SERVICE MANUAL



INSTALLATION INSTRUCTIONS
OV500 SERIES RACK OVEN

OV500G1	**ML-132500**
OV500G2	**ML-132498**
OV500E1	**ML-132501**
OV500E2	**ML-132499**

- NOTICE -

This Manual is prepared for the use of trained Baxter Service Technicians and should not be used by those not properly qualified.

This manual is not intended to be all encompassing. If you have not attended a Baxter Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Baxter Service Technician.

The reproduction, transfer, sale or other use of this Manual, without the express written consent of Baxter, is prohibited.

This manual has been provided to you by ITW Food Equipment Group LLC ("ITW FEG") without charge and remains the property of ITW FEG, and by accepting this manual you agree that you will return it to ITW FEG promptly upon its request for such return at any time in the future.

TABLE OF CONTENTS

SERVICE UPDATES 3
SERVICE UPDATES - OV500 SERIES 3

IMPORTANT FOR YOUR SAFETY 4
IMPORTANT FOR YOUR SAFETY 4

GENERAL 6
INTRODUCTION 6
UNPACKING 6
LOCATION 6
CLEARANCE DIMENSIONS 6
TESTING THE GAS SUPPLY PIPING SYSTEM (GAS OVENS ONLY) 6
INSTALLATION CODES AND STANDARDS 6
SPECIAL TOOLS 7
OV500G1 GAS OVEN SPECIFICATIONS 7
OV500G2 GAS OVEN SPECIFICATIONS 11
OV500E1 ELECTRIC OVEN SPECIFICATIONS 14
OV500E2 ELECTRIC OVEN SPECIFICATIONS 17

INSTALLING OVEN 20
OVEN SECTIONS 20
FLOOR / THRESHOLD 31
STEAM SYSTEM 32
DOOR HANDLE 35
DOOR ASSEMBLY 35
DOOR SWITCH ACTUATOR 36
DOOR SWEEP 37
RACK CARRIER 38
HOOD ASSEMBLY 39
SINGLE POINT VENTING 41
AIR BAFFLE & GREASE FILTERS 42
CAULK OVEN 42
INITIAL START-UP 42
INITIAL START-UP INFORMATION MATERIAL 46
FINAL CHECKS 47

© BAXTER 2017

SERVICE UPDATES

SERVICE UPDATES - OV500 SERIES

February, 2017

1. Steam Ball Assembly
   A. STEAM SYSTEM
2. Anchor Point
   A. IMPORTANT FOR YOUR SAFETY

IMPORTANT FOR YOUR SAFETY

IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBATINED FROM THE LOCAL GAS SUPPLIER

IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

KEEP AREA AROUND OVEN CLEAR OF COMBUSTIBLES.

DO NOT OBSTRUCT COMBUSTION AND VENTILATION OPENING ON THE OVEN.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE

WARNING

IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THROUGHLY BEFORE INSTALLING OR SERVICEING THIS EQUIPMENT.

FOR YOUR SAFETY

AN ATTACHMENT POINT FOR FALL PREVENTION IS LOCATED ON TOP, IN THE CENTER OF THE OVEN. WHEN WORKING ON TOP OF OVEN, BE SURE TO SECURELY ATTACH SAFETY HARNESS TO FALL PREVENTION ATTACHMENT POINT.

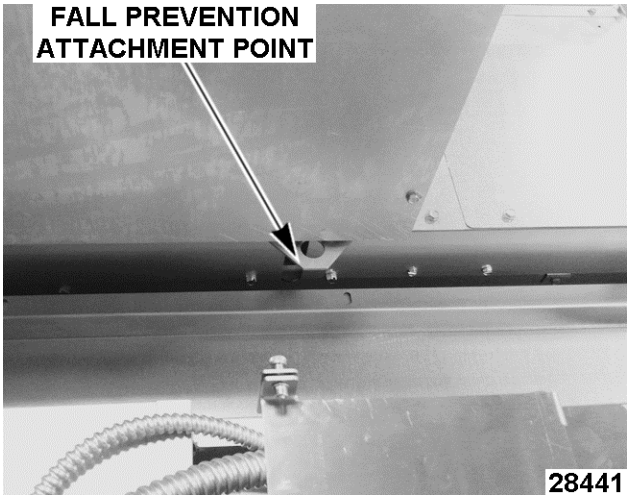


Fig. 1

GENERAL

INTRODUCTION

Before proceeding with oven installation review the pre-installation site inspection report and verify that all issues have been addressed.

As part of our continuing quest for product improvement, any changes that occur after the printing of this manual will be printed on an addendum sheet and included in the installation packet. Review these changes before you start the installation.

These instructions are for OV500 Series Rack Ovens. Photographs in this manual are taken of an OV500G2, unless otherwise stated. The oven will be shipped in two sections, requiring assembly, leveling and connection to utilities. In some cases OV500G1 & OV500E1 ovens may have the two oven sections preassembled at the factory, but will still require leveling and connection to utilities.

Retain these instructions for future reference.

UNPACKING

Remove the crating from the oven exterior, check for possible shipping damage. If the oven is found to be damaged after unpacking, save the packaging material and contact the carrier within 15 days of delivery.

NOTE: If the location has multiple ovens, keep the serial numbered crates together.

LOCATION

NOTICE

To reduce the risk of fire, the appliance is to be installed on non-combustible surface only, with no combustible material within 18 inches of the appliance. 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, or on non-combustible slabs or arches having no combustible material against the underside. Such construction shall in all cases extend not less than 12 inches beyond the equipment on all sides.

Oven not provided with a canopy hood must be installed under a ventilation hood.

The floor must be level with surrounding area with a maximum slope of 1/8" per foot up to 3/4" maximum in all directions. Floor anchors require a minimum 1" thick solid floor substrate.

A level floor area must be prepared before assembling oven. The floor area should be at least 104"D x 74"W for double rack oven and 94"D x 57"W for single rack oven, to accommodate the oven footprint and door swing. Check the facilities floor area at the threshold and door swing opening location to determine if facilities floor will need to be reworked.

Do not obstruct the flow of combustion and ventilation air. Keep the appliance area free and clear from combustibles.

Make sure there is an adequate supply of make up air in the room to allow for combustion.

The electrical diagram is located on the inside of the heat exchanger compartment door.

CLEARANCE DIMENSIONS

Oven is UL/CSA Listed for zero clearance for back and side walls. A 1" to 4" back clearance is recommended for plumbing rear drain connection.

Top of oven requires a minimum of 24" clearance for servicing accessability.

TESTING THE GAS SUPPLY PIPING SYSTEM (GAS OVENS ONLY)

When test pressures exceed 1/2 psig (14" W.C.) (35.6cm W.C.) (3.5kPa), the oven and its individual shutoff valve must be disconnected from the gas supply piping system.

When test pressures are 1/2 psig (14" W.C.) (35.6cm W.C.) (3.5kPa) or less, the oven must be isolated from the gas supply piping system by closing its individual shutoff valve.

INSTALLATION CODES AND STANDARDS

OV500 ovens must be installed in accordance with:

United States

1. State and local codes.
2. National Fuel Gas Codes, ANSIZ223.1 (latest edition), available from American Gas Association, 1515 Wilson Boulevard, Arlington, VA 22209.

3. ANSI/NFPA 96, Standard for Ventilation Control & Fire Protection of Commercial Cooking Operations (latest edition), available from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.
4. National Electrical Code, ANSI/NFPA-70 (latest edition).
5. NSF/ANSI 4 - 2007e Standard for Commercial Cooking, Rethermalization and Powered Hot Food Holding & Transport Equipment.

Canada

1. Local codes.
2. CAN/CGA-B149-1, Installation for Natural Gas Burning Appliances and Equipment (latest edition).
3. CAN/CGA-B149-2, Installation for Propane Burning Appliances and Equipment (latest edition).
4. Canadian Electrical Code, Part 2, CSA Standard C22.1 (latest edition).

Plumbing Connections

Water and waste piping and connections shall comply with the International Plumbing Code 2003, International Code Council (ICC), or to the Uniform Plumbing Code 2003, International Association of Plumbing and Mechanical Officials (IAPMO).

NOTE: Plumbing connections must comply with applicable sanitary, safety and plumbing codes and provide adequate backflow protection to comply with applicable federal, state and local codes.

SPECIAL TOOLS

- Inclined manometer - Dwyer Cat. #1227 or equivalent.
- Combustion analyzer meter Bacharach Fyrite Pro 125 Bacharach model# 24-8105 or Fyrite "Insight" model# 24-8251(Order from Bakery Support).
- Rotary hammer / hammer drill to drill holes in floor for anchor bolts.
- 3/8" masonry drill bit to drill holes in floor for anchor bolts.
- Temperature tester (thermocouple type) with 10' lead.
- Gauges for checking air shutters Part No. 01-1M5689-00001 (shipped with oven).
- Draft meter BACHARACH Model 13-3000 DCL 24490 or equivalent.
- Dolly wheel Part No. 01-1M2335-00001.
- Mini laser level self leveling with tripod Harbor Freight No. 92703-OVGA.
- 2 ton foldable shop hoist Harbor Freight No. 35915-4VGA for lifting oven section.
- 3/8" chain 20 ft. long with a 4700 lbs. load rating Harbor Freight No. 40461-7VGA used with hoist.
- Two 7/16" X 5-1/2" bolts used with hoist.
- Two 7/16" nuts used with hoist.
- Four 7/16" fender washers used with hoist.
- Loctite® #242 Part No. 00-520228

OV500G1 GAS OVEN SPECIFICATIONS

1. **WATER:**

   1/2" NPT, 30-75 PSI cold water required, customer to install in-line filter, shut off valve and line strainer.

2. **DRAIN:**

   6 1/4" (front) or 7" (rear) connection A.F.F. (See notes). Route to air-gap drain. Do not slope drain upwards. Plug the drain connection that is not in use.

   Rear Drain: 1/2" NPTF

   Front Drain: 1/2" NPTF

3. **POWER:**

   Two supplies required. 120/60/1 20 AMP dedicated circuit required and one of the following voltage options.

Voltage	Full Load AMPS
208 - 240/60/1	8.8 - 7.6 AMPS
208 - 240/60/3	5.0 - 4.4 AMPS
440 - 480/60/3	2.4 - 2.2 AMPS

4. **GAS:**

   Natural Gas (N.G.)

   3/4" NPT, W.C.N.G. (N.G. rated 1025 BTU/CU. FT. SP. GR. 1.00)

   Liquified Propane Gas (L.P.G.)

   3/4" NPT, W.C.L.P.G. (L.P.G. rated 2440 BTU/ CU.FT., SP. GR. 1.52)

	Natural Gas	Liquified Propane Gas
BTU/HR	180,000	180,000
W.C.	5.0" - 10.0"	12.0" - 14.0"

5. **HOOD VENT:**

   8" DIA connection collar. Customer to supply duct and ventilator fan per state and local codes. Air proving switch factory installed & integrated with burner system operation. Oven provided relay with max. 10 amp 1/2 H.P. @ 120V output for fan operation. If larger, use oven relay to control additional separately powered contactor / relay for hood fan. Chamber vents are factory ducted to this integral hood. 690 CFM required, 0.6" W.C. static pressure drop through hood. Hood is UL710 Listed when grease filters are installed. Type B gas vent can be used except when bake products are grease laden.

NOTE:

1. A.F.F.: Above finished floor.
2. Customer responsible to finish and install all utilities to and from oven.
3. All services must comply with all Federal, State and Local codes.

NOTICE To reduce the risk of fire, the appliance is to be installed on non-combustible surface only, with no combustible material within 18 inches above the appliance. The appliance is to be mounted on floors of non-combustible construction with non-combustible flooring and surface finish and with no combustible material against the underside, or on non-combustible slabs or arches having no combustible material against the underside. Such construction shall in all cases extend not less than 12 inches beyond the equipment on all sides.

4. The floor must be of non-combustible material, and must be level with surrounding area with a maximum slope of 1/8" per foot up to 3/4" maximum in all directions. Floor anchors require a minimum 1" thick solid floor substrate.
5. Oven is UL/C-UL classified and CSA (AGA/CGA) approved for 0" clearance on the side and rear walls. Unit requires 1" to 4" clearance for rear drain connection.
6. Top of oven requires a minimum of 24" for service accessibility.
7. Customer responsible to install flue piping. Flue must be vented outside of building.
8. Manufacturer reserves the right to make changes in sizes and specifications.

Export Ratings

1. **WATER:**

   1/2" NPT, 2.1-5.2 Bar cold water required, customer to install in-line filter, shut off valve and line strainer. Flow rate of 8 l/min..

2. N/A

3. **POWER:**

   Single supply connection provided: 200V/ 50-60HZ/3PH/5.3A OR 380- 415V/50HZ/3PH/ 2.8-2.5 circuit required.

   1 kVA transformer supplied for control circuit operation voltage of 110V. This is a multifunction transformer, so output voltage should be verified before operation. Some wiring may be required to obtain proper output voltage.

   Oven fan (1.1kW) 200V/50-60Hz/3ph/5.3A or 380- 415V/50Hz/3ph/ 2.8 - 2.5A.

4. **GAS:**

   Natural Gas (N.G.)

   3/4" NPT (N.G. Rated 38.2Mj/m3 or 9120 Kcal/ m3 SP Gr 1.00)

   Liquefied Propane Gas (LPG)

   3/4" NPT (LPG Rated 90.9Mj/m3 or 21710 Kcal/ m3 SP Gr 1.52)

	Natural Gas	Liquified Propane Gas
kCAL/HR	45,400	45,400
cm W.C.	12.7 - 25.4	30.5 - 35.6
Mj/HR	190	190
kPa	1.25 - 2.50	3.00 - 3.50

NOTE: Pressure not to exceed 35.6 cm W.C. or 3.5 kPa

5. **HOOD VENT:**

   20.3 cm DIA. Connection collar. Customer is to supply duct and ventilator fan per federal and/or local codes. Chamber vent (steam) and combustion exhaust are discharged into the hood. An air proving switch is factory installed and integrated with burner system operation. If proper ventilation is not provided, burner will not operate. Oven provides a relay to activate a customer supplied and powered contactor/relay, so that when oven is powered up external fan will operate. The hood requires a minimum of 19.5

m3/min for safe operation. For fan calculation purposes you should assume 0.15 kPa resistance through the hood. Grease filters (optional) may be installed in the hood instead of standard baffle.

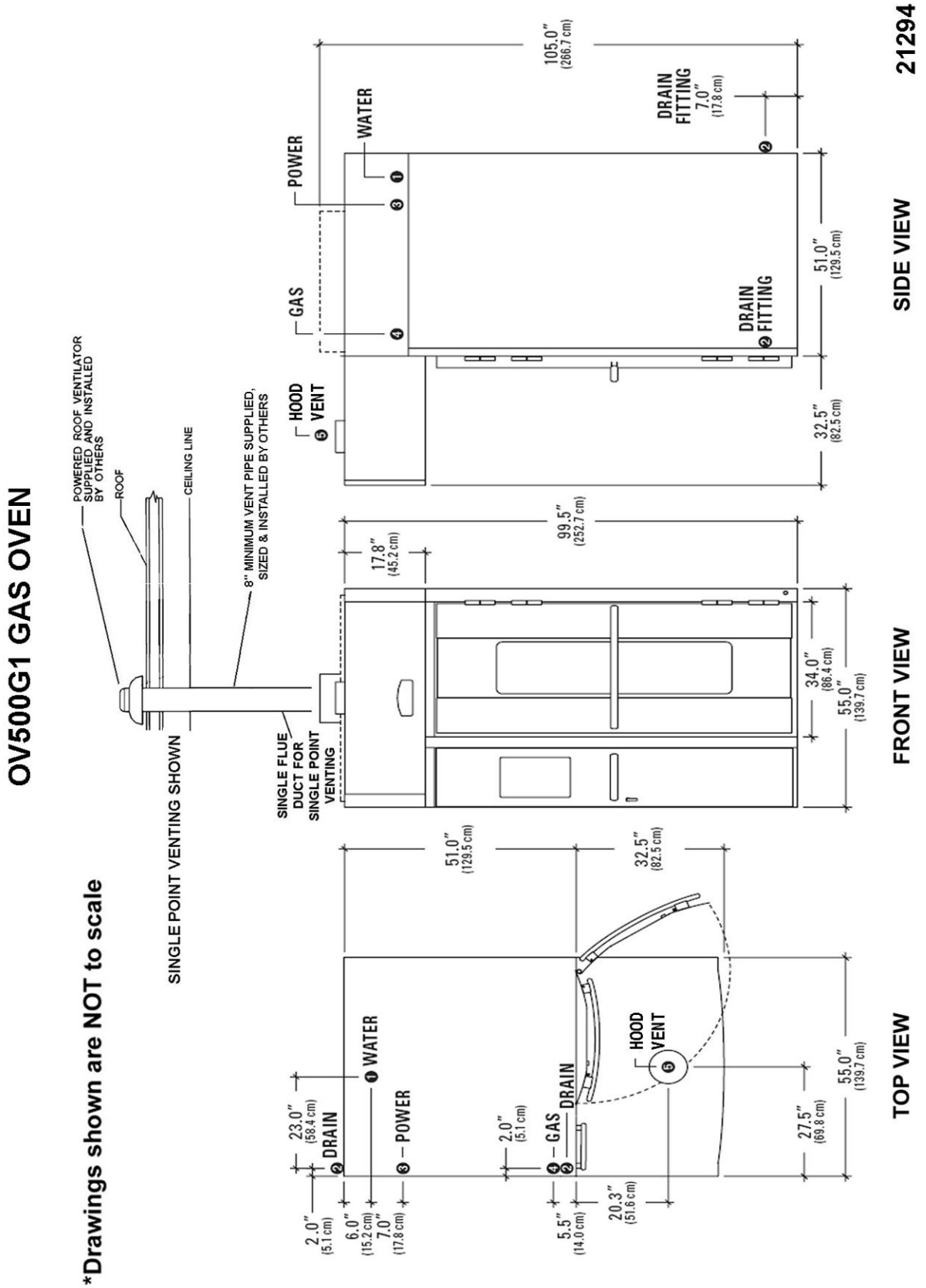

OV500G1 GAS OVEN
21294
*Drawings shown are NOT to scale
SINGLE POINT VENTING SHOWN
POWERED ROOF VENTILATOR SUPPLIED AND INSTALLED BY OTHERS
ROOF
CEILING LINE
8" MINIMUM VENT PIPE SUPPLIED, SIZED & INSTALLED BY OTHERS
SINGLE FLUE DUCT FOR SINGLE POINT VENTING
SIDE VIEW
FRONT VIEW
TOP VIEW
POWER
WATER
GAS
HOOD VENT
DRAIN FITTING
DRAIN
105.0" (266.7 cm)
51.0" (129.5 cm)
32.5" (82.5 cm)
17.8" (45.2 cm)
99.5" (252.7 cm)
34.0" (86.4 cm)
55.0" (139.7 cm)
23.0" (58.4 cm)
2.0" (5.1 cm)
6.0" (15.2 cm)
7.0" (17.8 cm)
5.5" (14.0 cm)
20.3" (51.6 cm)
27.5" (69.8 cm)

Fig. 2

OV500G2 GAS OVEN SPECIFICATIONS

1. **WATER:**

   1/2" NPT, 30-75 PSI cold water required, customer to install in-line filter, shut off valve and line strainer.

2. **DRAIN:**

   2 3/4" (front) or 5 1/2" (rear) connection A.F.F. (See notes). Route to air-gap drain. Do not slope drain upwards. Plug the drain connection that is not in use. Kit provided to extend drain to either side of oven.

