

ACCUSTEAM[™]
HIGH PRODUCTION GRIDDLE

ACCUSTEAM GAS G2 GRIDDLE SERVICE MANUAL



AccuTemp Products, Inc. · 8415 North Clinton Park · Fort Wayne, IN 46825
· 800 210-5907 · accutemp.net

WARNING

The State of California enacted the California Safe Drinking Water and Toxic Enforcement Act of 1986, (Prop. 65), which “prohibits any person in the course of doing business from knowingly and intentionally exposing any individual to a chemical known to the State of California to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individuals.” The Governor’s Scientific Advisory Panel added Carbon Monoxide to the list of hazardous chemicals known to cause reproductive harm.

In order to establish full compliance with Proposition 65, a yellow warning label has been attached to each gas fired unit manufactured by AccuTemp Products, Inc.

Carbon monoxide would not be present in concentrations that would pose a “significant risk” to the consumer when the equipment is installed, operated and maintained as follows:

1. Installed in accordance with all local codes, or in the absence of local codes, with the current National Fuel Gas Code Z223.1, latest addenda.
2. Installed under a properly designed and operating exhaust hood.
3. Connected to the type of gas for which the unit is equipped.
4. Proper appliance pressure regulator installed on the gas supply line and adjusted for the manifold pressure marked on the rating plate.
5. Adequate air supply to the unit and adequate clearance around the flue.
6. The equipment is operated in the manner intended using the proper utensil for that type of appliance.
7. Keep the equipment clean and have it checked periodically.
8. Burner air adjustments, mechanical maintenance and repairs should be performed by qualified service personnel.

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DOCUMENT HISTORY

CURRENT REVISION	DATE	PRIOR REVISION	DATE	CHANGE
1911	11/05/2019	1609	09/14/2016	Review and update of manual
2112	12/15/2021	1911	11/05/2019	Update section 7.3 to include instructions regarding metal mesh burners.

1. WARNINGS AND CAUTIONS

1.1 Warning Symbol Definitions

Symbols are used to attract your attention to possible dangers. They are only effective if the operator uses proper accident prevention measures. Some of the symbols are boxed text; while others maybe just picture icons. Please give this information the respect they deserve for safe operation.

Symbol Icons

Below are definitions of the symbol icons used in this manual.



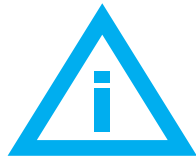
DANGER

Indicates an imminently hazardous situation; which, if unchanged, will result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation; which, if unchanged, will result in minor or moderate injury.



NOTE

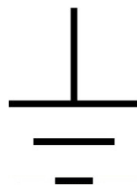
Advises the reader of information or instructions, vital to the operation or maintenance of the equipment.



CAUTION - HOT SURFACE



DANGEROUS VOLTAGE



EARTH GROUND

1.2 Safety Precautions

The **Safety Instructions** listed on this page below, should be posted in a prominent location as a reminder of safe practices; as well as, recommended actions to follow in the event of an equipment or facility's utility issue.



Electrical shock hazard while working on energized equipment
Unplug equipment prior to removing any components effected by electricity.



Personnel injury hazard while picking up and/or moving heavy equipment.
Always use at least 2 people and proper lifting techniques when picking-up, moving, or flipping-over heavy equipment.



In the event of a Power Failure, DO NOT attempt to operate this appliance.



DO NOT store or use Gasoline, or any other Flammable Vapor and/or Liquids in the vicinity of this or any other appliance.



IMPROPER installation, adjustment, alteration, service, or maintenance can cause personal injury or death; and/or property damage. Read the installation, operation, and service/maintenance instructions thoroughly; before installing or servicing this equipment.



Only QUALIFIED service technicians/electricians should perform the equipment installation, to ensure that all electrical and safety requirements are met; and that all wiring is performed in accordance with all national, state, and local electrical codes.



Griddle may have sharp edges.

2. Griddle Specification

Accu-Steam Gas Griddle Specifications						
Model #	GGF1201A2450-T1	GGF1201B2450-T1	GGF1201A3650-T1	GGF1201B3650-T1	GGF1201A4850-T1	GGF1201B4850-T1
BTU Firing Rate per Hour	42,300	42,300	70,000	70,000	85,000	85,000
Unit Width (A)	24.25 [616]	24.25 [616]	36.25 [921]	36.25 [921]	48.25 [1226]	48.25 [1226]
Unit/Installation Depth (D)	38.3 [973]	32.3 [820]	38.3 [973]	32.3 [820]	38.3 [973]	32.3 [820]
Cooking Surface Width (B)	23.9 [607]	23.9 [607]	35.9 [912]	35.9 [912]	47.9 [1217]	47.9 [1217]
Cooking Surface Depth (C)	30 [762]	24 [610]	30 [762]	24 [610]	30 [762]	24 [610]
Rear Leg to outside of Flue (E)	12 [305]	6 [152]	12 [305]	6 [152]	12 [305]	6 [152]
Center Left to Right Leg (F)	20 [508]	20 [508]	32 [813]	32 [813]	44 [1118]	44 [1118]
Effective Cooking Area	717 sq. in.	574 sq. in.	1077 sq. in.	862 sq. in.	1437 sq. in.	1150 sq. in.
Grease Pan Capacity	5 qt	5 qt	6 ½ qt	6 ½ qt	6 ½ qt	6 ½ qt
NEMA Plug	5-15	5-15	5-15	5-15	5-15	5-15

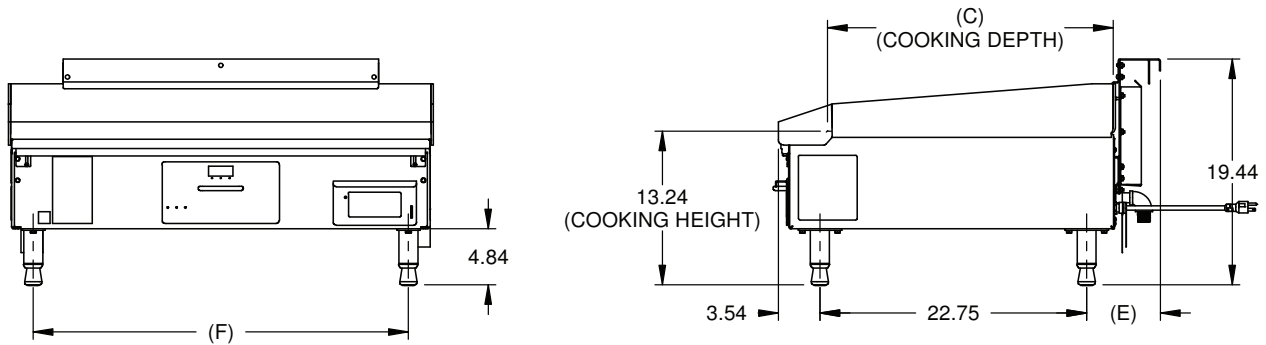


Fig 2.A

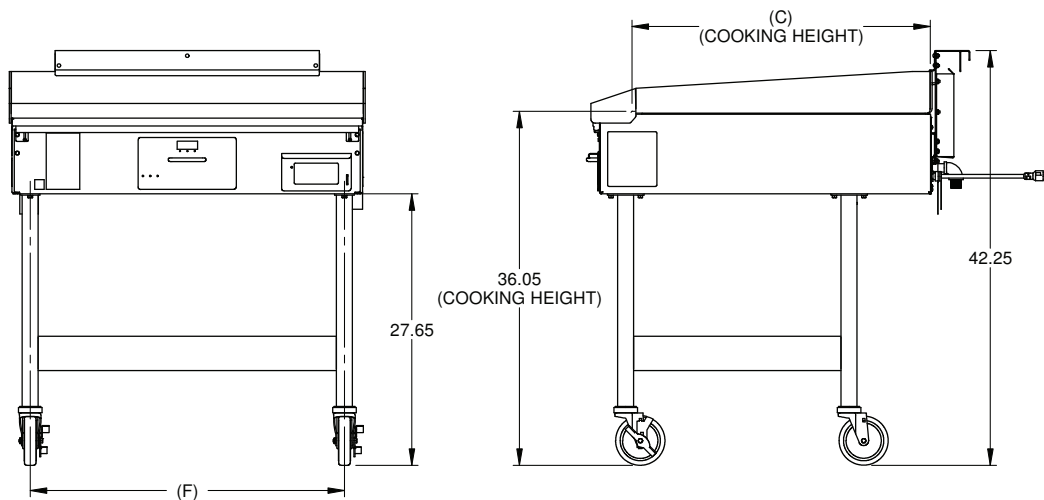


Fig 2.B

2.1 Equipment Data Plate

Model: **AA B CCC D E FF GG**

Example: GGF1201A4850

A is the base model N = Natural Gas, P = Propane

B is the model configuration

CCC is the supply Voltage


D is the number of phases: 1 or 3

E is the depth

F is the width

G is the special configuration

Fig 2.C

 The Serial Number is also stamped into the upper right corner of the front plate, above the grease tray.

