southbend

A MIDDLEBY COMPANY

IMPORTANT
FOR FUTURE REFERENCE
Please complete this information and retain this manual for the life of the equipment.
MODEL #_____
SERIAL # _____
DATE PURCHASED _____

OWNER'S MANUAL

INSTALLATION
USER'S GUIDE
SERVICE
PARTS

GAS CONVECTION OVEN

MODEL: SERIES "X" CONVECTION OVENS

These instructions should be read thoroughly before attempting installation. Installation and Start Up should be performed by a qualified service technician. The Manufacturer, Southbend Co. (1100 Old Honeycutt Rd., Fuquay-Varina, North Carolina 27526), informs you that unless the installation instructions for the above described Southbend product are followed and performed by a qualified service technician, (a person experienced in and knowledgeable concerning the installation of commercial gas and/or electrical cooking equipment) then the terms and conditions of the Manufacturer's Limited Warranty will be rendered void and no warranty of any kind shall apply.

If the equipment has been changed, altered, modified or repaired by other than a qualified service technician during or after the 12-month limited warranty period, then the manufacturer shall not be liable for any incidental or consequential damages to any person or to any property which may result from the use of the equipment thereafter. Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion thereto may not apply to you.

In the event you have any questions concerning the installation, use, care, or service of the product, write Customer Service Department, Southbend Co., 1100 Old Honeycutt Rd., Fuquay-Varina, North Carolina 27526.

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

Congratulations! You have just purchased one of the finest pieces of heavy-duty, commercial cooking equipment on the market today.

You will find that your new equipment, like all Southbend equipment, has been designed and manufactured to some of the toughest standards in the industry — those of Southbend Co. Each piece of Southbend equipment has been carefully engineered and designs have been verified through laboratory tests and field installations in some of the more strenuous commercial cooking applications. With proper care and field maintenance, you will experience years of reliable, trouble free operation from your Southbend equipment. To get the best results, it's important that you read this manual carefully.

TABLE OF CONTENTS:

NAME PLATE

This manual applies to Model Series "X" Convection Ovens. You can determine your oven by inspecting the serial plate located on the front left-hand corner of the body top. Letters in the model number are described below:

A — Rear combustion air opening.
E — Intermittent ignition system.
H — Cook & hold feature in one section
RT — Cook feature in one section.
HH — Cook & hold feature in two sections.
RTRT — Cook feature in two sections.
S — Shallow oven.

CAUTION: *POST IN PROMINENT LOCATION INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION SHALL BE OBTAINED FROM LOCAL GAS SUPPLIER.*

RETAIN THIS MANUAL FOR FUTURE REFERENCE.

INTENDED FOR COMMERCIAL USE ONLY. NOT FOR HOUSEHOLD USE.

FOR YOUR SAFETY

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

KEEP AREA AROUND APPLIANCES FREE AND CLEAR FROM COMBUSTIBLES.

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

southbend

A MIDDLEBY COMPANY

1100 Old Honeycutt Road
Fuquay-Varina, NC 27526
(919) 552-9161
FAX (919) 552-9798
(800) 348-2558

GAS CONVECTION OVEN
USER'S GUIDE

LIMITED WARRANTY

Southbend warrants that the equipment, as supplied by the factory to the original purchasers, is free from defects in materials and workmanship. Should any part thereof become defective as a result of normal use within the period and limits defined below, then at the option of Southbend such parts will be repaired or replaced by Southbend or its Authorized Service Agency. This warranty is subject to the following conditions:

If upon inspection by Southbend or its Authorized Service Agency it is determined that this equipment has not been used in an appropriate manner, has been modified, has not been properly maintained, or has been subject to misuse or misapplication, neglect, abuse, accident, damage during transit or delivery, fire, flood, riot or Act of God, then this warranty shall be void.

Specifically excluded under this warranty are claims relating to installation; examples are improper utility connections and improper utilities supply. Claims relating to normal care and maintenance are also excluded; examples are calibration of controls, and adjustments to pilots and burners.

Equipment failure caused by inadequate water quality is not covered under warranty. WATER QUALITY must not exceed the following limits: Total Dissolved Solids (TDS) - 60 PPM (Parts Per Million). Hardness - 2 Grains or 35 PPM, PH Factor - 7.0 to 7.5. Water pressure 30 PSI minimum, 60 PSI maximum. Boiler maintenance is the responsibility of the owner and is not covered by warranty.

This equipment is intended for commercial use only. Warranty is void if equipment is installed in other than commercial application.

Repairs under this warranty are to be performed only by a Southbend Authorized Service Agency. Southbend cannot be responsible for charges incurred from other than Authorized Southbend Agencies.

THIS WARRANTY MUST BE SHOWN TO AN AUTHORIZED SERVICE AGENCY WHEN REQUESTING IN-WARRANTY SERVICE WORK. THE AUTHORIZED SERVICE AGENCY MAY AT HIS OPTION REQUIRE PROOF OF PURCHASE.

This warranty does not cover services performed at overtime or premium labor rates nor does Southbend assume any liability for extended delays in replacing or repairing any items in the equipment beyond the control of Southbend. "Southbend shall not be liable for consequential or special damages of any nature that may arise in connection with such product or part." Should service be required at times which normally involve overtime or premium labor rates, the owner shall be charged for the difference between normal service rates and such premium rates.

In all circumstances, a maximum of one hundred miles in travel and two and one half hours (2.5) travel time shall be allowable. In all cases the closest Southbend Authorized Agency must be used.

The actual warranty time periods and exceptions are as follows:

This warranty only covers product shipped into the 48 contiguous United States and Hawaii, one year labor, one year parts effective from the date of original purchase. There will be no labor coverage for equipment located on any island not connected by roadway to the mainland.

Exceptions to standard warranty, effective within above limitations:

Glass Windows, Door Gaskets, Rubber Seals, Light Bulbs, Ceramic Bricks,
Sight Glasses, Cathodic Descalers or Anodes ..... 90 days material and labor

Stainless Steel Fry Pot..... 4 years extended material warranty on fry pot only — no labor

Stainless Steel Open Top Burners.....4 years extended material warranty on burners only — no labor

Pressure Steam Boiler Shell ..... Prorated 4 years extended warranty on boiler shell only — no labor

Boiler shells which have not been properly maintained will not be covered by warranty.

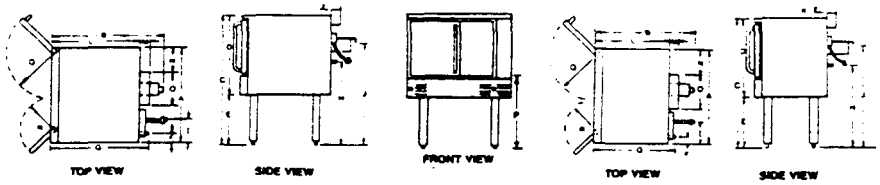
In all cases parts covered by a five year warranty will be shipped FOB the factory after the first year.
Our warranty on all replacement parts which are replaced in the field by our Authorized Service Agencies will be limited to three months on labor, six months on materials (parts) effective from the date of installation. See LIMITED WARRANTY-REPLACEMENT PARTS for conditions and limitations.
If the equipment has been changed, altered, modified or repaired by other than a qualified service technician during or after the one year limited warranty period, then the manufacturer shall not be liable for any damages to any person or to any property which may result from the use of the equipment thereafter.
"THE FOREGOING WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND CONSTITUTES THE ENTIRE LIABILITY OF SOUTHBEND. IN NO EVENT DOES THE LIMITED WARRANTY EXTEND BEYOND THE DURATION OF ONE YEAR FROM THE EFFECTIVE DATE OF SAID WARRANTY."

GAS CONVECTION OVENS INSTALLATION SPECIFICATIONS

MODELS:

Single Deck

☐ X-10 ☐ XE-10 ☐ XS-10 ☐ XSE-10



Not For Scale For Dimensional Purposes Only

DIMENSIONS: * One H designates Cook & Hold option. ( ) = Millimeters

MODELS		EXTERIOR					¾" GAS CONNECTION			ELECTRICAL		FLUE					Oven Bottom P	Door Opening Q
		Width A	Depth B	Height C	D	E	F	G	H	1	J	K	L	M	N	O		
DEEP	X-10 XE-10	40" (1016)	45" (1143)	55" (1337)	33.5" (851)	21.5" (546)	25" (64)	40.875" (1038)	34.25" (870)	9.125" (232)	43" (1090)	25" (64)	365" (927)	4" (102)	11" (279)	14.125" (359)	32" (813)	17.937" (455)
STD.	XS-10 XSE-10	40" (1016)	39" (991)	55" (1397)	335" (851)	215" (546)	25" (64)	32.875" (835)	34.25" (870)	9.125" (232)	43" (1090)	2.125" (54)	30.25" (768)	4" (102)	11" (279)	14.125 " (359)	32" (813)	17.937" (455)

NOTE: B1 includes 2" minimum clearance between motor and wall.
Single Decks with base removed (4 bolts) can be tipped on left side, for overall width of 33 1/2", to be taken thru smaller doors.
Suffix RT designates "Rack Track" option.

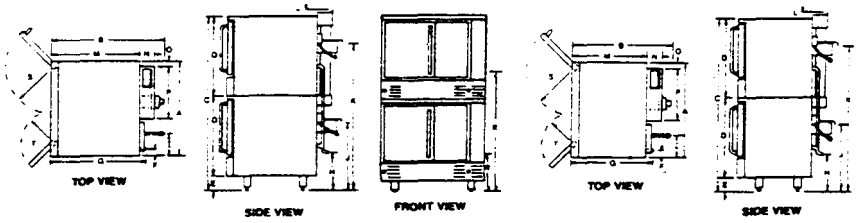
MODELS		Door Opening R	OVEN INTERIOR			PAN CLEARANCE		CRATE SIZE			Cubic Volume	Crated Weight
			Width	Depth	Height	Width	Depth	Width	Depth	Height		
DEEP	X-10 XE-10	13.437" (341)	29" (740)	28" (710)	20" (510)	28.25" (720)	27" (690)	52" (1320)	47" (1190)	455" (1160)	64.35 cu. ft. 1.82 cu. m.	730 lbs. 331.13 kg.
STD.	XS-10 XSE-10	13.437" (341)	29" (740)	215" (546)	20" (510)	28.25" (720)	21" (530)	52" (1320)	47" (1190)	455" (1160)	64.35 cu. ft. 1.82 cu. m.	705 lbs. 319.79 kg.

MODELS:

Double Deck

Not For Scale For Dimensional Purposes Only

X-20 XE-20 XS-20 XSE-20



DIMENSIONS: *One H designates one Cook & Hold Option; two H's designate two Cook & Hold Options. Cook & Hold option is digital and programmable. ( ) = Millimeters

MODELS		EXTERIOR					3/4" GAS CONNECTION			ELECTRICAL		FLUE					Oven Bottom P	Door Opening Q
		Width A	Depth B1	C	D	E	F	G	H	I	J	K	L	M	N	O		
DEEP	X-20 XE-20	40" (1016)	45" (1143	73" (1854)	335" (851)	6" (152)	25" (64)	40575" (1038)	16" (406)	9.125" (232)	275" (699)	61" (1549)	2.125" (54)	36.5" (927)	6" (152)	2.375 " (60)	22.5" (572)	165" (419)
STD.	XS-20 XSE-20	40" (1016)	39" (991)	73" (1854)	335" (851)	6" (152)	25" (64)	32.875" (835)	16" (406)	9.125" (232)	275" (699)	6.1" (1549)	2.125" (54)	30.25" (768)	6" (152)	2.375 " (60)	22.5" (572)	165" (419)

NOTE: B[1] includes 2" minimum clearance between motor and wall. [2] Gas connection can be reversed for top gas connection.
One RT designates one "Rack Track" option: two RTs designate two "Rack Track" options. (Rack Track option is digital.)

MODELS		Oven Bottom R	DOOR OPENING		OVEN INTERIOR -Each			PAN CLEARANCE		CRATE SIZE			Cubic Volume	Crated Weight
			S	T	Width	Depth	Height	Width	Depth	Width	Depth	Height		
DEEP	X-20 XE-20	50" (1270)	17537" (442)	13.437" (341)	29" (740)	28" (710)	20" (510)	28.25" (720)	27" (690)	52" (1320)	47" (1190)	77" (1960)	108.9 cu. ft. 3.08 cu. m.	1310 lbs. 594.22 kg.
STD.	XS-20 XSE-20	50" (1270)	17937" (442)	13.437" (341)	29" (740)	215" (550)	20" (510)	28.25" (720)	21" (530)	52" (1320)	47" (1190)	77" (1960)	108.9 cu. ft. 3.08 cu. m.	1305 lbs. 591.94 kg.

Double Deck Ovens can be shipped knocked down - in two separate crates. Specify if required - no extra charge.

UTILITY INFORMATION:

GAS — X-20, XE-20 — Total 140,000 BTU (70,000 par deck).
XS-20, XSE-20 — Total 120,000 BTU (60.000 per deck). One 3/4" male connection (tor location, **see** drawing above).
NATURAL PROPANE
Required operating pressure: Natural Gas 4" W.C.: Propane Gas 10" W.C.

ELECTRIC — Each deck with individual supply (for location, see drawing above).
STANDARD: 120/60/1 — furnished with two 6-ft. cords w/3-prong plug (1 per deck). Total maximum amps 12.0 (6.0 per deck).
Two speed motor standard.

INSTALLATION

WARNING:
THESE PROCEDURES MUST BE FOLLOWED BY QUALIFIED PERSONNEL OR WARRANTY WILL BE VOIDED.

THE UNIT, WHEN INSTALLED, MUST CONFORM WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL FUEL GAS CODE, ANSI Z223.1-LATEST EDITION.

THE UNIT, WHEN INSTALLED, MUST BE ELECTRICALLY GROUNDED AND COMPLY WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70-LATEST EDITION.

CANADIAN INSTALLATION MUST COMPLY WITH CAN/CGA-B 149.1 NATURAL GAS INSTALLATION CODE, CODE CAN/CGA-B 149.2 PROPANE INSTALLATION CODE, AND CANADIAN ELECTRICAL CODE CSA C22.1, PARTS I AND II.

EXHAUST FANS AND CANOPIES: Canopies are set over ranges, ovens, etc., for ventilation purposes. It is recommended that a canopy extend 6" past appliance and be located 6'6" from the floor. Filters should be installed at an angle of 45° or more with the horizontal. This position prevents dripping grease and facilitates collecting the run-off grease in a drip pan, usually installed with a filter. A strong exhaust fan tends to create a vacuum in the room and may interfere with burner performance or may extinguish pilot flames. Fresh air openings approximately equal to the fan area will relieve such vacuum. In case of unsatisfactory performance on any appliance, check with the exhaust fan in the "OFF" position.

WALL EXHAUST FAN: The exhaust fan should be installed at least 2' above the vent opening at the top of the unit.

DIRECT CONNECTION: If the unit is connected directly to an outside flue, a factory supplied A.G.A. certified down draft diverter must be installed at the flue outlet of the oven.

MINIMUM CLEARANCES FROM COMBUSTIBLE CONSTRUCTION:		
SIDE - 6 INCHES	BACK-6 INCHES	FLOOR - 6 INCH LEGS

CAUTION:

A minimum clearance of two inches must be allowed behind the motor and any rear non-combustion enclosure. Care must be taken to provide adequate air circulation to prevent the motor from overheating.

CAUTION:

All units must be installed in such a manner that the flow of combustion and ventilation air are not obstructed. Provisions for an adequate air supply must also be provided. Do not obstruct the front or rear of the unit, as combustion air enters through this area. Be sure to inspect and clean ventilation system according to the ventilation equipment manufacturers instructions.

NOTICE:

Adequate clearance must be provided in aisle and at the side and back to allow the doors to open sufficiently to permit the removal of the racks and for serviceability. Adequate clearances for air openings into the combustion chamber must be provided.

TO INSTALL:

1. Remove crating with care. Remove all wood blocking, packing material and accessories.
2. The legs or stand should be installed after the unit has been uncrated, near the area where it will be used.
3. Raise the unit sufficiently to allow legs to be installed with four bolts provided existing in base.
4. The legs can be adjusted to overcome an uneven floor. Use a spirit level in all directions on the middle oven rack.
5. When casters are supplied, the locking swivel type casters should be installed at the front.
6. Casters with locking brake are to be installed on front of unit.
7. Casters are provided with a zerk fitting for lubrication.

When a lift truck or other mechanical means are not available, and manual labor is involved, please consider the following suggestions.

1. Raise each comer or, if feasible, raise an entire side by "leaning" the unit.
2. For safety, "shore up" and support the raised section with an adequate blocking arrangement strong enough to support the load.
3. When long legs are being installed and the unit must be tipped beyond the stable point, lean unit against a strong wall or other suitable structure to prevent it from "falling over."
4. When absolutely necessary and unit must be placed "completely over," lay ONLY on its LEFT side or BACK. Take care to protect finish on left side. On back, provide means to keep load from resting on motor.
5. Bring unit to its straight position gently. NEVER DROP or allow unit to FALL.

NOTE: An "open" storage rack arrangement may be incorporated on units supported by high legs. Directions and illustrations are provided on another sheet and are also provided with these parts. Refer to diagram on Page 5, SECTION ONE - INSTALLATION.

WARNING:

FOR AN APPLIANCE EQUIPPED WITH CASTERS, THE INSTALLATION SHALL BE MADE WITH A CONNECTOR THAT COMPLIES WITH THE STANDARD FOR CONNECTORS FOR MOVABLE GAS APPLIANCES, ANSI Z21.69-1987, CAN/CGA-6.16-M87 AND A QUICK-DISCONNECT DEVICE THAT COMPLIES WITH THE STANDARD FOR QUICK-DISCONNECT DEVICES FOR USE WITH GAS FUEL, ANSI Z21.41-1978, AND ADDENDA, Z21.41a.l981, Z21.41b-1983 AND CAN1 6.9 M79. ADEQUATE MEANS MUST BE PROVIDED TO LIMIT THE MOVEMENT OF THE APPLIANCE WITHOUT DEPENDING ON THE CONNECTOR AND THE QUICK-DISCONNECT DEVICE OR ITS ASSOCIATED PIPING TO LIMIT THE APPLIANCE MOVEMENT.

WARNING:

IF DISCONNECTION OF THIS RESTRAINT IS NECESSARY TO MOVE THE APPLIANCE FOR CLEANING, ETC., RECONNECT IT WHEN THE APPLIANCE IS MOVED TO ITS ORIGINALLY INSTALLED POSITION.

NOTICE:

AREA: Adequate space must be provided in the aisle and at each side to allow the doors to open sufficiently to permit the removal of the racks. A minimum clearance of two inches must be allowed behind the motor and any rear enclosures. There should also be a six inch clearance between the body sides and body rear, and any wall or partitions which are not fire resistive.

INSTALLATION

WARNING: THESE PROCEDURES MUST BE FOLLOWED BY QUALIFIED PERSONNEL OR WARRANTY WILL BE VOIDED.

GAS CONNECTION:

The A.G. A. serial plate on left top corner of the unit indicates the type of gas your unit is equipped to burn. *Do Not* connect to any other gas type.

A 3/4" NPT line is provided at the rear for the connection. Each unit is equipped with an internal pressure regulator which is set for 4" W.C. manifold pressure for natural gas and 10" W.C. for propane gas. Use 178" pipe tap on the burner manifold pressure for checking pressure.

An adequate gas supply is imperative. Undersized or low pressure lines will restrict the volume of gas required for satisfactory performance. A steady supply pressure between 7" W. C. and 8" W.C. for natural gas, and 11" W.C. and 12" W.C. for propane gas is recommended. With all units operating simultaneously, the manifold pressure on all units should not show any appreciable drop. Fluctuations of more than 25% on natural gas, and 10% on propane gas, will create pilot problems and affect burner operating characteristics. Contact your gas company for correct supply line sizes.

Purge the supply line to clean out any dust, dirt, or other foreign matter before connecting the line to the unit. It is recommended that an individual manual shutoff valve be installed in the gas supply line to the unit. Use pipe joint compound which is suitable for use with LP gas on all threaded connections. Test pipe connections thoroughly for gas leaks. USE SOAPY WATER ONLY FOR TESTING ON ALL GASES. NEVER USE AN OPEN FLAME TO CHECK FOR GAS LEAKS. ALL CONNECTIONS MUST BE CHECKED FOR LEAKS AFTER THE UNIT HAS BEEN PUT IN OPERATION.

