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## JADE CONVECTION OVEN

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### INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

NOTE: Instructions must be posted in a prominent location, which will instruct the user in the event that he detects the smell of gas. This information shall be obtained from your local gas company.



**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 thoroughly before installing or  
serving this equipment.

**RETAIN THIS MANUAL FOR FUTURE REFERENCE**



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**FUTURE OVEN INFORMATION**



**FOR FUTURE REFERENCE  
TO OPERATOR, INSTALLER, USER**

**IT IS NECESSARY TO REGISTER MODEL NUMBER  
AND SERIAL NUMBER FOR WARRANTY SERVICE.**

MODEL #	MODEL #	MODEL #
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**WHERE CAN YOU FIND MODEL NUMBER AND SERIAL NUMBER?  
(LOCATION OF NAMEPLATE)**

**Insert -- DIAGRAM CONVECTION OVEN**



## GAS SPECIFICATION

	<i>NATURAL GAS</i>		<i>PROPANE GAS</i>	
	US UNITS	SI UNITS	US UNITS	SI UNITS
GAS INLET PRESSURE (at Manif.)	5" W.C.	1.25 kPa	10" W.C.	2.5 kPa
OVEN INPUT PER BURNER PER OVEN	20,000 BTU/hr 80,000 BTU/hr	5.9 kW 23.4 kW	20,000 BTU/hr 80,000 BTU/hr	5.9 kW 23.4 kW
MAIN OFFICE ORIFICE SIZE	#47		#55	



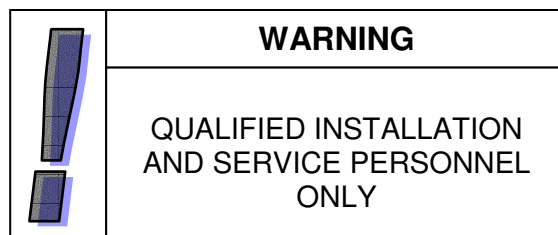
JADE RANGE

Installation must conform with local codes or in the absence of local codes, with the **National Fuel Gas Code, ANSIZ223.1, Natural Gas Installation Code, CAN/CGA-B149/1, or the Propane Installation Code, CAN/CGA-B149.2**, as applicable, including:

1. The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of ½ psig (kPa).
2. The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at pressures equal to or less than psig (3.45 kPa)



## **INSTALLATION INSTRUCTIONS**



### **DELIVERY AND INSPECTION:**

ALL JADE RANGE OVENS ARE CAREFULLY INSPECTED AND PACKED, TO PREVENT SHIPPING DAMAGE.

UPON DELIVERY OF YOUR JADE RANGE OVEN:

- INSPECT THE SHIPPING CONTAINER FOR EXTERNAL DAMAGE
- UNCRATE OVEN AND CHECK FOR CONCEALED DAMAGE.

IT IS THE CARRIER'S FULL RESPONSIBILITY FOR LOSS OR DAMAGE SUFFERED IN TRANSIT.

## **LOCATION OF OVEN**

LOCATION OR PLACEMENT OF OVENS MUST BE AS FOLLOWS

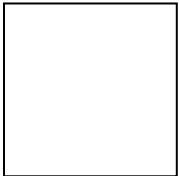
- FREE OR DRAFT
- ACCESSIBLE FOR PROPER OPERATION AND SERVICING: ALLOW MINIMUM OF 3 FEET FROM THE FRONT OF THE APPLIANCE
- FREE AND CLEAR OF COMBUSTIBLE MATERIALS
- MINIMUM OF 6" MUST BE MAINTAINED BETWEEN ANY SURFACE OF THE OVEN AND A COMBUSTIBLE MATERIAL

NOTE: AN APPROPRIATE EXHAUST HOOD IS REQUIRED TO ENSURE AN ADEQUATE SUPPLY OF FRESH AIR FOR PROPER VENTILATION.