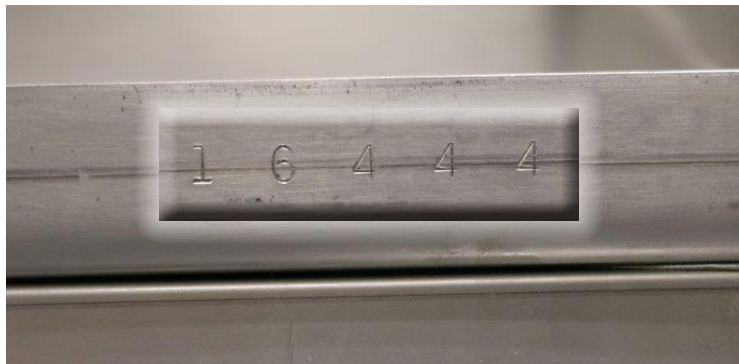


Fig 2.D

3. Sequence of Operation

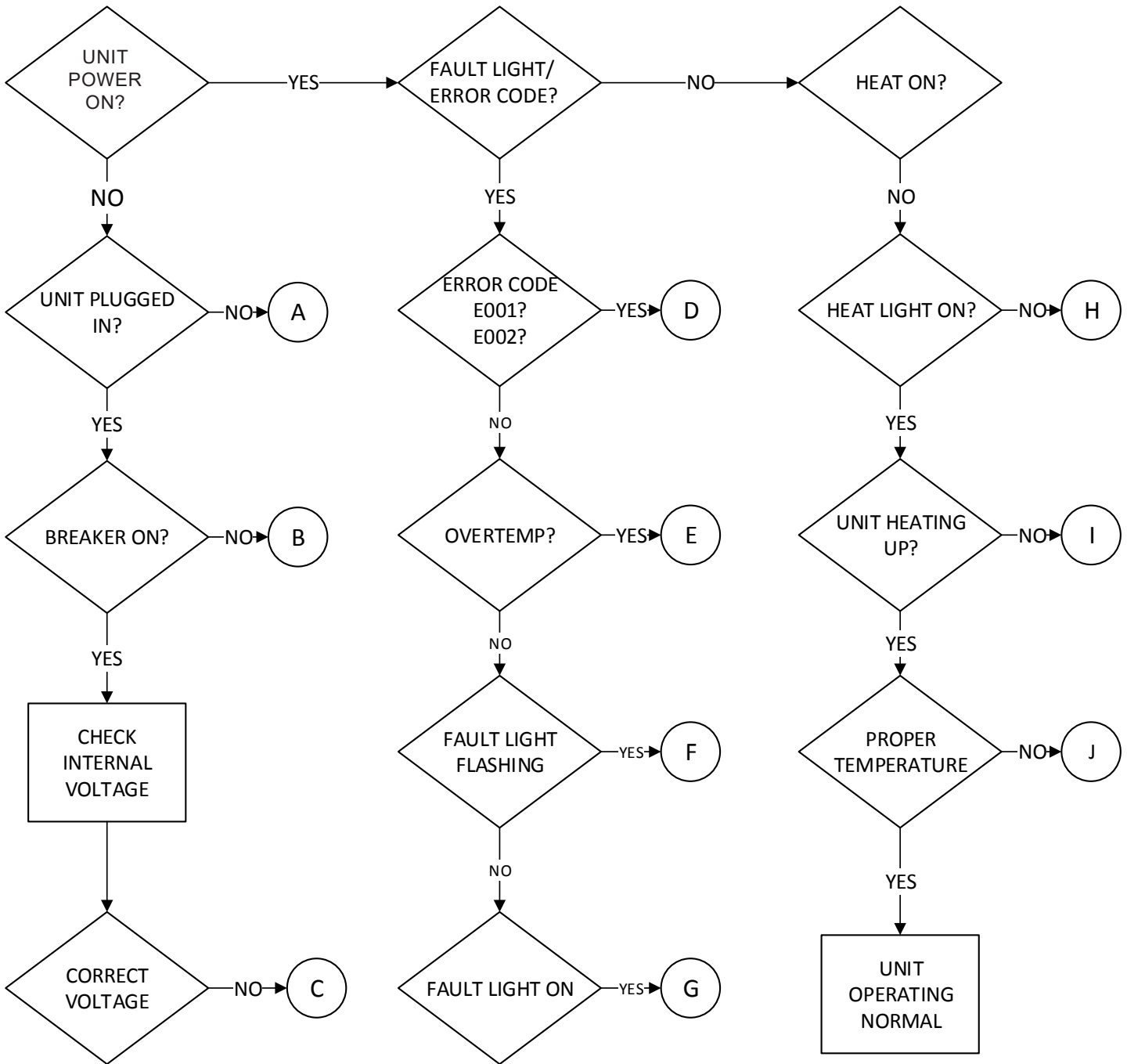
1. When the G2 griddle is plugged in, AC line voltage is supplied to the primary side of the transformer.
2. The voltage out of the secondary side of the transformer is 24VAC nominal. Yellow and blue wires out of the transformer.
3. The blue leg of the secondary side of the transformer (24VAC) is connected to the yellow system harness, is split and is connected to the combination gas valve coils, remote timer connector and the Hi-Limit thermostat.
4. From the HI-Limit thermostat the 24VAC leg is daisy chained to the, heat lamp, the main digital control board and to chassis ground.
5. The yellow secondary leg of power from the transformer connects to the violet system harness and goes to the Hi-Limit, then daisy chains over to the main digital control board. At this time the system is waiting to be powered on via the Digital control board.
6. Upon pressing the "ON" button on the digital controller, the digital controller powers up and a relay on the digital controller is closed making a connection between the grey harness and the white with grey stripe harness connected to the reset of the HI-Limit thermostat. Also, a relay on the digital controller is closed making a connection between the violet 24VAC leg and the input of the HI-Limit thermostat through the white with brown striped harness.
7. If the reading from the Hi-Limit RTD (Resistive Thermal Device) is not 425°F or higher, an output relay in the Hi-Limit controller will be closed causing the 24VAC to be sent to the ignition control, DC relay and to the pilot valve coil of the gas combination valve, opening the pilot valve.
8. If the reading from the Hi-Limit RTD (Resistive Thermal Device) is 425°F or higher, an output relay in the Hi-Limit controller will be opened causing the 24VAC to be cut off from the ignition control, DC relay and to the pilot valve coil of the gas combination valve, closing the pilot valve.
9. The over temperature lamp is connected across the common and the normally open contacts of the High Limit thermostat output relay. When the relay is activated or closed, the griddle temperature is below 425°F, there is 24VAC on both sides of the over temp lamp, preventing it from lighting up. If the High Limit thermostat output relay is deactivated or open, the griddle temperature is at or above 425°F, the lamp will see the voltage potential from the chassis ground/yellow system harness side of the transformer through the pilot valve coil and light up.
10. If the digital controller senses the griddle temperature is below the set point temperature via the digital controller RTD sensor, the controller will output 24VDC to the ignition control DC coil relay and allow 24VAC to be sent to the ignition module via the blue harness to pin 2 of the ignition module, which is daisy chained to the ignition fault indicator lamp.
11. The ignition module will begin the ignition sequence by initiating a spark at the ignition probe first then it will send 24VAC, via the red harness from pin #1 of the ignition module to the heat lamp, which is daisy chained to the main gas valve coil of the combination gas valve through the red system harness. This allows gas to flow

through the combination gas valve, through the orifices in each main burner and through the main burner tiles.

12. When the gas/air mixture is ignited, the flame sense probe will detect a DC voltage level through the flame's ionized gas to ground via the orange flame sense wire harness to the ignition module, pin #6.
13. If the DC voltage level is detected before 4 seconds and is at a high enough level the ignition module will continue to hold the main gas valve open.
14. If the DC voltage level is not high enough within the 4 second window, the ignition module will shut down the main gas valve.
15. A fault timer is connected across the red and blue harnesses from the ignition module. When the ignition module is commanded to start the ignition cycle, 24VAC is present on both the red and the blue harnesses and the timer is deactivated.
16. If the ignition module fails to see a sufficiently high enough DC voltage level through the flame sense circuit, the ignition module will disable 24VAC from the red harness and the timer will see the voltage potential from the chassis ground/yellow system harness side of the transformer and begin an approximate 6 second timer sequence that controls the ignition fault indicator lamp causing it to flash.
17. When the griddle heats up to the set point temperature, the digital controller RTD resistance changes and provides a signal to the control board telling it that the set point temperature has been reached.
18. When the digital controller sees the resistance value for the set point temperature, it cuts power to the ignition control DC coil relay and breaks the connection to the ignition module causing the griddle to stop heating further.

4. Troubleshooting Guide

4.1 Flowchart



 PLEASE REFER TO SELECTED LETTER IN THE NEXT SECTION: 4.2 DIAGNOSIS TABLE.

4.2 Diagnosis Table

A	Power cord disconnected	Confirm proper voltage at outlet. Plug in power cord.
B	Breaker is tripped	Unplug griddle and check line voltage at outlet. Reset breaker.
C	Temperature Controller	<ul style="list-style-type: none"> If 24VAC is on secondary side of transformer, check power input terminals of Temp Controller J2-1 & J2-2 (Fig 4.A). If 24VAC is at terminals, replace Temp Controller. If 24VAC is not at terminals, check for broken wires or poor crimps at the terminals. If no 24VDC at the terminals, measure across the controller outputs J7-1 and J7-2 for 24VDC. If no voltage, replace controller. If there is voltage, check for poor crimps or loose wires at the terminals.
	Fuses	Check for loose or blown fuses.
	Wiring	Inspect wiring for damage, opens and/or shorts. Inspect ground and wire to wire connections. *NOTE: Unit has a digital controller, if voltages, fuses and wiring appear to be in order, try cycling power.
	Transformer	Check for 24 Volts from secondary side of transformer. If input to transformer is present and there is no output, replace transformer.