If applicable, the vent line from the gas appliance pressure regulator shall be installed to the outdoors in accordance with local codes or, in absence of local codes, with the National Fuel Gas Code, ANSI Z233.1-Latest Edition. Canadian installation must comply with CAN/CGA-B 149.1 Natural Gas Installation Code, Code CAN/CGA-B 149.2 Propane Installation Code.

CAUTION: *THIS APPLIANCE AND ITS INDIVIDUAL SHUTOFF VALVE MUST BE DISCONNECTED FROM THE GAS SUPPLY PIPING SYSTEM DURING ANY PRESSURE TESTING OF THAT SYSTEM AT TEST PRESSURES IN EXCESS OF 112 PSIG (3.45 kPa).*
THIS 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 TEST PRESSURES EQUAL TO OR LESS THAN 1/2 PSIG (3.45 kPa).

ELECTRICAL CONNECTION:

I. 115 VAC — 60 Hz — SINGLE PHASE

A. Ovens with this electrical rating are factory supplied with a three-wire cord and a three-prong plug which fits any standard 115V three-prong grounded receptacle. A separate 15 amp supply is needed for each oven.

WARNING:

THE THREE-PRONG (GROUNDING) PLUG IS SUPPLIED FOR YOUR PROTECTION AGAINST SHOCK HAZARD AND MUST BE ELECTRICALLY GROUNDED IN ACCORDANCE WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70-LATEST EDITION. CANADIAN INSTALLATION MUST COMPLY WITH CSA C22.1 CANADIAN ELECTRICAL CODE PARTS I AND II. DO NOT CUT OR REMOVE THE GROUNDING PRONG FROM THIS PLUG. (115V UNITS ONLY.)

B**. CANADIAN INSTALLATIONS ONLY:** On Models XE-10, XSE-10, XE-10A, XSE-10A, X-10, and XS-10, single ovens, a cord set is **NOT** furnished. The supply must be brought to and connected in the conduit box on the rear. The unit must be adequately grounded.

On Models XE-20, XSE-20, XE-20A, XSE-20A, X-20 and XS-20, double oven units, the supply for both ovens is combined. One supply for both units must be brought to and connected in the conduit box on the rear. An adequate supply must be provided. Use 75°C wire for all supply lines.

II. 208/236 VAC— 60 Hz— SINGLE PHASE & THREE PHASE

Ovens with this electrical rating are factory equipped with a (2) pole terminal block. To connect supply wires remove cover from connection box at left rear of oven. Route supply wires and ground wire through hole with strain relief fitting at bottom of connection box. Insert supply wires, one each, into the two poles of the terminal block and tighten screws in terminal block. Insert ground wire into ground lug and tighten screw. Replace cover. Three-phase ovens are wired as above, using only two supply wires. The third supply wire is not connected and must be properly terminated.

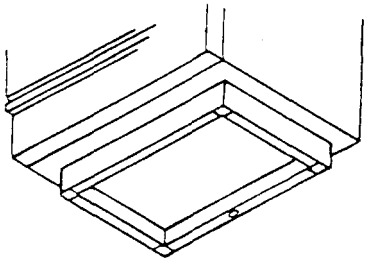
III. 220 VAC— 50 Hz— SINGLE PHASE

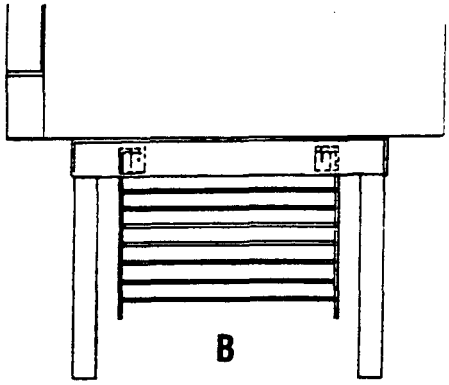
Oven equipped with this voltage rating should be wired exactly as in (II.) above.

IV. Units with electronic ignition and the suffix "A" are not available in 208/236 VAC — 60 Hz, Single or Three Phase, or 220 VAC — 50 Hz, Single Phase.

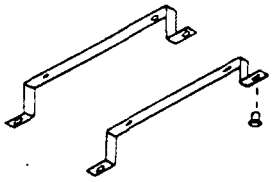
INSTRUCTIONS FOR CONVECTION OVEN STAND ASSEMBLY (P/N 117-2518)

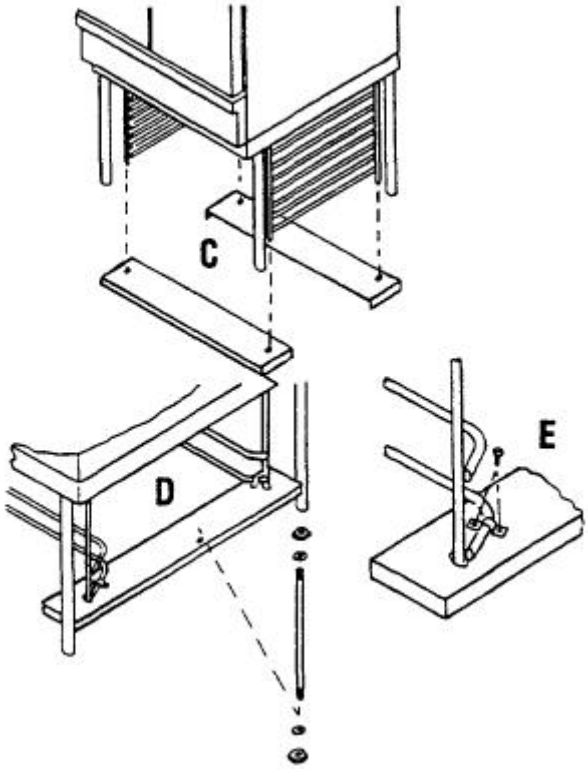
1. Remove the four legs (P/N 117-2514), and the four bullet feet (P/N 117-2510) from the carton.
2. Insert a bullet foot into each leg. Make sure that the bullet foot fits flush, all the way into the leg.
   NOTE: Insert the bullet feet into the end of the leg that is opposite the two pre-drilled holes.
3. Lay the oven on its left side, insert the two right legs, making sure that the pre-drilled holes in the leg align with the holes in the corner bracket.
4. Use (2) screws (P/N 114-6313) per leg, to secure leg to stand frame, tighten with screw driver only.
5. Tip the oven back just a little past upright and insert the two left legs and bolt them in place.
6. Continue with oven installation according to the installation manual.





Open Rack
Storage Only





A. With stand in position to install legs. note two 5/32 holes at corners of base. Attach frame hangers with (2) 1/4—20 x 1/2 bolts. Install legs.

B. Use level on middle rack; adjust leg feet. Hang side racks on hangers as illustrated.

C. Bring rack support into position so rack end enters hole as illustrated.

D & E. Fasten lowest slide of side rack to channel frame with support clips and #10 SMS as shown. Install vertical stop rod at rear as illustrated in "D." **Suggestion:** Cut threads into a channel with #10 SMS before attempting installation.

1172313SS PARTS REQUIRED
For Deep Oven

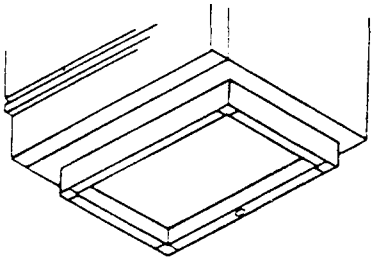
Consisting of:		
117-2302	Frame Hanger	(2)
117-2303SS	Channel Frame	(2)
116-5670	Side Rack	(2)
109-7702	Stop Rod	(1)
6660	Side Rack Support Clip	(4)
114-6404	5/16"—18 Hex Nut (6)	
114-6501	3/16" Lock Washer	(6)
114-6304	#10 Sheet Metal Screw	(8)
114-6206	5/16-—18 x 1/2 Hex Head Bolt	(4)

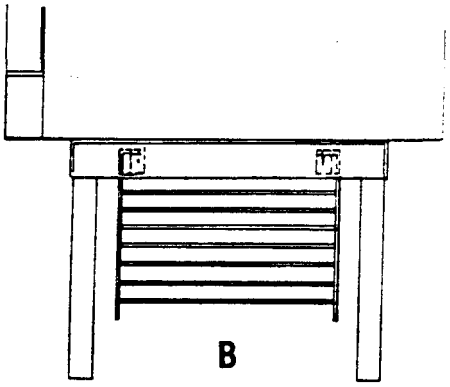
1172318SS For Shallow Oven

Consisting of:		
117-2302	Frame Hanger	(2)
117-2304SS	Channel Frame	(1)
116-7841	Side Rack	(2)
109-7702	Stop Rod	(1)
6660	Side Rack Support Clip	(4)
114-6404	5/16-—18 Hex Nut (6)	
114-6501	1/4" Lock Washer	(6)
114-6304	#10 Sheet Metal Screw	(8)
114-6206	5/16-—18 x 1/2 Hex Head Bolt	(4)

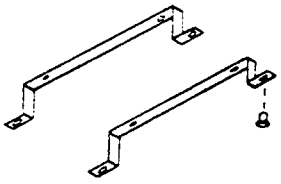
INSTRUCTIONS FOR CONVECTION OVEN STAND ASSEMBLY (P N 117-2518)

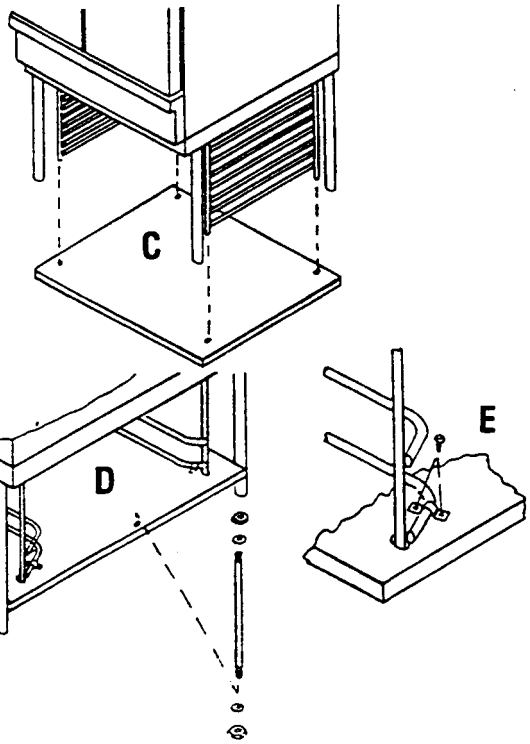
1. Remove the four legs (P-N 117-2514), and the four bullet feet (P/N 117-2510) I from the carton.
2. Insert a bullet foot into each leg. Make sure that the bullet foot fits flush, all the way into the leg.
   NOTE: Insert the bullet feet into the end of the leg that is opposite the two pre-drilled holes.
3. Lay the oven on its left side, insert the two right legs, making sure that the pre-drilled holes in the leg align with the holes in the corner bracket.
4. Use (2) screws (P/N 114-6313) per leg, to secure leg to stand frame, tighten with screw driver only.
5. Tip the oven back just a little past upright and insert the two left legs and bolt them in place.
6. Continue with oven installation according to the installation manual.





Open Rack & Shelf Storage





A. With stand in position to install legs, note two 5/32 holes at corners of base. Attach frame hangers with (2) 1/4-20 x 1/2 bolts. Install legs.

B. Use level on middle rack: adjust leg feet. Hang side racks on hangers as illustrated.

C. Bring rack support into position so rack end enters hole as illustrated.

D. & E. Fasten lowest slide of side rack to bottom shelf with support clips and #10 SMS as shown. Install vertical stop rod at rear as illustrated in "D."

Suggestion: Cut threads into a channel with #10 SMS before attempting installation.

1172311SS PARTS REQUIRED

For Deep Oven

Consisting of:

117-2302	Frame Hanger	(2)
117-2317SS	Bottom Shelf	(1)
116-5670	Side Rack	(2)
109-7702	Stop Rod	(1)
6660	Side Rack Support Clip	(4)
114-6404	5/16"—18 Hex Nut (6)	
114-6501	3/16" Lock Washer	(6)
114-6304	#10 Sheet Metal Screw	(8)
114-6206	5/16"-18 x 1/2" Hex Head Bolt	(4)

1172315SS For Shallow Oven

Consisting of:

117-2302	Frame Hanger	(2)
117-2316SS	Bottom Shelf	(1)
116-7841	Side Rack	(2)
109-7702	Stop Rod	(1)
6660	Side Rack Support Clip	(4)
114-6404	5/16"—18 Hex Nut (6)	
114-6501	3/16" Lock Washer	(6)
114-6304	#10 Sheet Metal Screw	(8)
114-6206	5/16"-18x1/2 Hex Head Bolt	(4)

FOR STANDARD CONTROL UNITS –
Models Without "H" Suffix

CONTROL FUNCTIONS:

A. The "ON-OFF" switch (top left) controls all power in the unit. In the "ON" position, power is made available to the lights, thermostat and motor circuitry.

B. The light switch controls the interior oven lights. It is normally "OFF" and must be depressed continuously to operate the lights.

C. The "Cook Temperature" control regulates the oven temperature. Setting the control to a position greater than the oven temperature energizes the heating source and illuminates the "Heat On" light. Once the set temperature is achieved, the heat source and light will go off, and then cycle as required to maintain set temperature.

D. The "Auto-Man" switch (top right) controls the fan relative to door position.

1. In the "Auto" position, the fan and heat source are "On" when the doors are closed. Opening the doors shuts off fan and heat source.
2. In the "Man" position, the fan is on regardless of whether doors are open or closed (power switch "ON"). Opening doors shuts off heat source — fan remains on.
3. General — Fan is always on when unit is "On," unless in "Auto" position and doors are open. Fan does not cycle with heat source ("Cook" mode — Cook & Hold models).
   "MANUAL" position is useful for rapid cool down of oven after cooking is completed (doors open).

E. Fan "HI-LO" switch allows selection of fan speed at user's preference.

F. The timer is a mechanical wind-up type and is only a "Time" reminder. It has no control over the oven.

CONTROL OPERATION:

A. PREHEAT — Oven preheats to "Cook" temperature setting.

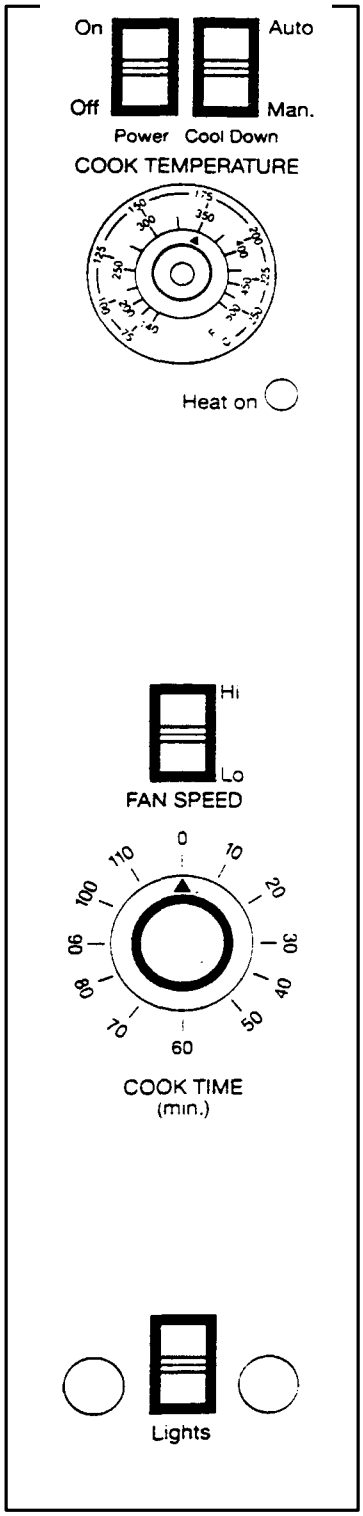
1. Turn power to "ON."
2. Set cook temperature to desired temperature. When oven temperature is equal to the cook temperature control setting, the "Heat On" light will go out. The oven is now preheated and product may be placed in oven.

B. COOK

1. Preheat as above.
2. Load oven. The "Heat On" light will cycle on and off with the heat source.
3. Use of timer as a *REMINDER is* optional. Timer does not control cook length.

C. RAPID COOL DOWN

1. Temperature control at full counterclockwise.
2. Auto-Man Switch - "MAN."
3. Doors open.



FOR COOK & HOLD PROGRAMMABLE CONTROLS
Models with "H" Suffix

CONTROL FUNCTIONS:

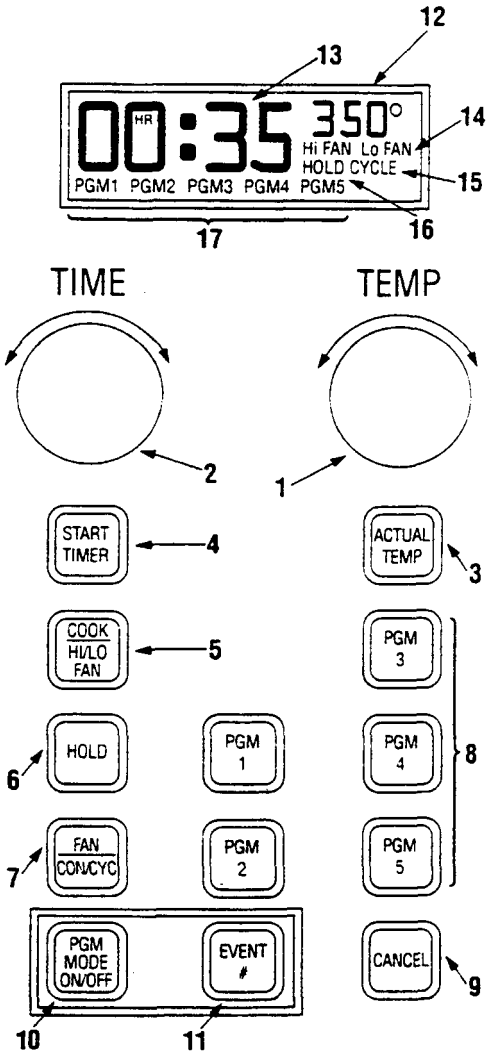
The operation of the "ON-OFF" and "LIGHTS" switches are the same as described in the Standard Controls section.

The following functions are unique to the Cook & Hold programmable control:

The purpose of each button or knob is as follows:

1. Temperature Adjustment Knob — used to set the desired cook or hold temperature.
2. Time Adjustment Knob — Used to set the cook time.
3. Actual Temperature Button — Used to read the oven interior temperature.
4. Start Timer Button — Used to begin a timed cook sequence.
5. Hi/Lo Fan Speed Button — Used to select High or Low fan speed.
6. Hold Button — Used in Cook and Hold to select hold mode.
7. Continuous/Cycling Fan Button — Used to select fan, continuous or cycling with heat source.
8. Program Selector Button — Used to select programs.
9. Cancel Button — Used to cancel cooking sequence.
10. Program Mode On/Off Button — Used to enter and exit programming mode.
11. Event Selector Button — Used to step through program.
12. Temperature Display — Indicates temperature set point.
13. Time Display — Indicates cook time left in cook mode or how long product has been held in hold mode.
14. Fan Speed Indicator — Indicates High or Low Fan Speed.
15. Fan Mode Indicator — Indicates Continuous or Cycling Fan.
16. Hold Mode Indicator — Indicates when in hold mode. Flashes when hold mode will follow cook mode.
17. Program Indicator — Indicates which program is being used.

PROGRAMMABLE CONTROL PANEL



1. Temperature Adjustment Knob
2. Time Adjustment Knob
3. Actual Temperature Button
4. Start Timer Button
5. Hi/Lo Fan Speed Button
6. Hold Mode Selector Button
7. Continuous/Cycling Fan Button
8. Program Selector Buttons
9. Cancel Button
10. Program Mode On/Off Button
11. Event Selector Button
12. Temperature Display
13. Time Display
14. Fan Speed Indicator
15. Fan Mode Indicator
16. Hold Mode Indicator
17. Program Indicator

TO OPERATE THE CONVECTION OVEN FOLLOW THESE STEP-BY-STEP INSTRUCTIONS

PRE-HEAT/UNTIMED COOK:

1. Push power switch "on."
2. Adjust temperature knob until the temperature display indicates desired temperature.
3. Select fan speed, shown in tan speed indicator Item 14, by pushing Hi/Lo fan speed button.
4. Select fan mode, shown by fan mode indicator Item 15, by pushing Continuous/Cycling fan button.

