

# SERVICE DATA SHEET

Gas ranges with ES 300/330 electronic oven control

**NOTICE - This service data sheet is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. The manufacturer cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.**

## Safe Servicing Practices

To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are some, but not all, examples of safe practices.

1. Before servicing or moving an appliance remove power cord from electrical outlet, trip circuit breaker to OFF, or remove fuse.
2. Never interfere with the proper installation of any safety device.
3. **GROUNDING:** The standard color coding for safety ground wires is GREEN or GREEN WITH YELLOW STRIPES. Ground leads are not to be used as current carrying conductors. **It is extremely important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a potential safety hazard.**

4. Prior to returning the product to service, ensure that:
  - All electric connections are correct and secure.
  - All electrical leads are properly dressed and secured away from sharp edges, high-temperature components, and moving parts.
  - All uninsulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
  - All safety grounds (both internal and external) are correctly and securely reassembled.

## Oven Calibration

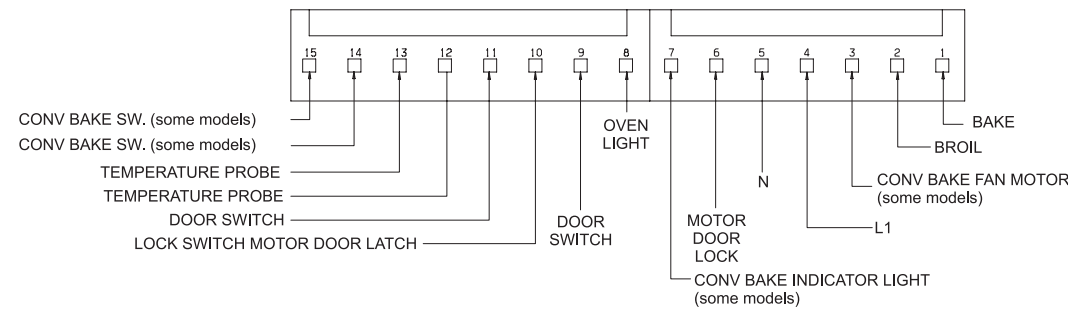
Set the electronic oven control for normal baking at 350°F. Obtain an average oven temperature after a minimum of 5 cycles. Press **Clear/Off/Cancel** to end bake mode.

## Temperature Adjustment

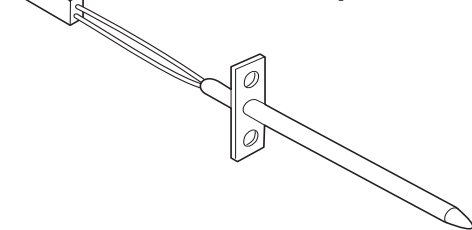
1. Set EOC to bake at 550°F.
2. Within 5 seconds of setting 550°F, press and hold the bake pad for approximately 15 seconds until a single beep is heard (longer may cause F11 shorted keypad alarm).
3. Calibration offset should appear in the display.
4. Use the slow keys to adjust the oven temperature up or down 35°F in 5°F increments.
5. Once the desired (-35° to 35°) offset has been applied, press Press Clear/Off/ Cancel.

**Note:** Changing calibration affects normal Bake mode. The adjustments made will not change the Self-Cleaning cycle temperature.

## Electronic Oven Control (EOC) P5 connections



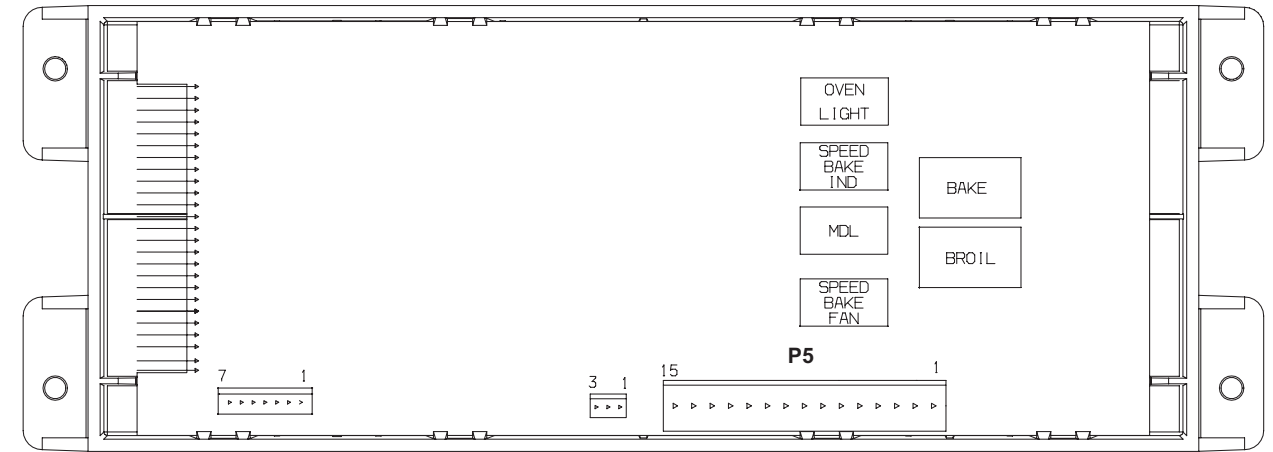
## Resistance Temperature Detector



**IMPORTANT**  
**DO NOT REMOVE THIS BAG**  
**OR DESTROY THE CONTENTS**  
 WIRING DIAGRAMS AND SERVICE  
 INFORMATION ENCLOSED  
**REPLACE CONTENTS IN BAG**