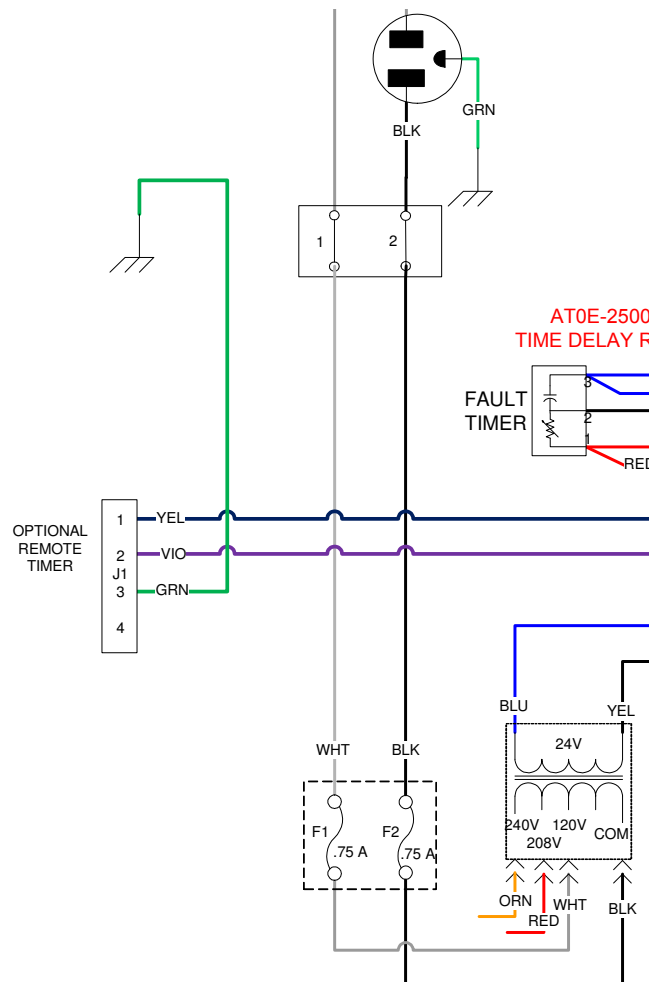


Fig 4.A

D	Error Code E001 or E002 on display	<ul style="list-style-type: none"> E001: Open Temp (RTD) sensor J3-1 & J3-2. Check terminals for poor crimping. E002: Shorted Temp (RTD) sensor J3-1 & J3-2. If RTD checks good, reconnect RTD and cycle power. Is error code still present - Replace Temperature Controller.
E	Over temp indicator	<ul style="list-style-type: none"> If griddle is not warming up or holding a set point temperature, cycle power. Check that incoming supply voltage is within spec for the unit. If Over Temp light goes out, monitor griddle to see if it over temps again. If temperature is greater than 50 degrees different than measurement device, verify measurement device. If measurement device appears to be accurate, measure ohms on Control RTD. If reading is in error - replace Control RTD (Fig 4.B). If RTD measures normally, but the control is continually calling for heat - replace temperature controller. If Control RTD and control board are operating normally, check Hi Limit RTD for proper values at current temperature. If temp/resistance values match RTD, replace Over Temp Thermostat. If values do not match RTD, replace Over Temp RTD.

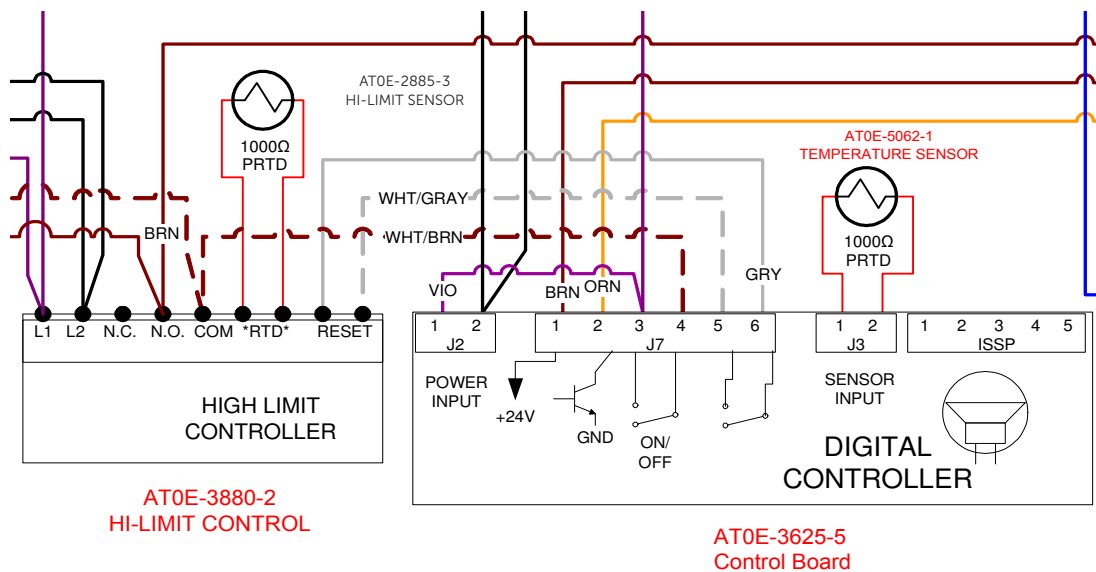


Fig 4.B

F	Fault light flashing	<ul style="list-style-type: none"> If burners did not ignite, check gas pressure, cycle power. If burners ignite briefly and then fault light is displayed, cycle power and verify flame sense. See section 8.3.1 Flame Sense for more information. If burners did ignite and unit is heating, check for poor connections in the harness at the fault timer relay (Fig 4.C). Ensure that chassis ground connection is tight.
G	Fault light on	<ul style="list-style-type: none"> If burners did not ignite, replace fault timer. If burners did ignite and unit heating, check for short to ground in the white wire connected to the fault indicator lamp.

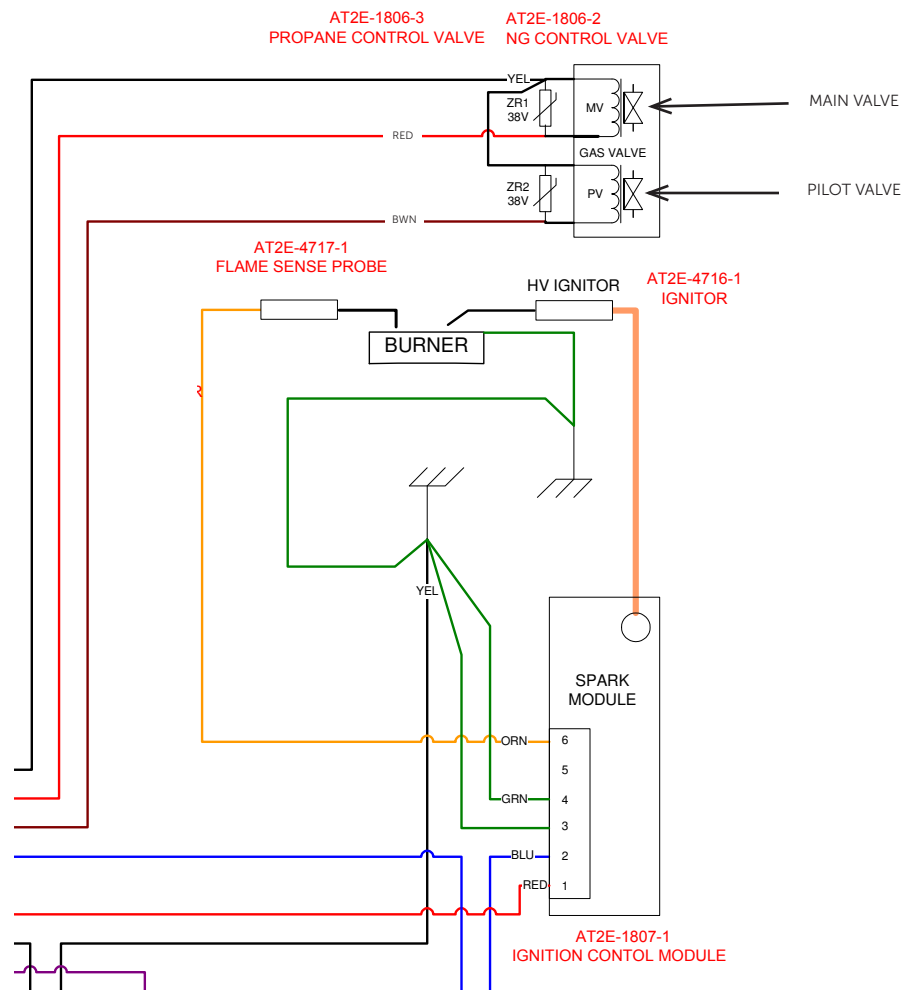
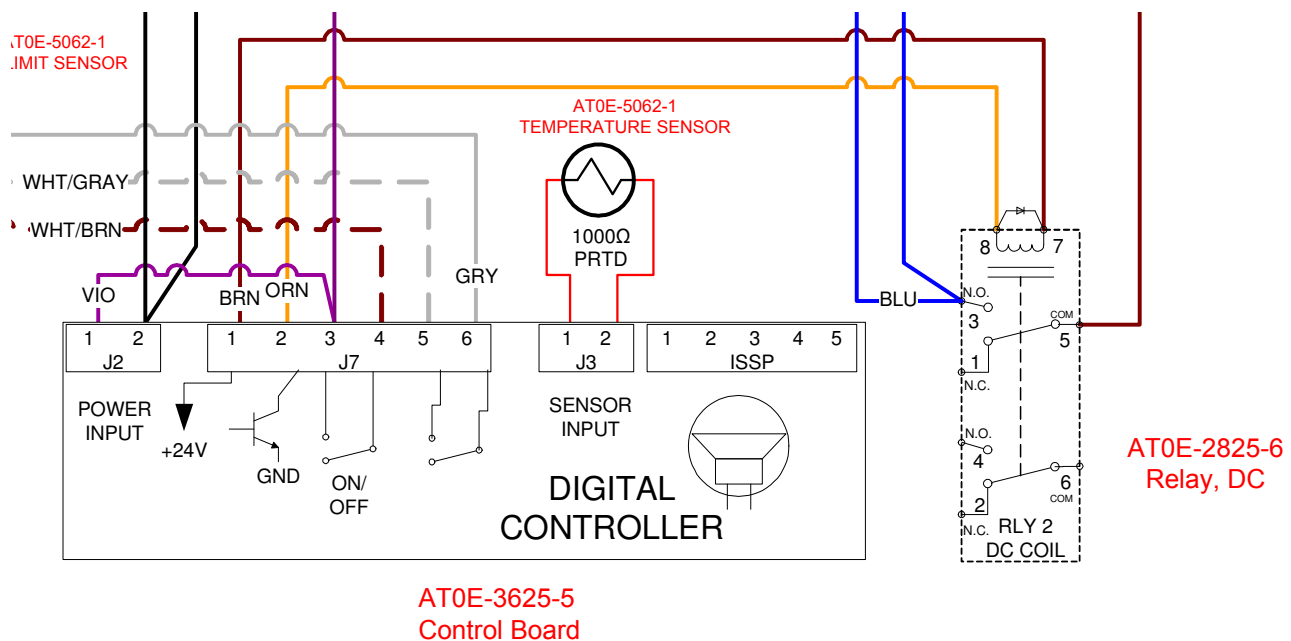