The oven will operate as set up even if the cancel button is pushed. The temperature display will flash until the oven interior temperature reaches the set point temperature. This tells you the oven is ready to cook.

The above display shows an untimed bake at 350 degrees hi-speed continuous fan.

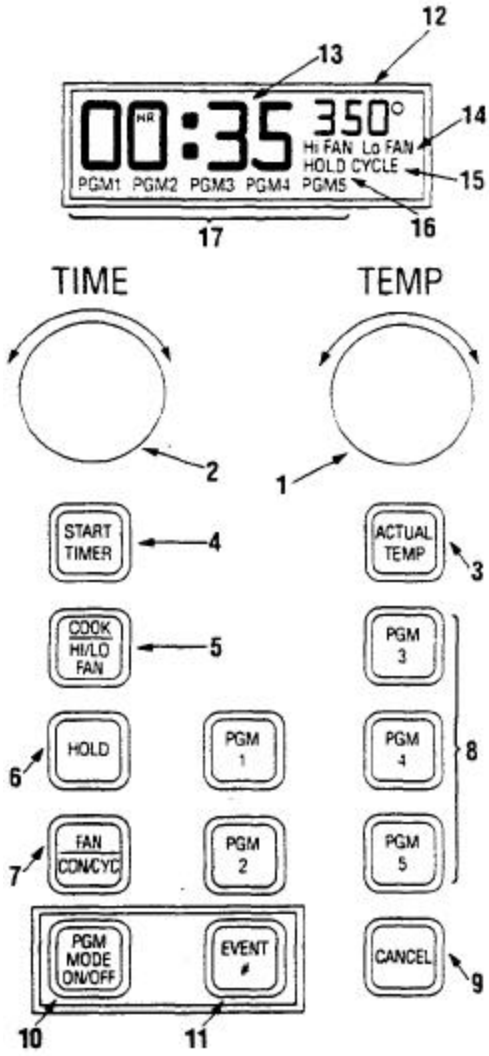
TIMED COOK

1. Follow steps 1 through 4 under Pre-heat/Untimed cook.
2. Adjust time adjustment knob. Item 2, until the time display Item 13, shows the desired cooking time.
3. Load the oven and push the start timer button. Item 4.

The timer will stop when the oven doors are opened, and resume when they are closed. At the end of timed cook, the heat source will shut off and the control will beep until the cancel button. Item 9 is pushed.

The above display shows a timed bake of 30 minutes at 350 degrees and hi-fan that cycles with the heat source.

PROGRAMMABLE CONTROL PANEL



1. Temperature Adjustment Knob
2. Time Adjustment Knob
3. Actual Temperature Button
4. Start Timer Button
5. Hi/Lo Fan Speed Button
6. Hold Mode Selector Button
7. Continuous/Cycling Fan Button
8. Program Selector Buttons
9. Cancel Button
10. Program Mode On/Off Button
11. Event Selector Button
12. Temperature Display
13. Time Display
14. Fan Speed Indicator
15. Fan Mode Indicator
16. Hold Mode Indicator
17. Program Indicator

COOK & HOLD:

1. Follow steps 1 and 2 of timed cook.
2. Push the hold button. Item 6, to enter hold mode.
3. Adjust temperature knob. Item 1, until temperature display, Item 12, indicates desired hold temperature.
4. Select continuous of cycling fan mode as you did for cook. Check fan mode indicator Item 14. Fan speed is always low speed in hold mode.
5. Load the oven and press the start timer button, Item 4.

   During the cook cycle, the hold indicator, Item 16, will flash. When the cook timer times out, the control will beep three times and switch to hold mode.

   The fan will operate continuously until the hold temperature is reached. The time display will indicate how long the product has been held.

CAUTION: CARE SHOULD BE EXERCISED IN HOLDING PRODUCTS OVER EXTENDED PERIODS OF TIME OR AT VERY LOW HOLDING TEMPERATURES, DUE TO THE POSSIBLE BACTERIA GROWTH. A COMPETENT AUTHORITY ON FOOD BACTERIA GROWTH SHOULD BE CONSULTED IF IN DOUBT REGARDING SAFE HOLDING TIMES AND TEMPERATURES.

The above display is what you will see during the hold mode selection. It shows a 140 degrees hold temperature with a fan that cycles with the heat source.

A cycling fan is useful in hold mode to reduce shrinkage.

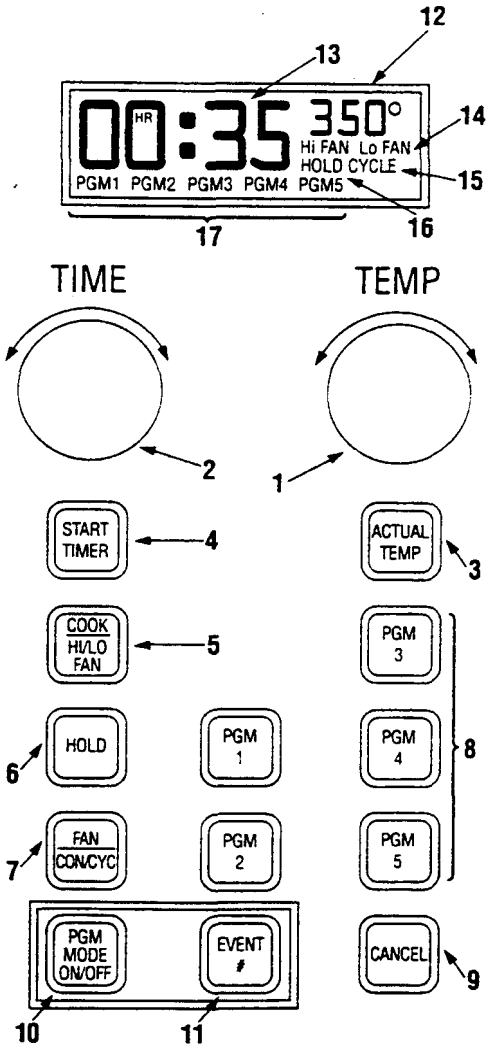
RUNNING A PRE-PROGRAMMED SEQUENCE

1. Pre-heat oven according to pre-heat instructions.
2. Load oven.
3. Push desired program button. Items 8.
4. Push timer start button. Item 4, to begin cooking.

RAPID COOL DOWN

1. Open doors.
2. Push continuous/cycling fan button, Item 7.
3. The display will spell "cool."

PROGRAMMABLE CONTROL PANEL



1. Temperature Adjustment Knob
2. Time Adjustment Knob
3. Actual Temperature Button
4. Start Timer Button
5. Hi/Lo Fan Speed Button
6. Hold Mode Selector Button
7. Continuous/Cycling Fan Button
8. Program Selector Buttons
9. Cancel Button
10. Program Mode On/Off Button
11. Event Selector Button
12. Temperature Display
13. Time Display
14. Fan Speed Indicator
15. Fan Mode Indicator
16. Hold Mode Indicator
17. Program Indicator

PROGRAMMING MULTIPLE SEQUENCE COOKING

TO PRE-PROGRAM THE CONTROL FOR FUTURE USE:

1. Push the program mode on/off button. Item 10.

2. Select which program to set by pushing one of the five program buttons. Item 8.

> Programs 1 and 2 have six events; 3,4 and 5 have four events. The program will step through each event from 1 through the end.

The temperature display will flash alternately between El (Event 1) and the temperature set point. It will also flash which program you are programming, Item 17.

3. First decide whether this event is a cook or hold event. All hold events should be the last event since they will continue until the cancel button, Item 9, is pushed. In hold mode the fan only operates on low speed.

4. Adjust the temperature knob. Item 1, until the temperature display, Item 12, indicates the desired temperature.

5. Adjust the time knob, Item 2, until the time display. Item 13, indicates the desired cook time.

6. Select the fan speed with the Hi/Lo fan button. Item 5. Check the fan speed indicator. Item 14.

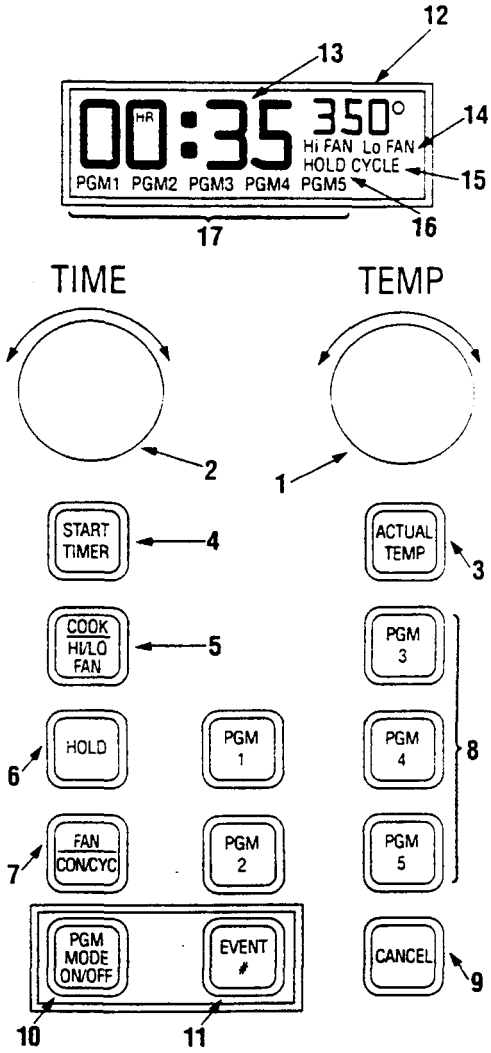
7. Select continuous or cycling fan with the continuous/ cycling fan button. Item 7. Check the fan mode indicator, Item 15.

8. Push the event *if* button, Item 11, to go to the next event.

9. Repeat steps 3 through 8 until finished. You can check a program by repeatedly pushing the event # button. Item 11, to step through the program.

10. When done, push the program mode on/off button, Item 10, to exit program mode.

PROGRAMMABLE CONTROL PANEL



1. Temperature Adjustment Knob
2. Time Adjustment Knob
3. Actual Temperature Button
4. Start Timer Button
5. Hi/Lo Fan Speed Button
6. Hold Mode Selector Button
7. Continuous/Cycling Fan Button
8. Program Selector Buttons
9. Cancel Button
10. Program Mode On/Off Button
11. Event Selector Button
12. Temperature Display
13. Time Display
14. Fan Speed Indicator
15. Fan Mode Indicator
16. Hold Mode Indicator
17. Program Indicator

RACK TIMER CONTROL OPERATION

BUTTON DESCRIPTION

The purpose for each button or knob is as follows:

1. Temperature Setpoint Display — Indicates temperature setpoint. Flashes till setpoint is reached.

2. Fan Speed Indicator — Indicates fan speed is either Hi or Low speed.

3. Fan Mode Indicator — Indicates fan mode is either continuous or cycles with burners or heating elements.

4. Timer Display — Displays remaining time for the rack with least remaining cook time. It will also display the rack number when the timer has timed out, to indicate which rack has finished.

5. Rack Indicators — Indicates which racks are being timed. The rack that is next to finish flashes.

6. Temperature Adjustment Knob — Used to set the desired cook temperature.

7. Timer Adjustment Knob — Used to set the desired cook time.

8. Timer Selector Buttons — Used to select which timer will be used for the product to be cooked.

9. Cancel Button — Used to cancel cooking sequence or individual rack timing.

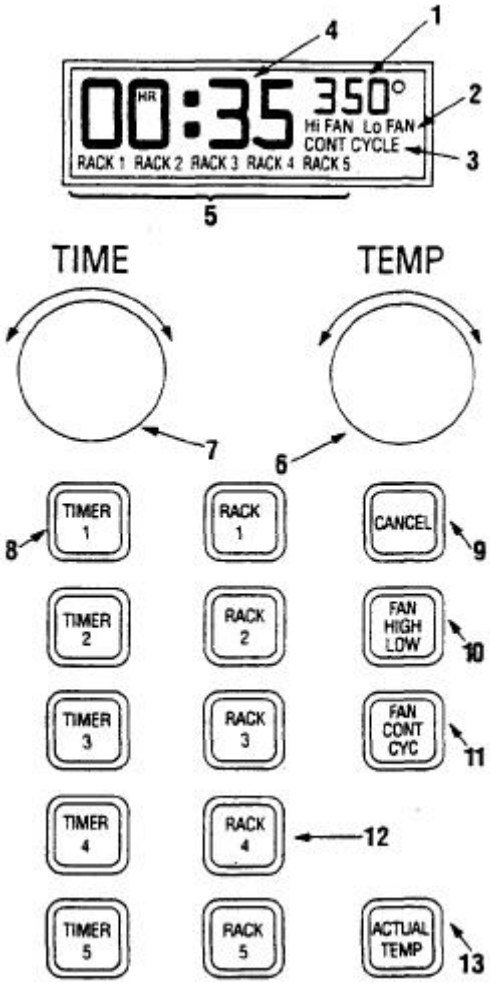
10. Fan Speed Selector Button — Used to select high or low speeds.

11. Fan Mode Selector Button — Used to select continuous or cycling fan mode (see fan mode indicator).

12. Rack Selector Buttons — Used to select which rack the pan will be cooked.

13. Actual Temperature Button — When pressed changes the Temperature Setpoint Display (Item 1) to read the actual oven interior temperature.

PROGRAMMABLE CONTROL PANEL



1. Temperature Setpoint Display
2. Fan Speed Indicator
3. Fan Mode Indicator
4. Timer Display
5. Rack Indicators
6. Temperature Adjustment Knob
7. Timer Adjustment Knob
8. Timer Selector Buttons
9. Cancel Button
10. Fan Speed Selector Button
11. Fan Mode Selector Button
12. Rack Selector Buttons
13. Actual Temperature Button

GENERAL:

The Southbend rack timer convection oven is designed to monitor and time five independent cooking racks in the oven. It accomplishes this by using five independent timers that can be preset. The oven also has a sixth adjustable setting that can be set by the time setting adjustment knob.

The control maintains the interior cook temperature during the cook cycle that is simply dialed into the control during preheat of the oven. Each rack is then cooked at this temperature for the amount of time set by the user.

OVEN OPERATION

The control has two rotary dials. The right rotary dial adjusts the oven temperature. Turn the dial clockwise to turn the oven on if the temperature readout reads "000" or to increase the set point to a higher temperature. The three temperature digits located in the upper right of the display, indicate the set cooking temperature. The left rotary dial adjusts the time display.

The oven will heat when the set temperature is higher than the actual oven temperature. When the "Actual Temp" key is pressed, the actual oven interior temperature is displayed. The rack timer convection oven is capable of timing five racks or pans independently. The advantage is that small batch cooking is possible within a convection oven. You can cook one pan at a time or in large batches. Generally you will want to identify each of the rack timers with a rack within the oven. For example, you may want to use Rack *#1* for the top pan, Rack *if 2* for the second from the top pan and on down to Rack //5 for the bottom pan. By doing this, you will be able to place a pan in the convection oven and have it tell you when it is done cooking.

USING THE CONTROL

The simplest way to begin learning the rack timer is to start pressing some buttons.

First to turn the oven on press the power switch "On." Then adjust the "Temperature Adjustment Knob" (Item 6) till the "Temperature Set point Display" (Item 1) read the desired cook temperature. As an example, let's select 325 degrees Fahrenheit or 163 degrees Celsius. Now press the "Fan Mode Selector Button" (Item 11) until the "Fan Mode Indicator" (Item 3) reads "Cont" for continuous fan. Next press the "Fan Speed Selector Button" (Item 10) until the "Fan Speed Indicator" (Item 2) reads "HiFan" for high speed fan. Your display will look like this:

If your oven is installed, the oven will heat up until the set point is reached; the "Temperature Set point Display" will then stop flashing and the control will beep. Now the oven is ready to load. After you have loaded rack number 1, adjust the "Timer Adjustment Knob" (Item 7) until the "Timer Display" (Item 4) reads the desired cook time. For our example, we will use 6 minutes. Then immediately press the "Rack Selector Button" (Item 12) of the rack that you loaded. The oven is now timing and the display will look like this:

The flashing "Rack Indicator" (Item 5) tells you that rack number is being timed and that it is the next to finish. Once the timer times out, the "Timer Display" (Item 4) will display which rack should be removed and the oven will beep until the "Cancel" (Item 9) button is pressed.

This procedure can be repeated each time preparation of a product is completed and is ready for the oven. Each rack can be loaded at any time and the control will keep track of each pan to tell you when it is ready. The remaining time for any rack may be checked by pressing the "Rack <'" button. The time display will then indicate the remaining time. You can also cook each pan for a different time, because you dial in the cook time for each load. However, the cook temperature must remain the same for each batch. This may require varying the cook temperature slightly for some products.

SETTING THE FIVE TIMERS

You have seen how you can dial in a different temperature for each load and how the oven times each pan independently. The oven is also provided with five timers that you can set. These are the "Timer Selector Buttons" (Item 8). These are used to quickly set the cook time after a pan is loaded. To set the time for each of these buttons, simply press the timer button while you adjust the "Timer Adjustment Knob" and then release the button. To check the timer setting, press the timer button. Each timer can be used for a different product you cook. To use these buttons, follow these steps:

1. Turn the oven on by pressing the "ON" switch.
2. Adjust the cook temperature dial to preheat the oven. The "Temperature Set point Displa y" will stop flashing when the oven is preheated, and the oven will beep.
3. Load the oven with one to five pans.
4. Press the desired timer button.
5. Press the corresponding Rack If button.
6. Repeat items 4 and 5 until all the pans are being timed.
7. When the timer times out, press the cancel button and remove pan. This rack is now available for another pan.

GAS CONTROL INSTRUCTIONS - STANDING PILOT (Non-Electronic Ignition)
(XS or X)

A. **LIGHTING**

1. Turn power switch off.
2. Remove lower front panel (held in place with two (2) 1/4-turn fasteners).
3. Turn dial on combination control to "PILOT" position. (Note: Gas service valves should be open to supply gas.)
4. The pilot is located in the area exposed by removal of the lower front panel, directly between the two burners, about 6" back. Depress dial on combination control while lighting pilot burner. Hold dial for 30-45 seconds until pilot remains lit when dial is released. A lit taper is recommended for easy access to lighting the pilot burner.

   On units recently installed the pilot line will require "BLEEDING." Consequently, this pilot may not ignite immediately and it may be necessary to keep the combination control dial depressed until sufficient gas reaches the pilot to keep it burning.
5. Turn combination control dial to "ON" position.

B. SHUT DOWN

1. STANDBY
   a. Turn combination control to "PILOT" position.
2. COMPLETE
   a. Depress slightly and turn combination control valve to "OFF" position.
   b. Turn thermostat to lowest position.
   c. Turn power switch to "OFF" position.
   d. Turn any gas service valves to unit to "OFF" position.

C. RELIGHTING

1. Shut off all gas.
2. Wait 5 minutes.
3. Repeat LIGHTING INSTRUCTIONS — Section "A" above.

WARNING:
IN THE EVENT OF MAIN BURNER IGNITION FAILURE, A 5 MINUTE PURGE PERIOD MUST BE OBSERVED PRIOR TO RE-ESTABLISHING IGNITION SOURCE.

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

WARNING:
FOR AN APPLIANCE EQUIPPED WITH A CONVECTION TYPE OVEN, NO ATTEMPT SHOULD BE MADE TO OPERATE OVEN DURING A POWER FAILURE.

GAS CONTROL INSTRUCTIONS - ELECTRONIC IGNITION ("E" Suffix)
(XSE or XE)

A. LIGHTING

1. With the oven power switch on, adjust temperature indicator to zero.
2. Remove lower front panel (held in place with two (2) 1/4-turn fasteners). Turn dial of the Gas Valve to the "ON" position. Set the thermostat to the desired setting.

B. SHUT DOWN

1. STANDBY
   a. Set thermostat to the "OFF" position.
   b. Depress the Power Switch to the "OFF" position.

2. COMPLETE
   a. Set thermostat to the "OFF" position.
   b. Depress the Power Switch to the "OFF" position.
   c. Open the lower front panel and turn the dial of the Gas Valve to the "OFF" position.
   d. Turn any gas service valves to the "OFF" position.

C. LOCKOUT MANUAL RESET (Blue colored ignition box)

1. Unit is equipped with a direct Hot Surface Ignition System with Proof of Burner Flame Manual Reset Lockout (burner gas will shut off four seconds after coming on if the burner does not ignite). To reset, turn the thermostat to the "OFF" position, then return it to the desired setting.