   Rear Drain: 3/4" NPTF

   Front Drain: 3/8" NPTF

3. **POWER:**

   Two supplies required.

   120/60/1 20 AMP dedicated circuit required and one of the following voltage options.

Voltage	Full Load AMPS
208 - 240/60/1	8.8 - 7.6 AMPS
208-240/60/3	5.0 - 4.4 AMPS
440 - 480/60/3	2.4 - 2.2 AMPS

4. **GAS:**

   Natural Gas (N.G.)

   1 1/4" NPT, W.C.N.G. (N.G. rated 1025 BTU/CU. FT. SP. GR. 1.00)

   Liquified Propane Gas (L.P.G.)

   1 1/4" NPT, W.C.L.P.G. (L.P.G. rated 2440 BTU/ CU.FT., SP. GR. 1.52)

	Natural Gas		Liquified Propane Gas	
BTU/HR	300,000	350,000	300,000	350,000
W.C.	5.0 -14.0"	6.0 - 14.0"	10.0" - 14.0"	12.0 - 14.0"

5. **HOOD VENT:**

   10" DIA connection collar. Air proving switch factory installed & integrated with burner system operation. Oven provided rely with max. 10 amp 1/2 H.P. @ 120V output for fan operation. If larger, use oven relay to control additional separately powered contactor / relay for hood fan. Customer to supply duct and ventilator fan per state and local codes. Chamber vents are factory ducted to this integral hood. 900 CFM required, 0.6" W.C. static pressure drop through hood. Hood is UL710 Listed when grease filters are installed. Type B gas vent can be used except when bake products are grease laden.

NOTES:

1. A.F.F.: Above finished floor.
2. Customer responsible to finish and install all utilities to and from oven.
3. All services must comply with all Federal, State and Local codes.

NOTICE To reduce the risk of fire, the appliance is to be installed on non-combustible surface only, with no combustible material within 18 inches above the appliance. The appliance is to be mounted on floors of non-combustible construction with non-combustible flooring and surface finish and with no combustible material against the underside, or on non-combustible slabs or arches having no combustible material against the underside. Such construction shall in all cases extend not less than 12 inches beyond the equipment on all sides.

4. The floor must be of non-combustible material, and must be level with surrounding area with a maximum slope of 1/8" per foot up to 3/4" maximum in all directions. Floor anchors require a minimum 1" thick solid floor substrate.
5. Oven is UL/C-UL classified and CSA (AGA/CGA) approved for 0" clearance on the side and rear walls. Unit requires 1" to 4" clearance for rear drain connection.
6. Top of oven requires a minimum of 24" for service accessibility.
7. Customer responsible to install flue piping. Flue must be vented outside of building.
8. Manufacturer reserves the right to make changes in sizes and specifications.

Export Ratings

1. **WATER:**

   1/2” NPT, 2.1-5.2 Bar cold water required, customer to install in-line filter, shut off valve and line strainer. Flow rate of 8 l/min..

2. N/A

3. **POWER:**

   Single supply connection provided: 200V/ 50-60Hz/3ph/5.3A or 380-415V/50Hz/3ph/ 2.8 - 2.5A circuit required.

1 kVA transformer supplied for control circuit operation voltage of 110V. This is a multifunction transformer, so output voltage should be verified before operation. Some wiring may be required to obtain proper output voltage.

Oven fan (1.1kW) operates @ 380-415V 3ph 50 Hz 2.4- 2.2A

4. **GAS:**

Natural Gas (N.G.)

3/4" NPT (N.G. Rated 38.2Mj/m3 or 9120 Kcal/ m3 SP Gr 1.00)

Liquefied Propane Gas (LPG)

3/4" NPT (LPG Rated 90.9Mj/m3 or 21710 Kcal/ m3 SP Gr 1.52)

	Natural Gas	**Liquified Propane Gas**
kCAL/HR	75,600	75,600
cm W.C.	12.7 - 25.4	30.5 - 35.6
Mj/HR	317	317
kPa	1.25 - 3.50	3.00 - 3.50

NOTE: Pressure not to exceed 35.6 cm W.C. or 3.5 kPa

5. **HOOD VENT:**

25.4 cm DIA. Connection collar. Customer is to supply duct and ventilator fan per federal and/or local codes. Chamber vent (steam) and combustion exhaust are discharged into the hood. An air proving switch is factory installed and integrated with burner system operation. If proper ventilation is not provided, burner will not operate. Oven provides a relay to activate a customer supplied and powered contactor/relay, so that when oven is powered up external fan will operate. The hood requires a minimum of 25.5 m3/min for safe operation. For fan calculation purposes you should assume 0.15 kPa resistance through the hood. Grease filters (optional) may be installed in the hood instead of standard baffle.

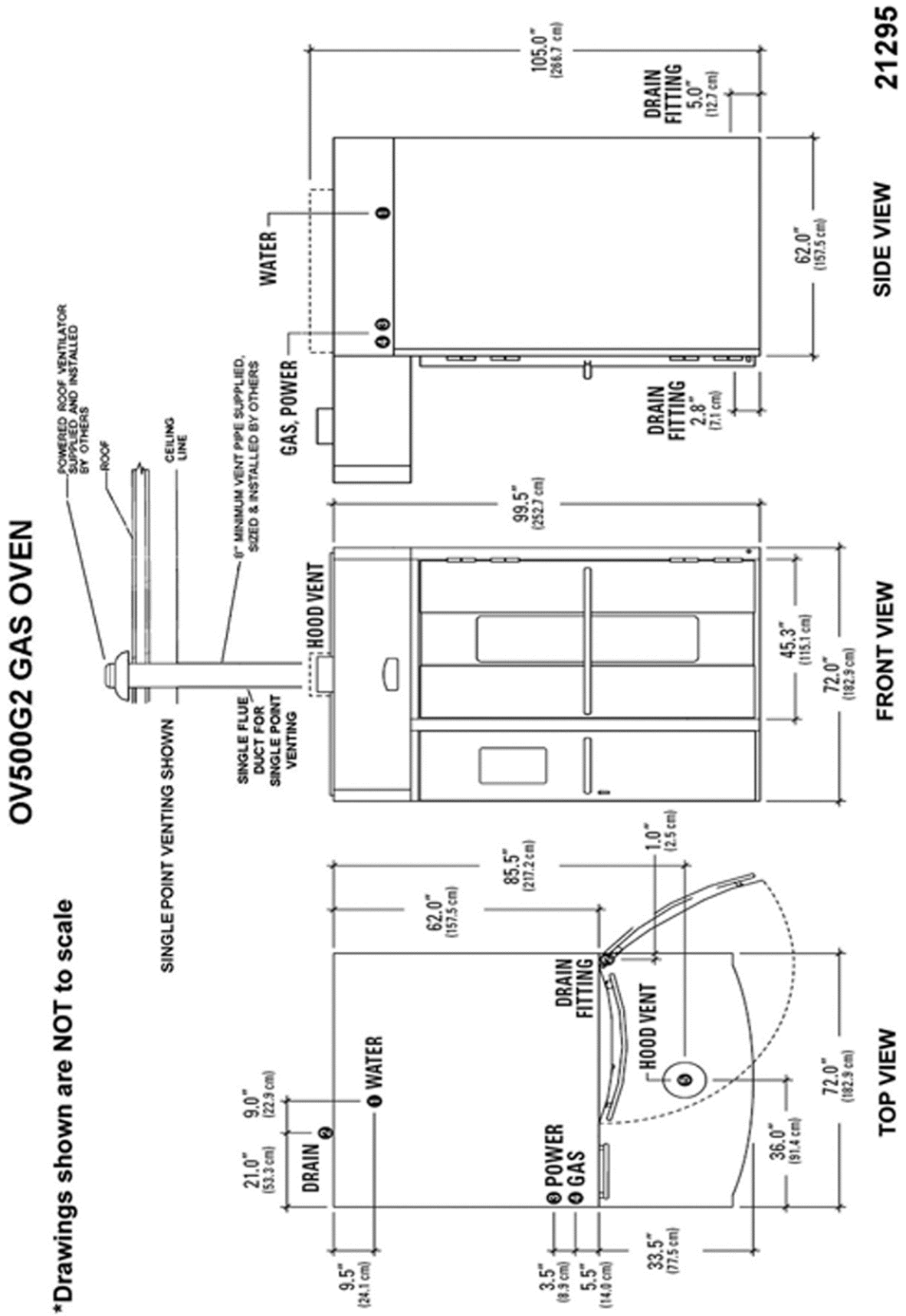

OV500G2 GAS OVEN
21295
*Drawings shown are NOT to scale
SINGLE POINT VENTING SHOWN
POWERED ROOF VENTILATOR SUPPLIED AND INSTALLED BY OTHERS
ROOF
CEILING LINE
6" MINIMUM VENT PIPE SUPPLIED, SIZED & INSTALLED BY OTHERS
SINGLE FLUE DUCT FOR SINGLE POINT VENTING
WATER
GAS, POWER
HOOD VENT
105.0" (266.7 cm)
DRAIN FITTING 5.0" (12.7 cm)
DRAIN FITTING 2.8" (7.1 cm)
62.0" (157.5 cm)
99.5" (252.7 cm)
45.3" (115.1 cm)
72.0" (182.9 cm)
SIDE VIEW
FRONT VIEW
85.5" (217.2 cm)
1.0" (2.5 cm)
62.0" (157.5 cm)
DRAIN FITTING
HOOD VENT
WATER
DRAIN
POWER
GAS
9.0" (22.9 cm)
21.0" (53.3 cm)
9.5" (24.1 cm)
3.5" (8.9 cm)
5.5" (14.0 cm)
33.5" (77.5 cm)
36.0" (91.4 cm)
72.0" (182.9 cm)
TOP VIEW

Fig. 3

OV500E1 ELECTRIC OVEN SPECIFICATIONS

1. **WATER:**

   1/2" NPT, 30-75 PSI cold water required, customer to install in-line filter, shut off valve and line strainer.

2. **DRAIN:**

   6 1/4" (front) or 7" (rear) connection A.F.F. (See notes). Route to air-gap drain. Do not slope drain upwards. Plug the drain connection that is not in use.

   Rear Drain: 1/2" NPTF

   Front Drain: 1/2" NPTF

3. **POWER:**

   Two supplies required.

   120/60/1 20 AMP dedicated circuit required and one of the following voltage options.

   Heating Circuit: KW rating in following chart per supply voltage.

   Blower Motor: 1 1/2 H.P.

Voltage	Full Load AMPS	Heaters Rating
208/60/3	100 AMPS	34 KW
208 - 240/60/3	76 - 87 AMPS	26 - 34 KW
440 - 480/60/3	40 - 43 AMPS	29 - 34 KW

4. **HOOD VENT:**

   8" DIA connection collar. Customer to supply duct and ventilator fan per state and local codes. Oven provided relay with max. 10 amp 1/2 H.P. @ 120V output for fan operation. If larger, use oven relay to control additional separately powered contactor / relay for hood fan. Chamber vents are factory ducted to this integral hood. 690 CFM required, 0.6" W.C. static pressure drop through hood. Hood is UL710 Listed when grease filters are installed. Type B gas vent can be used except when bake products are grease laden.

NOTES:

1. A.F.F.: Above finished floor.
2. Customer responsible to finish and install all utilities to and from oven.
3. All services must comply with all Federal, State and Local codes.

NOTICE To reduce the risk of fire, the appliance is to be installed on non-combustible surface only, with no combustible material within 18 inches above the appliance. The appliance is to be mounted on floors of non-combustible construction with non-combustible flooring and surface finish and with no combustible material against the underside, or on non-combustible slabs or arches having no combustible material against the underside. Such construction shall in all cases extend not less than 12 inches beyond the equipment on all sides.

4. The floor must be of non-combustible material, and must be level with surrounding area with a maximum slope of 1/8" per foot up to 3/4" maximum in all directions. Floor anchors require a minimum 1" thick solid floor substrate.
5. Oven is UL/C-UL classified and CSA (AGA/CGA) approved for 0" clearance on the side and rear walls. Unit requires 1" to 4" clearance for rear drain connection.
6. Top of oven requires a minimum of 24" for service accessibility.
7. Customer responsible to install flue piping. Flue must be vented outside of building.
8. Manufacturer reserves the right to make changes in sizes and specifications.

Export Ratings

1. **WATER:**

   1/2” NPT, 2.1 - 5.2 Bar cold water required, customer to install in-line filter, shut off valve and line strainer. Flow rate of 8 l/min..

2. N/A

3. **POWER:**

   Single supply connection provided: 200V/ 50-60Hz/3ph/5.3A or 380-415V/50Hz/3ph/ 2.8 - 2.5A circuit required.

   1 kVA transformer supplied for control circuit operation voltage of 110V. This is a multifunction transformer, so output voltage should be verified before operation. Some wiring may be required to obtain proper output voltage.

   Oven fan (1.1kW) operates @ 380-415V 3ph 50 Hz 2.4- 2.2A

Voltage	Full Load AMPS	Heaters Rating
200/50 - 60/3	74 AMPS	24 kW
380 - 415/50/3	46 - 50 AMPS	29 - 34 kW

4. **HOOD VENT:**

20.3 cm DIA. Connection collar. Customer is to supply duct and ventilator fan per federal and/or local codes. Chamber vent (steam) and combustion exhaust are discharged into the hood. Oven provides a relay to activate a customer supplied and powered contactor/relay, so that when oven is powered up external fan will operate. The hood requires a minimum of 19.5 m3/min for safe operation. For fan calculation purposes you should assume 0.15 kPa resistance through the hood. Grease filters (optional) may be installed in the hood instead of standard baffle.

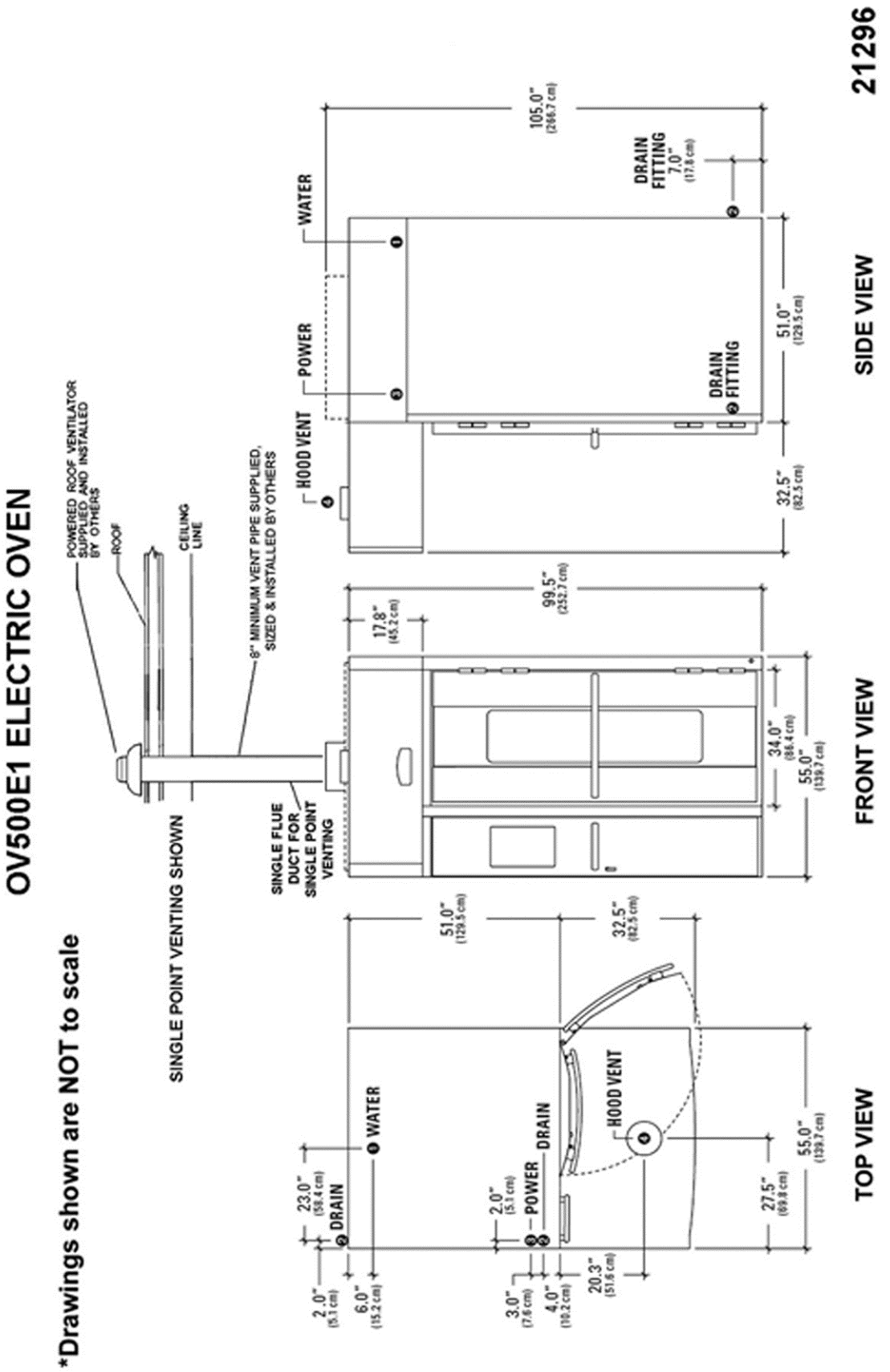

OV500E1 ELECTRIC OVEN
*Drawings shown are NOT to scale
21296
SINGLE POINT VENTING SHOWN
POWERED ROOF VENTILATOR SUPPLIED AND INSTALLED BY OTHERS
ROOF
CEILING LINE
8" MINIMUM VENT PIPE SUPPLIED, SIZED & INSTALLED BY OTHERS
SINGLE FLUE DUCT FOR SINGLE POINT VENTING
WATER
POWER
HOOD VENT
DRAIN FITTING
105.0" (266.7 cm)
51.0" (129.5 cm)
32.5" (82.5 cm)
99.5" (252.7 cm)
17.8" (45.2 cm)
34.0" (86.4 cm)
55.0" (139.7 cm)
23.0" (58.4 cm)
2.0" (5.1 cm)
6.0" (15.2 cm)
3.0" (7.6 cm)
4.0" (10.2 cm)
20.3" (51.6 cm)
27.5" (69.8 cm)
SIDE VIEW
FRONT VIEW
TOP VIEW

Fig. 4

OV500E2 ELECTRIC OVEN SPECIFICATIONS

1. **WATER:**

   1/2" NPT, 30-75 PSI cold water required, customer to install in-line filter, shut off valve and line strainer.

2. **DRAIN:**

   2 3/4" (front) or 5 1/2" (rear) connection A.F.F. (See notes). Route to air-gap drain. Do not slope drain upwards. Plug the drain connection that is not in use. Kit provided to extend drain to either side of oven.

   Rear Drain: 3/4" NPTF

   Front Drain: 3/8" NPTF

3. **ELECTRICAL:**

   Two supplies required.

   120/60/1 20 AMP dedicated circuit required and one of the following voltage options.

   Heating Circuit: KW rating in following chart per supply voltage.

   Blower Motor: 1 1/2 H.P.