| RTD SCALE                    |                                  |
|------------------------------|----------------------------------|
| Temperature °F (°C)          | Resistance (ohms)                |
| 32 ± 1.9 (0 ± 1.0)           | 1000 ± 4.0                       |
| 75 ± 2.5 (24 ± 1.3)          | 1091 ± 5.3                       |
| 250 ± 4.4 (121 ± 2.4)        | 1453 ± 8.9                       |
| 350 ± 5.4 (177 ± 3.0)        | 1654 ± 10.8                      |
| 450 ± 6.9 (232 ± 3.8)        | 1852 ± 13.5                      |
| 550 ± 8.2 (288 ± 4.5)        | 2047 ± 15.8                      |
| 650 ± 9.6 (343 ± 5.3)        | 2237 ± 18.5                      |
| 900 ± 13.6 (482 ± 7.5)       | 2697 ± 24.4                      |
| Probe circuit to case ground | Open circuit/infinite resistance |

## ELECTRONIC OVEN CONTROL (E.O.C. Rear View)



## Electronic Oven Control (EOC) Fault Code Descriptions

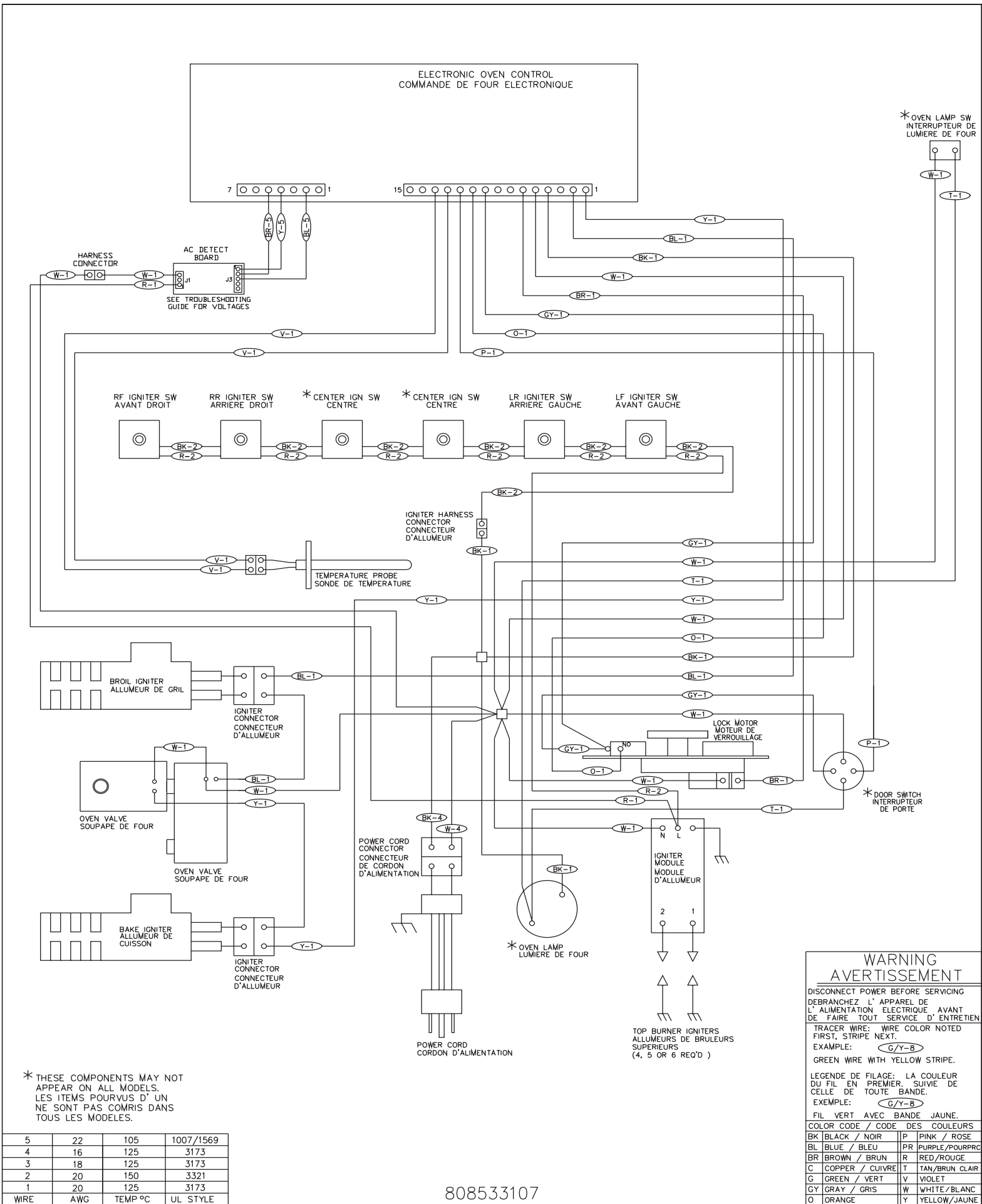
| Code | Condition / Cause                           | Suggested Corrective Action  |
|------|---|--|
| F10  | Runaway Temperature.                        | 1. (F10 only) Check RTD Sensor Probe & harness. Replace if necessary. If oven is overheating, disconnect power. If oven continues to overheat when the power is reapplied, replace EOC. Severe overheating may require the entire oven to be replaced should damage be extensive.  |
| F11  | Shorted Keypad.                             |  |
| F12  | Bad Micro Identification.                   |  |
| F13  | Bad EEPROM Identification/Checksum error.   | 2. (F11, 12 & 13) Disconnect power, wait 30 seconds and reapply power.<br>3. (F11, 12 & 13) If fault returns upon power-up, replace EOC.   |
| F30  | Open probe circuit.                         | 1. (F30 or F31) Check resistance at room temperature & compare to RTD Sensor resistance chart. If resistance does not match the RTD chart replace RTD Sensor Probe. Check Sensor wiring harness between EOC & Sensor Probe connector.  |
| F31  | Shorted Probe circuit                       | 2. (F30 or F31) Check resistance at room temperature, if less than 500 ohms, replace RTD Sensor Probe. Check for open or shorted Sensor Probe harness between EOC & Probe connector.   |
| F90  | Maximum oven door unlock time exceeded.     | IF LATCH MOTOR RUNS:<br>1. (F90, 91, 92, 93 & 94) Check the wiring between EOC & Lock Motor Micro Switch.<br>2. (F90, 91, 92, 93 & 94) Check the contacts of Micro-Switch on latch motor assembly. If contacts are open when motor cam depresses switch, replace Lock Motor Assembly.<br>3. (F90, 91, 92, 93 & 94) Check for binding of the Latch Cam, Lock Motor Rod & Lock Motor Cam.<br>4. If all situations above do not solve problem, replace EOC. |
| F91  | Maximum oven door unlock attempts exceeded. |  |
| F92  | Maximum oven door open time exceeded.       |  |
| F93  | Maximum oven door lock time exceeded.       | IF LATCH MOTOR DOES NOT RUN  |
| F94  | Maximum oven door lock attempts exceeded.   | 1. (F90, 91, 92, 93 & 94) Check to see if Lock Motor Coil is open. If open, replace Lock Motor Assembly.<br>2. (F92, 93 & 94) Check oven door Light Switch - if open, replace Switch.<br>3. If all situations above do not solve problem, replace EOC.   |