**CONVECTION OVEN**

INSERT PICTURE



**RADIANT  
HEAT**

**BURNER  
HEAT**

**CONVECTED  
HEAT**

**CLEARANCES/INSTALLATION**

1. For installation in fire-resistant locations only.
2. For installation with the following minimum clearances to combustible clearances:
  - Sides = 6 inches
  - Back = 3 inches
3. For installation with legs or casters directly on floor.



## **ELECTRICAL CONNECTION**

### **WARNING!**

#### **Electrical Grounding Instructions**

This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.

Picture of power supply cord



Picture of 3-prong receptacle



**NOTE: A WIRING DIAGRAM IS LOCATED INSIDE THE CONTROL COVER.**

This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 7, or the Canadian Electrical Code, CSA C22.2, as applicable.





## **ELECTICAL CONNECTION**

For an appliance equipped with casters:

1. The installation shall be made with a connector that complies with the **Standard for connectors for Movable Gas Appliances, ANSIZ21.69 or Connectors for Moveable Gas Appliances, CAN/CGA-6.16**, and a quick-disconnect device that complies with the **Standard for Quick-Disconnect Devices for Use with Gas Fuel, ANSIZ21.41, OR Quick-Disconnect Devices for Use with Gas Fuel, CAN1-6.9** to limit the movement of the appliance without depending on the connector and the Quick-discount device or its associated piping attach a restraining device.
2. The restraining device may be attached to the appliance at the location shown in Figure.

Insert Picture



## VENTILATION

**IMPORTANT: Do not obstruct the flow of combustion and ventilation air.**

Failure to vent ovens properly will result in operational problems, unsatisfactory baking results, and possible premature failure of burner components.

Two methods acceptable for ventilation:

- Mechanically driven, canopy type, exhaust hood
- Direct flue arrangement

In direct flue arrangement, flue should rise vertically from the oven, extended above the roof.

When bend is needed so not to exceed 45° at any joint.

Insert Picture



**MINIMUM CLEARANCE FROM COMBUSTIBLE MATERIALS**

Insert PICTURE



**MINIMUM CLEARANCE FROM NONCOMBUSTIBLE**

FAILURE TO MAINTAIN MINIMUM CLEARANCE IN THE BACK OF THE OVEN WILL RESULT IN OPERATIONAL PROBLEMS AND WILL SHORTEN LIFE OF THE BLOWER.

- MAINTAIN MINIMUM CLEARANCE IN THE BACK OF THE OVEN.
- DO NOT OBSTRUCT VENTILATION.



Insert PICTURES

NOT ACCEPTABLE

ACCEPTABLE



**CONVERSION NATURAL-PROPANE**

	NATURAL	PROPANE (LP)
BURNER ORIFICE	47	55
PILOT ORIFICE	JOHNSON CONTROLS J 980 DKW-7718D NAT	JOHNSON CONTROLS Y90HA-4 PROP
GAS VALVE W/REGULATOR	SET FOR 5" W.C.	SET FOR 10" W.C.



AFTER CONVERSION-ADJUST AIR SHUTTER ON OVEN  
 MAXIMUM GAS SUPPLY PRESSURE TO  
 THE REGULATOR SHOULD NEVER EXCEED 14" W.C.  
 (WATER COLUMN) ½ (PSI 3.5 KPA)

DIAGRAM

**TEST FOR LEAKAGE:**



To check for leaks, use a commercial leak detecting solution or soap suds.

DO NOT USE OPEN FLAME TO DETECT GAS LEAK.



## OVEN CONTROLS

INSERT DIAGRAM

### COOK ONLY

1. POWER SWITCH controls power to oven.
2. BLOWER SWITCH controls blower operation. When in "MANUAL" position, the blower is "ON" at all times. When in "AUTO" position, the blower stops when the door is open.
3. SPEED SWITCH controls speed of the motor.  
HI speed  
Low speed
4. LIGHT SWITCH controls interior lights.
5. THE COOK THERMOSTAT controls temperature when oven is in cook cycle.
6. INDICATOR LIGHT when lighted indicates burner operation. When oven light is OFF, oven has reached pre-set temperature.
7. MECHANICAL TIMER activates buzzer, which reminds expiration of present time.



