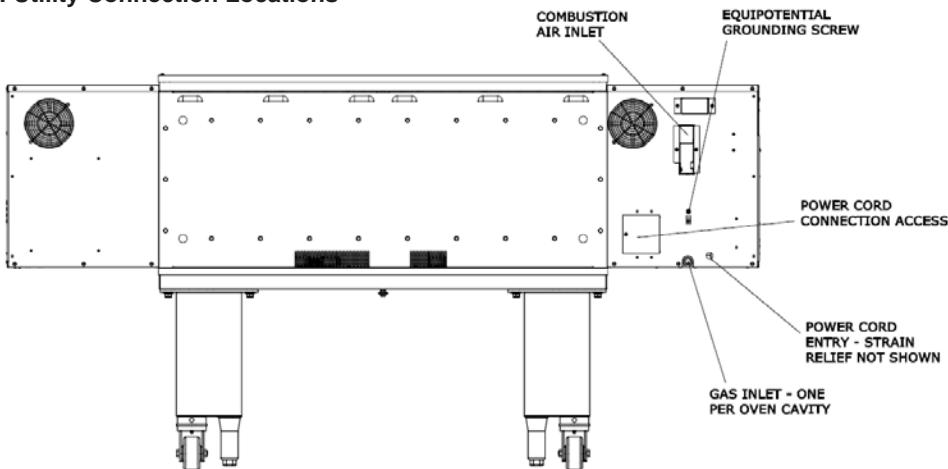
#### IV. ELECTRICAL SUPPLY

**CAUTION:** Authorized installation personnel normally accomplish the connections for the ventilation system, electric supply, and gas supply, as arranged by the customer. Following these connections, the factory-authorized installer can perform the initial startup of the oven.

**NOTE:** The electric supply installation must satisfy the requirements of the appropriate statutory authority such as the National Electrical Code, CSA C22.2; the Australian Code AG601; or other applicable regulations.

**NOTE:** The electric supply connection must meet all national and local electrical code requirements.

**Figure 2-17. Utility Connection Locations**



Check the oven serial plate before making any electric supply connections. Electric supply connections must agree with data on the oven serial plate. The location of the serial plate is shown in Figure 1-1 (in Section 1, Description).

A fused disconnect switch or a main circuit breaker (customer furnished) MUST be installed in the electric supply line for each oven cavity. It is recommended that the switch/circuit breaker have Lockout/Tagout capability.

The supply conductors must be of the size and material (copper) recommended. Refer to the wiring diagram inside the machinery compartment of the oven. Electrical specifications are also listed on the oven's serial plate and in Table 1-3, Electrical Specifications (in Section 1, Description).

The oven requires a ground connection to the oven ground screw. For gas ovens, the screw is located in the electrical junction box (see Figure 2-17). If necessary, have the electrician supply the ground wire. Do NOT use the wiring conduit or other piping for ground connections.

Incoming electrical power lines are fed through the strain-relief fitting, shown in Figure 2-17. The electrical supply connections are made inside the electrical junction box. The power lines then connect to the oven circuits through safety switches located inside the machinery compartment and each blower motor compartment. These switches interrupt electrical power to the oven when the Machinery Compartment Access Panel is opened, OR when the rear panel is removed.

#### Connection

Refer to the wiring diagram inside the machinery compartment of the oven to determine the correct connections for the electrical supply lines. Connect the supply as indicated on the wiring diagram.

**CAUTION:** *The terms of the oven's warranty require all start-ups, conversions and service work to be performed by a Middleby Marshall Authorized Service Agent.*



#### V. GAS SUPPLY

**CAUTION:** *DURING PRESSURE TESTING NOTE ONE OF THE FOLLOWING:*



1. The oven and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressure in excess of  $\frac{1}{2}$  psi (3.45 kPa).
2. The oven must be isolated from the gas supply piping system by closing its individual manual shutoff during any pressure testing of the gas supply piping system at test pressure equal to or less than  $\frac{1}{2}$  psi (3.45 kPa).
3. If incoming pressure is over 14" W.C. (35 mbar), a separate regulator MUST be installed in the line BEFORE the individual shutoff valve for the oven.

**CAUTION:** To prevent damage to the control valve regulator during initial turn-on of gas, it is very important to open the manual shutoff valve very slowly.



After the initial gas turn-on, the manual shutoff valve must remain open except during pressure testing as outlined in the above steps or when necessary during service maintenance.

#### A. Gas Utility Rough-In Recommendations

The following system specifications are STRONGLY RECOMMENDED. Deviating from these recommendations may affect the baking performance of the oven.

##### Gas Meter

- One or two cavities: 750 CFH meter
- Three oven cavities: 1,200 CFH meter

##### Gas Line

- DEDICATED GAS LINE from the gas meter to the oven
- 2" (50.8mm) pipe for Natural gas
- 1-1/2" (38.1mm) pipe for Propane
- Maximum length: 2.00" (61m). Each 90° elbow equals 7 FT. (2.13m) of pipe.

## B. Connection

Check the oven's gas supply requirements before making the gas utility connections. Gas supply requirements are listed on the oven's serial plate and in Table 1-4. Gas Orifice and Pressure Specifications (in Section 1, Description).

Check the serial plate to determine the type of gas (Propane or Natural) to be used with the oven.

Refer to the instructions in the gas hose package (included in the Installation Kit) before connecting the gas line. One gas line connection method is shown in Figure 2-18; however, compliance with the applicable standards and regulations is mandatory.

Inlet, regulated, and pilot gas pressure readings can be taken using a digital tube manometer at the tap location shown in Figure 2-19. Figure 2-19 shows the burner assembly and Figure 2-21 shows the gas valve.

**NOTE:** The installation must conform with local codes or in the absence of local codes, to the National Fuel Gas Code, ANSI Z223.1-latest edition.

Certain safety code requirements exist for the installation of gas ovens; refer to the beginning of Section 2 for a list of the installation standards. In addition, because the oven is equipped with casters, the gas line connection shall be made with a connector that complies with the Standard for Connectors for Movable Gas Appliances, ANSI Z21.69 (in U.S.A.), as well as a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 (in U.S.A.).

## C. Gas Conversion

Where permitted by local and national codes, it is possible to convert ovens from natural gas to propane or from propane to natural gas. Use the appropriate Middleby Gas Conversion Kit for the specific oven model.



**CAUTION:** The terms of the oven's warranty require all startups, conversions and service work to be performed by a Middleby Authorized Service Agent.

## D. PS360G Propane Conversion

Three items must be changed to change the oven to operate on LP: (See Addendum for Propane Conversion Kit # 72870)

1. Replace main orifices.
2. Adjust main gas regulator.
3. Adjust the Moduplus® Valve per instructions below.

Disconnect the manifold union closest to the main burner, and remove the manifold assembly (four screws). Slide out the manifold assembly (leaving the ignition and sense wires connected). Replace the main orifices.

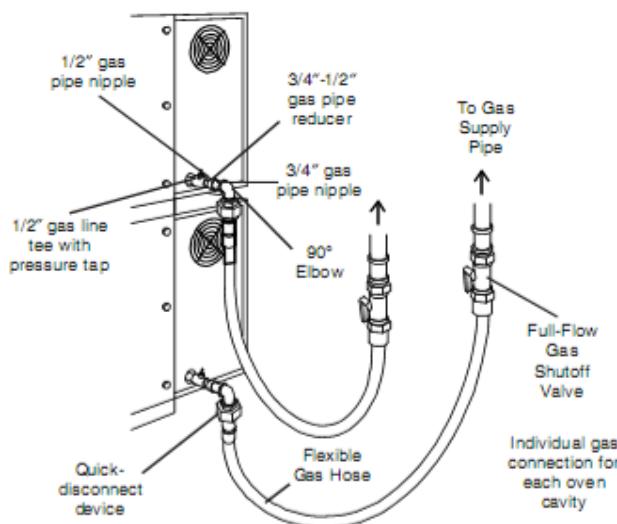
Replace the main orifices on the manifold assemblies with the LP orifices, and replace the manifold assembly. Reconnect the union.

Remove the seal cap on the regulator and rotate the adjustment screw in the clockwise direction to increase the regulated pressure.