## CIRCUIT ANALYSIS MATRIX

|                  | EOC Relays |             |                        |                           |                                       | Door Switch COM-NO | Warmer Drawer Lock Switch MDL (some models) | Cooktop Lockout (some models) |
|------------------|------------|-------------|------------------------|---------------------------|---------------------------------------|--------------------|---|-------------------------------|
|                  | L1 to Bake | L1 to Broil | L1 to Motor Door Latch | L1 to Conv/Speed Bake Fan | L1 to Conv/Speed Bake Indicator Light |                    |   |                               |
| Bake/Time Bake   | X          | X*          |                        |                           |                                       |                    | X   |                               |
| Conv/Speed Bake  | X          | X*          |                        | X                         | X                                     |                    | X   |                               |
| Broil            |            | X           |                        |                           |                                       |                    | X   |                               |
| Clean            | X          |             |                        |                           |                                       |                    |   |                               |
| Unlocked         |            |             |                        |                           |                                       |                    | X   |                               |
| Locking          |            |             | X                      |                           |                                       |                    | X   |                               |
| Locked           |            |             |                        |                           |                                       |                    |   |                               |
| Unlocking        |            |             | X                      |                           |                                       |                    | X   |                               |
| Door Open        |            |             |                        |                           |                                       |                    |   |                               |
| Door Closed      |            |             |                        |                           |                                       | X                  |   |                               |
| Cooktop Active** |            |             |                        |                           |                                       |                    |   | X                             |

Note: X=Check listed circuits. \*=Alternates with Bake element. \*\* = some models.