Voltage	Full Load AMPS	Heaters Rating
208/60/3	146.4 AMPS	51.3 KW
208-240/60/3	111.2 - 127.2 AMPS	38.5 - 51.3KW
440-480/60/3	59.1 - 64.1 AMPS	43 - 51.3 KW

4. **HOOD VENT:**

   10"DIA connection collar. Customer to supply duct and ventilator fan per state and local codes. Oven provided relay with max. 10 amp 1/2 H.P. @ 120V output for fan operation. If larger, use oven relay to control additional separately powered contactor / relay for hood fan. Customer to supply duct and ventilator fan per state and local codes. Chamber vents are factory ducted to this integral hood. 900 CFM required, 0.6" W.C. static pressure drop through hood. Hood is UL710 Listed when grease filters are installed. Type B gas vent can be used except when bake products are grease laden.

   NOTES:

1. A.F.F.: Above finished floor.
2. Customer responsible to finish and install all utilities to and from oven.
3. All services must comply with all Federal, State and Local codes.

NOTICE To reduce the risk of fire, the appliance is to be installed on non-combustible surface only, with no combustible material within 18 inches above the appliance. The appliance is to be mounted on floors of non-combustible construction with non-combustible flooring and surface finish and with no combustible material against the underside, or on non-combustible slabs or arches having no combustible material against the underside. Such construction shall in all cases extend not less than 12 inches beyond the equipment on all sides.

4. The floor must be of non-combustible material, and must be level with surrounding area with a maximum slope of 1/8" per foot up to 3/4" maximum in all directions. Floor anchors require a minimum 1" thick solid floor substrate.
5. Oven is UL/C-UL classified and CSA (AGA/CGA) approved for 0" clearance on the side and rear walls. Unit required 1" to 4" clearance for rear drain connection.
6. Top of oven requires a minimum of 24" for service accessibility.
7. Customer responsible to install flue piping. Flue must be vented outside of building.
8. Manufacturer reserves the right to make changes in sizes and specifications.

Export Ratings

1. **WATER:**

   1/2" NPT, 2.1-5.2 Bar cold water required, customer to install in-line filter, shut off valve and line strainer. Flow rate of 8 l/min..

2. N/A

3. **ELECTRICAL:**

   Single supply connection provided: 200V/ 50-60Hz/3ph/5.3A or 380-415V/50Hz/3ph/ 2.8 - 2.5A circuit required.

   1 kVA transformer supplied for control circuit operation voltage of 110V. This is a multifunction transformer, so output voltage should be verified before operation.Some wiring may be required to obtain proper output voltage.

   Oven fan (1.1kW) operates @ 380-415V 3ph 50 Hz 2.4- 2.2A

Voltage	Full Load AMPS	Heaters Rating
200/50 - 60/3	108 AMPS	36 kW
380 - 415/50/3	68 - 73 AMPS	43 - 51 kW

4. **HOOD VENT:**

   25.4 cm DIA. Connection collar. Customer is to supply duct and ventilator fan per federal and/or local codes. Chamber vent (steam) and combustion exhaust are discharged into the hood. Oven provides a relay to activate a customer supplied and powered contactor/relay, so that when oven is powered up external fan will operate. The hood requires a minimum of 25.5 m3/min for safe operation. For fan calculation purposes you should assume 0.15 kPa resistance through the hood. Grease filters (optional) may be installed in the hood instead of standard baffle.

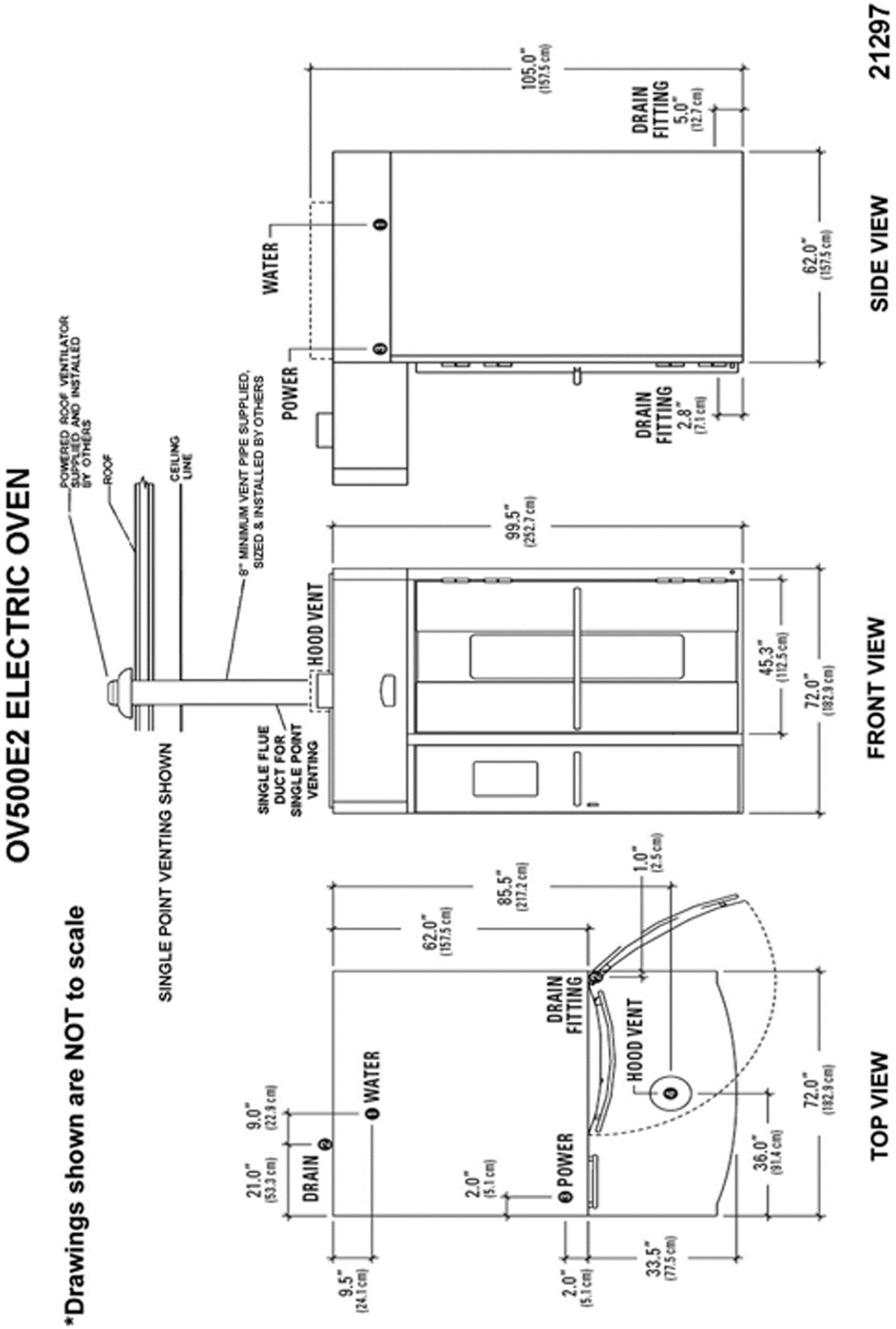

OV500E2 ELECTRIC OVEN
21297
*Drawings shown are NOT to scale
SINGLE POINT VENTING SHOWN
POWERED ROOF VENTILATOR SUPPLIED AND INSTALLED BY OTHERS
ROOF
CEILING LINE
8" MINIMUM VENT PIPE SUPPLIED, SIZED & INSTALLED BY OTHERS
SINGLE FLUE DUCT FOR SINGLE POINT VENTING
HOOD VENT
WATER
POWER
DRAIN
DRAIN FITTING
105.0" (157.5 cm)
99.5" (252.7 cm)
62.0" (157.5 cm)
45.3" (112.5 cm)
72.0" (182.9 cm)
5.0" (12.7 cm)
2.8" (7.1 cm)
SIDE VIEW
FRONT VIEW
TOP VIEW
85.5" (217.2 cm)
1.0" (2.5 cm)
9.0" (22.9 cm)
21.0" (53.3 cm)
2.0" (5.1 cm)
36.0" (91.4 cm)
9.5" (24.1 cm)
33.5" (77.5 cm)

Fig. 5

INSTALLING OVEN

This manual is written for a new installation where you can position the oven sections while the oven is on the shipping skids. Some installations may require that oven sections on the skids be lifted on there side and manipulated through doorways prior to positioning sections for installation.

Prior to installing the oven, check facilities floor for being level within a maximum of 1/8" per foot up to 3/4" in all directions using the laser level technique to determine if oven will need to be shimmed. Also check facilities floor area at the threshold and door swing opening location to determine if facilities floor will need to be reworked.

OVEN SECTIONS

Remove all assemblies except oven sections from skids prior to lifting oven sections. In most cases OV500G1 & OV500E1 ovens will be shipped with sections assembled together.

1. Place the oven sections as close to the final position as possible, allowing enough room to work, with the sections positioned for lifting.
    A. Check for ceiling clearance. The oven is tallest when it is approximately 45 degrees to the floor during the raising process. If oven section has been turned on its narrow side in order to navigate through a doorway, turn the oven section back to the shipping position prior to raising.
    B. Remove the bottom hold down brackets from both pallets, but do not remove oven sections from pallets.
2. Lift the oven sections upright, using the hoist technique. Both oven sections should be as close as possible, but not touching.

NOTE: Single rack oven have a one piece floor. The floor will need to be put into location with a bead of red high temp silicone around the outer edge of floor flange before oven sections are slid together. Then the right front corner of oven may need to be lifted for floor (door jamb retainer) clearance when installing a one piece floor.

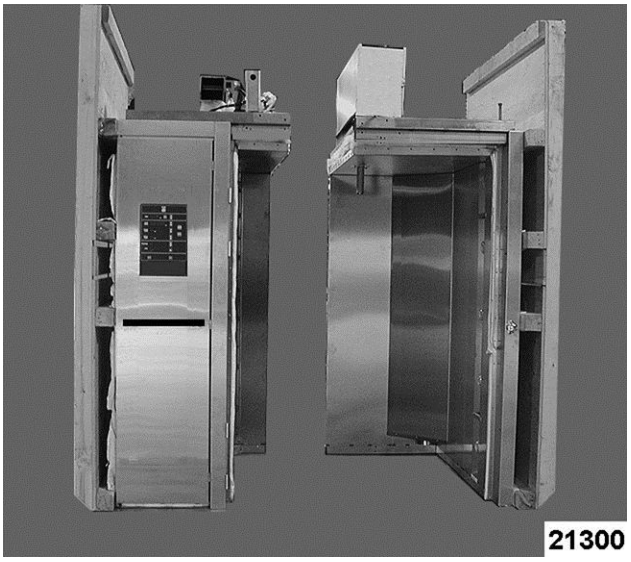


Fig. 6

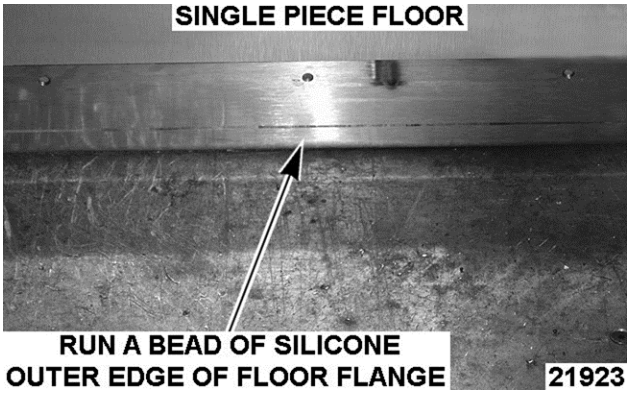


Fig. 7

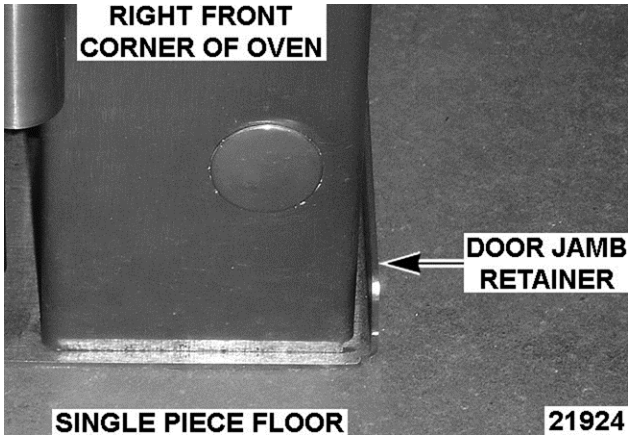


Fig. 8

3. Remove the J bolt securing the skid to the oven section.



Fig. 9

⚠ WARNING The z bracket location on the bottom of the skid must be disengaged before lowering the skid. If engaged when lowering the skid, the oven section could fall.

A. Pull the bottom of the skid away from the oven to clear the Z channel.

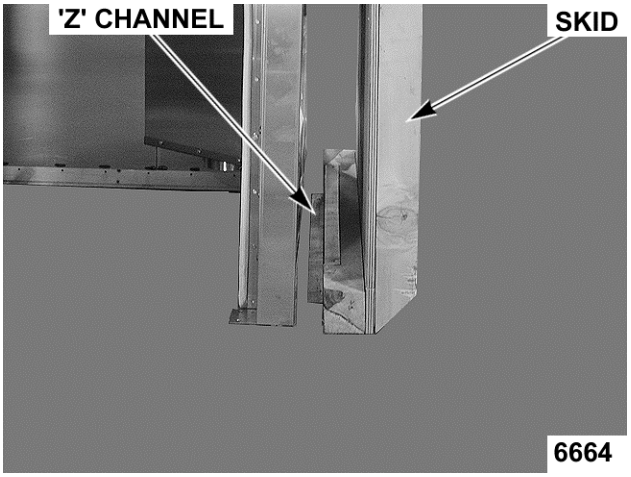


Fig. 10

B. Lower the skid to the floor making sure that the Z channel does not scratch the oven side.

C. Perform the same procedure for other oven section.

4. Remove the header support bracket.

A. Remove the two screws from hinge side of bracket.

B. Move bracket and reinstall the hinge screws.

C. Remove the single screw from the header side of bracket and discard screw and bracket.

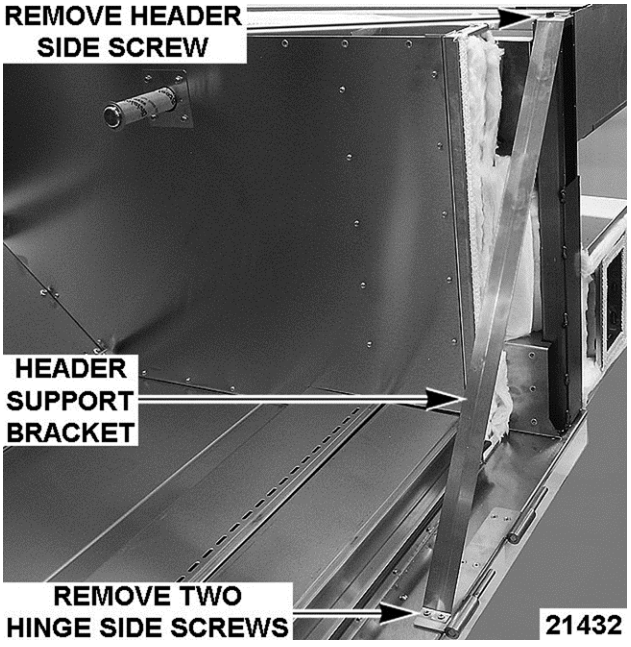


Fig. 11

5. Slide the oven sections together.

NOTE: Ensure ceiling offset flange slides under opposite oven section ceiling.

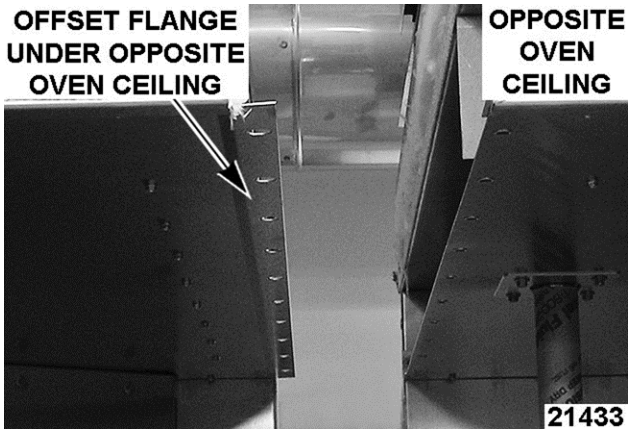


Fig. 12

6. Install 1/2-13 x 1-1/2" bolt with lock washer and nut in rear frame connection points of oven, both top and bottom.

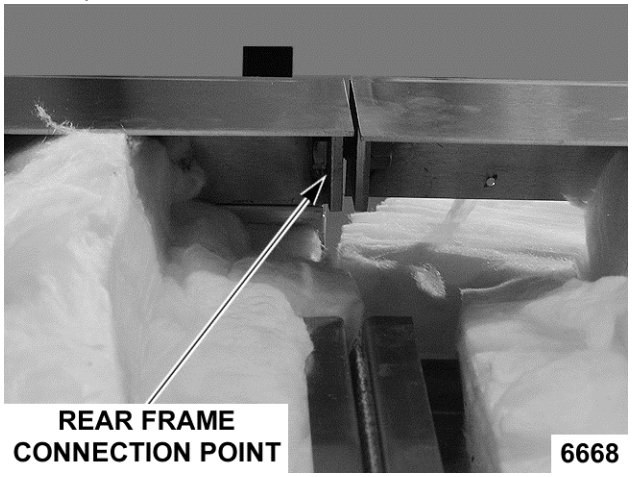


Fig. 13

7. Install 5/16-18 x 1" gimlet screws in upper & lower header connections.

NOTE: Ensure oven sections upper header front surfaces are flush.

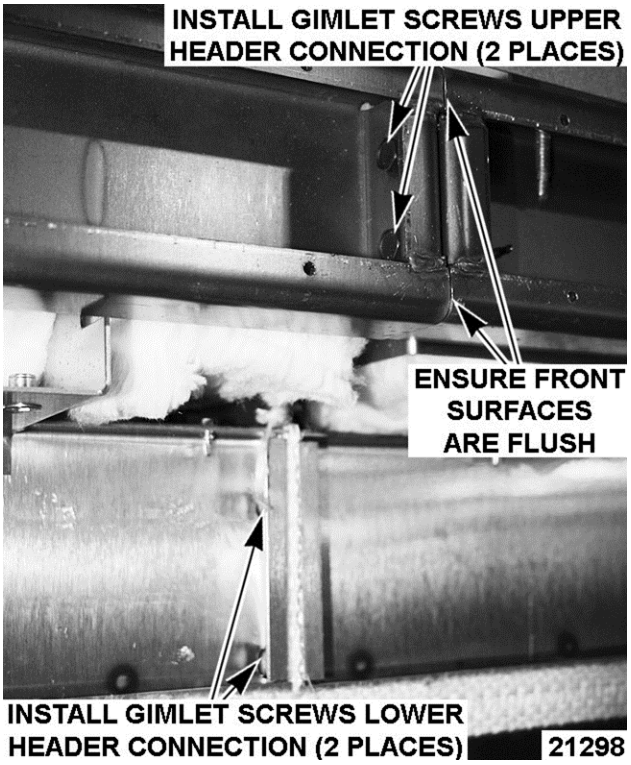


Fig. 14

NOTE: If you have trouble aligning the holes in the rear frame, you may have to manipulate the oven sections using the levelers or by prying. Use care not to damage building floor.



Fig. 15

NOTE: You may have to move oven front corners to make the holes in the outer header align with the holes in the oven.