## LIGHTING INSTRUCTIONS

1. TURN SWITCH TO "ON" POSITION.
2. TURN THERMOSTAT DIAL TO TEMPERATURE REQUIRED.
3. WHEN BURNER IGNITES, PRESS BLOWER SWITCH TO AUTOMATIC. DO NOT OPERATE OVEN WITHOUT BLOWER FOR MORE THAN 3 MINUTES.
4. IF PILOT IS EXTINGUISHED, TURN THERMOSTAT TO "OFF" POSITION AND WAIT 5 MINUTES. REPEAT INSTRUCTIONS #1 THRU #3.
5. FOR TEMPORARY SHUT DOWN, TURN THERMOSTAT DIAL TO "OFF." FOR COMPLETE SHUT DOWN, CLOSE ALL GAS VALVES AND DISCONNECT ELECTRICAL CONNECTIONS TO THE APPLIANCE.



## **OVEN OPERATION**

1. TURN POWER SWITCH (1) TO “ON” POSITION.
2. SET BLOWER SWITCH (2) TO THE “AUTO” POSITION
3. SET SPEED SWITCH (3) TO THE “LOW” POSITION.
4. SET COOK THERMOSTAT (5) TO THE DESIRED BAKING OR ROASTING TEMPERATURE.
5. PREHEAT OVEN UNTIL INDICATOR LIGHT (6) GOES OFF, INDICATING OVEN HAS REACHED PRE-SET TEMPERATURE.
6. LOAD PRODUCT IN OVEN, DETERMINE COOKING TIME, AND SET TIMER (7) ACCORDINGLY.
7. SELECT DESIRED SPEED.
8. WHEN BUZZER SOUNDS, REMOVE PRODUCT FROM OVEN.
9. TURN OVEN OFF BY PLACING POWER SWITCH (1) IN “OFF” POSITION.





## **OVEN CONTROL**

diagram

### **COOK AND HOLD**

1. POWER SWITCH controls power to oven.
2. BLOWER SWITCH controls blower operation. When in "MANUAL" position, the blower is "ON" at all times. When in "AUTO" position, the blower stops when the door is opened.
3. SPEED SWITCH controls speed of the motor.  
HI speed  
Low speed
4. LIGHT SWITCH controls interior lights.
5. START STOP SWITCH  
Used to Start or Stop Cook Cycle.
6. PROG. ADV. -- Used to Program or to Review Setting.
7. INDICATOR LIGHT  
Function and Status lights.
8. HEAT ON  
Indicator light.
9. TEMP/TIME  
Temperature/Time Display
10. UP AND DOWN



# OC100 FAMILY OPERATING INSTRUCTIONS

diagram

## To Program

Press "START/STOP" button until display alternates between "STOP" and "SENSE" temperature. The control is now ready for programming.

## PREHEAT TEMP

Press "PRG ADV" button until "PREHEAT TEMP" light turns on. Press ↑ or ↓ buttons to obtain desired temp. If preheat cycle is not required, press ↑ or ↓ buttons until "OFF" is displayed.

## COOK TEMP

Press "PRG ADV" button until "COOK TIME" light turns on. Press ↑ or ↓ buttons to obtain desired cook temperature.

## COOK TEMP

Press "PRG ADV" button until "COOK TEMP" light turns on. Press ↑ or ↓ buttons to obtain desired time is displayed. To disable the cook timer, press ↑ or ↓ buttons until "OFF" is displayed.

## HOLD TEMP

Press "PRG ADV" button until "HOLD TEMP" light turns on. Press ↑ or ↓ buttons to obtain desired time is displayed. The hold function can be displayed by pressing ↑ or ↓ buttons until "OFF" is displayed.