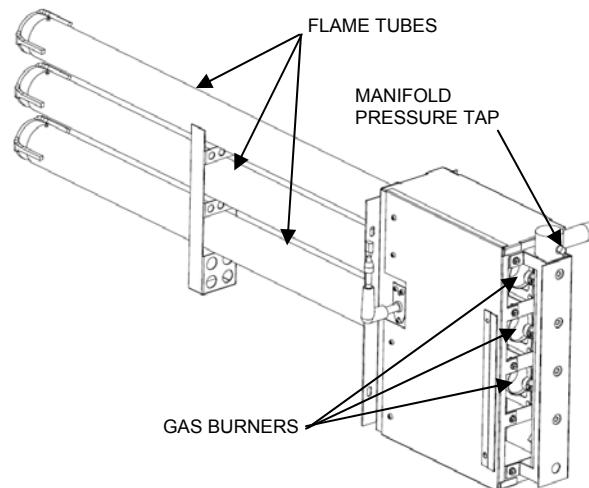
## E. Adjusting the Maximum Pressure Setting

1. Disconnect pressure feedback connection (if applicable).
2. Connect a suitable pressure gauge to pipe line or to outlet pressure tap of gas control concerned, to measure burner pressure (measuring point must be as near to burner as possible).

**Figure 2-18. Flexible Gas Hose Installation**

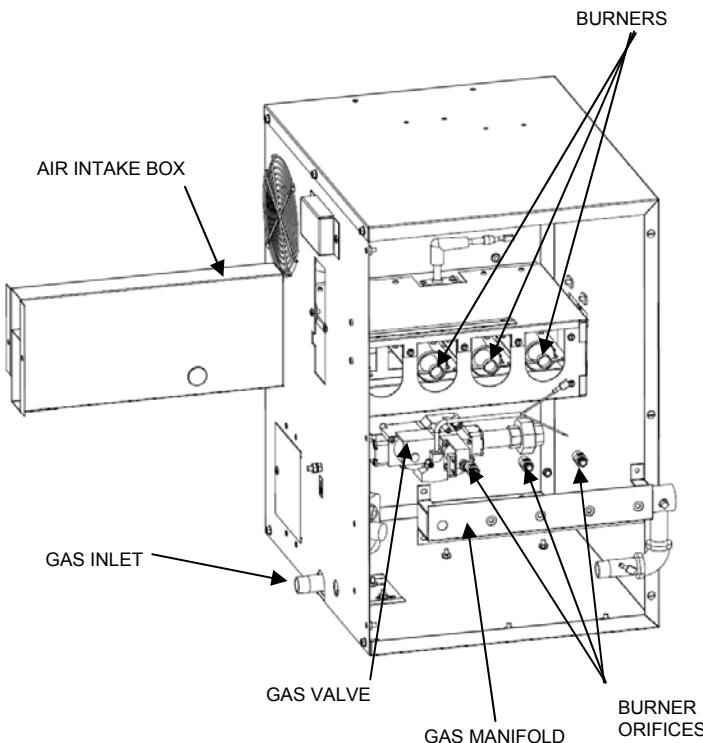


**Figure 2-19. Gas Burner Assembly**

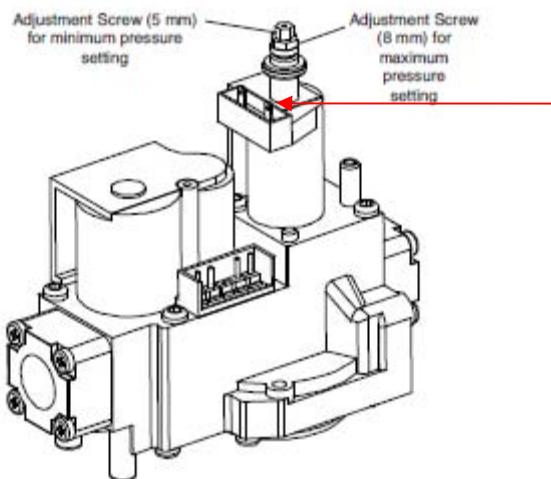


3. Make sure that the appliance is in operation and the Moduplus® coil is energized with maximum current.
4. If maximum rate pressure needs adjustment, use an 8 mm wrench to turn adjustment screw for maximum pressure setting (clockwise to increase or counter-clockwise to decrease pressure), until the desired maximum outlet pressure is obtained. The correct value to adjust the manifold pressure is shown in Table 1-4.
5. Disconnect electrical connection of the Moduplus®.
6. Check minimum pressure setting and readjust if necessary. (See Adjusting Minimum Pressure Setting for proper adjusting procedure.)
7. Reconnect pressure feedback connection (if applicable).
8. If minimum and maximum pressures are set, wire the Moduplus® in circuit.
9. Close pressure tap screw.

**Figure 2-20. Burner Components**



**Figure 2-21. Gas Valve**



#### F. Adjusting the Minimum Pressure Setting

1. Disconnect pressure feedback connection (if applicable).
2. Connect a suitable pressure gauge to pipe line or to outlet pressure tap of gas control concerned, to measure burner pressure (measuring point must be as near to burner as possible).
3. Disconnect electrical connection of the Moduplus®.
4. Energize operator, set control in operation and wait until an outlet pressure is recorded on pressure gauge.

5. If minimum rate pressure needs adjustment, use an 5 mm wrench to turn adjustment screw for minimum pressure setting (clockwise to increase or counter-clockwise to decrease pressure), while holding the 8 mm wrench and 8 mm adjustment nut in place, until the desired minimum outlet pressure is obtained. The correct value to adjust the by-pass pressure is shown in Table 1-4.

6. Check if main burner lights easily and reliably at minimum pressure.
7. Reconnect pressure feedback connection (if applicable).
8. Close pressure tap screw.

#### G. Checkout

After any adjustment, set appliance in operation and observe through a component cycle to ensure that burner system components function correctly.

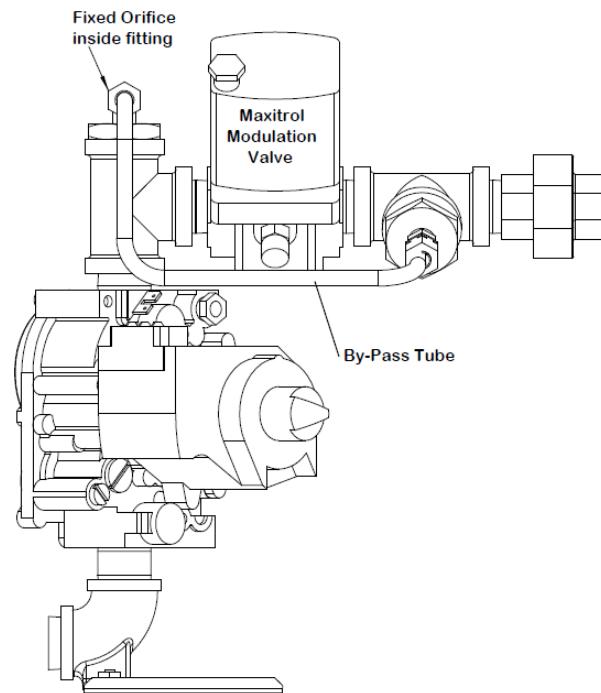
**NOTE:** The installer **MUST** verify oven operation prior to putting oven into service.

#### H. Maintenance

It is recommended to check yearly the minimum and the maximum setting and readjust them if necessary.

#### I. Gas Train with Orificed By-Pass

For the Gas Trains that contain the Maxitrol Modulation Valve and an mushroom spud orifice inside the by-pass tube, no adjustments are required.



## SECTION 3 - OPERATION

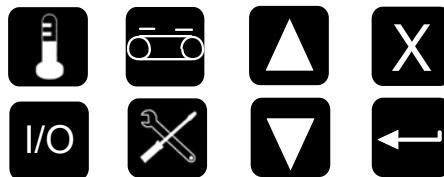
### I. DESCRIPTION OF CONTROLS – USER INTERFACE

The PS360G oven control performs a variety of functions, including

- Temperature control
- Belt speed control
- Upper/lower blower speed setting
- Energy management
- Oven diagnostics and system testing
- Conveyor speed calibration (Service use only)

The oven control will have power delivered to it and initialize when the oven is connected to the power supply. Upon initialization, the control will briefly display its “WOW OVEN” splash screen, then proceed to OFF mode.