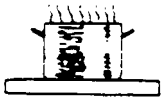
D. RELIGHTING

1. Shut off all gas.
2. Wait 5 minutes.
3. Repeat LIGHTING instructions above.

NOTE: (Blue colored ignition box) The heat on light is wired to cycle with the Gas Valve. The Gas Valve will not allow gas to flow to the burners until the Igniter is hot enough to ignite the gas. Therefore, when the thermostat is turned on, allow approximately 30 to 40 seconds for the heat indicator light to come on (showing that the burners are on). If the heat on indicator light comes on and then goes out after approximately four seconds, this shows that the burners have not ignited and the control system has gone into lockout. The control system must be reset as described under LOCKOUT MANUAL RESET.

NOTE: (Black ignition box) The heat on indicator light is wired with the Gas Valve. The Gas Valve will not allow gas to flow to the burners until the Igniter is hot enough to ignite the gas. Therefore when the thermostat is turned on, allow approximately 5 seconds for the heat on indicator light to come on (showing that the burners are on). The **Hot Surface Igniter** will glow until gas is supplied to the burners and ignited. This control will not lock out, it will automatically, relight the burners if the gas supply is temporarily interrupted.

COOKING HINTS



BAKING AND ROASTING:

The convection oven is a different type of oven which offers many features and advantages to the food service operation. The operation of the oven is not difficult to understand or control.

The convection oven is the sealed type whereby the air inside the oven is continuously recirculated over the heat source.

The moving air strips away the insulating layer of moisture on the products allowing heat to penetrate faster for quicker baking and roasting. Due to these differences in the method of cooking in a convection oven, procedures and techniques may require some modification for successful results. A general rule which will assist in better operation is cooking time will be less and temperatures should be 25 to 75 degrees lower than those called for in standard recipes.

TIME AND TEMPERATURES:

Time and temperatures are important. Use our schedule of suggested times and temperatures as a guide. Actually, the time and temperature best suited will depend on such factors as size of load and mixture of recipe (particularly moisture). Once your specific requirement of time and temperature has been established, you will find the experience with succeeding loads to be similar.

OVERLOADING:

Do NOT overload the oven. The size of bad which can be done satisfactorily depends largely on the product. As a rule, five racks can be successfully used for shallow cakes, cookies, pies, etc. For deeper cakes, such as angel food, use only three racks because of size of pan and space required for raising. For hamburger patties, fish sticks, cheese sandwiches, etc., a full complement of racks and pans is satisfactory. Basically, space your pans as evenly as possible and leave room for air circulation. Do not use a deep pan for shallow cakes or cookies, etc., as air circulation across the surface of the product is essential.

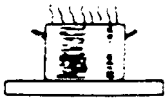
HELPFUL SUGGESTIONS:

These are some helpful suggestions which will assist in getting the best possible performance from the convection oven:

1. Preheat oven thoroughly before use. When re-thermalizing frozen products, oven should be preheated 50 degrees higher than cooking temperature to compensate for heat loss during and after loading.

   Thermostat must be returned to cooking temperature after loading.

2. The load should be centered on the racks to allow for proper heat circulation around the sides. Don't cover shelves completely.



COOKING HINTS

GUIDE TO BAKING TIMES AND TEMPERATURES:

HOLD ONLY — Any food item prepared in steam table pans can be held until served by setting the hold thermostat at 160° F. This would include stuffed pork chops, oysters Rockerfeller, or any vegetable entree.

STANDARD CONVECTION OVEN OPERATION - As a guide, set oven temperatures 25°-75° lower than called for in recipes using non-convection ovens — i.e. range or deck ovens.

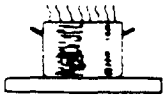
Time and temperatures will vary depending upon load, mix, size, portion, temperature of product and other factors. Use this chart to develop your own cooking techniques.

PRODUCT	TIME	TEMPERATURE SETTING	NUMBER OF RACKS USED
Baked Goods			
Bread — 1 lb. Loaf	30	340	3 (24 loaves)
Biscuits — Soda	6	400	5
Corn Bread	20	350	5
Ginger Bread	18	300	5
Yeast Rolls Sheet Pans	15	325	5
Brown and Serve Rolls	15	350	5
Coffee Cake	45	300	5
Chocolate Cake	20	325	5
Layer Sheet Cake — 5 lb. pans	20	300	5
Pineapple Upside-down Cake	30	325	5
Apple Turnovers	15	350	5
Fruit Cobbler	25	375	5
Brownies	15	350	5
Cream Puffs	25	325	5
Danish Pastry	12	325	5
Pie Shells	12	350	5
Fruit Pies	30	350	5 (30 pies)
Pumpkin Pies	30	275	5 (30 pies)
Fresh Apple Pies	35	375	5 (30 pies)
Frozen Berry Pies	40	375	5 (30 pies)
Frozen Fruit Pies	45	375	5 (30 pies)
Potatoes			
Baked Potatoes — 10 ounces	55	450	5
Baked Potatoes — 6-8 ounces	45	450	5
Scalloped Potatoes	35	325	5
Macaroni and Cheese	30	350	5
Stuffed- Peppers	18	350	5
Toasted Cheese Sandwich	8	375	5
Meats			
Meat Pot Pies	40	375	5
Hamburger Patties — 4 ounces	8	400	5
Fish Sticks	16	350	5
Chicken Pieces	35	350	5

NOTE: For best results, grease drip pans should be removed during *baking* operations.

Rack loading and position may effect product results. Experimentation may be necessary to suit individual requirements.

COOKING HINTS



SUGGESTIONS:

If cakes are dark on the sides and not done in the center	lower oven temperature.
If cake edges are too brown	reduce number of pans or lower oven temperature.
If cakes have light outer color	raise temperature.
If cake settles slightly in the center	bake longer or raise oven temperature slightly. Do not open doors too often for long periods.
If cake ripples	overloading pans or batter is too thin.
If cakes are too coarse	lower oven temperature.
If pies have uneven color	reduce number of pies per rack or eliminate use of bake pans.
If meats are browned and not done in center	lower oven temperature and roast longer.
If meats are well done and not browned	raise temperature. Limit amount of moisture.
If meats develop hard crust	reduce temperature or place pan of water in oven.
If there is excessive meat shrinkage	lower oven temperature.
Brown sugar topping or meringue blow off	after oven is preheated, turn off oven and put in meringue until set.
If rolls have uneven color	reduce number or size of pans.

COOKING TEMPERATURE AND TIME CALCULATION CHART

	Cook Temp.	Hold Temp.	Timer Setting 1st Roast or Sheet Pan	Added Cooking Time for Each Additional Roast or Sheet Pan
BEEF				
Rare — (140° Int. Temp.)	200°	140°	9 Min. per lb.	See "A" Below
Med. — (150° Int. Temp.)	200°	140°	10 1/2 Min. per lb.	See "A" Below
Well—(160° Int. Temp.)	200°	140°	12 Min. per lb.	See "A" Below
PORK & HAM	225°	160°	12 Min. per lb.	See "A" Below
RAW TURKEY BREAST	225°	160°	12 Min. per lb.	See "A" Below
HALF OF CHICKEN (I 1/2 lb. Halves- 20 per sheet pan)	225°	160°	90 Min. (1st sheet pan)	See "B" Below
BACK RIBS	225°	160°	90 Min. (1st sheet pan)	See "B" Below

A. For each additional roast, add:
15 Min. for each additional 8 -10 lb. roast.
30 Min. for each additional 16-20 lb. roast.
60 Min. for each additional 32 - 40 lb. roast.

B. For each additional sheet pan, add: 15 Min.

14-16 lb. No. 109 Prime Rib Roasts (Fat covering removed)
Cook Thermostat set at 200°F and Hold Thermostat set at 140°F

No. of Roasts	Timer Setting (Hrs.) Rare	Med.	Well	*Min. Time to reach Hold Temp.
1	2 ½	3	3 ½	1
2	3	3 ½	4	1
4	4	4 ½	5	1
6	5	5 ½	6	1 ¼
8	6	6 ½	7	1 ½

16-18 lb. No. 168 Top Round
Cook Thermostat set at 200°F and Hold Thermostat set at 140°F

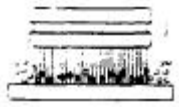
No. of Roasts	Timer Settings (Hrs.) Rare	Med.	Well	*Min. Time to reach Hold Temp. (Hrs.)
1	3	3 ½	4	1
2	3 ½	4	4 ½	1
4	4 ½	5	5 ½	1
6	5 ½	6	6 ½	1 ½
8	6 ½	7	7 ½	2

10-16 lb. Turkey Breasts (Raw Bone in)
Cook Thermostat set at 225°F and Hold Thermostat set at 160°F

No. of Turkey Breasts	Timer Setting (Hrs.)	*Min. Time to reach Hold Temp. (Hrs.)
1	2 ½	1
2	3	1
4	3 ½	1
6	4	1
8	4 ½	1 ¼
14	6	1 ½

12-15 lb. Smoked Hams-Boneless
Cook Thermostat set at 225°F and Hold Thermostat set at 160°F

No. of Hams	Timer Setting (Hrs.)	*Min Time to reach Hold Temp. (Hrs.)
1	2 ½	1
2	3	1
4	3 ½	1
6	4	1
8	4 ½	1 ¼
12	5 ½	1 ½



CAUTION: *WHENEVER SERVICING OR CLEANING THE OVEN. THE MAIN POWER SUPPLIES TO THE OVEN MUST BE DISCONNECTED.*

AT LEAST TWICE A YEAR HAVE YOUR SOUTHBEND AUTHORIZED SERVICE AGENCY CLEAN AND ADJUST THE UNIT FOR MAXIMUM PERFORMANCE.

WARNING:

FOR AN APPLIANCE EQUIPPED WITH CASTERS, THE INSTALLATION SHALL BE MADE WITH A CONNECTOR THAT COMPLIES WITH THE STANDARD FOR CONNECTORS FOR MOVABLE GAS APPLIANCES, ANSI Z21.69.1987, CAN/CGA-6.16-M87 AND A QUICK-DISCONNECT DEVICE THAT COMPLIES WITH THE STANDARD FOR QUICK-DISCONNECT DEVICES FOR USE WITH GAS FUEL, ANSI Z21.41-1978, AND ADDENDA, Z21.41a.l981, Z21.41b-1983 AND CAN1 6.9 M79. ADEQUATE MEANS MUST BE PROVIDED TO LIMIT THE MOVEMENT OF THE APPLIANCE WITHOUT DEPENDING ON THE CONNECTOR AND THE QUICK-DISCONNECT DEVICE OR ITS ASSOCIATED PIPING TO LIMIT THE APPLIANCE MOVEMENT.

WARNING:

IF DISCONNECTION OF THIS RESTRAINT IS NECESSARY TO MOVE THE APPLIANCE FOR CLEANING, ETC., RECONNECT IT WHEN THE APPLIANCE IS MOVED TO ITS ORIGINALLY INSTALLED POSITION.

Daily: A. Wash exposed cleanable areas.

Monthly: A. Clean around burner air mixers, louvered panels and pilots if grease or lint have accumulated.

Following daily and periodic maintenance procedures will enhance long life for your equipment. Climatic conditions — salt air — may require more thorough and frequent cleaning or the life of the equipment could be adversely affected.

OVEN INTERIOR: Standard Finish

All linings are finished with a porcelain enamel coating which encourages frequent cleaning. "Spillovers" should be cleaned from the bottom as soon as possible to prevent carbonizing and a burnt-on condition. Grease or any residue should be cleaned from the side lining as soon as it accumulates. Usually a soap or detergent solution is strong enough. For stubborn accumulations, commercial oven cleaners are recommended.

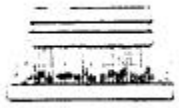
The rack slide frames are readily removable by merely raising to disengage them from their sockets. Turn the thermostat to the "OFF" position and allow the oven to cool before applying any cleaners.

Foreign matter may collect on the blades of the blower wheel and reduce the circulation. When this becomes apparent, turn the fan switch to the "OFF" position. Remove the rear lining which is secured by thumb screws near each comer. Then, use a stiff brush on each blade and finally, wash with soap and water.

EXTERIOR:

STAINLESS STEEL: To remove normal dirt, grease, or product residue from stainless steel, use ordinary soap and water (with or without detergent) applied with a sponge or cloth. Dry thoroughly with a clean cloth. Never use vinegar or any corrosive cleaner.

To remove grease and food splatter or condensed vapors that have baked on the equipment, apply cleanser to a damp cloth or sponge and rub cleanser on the metal in the direction of the polishing lines on the metal. Rubbing cleanser as gently as possible in the direction of the polished lines will not mar the finish of the stainless steel. NEVER RUB WITH A CIRCULAR MOTION. Soil and burnt deposits which do not respond to the above procedure can usually be removed by rubbing the surface with SCOTCH-BRITE scouring pads or STAINLESS scouring pads. DO NOT USE ORDINARY STEEL WOOL, as any particles left on the surface will rust and further spoil the appearance of the finish. NEVER USE A WIRE BRUSH, STEEL SCOURING PADS (EXCEPT STAINLESS), SCRAPER, FILE OR OTHER STEEL TOOLS. Surfaces which are marred collect dirt more rapidly and become more difficult to clean. Marring also increases the possibility of corrosive attack. Refinishing may then be required.



MAINTENANCE

To remove heat tint: Darkened areas sometimes appear on stainless steel surfaces where the area has been subjected to excessive heat. These darkened areas are caused by a thickening of the protective surface of the stainless steel and are not harmful. Heat tint can normally be removed by the foregoing, but tint which does not respond to this procedure calls for a vigorous scouring in the direction of the polish lines using SCOTCH-BRITE scouring pads, or a STAINLESS scouring pad in combination with a powdered cleanser. Heat tint action may be lessened by not applying or by reducing heat to equipment during slack periods.

CONTROL PANEL: The textured control panel should be cleaned with warm water and mild soap. Never use cleaning solvents with a hydrocarbon base.

VENT SYSTEM: At least twice a year the unit venting system should be examined and cleaned.

MOTOR: Lubrication information can be found on permanent label located on motor.

WARNING: Do not get water on controls.

GAS CONVECTION OVEN
SERVICE

ADJUSTMENTS

GENERAL:
When any difficulty arises it is always a good idea to check that the unit has been connected to the gas supply type and voltage for which it was supplied. This can be done by examining the serial plate located on top of unit at left front corner. It will list the type of gas and voltage for which the unit was manufactured.

Wiring diagrams for the unit are located at the rear of the "SERVICE" section in this manual and attached to the inside wall of the control compartment.

WARNING:
ADJUSTEMENTS AND SERVICE WORK MAY BE PERFORMED ONLY BY A QUALIFIED TECHNICIAN WHO IS EXPERIENCED IN, AND KNOWLEDGEABLE WITH, THE OPERATION OF COMMERCIAL GAS COOKING EQUIPMENT. HOWEVER, TO ASSURE YOUR CONFIDENCE, CONTACT YOUR AUTHORIZED SERVICE AGENCY FOR RELIABLE SERVICE, DEPENDABLE ADVICE OR OTHER ASSISTANCES, AND FOR GENUINE FACTORY PARTS.

WARNING - WARRANTY WILL BE VOID IF
A. SERVICE WORK IS PERFORMED BY OTHER THAN A QUALIFIED TECHNICIAN.
B. OTHER THAN GENUINE SOUTHBEND REPLACEMENT PARTS ARE INSTALLED.

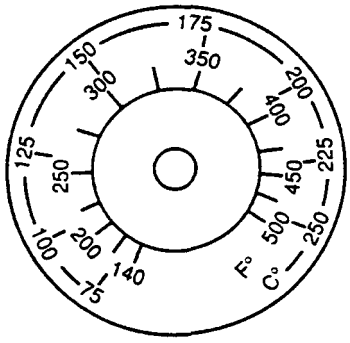
TEMPERATURE CONTROLLER ADJUSTMENT:
(Units without "H" or "RT" suffix, Cook Only)

The calibration of the temperature controller should not be changed until sufficient experience with cooking results has definitely proved that the temperature controller is not maintaining proper oven temperatures. Before any recalibration is attempted, the oven temperature should be checked by this procedure:

1. The oven must be empty of all trays or pans.
2. Place a pyrometer couple or a reliable mercury oven-type thermometer at the center of the middle rack.
3. Set the indicator on the knob to 375°F.
4. The amber "heat on" light will go out when oven temperature is reached.
5. Allow three cycles for the temperature to stabilize.
6. Read the pyrometer or thermometer immediately after the light goes out for the third time, and again immediately after it comes on the next time.
7. If the average of these readings varies by more than 7 degrees from the dial setting, recalibrate by following the instructions outlined below.
8. Recalibration should be attempted only by a competent service man.

TO RECALIBRATE:

1. Loosen two set screws that secure the temperature knob to the temperature control.
2. Remove knob from shaft of temperature controller. Be careful not to rotate knob when removing.
3. Replace the knob with the indicator pointed directly at the temperature measured at center of the oven.
4. Recheck calibration.



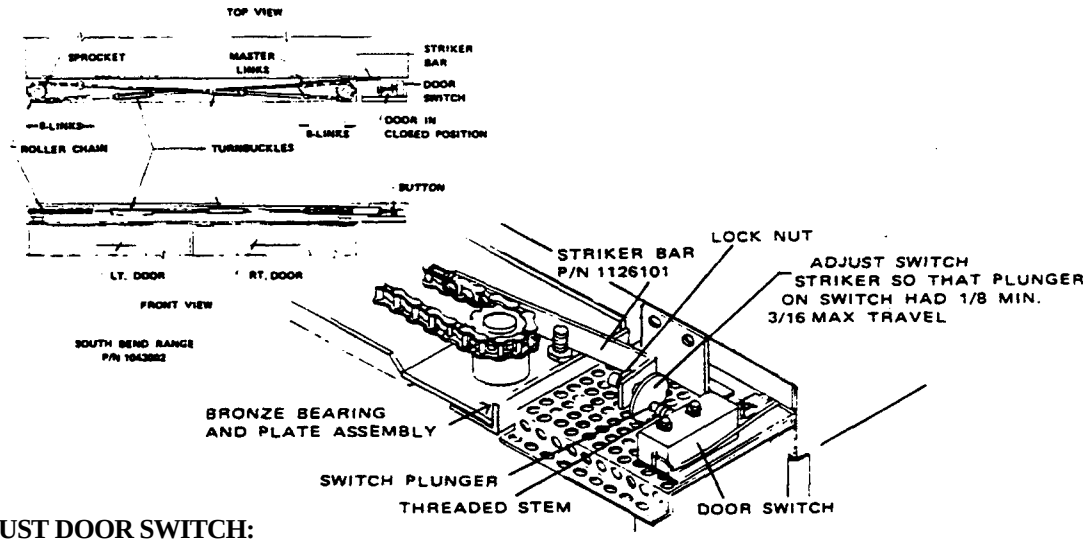
WARNING:
ALL ADJUSTING AND SERVICE SHOULD BE PERFORMED BY A PERSON KNOWLEDGEABLE IN MAKING SUCH ADJUSTMENTS. IF IN DOUBT - CALL YOUR AUTHORIZED SERVICE AGENCY.

INSTALLING AND ADJUSTING DOOR MECHANISM PROCEDURE:

Reference Drawing No. P/N 1043002 (Sketch)

With the cap covering the upper mechanism removed:

1. Close both doors.
2. Assemble the mechanism as shown in the sketch.
3. Adjust both turnbuckles by "opening" equally so the mechanism and chains can be installed over the sprockets. NOTE: The rods must cross as shown.
4. Place the chains around the sprockets so there are eight regular links plus one master link on the forward side of each chain.
5. Adjust the turnbuckles so the right door closes about 1/4 to 1/2 inch ahead of the left door. The left door should be pushed tight over the friction catch so both doors are completely closed against the frame.
6. Install striker bar for door switch as illustrated.
7. Secure the turnbuckles by tightening lock nuts.
8. The door chains and sprockets have been lubricated at the factory with high temperature "Never Seeze" lubricant. After unit usage begins, repeat this process every six months, with above mentioned lube or equivalent.



TO ADJUST DOOR SWITCH:
Reference: Illustration "G"

With the doors closed, adjust threaded striker head so it causes the plunger on the switch to be depressed **1/8"** min. - **3/16"** max. Turn FAN switch to "ON-DOORS CLOSED" position. On two-speed units put center switch in center "OFF" position. Fan should run' and turn off when doors are opened approximately 4 to 6 inches. The amount of "door opening" before the fan turns off can be varied by this adjustment.