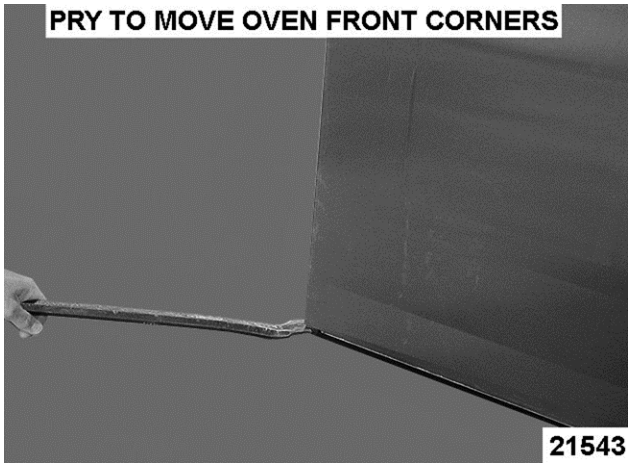


Fig. 16

8. Install 5/16-18 X1" gimlet screws in the flanges of the mating sections around the oven perimeter, both top and back.

NOTE: Start a few screws at several locations around the flange to help align the flange holes.

9. Install all flange mating section screws and insure mating surfaces are flush in the interior & exterior of the oven before tightening the screws.

NOTE: If you have trouble aligning the mating holes in the flange, you may have to manipulate the oven sections using the levelers or by prying.

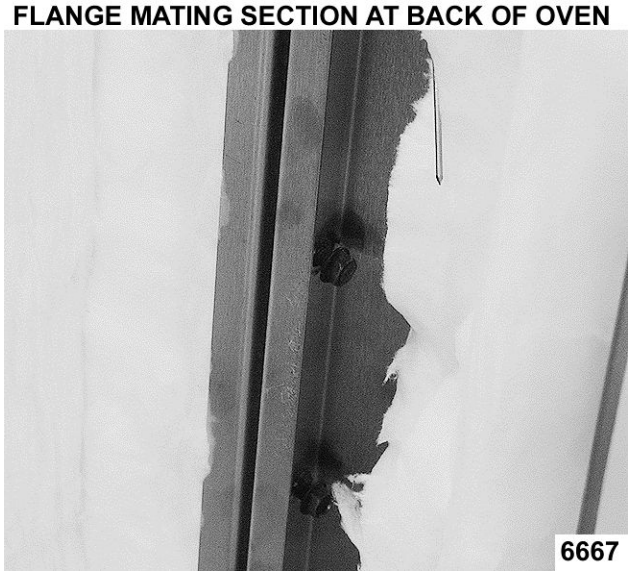


Fig. 17

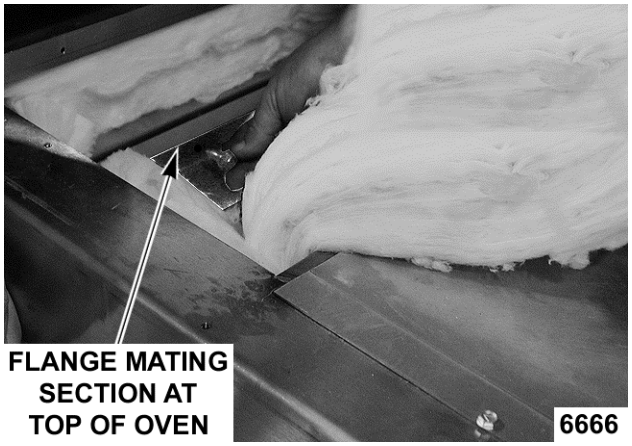


Fig. 18

10. For OV500G1 & OV500E1 ovens only: Install insulation cover onto top of oven.

11. For OV500G1 & OV500E1 ovens only: Install rotator assembly onto lifter assembly.

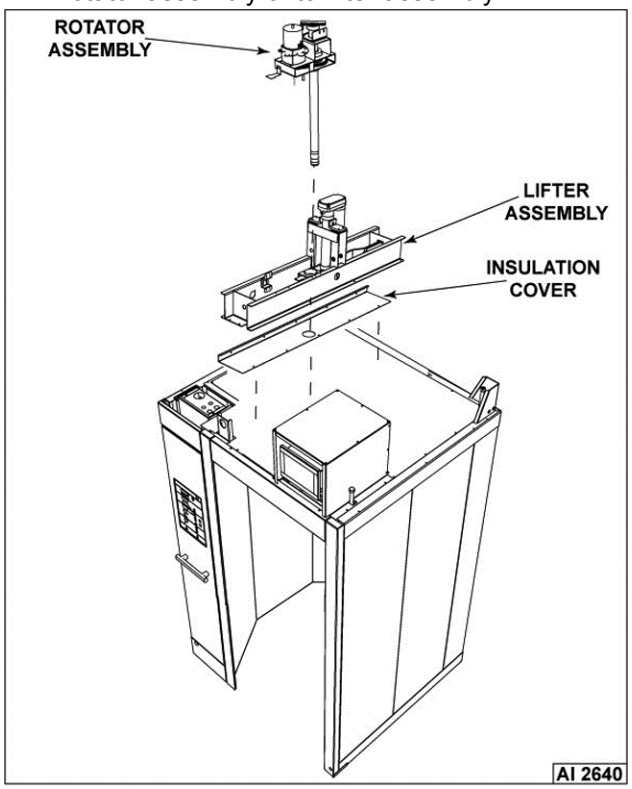


Fig. 19

12. Install upper header support plate with #10 Tek screws.



Fig. 20

13. Install lower header cover with two 10-32 screws lose to hold cover in place.



Fig. 21

14. Install upper header cover with #10 X 3/4" screws on top and 1/4-20 screws on the bottom with front edge of cover flush with door jambs.



Fig. 22

15. Install upper door gasket to upper gasket retainer.

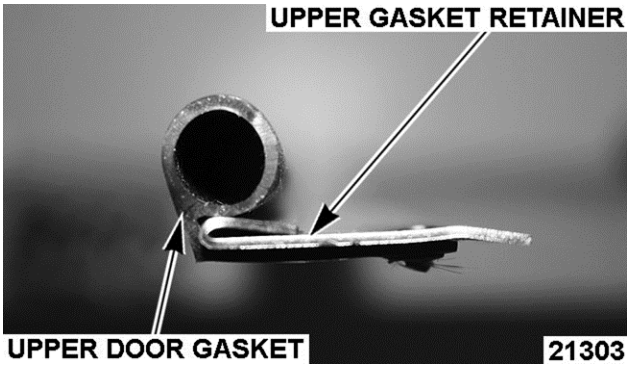


Fig. 23

A. Cut off gasket material to length of retainer.

B. Install upper door gasket & upper gasket retainer by removing the two lower header cover screws then secure gasket & retainer to cover with 10-32 gimlet screws.



Fig. 24

16. Install 1/4-20 X 3/4" hex head serrated flange screws onto ceiling offset inside baking compartment.

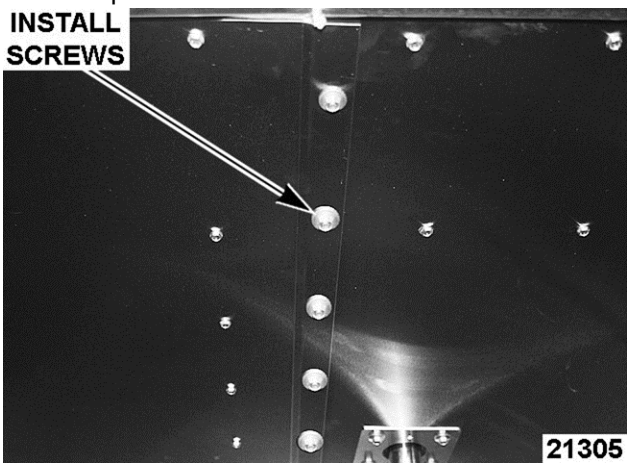


Fig. 25

17. Install insulation pieces.

A. On the rear seam, bend the copper studs so they are 90 degrees to the oven wall. When installing the insulation, make sure the insulation is held by these studs.

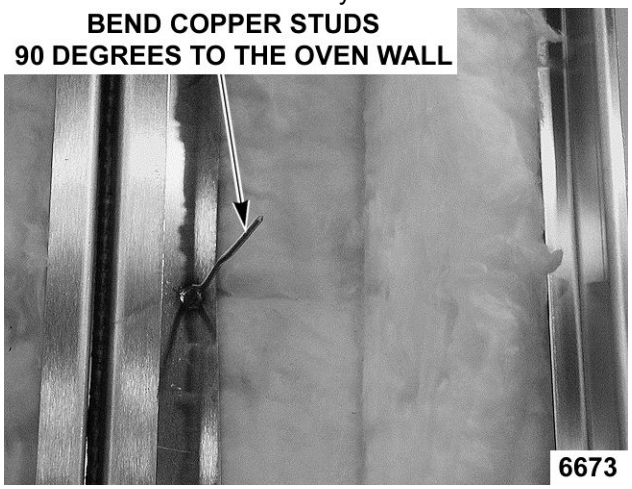


Fig. 26

B. Narrow insulation pieces fit between the existing insulation next to oven, 2 at the back and 3 on the top.

C. Install insulation over the top and back seams of the oven sections.



Fig. 27

1) At the rear wall, place the push nuts over the copper studs to secure the insulation.



Fig. 28

18. Install rear cover panel.

NOTE: This panel will also have a layer of insulation.

A. Start the top of the panel behind the top rail of the upper frame.

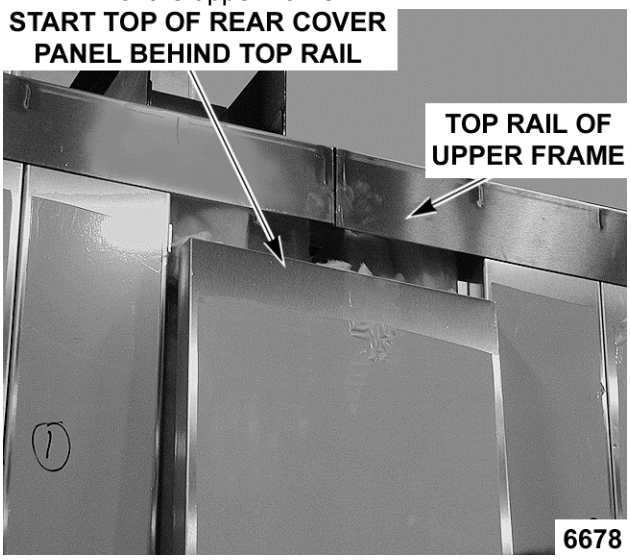


Fig. 29

B. Push the panel up until the bottom of the panel clears the bottom rail of the oven section frame.

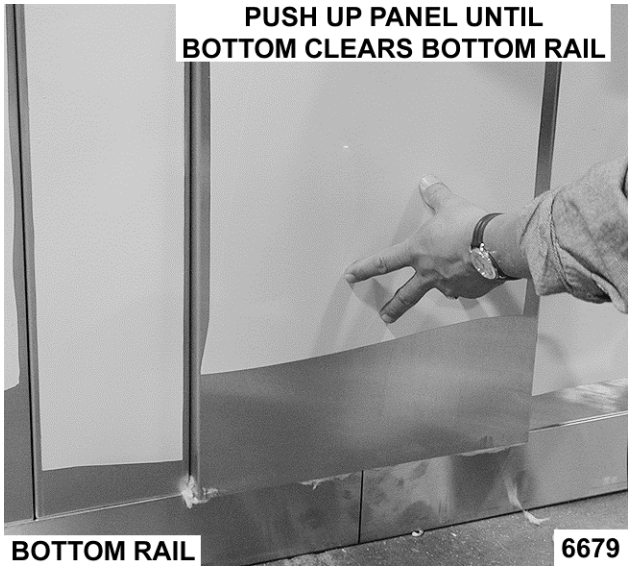


Fig. 30

C. Make sure that the panel is behind the rail of the lower frame and will rest against the stop when lowered into position.

D. Push the panel down against the stop.



Fig. 31

19. Connect rear drain if required.

    A. Using materials from provided drain kit (double rack ovens only), route the drain to either side of oven.

    B. Ensure drain slopes downward 1/4"per ft.

20. For OV500G2 & OV500E2 ovens only: Install insulation into ceiling channel.

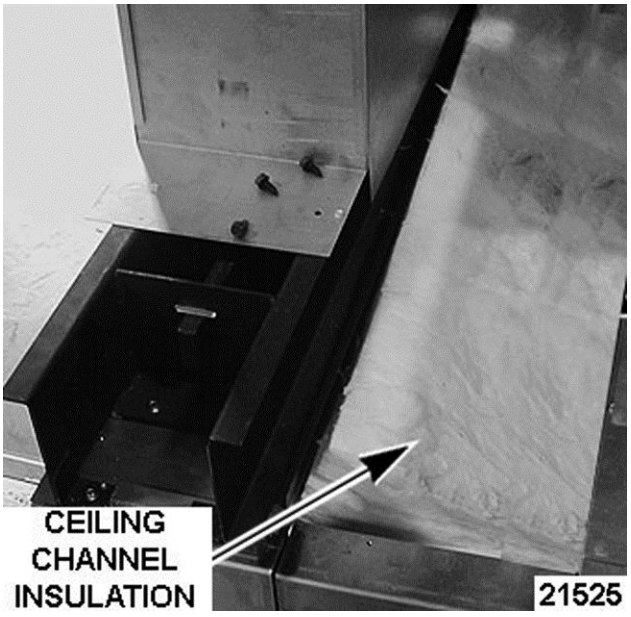


Fig. 32

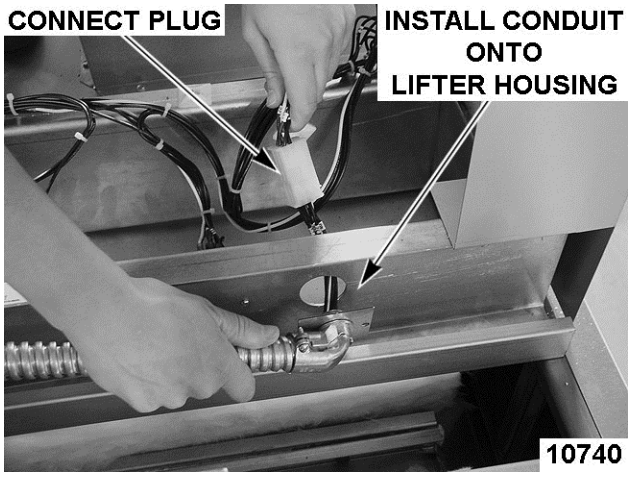
21. For OV500G2 & OV500E2 ovens only: Install ceiling channel cover with #10 Tek screws over the ceiling channel.



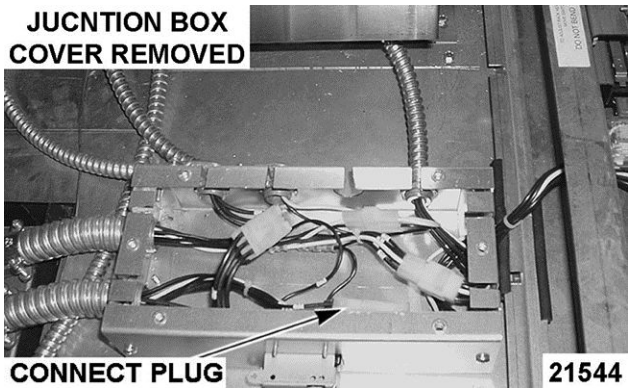
Fig. 33

22. Remove junction box cover to access connection plugs for rack rotation and rack lift. Connect plugs together and install raceway to top of oven.

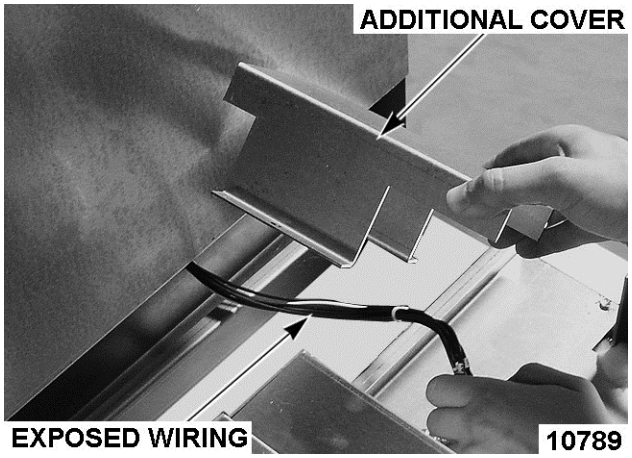
NOTE: Gas ovens will not have junction box, but conduit directly to component. Electric double rack ovens will have an additional cover to be installed over exposed wiring.



GAS OVENS



SINGLE ELECTRIC OVENS



DOUBLE ELECTRIC OVENS

23. If rear drain of oven is used install before oven is placed in final location.

24. Remove protective plastic from rear and sides of the oven that won't be accessible once the oven is in place.

NOTE: Do not damage building floor while installing dolly wheel or using front levelers. Use shims under floor levelers to prevent damage to building floor.

25. Remove lower latch ramp & bolts from the left bottom door jamb and install the dolly wheel.

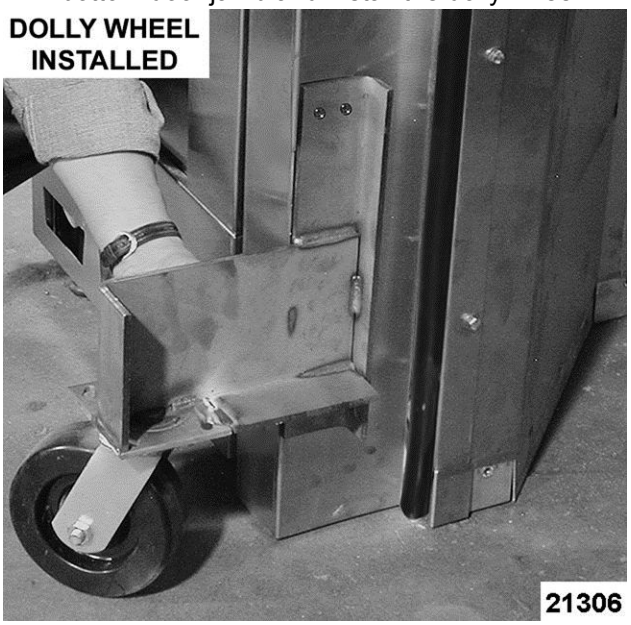


Fig. 37

NOTE: You may have to use the front levelers to raise the front of the oven to install the dolly wheel. Use care not to damage building floor.