Fig 4.C

H	Heat light not on	<ul style="list-style-type: none"> • If griddle is warming up or regulating at a set point, replace indicator lamp. • If griddle is not warming up or regulating at a set point, check to see if temp demand control relay (24VDC) relay is engaged. • If control relay is not engaged, check for 24VDC at terminals 7 & 8 from temperature controller. • If voltage is at relay coil, replace relay. • If voltage is not at relay coil, replace temperature controller. • If ice cube relay is engaged, check for poor connections or broken wires. Blue wires coming from ignition module or brown wire coming from OT thermostat. • If connections are good, replace relay.
I	Unit not heating up	<ul style="list-style-type: none"> • Check for 24 VAC to the gas valve. • If no voltage to the main gas valve check for poor or loose connections or broken red wire between the "heat" lamp and the gas valve. • If there is voltage to the red wire of the main gas valve, check for voltage at the brown wire of the gas valve. • If there is 24VAC to the brown wire at the pilot gas valve and the pilot valve has not turned on, replace the gas valve. • If there is 24VAC to the brown wire at the pilot gas valve and the valve has turned on, check for proper gas supply and pressures. • If there is no 24VAC on the brown wire at the pilot gas valve, check for poor or loose connections or broken brown wire at the gas valve, the "OT" indicator lamp and the OT thermostat and the demand relay. Repair as necessary.
J	Inaccurate Temperature	<ul style="list-style-type: none"> • If display temperature is greater than 50 degrees different than measurement device, verify measurement device. If measurement device appears to be accurate, measure RTD. • If RTD measures normally, replace temperature controller. • If RTD measures out of specifications (temp/resistance), replace RTD.

Fig 4.D



5. Digital Controller

5.1 Operation

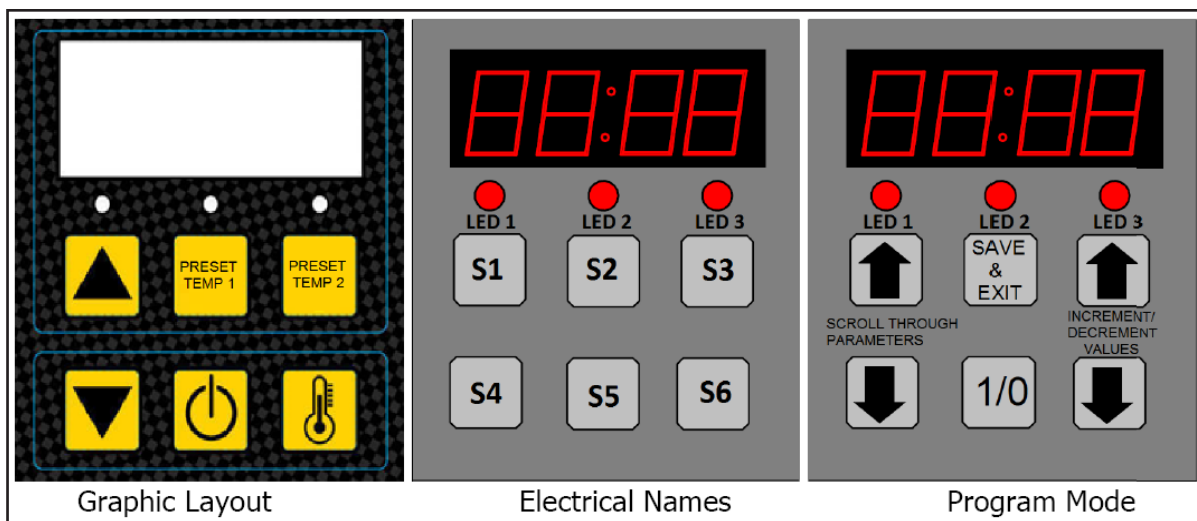


Fig 5.A

When power is applied to the control, the control will configure itself to operate in accordance with the parameters stored in memory. These parameters may be adjusted using Manager's Mode.

 Unplug griddle from wall receptacle before replacing the control board in order to prevent damage to equipment.

Operating Mode

When power is applied to the control, the control will configure itself to operate in accordance with the parameters stored in memory. These parameters may be adjusted using Manager's Mode.

Reset

Pressing and holding the **DOWN** (S4) arrow key and the **ON/OFF** (S5) key for five seconds will reset the software back to the factory default settings.

Error Codes

The control will display error codes for the following conditions:

E001 Displays when controller detects an Open Sensor

E002 Displays when controller detects a Shorted Sensor

9999 No calibration data stored or invalid calibration data detected







To reset from any error, unit must be turned OFF, repaired, and then turned ON.

When any error is displayed, outputs are forced open. The following section illustrates the programming logic and program level indication:

5.2 Managers Mode

Managers mode is used to setup initial operational parameters for the appliance prior to the first time of production use.

Manager's mode

1. Entering Managers mode, press and hold the  DOWN arrow key and the  Asterisk key together for about eight seconds, to initiate the programming mode. When the mode is accessed, all three LED lights will blink synchronously.
2. Once in managers mode, the display will show the DEFAULT COOK TEMP, (see Fig 4.E, **P# 1**)
3. To cycle between programs, use  UP arrow key and  DOWN Arrow key. For example, to reach Program #2, Ready Mode Display, the  UP arrow would be pushed once, cycling from Program #1 Default Cook Temperature to Program #2.
4. To adjust the selected program, use **Preset 2** key or  Asterisk key to adjust the Program Settings (Fig 4.E & 4.F).
5. When all changes are completed Exit the managers mode and save the new parameters by pressing the **Preset 1** key

Mode	P#	LED1	LED2	LED3	Program description	Default	Display	Min Setting	Max Setting
	0	B	B	B	Unit of Measure	(°F)	0/00	0/00 = F	0/01 = C
	1	B	B	B	Default Cook Temperature	350F 175C	350F 175C	200F 90C	400F 205C
	2	B	B	B	Ready Mode Display	0	2/00	0	3
	3	B	B	B	Probe Offset	-10	+10	0	0

Fig 5.B

This chart illustrates the programming logic and program level indication








P#2 Value	Default Display	Display when there is a  ,  or momentary key press 	Display when there is a  key press
0/00	rdY	Set Point Temperature	Set Point Temperature
1/00	Set Point Temperature	Set Point Temperature	Actual Temperature
2/00	rdY	rdY	rdY
3/00	Set Point	Set Point Temperature	Set Point Temperature


Fig 5.C

Programming Example - Adjusting the Default Temp.

1. Press and hold the  DOWN arrow key and the  Asterisk key together for about eight seconds, to initiate the programming mode. When the mode is accessed, all three LED lights will blink synchronously.
2. The display will show the default temperature (350°F from factory).
3. Use the use **Preset 2** key or  Asterisk key to increase or decrease the temperature on the display.
4. With the desired temperature displayed the **Preset 1** key to save. The unit will power down.
5. When the unit is restarted, the display will now show the new default temperature and start heating.

5.3 Set RTD Probe Offset

In certain circumstances, the measurement from the RTD probe can be adjusted at the control board, thereby adjusting when the unit will call for heat.

 This process should only be performed by a qualified technician with access to a weighted surface probe.

1. Turn unit on: depress the 1/0 key (To turn off the unit press and hold the 1/0 key for approximately five seconds).
2. (Reference Fig 5.B) Press and hold the DOWN arrow key and the * key for about eight seconds to enter manager's mode while the unit is on. In manager's mode, the first field displayed will be the Parameter# 1, DEFAULT COOK TEMP. Scroll to the probe offset mode using the UP arrow key or DOWN arrow key.
 - Hand held field temperature meter that shows a higher temperature than the griddle displayed temperature. Press the Preset 2 key to increase the offset number by the number of degrees off. The griddle display will indicate the offset in as a positive number.
 - Hand held field temperature meter that shows a lower temperature than the griddle displayed temperature. Press the Asterisk (*) key to decrease the offset number by the number of degrees off. The griddle display will indicate the offset in as a negative number.