CAUTION: *DO NOT ADJUST STRIKER HEAD TOO CLOSE, SO THE PLUNGER ON THE DOOR SWITCH IS COMPLETELY DEPRESSED AND THE STRIKER HEAD IS HITTING ITS THREADED STEM. THIS COULD DISTORT THE STEM AND CAUSE THE PLUNGER TO BIND.*

Try opening and closing the doors several times and adjust striker head until the exact amount of door opening is obtained. TIGHTEN LOCK NUT.

TO REPLACE INTERIOR LIGHT BULBS:

1. Turn power "OFF" by placing the power switch at the top of the control panel in the "OFF" position. Also, be certain the light switch is in the "OFF" position. As a safety precaution, power should be disconnected from the unit before doing any service.
2. When oven is cool, remove all racks.
3. Remove rear air baffle.
4. On all units except those equipped with a 120V control, the oven bulbs are wired in series. Thus, if either bulb burns out, both will be OFF. Replace one bulb at a time (use a 40 watt - 120 VAC appliance bulb) and test the lights by turning them ON.
5. When defective bulb has be replaced, reinstall air baffle and racks.
6. Lights are equipped with a momentary switch. If not held in the "on" position, lights will go out.

CAUTION: *WHENEVER SERVICING OR CLEANING THE OVEN, THE MAIN POWER SUPPLIES TO THE OVEN MUST BE DISCONNECTED.*

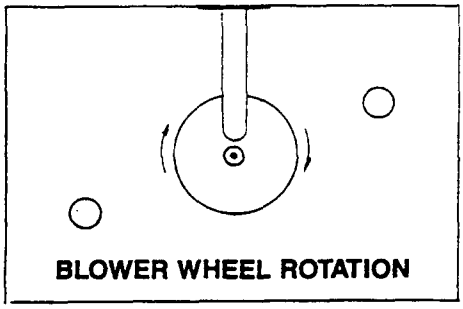
MAIN BURNERS: Open the perforated access door below the oven doors. The orifices on the manifold are the fixed type, sized for the respective gas supply.

The burner flame characteristics are controlled by varying the primary air mixer cap. There should be a clear flame with a distinct inner cone at each port. Excessive primary air can result in "blowing" or the flames leaving the ports. Lack of primary air causes soft or yellow-tipped flame.

The combustion chamber inner shield is provided with burner observation holes. Push circular cover to the side to view burners. Inner shield must be in place for proper burner operation.

MOTOR: Lubrication information can be found on permanent label located on motor.

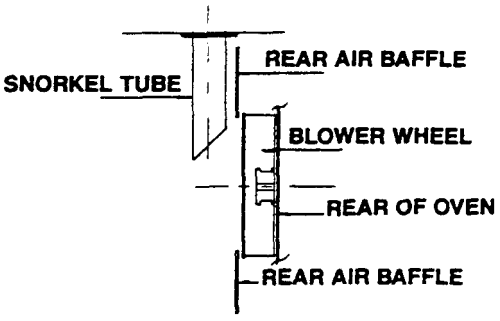
CAUTION: *WHEN CHANGING MOTOR OR SERVICING UNIT, ALWAYS VERIFY THAT BLOWER WHEEL ROTATION IS AS SHOWN IN ILLUSTRATION. (CLOCKWISE WHEN LOOKING INTO OVEN CAVITY.)*



CAUTION: *WHEN SERVICING UNIT, ALWAYS VERIFY THAT THE SNORKEL TUBE IS INSTALLED CORRECTLY (SEE ILLUSTRATION AT RIGHT.) ANGLE CUT OF THE TUBE* MUST *BE FACING BLOWER WHEEL.*

CAUTION: *PROPER AND EFFICIENT OPERATION OF OVEN IS DEPENDENT ON CORRECT INSTALLATION AND FUNCTION OF COMPONENTS. ALWAYS VERIFY THAT THE COMPONENTS ARE IN PLACE AND FUNCTIONING AS INTENDED.*

SNORKEL POSITION



WARNING:

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TROUBLESHOOTING:

SYMPTOM	CAUSE	CHECK OR REPLACE
1) Unit does not come on when "POWER ON" switch is placed in "ON" position.	A) Circuit breaker on wall bad. B) Faulty "POWER ON" switch. C) Power cord not plugged in.	A) Circuit breaker at power source. B) "POWER ON" switch at top of control panel. C) Cord/plug secure in outlet.
2) Fan motor will not run with selector switch in any position and with fan switch in "COOL DOWN" position.	A) Fan motor bad. B) Bad fan switch.	A) Fan motor located at rear of unit. B) Fan switch located on top of control panel.
3) Oven lights will not work	A) One or both oven lights burned out. B) Faulty light switch.	A) Oven lights in oven. B) Light switch on lower area of control panel.
4) Oven pilot will not stay on. (X models with standing pilots only.)	A) Faulty thermocouple or connection. B) Faulty combination control.	A) Thermocouple located in pilot bracket and running to combination coltrol. B) Combination control located behind removable lower panel.

*To gain access to inner control compartment.right body side must be removed.

TROUBLESHOOTING:

COOK AND HOLD PROGRAMMABLE CONTROL & "RACK TRACK"

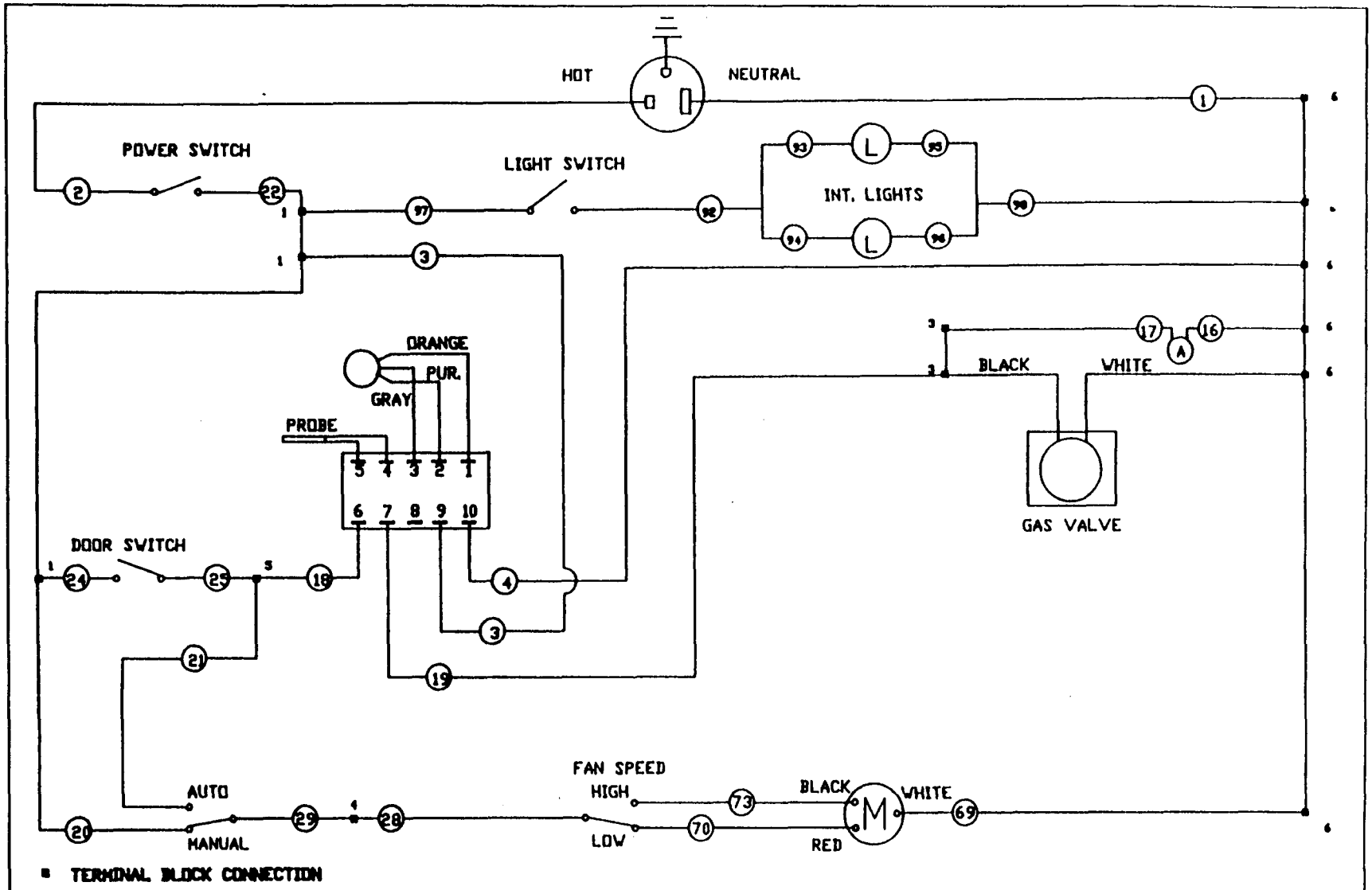
SYMPTOM	CAUSE	CHECK OR REPLACE
1) Display shows Fl	A) Bad temperature controller.	A) Replace temperature controller.
2) Display shows F2	A) Oven interior maximum temperature exceeded.	A) Gas valve stuck open. B) Replace Temperature Controller
3) Display shows F3	A) Open temperature probe.	A) Check connection. Replace probe if needed.
4) Display shows F4	A) Shorted temperature probe.	A) Check probe wires. Replace probe if needed.
5) Display shows F5	A) Bad temperature controller.	A) Replace temperature controller.
6) Display shows F6	A) Bad temperature controller.	A) Replace temperature controller.
7) Display shows F7	A) Total cook time in a pro gram exceeded24 hours.	A) Reprogram so that total cook time does not exceed 24 hours.
8) Display shows F8	A) Bad temperature controller.	A) Replace temperature controller.

*When replacing temperature controller record display.

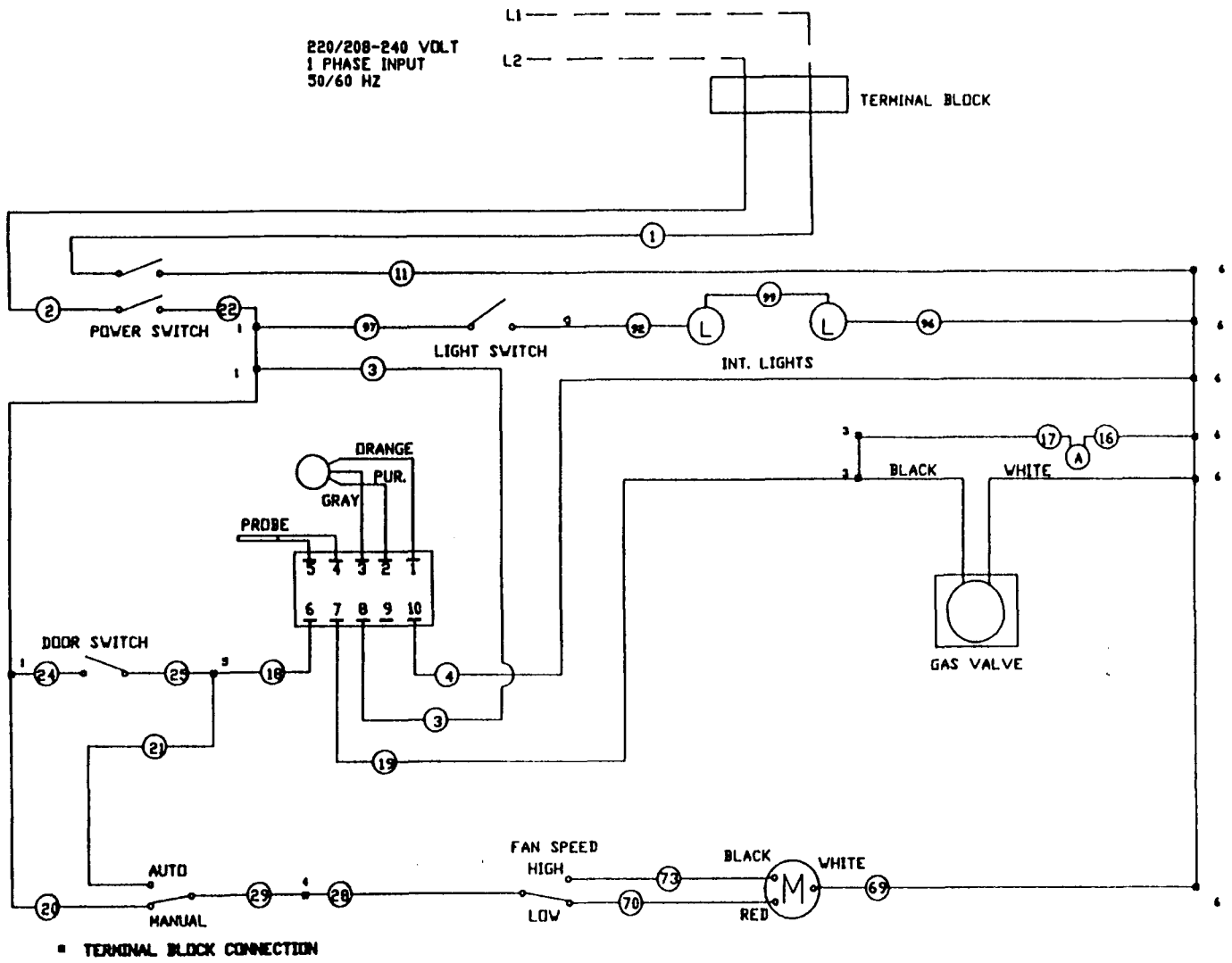
ELECTRONIC IGNITION TROUBLESHOOTING: (XE Models Only)

SYMPTOM	CAUSE	CHECK OR REPLACE
1) Glow coil igniter does not glow red when power switch is turned on.	A) No power to ignition module. B) Broken glow coil.	A) 24V from transformer to blue or black igniter module. B) 120V to 77 of blue ignition module. C) Ignition module. D) Glow coil.
2) Burners ignite but lockout after 4 seconds.	A) Flame sensor connection. B) Faulty ignition module.	A) Flame sensor connection at plug to module. B) Ignition module.
3) Glow coil glows red but burners do not come on when thermostat calls for heat (cooking light is on).	A) No power to gas valve. B) Faulty main gas solenoid. C) Faulty ignition module.	A) 24V from ignition box to gas valve. B) Replace Unitrol. C) Replace ignition module.

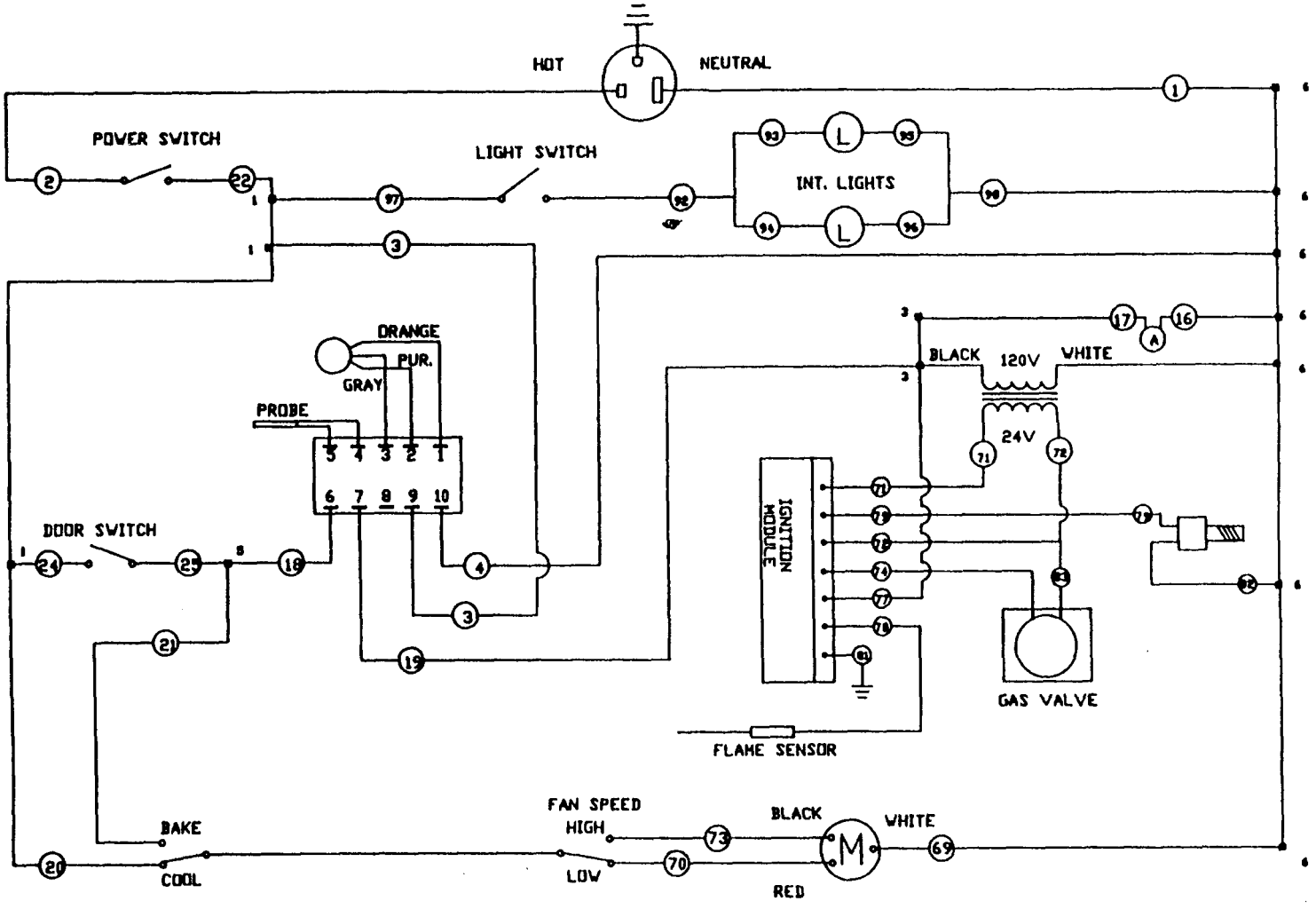
NOTE: All solutions assume good wire terminal contact. Therefore, always check along with checking components.