Press "PRG ADV" button again returns control to "stop mode." The display will alternate between "STOP" and probe sense temperatures. The control is now ready for cooking.

## To Cook

1. Press "Start/Stop" button. The "CYCLE ON" light will turn on, the fan will be activated, and the controller will regulate the oven to the pre-heat temperature. The display will alternate between "PrE" and probe temp.

2. When the oven temp reaches the desired pre-heat temp, the control will enter a pause mode with the "CYCLE ON" light flashing and a 5-second pulsing audio alert will be activated. The control will maintain the oven temp until product is loaded into oven and "START/STOP" switch is pushed.
3. The control will now regulate the oven to the desired cook temp and the cook timer will count down. The "CYCLE ON" light will be on and the display will alternately show oven temp and cook time remaining.

4. When cook time reaches zero, the control will regulate temp to the desired hold temp and a count up timer is initiated to track the length of time in the hold mode. The display will alternately show "HOLD" actual oven temp and hold elapse time. The control will stay in the hold mode until product is removed and the "START/STOP" button is pressed.

## Reviewing Set Points

During the cooking cycle any programmed cooking parameter can be ????. Press the "PRG ADV" button until the desired parameter light turns on. The display will show the value of the set point for 5 sec. Reviewing set points of cooking cycle will not alter them or interrupt the cooking cycle.

## Changing the Set Points During Cooking

Push "START/STOP." Momentarily the "CYCLE ON" light will flash and control will go into pause. In this mode, the control



regulates the pre-set points, but the cook count down timer will stop. Pressing the "PROG ADV" button until the desired indicator light turns on can change cooking parameters. The display will show preset value. Pressing the ↑ or ↓ will allow settings changed as desired. To reuse cooking cycle, press "START/STOP" button. The "CYCLE ON" light will come on and cooking cycle will resume.

**To Cancel Cooking Cycle**

Depress the "START/STOP" button and hold until "CYCLE ON" light turns off.

**Power Failure During Cooking Cycle**

The control will suspend operation, retaining set points and cycle times. When power is restored, operation will resume where left off when power failed.

**Fan Operating Logic**

On Models OC100 & OC102 fan is on continuously during cook mode and only when heater output is on during hold mode.

On Models OC101 & OC103 fan is on continuously during cook and hold modes.

**C Operation**

Removal of an internal jumper wire "J" converts control to "C" operation.

**Probe Diagnostics**

If the probe fails open electrically, the control will cancel the cooking cycle the display will show "PROB".

If probe temp goes below 50°F or if the control fails, the display will show "EEEE" and control will go into "STOP" mode.

**ADJUSTMENTS:**

**WARNING:**

**ALL SERVICE WORK ON THIS APPLIANCE  
BY A QUALIFIED TECHNICIAN WHO IS E  
KNOWLEDGEABLE WITH THE COMMERC  
EQUIPMENT. CONTACT YOUR AUTHOR  
AGENCY FOR RELIABLE SERVICE, DEPE  
GENUINE FACTORY PARTS.**

DIAGRAM

• **TENSION OF MECHANISM:**

Make adjustments by alternate turning of turnbuckles, until the doors are properly synchronized.<sup>\*</sup>  
When finished, tighten the turnbuckle lock nuts.



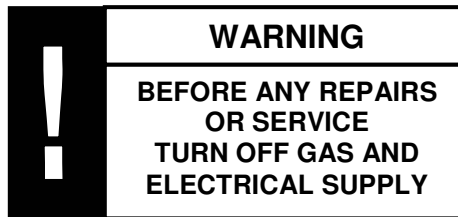
- **\*DOORS SYNCHRONIZATION:**

Done by method describe above.