# General Troubleshooting Diagram

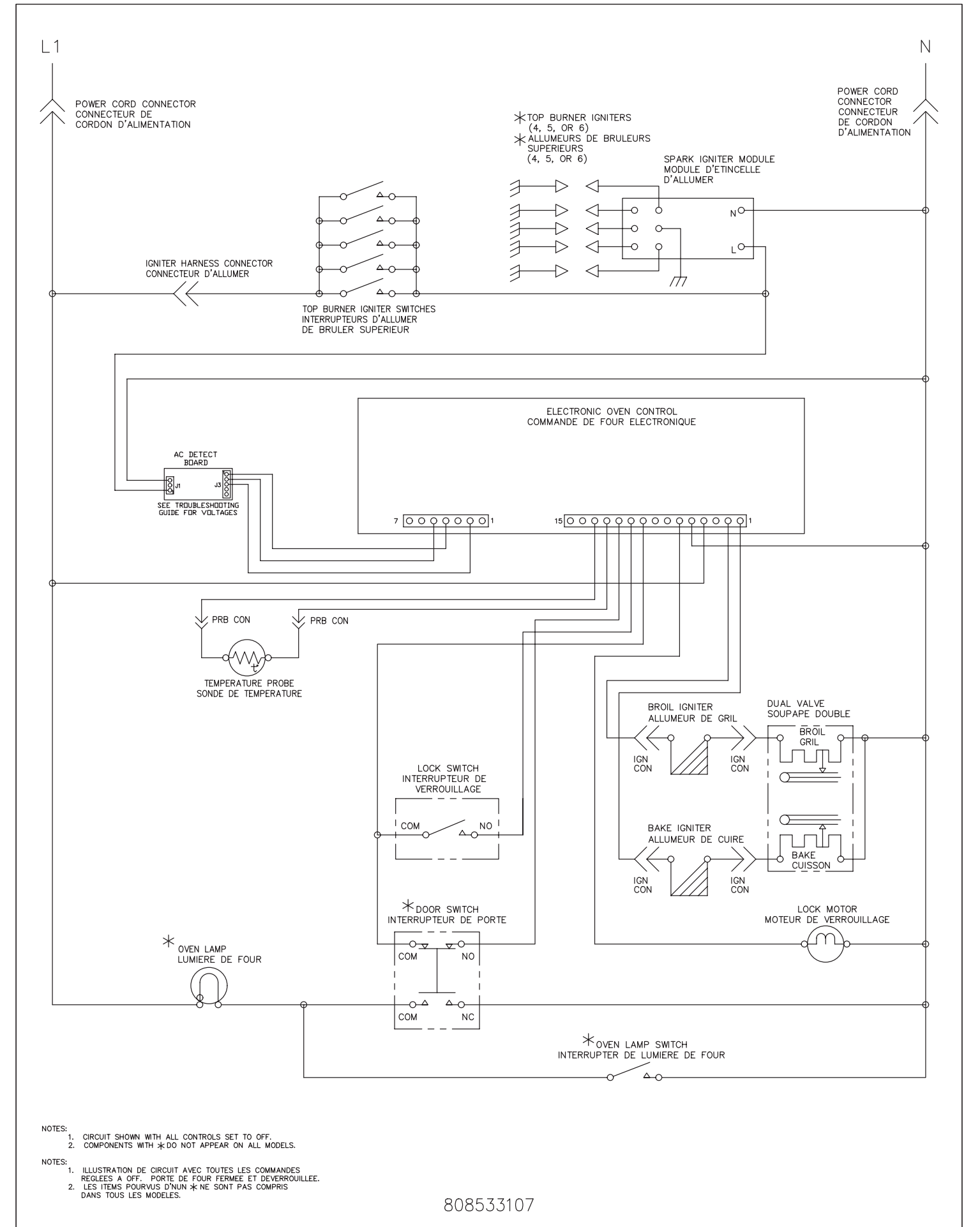


\* THESE COMPONENTS MAY NOT APPEAR ON ALL MODELS. LES ITEMS POURVUS D'UN NE SONT PAS COMRIS DANS TOUS LES MODELES.

|      |     |         |           |
|------|-----|---------|-----------|
| 5    | 22  | 105     | 1007/1569 |
| 4    | 16  | 125     | 3173      |
| 3    | 18  | 125     | 3173      |
| 2    | 20  | 150     | 3321      |
| 1    | 20  | 125     | 3173      |
| WIRE | AWG | TEMP °C | UL STYLE  |

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# General Troubleshooting Schematic



NOTES:  
1. CIRCUIT SHOWN WITH ALL CONTROLS SET TO OFF.  
2. COMPONENTS WITH \*DO NOT APPEAR ON ALL MODELS.

NOTES:  
1. ILLUSTRATION DE CIRCUIT AVEC TOUTES LES COMMANDES REGLEES A OFF. PORTE DE FOUR FERMEE ET DEVERROUILLEE.  
2. LES ITEMS POURVUS D'UN \* NE SONT PAS COMRIS DANS TOUS LES MODELES.

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# FICHE DE RÉPARATION

## Cuisinières au gaz avec régulateur de four électronique ES 300/330

**AVIS :** Cette fiche de réparation a été conçue pour être utilisée par des personnes qui possèdent une formation en mécanique et en électricité ainsi qu'un niveau de connaissance de ces sujets jugé généralement acceptable dans le domaine de la réparation. Le fabricant ne peut être tenu responsable des blessures ou des dommages que l'utilisation de cette fiche pourrait entraîner.