#### A. Control Keys



“ON/OFF” key:

- Quick press brings oven to active, “ON” mode.
- Press and hold will put oven into “OFF” mode. If temp is over 200F the blowers will remain on until the oven temp drops below 200F.



“TEMPERATURE” key:

- Quick press displays actual temperature.
- Press and hold until display flashes. Allows change to set temperature.



“BELT” Key:

- Quick press displays alternate front and back belt speeds
- Press and hold until display flashes. Allows change to belt speed.



“UP/DOWN” keys:

- Press up or down to change number values or change parameter.



“TOOLS” Key:

- Press (when off) to enter “Setup” or “test” screens



“CANCEL” Key:

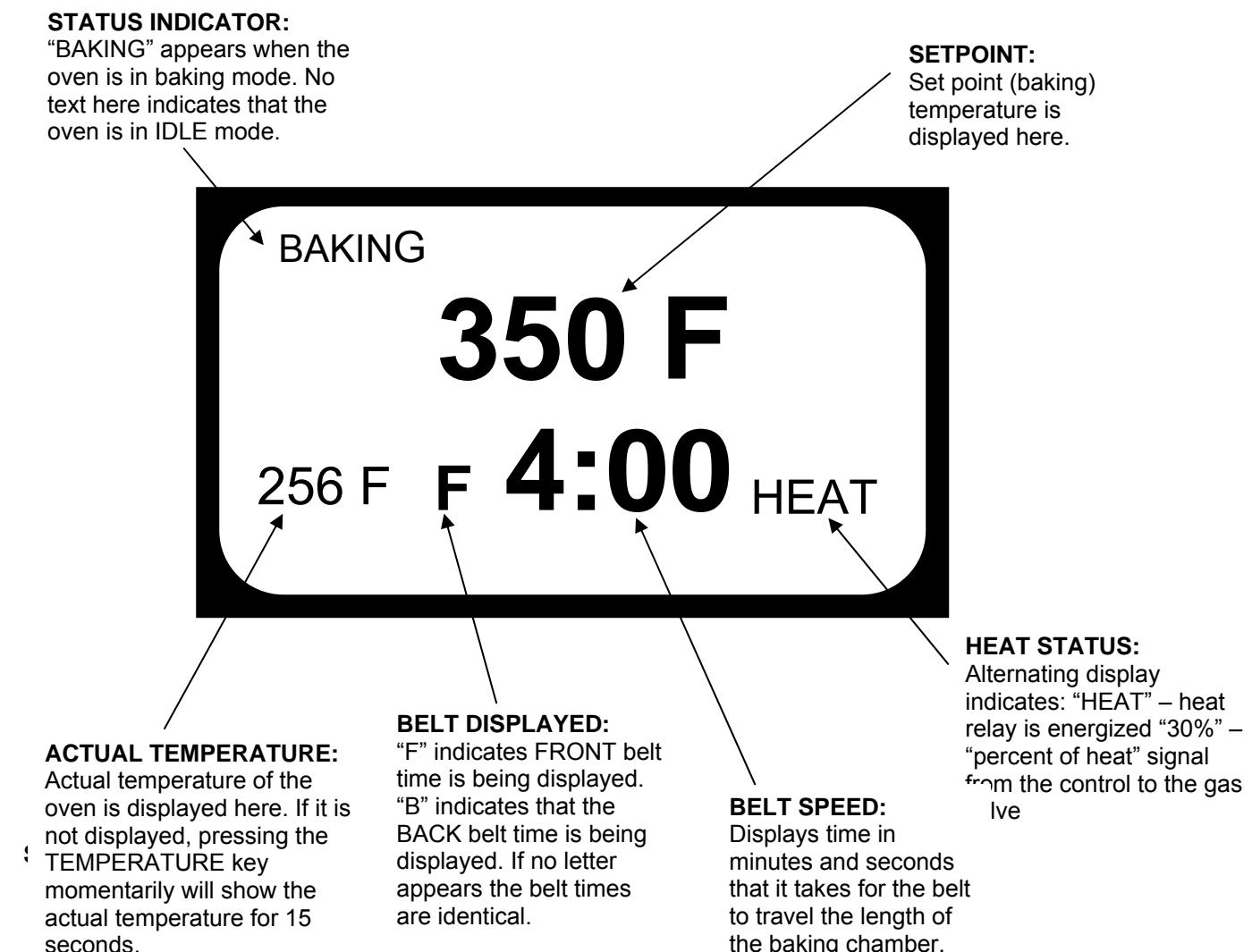
- Quick press cancels last action and returns to last screen or operation.
- Press and hold to shut oven off.



“RETURN” Key:

- Quick press starts oven from off mode.
- Enters and saves changed parameter value.

## B. Display Features



## II. NORMAL OPERATION

### A. Starting the Oven

To start the oven, press the  button. The oven will start and the operating display will appear on the screen.

The blowers will begin and the blower proving switches will engage, permitting the heat circuit relay to engage. The

gas ignition module will begin its cycle and ignite the three inshot burners.

### B. Adjusting the Temperature

To adjust the set temperature, press and hold the  button until the set temperature display flashes. Press the  or  arrow until the desired set temperature is displayed. Press the  button to set and save the new temperature value. If  button is not pressed, the new temperature will be present only until the

oven is turned OFF. The previously used set temperature will appear when the oven is turned ON again.

### C. Adjusting the Belt Time

To adjust the belt time, press and hold the  button until the belt time display flashes. Press the  or  button until the desired belt time is displayed. Press the  button to set and save the new time value. If the  button is not pressed, the new time will be present only until the oven is turned OFF. The previously used set temperature will appear when the oven is turned ON again.

### D. Turning the Oven Off

To turn the oven OFF, press and hold the  button. If the oven is below 200°F the display will show "WOW OVEN" screen. If the oven is above 200°F, the display will show "COOL DOWN" and the blowers will run at a preset cool down speed until the oven temperature falls below 200° at which point the oven will go to the OFF mode. In the OFF mode, the screen will display the "WOW OVEN" screen for a one minute period after which the screen backlight will shut off. The oven will stay in this condition until it is started again, with no outputs energized.

## III. OTHER ADJUSTMENTS (Manager Mode)

### A. Changing Baking Blower Speeds (Run Mode)

To change the upper or lower blower speeds without turning the oven OFF.

1. Enter the BLOWER CONFIGURATION Screen. Press and hold  key until "PASSWORD" appears on the screen. Press , , ,  and . The screen should appear as below.

BLOWER CONFIGURATION  
ENERGY MODE: YES  
UPPER HIGH HZ: 70  
LOWER HIGH HZ: 90

PS360G Display

BLOWER CONFIGURATION  
ENERGY MODE: NO  
UPR LH HIGH HZ: 65  
UPR RH HIGH HZ: 65  
LOWER HIGH HZ: 84

PS360GWB Display

2. Press  until UPPER HIGH HZ is flashing. Press  to change UPPER HIGH HZ. Press  or  to display the desired value. Press  to accept the new value. Follow same procedure for the LOWER HIGH HZ value if required.

- MINIMUM HZ VALUE: 50 Hz
- MAXIMUM HZ VALUE: 90 Hz

## B. Changing Energy Mode Status (Run Mode)

If the photo eye should ever fail to operate, baking mode can be continually engaged by disabling the energy mode. A service call should be made in the interim, as energy use will be considerably higher without the energy mode.

Press  until ENERGY MODE is flashing. Press . Status of energy mode will be flashing (i.e., YES or NO). Press  to change status to desired state. Press  to accept status change. Press  to leave the BLOWER CONFIGURATION screen.

## C. System Setup

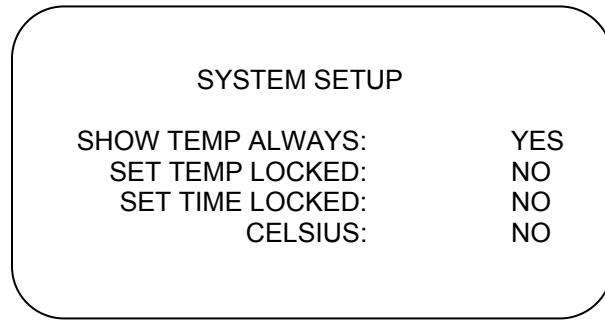
Enter **SYSTEM SETUP** menu (Can only be done in OFF mode)

Four control system values can be changed that relate to the user interface for the daily oven operator:

1. Actual temperature display always on or off
2. Set temperature lock on or off
3. Belt time lock on or off
4. Degrees Celsius shown, or default degrees Fahrenheit.