- **CLEARANCE, DOORS & GASKET:**

1. Loosen door hinge bolts
2. Make adjustment in front to back direction.
3. tighten door hinge bolts securely.

## **REMOVAL AND REPLACEMENT**



PICTURE



### **ACCESS PANELS**

1. DOOR MECHANISM COVER
  - Loosen two Philips screws under the cover #1
  - Pull cover forward.
  - To assemble, reverse above.
2. COMBUSTION COMPARTMENT COVERS #2
  - Lift panel up and outward.
  - To assemble, reverse above.



## GENERAL GUIDELINES

### FOR OPTIMUM PERFORMANCE, PLEASE OBSERVE THE FOLLOWING PROCEDURES AND SUGGESTIONS:

IN THE EVENT OF POWER FAILURE: THIS APPLIANCE IS NOT CAPABLE OF BEING OPERATED BY MANUAL LIGHTING OR OTHERWISE. WHEN IN OPERATION, THIS APPLIANCE IS DESIGNED TO SAFETY SHUT ITSELF DOWN IN THE EVENT OF SUDDEN POWER FAILURE OCCUR. WHEN POWER IS RESTORED THE UNIT WILL RESTART ITSELF AND CONTINUE NORMAL OPERATION.

HOWEVER, FOR SAFETY REASONS, IN THE EVENT OF A PROLONGED POWER FAILURE, THE UNIT POWER SWITCH SHOULD BE TURNED OFF ENSURING IT WILL NOT RESTART OPERATING BY ITSELF AT A NON-PLANNED TIME WHENEVER THE POWER IS RESTORED.

WHEN AN APPLIANCE IS ON CASTERS AND IS CONNECTED TO THE SUPPLY PIPING BY MEANS OF A CONNECTOR, THERE MUST BE A RESTRAINT ON THE UNIT. IF THE REMOVAL OF THE RESTRAINT IS NECESSARY, FOR EXAMPLE, THE UNIT NEEDS TO BE MOVED. THE RESTRAINT **MUST BE** REPLACED AFTER THE APPLIANCE HAS BEEN RETURNED TO ITS ORIGINAL INSTALLED POSITION.

## CLEANING AND PREVENTIVE MAINTENANCE

- CLEAN OVEN ROUTINELY. SCRAPE OFF ANY FOOD SPILLS FROM THE INTERIOR OVEN WALLS AND BOTTOM PAN. USE A SOFT SPATULA OR A ROUGH CLOTH TO REMOVE ENCRUSTED MATERIAL.
- CHECK VENTING SYSTEM ANNUALLY.
- APPLY CLEANERS WHEN THE OVEN IS COLD.
- ALL AREAS WITH OIL, GREASE, OR FOOD ACCUMULATION **MUST BE** KEPT CLEAN AT ALL TIMES.
- CHAIN LUBRICATION -- GREASE ONCE A YEAR WITH ALL-PURPOSE HIGH TEMPERATURE GREASE.



## **GAS VALVE W/ REGULATOR ADJUSTMENT AND CONVERSION**

1. TURN OFF GAS SUPPLY.
2. REMOVE THE OUTLET PRESSURE TAP PLUG FROM THE MANIFOLD AND INSTALL MANOMETER.
3. REMOVE SEAL SCREW FROM THE REGULATOR STACK.  
FOR GAS CONVERSION, FOLLOW THESE STEPS:
  - REMOVE ADJUSTMENT SCREW.
  - REMOVE AND REPLACE REGULATOR SPRING (CONVERSION KIT).
  - REINSTALL ADJUSTMENT SCREW.
4. MAKE SURE THERE IS GAS FLOW TO THE BURNER.
5. ADJUST THE REGULATOR TO THE SETTING OF 5" W.C. FOR NATURAL GAS AND 10" W.C. FOR PROPANE GAS, BY TURNING THE ADJUSTING SCREW IN THE REGULATOR STACK.
  - TO INCREASE GAS PRESSURE, TURN CLOCKWISE.
  - TO DECREASE PRESSURE, TURN COUNTERCLOCKWISE.
6. INSTALL PROPER SEAL SCREW (CONVERSION KIT).
7. TURN OFF GAS SUPPLY. DISCONNECT THE MANOMETER AND REINSTALL PRESSURE TAP PLUG.
8. TURN ON GAS SUPPLY AND CHECK FOR GAS LEAKS, USING SOAP SOLUTION.