A. Raise the front oven levelers so the weight of the oven is on the dolly wheel.

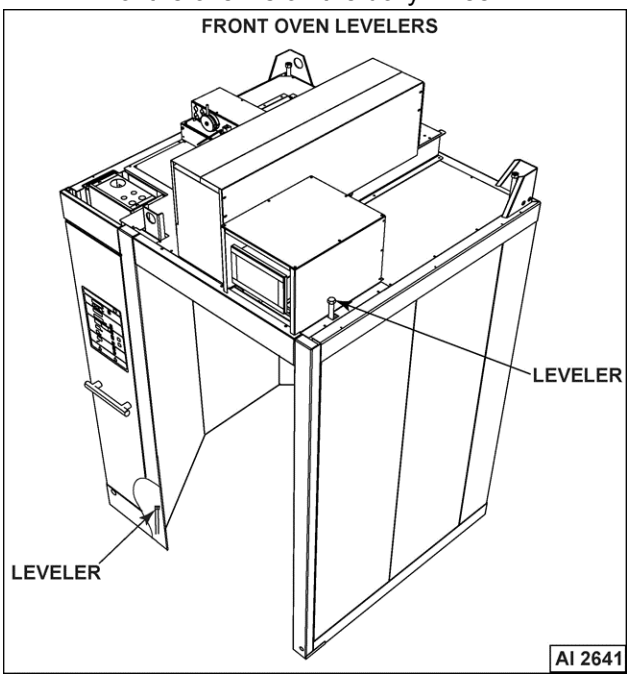


Fig. 38

B. Lower the rear wheels to raise the back of the oven from touching the floor.

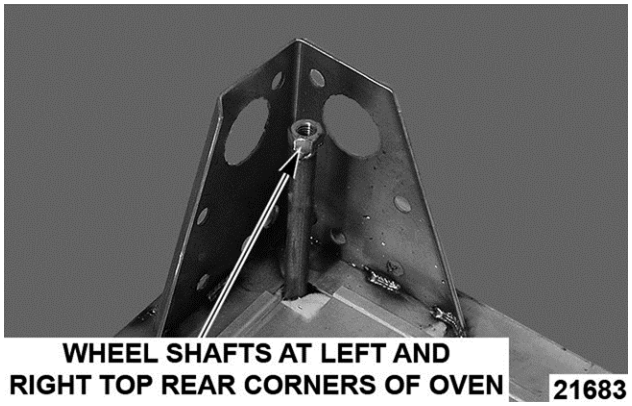


Fig. 39

NOTE: Raising the rear of the oven too much can cause the front of the oven to contact the floor.

26. Move the oven into the final position before lowering.
27. Place shim(s) per the height determined by the laser level technique to level oven.

NOTE: Review HOST course for laser level technique.

A. Temporarily position the threshold in place.

B. Verify oven to be level front to back and side to side.

NOTE: If shims are required to level the oven at the front right corner, shims(s) will need to be placed on top of threshold underneath the door jamb.

NOTE: If shims are required to level the oven at the rear corners, place shim(s) in front of the back wheels. If the rear of the oven is not accessible, place shims under heat exchanger floor and inner wall base angle.

NOTE: After oven is leveled and shimmed, raise the levelers to take the oven weight off all the levelers.

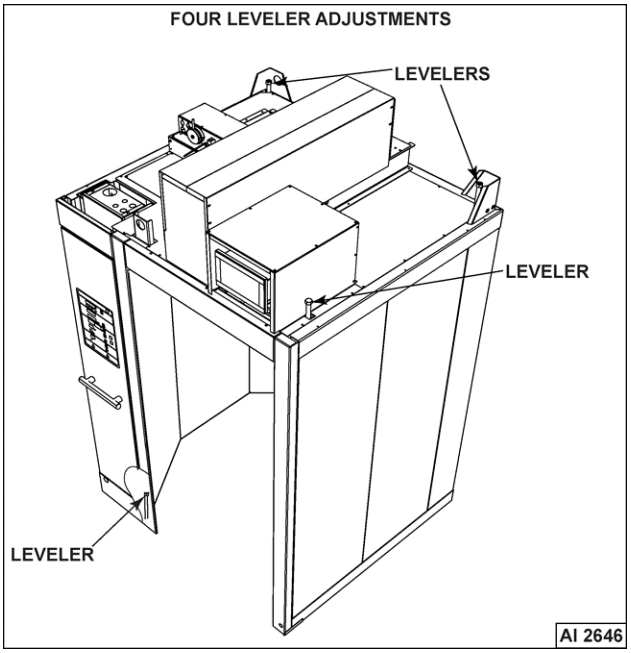


Fig. 40

28. Raise the back wheels to lower the oven. Weight of oven should be completely off back wheels.
29. Remove the dolly wheel and replace lower latch ramp.

NOTE: Retain the dolly wheel for future oven installations.

30. Place threshold into door jamb.

NOTE: Do not anchor threshold at this time.

31. Verify door opening is square.

A. Measure diagonal 'X' from top right innermost hinge screw to the bottom innermost hinge screw on the left door jamb.

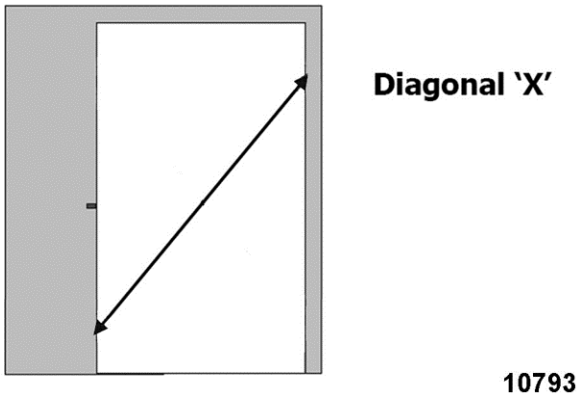


Fig. 41

B. Measure diagonal 'Y' from the top left innermost hinge screw to the bottom innermost hinge screw on the right door jamb.

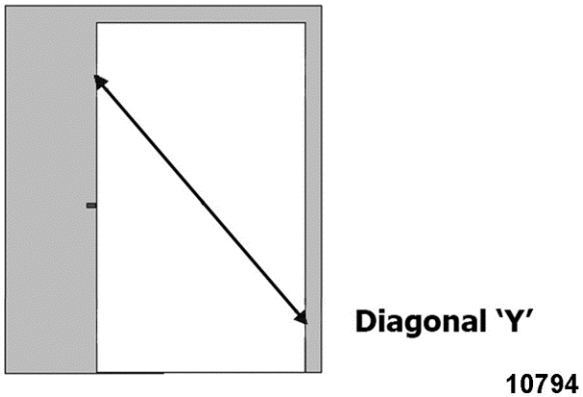


Fig. 42

C. If diagonal measurements are not within 1/8" of each other add additional shims as needed.

1) If diagonal 'Y' measurement is greater than diagonal 'X' measurement add shims under the right front door jamb. Place shims on top of threshold underneath the door jamb.

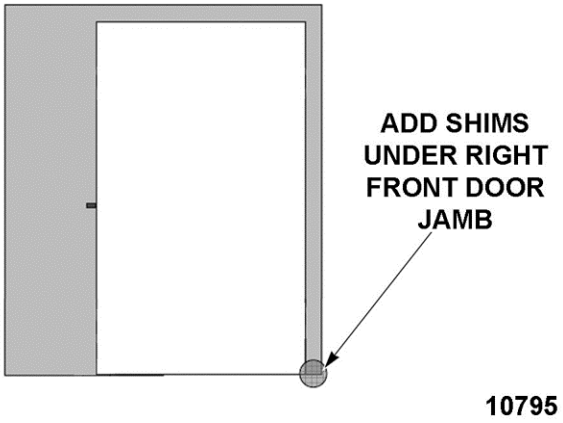


Fig. 43

2) If diagonal 'X' measurement is greater than diagonal 'Y' measurement add shims under the left front door jamb.

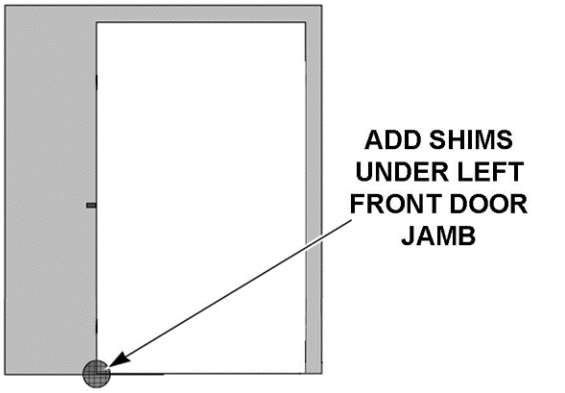


Fig. 44

D. Repeat procedure until diagonal measurements are within 1/8" of each other.

32. Install the door.

A. Open glass compartment door to remove door handle and set aside.

NOTE: Tab for opening to gain access to compartment.



Fig. 45

B. Close glass compartment door.

NOTE: Do not allow glass compartment door to slam shut.

NOTE: Loosen hinge bolts on the door assembly to assist in door installation.

C. Position the door at 90 degrees to the oven near the door opening.

D. Use a J bar to lift the door from center bottom.

E. Position the door over the hinges and then lower onto the hinge pins.

33. With the door open, visually check if door swings towards oven (closed position) on its own.

    A. If door swings towards oven, add shims to back corners of oven until door stops swinging on its own.

34. Remove bolts securing steam panel to oven.

    A. Lift panel up while tilting top of panel towards center of oven to remove from oven.



Fig. 46

35. Remove screws securing drain pan cover to oven.

    A. Pull cover out from suction panel while lifting up right side of cover then pushing cover towards the right rear corner of baking compartment and out from oven.

NOTE: Use care when removing cover not to scratch baking compartment walls.



Fig. 47

36. Lower drain pan support bolt until bolt comes in contact with the floor.

NOTE: Bolt used to support steam system weight.

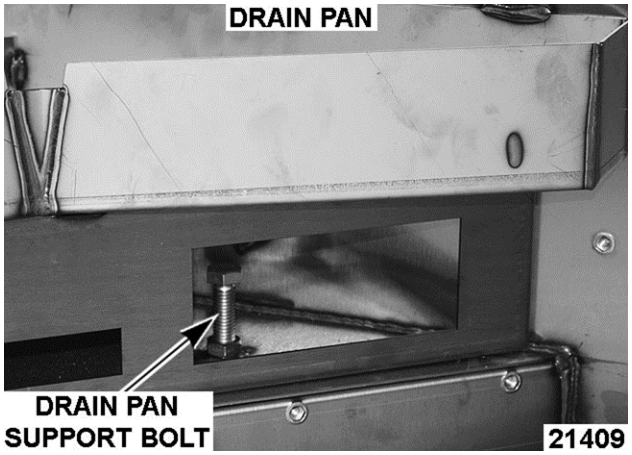


Fig. 48

37. Install drain pan cover.

FLOOR / THRESHOLD

1. Move threshold halfway out from oven.
2. Caulk around baking compartment to facility floor seam with red RTV silicone.



Fig. 49

3. Run a bead of red RTV silicone on the entire outer edge of both floor panels.
4. Install floor panel without offset. Edge goes up.
5. Run two beads of red RTV silicone on the flange of floor panel without offset.
6. Install the floor panel with the offset. The floor panel with offset fits over the floor panel without offset.

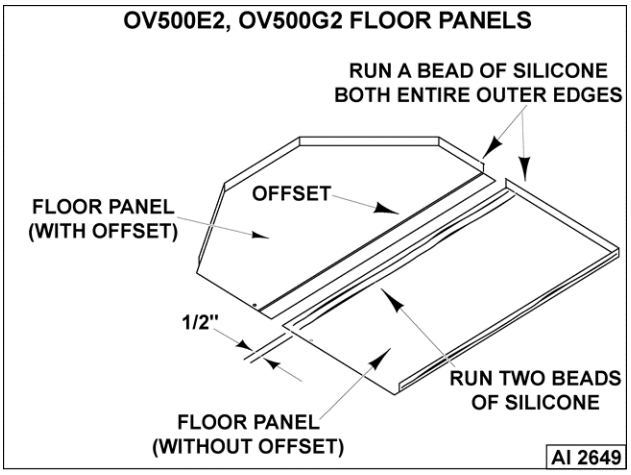


Fig. 50

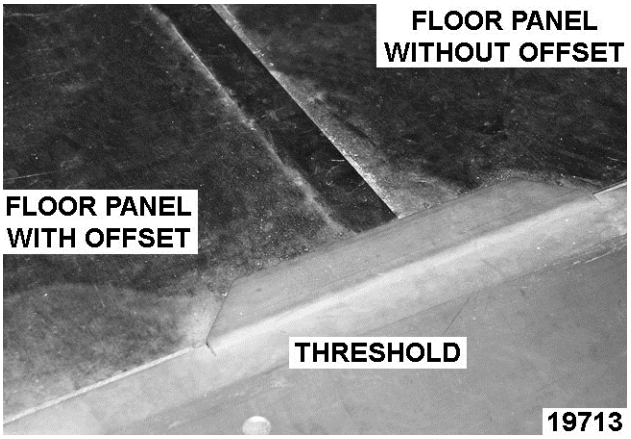


Fig. 51

7. Slide threshold under door jamb. Ensuring the three threshold tabs are installed over the oven floor.

NOTE: Use a hammer and 2X4 to tap threshold against oven floor. A 1/8" gap between oven floor and threshold is acceptable.

NOTE: If shims were required to level oven and square the door jamb at the front right corner, place shims(s) on top of threshold underneath the door jamb. Threshold is approximately one shim thick.

8. Install floor trim. Wait until later in the procedure to tighten screws.
9. Drill & tap into door jamb at threshold clearance holes.
    A. Secure threshold to door jamb with 10-32 X 1/2" screws, secure left side first.

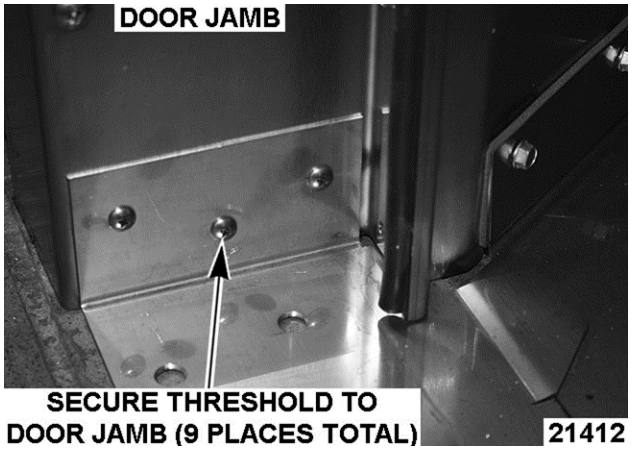


Fig. 52

10. Anchor threshold to facility floor.

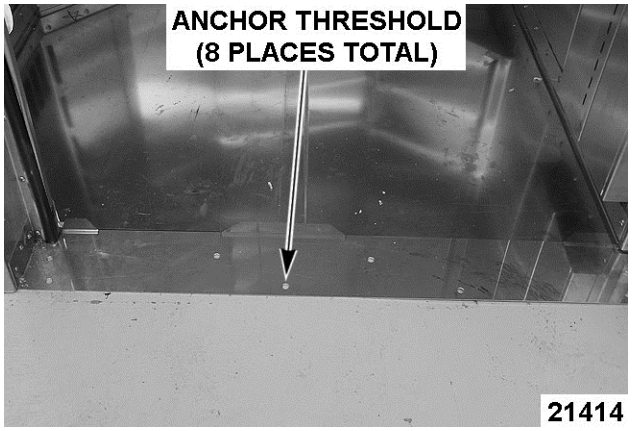


Fig. 53

11. Tighten floor trim screws.
12. Caulk gap between oven floor and threshold with gray silicone.

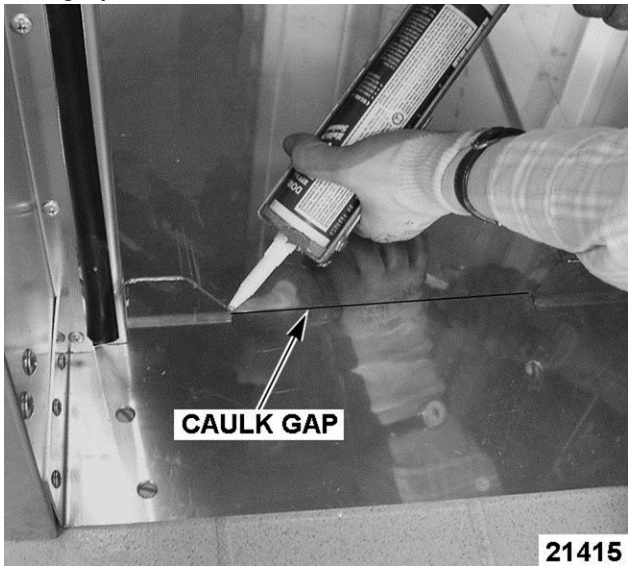


Fig. 54

13. Caulk door jamb gaps with gray RTV silicone.

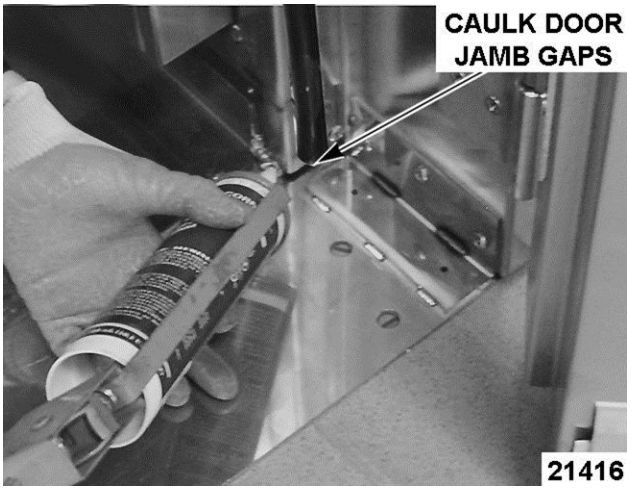


Fig. 55

STEAM SYSTEM

Installation

1. Remove top & left air guides from oven wall.
2. Run a bead of red RTV silicone between drain pan and rear oven wall.

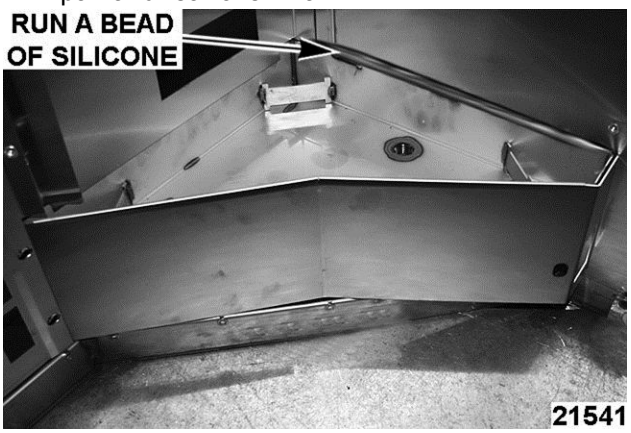


Fig. 56

3. Start by setting the first steam ball assembly flat on the oven baking compartment floor (left rear corner).

NOTE: For OV500G1 & OV500E1 ovens, place first steam ball assembly on spacers to obtain correct height.

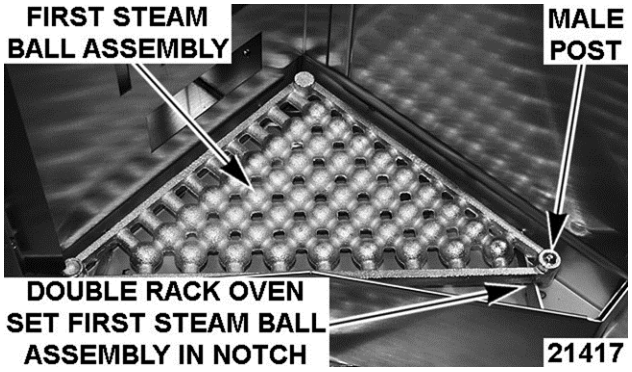


Fig. 57

4. Install splash panel with angled ledge on top of first steam ball assembly and the baffle supported by the back wall.

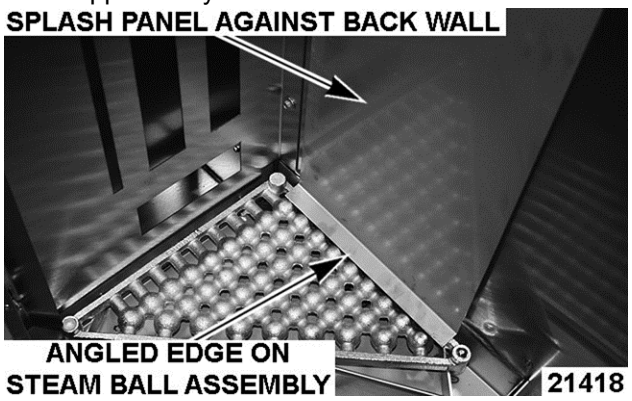


Fig. 58

5. The next steam ball assembly must be put in place matching the female post with male post of previous assembly (total of 30 or 38 sections for OV500G2-EE & OV500E2 ovens, total of 15 sections for OV500E1, and total of 20 sections for OV500G1-EE ovens to install).