Press  key. "PASSWORD" will appear on the screen.

Press , , ,  and . The screen should appear as below.



Press  until the item you want to change is flashing, then press . Now press  until the setting you desire is displayed, then press . Press  to leave the SYSTEM SETUP menu. Press  to return to operating mode.

#### **D. Energy Management Information**

The PS360G reduces energy usage in two ways over most competitive ovens:

- Modulating gas control
- IDLE/ BAKING mode control (Energy Saving Mode)

The modulating gas valve within the oven controls pressure of the delivered gas to the burners to increase or reduce the energy input as needed to maintain temperature instead of cycling a gas valve on and off. This is a more efficient and accurate way of controlling the temperature and eliminates the losses associated with the ON/OFF cycling control.

The PS360G like other Middleby WOW ovens has an idle mode that places the blowers at a reduced speed during non-baking periods. Reducing the blower speed reduces the volume of air requiring heating and thus reduces energy usage in these non-baking times. A photo eye sensor at the entrance side of the baking chamber detects when food is placed on the belt and brings the oven up to the higher (baking) blower speed, increasing the amount of convection air needed to cook products faster. When the product passes the photo eye, the controller begins a preset timed period that insures the product will pass fully through the oven before the oven returns to the IDLE mode. With this energy management scheme, the oven provides the increased convection heat transfer needed for fast baking, without the energy penalty during non-baking times. This functionality is fully automatic and requires no user interaction.

#### IV. PS360G TROUBLESHOOTING INFORMATION

##### A. Troubleshooting Guide

SYMPTOM	POSSIBLE CAUSES	SOLUTIONS
Nothing displayed on controller	1. Power not connected 2. Main breaker not on 3. Control circuit breaker tripped	1. Check plug at wall 2. Check main breaker 3. Check control breaker
Control display is dim and the WOW OVEN image can be seen	Control is in OFF/STANDBY mode.	No problem – the control backlight turns off when the oven is not turned on for use. Press I/O button.
Oven not baking properly	1. Settings have been changed 2. Kitchen airflow conditions affecting the bake	1. Confirm correct values and check that the oven is set properly (time and temperature) 2. Eliminate air cross-currents in area
Conveyor noticeably running at the wrong speed	Time settings have been changed	Confirm correct values and correct control settings
Conveyor not moving	1. Something has jammed the conveyor 2. Circuit breaker has tripped 3. Chain has come loose from the sprocket	1. Turn power off. Locate and remove jam item. 2. Check conveyor for jamming and Reset the breaker (right side control door). 3. With power OFF, remove chain cover, replace chain onto sprocket and replace chain cover.
“RESET IGNITION” on display	1. Gas not turned on to oven 2. Burner has stopped running	1. Turn on manual valve on supply to oven 2. Turn the oven off and back on again to clear the notification and relight • Arrange for service if the problem reoccurs
“BAKING” indication goes on and off in upper left corner of the control display	Oven is cycling normally. BAKING indication comes on upon triggering the photo eye.	No problem – the timed baking cycle automatically starts when product breaks the photo eye beam and stops after product leaves the baking chamber.
Oven does not enter BAKING mode when product is placed on the belt.	Photo eye not working.	Enter BLOWER CONFIGURATION menu (manager access) and turn Energy Mode to OFF. Oven will now run in BAKING mode all the time. Call service to schedule repair.
Baked product comes out underdone.	Photo eye not working. Check to see if BAKING appears on display when photo eye beam is interrupted	Enter BLOWER CONFIGURATION menu (manager access) and turn Energy Mode to OFF. Oven will now run in BAKING mode all the time. Call service to schedule repair.

## B. ALERTS, ERRORS & REMEDIES

SYMPTOM	PROBABLE CAUSE	REMEDY
PROBE 1 OPEN on display and audible alarm sounds.	Temperature Probe number 1 (upper left) is open.	Press enter key  to silence alarm and resume operation. Control will compensate for lost probe. Call service to repair.
FRONT BELT STALLED FRONT BELT STALLED shown on display and audible alarm sounds.	Belt was overloaded and control shut down the belt.	Press  to silence alarm. Check belt for cause of jamming and follow screen instructions to resume belt operation.
FRONT BELT COMM LOST or BACK BELT COMM LOST shown on display and audible alarm sounds.	Circuit breaker to conveyor motor drive board is tripped. Oven will continue operation with single belt in operation.	Press  to silence alarm. Clear any obstructions to belt travel and reset 1A breaker. If unsuccessful, call for service.
UPR SW NOT CLOSED or LWR SW NOT CLOSED shown on display and audible alarm sounds	Switch proving that the blowers are operating is not closed. Error caused either by switch itself or by one or more blowers not operating.	Press enter key  to silence alarm. Unplug oven and plug in again. Restart oven. If unsuccessful, call service for immediate repair.
HEATING ERROR shown on display and audible alarm sounds.	The oven has failed to preheat in the expected time period (30 minutes). Either a burner issue is occurring, or the oven was interrupted while heating up.	Press enter key  to silence alarm. Turn oven off and back on again. If unsuccessful and error reoccurs, call for service.
PROBES OPEN shown on display and audible alarm sounds	All thermocouple probes have failed and are open.	Press enter key  to silence alarm. Call service for immediate repair.
I/O COMM LOST	Communication between the display (user interface) and the I/O board has occurred.	Press enter key  to silence alarm. Call service for immediate repair.
"RESET IGNITION" on display	Oven burner failed to light / stay lit 1. Gas not turned on to oven 2. Burner has stopped running	Press enter key  to silence alarm. Turn the oven off and back on again to clear the notification and relight.

**NOTE:** If the remedial measures above do not successfully resolve the issue, or the issue is not listed above, contact the Middleby Customer Care Center at 847-429-7852.

## SECTION 4 - MAINTENANCE

### WARNING

*Before ANY cleaning or servicing of the oven, perform the following procedure:*

1. *Switch off the oven and allow it to cool. Do NOT service the oven while it is warm.*
2. *Turn off the electric supply circuit breaker(s) and disconnect the electric supply to the oven.*
3. *If it is necessary to move a gas oven for cleaning or servicing, disconnect the gas supply before moving the oven.*

*When all cleaning and servicing is complete:*

1. *If the oven was moved for servicing, return the oven to its original location.*
2. *If the restraint cable was disconnected to clean or service the oven, reconnect it at this time.*
3. *Reconnect the gas supply.*
4. *Reconnect the electrical supply.*
5. *Turn on the full-flow gas safety valve. Test the gas line connections for leaks using approved leak test substance or thick soap suds.*
6. *Turn on the electric supply circuit breaker(s).*
7. *Perform the normal startup procedure.*

### WARNING

*Possibility of injury from moving parts and electrical shock exists in this oven. Switch off and lockout/tagout the electric supply BEFORE beginning to disassemble, clean, or service any oven. Never disassemble or clean an oven with the BLOWER switch or any other circuit of the oven switched on.*

### CAUTION

*NEVER use a water hose or pressurized steam-cleaning equipment when cleaning this oven. To avoid saturating the oven insulation, DO NOT use excessive amounts of water. DO NOT use a caustic oven cleaner, which can damage the bake chamber surfaces.*

### NOTE

*ANY replacement parts that require access to the interior of the oven may ONLY be replaced by a Middleby Marshall Authorized Service Agent. It is also strongly recommended that the 3-Month Maintenance and 6-Month Maintenance procedures in this section be performed ONLY by a Middleby Marshall Authorized Service Agent.*

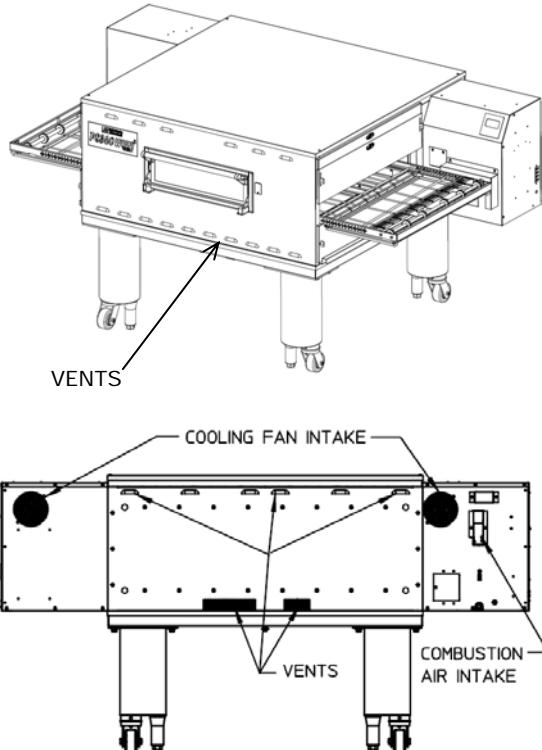
#### I. MAINTENANCE – DAILY

- A. Check that the oven is cool and the power is disconnected, as described in the warning at the beginning of this section.
- B. Clean ALL of the cooling fan grills and vent openings with a stiff nylon brush. Refer to Figure 4-1 for the location of the grills and vents
- C. Clean the outside of the oven with a soft cloth and mild detergent.
- D. Check that all cooling fans are operating properly.