### PROCÉDURES D'ENTRETIEN SÉCURITAIRES

L'observation de procédures d'entretien sécuritaires est importante pour éviter les blessures ou les dommages matériels. La section suivante présente des exemples de procédures d'entretien sécuritaires, mais sans s'y limiter.

1. Avant de réparer ou de déplacer l'appareil, débranchez-le, mettez le disjoncteur du circuit à la position ARRÊT ou enlevez le fusible.
2. Ne modifiez jamais l'installation d'un dispositif de sécurité
3. **MISE À LA TERRE :** Le code de couleur standard pour les fils de mise à la terre est VERT ou VERT RAYÉ JAUNE. Les conducteurs de mise à la terre ne doivent pas être utilisés comme des conducteurs normaux. **Il est extrêmement important que le technicien en entretien rétablisse tous les dispositifs de mise à la terre avant de terminer la réparation. Le non-respect de cette recommandation entraînera un risque d'accident.**
4. Avant de remettre l'appareil en service, assurez-vous que :
  - Toutes les connexions électriques sont correctes et sécuritaires.
  - Tous les conducteurs sont couverts et à l'abri de rebords coupants, de composants qui atteignent de hautes températures et de pièces mobiles.

- Tous les éléments chauffants, connecteurs, bornes non isolées, etc. sont à une distance adéquate de tout panneau ou de pièce métallique.
- Toutes les connexions à la terre (à l'intérieur de l'appareil et à l'extérieur) ont été correctement remises en place.

### CALIBRATION DU FOUR

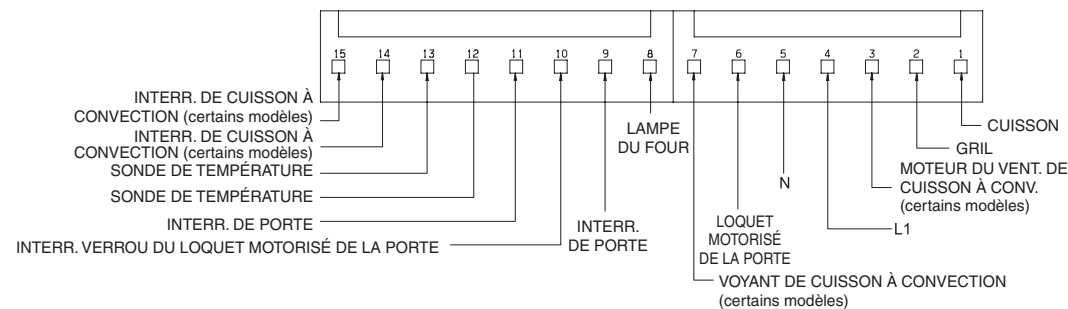
Réglez le régulateur électronique de four pour une cuisson normale à 177 °C (350 °F). Vous devez obtenir une température moyenne de four après 5 cycles. Appuyez sur **Clear/Off/Cancel** pour arrêter la cuisson.

### AJUSTEMENT DE LA TEMPÉRATURE

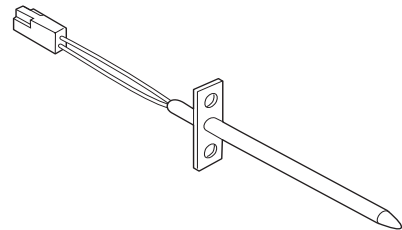
1. Réglez le régulateur pour une cuisson à 285 °C (550 °F).
2. Dans les 5 secondes suivant le réglage à 285 °C (550 °F), appuyez sur la touche de cuisson et maintenez-la enfoncée pendant 15 secondes jusqu'à ce que vous entendiez un bip (la maintenir enfoncée plus longtemps pourrait faire retentir l'alarme de court-circuit du clavier F11).
3. L'écart de calibration devrait s'afficher.
4. Utilisez les touches à incrément pour augmenter ou diminuer la température du four de 2 °C (35 °F) par intervalles de 1 °C (5 °F).
5. Une fois que l'écart désiré est réglé (-19 à 19 °C / -35 à 35 °F), appuyez sur **Clear/Off/Cancel**.

**Remarque:** La modification de la calibration s'applique au mode de cuisson normal. Les ajustements n'affectent pas la température du cycle d'autonettoyage.