NOTE: The assemblies will not set level if the sections are not oriented correctly.

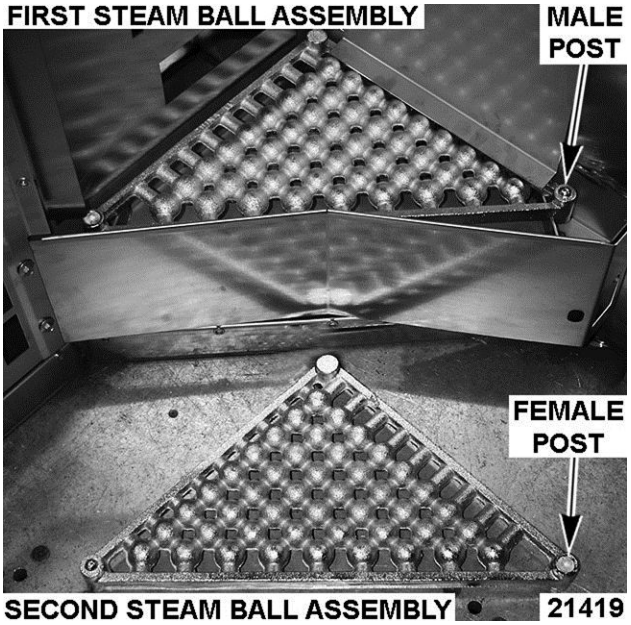


Fig. 59

6. Before all assemblies are installed, slide spray guard onto manifold. Align manifold with steam ball assemblies. Allow spray guard to hang on manifold.

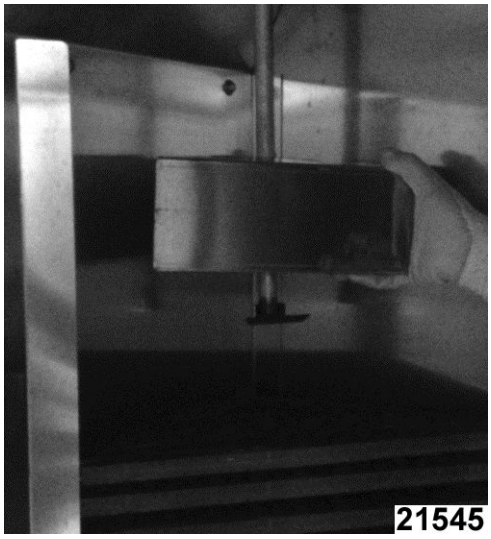


Fig. 60

7. After all assemblies are installed, install water guides to edge of assemblies.

8. Begin with the top assembly and install water guides over front rim of the top, then every other assembly (total of 15 or 19 water guides for OV500G2 & OV500E2 ovens, and total of 7 water guides for OV500G1 & OV500E1 ovens).



Fig. 61

9. Install both corner air guides.

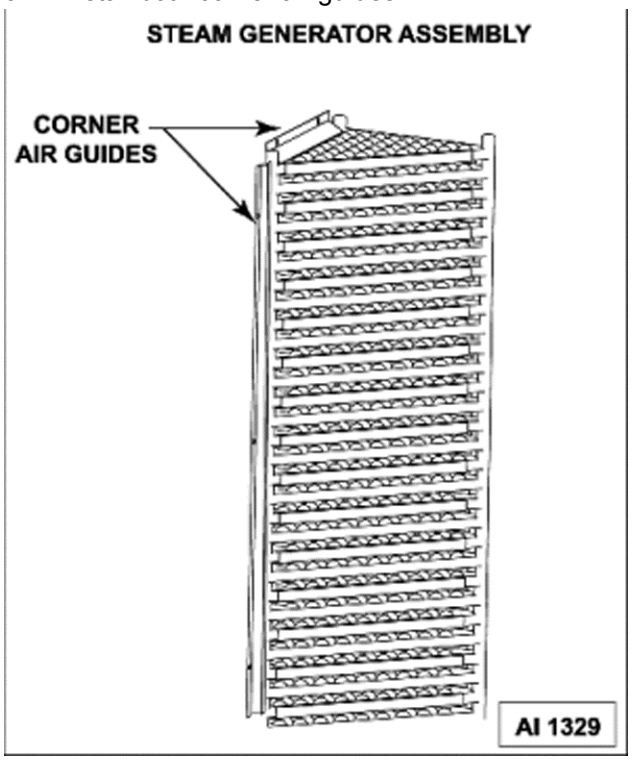


Fig. 62

10. Position spray guard to rest on top of steam ball assemblies.



Fig. 63

11. Install left baking compartment panel.
12. Align steam panel with screw inserts in baking compartment ceiling (left rear corner) and loosely secure panel to ceiling with 1/4-20 X 3/4" hex head serrated flange screws.

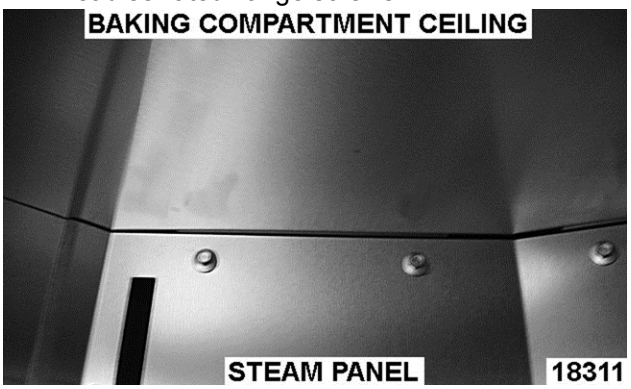


Fig. 64

13. Secure steam panel to rear baking compartment panel with 1/4-20 X 3/4" hex head serrated flange screws.

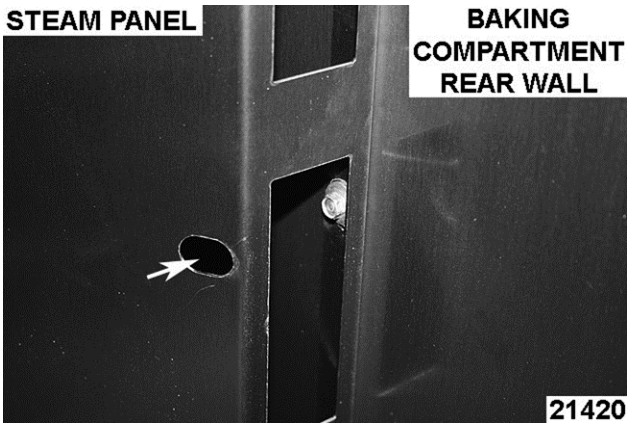


Fig. 65

14. Secure steam panel to left baking compartment panel with 1/4-20 X 3/4" hex head serrated flange screws.

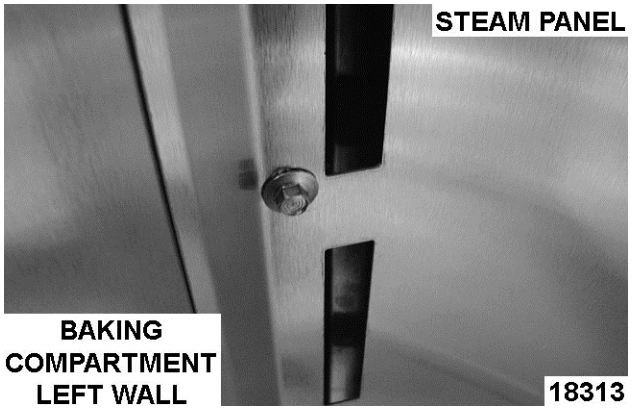


Fig. 66

15. Tighten screws at top of steam panel.

DOOR HANDLE

1. Remove pivot screw from door handle pivot bracket on door assembly.

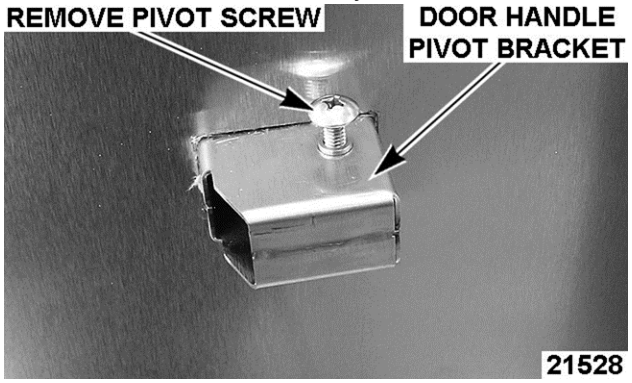


Fig. 67

2. Install door handle onto pivot bracket and insert screw removed earlier.



Fig. 68

   A. Push door handle locking end onto door handle locking mount until handle locks onto mount.

NOTE: Ensure lock mechanism is in the unlocked position.

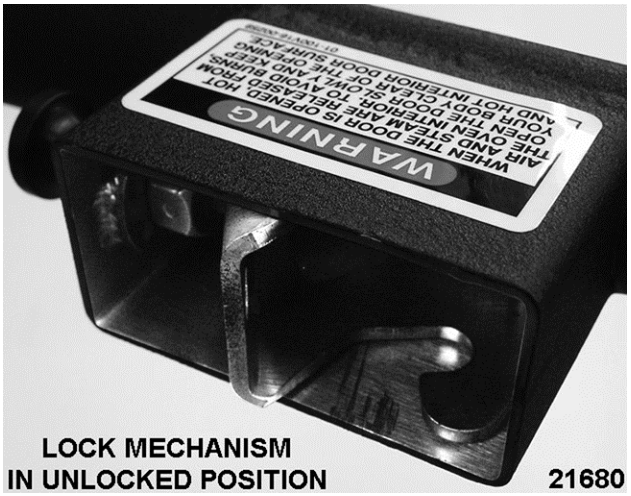


Fig. 69

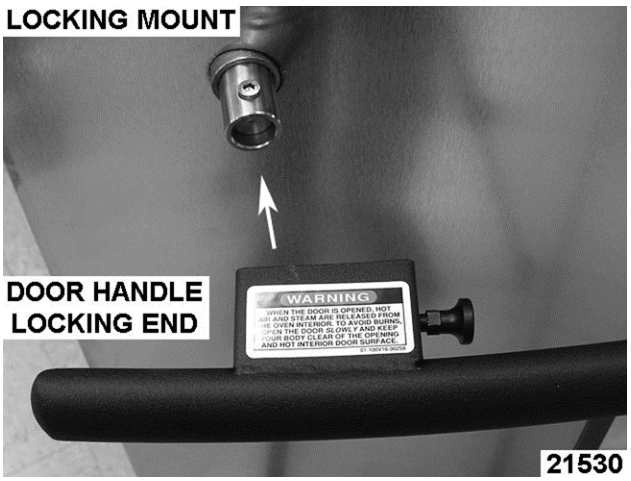


Fig. 70

DOOR ASSEMBLY

1. Observe the following:

   A. With the door closed, visually check gap around door jamb and edge of door, gap should be equal on both sides.



Fig. 71

NOTE: If the door rubs against the jamb or drags the facility floor when opening, verify oven for levelness. If leveling does not correct the problem then call Bakery Service Support.

B. Adjust door hinge inward or outward until door has an air tight seal against door gasket. Apply loctite #242 to screw threads before tightening screws.

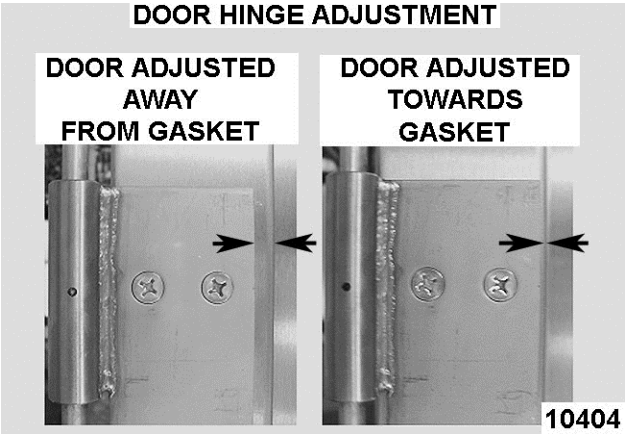


Fig. 72

2. Verify door latches properly.

   A. Insert a piece of paper between door jamb and door gasket on both sides & top of door.

   B. If paper is loose, door latches will need adjusted.

3. To adjust door latches:

   A. Loosen mounting screws and adust latches towards door gasket. Apply loctite #242 to screw threads before tightening screws.

NOTE: Adjust both latches the same distance so door assembly will not close in a bind.



Fig. 73

4. Repeat the process until desired results are obtained.

DOOR SWITCH ACTUATOR

1. Remove door switch guide plate from left side of door jamb to gain access to actuator rod housing.

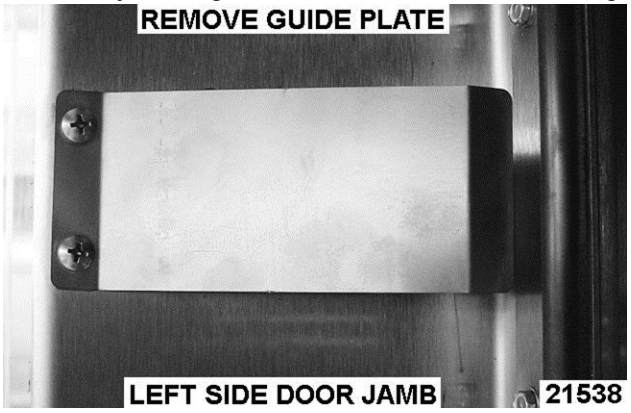


Fig. 74

2. Insert door switch actuator rod into actuator rod housing.

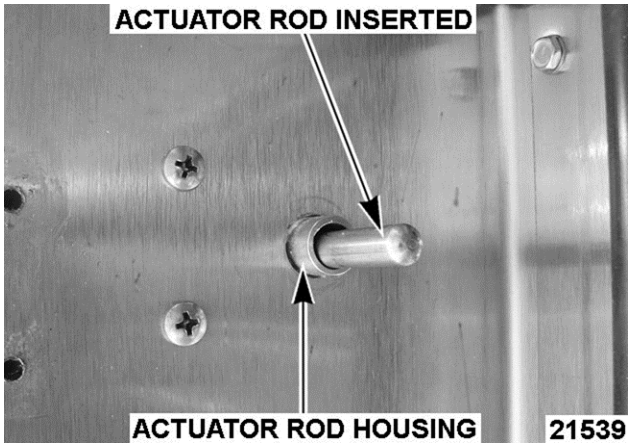


Fig. 75

3. Install door switch guide plate.
4. Check door switch for proper operation and adjust switch as needed.

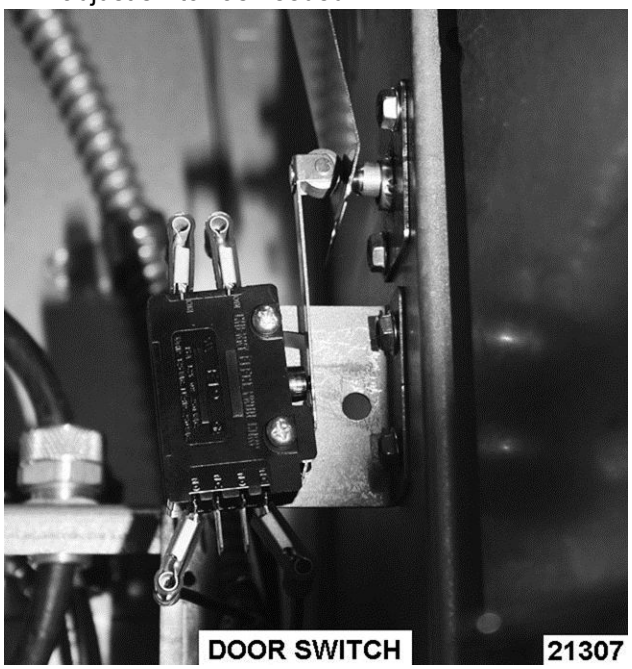


Fig. 76

DOOR SWEEP

1. Install door sweep.

NOTE: Door sweep shipped with door assembly.

A. Adjust the door sweep so the metal door seal plate is 5/16" from the highest point on the floor.

NOTE: Door sweep has slots for adjustment.



Fig. 77

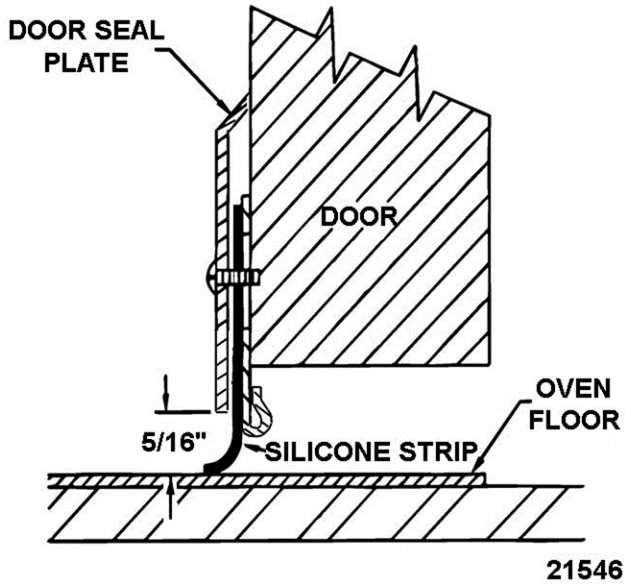


Fig. 78

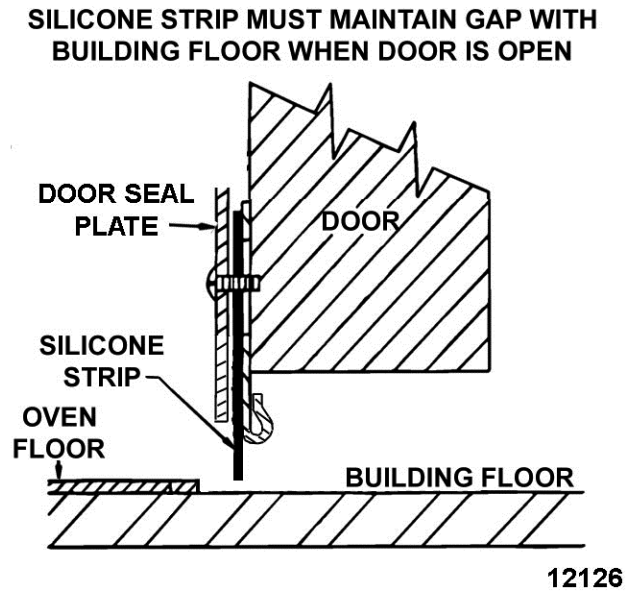


Fig. 79

RACK CARRIER

NOTICE Pushing up on lift shaft could damage the rotation switches.