**CAUTION:** If a cooling fan is not operating correctly, it must be replaced IMMEDIATELY. Operating the oven without adequate cooling can seriously damage the oven's internal components

- E. Clean the conveyor belts with a stiff nylon brush. This is more easily accomplished by allowing the conveyor to run while you stand at the exit end of the conveyor, and brush the crumbs off the conveyor as it moves.
- F. Remove and clean the crumb trays. If necessary, refer to Figure 2-16 (in Section 2, Installation) when replacing the crumb trays into the oven.
- G. Clean the window in place.

**Figure 4-1. Cooling Vents and Grills**



## II. MAINTENANCE – MONTHLY

**NOTE:** When removing the conveyor, refer to Figure 2-12 (in Section 2, Installation).

- A. Check that the oven is cool and the power is disconnected as described in the warning at the beginning of this section.
- B. Remove the crumb trays from the oven.
- C. Lift the drive end of the conveyor slightly, and push it forward into the oven. This removes the tension from the drive chain. Remove the drive chain from the conveyor sprocket.
- D. Slide the conveyor out of the oven, folding it as it is removed.
- E. Remove the end plugs from the oven. The end plugs are shown in Figure 1-1 (in Section 1, Description).
- F. Slide the air fingers and blank plates out of the oven, as shown in Figure 4-2. AS EACH FINGER OR PLATE IS REMOVED, WRITE A “LOCATION CODE” ON IT WITH A MARKER to make sure it can be reinstalled correctly.

Example of markings:

Top Row →	T1	T2	T3	T4
Bottom Row →	B1	B2	B3	B4

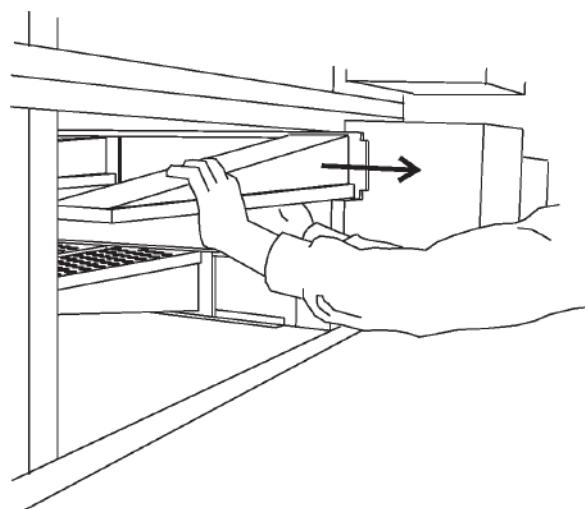
- G. Disassemble the air fingers as shown in Figure 4-3. AS EACH FINGER IS DISASSEMBLED, WRITE THE “LOCATION CODE” FOR THE FINGER ON ALL THREE OF ITS PIECES. This will help you in correctly reassembling the air fingers.

**CAUTION:** Incorrect reassembly of the air fingers will change the baking properties of the oven.

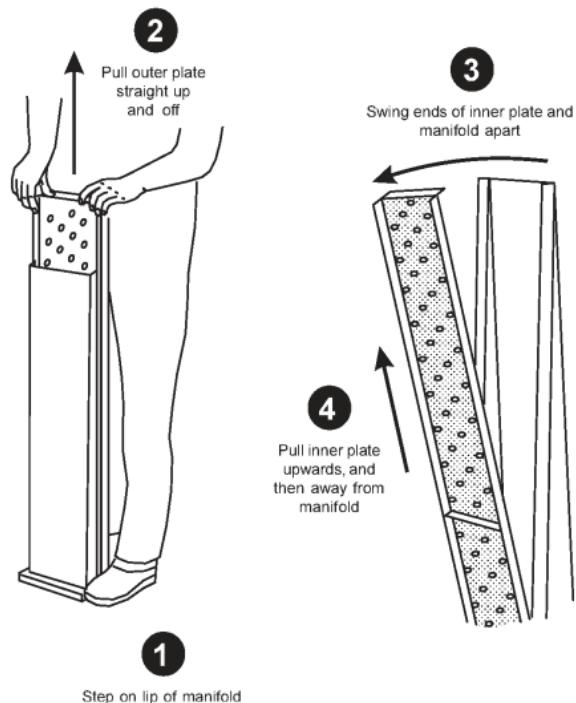
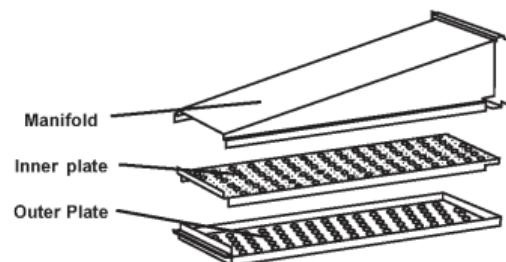


- H. Clean the air finger components and the interior of the baking chamber using a vacuum cleaner and a damp cloth. Refer to the boxed warnings at the beginning of this Section for cleaning precautions.
- I. Reassemble the air fingers. Then replace them in the oven, using the “location codes” as a guide.
- J. Replace the end plugs on the oven.
- K. Reassemble the conveyor into the oven. If the drive sprocket was removed when installing the conveyor, replace it at this time.
- L. Reattach the drive chain.
- M. Check the tension of the conveyor belt as shown in Figure 2-14 (in Section 2, Installation). The belt should lift 1" (25.4mm) DO NOT OVERTIGHTEN THE CONVEYOR BELT. If necessary, the belt tension can be adjusted by turning the conveyor adjustment screws, located at the idler (left) end of the conveyor
- N. Replace the crumb trays.

**Figure 4-2. Removing Air Fingers and Plates**



**Figure 4-3. Disassembling the Air Fingers**



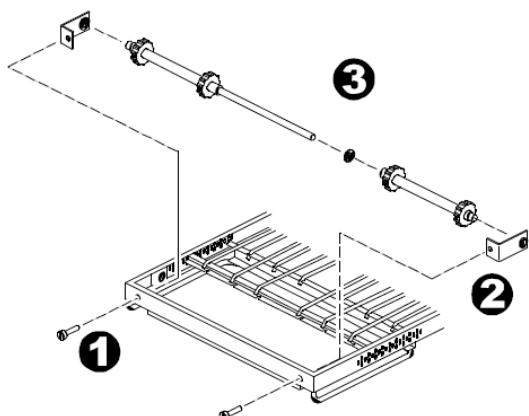
### III. MAINTENANCE – EVERY 3 MONTHS

- A.** Check that the oven is cool and the power is disconnected, as described in the warning at the beginning of this Section.
- B.** Vacuum both of the blower mounts, and their surrounding compartments, using a shop vacuum.
- C.** Tighten all electrical terminal screws.

#### D. Split Belt Disassembly and Cleaning

1. Refer to Part D, Conveyor Installation, in the Installation section of this Manual. Then, remove the following components from the oven:
  - Conveyor end stop
  - Crumb trays
  - Chain cover
  - Drive chains
  - End plugs
  - Conveyor assembly
2. Remove the master links from each conveyor belt. Then, roll the belts up along the length of the conveyor to remove them from the frame.
3. Remove the two conveyor adjustment screws from the idler end of the conveyor frame, as shown in Figure 4-4.
4. Remove the idler shaft assembly from the conveyor.
5. Pull apart the two sections of the idler shaft.
6. Clean the shafts thoroughly using a rag. Then, lubricate both the extended shaft and the interior of the hollow shaft using a light food-grade lubricant. DO NOT lubricate the shafts using WD40 or a similar product. This can cause the shafts to wear rapidly.
7. Before reassembling the shafts into the conveyor frame, check that they are oriented properly.