### Connexions P5 du régulateur électronique de four



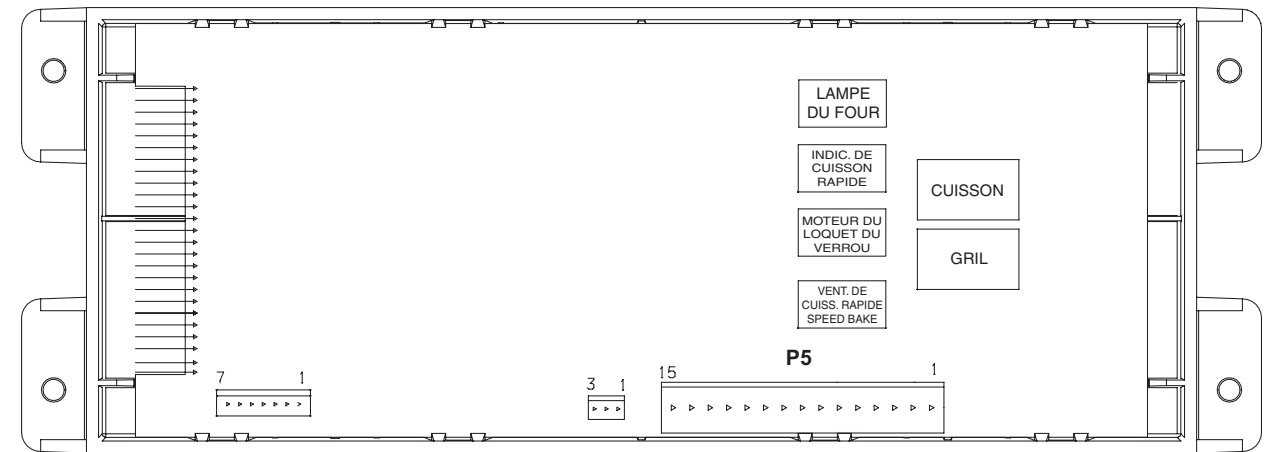
### DÉTECTEUR DE TEMPÉRATURE À RÉSTANCE



| ÉCHELLE DU DÉTECTEUR DE TEMPÉRATURE À RÉSTANCE |                   |
|--|-------------------|
| Température °F (°C)                            | Résistance (ohms) |
| 32 ± 1,9 (0 ± 1,0)                             | 1 000 ± 4,0       |
| 75 ± 2,5 (24 ± 1,3)                            | 1 091 ± 5,3       |
| 250 ± 4,4 (121 ± 2,4)                          | 1 453 ± 8,9       |
| 350 ± 5,4 (177 ± 3,0)                          | 1 654 ± 10,8      |
| 450 ± 6,9 (232 ± 3,8)                          | 1 852 ± 13,5      |
| 550 ± 8,2 (288 ± 4,5)                          | 2 047 ± 15,8      |
| 650 ± 9,6 (343 ± 5,3)                          | 2 237 ± 18,5      |
| 900 ± 13,6 (482 ± 7,5)                         | 2 697 ± 24,4      |

Circuit de la sonde mise à la terre

### RÉGULATEUR ÉLECTRONIQUE DU FOUR (vue arrière)



### Electronic Oven Control (EOC) Fault Code Descriptions

| Code | Condition / Cause                           | Suggested Corrective Action   |
|------|---|---|
| F10  | Runaway Temperature.                        | 1. (F10 only) Check RTD Sensor Probe & harness. Replace if necessary. If oven is overheating, disconnect power. If oven continues to overheat when the power is reapplied, replace EOC. Severe overheating may require the entire oven to be replaced should damage be extensive.<br>2. (F11, 12 & 13) Disconnect power, wait 30 seconds and reapply power.<br>3. (F11, 12 & 13) If fault returns upon power-up, replace EOC.   |
| F11  | Shorted Keypad.                             |   |
| F12  | Bad Micro Identification.                   |   |
| F13  | Bad EEPROM Identification/Checksum error.   | 1. (F30 or F31) Check resistance at room temperature & compare to RTD Sensor resistance chart. If resistance does not match the RTD chart replace RTD Sensor Probe. Check Sensor wiring harness between EOC & Sensor Probe connector.<br>2. (F30 or F31) Check resistance at room temperature, if less than 500 ohms, replace RTD Sensor Probe. Check for open or shorted Sensor Probe harness between EOC & Probe connector.   |
| F30  | Open probe circuit.                         |   |
| F31  | Shorted Probe circuit                       | IF LATCH MOTOR RUNS:<br>1. (F90, 91, 92, 93 & 94) Check the wiring between EOC & Lock Motor Micro Switch.<br>2. (F90, 91, 92, 93 & 94) Check the contacts of Micro-Switch on latch motor assembly. If contacts are open when motor cam depresses switch, replace Lock Motor Assembly.<br>3. (F90, 91, 92, 93 & 94) Check for binding of the Latch Cam, Lock Motor Rod & Lock Motor Cam.<br>4. If all situations above do not solve problem, replace EOC.<br>IF LATCH MOTOR DOES NOT RUN<br>1. (F90, 91, 92, 93 & 94) Check to see if Lock Motor Coil is open. If open, replace Lock Motor Assembly.<br>2. (F92, 93 & 94) Check oven door Light Switch - if open, replace Switch.<br>3. If all situations above do not solve problem, replace EOC. |
| F90  | Maximum oven door unlock time exceeded.     |   |
| F91  | Maximum oven door unlock attempts exceeded. |   |
| F92  | Maximum oven door open time exceeded.       |   |
| F93  | Maximum oven door lock time exceeded.       |   |
| F94  | Maximum oven door lock attempts exceeded.   |   |