1. Plumb carrier shaft.
   A. Remove snap ring, shipping washer and protector sleeve from lift shaft. Discard shipping washer and protector sleeve.

NOTE: B & C lifts attached at the factory, remove lift before plumbing carrier shaft. A lift does not need to be removed.

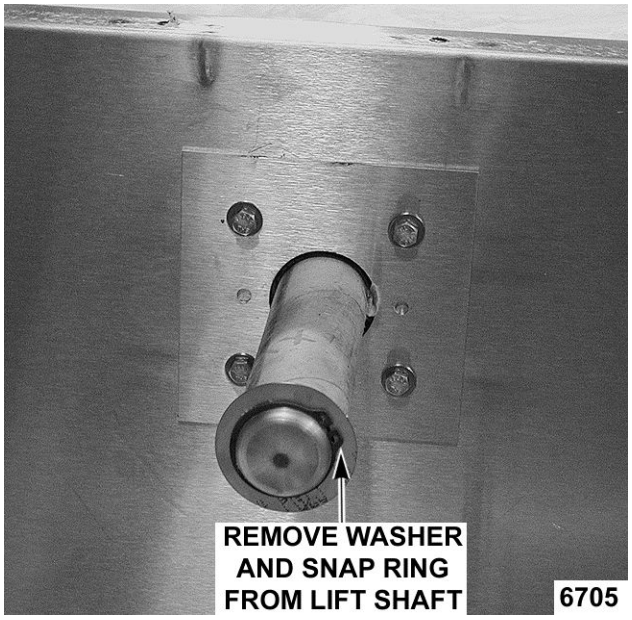


Fig. 80

   B. Plumb the carrier shaft. To plumb, loosen rotator housing clamp screws and adjust shaft until plumb. Tighten screws.

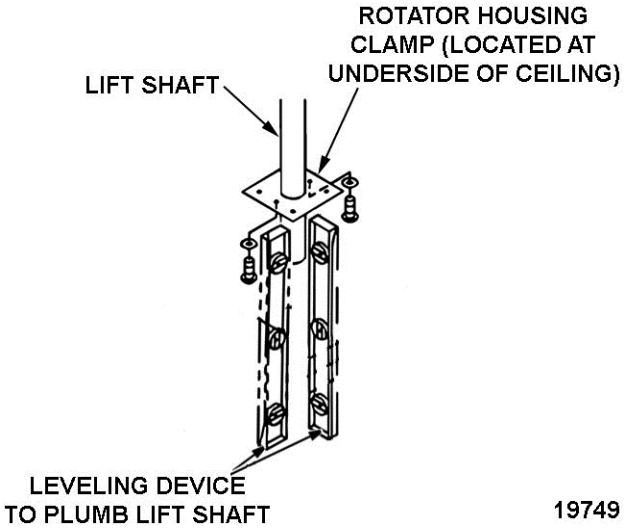


Fig. 81

   C. Mark or scribe both of the unused holes in the rotator housing clamp.
   D. Drill and tap both holes in rotator housing clamp. Install a 1/4-20 X 3/4" hex head, lock washer, & washer in each hole to lock down housing clamp.

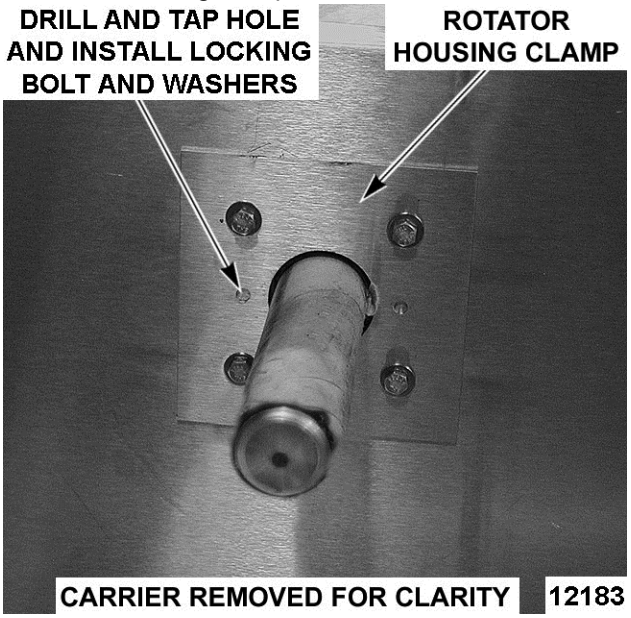


Fig. 82

2. Install the rack carrier.
   A. Start the set screws into the carrier.

NOTICE Pushing up on lift shaft could damage the rotation switches.

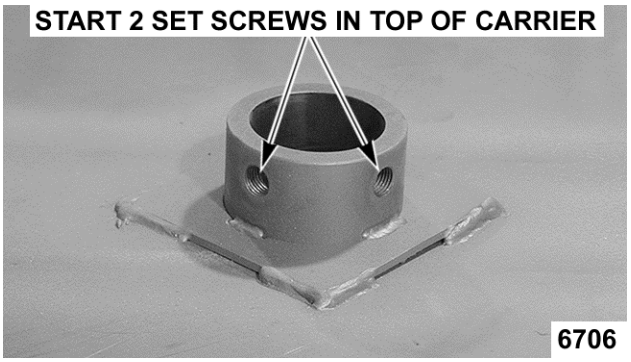


Fig. 83

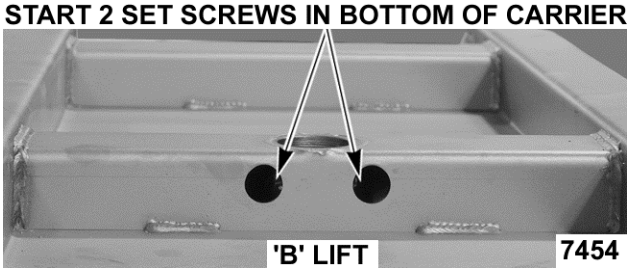


Fig. 84

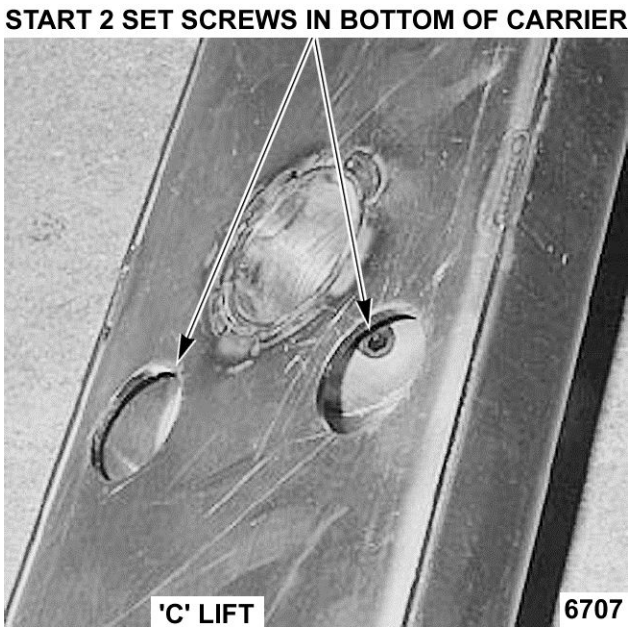


Fig. 85

B. Slide the carrier onto the lift mechanism shaft and install the washer and snap ring.

NOTE: Do Not allow the lift mechanism shaft to move upward. Hold shaft down from top of oven.

C. Snug the set screws to hold the carrier in place.

3. Remove shipping ties from rotator assembly and vent lid.

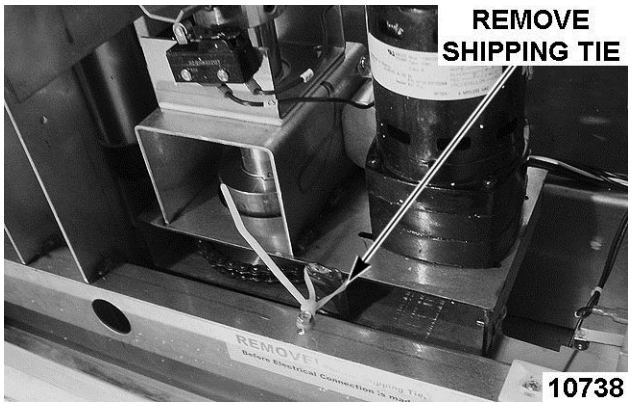


Fig. 86

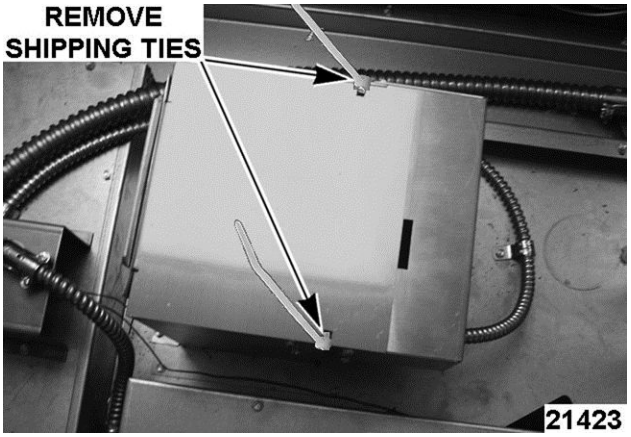


Fig. 87

HOOD ASSEMBLY

NOTE: After the hood is installed the door assembly can not be lifted off the hinge pins. The door assembly would have to be removed & installed from the door hinges.

1. Set hood on the floor in front of oven (if hood supplied). Remove only the necessary protective plastic from the hood.

A. Attach side panels with 10-32 screws 10 screw holes to the back of the hood, and ensure that the 3 screw holes are to the rear on each side panel. Align top of hood up with the top edge of side trim panels before tightening the screws.

NOTE: Notches in side panels to rear.

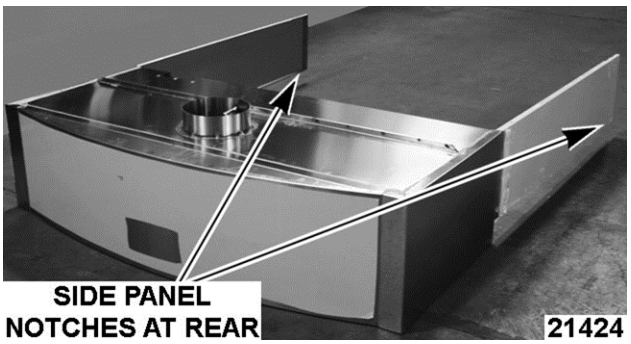


Fig. 88

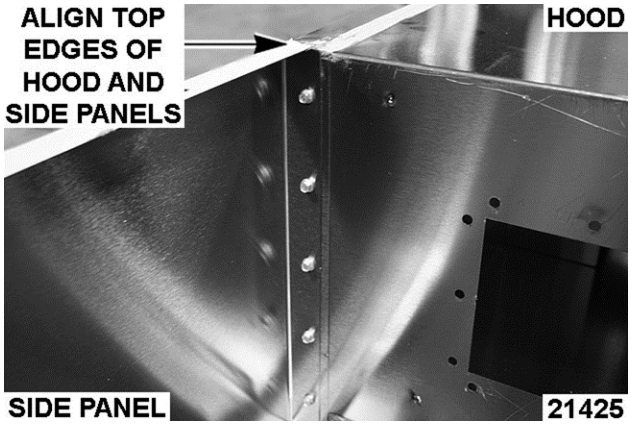


Fig. 89

B. Attach rear panel to each side panel with 10-32 X 3/4" screws.

NOTE: If clearance is a problem, don't install the rear panel, set hood with side panels in place first.

C. Set hood in place on top of oven.

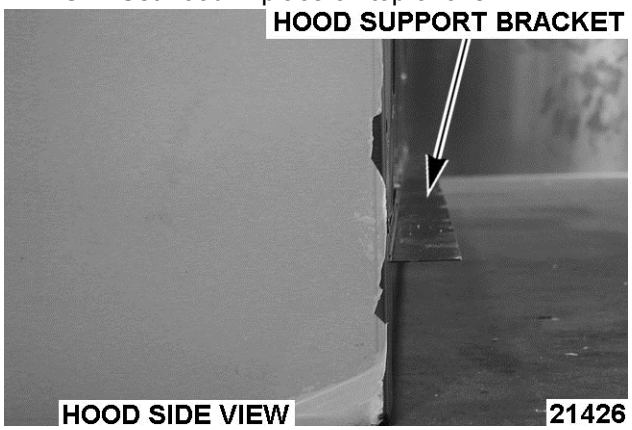


Fig. 90

D. Ensure hood support bracket sets on front top edge of oven.

E. Ensure bottom edge of hood is aligned with bottom edge of oven support.



Fig. 91

F. Secure side panels with #10 Tek screws into top of oven.

G. If not attached in previous steps, attach rear panel of hood.

H. Secure hood support bracket to top of oven with #10 Tek screws.



Fig. 92

2. Remove perforated air baffle from hood.



Fig. 93

3. Connect the over pressure vent (Right side of hood) using #10 Tek screws 8 places total.

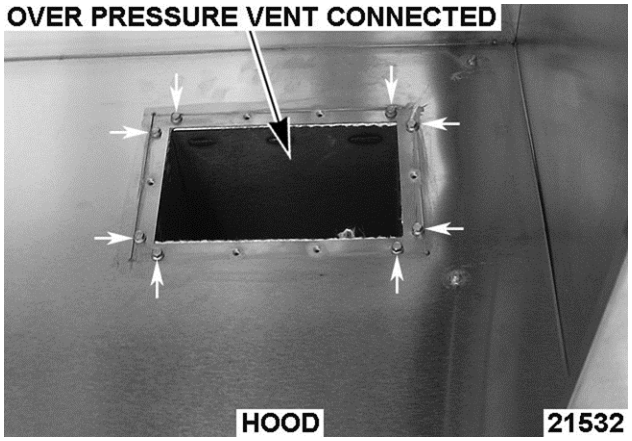


Fig. 94

4. Install over pressure damper to over pressure vent (right side of hood) using #10 Tek screws.



Fig. 95

5. Caulk seams at hood and side panels also bottom edge seam of hood along oven front with gray silicone.



Fig. 96

6. Customer is responsible for having a flue pipe connected to the center hood connection. See aproreate oven secification.



Fig. 97

SINGLE POINT VENTING

Gas Ovens

1. Install exhaust collar and duct with 1/4-20 X 1/2" flanged head screws between draft inducer and hood.

NOTE: Electric oven install a hood inclosure plate to close off exhaust collar opening in hood.

NOTE: After aligning the duct use a Tek screw to hold duct in place with collar. Single Rack ovens have a hole located on top. Double Rack ovens have a hole located on bottom inside hood to secure before attaching baffle.

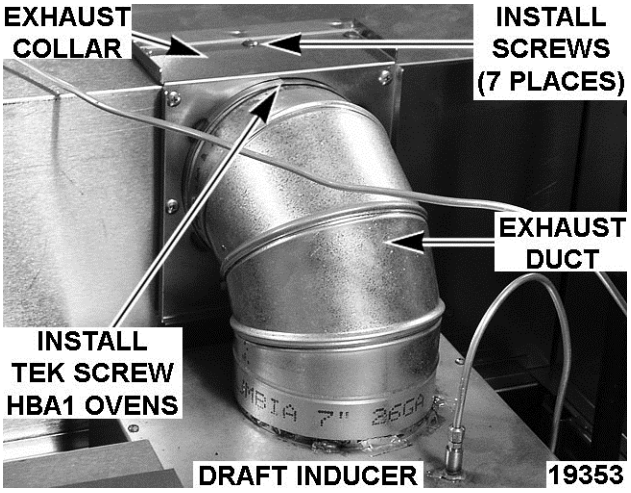


Fig. 98

2. Seal exhaust duct connection seams at draft inducer and exhaust collar with aluminum duct tape.

3. Connect the hood exhaust tube at hood exhaust pressure switch. Switch location on side of control panel inside control compartment. Leave tubing coiled in control compartment.

NOTE: Defer connecting the tube to the flue connection until start up.

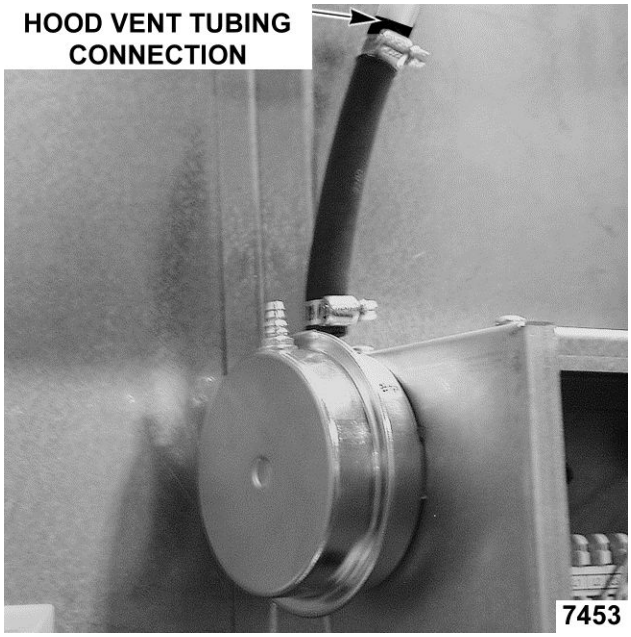


Fig. 99

AIR BAFFLE & GREASE FILTERS

1. Install perforated air baffle with 1/4-20 acorn nuts.
2. Install grease filters for type 1 hood or install perforated plenum panel for type 2 hood.

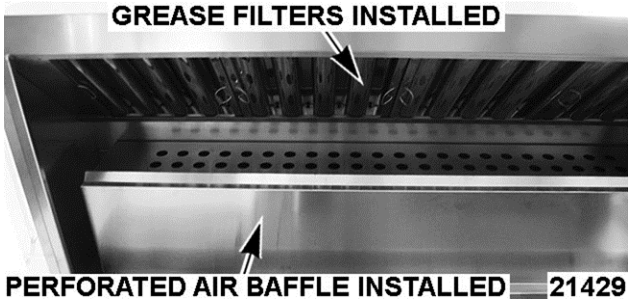


Fig. 100

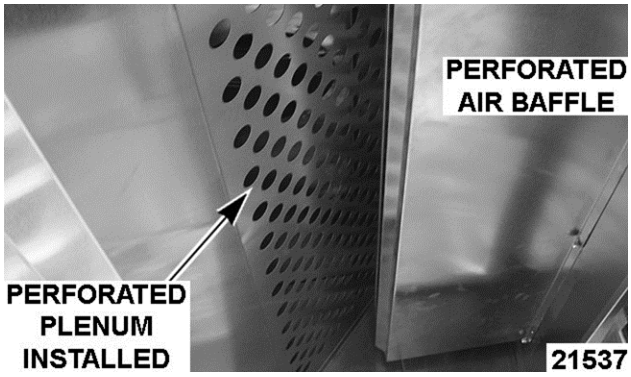


Fig. 101

CAULK OVEN

1. Caulk around oven with gray RTV silicone.

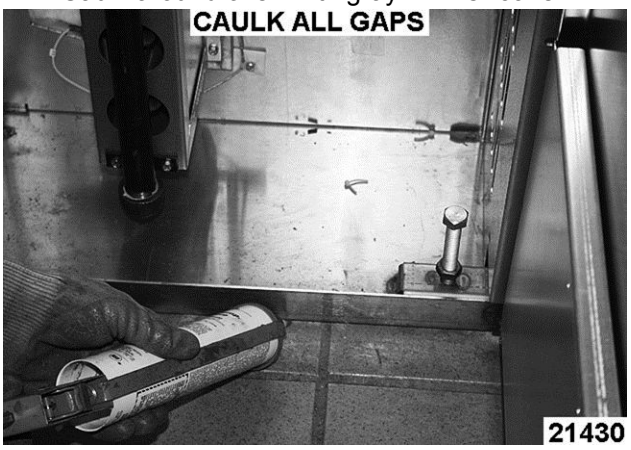


Fig. 102

INITIAL START-UP



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures. There may be multiple circuits. Be sure all circuits are disconnected.