**Figure 4-4. Disassembling the idler shaft**



8. Reassemble the idler shaft into the conveyor. Make sure that the bronze washer is in place between the two sections of the shaft. See Figure 4-4.
9. Replace the conveyor adjustment screws as shown in Figure 4-4. To allow the conveyor belt to be reinstalled later, do not tighten the screws at this time.
10. Loosen the set screw on both of the conveyor drive sprockets. Then, remove the sprockets from the shaft.
11. Check the conveyor configuration as follows: High-speed conveyors are equipped with large flange bearings at both ends of the shaft, as shown in Figure 4-5. For these conveyors, remove the two screws that hold each bearing to the conveyor frame. With the screws removed, lift the end of the shaft at the front of the oven, and pull the entire assembly free of the conveyor frame.
12. Standard conveyors are equipped with bronze bushings mounted on spacers at both ends of the shaft, as shown in Figure 4-5. For these conveyors, remove the two screws that hold the bracket to the conveyor frame. With the screws removed, lift the end of the shaft at the front of the oven, and pull the entire assembly free of the conveyor frame. The brackets will be removed along with the drive shaft assembly.
13. Disassemble and lubricate the two sections of the drive shaft as described for the idler shaft, above.
14. Before reassembling the shafts into the conveyor frame, check that they are oriented properly.
15. Reassemble the drive shaft into the conveyor. Make sure that the bronze washer is in place between the two sections of the shaft. See Figure 4-6.
16. Replace the drive sprockets. Reassemble the belts and master links onto the conveyor.
17. Reinstall the end plugs and conveyor onto the oven. Reattach the drive chains. Replace the chain cover.
18. Check the tension of the conveyor belt as shown in Figure 2-14 (in Section 2, Installation). The belt should lift about 1" (25mm). If necessary, adjust the belt tension by turning the conveyor adjustment screws.
19. Replace all components onto the oven.

**Figure 4-5. Drive shaft configurations**

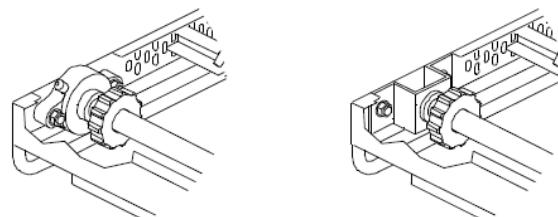
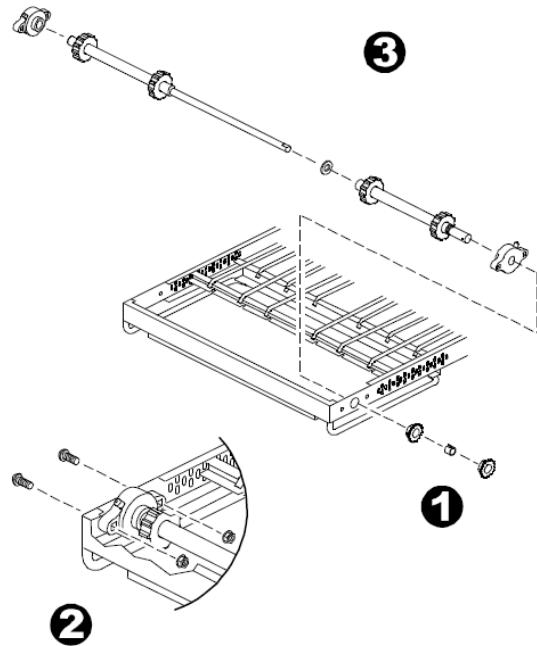
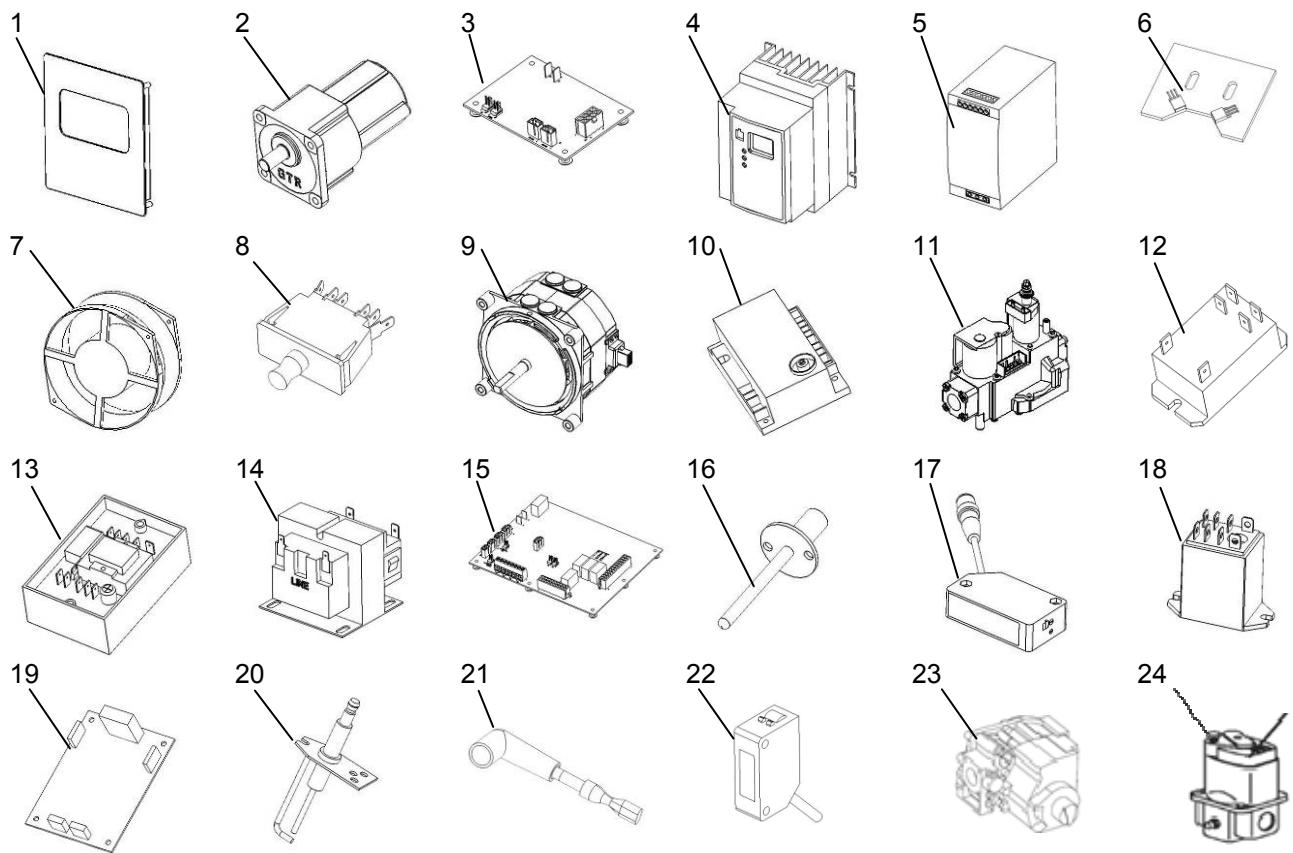