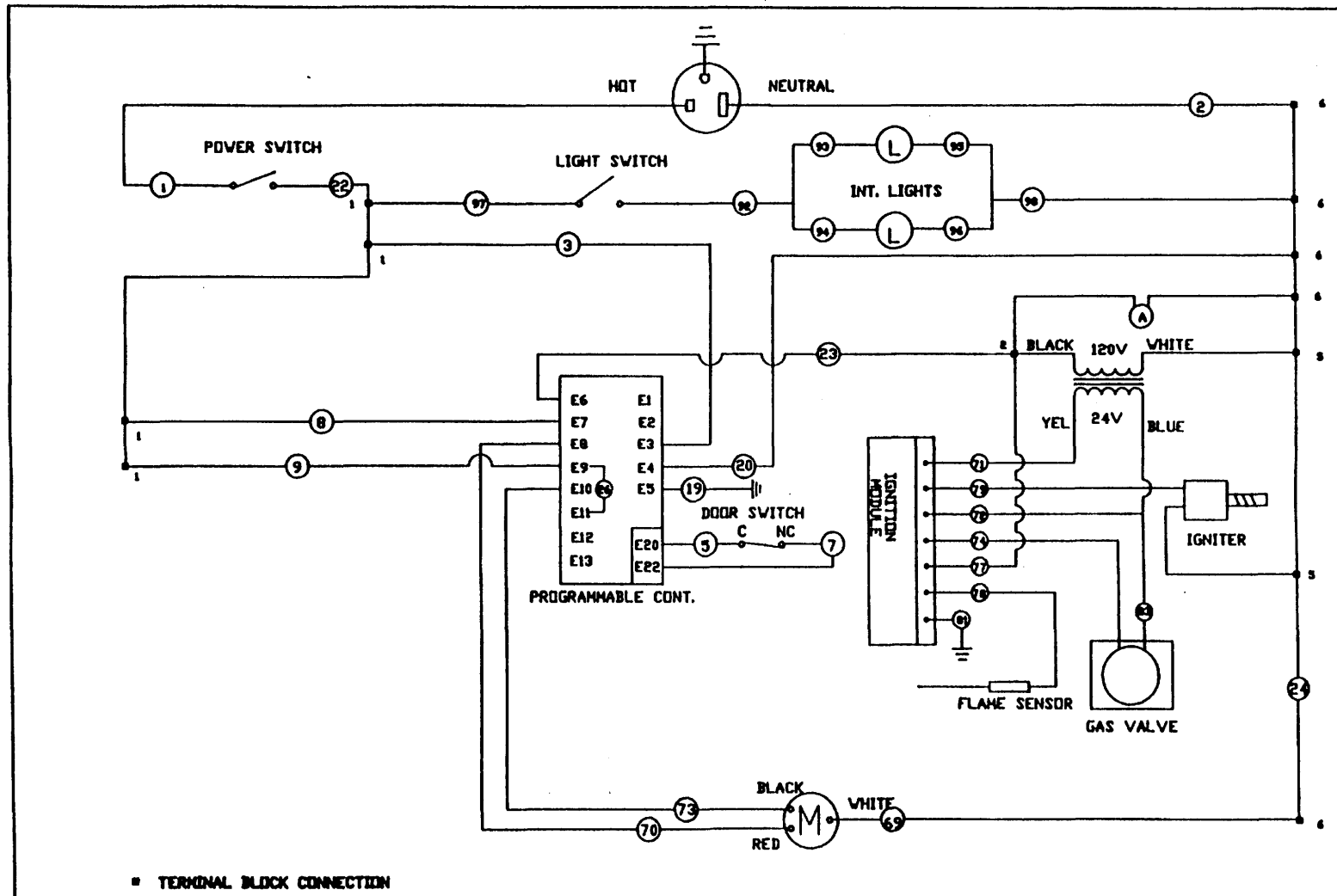
SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS Models X-10, XS-10, X-20, XS-20 120 V, 50/60 HZ, 2 Speed	P/N 1170393



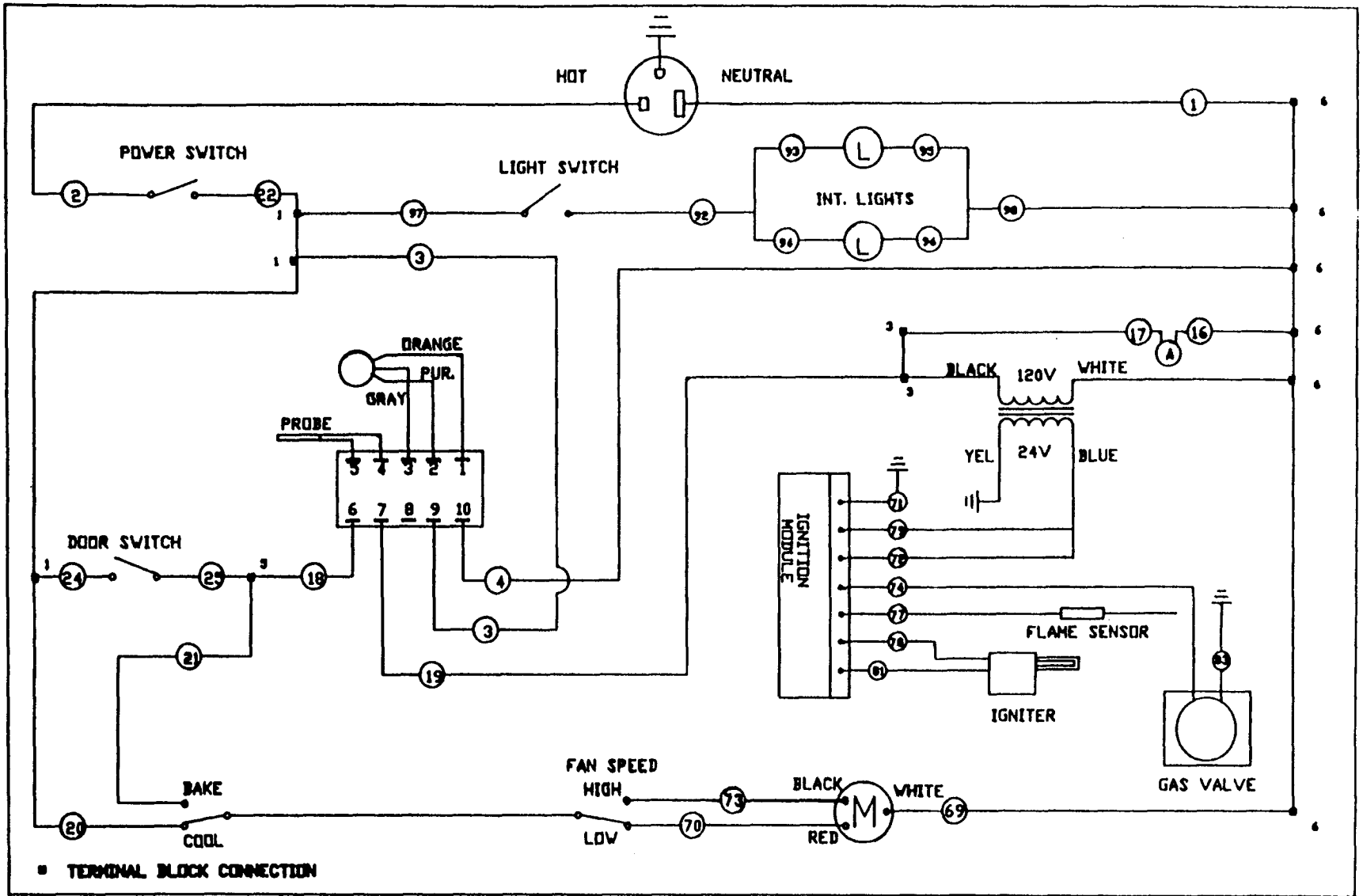
SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS Models X-10, XS-10, X-20, XS-20 220-208-240V, 50/60 HZ, 2 Speed	P/N 1170394



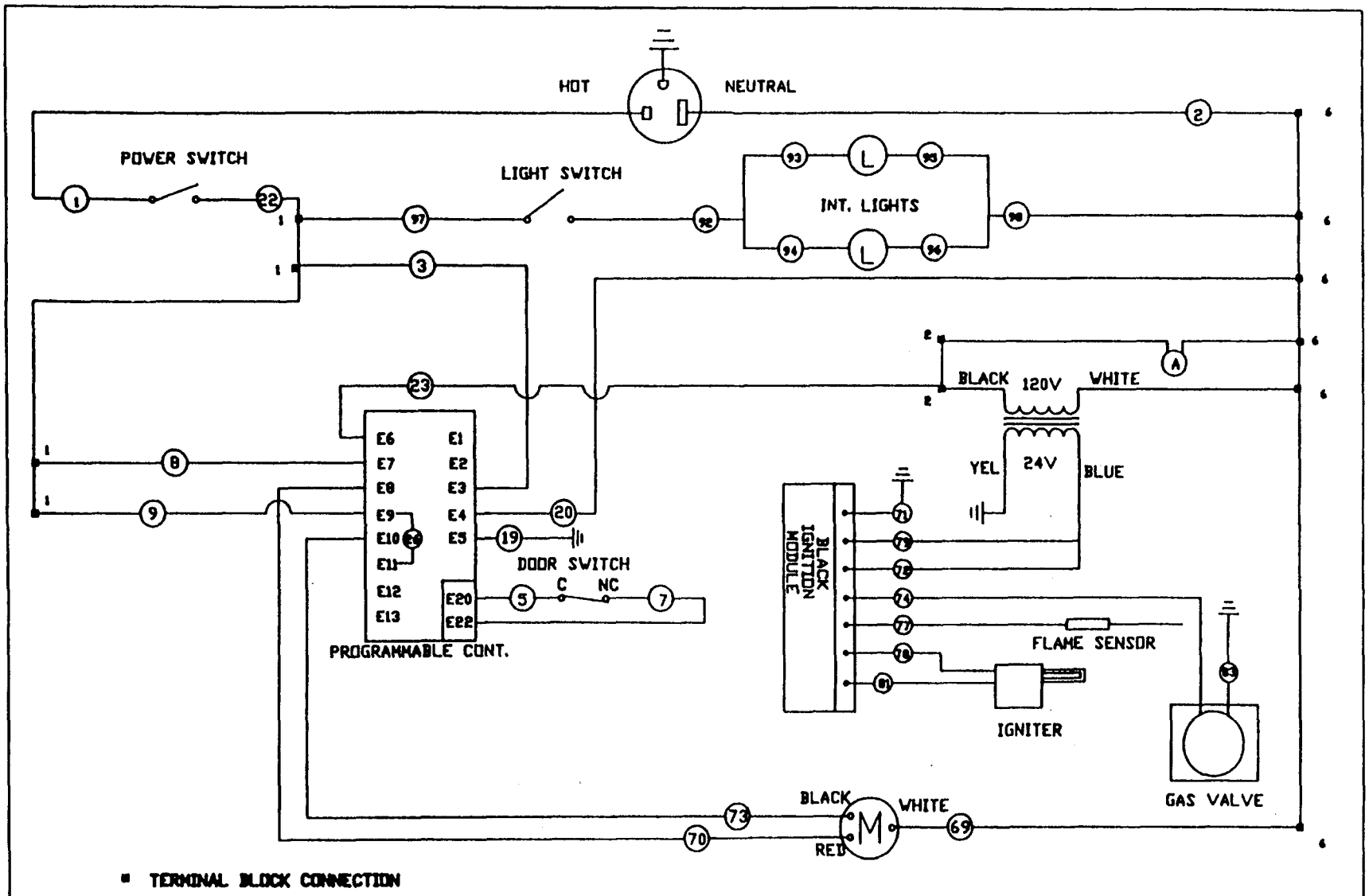
SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — Electronic Ignition Models XE-10, XSE-10, XE-20, XSE-20 120V, 50/60 HZ, 2 Speed	P/N 1170395



SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — (Cook & Hold and "Rack Track") Electronic Ignition Models XE-10H, XSE-10H, XF-20H, XSE-20H 120 V, 50/60 HZ, 2 Speed	P/N 1172700

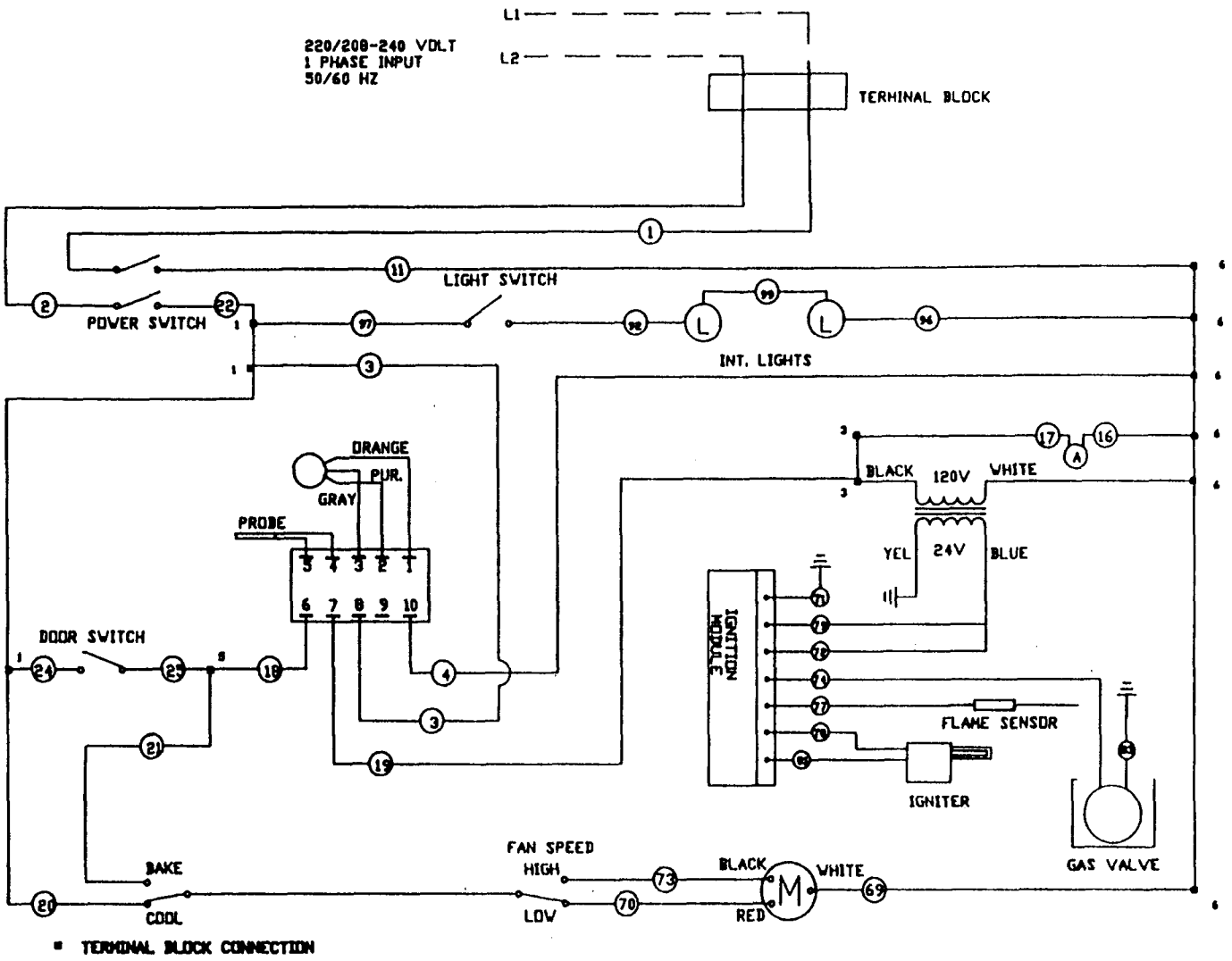


SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — Black Box Electronic Ignition Models XE-10, XSE-10, XE-20, XSE-20 120 V, 50/60 HZ, 2 Speed	P/N 1172287

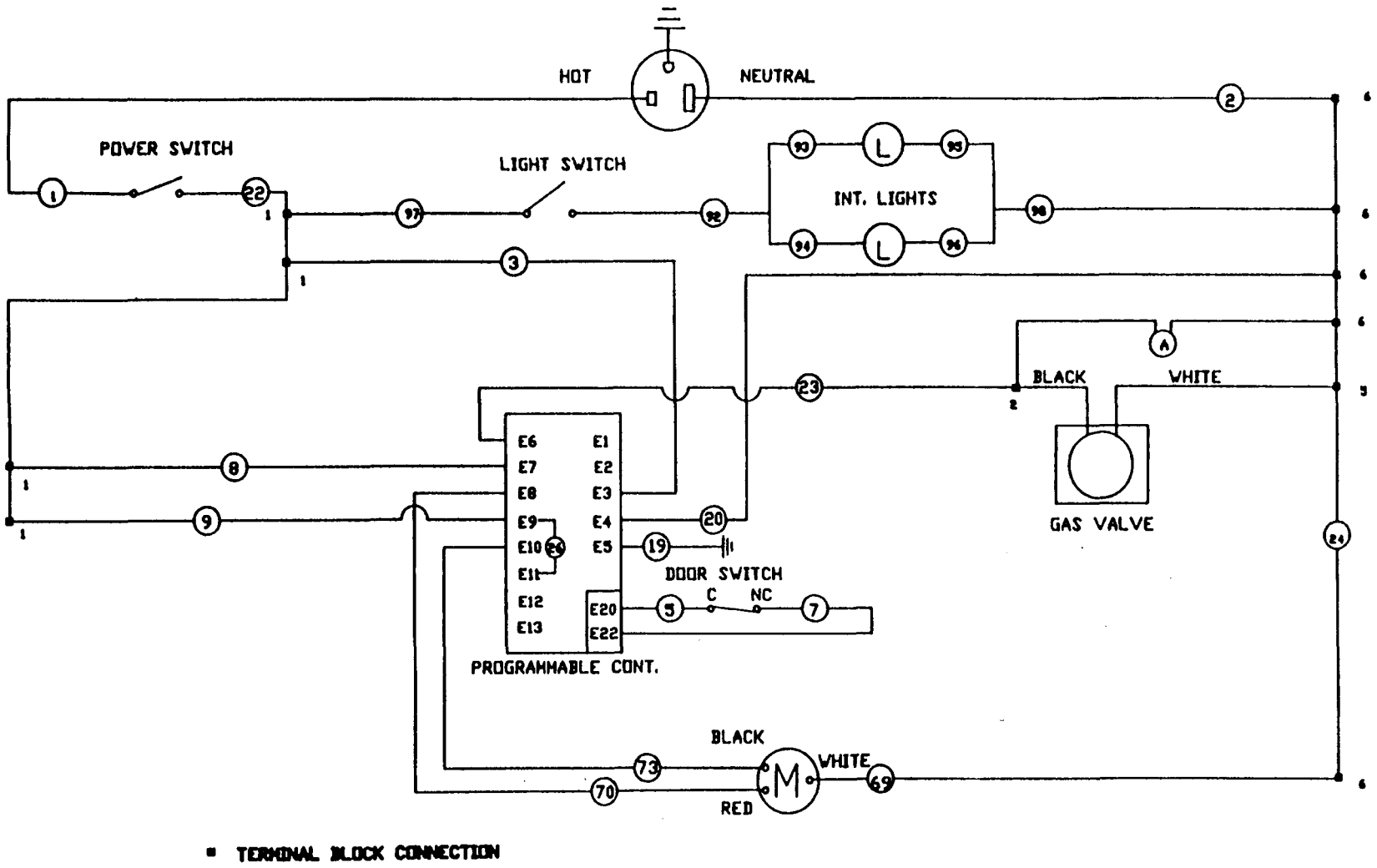


SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — (Cook & Hold and "Rack Track") Black Box Electronic Ignition Models XE-10H, XSE-10H, XE-20HH, XSE-20HH 120 V, 50/60 HZ, 2 Speed