6. Main Component Identification

Power Cord AT0A-2911-1	<ul style="list-style-type: none"> Includes plug for connection to 120V outlet.
Transformer AT0A-2779-2	<ul style="list-style-type: none"> Steps down the line voltage to approximately 24VAC nominal
Timer, Ignition Fault AT0E-2500-3	<ul style="list-style-type: none"> Controls fault light. If signal is lost from the ignition module the timer causes ignition fault light to turn on in flashing sequence.
Control Relay, 24vdc AT0E-2625-6	<ul style="list-style-type: none"> Controls input signal to ignition module. Coil side of relay is energized by DCV output of digital control board.
Burner - Gas - See section 7.3, Burners	<ul style="list-style-type: none"> Supplies heat to the griddles steam chamber Supplies flame for flame sensor
Flame Sensor AT2E-4717-1	<ul style="list-style-type: none"> When in direct contact with the flame, the sensors gives off a DC Micro amp signal to the ignition module.
Igniter AT2T-5035-1	<ul style="list-style-type: none"> Receives voltage from ignition module. Ignites burners. (1/8" - 3/16" Gap)
AT2E-1806-2 Natural Gas Valve, 5" WC (H2O) AT2E-1806-3 Liquid Propane Valve, 10" WC (H2O)	<ul style="list-style-type: none"> Regulates incoming gas pressure (1/2lb or 14"WC max unregulated incoming pressure) Primary valve (pilot) opens when control board is powered on and the secondary (main) valve opens and supplies gas to the burners when the control board calls for heat.
Ignition Control Module AT2E-1807-1	<ul style="list-style-type: none"> Takes reading from the flame sensor. Receives input power from DC Relay Sends voltage to the igniter. Controls secondary gas valve (main) and heat lamp

Digital Control Board AT0E-3625-5-R** (R** refers to software revision of board programming).	<ul style="list-style-type: none"> • Receives input signal from RTD Temperature Sensor. • Sends DCV output signal to Control Relay coil which controls ignition module.
Fuse 1.25 amp 250V AT0E-2731-4	<ul style="list-style-type: none"> • The 1.25A fuse is to provide protection to the control circuitry in case of a short in the system.
Hi-Limit Control Board AT0E-3880-2	<ul style="list-style-type: none"> • Receives input signal from Hi-Limit RTD temperature sensor • Cuts power to ignition module and pilot valve when unsafe signal is met from Hi-Limit RTD (approximatively 425° or 1820Ω)
Temperature Sensor RTD AT0E-5062-1 (1000 OHM)	<ul style="list-style-type: none"> • The RTD provide temperature reference information to the Temperature Control. This RTD is a 1000Ω.
Hi-Limit Temperature Sensor, RTD AT0E-5062-1 (1000 OHM) SN 18182 and above (When replacing under SN 18181, order kit AT2A-5063-1).	<ul style="list-style-type: none"> • The RTD provides temperature reference information to the Hi-Limit Board. When replacing under SN 18181, order kit AT2A-5063-1, if over SN 18182, use part AT0E-5062-1.
Heat Lamp 24v Red AT0E-1800-2	<ul style="list-style-type: none"> • Receives 24VAC power from the ignition module and indicates the valve is open.

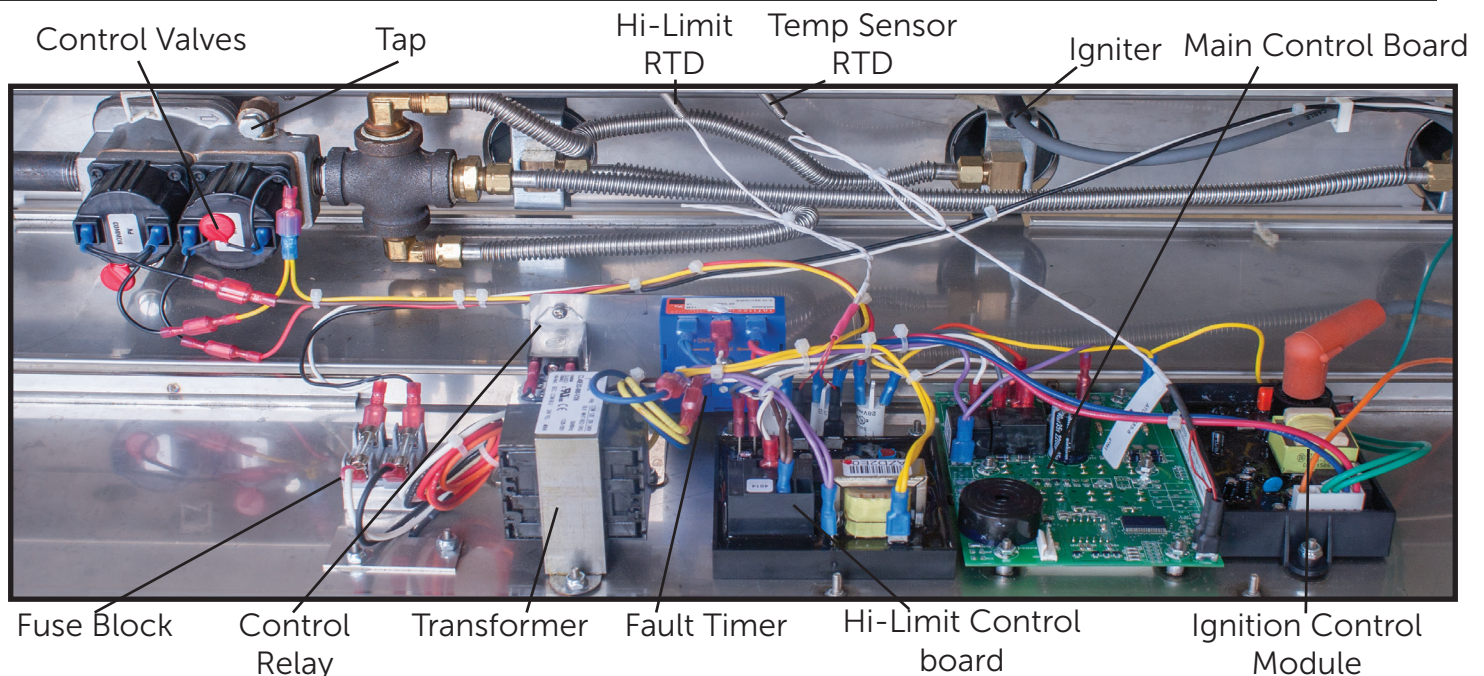


Fig 6.A


7. Removal and Replacement of Components.

7.1 Voltage Supply Components

Fuse 1.25 Amp 250V

ATOE-2731-4

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel (Fig 7.1A).
3. Replace fuse.

 Ensure that the fuse block holder is secure and the fuses do not slip once in place as this can cause ignition issues

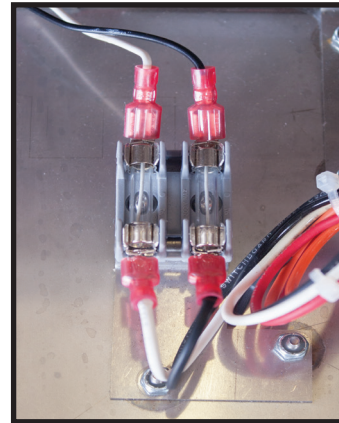


Fig 7.1A

Transformer

ATOA-2779-2

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate transformer and note the location of the wires and their terminals, disconnect wires (Fig 7.1B).
4. Removed nuts securing transformer.
5. Remove transformer.
6. Reinstall in reverse order.

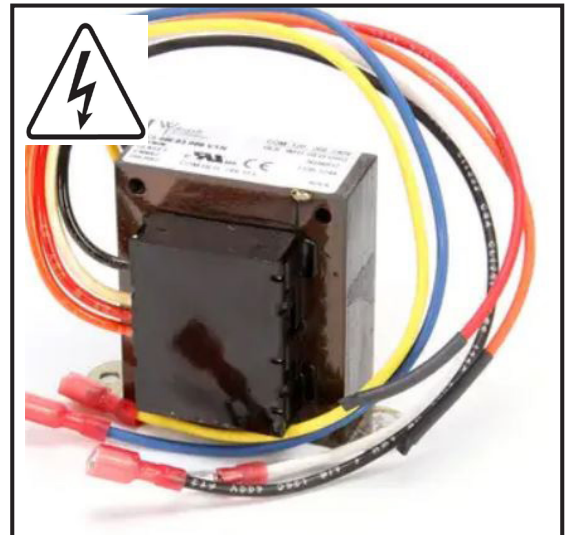


Fig 7.1B

Power Cord

ATOA-2911-1

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate transformer and note the location of the wires and their terminals, disconnect wires.
4. On the inside of the unit, remove the retaining nut on the threads of the Power Cord Cable Fitting & pullout the Power Cord (Fig 7C).
5. Reinstall in reverse order.