NOTE: Remove all protective plastic sheeting from oven surfaces and wipe down to remove all fingerprints, prior to heating oven.

Power and Plumbing Connections

NOTE: All utility connections by others.

Verify the following:

- Gas supply line shut-off valve is in the OFF position (Gas Ovens Only).
- Gas supplied matches data plate and gas valve on oven (Gas Ovens Only).
- Gas valve is in the OFF position (Gas Ovens Only).
- Electrical connections have been made by electrician. 120V control, high voltage, and powered roof ventilator (external device).

NOTE: Refer to the service entrance label on the oven for electrical connections.

- Turn the 120V supply power ON.
- Turn the under voltage and 3 phase heating element circuit breakers ON (Electric Oven Only).

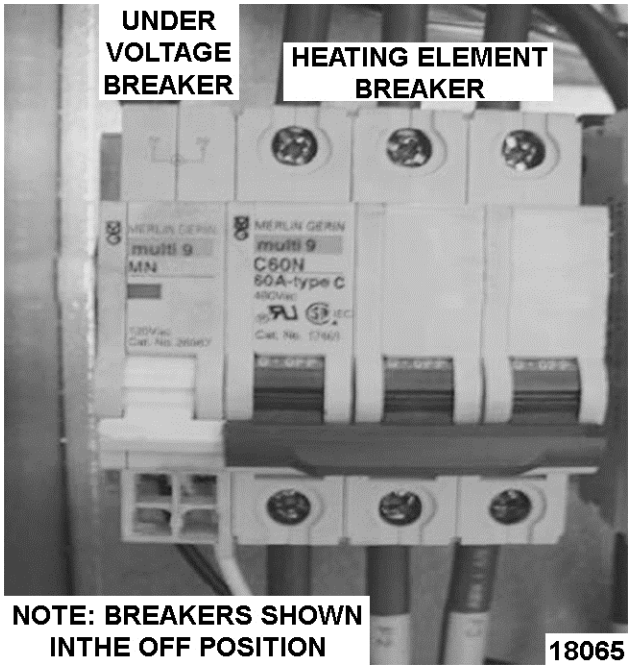


Fig. 103

- Drain connected (with air gap) by plumber and opposite end of drain plugged.
- Water line is connect by plumber to flow restrictor located on top left rear corner of oven.
- Water shut off is installed in supply line.

NOTE: If a water filtration unit is installed in supply line, verify that a filter cartridge is installed in unit (performed by customer).

NOTE: Refer to oven installation checklist and complete during initial start-up.

1. Connect hood exhaust pressure switch tubing to hood exhaust connection.

NOTE: Make sure that there is a point in the tubing that is higher than flue pipe connection before tubing is routed to the hood exhaust pressure switch. This will help prevent the tube from clogging.

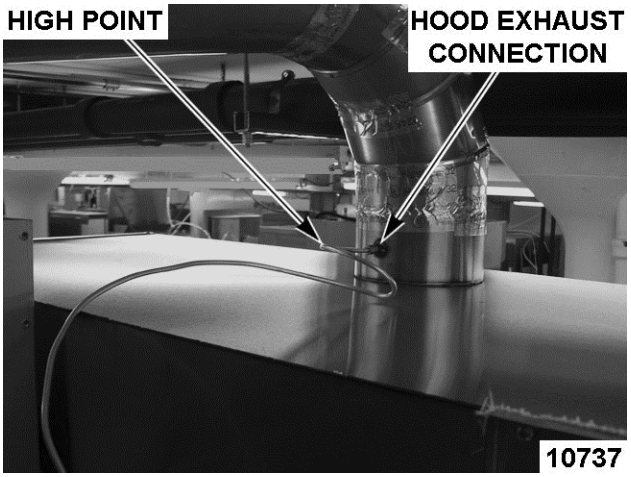


Fig. 104

2. Close oven door.
3. Turn oven power ON. Use DOWN ARROW keys select lowest bake temperature so oven will not initiate a call for heat.
4. Verify operation of roof mounted ventilator.

NOTE: Verify plenum panel or grease filters installed.

   A. Remove vacuum line near hood exhaust pressure switch and connect incline manometer or equivalent.

      1) Single-point venting (All Ovens) Minimum reading should be: -0.6"W.C., -15.2 mm W.C., or -0.15kPa.

NOTE: Standard hood reading of -0.3" W.C., -7.6 mm W.C.,or -0.08 kPa is acceptable if air volume is verified as noted in specifications.

   B. Disconnect manometer and reconnect vacuum line onto hood exhaust pressure switch.

5. Verify air louvers are set at factory settings.
6. Verify that rack carrier height will accept racks when loading and no drag when rack is in the raised position.

NOTE: Racks expand when hot. There should be approximately 1/2" clearance from bottom of carrier to top of rack. Check at least two racks to verify rack acceptance into carrier.

7. Verify that rack is level and rotating properly when door is closed; and rack stops in the correct loading position when door is opened.
8. Verify that baking compartment circulation blower is turning in direction indicated on motor. If not, disconnect power and switch any two of the three phase lead wires.

9. Verify steam system operation.
    A. Set oven control to have 1 plus minutes on bake timer display.
    B. Set steam time for 20 seconds.
    C. Press START key to begin timer countdown.
        1) Water solenoid should energize.
    D. Press STOP key to silence beeper.
10. Ignition Sequence Check (Gas Ovens Only). IGNITION SEQUENCE CHECK

NOTE: Ignition module will make three attempts to light burner before locking out.

NOTE: Remove power from ignition control module by turning main circuit breaker to oven off.

A. Turn gas valve off to test ignition sequence check.
B. Set oven to call for heat by pressing bake temperature display UP ARROW key, until HEAT ON LED illuminates.

1st ATTEMPT

C. Draft inducer energized for 15 seconds pre-purge cycle.
D. Hot surface igniter glows indicating that it is energized.
E. 2 seconds after igniter was energized, gas valve solenoid is energized.
F. After igniter has been energized for 4 seconds, flame sensor will not have recognized a flame.
    1) Power is removed from igniter and gas valve.

2nd ATTEMPT

G. 30 second inter-purge cycle.
H. Hot surface igniter glows indicating that it is energized.
I. 2 seconds after igniter was energized, gas valve solenoid is energized.
J. After igniter has been energized for 4 seconds, flame sensor will not have recognized a flame.
    1) Power is removed from igniter and gas valve.

3 rd ATTEMPT

K. 30 second inter-purge cycle.
L. Hot surface igniter glows indicating that it is energized.
M. 2 seconds after igniter was energized, gas valve solenoid is energized.
N. After igniter has been energized for 4 seconds, flame sensor will not have recognized a flame.
    1) Power is removed from igniter and gas valve.
O. After three tries for ignition and the burner has not lit, there will be an additional 15 second purge time.
P. LED on ignition control will flash in a 3 flash sequence indicating a flame recognition failure and that the control is in lock-out mode.
Q. Open the door for 5 seconds will reset the ignition module.
R. This indicates the safety lock-out circuit is functioning properly.

11. Gas Pressure Adjustment (Gas Ovens Only).
    A. Connect a manometer or equivalent to inlet and outlet pressure taps on gas valve.
    B. Turn gas supply ON to oven and check for leaks between gas valve and supply line shut-off valve.
    C. Verify that the static line pressure to the oven does not exceed 14" W.C. (1/2 psig, 35.6 cm W.C., 3.5 kPa)

NOTE: If static line pressure exceeds 14" W.C. (1/2 psig, 35.6 cm W.C., 3.5 kPa) the customer must supply and install a line pressure regulator to drop the pressure below 14" W.C., 35.6 cm W.C., 3.5 kPa

D. Turn gas valve ON.
E. Set the oven to call for heat.

NOTE: It may take several ignition attempts to light burner initial time.

F. With oven burner flame established and with the burners lit for all other equipment that are common to supply line, check supply flow pressure. (SUPPLY FLOW PRESSURES CHART)
G. With a burner flame established, adjust manifold pressure as indicated on the oven **data plate**.

NOTE: The altitude correction chart is for reference only (ALTITUDE CORRECTION CHART). If the manifold pressure must be adjusted to accommodate

the installation altitude you must contact Bakery Product Support for a corrected data plate.

12. Initial heating of oven (All Ovens).
    A. Press the VENT key to open baking chamber vent.
    B. Leave loading door ajar approximately 2" to evacuate smoke and prevent tarnishing of oven interior, but not open far enough to prevent operation of oven.
    C. Set the oven control baking temperature to 300°F (150°C.). and bake timer for 30 minutes.
    D. After time elapses, press STOP key to silence beeper.
    E. Fully open loading door to verify that baking compartment circulation blower de-energizes.
    F. Set the oven control baking temperature to 400°F (200°C.). and bake timer for 30 minutes. Leave loading door ajar approximately 2".
    G. After time elapses, silence the beeper and allow oven to heat for an additional 30 minutes with loading door closed.
13. Combustion analysis (Gas Ovens Only).
    A. Allow oven to cool to 300°F (150°C.).
    B. Set oven temperature to 450°F (230°C.) and with burner flame established, insert combustion analyzer meter into air sampling hole and take combustion measurements O2 and CO air free readings.

NOTE: Insert probe 8" into chamber.

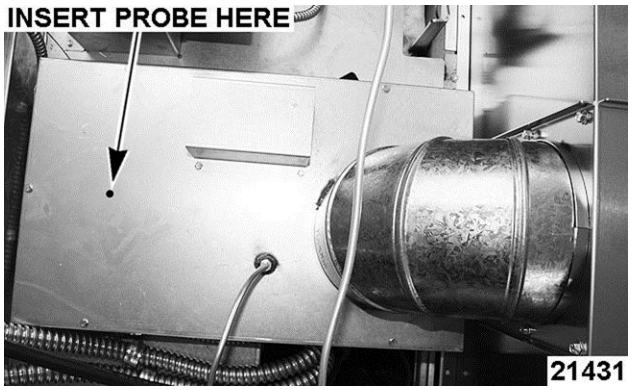


Fig. 105

O2: (Range 6% to 10%)
CO Air Free: Not to exceed 0.04% (400PPM)

    1) If reading can not be obtained, adjust the draft inducer baffle and retest for combustion.

NOTE: If combustion readings still can not be obtained, contact Bakery Product Support.

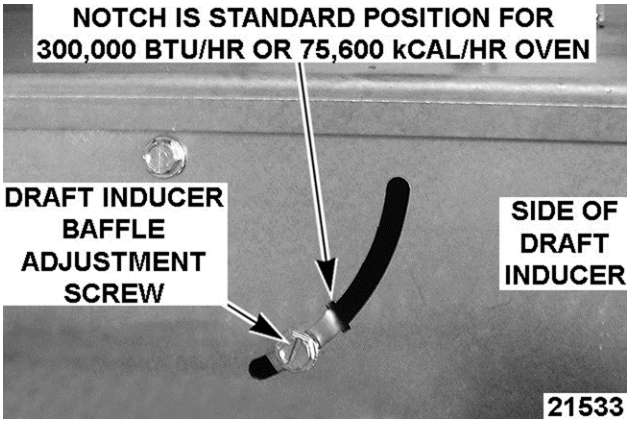


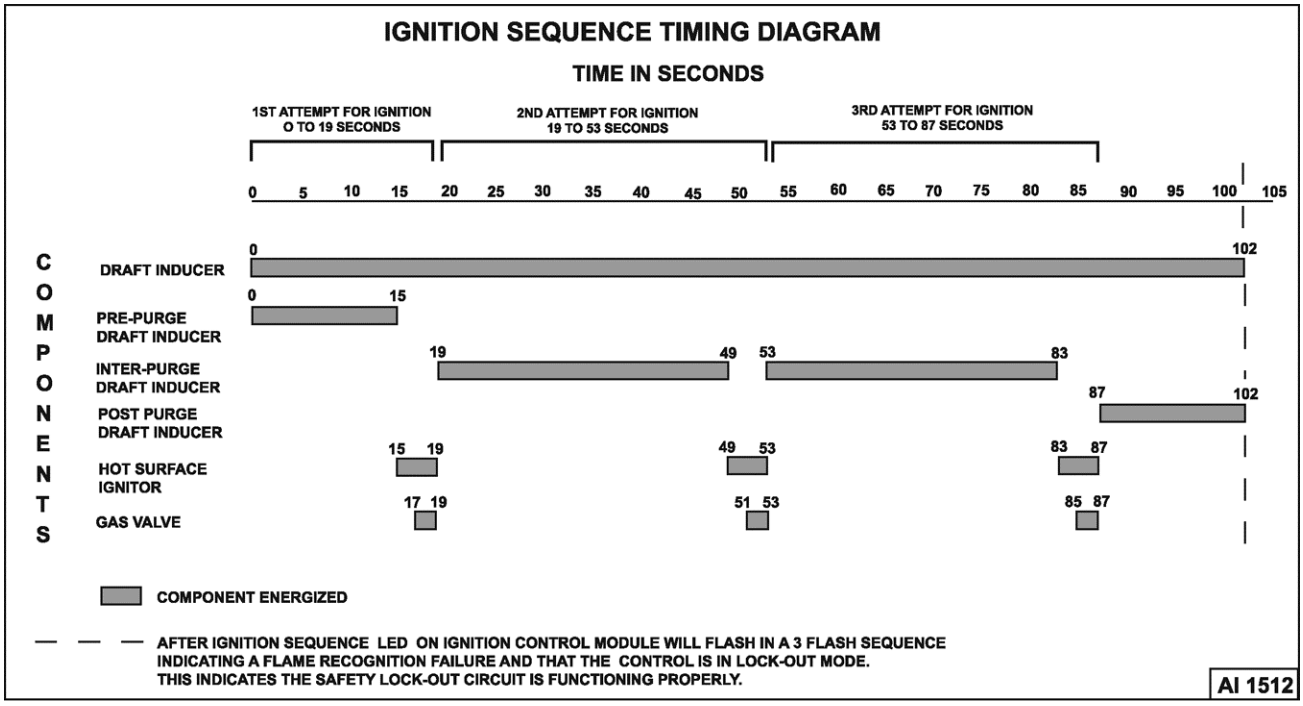
Fig. 106

14. Press VENT keypad on oven control to close baking chamber vent.
15. Steam test.
    A. With oven temperature at 450°F (230°C.) set 20 seconds on steam timer, 1 minute on bake timer, and press START key to initiate steam test.
    B. Check for steam leakage around and under loading door. If leakage is present, adjust door catch and/or door sweep as required. On wide view window doors adjust the door hinges.
    C. After time has expired press STOP key to silence beeper.
    D. With loading door closed. Allow oven to heat for 20 minutes at 450°F (230°C.).
    E. Set 20 seconds on steam timer, 1 minute on bake timer, and press START key to initiate steam test.
    F. After time has expired press STOP key to silence beeper.
16. Press VENT key to open baking chamber vent. Allow oven to vent for two minutes, then close vent.
17. Set oven control baking temperature below room ambient temperature and open loading door 6" to 10" to release vapors.
18. Cool-Down.
    A. Press COOL DOWN key.

B. With loading door open, press VENT key to initiate oven cool-down.

C. After oven has reached a safe cool-down temperature, stop automatic cool-down by closing loading door and/or turning the oven power OFF.

INITIAL START-UP INFORMATION MATERIAL



IGNITION SEQUENCE CHECK

SUPPLY FLOW PRESSURES		
OV500G1		
	Natural Gas	**Propane Gas**
BTU/HR	180,000	180,000
W.C.	5.0 -10.0"	12.0 - 14.0"
kCAL/HR	45,400	45,400
cm W.C.	12.7 - 25.4	30.5 - 35.6
Mj/HR	190	190
kPa	1.25 - 2.50	3.00 - 3.50

OV500G2				
	Natural Gas		**Propane Gas**	
BTU/HR	300,000	350,000	300,000	350,000
W.C.	5.0-14.0"	6.0-14.0"	10.0"- 14.0"	12.0- 14.0"
kCAL/HR	75,600	88,200	75,600	88,200
cm W.C.	12.7 - 35.6	15.3 - 35.6	30.5 - 35.6	30.5 - 35.6
Mj/HR	317	317	317	370
kPa	1.25 - 3.50	1.50 - 3.50	2.50 - 3.50	3.00 - 3.50

ALTITUDE CORRECTION CHART								
ELEVATION IN FT.	OV500G1		OV500G1		OV500G2		OV500G2	
	Natural Gas		Propane Gas		Natural Gas		Propane Gas	
	Orifice #53		Orifice #63		Orifice #49		Orifice #56	
	Orifice Dia. 0.0595		Orifice Dia. 0.037		Orifice Dia. 0.073		Orifice Dia. 0.046	
	Oven Rating BTU/Hr	Manifold Pressure " W.C.	Oven Rating BTU/Hr	Manifold Pressure "W.C.	Oven Rating BTU/Hr	Manifold Pressure "W.C.	Oven Rating BTU/Hr	Manifold Pressure "W.C.
0 (sea level)	180,000	3.5	180,000	10.0	300,000	3.0	300,000	8.0
3000	158,400	2.7	158,400	7.7	300,000	3.0	300,000	8.0
3500	154,800	2.6	154,800	7.3	300,000	3.0	300,000	8.0
4000	151,200	2.4	151,200	7.0	294,000	2.7	294,000	7.4
4500	147,600	2.3	147,600	6.7	287,000	2.6	287,000	7.1
5000	144,000	2.2	144,000	6.4	280,000	2.5	280,000	6.7
5500	140,400	2.1	140,400	6.0	273,000	2.4	273,000	6.4
6000	136,800	2.0	136,800	5.7	266,000	2.2	266,000	6.1
ORIFICE DIA. MUST CHANGE 6500 FT. ABOVE SEA LEVEL								
	Orifice #55		Orifice #66		Orifice #52		Orifice #60	
	Orifice Dia. 0.052		Orifice Dia. 0.033		Orifice Dia. 0.0635		Orifice Dia. 0.04	
6500	133,200	3.2	133,200	8.6	259,000	3.7	259,000	10.1
7000	129,600	3.1	129,600	8.1	252,000	3.5	252,000	9.5
7500	126,000	2.9	126,000	7.7	245,000	3.3	245,000	9.0
8000	122,400	2.7	122,400	7.3	238,000	3.1	238,000	8.5
8500	118,800	2.6	118,800	6.8	231,000	2.9	231,000	8.0
9000	115,200	2.4	115,200	6.4	224,000	2.8	224,000	7.5
9500	111,600	2.3	111,600	6.0	217,000	2.6	217,000	7.1
10,000	108,000	2.1	108,000	5.7	210,000	2.4	210,000	6.6

FINAL CHECKS

1. Complete Installation Checklist and distribute copies per instructions on checklist.
2. Record start-up information on the label provided inside the control compartment door.