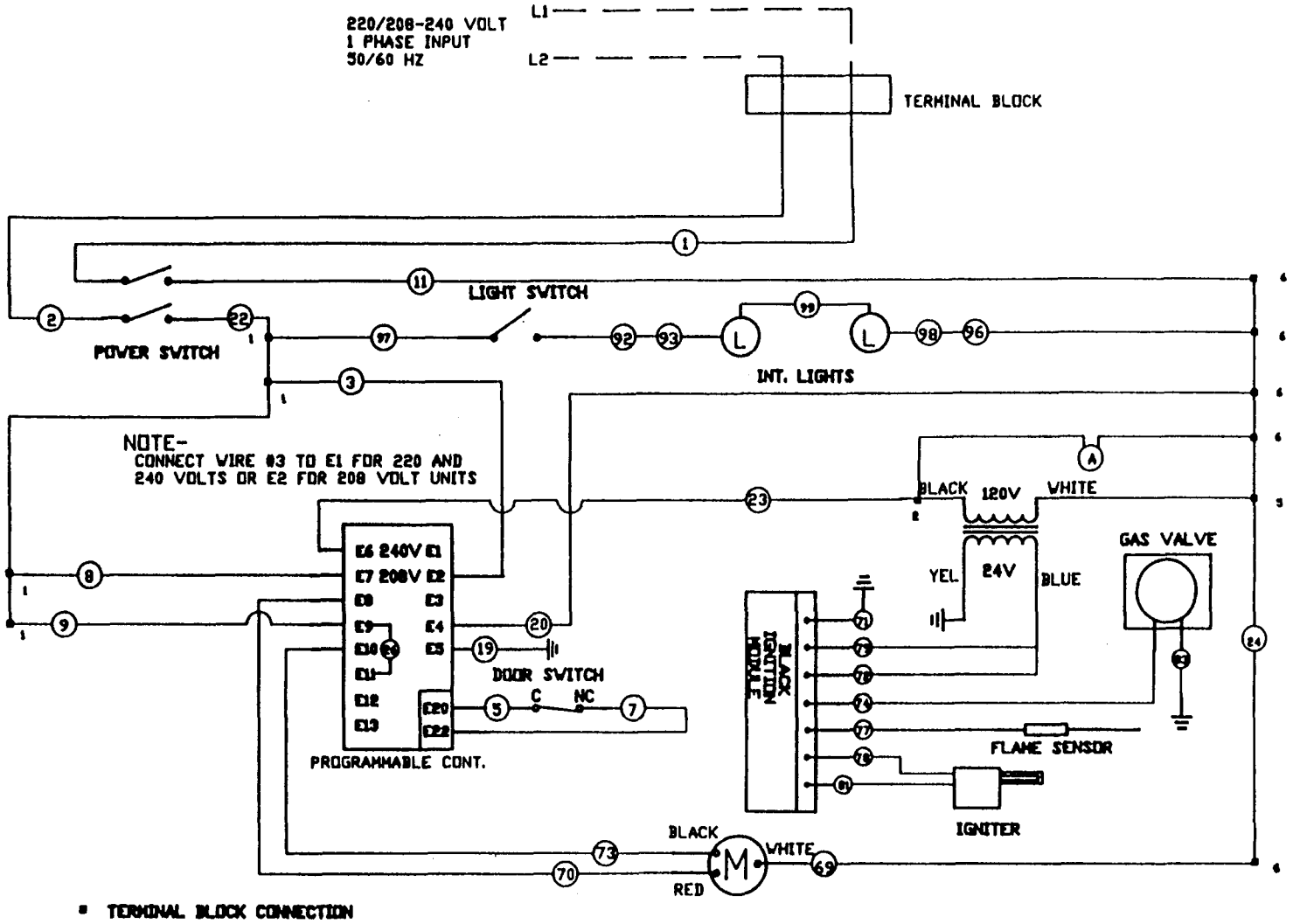
P/N 1172286



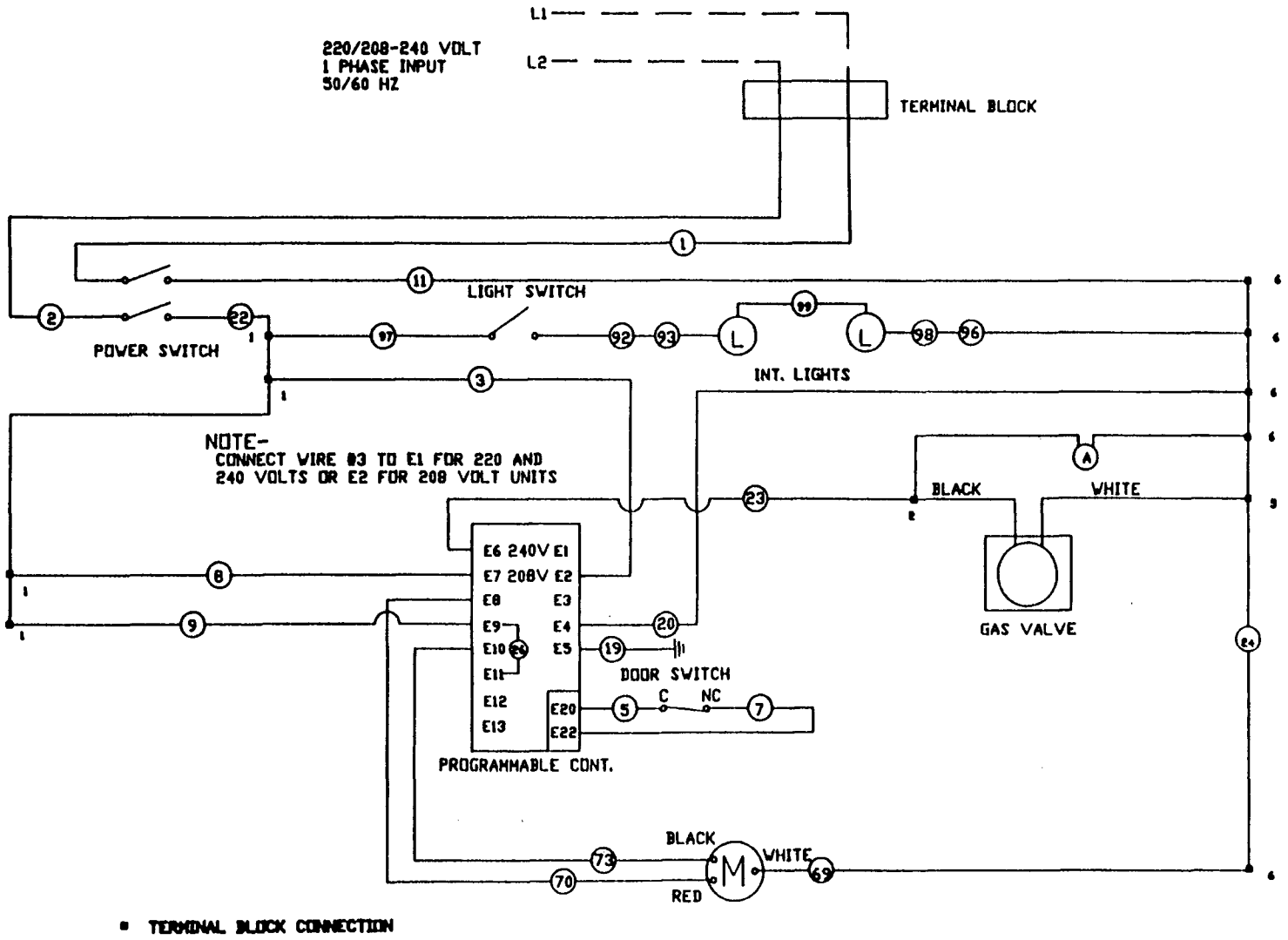
SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — Black Box Electronic Ignition Models XE-10, XSE-10, XE-20, XSE-20 220/208-240V, 50/60 HZ, 2 Speed	P/N 1172289



SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — (Cook & Hold and "Rack Track") Programmable Control Models X-10H, XS-10H, X-20HH, XS-20HH 120 V, 50/60 HZ, 2 Speed P/N 1172703

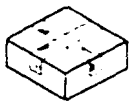


SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — (Cook & Hold and "Rack Track") Programmable Control Models XE-10H, XSE-10H, XE-20HH, XSE-20HH 220/208-240V, 50/60 HZ, 2 Speed	P/N 1172288



SOUTHBEND WIRING DIAGRAM	GAS CONVECTION OVENS — (Cook & Hold and "Rack Track") Programmable Control Models X-10H, XS-10H, X-20HH, XS-20HH 220/208-240V, 50/60 HZ, 2 Speed	P/N 1172290

GAS CONVECTION OVEN
PARTS

PARTS 

WARNING:
INSTALLATION OF OTHER THAN GENUINE SOUTHBEND PARTS WILL VOID THE WARRANTY **ON** THIS EQUIPMENT.

The serial plate is located on top of the unit at the left front corner. An "E" suffix at the end of the Model Number indicates the unit is equipped with electronic ignition.

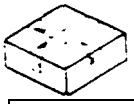
Replacement parts may be ordered either through a Southbend Authorized Parts Distributor or a Southbend Authorized Service Agency.

When ordering parts, please supply the Model Number, Serial Number, Part Number, Description, plus Finish, Type of Gas and Electrical Characteristics as applicable.

For parts not listed, consult a Southbend Authorized Parts Distributor or Southbend Authorized Service Agency. If necessary, please consult Southbend Parts Department for assistance.

INFORMATION ON MODEL SUFFIX'S

PRODUCT LINE	SUFFIX	DATE	INDICATES
Convection Ovens	None	1979	On gas ovens a Unitrol combination valve is used instead of separate safety valve, manual valve, regulator and pilot filter.
	None	April 1980	On electric ovens: (1) a different control panel using a polypanel instead of a silk, screened printing, and the removal of a 60 amp circuit breaker; (2) a change from one large light box to two small ones.
	H		One deck is a Cook & Hold.
	HH		Two decks are Cook & Hold.
V Series	B	June 1984	Change to 2 Twin Cell Sheet Metal Burners.
X Series	A	Jan. 1, 1988	All units with serial numbers beginning with 88A & up — Solid State Controls.
X Series	A	Jan. 1, 1990	All units with serial numbers beginning with 90A & up — 500° temperature controls.



PARTS

CONTROL PARTS LIST

SEE FIG.	KEY NO.	PART NO.	DESCRIPTION
		1172768	DOOR SWITCH
4	9	1170343	DPST POWER SWITCH
5		1170344	SPOT AUTO/MANUAL. HI-LOW
5		1170346	SPST LIGHT SWITCH
3	3	1170350	COOK LIGHT (250V) AMBER
3	3	1170347	COOK LIGHT (125V) AMBER
		1170335	TERMINAL STRIP
		1170362	TRANSFORMER (208-240V TO 120V)

NON-ELECTRICAL CONTROL PARTS

SEE FIG.	KEY NO.	PART NO.	DESCRIPTION
		1170360	2-HR. MECHANICAL TIMER
5		1172130	KNOB. MECHANICAL TIMER
		1170324	STEAM FLOOD JET
5		1172252	TEMP. CALIBRATION PLATE (Cook
		1170291	CONTROL POLY PANEL (Cook. 2 Speed)
3		1172750	CONTROL POLY PANEL COOK & WITHOUT STEAM
3	6	1173369	CONTROL POLY PANEL RACK TRACK
3	4	1172275	COOK & HOLD CONTROL KNOB
5	23	1170337	COOK ONLY CONTROL KNOBS

500°F SOLID STATE COOK CONTROL

SEE FIG.	KEY NO.	PART NO.	DESCRIPTION
		1172731	TEMPERATURE PROBE
		1172733	CONTROL BOARD
		1172734	CONTROL POTENTIOMETER
		1172252	COOK DIAL 500F
		1170342	CONTROL BOARD STAND OFFS
			NOTE: FOR 450°F SOLID STATE COOK CONTROLS
		1170359	450° CONTROLLER
		1172731	450° PROBE

DIGITAL CONTROL PANEL COOK & HOLD

SEE FIG.	KEY NO.	PART NO.	DESCRIPTION
4	12	117227	°F 60 HZ CONTROL
		117227	° CELCIUS 50 HZ CONTROL
		117275	CONTROL PROBE
		117227	CONTROL KNOB

DIGITAL CONTROL PANEL RACK TRACK

SEE FIG.	KEY NO.	PART NO.	DESCRIPTION
4	12	1173402	°F 60 HZ CONTROL
		1173403	CELCIUS 50 HZ CONTROL
		1172753	CONTROL PROBE
		1173369	RACK TRACK POLY PANEL
		1172257	CONTROL KNOB

FOR DEEP OVEN

PART NO.	DESCRIPTION	QTY.
1167248	OPEN RACK STORAGE BASE - COMPLETE	1
	CONSISTING OF:	
1167246	FRONT & REAR HANGER	2
1167247	FRONT & REAR RACK	2
1165670	SIDE RACK	2
1097702	STOP ROD	1
6660	SIDE RACK SUPPORT CLIP	4
1146404	1-20 HEX NUT	2
1146505	1/4" LOCK WASHER	2
1146304	#10 SHEET METAL SCREW	16

FOR STANDARD OVEN

PART NO.	DESCRIPTION	QTY.
1167249	OPEN RACK STORAGE BASE - COMPLETE	1
	CONSISTING OF:	
1167246	FRONT & REAR HANGER	2
1167247	FRONT & REAR RACK SUPPORT	2
1167841	SIDE RACK	2
1097702	STOP ROD	1
6660	SIDE RACK SUPPORT CLIP	4
1146404	1/4-20 HEX NUT	2
1146505	1/4" LOCK WASHER	2
1146304	#10 SHEET METAL SCREW	16

COOK ONLY CONTROL PANEL GAS CONVECTION OVEN

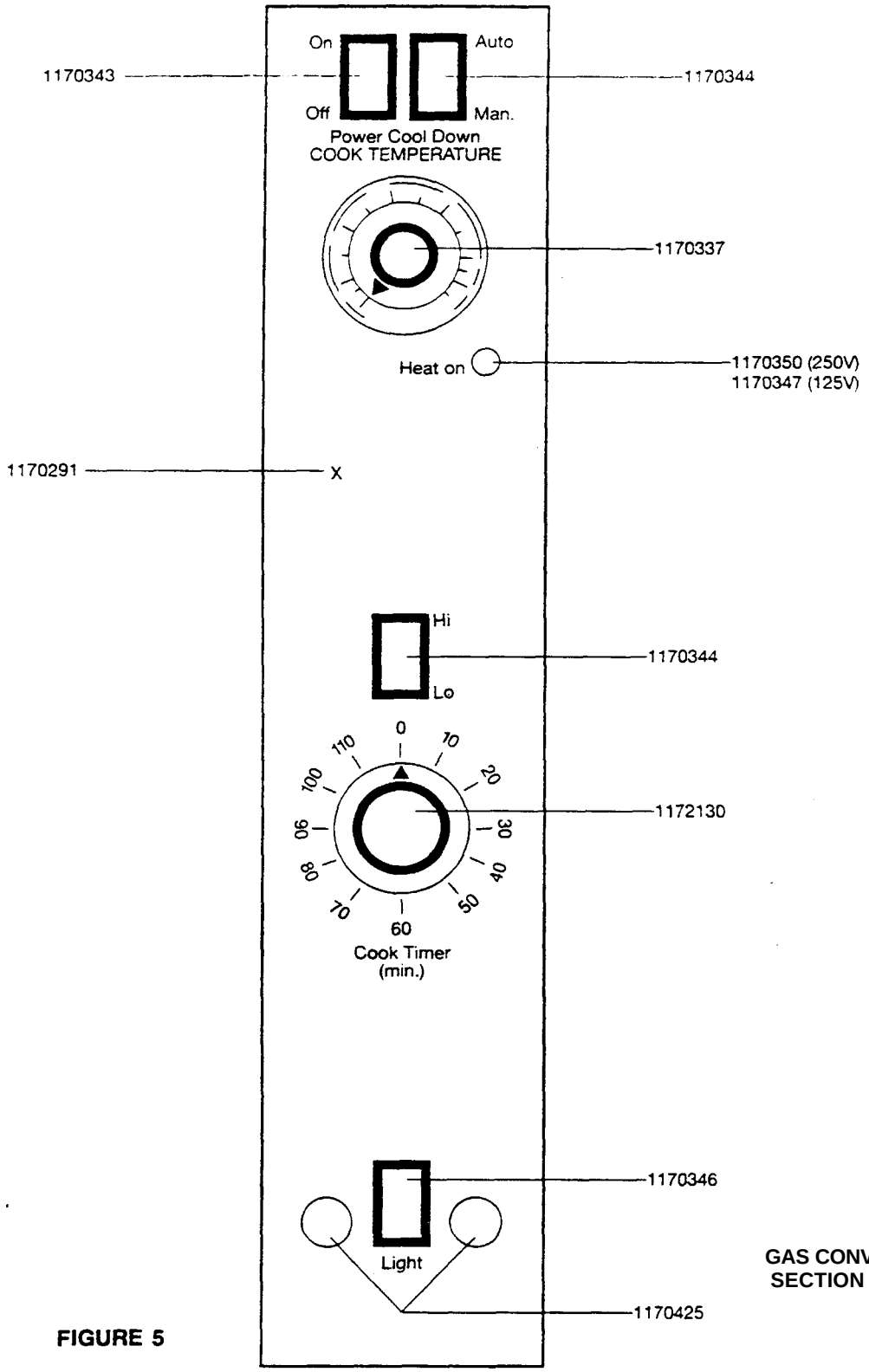


FIGURE 5

SEE FIGURE	KEY NO.	PART NO.	DESCRIPTION	X UNITS	XS UNITS	XE UNITS	XSE UNITS
COMMON ELECTRICAL PARTS (X & XE Series Ovens)							
		4440297	1/3 HP MOTOR - 2 SPEED - 120V - 50/60 HZ	x	x	x	x
		4440298	1/3 HP MOTOR - 2 SPEED - 208/236V - 50/60 HZ	x	x	x	x
		1161799	MOTOR MOUNTING BRACKET	x	x	x	x
		1161836	MOTOR MOUNTING PLATE ASM.	x	x	x	x
2	1	1046599	BLOWER WHEEL	x	x	x	x
2	2	1160010	OVEN LIGHT SOCKET	x	x	x	x
2	3	1160009	OVEN LIGHT BULB	x	x	x	x
		1162843	TERMINAL BLOCK 2 POLE	x	x	x	x
		1162850	TERMINAL BLOCK TRACK	x	x	x	x
		1162842	TERMINAL BLOCK 18-4 CU WIRE				
1	16	1142000	DOOR SWITCH (CHERRY)	x	x	x	x
PARTS - NEW STYLE 60/40 DOOR							
1	13	1171667	RT. DOOR ASM. (40 Solid)				
		1167315	LT. DOOR ASM. (60 Solid)				
1	14	1167316	LT. DOOR ASM. W/GLASS PANEL (Optional)				
		1160894	DOOR HANDLE PLUG				
		1166268	CENTER DOOR SEAL - S.S (On Left Door)				
		1164561	CENTER DOOR SEAL (1092301, OLD STYLE 50/50				
		1166269	DOOR EQUALIZER - S.S. (On Rt. Door)				
1	15	4440203	OVEN DOOR HANDLE KIT (Includes bolts and plugs) 60/40 *door is a direct replacement for* 50/50 door. *however. both doors must be replaced.* 60 *or 40 door can be out on either side*				
		4440335	SS DOOR SEAL KIT (REPLACES 1 TOP, 1 BOTTOM. 2				
		1173244	LT. DOOR ASM. (SOLID 50/50)				
		1173245	RT. DOOR ASM. (SOLID 50/50)				
		1173242	LT. DOOR ASM. (50/50 GLASS)				
		1173243	RT. DOOR ASM. (50/50 GLASS)				
INTERCHANGEABLE DOOR PARTS							
1	1	1164513	UPPER BRONZE BUSHING	x	x	x	x
		1164527	LOWER BRONZE BUSHING	x	x	x	x
		1164547	LOWER SPACER	x	x	x	x
		1164516	LOWER BUSHING RETAINER (Left or Right Door)	x	x	x	x
1	2	1087898	UPPER BUSHING RETAINER - LT.	x	x	x	x
1	3	1087899	UPPER BUSHING RETAINER - RT.	x	x	x	x
1	4-5	4440007	SPROCKET & PIN (Includes 4 and 5)	x	x	x	x
1	4	1019100	SPROCKET	x	x	x	x
1	5	1041200	SPRING PIN	x	x	x	x
1	6	1092000	BRONZE WASHER	x	x	x	x
1	7	1012496	PERMA VIEW WINDOW - 50/50 OR 60 GLASS FOR	x	x	x	x
			Old door mechanism is no longer available. New style complete is a direct replacement.				
		1043090	DOOR MECHANISM COMPLETE (Includes 8 through	x	x	x	x
1	8	1029599	CHAIN	x	x	x	x
1	9	1164521	ROUND DOOR ROD	x	x	x	x
1	10	1164519	PASS THRU WELD ASM.	x	x	x	x
1	11	1164522	TURNBUCKLE	x	x	x	x
1	12	1160286	STRIKER BAR ASM.	x	x	x	x
		1029501	MASTER LINK CHAIN	x	x	x	x

BODY PARTS							
SEE FIGURE	KEY NO.	PART NO.	DESCRIPTION	X UNITS	XS UNITS	XE UNITS	XSE UNITS
4	8	1088400	TOP TRIM CAP	x	x	x	x
		1088401	LOWER TRIM CAP	x	x	x	x
1	18	1018202	LEFT FRONT TRIM (Next to Door)	x	x	x	x
1	19	1018201	RT. FRONT TRIM (Next to Door)	x	x	x	x
1	17	1161468	TOP GUARD	x	x	x	x
2	4	1171001	REAR AIR BAFFLE (Includes rack stops) (Direct for 1165121)	x	x	x	x
2	5	1160289	REAR THUMB SCREW (1146329)	x	x	x	x
		1165827	REAR AIR BAFFLE SPACER (4) (Also requires (4)	x	x	x	x
		1166819	SPEED NUT (4) (Required)	x	x	x	x
		†1167551	SWIVEL CASTER ASM. - NO BRAKE (Required on 2 1/2" Toe Base double stacked.)	x	x	x	x
		†1167552	SWIVEL CASTER ASM. WITH BRAKE (Required on *2 1/2"* Toe Base double stacked.)	x	x	x	x
		*1167235	6" PLATED LEG W/ADJUSTABLE FOOT (Bolt On)	x	x	x	x
		*1146213	BOLT - 3/8"-16 x 1" HEX HEAD (4 required)	x	x	x	x
		*1146514	WASHER (4 required)	x	x	x	x
		4440222	MOISTURE SHIELD (Pilot outage top deck, double stacked units)	x	x	x	x
		1164244	SOLID FRONT (Pilot outage top deck. double deck smooth front)	x	x	x	x
		*1167885	2" HIGH WRAPAROUND BASE W/STAINLESS		x		x
		*1167887	2" HIGH WRAPAROUND BASE W/STAINLESS & BOTH SIDES		x		x
		* 1167884	2- HIGH WRAPAROUND BASE W/STAINLESS	x		x	
		*1167886	2- HIGH WRAPAROUND BASE W/STAINLESS & BOTH SIDES	x		x	
2	6	1165100	HEAT TUBE ASM. (Snorkle Tube)	x	x	x	x
4	26	1167245	BOTTOM FRONT PANEL (Combustion Chamber	x	x	x	x
		1167303	COMBUSTION CHAMBER DOOR - UPPER	x	x	x	x
		1166694	COMBUSTION CHAMBER DOOR - LOWER	x	x	x	x
		*A81-00010	STACKING KIT TO CONVERT TWO X-10s TO X-20 XS-10s TO XS-20 (With Bolt-on Legs)	x	x	x	x
		*A81-00012	UNSTACKING KIT TO CONVERT X-20 TO TWO X-XS-20 TO TWO XS-10s (With Bolt-on Legs)	x	x	x	x
		1161489	FRONT BURNER BOX SHIELD	x	x	x	x
2	7	1000312	OVEN RACK	x		x	
2	8	1173597	RACK GUIDES (1172684)	x		x	
2	8	1000313	OVEN RACK		x		x
2	8	1173596	RACK GUIDES (1172685)		x		x
2	9	6660	RACK GUIDE SUPPORT	x	x	x	x
		C14-00022	REAR BURNER REST (1165056)	x		x	
		C14-00023	REAR BURNER REST (1165058)		x		x
	41	1093999	BACK FLUE (X-10, XS-10, XE-10. XSE-10)	x	x	x	x
		1093995	BACK FLUE (X-20, XS-20, XE-20. XSE-20)	x	x	x	x
		4440010	CABINET KNOB ASM.	x	x	x	x
		A81-00032	STAINLESS STEEL DOWN DRAFT DIVERTER - 6" DIA. CONNECTION (Single Deck Units)	x	x	x	x
		A81-00034	STAINLESS STEEL DOWN DRAFT DIVERTER - 6" DIA. CONNECTION (Double Stacked Units)	x	x	x	x