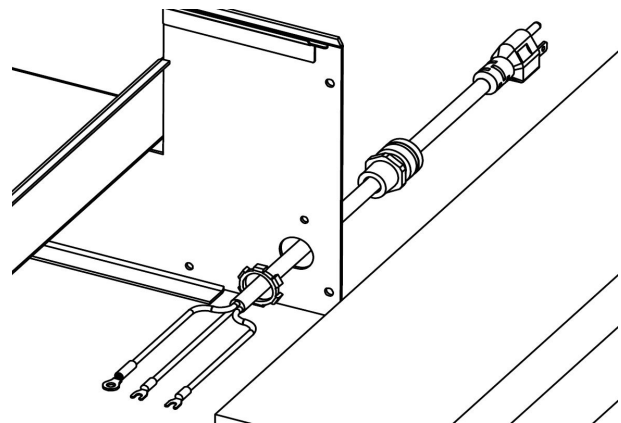



Fig 7.1C

7.2 Control Boards

Digital Control Board

ATOE-3625-5

 Failure to unplug the unit before pulling wires from the board could result in fatal damage to the controller.

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate the main control board. Take note of wires and their terminals, remove wires.
4. Remove nuts and washers securing board to panel, remove panel (Fig 7.2A).
5. Reinstall in reverse order.

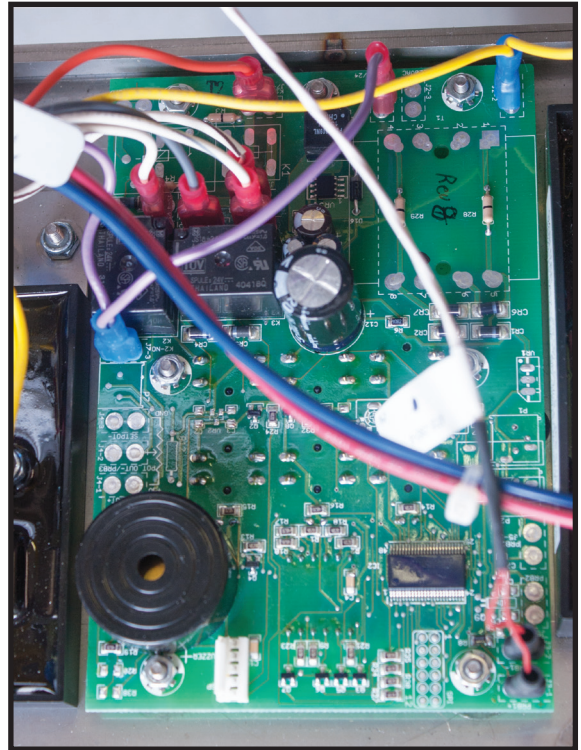



Fig 7.2A

Hi-Limit Control Board

ATOE-3880-2

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate the Hi-Limit control board. Take note of wires and their terminals, remove wires.
4. Remove nuts and washers securing board to panel, remove panel (Fig 7.2B).
5. Reinstall in reverse order.

 If replacing this part on a Serial Number below 18181, the RTD sensor will also need replacing, part # ATOE-5062-1 (1000 OHM).

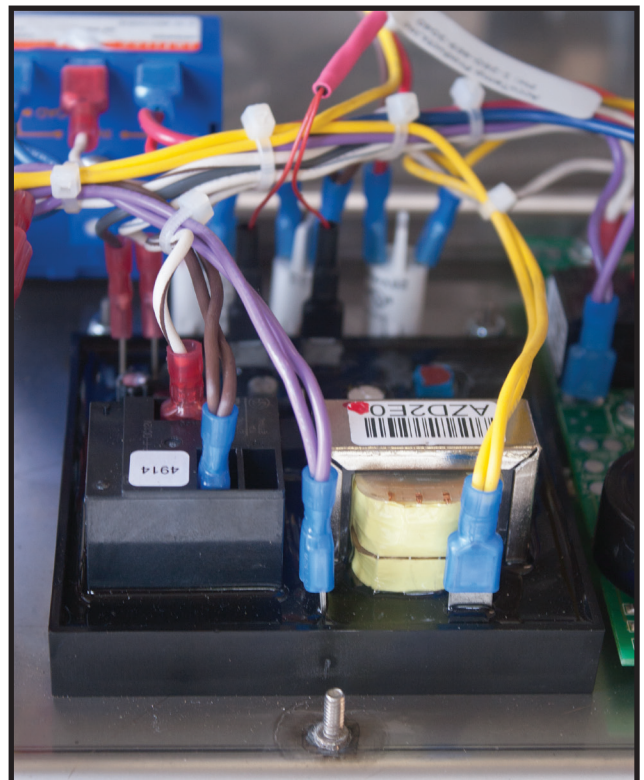


Fig 7.2B

7.3 Ignition System Components

Control Relay

ATOE-2825-6

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Take note of wire location.
4. Remove wires and hardware securing relay (Fig 7.3A).
5. Reinstall in reverse order.

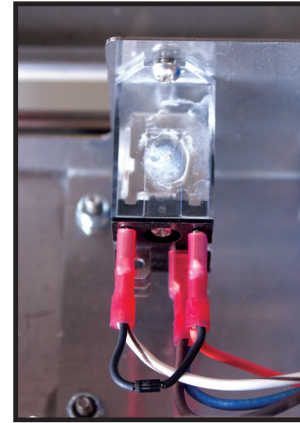


Fig 7.3A

Heat Lamp

ATOE-1800-2

Hi-Limit Lamp

ATOE-1800-2

Fault Lamp

ATOE-1800-2

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate the light bar and remove wires from lamp (Fig 7.3B).
4. Remove nuts securing the light bar to the front panel.
5. Remove lamp.
6. Reinstall in reverse order.

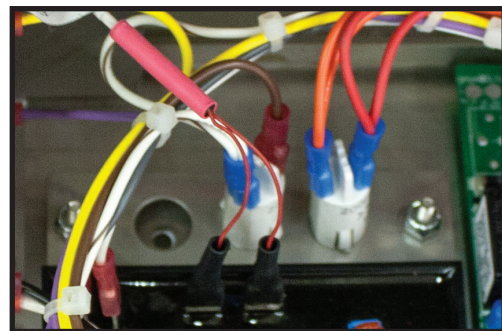


Fig 7.3B

Fault Timer

ATOE-2500-3

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate the Fault timer, take note of wire location and remove wires (Fig 7.3C).
4. Remove hardware securing timer.
5. Remove timer.
6. Reinstall in reverse order.
7. Set timer pot to 6 seconds.



Fig 7.3C

Gas Valve

AT2E-1806-2

1. Unplug from wall receptacle.
2. Turn off gas supply and disconnect the unit from supply hose.
3. Lower front access panel by removing the screws in the upper corners of the panel.
4. Take note of or mark wire location and remove wires.
5. Disconnect brass gas lines from cross fitting.
6. Disconnect union and remove assembly.
7. Remove cross fitting.
8. Reinstall in reverse order; applying new pipe dope to fittings.



Fig 7.3D

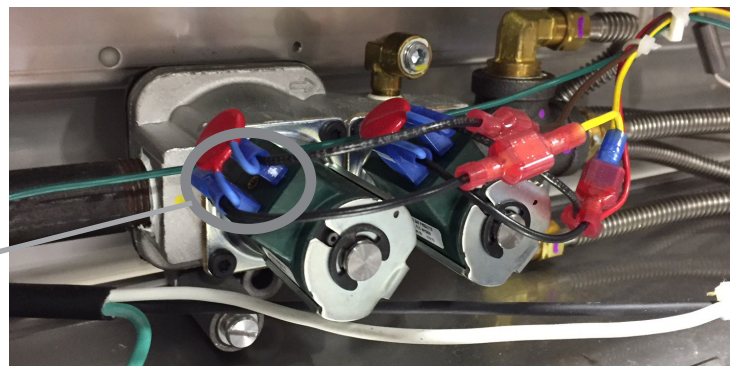
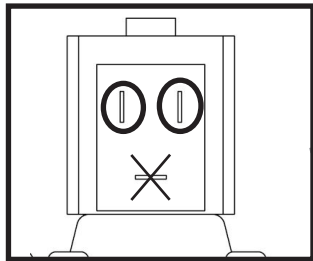


Fig 7.3E



Solenoid terminals - use circled terminals only for wire connections

Ignition Control Module

AT2E-1807-1

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate the module and remove wires (Fig 7.3F).
4. Remove hardware securing module.
5. Remove module.
6. Reinstall in reverse order.
7. Dielectric grease AT0E-3540-3 should be applied to all pin connections.

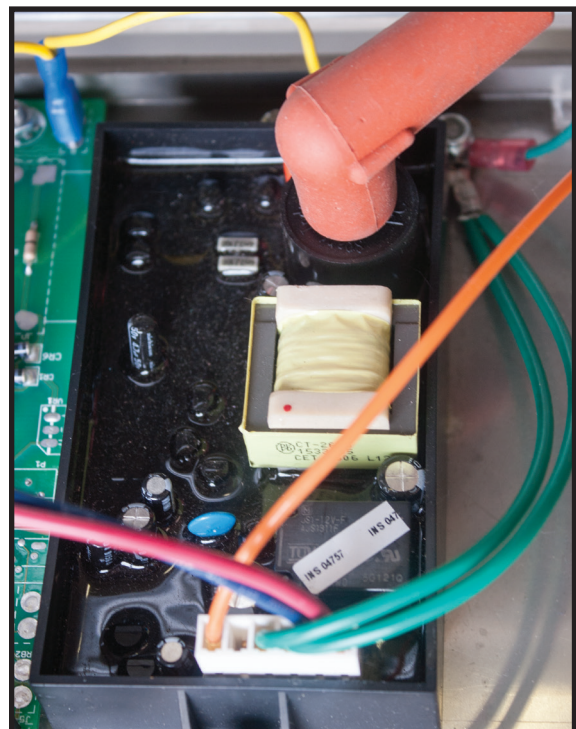



Fig 7.3F

 Ensure there is no damage to the rubber boot on the ignition cable were it connects to the ignition module.