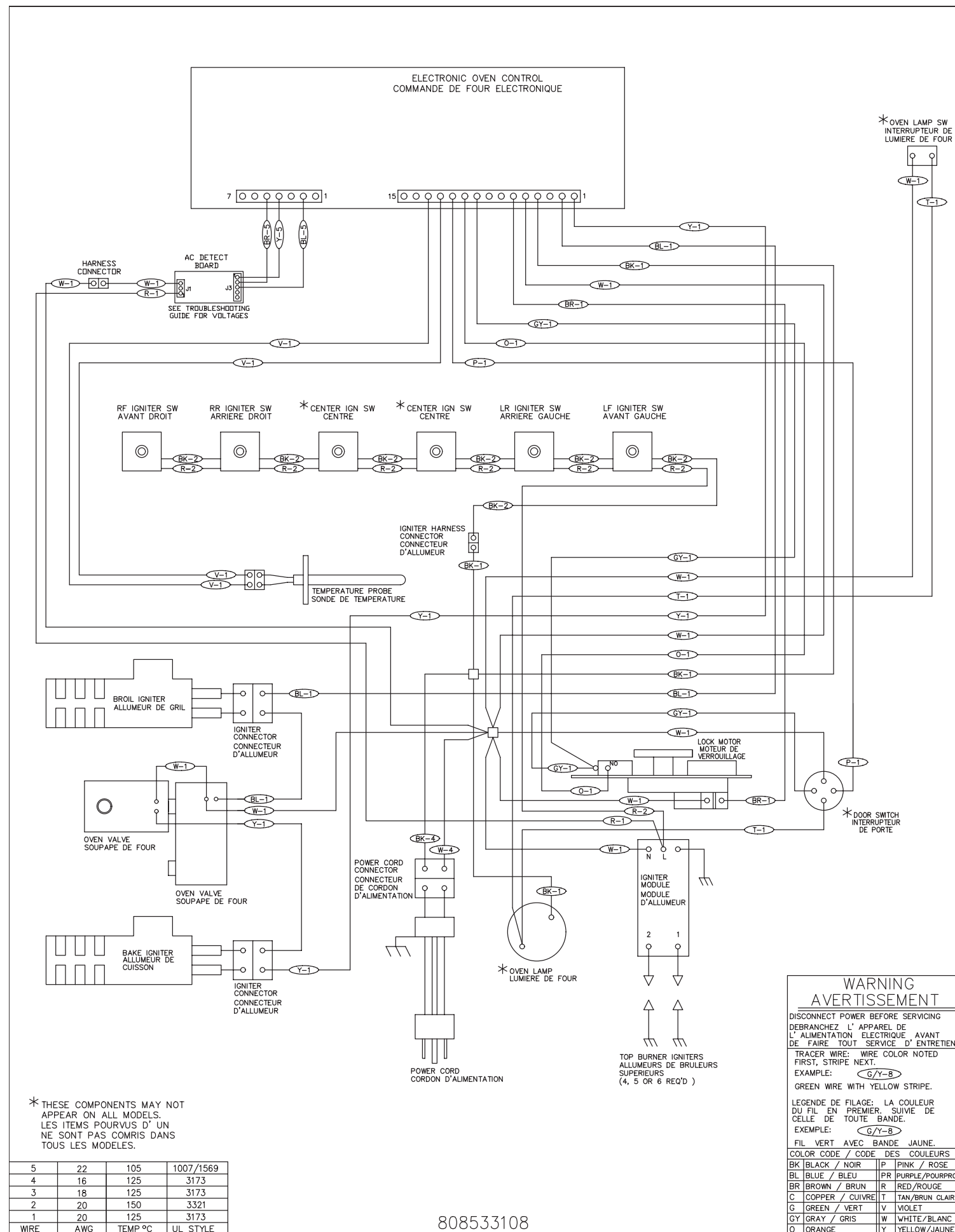
### CIRCUIT ANALYSIS MATRIX

|                  | EOC Relays |             |                        |                           |                                       | Door Switch COM-NO | Warmer Drawer Lock Switch MDL (some models) | Cooktop Lockout (some models) |
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|                  | L1 to Bake | L1 to Broil | L1 to Motor Door Latch | L1 to Conv/Speed Bake Fan | L1 to Conv/Speed Bake Indicator Light |                    |   |                               |
| Bake/Time Bake   | X          | X*          |                        |                           |                                       |                    | X   |                               |
| Conv/Speed Bake  | X          | X*          |                        | X                         | X                                     |                    | X   |                               |
| Broil            |            | X           |                        |                           |                                       |                    | X   |                               |
| Clean            | X          |             |                        |                           |                                       |                    |   |                               |
| Unlocked         |            |             |                        |                           |                                       |                    | X   |                               |
| Locking          |            |             | X                      |                           |                                       |                    | X   |                               |
| Locked           |            |             |                        |                           |                                       |                    |   |                               |
| Unlocking        |            |             | X                      |                           |                                       |                    | X   |                               |
| Door Open        |            |             |                        |                           |                                       |                    |   |                               |
| Door Closed      |            |             |                        |                           |                                       | X                  |   |                               |
| Cooktop Active** |            |             |                        |                           |                                       |                    |   | X                             |

Note: X=Check listed circuits. \*=Alternates with Bake element. \*\* = some models.