KEY NO.	PART NO.	DESCRIPTION	X UNITS	XS UNITS	XE UNITS	XSE UNITS
BODY PARTS (Continued)						
	B03-00032	REMOVABLE FRONT PANEL - STAINLESS STEEL W/FASTENERS				
	A59-00016	BAIL HEAD FASTENER				
	A59-00017	RETAINER (Keeps fastener from falling off panel)				
	1166770	RECEPTACLE #85				
	D10-00010	STAINLESS STEEL LOWER HINGE COVER (Double Stacked Units)				
	1167061	ENAMELED OVEN BOTTOM	X		X	
	1166688	OVEN FIRE PLATE - BAFFLE (2 required)	X		X	
	1166274	FIRE PLATE SUPPORT (Raising Spreader)	X	X	X	X
	1167248	OPEN RACK STORAGE BASE	X		X	
	1165862	BODY SIDE - RIGHT - BLACK	X		X	
	1165866	BODY SIDE - LEFT - BLACK	X		X	
	1165863	BODY SIDE - RIGHT - STAINLESS STEEL	X		X	
	1165867	BODY SIDE - LEFT - STAINLESS STEEL	X		X	
	1167312	ENAMELED OVEN BOTTOM		X		X
	1166691	OVEN FIRE PLATE - BAFFLE (2 required)		X		X
	1167249	OPEN RACK STORAGE BASE		X		X
	1165860	BODY SIDE - RIGHT - BLACK		X		X
	1165864	BODY SIDE - LEFT - BLACK		X		X
	1165861	BODY SIDE - RIGHT - STAINLESS STEEL		X		X
	1165865	BODY SIDE - LEFT - STAINLESS STEEL		X		X
GAS RELATED PARTS						
	1170137	BURNER	X	X	X	X
	1164920	RUNNER TUBE	X	X	X	X
	1058475	LIGHTER TUBE ORIFICE - LP (#72 DMS)	X	X	X	X
	1058462	LIGHTER TUBE ORIFICE - NAT. (#62 DMS)	X	X	X	X
	1165065	MANIFOLD ASM. COMP. - NAT.	X		X	
	1165066	MANIFOLD ASM. COMP. - LP	X		X	
	1008737	ORIFICE - NAT. (#37 DMS)	X		X	
	1008751	ORIFICE - LP (#51 DMS)	X		X	
	1165163	MANIFOLD ASM. COMP. - NAT.		X		X
	1165164	MANIFOLD ASM. COMP. - LP		X		X
	1008738	ORIFICE - NAT. (#38 DMS)		X		X
	1008753	ORIFICE - LP (#53 DMS)		X		X
	1053900	UNITROL VALVE REGULATOR CONVERSION KIT - NAT.	X			
	1053906	UNITROL VALVE REGULATOR CONVERSION KIT - LP	X			

SEE FIGURE	KEY NO.	PART NO.	DESCRIPTION	X UNITS	XS UNITS	XE UNITS	XSE UNITS
STANDARD GAS IGNITION PARTS							
		1164804	UNITROL COMBINATION CONTROL VALVE (120V1 - NAT	X	X		
		1165086	UNITROL COMBINATION CONTROL VALVE (120V) - LP	X	X		
		1165085	UNITROL COMBINATION CONTROL VALVE (208/240V)- NAT	X	X		
		1165087	UNITROL COMBINATION CONTROL VALVE (208/240V) - LP	X	X		
		1165141	PILOT & BRACKET ASM. - NAT.	X	X		
		1165137	PILOT - NAT.	X	X		
		1165142	PILOT BRACKET ASM. - LP	X	X		
		1165139	PILOT - LP	X	X		
		1165151	BRACKET	X	X		
		1161521	THERMOCOUPLE	X	X		
		1165190	PILOT SHIELD - TOP	X	X		
		1165191	PILOT SH1ELD - 3 SIDES	X	X		
HOT SURFACE IGNITION SYSTEM							
		B93-00006	IGNITER MODULE (BLUE BOX)			X	X
		A93-00007	IGNITER (FITS BLUE BOX)			X	X
		A93-00008	FLAME SENSOR			X	X
		A39-00006	IGNITER BRACKET NLA (Use 4440296)			X	X
		A93-00010	120V TO 24V TRANSFORMER (Field converted units only)			X	X
		A93-00011	28V NEON COOK LIGHT			X	X
4	17	C42-00001-01	24V COMBINATION CONTROL GAS VALVE - NAT.			X	X
4	17	C42-00001-02	24V COMBINATION CONTROL GAS VALVE - LP			X	X
		1170140	BURNER & IGNITER BRACKET ASM. (BLUE BOX)			X	X
		1170252	BURNER & FLAME SENSOR BRACKET ASM. NOTE: *For position in system and part number for part, see wiring diagram for Hot Surface Igniter.*			X	X
		1172278	IGNITER MODULE (BLACK BOX)			X	X
		1172272	IGNITER-GOES WITH BLACK BOX			X	X
		1173291	BURNER & IGNITER BRACKET ASM. (BLACK BOX)			X	X

FRONT CONTROL PANEL AREA									
SEE FIGURE	KEY NO.	PART NO.	DESCRIPTION	X XS UNITS	XE XS UNITS	X XS C&H UNITS	XE XSE C&H UNITS	X XS RACK TRACK	XS EXE RACK TRACK
3	3	1170350	COOK LIGHT 250V (AMBER)	x	x	x	x	x	x
3	3	1170347	COOK LIGHT 125V (AMBER)	x	x	x	x	x	x
3	4	1172275	CONTROL KNOB	x	x	x	x	x	x
3	6	1172750	POLY PANEL (MAROON) COOK & HOLD			x	x		
3	6	1173369	POLY PANEL (MAROON) RACK TRACK					x	x
3	7	1172716	SOUTHBEND LOGO	x	x	x	x	x	x
3	1	1165402	MARATHONER STICKER	x	x	x	x		
3	1	1173427	RACK TRACK STICKER					x	x
		1170283	CONTROL PANEL FRONT (COOK ONLY)	x	x			x	x
		1172284	CONTROL PANEL FRONT COOK & HOLD			x	x	x	x
5		1170291	POLY PANEL COOK ONLY	x	x				
3,5	5	1170346	LIGHT SWITCH	x	x	x	x	x	x
5		1172252	DIAL PLATE SS	x	x				
4	8	1088400	TOP TRIM CAP	x	x	x	x	x	x
4	9	1170343	DPST POWER SWITCH	x	x	x	x	x	x
4	10	1170350	COOK LIGHT 250V (AMBER)	x	x	x	x	x	x
4	10	1170347	COOK LIGHT 125V (AMBER)	x	x	x	x	x	x
4	11	1172277	TRANSFORMER 120V, 208V-240V to 24V, 50VA		x		x		x
4	12	1172271	CONTROL COOK & HOLD DEG F			x	x	x	x
4	15	1161501	SAFETY SCREEN	x	x	x	x	x	x
4	16	1088401	LOWER TRIM	x	x	x	x	x	x
4	17	C42-00001-01	NATURAL GAS CONTROL VALVE (ELEC. IGN.)		x		x		x
4	17	C42-00001-02	LP GAS CONTROL VALVE (ELEC. IGN.)		x		x		x
4	18	B93-00006	MODULE. IGNITER, HOT SURFACE (BLUE BOX)		x		x		x
4	19	1170355	OVEN SUPPLY TUBE STANDARD "XS" SERIES						
4	19	1170356	OVEN SUPPLY TUBE DEEP "X" SERIES						
4	20	1165124	OVEN SUPPLY ASSM.	x	x	x	x	x	x
4	21	1041722	RIGHT OVEN LIGHT COVER BOX	x	x	x	x	x	x
		1041730	LEFT OVEN LIGHT COVER BOX	x	x	x	x	x	x
4	23	1093999	TOP BACK FLUE ASSEM	x	x	x	x	x	x
4	24		WIRING DIAGRAM - SEE SERVICE SECTION	x	x	x	x	x	x

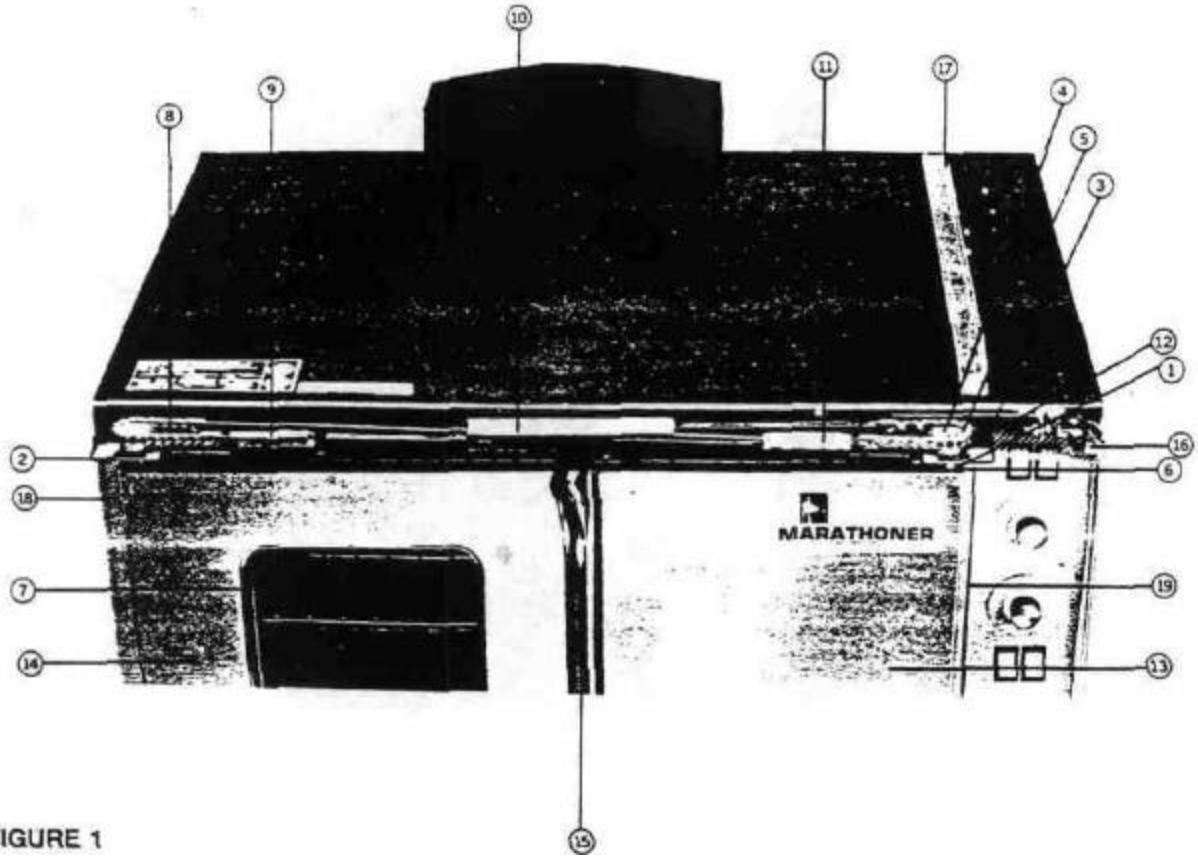


FIGURE 1

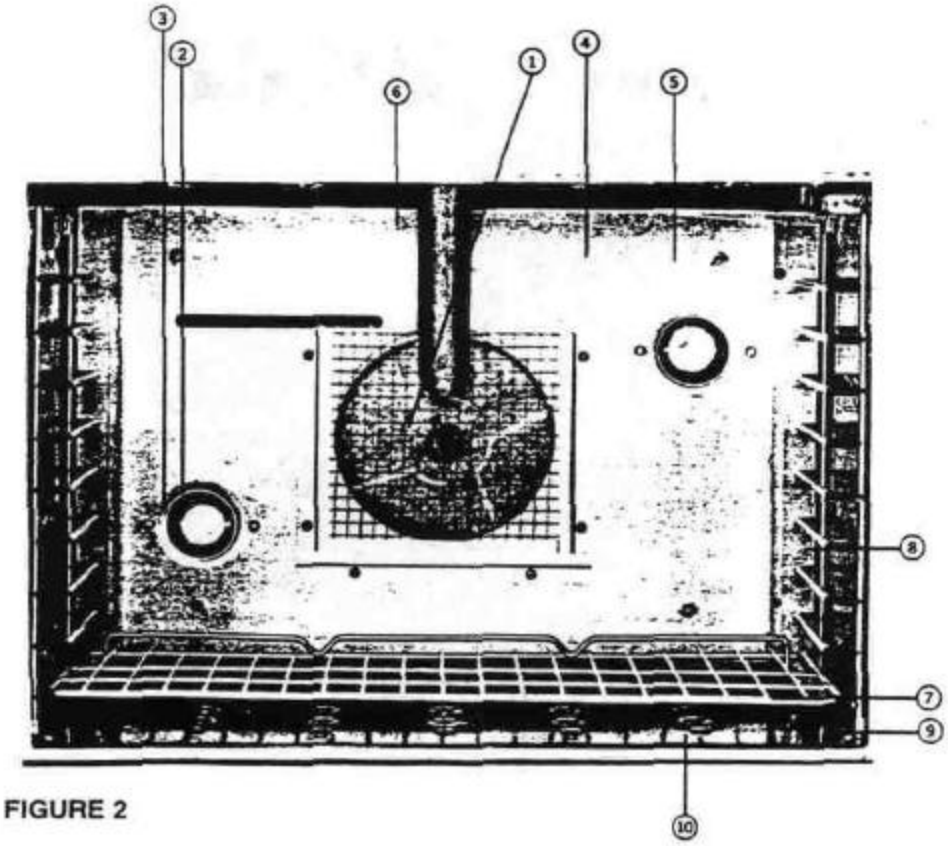


FIGURE 2

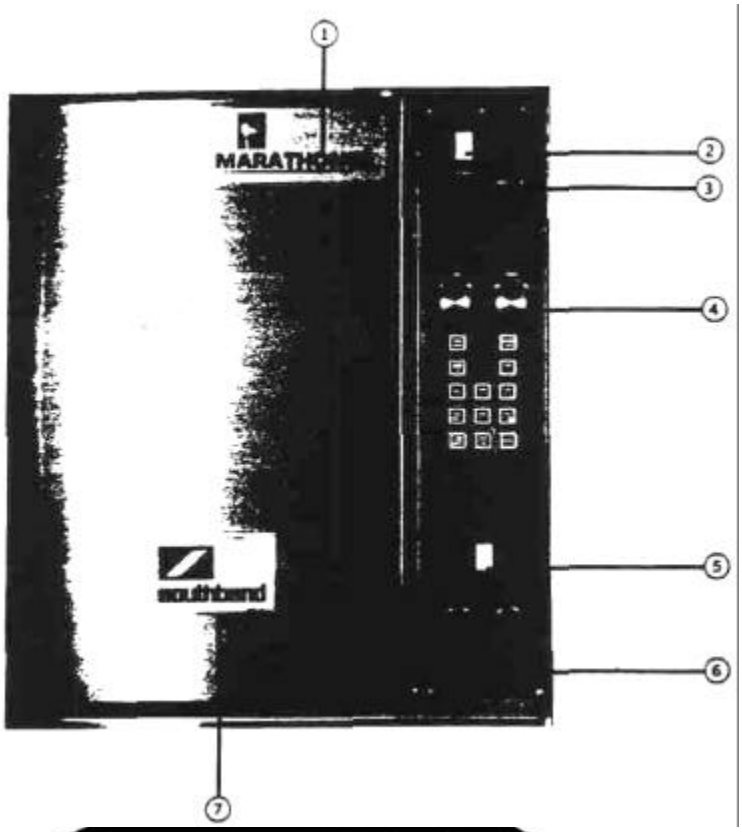


FIGURE 3

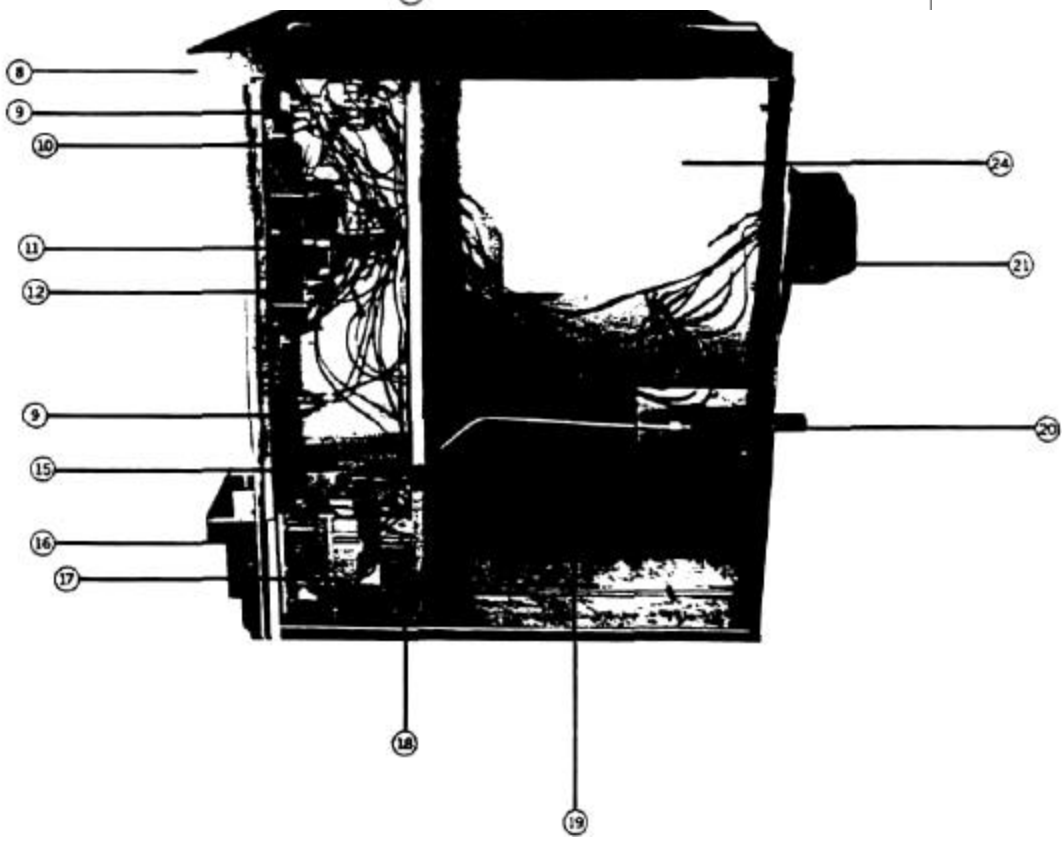


FIGURE 4