Figure 4-6. Disassembling the drive shaft



#### IV. MAINTENANCE - EVERY 6 MONTHS

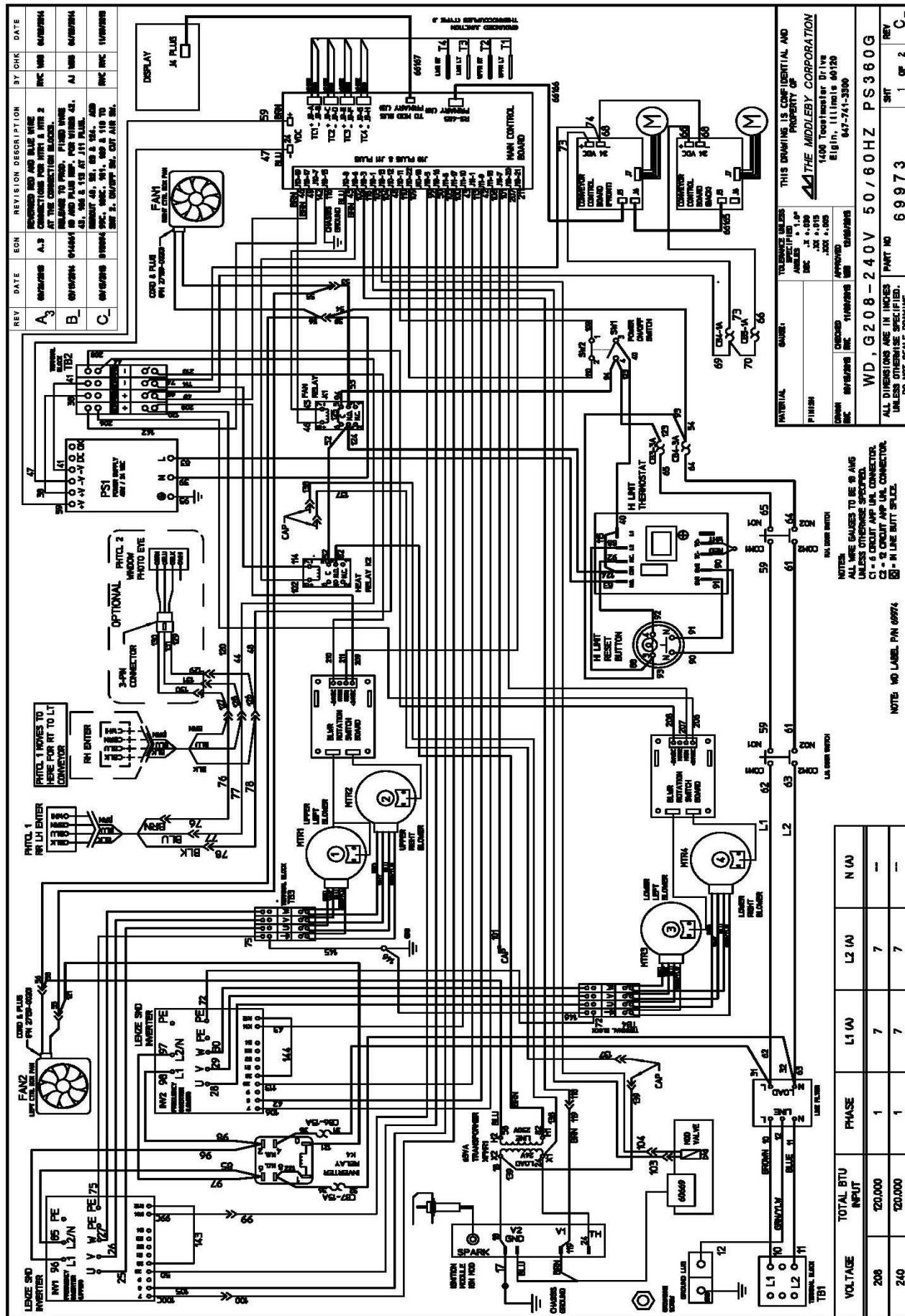
- A. Check that the oven is cool and the power is disconnected, as described in the warning at the beginning of this Section.
- B. For gas ovens, inspect and clean the burner nozzle and the spark electrode assembly.
- C. Check the conveyor drive shaft bushings and spacers. Replace the components if they are worn.

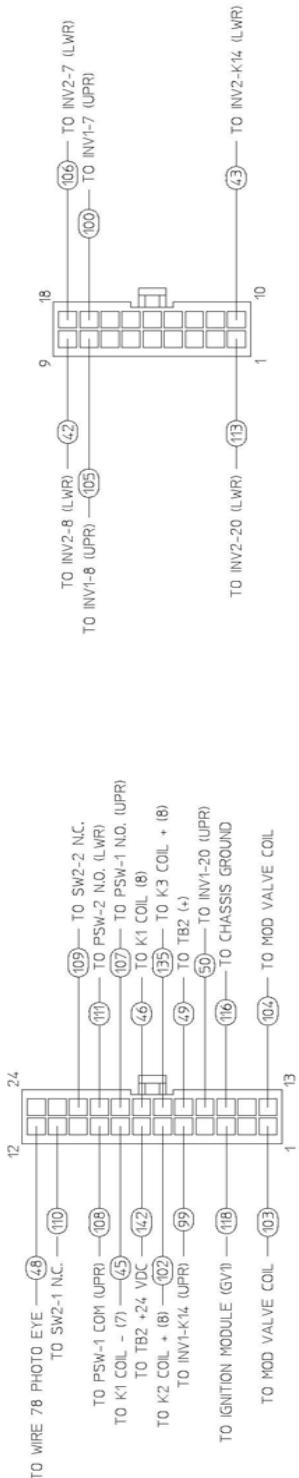


## KEY SPARE PARTS PS360G/GWB GAS OVEN

ITEM	QTY	P/N	DESCRIPTION
1	1	71986	Digital Display, Programmed
2	1	65756	Motor, Conveyor Drive
3	1	65566	Conveyor Control Board
4	1	72531	Inverter, 2 HP Lenze (230V Input/69614)
5	1	69079	Power Supply, 24VDC, 120W
6	1	69583	Rotation Sensor (1 per motor)
7	1	36451	Fan, Cooling
8	2	63909	Switch, Door Interlock
9	1	69149	Blower Motor, 1/3 HP
10	1	61602	Ignition Module
11	1	60679	Gas Valve (Modulating) w/ flanges and cable
12	1	50794	Relay, 30A (240V coil)
13	1	33983	Hi Limit Thermostat
14	1	32108	Transformer, 240 primary / 24 secondary
15	1	71814	Board, Main – I/O
16a	1	66317	Thermocouple, long lead (3 per oven)
16b	1	66318	Thermocouple, short lead (2 per oven)
17	1	71166	Photo Sensor
18	1	71771	Relay, DPDT 24VDC Coil
19	2	69582	Rotation Switch Board
20	1	70788	Igniter, Single Rod
21	1	62282	Ignition Cable
22	1	69472	Front Photo Eye (optional)
23	1	54724	Honeywell Combination Valve
24	1	59450	Maxitrol Modulation Valve

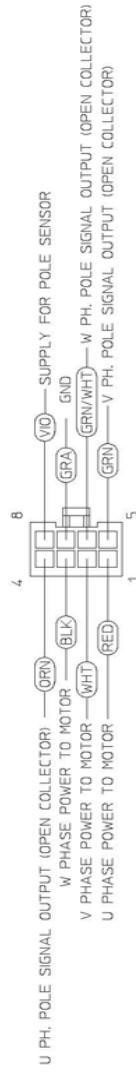
## **SECTION 5 – WIRING DIAGRAMS**





J10  
BACK OF PLUG  
(WIRE SIDE)

J11  
BACK OF PLUG  
(WIRE SIDE)



J7  
BACK OF PLUG  
(WIRE SIDE)

WD , G208-240V 50/60HZ PS360G		REV		
SH	2	OF	2	C
6	9	9	3	
2				

ALL DIMENSIONS ARE IN INCHES  
UNLESS OTHERWISE SPECIFIED.  
DO NOT SCALE DRAWING.