DIAGRAM



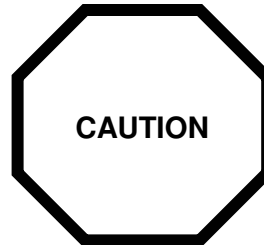
## BLOWER REMOVAL AND REPLACEMENT



### TURN OFF GAS AND ELECTRICAL SUPPLY

- REMOVE RACKS AND GUIDES.
- REMOVE BLOWER BAFFLE BY REMOVING WINGNUTS AND PULLING BAFFLE FORWARD.
- LOOSEN SETSCREW IN BLOWER WHEEL HUB.
- USE BLOWER WHEEL PULLER TO REMOVE BLOWER WHEEL FROM MOTOR SHAFT.
- TO REINSTALL BLOWER WHEEL. TIGHTEN SETSCREW. MAINTAIN MINIMUM 3/8" SPACE BETWEEN OVEN TANK AND BLOWER WHEEL.
- REINSTALL BLOWER BAFFLE. MAINTAIN MINIMUM 3/8" SPACE BETWEEN BLOWER WHEEL AND BLOWER BAFFLE.
- TIGHTEN WINGNUTS.

DIAGRAM



BLOWER WHEEL  
BALANCE IS  
IMPORTANT.  
BE VERY  
CAREFUL NOT TO  
DAMAGE ANY  
PART OF THIS  
ASSEMBLY.

## CLEANING

### INTERIOR-EXTERIOR

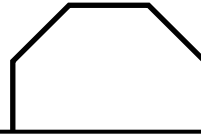
DIAGRAM

- USE HOUSEHOLD OR COMMERCIAL TYPE CLEANING AGENTS SUCH AS 409 OR SIMPLEGREEN, ETC. ON HEAVY BAKED-ON DEPOSITS, YOU MAY ALSO USE HOUSEHOLD TYPE OVEN CLEANERS SUCH AS EZ OFF.
- TO POLISH STAINLESS STEEL EXTERIORS, USE A LIGHT COAT OF OIL SUCH AS SHEILASHIE.





- FOR RACKS, GUIDES, AND BLOWER WHEEL, USE SOLUTION OF AMMONIA AND WATER.



## **MOTOR REMOVAL AND REPLACEMENT**

### **CAUTION**

**TURN OFF GAS AND ELECTRICAL SUPPLY**

MOTOR REMOVAL AND REPLACEMENT IS FROM FRONT OF OVEN.

- REMOVE BLOWER BAFFLE AND BLOWER WHEEL (SEE PAGE 21).
- REMOVE SIX OUTER SCREWS IN MOTOR MOUNTING PLATE AND PULL MOTOR OUT SLIGHTLY WITH CAUTION AS NOT TO DAMAGE WIRING CONDUIT.

CAREFULLY REACH IN, TWIST PLUG, AND DISCONNECT FROM RECEPTACLE.

- REMOVE FOUR INNER SCREWS TO DISASSEMBLE MOTOR MOUNTING PLATE FROM MOTOR.
- REPLACE MOTOR.

DIAGRAM



## CONTROL BOX

### CONTROL COVER

- After removing control cover, swing CONTROL BOX PANEL forward.
- Access to:
  - SWITCHES
  - THERMOSTAT
  - IGNITION BOX
  - ELECTRICAL TERMINAL
  - GAS SHUT OFF VALVE
  - GAS VALVE
  - UNION

DIAGRAM



**WIRING DIAGRAM**

INSERT WIRING DIAGRAM