Burner Information

AccuTemp has made a change on the type of burners used in the manufacture of the AccuSteam griddle. Please see the changes below.

GENERATION 2 GRIDDLES, SERIAL NUMBER 16514 - 25621 MODEL GGF120XXX50 & PGF120XXX50

Serial number 16514 - 25621. Model G/PGF1201X2450

Main burner - AT2B-2131-2

Flame sense - AT2E-4717-1

Igniter & igniter cable kit - AT2T-5035-1

Serial number 16514 - 25621. Model G/PGF1201X3650 & G/PGF1201X4850

Main burner - AT2B-2099-2

Flame sense - AT2E-4717-1

Igniter & igniter cable kit - AT2T-5035-1

CONVERSION KITS - GENERATION 2 GRIDDLES, SERIAL NUMBER 16514 - 25621 MODEL GGF120XXX50 & PGF120XXX50 TO USE METAL MESH BURNERS

Model G/PGF1201X2450 - AT2Z-6450

Model G/PGF1201X3650 - AT2Z-6451

Model G/PGF1201X4850 - AT2Z-6452

GENERATION 2 GRIDDLES, SERIAL NUMBER 25622+ MODEL GGF120XXX50 & PGF120XXX50

Serial number 25622+ Model G/PGF1201X2450

Main burner - AT2B-6446-1

Flame sense - AT2E-4717-1

Igniter Electrode - AT2E-6448-1

Full Kit - AT2Z-6450

Serial number 25622+. Model G/PGF1201X3650 & G/PGF1201X4850

Main burner - AT2B-6445-1

Flame sense - AT2E-4717-1

Igniter Electrode - AT2E-6448-1

Flame Sensor

AT2E-4717-1

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Remove orange flame sense wire (Fig 7.3G).
4. Remove screws and flame sensor.
5. Reinstall in reverse order.
 - a. For ceramic burners, orient flame sense with hook pointing down.
 - b. For metal mesh burners, orient flame sense with hook pointing up towards cooking surface.



Fig 7.3G

Igniter

Ceramic: AT2E-4716-1, Fig 7.3H1

Metal Mesh: AT2E-6448-1, Fig 7.3H2

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Remove igniter wire.
4. Remove two nuts and igniter.
5. Reinstall in reverse order.
6. Set new igniter gap between 1/8" - 3/16".

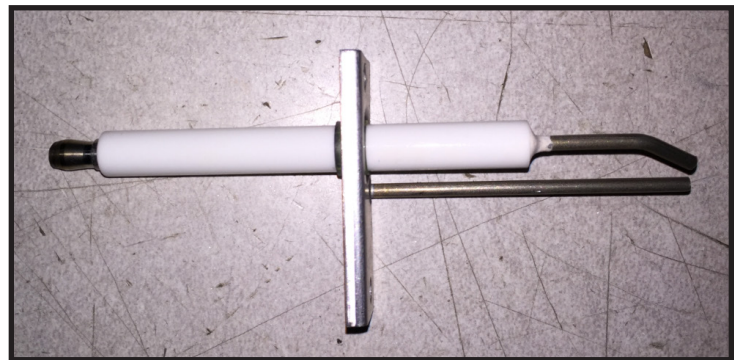


Fig 7.3H1

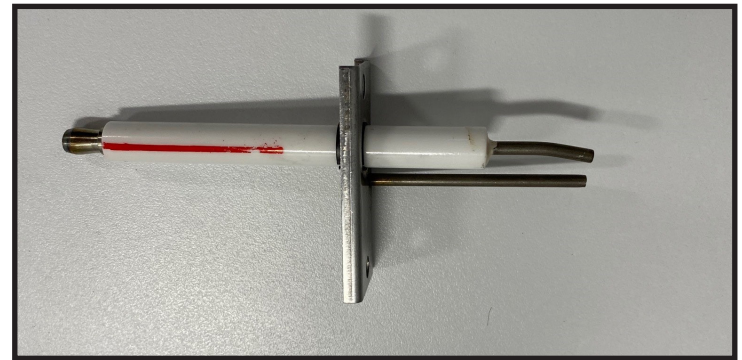


Fig 7.3H2

Ignition Cable

AT2E-1804-4

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Remove ignition cable from igniter and ignition module.
4. Apply dielectric grease to both cable connector and install new cable.

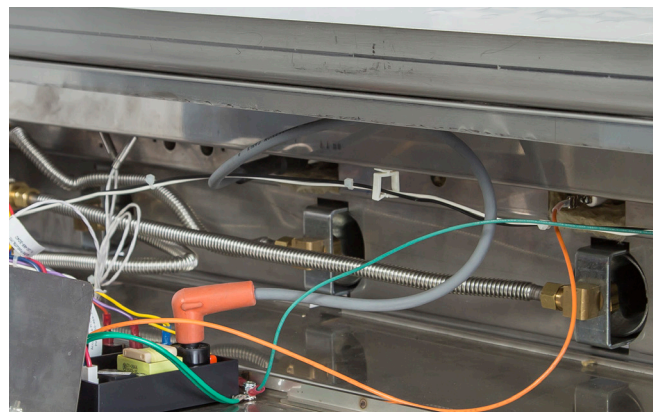


Fig 7.3I

Burner

Ceramic 24": AT2B-2131-2

Ceramic 36/48": AT2B-2099-2

Metal Mesh 24": AT2B-6446-1

Metal Mesh 36/48": AT2B-6445-1


 When diagnosing a bad burner, often times the exterior back side of the burner will have black or gray discoloration in a circular or half moon shaped pattern (Fig 7.3J).



Fig 7.3J

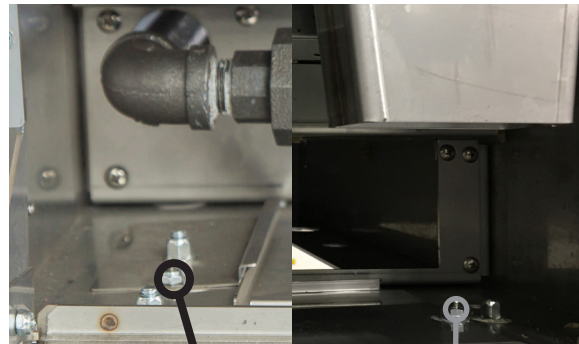
 The replacement of both style of burners follows the same process.

1. Unplug from wall receptacle.
2. Turn off gas supply and disconnect the unit from supply hose.
3. Remove the grease tray and remove the four #10-24 X 1/2" screws at the top corners of the front control panel. The front control panel will hinge down, allowing access to the control compartment.
4. To allow for easy removal of the burner(s), the bottom panel of the control compartment should be removed. which also requires the removal of the grease trough.
5. Remove the nut above the grease trough, and pull the grease trough out (Fig 7.3K).
6. Remove the two nuts holding the bottom panel in place, once at either end of the panel (Fig 7.3L). Then remove the fastener at the back center of the bottom panel (Fig 7.3M). The bottom panel will be released and can be dropped out through the bottom of the control chamber.

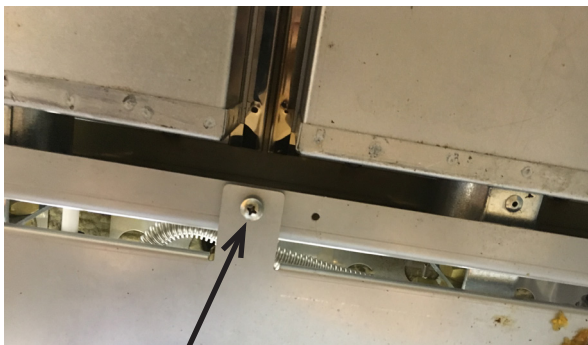


Grease trough nut location

Fig 7.3K



Bottom Panel Nut (Left) Bottom Panel Nut (Right)
Fig 7.3L



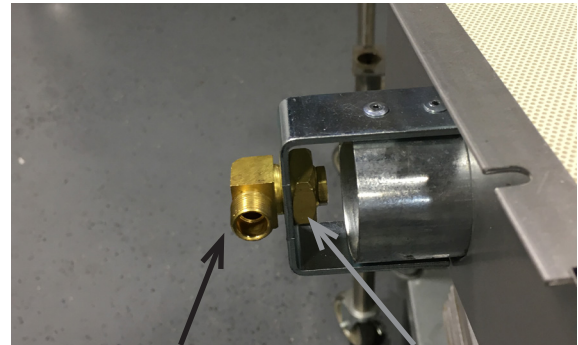
Bottom Panel Fastener

Fig 7.3M

7. Using a 5/8th inch open wrench, remove gas line from compression elbow (Fig 7.3N and Fig 7.3O).
8. Remove rear 2 fasteners fully and loosen front 2 fasteners securing burner (Fig 7.3P).
9. Allow rear of burner to drop, slide backwards, away from loosened front fasteners.
10. The orifice will need to be removed from the burner. Use a 1 inch box wrench to loosen and remove the locknut securing the 90° compression elbow.
11. Remove elbow from burner and install on new burner in reverse order. Remember to angle the elbow correctly to ensure gas line can be reattached.