**IMPORTANT**  
**N'ENLEVEZ PAS CE SAC OU NE DÉTRUISEZ PAS SON CONTENU**  
 CONTIENT LES SCHÉMAS DE CÂBLAGE ET LES INFORMATIONS DE RÉPARATION  
**REMETTRE LE CONTENU DANS LE SAC**

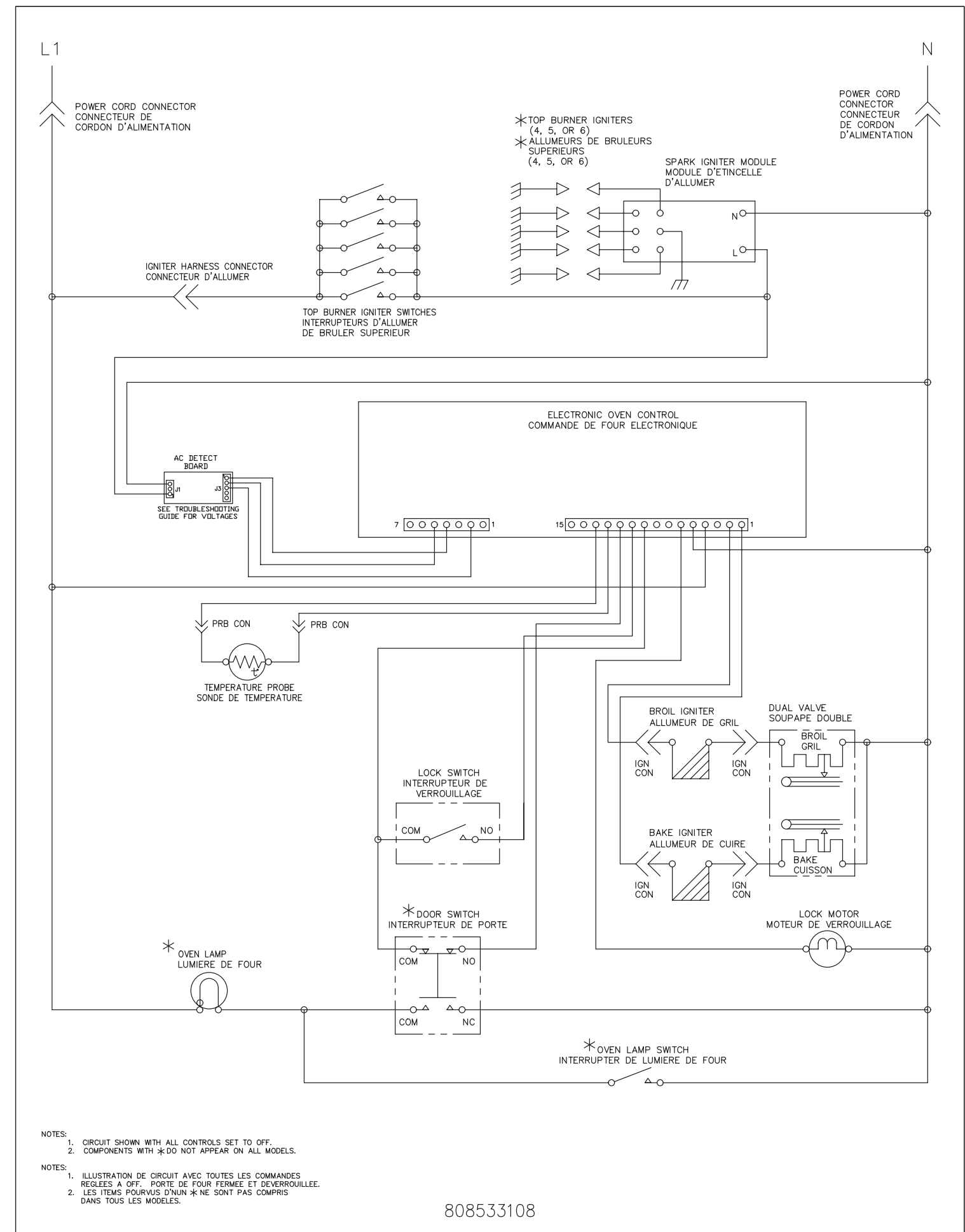
# General Troubleshooting Diagram



| WIRE | AWG | TEMP °C | UL STYLE  |
|------|-----|---------|-----------|
| 5    | 22  | 105     | 1007/1569 |
| 4    | 16  | 125     | 3173      |
| 3    | 18  | 125     | 3173      |
| 2    | 20  | 150     | 3321      |
| 1    | 20  | 125     | 3173      |

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# General Troubleshooting Schematic



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