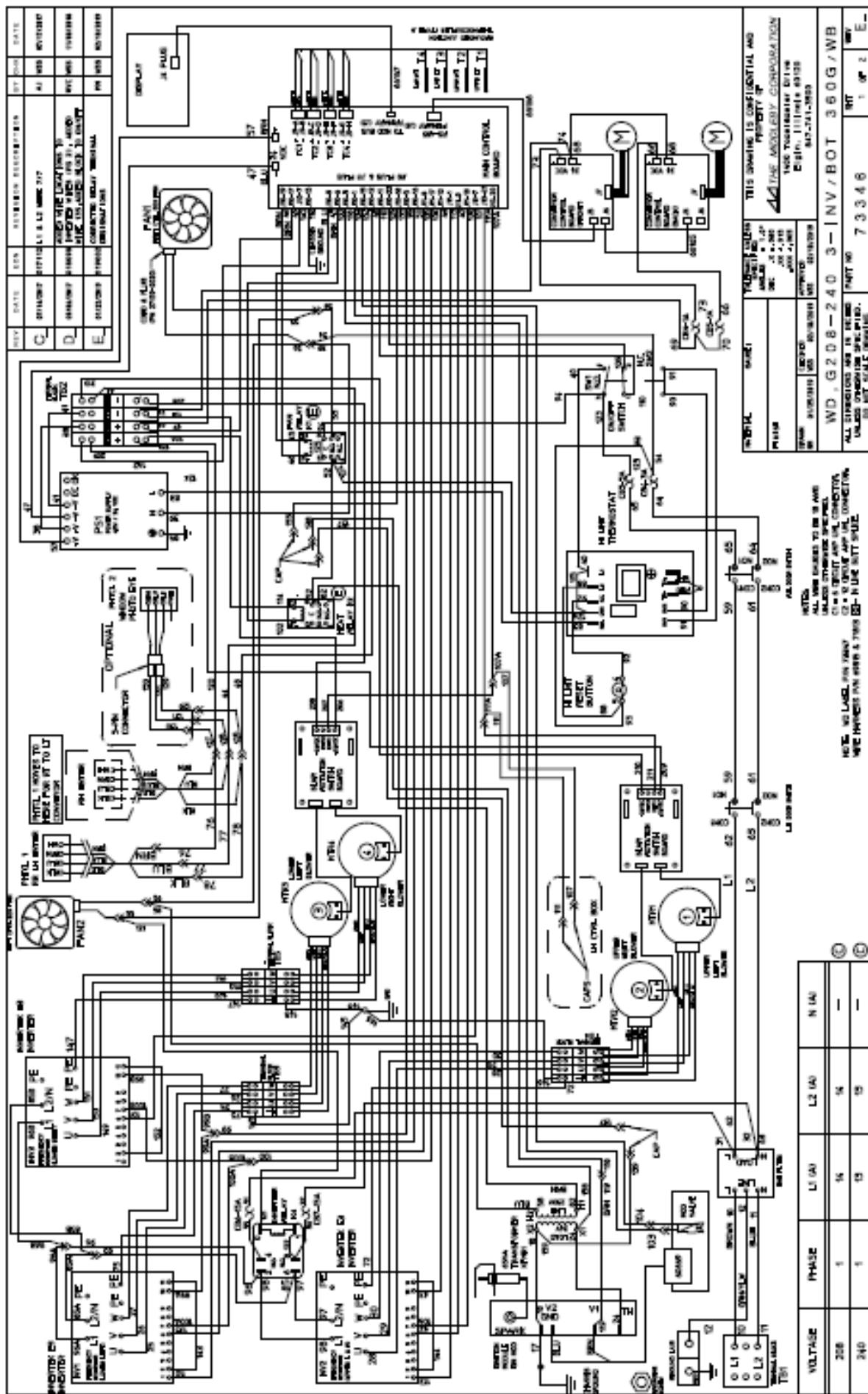
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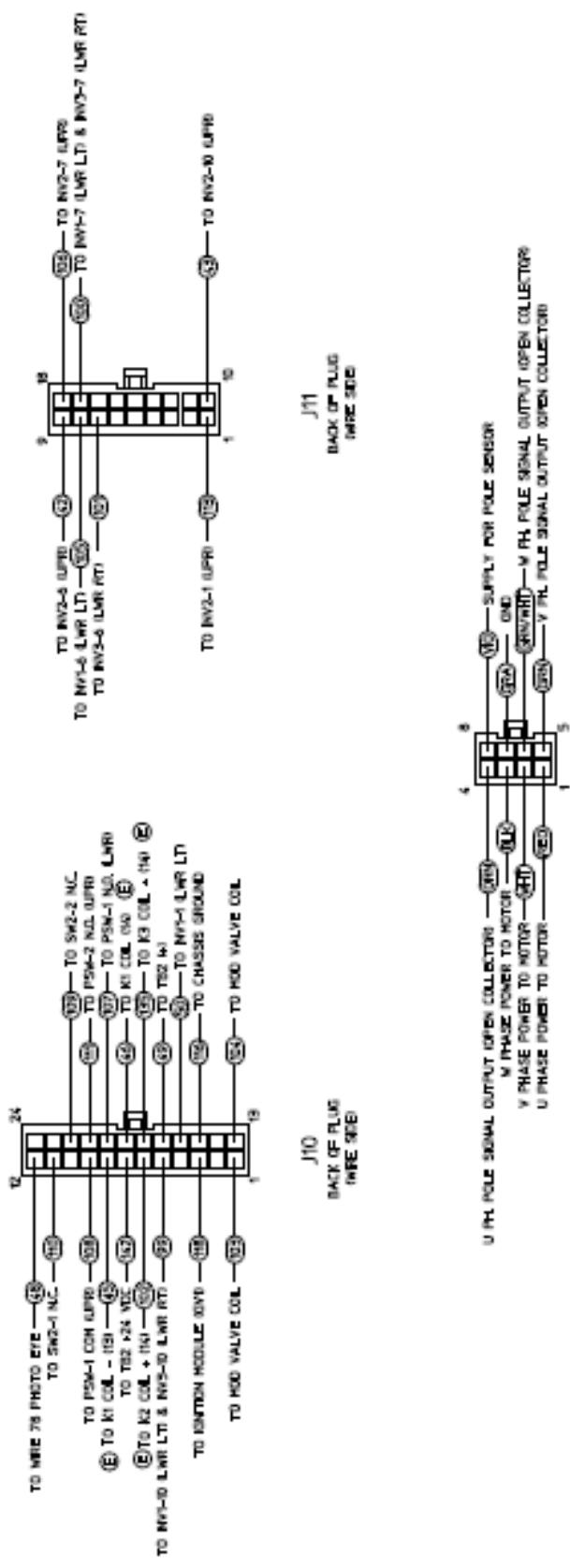
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APPROVED  
WSS 12/09/2015

CHECKED  
WSS 11/09/2015

DRAWN  
WSS 10/09/2015





**ADDENDUM**  
PS360GWB Propane Conversion Kit # 72870

To convert the PS360GWB oven to propane gas, three items have to be changed.

1. The main gas orifices must be replaced. (Propane orifices are 0.098" dia. (2.49mm))
2. The bypass orifice must be replaced. (Propane bypass is 0.078" dia. (1.98mm))
3. The manifold gas pressure must be adjusted.

Turn off the main gas shutoff valve and disconnect the gas union closest to the burner manifold, and move the gas train piping out of the way. Remove the four screws holding the gas manifold assembly to the burner and save the screws for reassembly. Remove each orifice, and replace each orifice with the propane conversion kit orifices 0.098 inch diameter (2.49 mm). Replace the gas manifold assembly and secure with the four screw removed earlier. Remove the  $\frac{1}{4}$  inch (6.35mm) aluminum tubing from the brass fittings on the gas train piping assembly. Remove the bypass orifice that is located in one end of the aluminum tubing. Insert the bypass orifice 0.078 inch diameter (1.98mm) from the propane conversion kit into the aluminum tubing. Reinstall the aluminum tubing into the brass fittings in the gas train piping and tighten the nuts such that the fittings are gas tight. Reinstall the gas train piping into the oven and securely tighten the union linking the gas train piping to the manifold assembly. Turn the main gas shutoff back on and check for gas leaks. If any leaks are found, shut off the main gas shut off valve and retighten the leaking fittings. Re-establish the main gas supply and again check for any gas leaks. If no leaks are found continue to the next step.

The main gas manifold pressure needs to be adjusted for the propane gas supply. The proper pressure setting is 6 inch water column (1.49 kPa).

Instructions Part Number 72869 Revision B

## **NOTES**

## **NOTES**

## WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

### NOTICE

During the warranty period, ALL parts replacement and servicing should be performed by your Middleby Marshall Authorized Service Agent. Service that is performed by parties other than your Middleby Marshall Authorized Service Agent may void your warranty.

### NOTICE

Using any parts other than genuine Middleby Marshall factory manufactured parts relieves the manufacturer of all warranty and liability.

### NOTICE

Middleby Marshall reserves the right to change specifications at any time.



Commercial Food Equipment Service Association

Middleby is proud to support the Commercial Food Equipment Service Association (CFESA). We recognize and applaud CFESA's ongoing efforts to improve the quality of technical service in the industry.

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