Fig 7.3N



Compression Elbow

Locknut

Fig 7.3O



Loosened front burner fasteners

Fig 7.3P

13. Install burner back in place on griddle. Line up burner with front studs and slide into place, then lift rear of burner into place.
14. Hand tighten rear fasteners back into place. Then use a socket wrench to snug front fasteners. Return to rear fasteners and secure.
- ⚠ When tightening the four fasteners on the burner, ensure they are all evenly tight and secure. Loose front fasteners will cause a backfire when the unit heats.
15. Reinstall gas line and bottom control panel.
16. Bring the unit to temperature and allow it to cycle heat for at least 15 minutes after replacing burners.

UPDATING FROM CERAMIC TO METAL MESH COMPONENTS SERIAL NUMBER 16514 - 25621 MODEL GGF120XXX50 & PGF120XXX50

Flame Sensor

AT2E-6449-1

For 24" and 48" model only

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Remove orange flame sense wire (Fig 7.3Q).
4. Remove screws and flame sensor.
5. Reinstall in reverse order, ensure flame sense is mounted with hook pointing to left of the burner (Fig 7.3R).

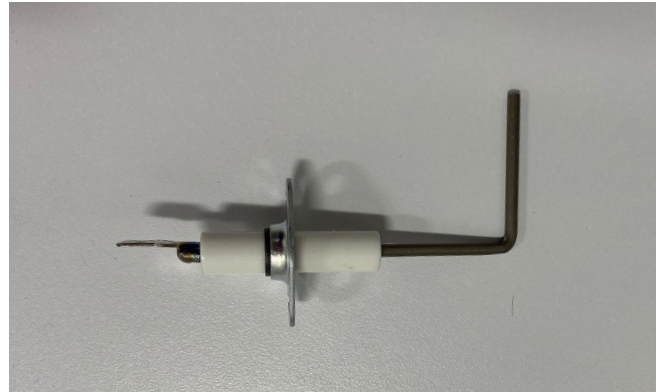


Fig 7.3Q



Fig 7.3R

7.4 Temperature Sensors

Temperature Sensor, 1000 Ω RTD

AT0E-5062-1

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate and remove RTD wires attached to the main control board.
4. Remove nut securing RTD to griddle.
5. Reinstall in reverse order.


Hi-Limit Sensor, 1000 Ω RTD

AT0E-5062-1 (For units with a serial number under 18181, order kit AT2A-5063-1 to repair).

1. Unplug from wall receptacle.
2. Lower front access panel by removing the screws in the upper corners of the panel.
3. Locate and remove RTD wires attached to the Hi-Limit control Board.
4. Remove nut securing RTD to griddle.
5. Reinstall in reverse order.

Fig 7.4A



 Failure to unplug the unit before pulling wires from the board could result in fatal damage to the control board.

RTD Testing

RTD Resistance Chart

Disconnect RTD wires from board and test resistance across the wires.

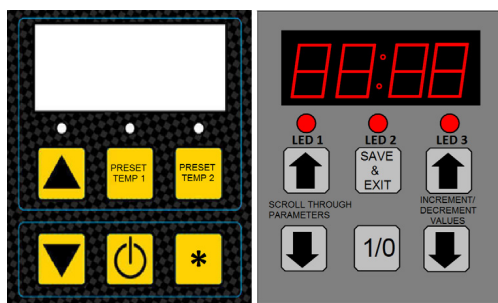
Temp	Hi-Limit Sensor (100 Ω)	Temp Sensor (1k Ω)	Temp	Hi-Limit Sensor (100 Ω)	Temp Sensor (1k Ω)
70	108.22	1082.25			
100	114.68	1146.82	300	156.91	1569.10
125	120.03	1200.38	325	162.08	1620.88
150	125.37	1253.72	350	167.24	1672.44
175	130.68	1306.84	375	172.37	1723.77
200	135.97	1359.74	400	177.48	1774.89
225	141.24	1412.41	425	182.57	1825.78
250	146.48	1464.86	450	187.64	1876.45
275	151.7	1517.09	475	192.68	1926.89

8. Extended Troubleshooting

8.1 Griddle Surface Temperature Measurement

To achieve good thermal contact, clean flat surfaces should make full contact with one another. Point to point contact does not achieve good thermal contact and will not give accurate temperature indications.

When making field temperature measurements of a griddle surface in the field it is recommended to use a weighted probe such as the Cooper-Atkins 50014 K with cooking oil or a specially prepared heat transfer compound placed between the griddle surface and the sensor surface to improve thermal contact (Fig 8.B). The oil works by filling microscopic voids between the griddle surface and the sensor surface allowing improved heat transfer and therefore more uniform temperatures between the griddle and sensor. On the other hand, dirt or food residue of any kind act as an insulating barrier between the griddle and sensor decreasing thermal contact and causing misleading temperature measurements. Dirt or food residue may accumulate on either the griddle surface or the sensor surface or sometimes inside the measurement probe.



Graphic Layout Program Mode
Fig 8.A



Weighted Temperature Probe
Fig 8.B



Digital Temperature Reading Device

To test the surface temperature - use the following steps:

1. Verify griddle is level front to back and side to side before attempting this procedure.
2. With the griddle plugged in, set the temperature to 300°F.
3. Place the weighted temperature probe in the center in the first 1/3rd of the griddle cooking surface on a small amount of high temperature cooking oil. Make sure that the probe is between the griddle weld stud dimples to assure a proper reading.
4. Allow the griddle to heat to the initial temperature setting.
5. Place weighted temperature probe and record 9 temperatures according to the chart below (Fig 4.H).
6. Temperatures shall be within $\pm 5^{\circ}$ F of each other across the entire surface.

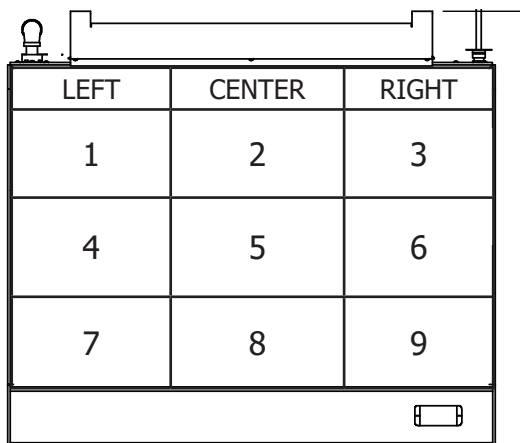



Fig 8.C - Top down view of griddle cooking surface


Front of griddle

8.2 Ignition System Testing

8.2.1 Flame Sense

 When troubleshooting ignition problems it is absolutely imperative to start off by taking incoming/outgoing gas pressure and to get a reading from the flame sensor. These three measurements are the most useful readings a technician can take when diagnosing AccuTemp gas equipment and are often the most neglected.

The ACCU-STEAM G2 gas griddle has a flame sensing circuit to determine if the system has proper combustion. When the system is turned on gas is sent to the burner and an electronic ignition tries to ignite the griddle. The griddle then checks to see if flame is established in the burner. If the flame sense feedback is within the proper range the system will stay on until the digital temperature controller is satisfied. The griddle's ignition module continues to monitor the voltage and as long as its within the proper range the griddle will stay on. If the flame sense reading falls below the threshold **of 0.12DC μ A** the griddle will go into lock out and will stop heating. When a lock out occurs, the fault indicator light should illuminate.

 Ensure chassis ground connection is tight.

Micro-amp flame sense reading

A meter with DC μ A (DC microamps) selection is required. To check micro amps, disconnect the orange wire from the flame rod and connect the amp meter in series by attaching one lead of the meter to the flame sense rod terminal and the other lead to the orange wire.


If the burner is lighting, determine if the sensing signal level is 0.12 μ A or higher.

- A. If the reading is less than 0.12 μ A, check for proper gas pressures to the dual valve. For natural gas, the pressures must be 5" water column for the main gas valve. For propane gas, the pressures must be 10" water column.
- B. If the gas pressures are good but the sensing signal level is still poor, check burner orifice for obstruction. Clean or replace as necessary.
- C. If the gas pressures are good, the pilot orifice is clean, the burner surface is glowing orange to bright orange but the signal level is still poor, clean or replace the flame sense probe.

Four types of meter readings are possible:

1. **0 micro amps** – Look for an open or grounded sensor wire or flame rod, or a defective ignition module. The wire and rod can be diagnosed with an ohmmeter.
2. **Steady 0.12 micro amps or higher** – The system is operating within normal parameters.
3. **Fluctuating meter reading** – Check that the flame sensor probes are properly located. Also check for drafts that can cause an unstable flame. A dirty orifice can also cause an unstable flame.
4. **Less than 0.12 micro amps** – Verify the flame-sensing rod is properly engulfed in the flame. A flame sensor probe too close to the tile will not be in the proper part of the flame, with not enough ionized gas to allow a proper signal level to be conducted. Conversely, the same thing holds true if the flame sensor is too high. Also check the ground connection back to the ignition module. Check that the flame-sensing rod and ground plane are not oxidized. Clean both with a non aluminum oxide abrasive.
5. Check the chassis ground connections are secure and verify there is a good ground at the electrical outlet

8.2.2 Equipment Gas Pressure

 When troubleshooting ignition problems it is absolutely imperative to start off by taking incoming/outgoing gas pressure and to get a reading from the flame sensor. These three measurements are the most useful readings a technician can take when diagnosing AccuTemp gas equipment and are often the most neglected.

The ACCUSTEAM G2 gas griddle requires the proper gas pressure setting to operate properly. All pressure readings should be taken after the unit has reached a temperature of at least 200°F and while it is running to ensure proper flow rates.

Required Material:


Manometer, 1/8" NPT barbed hose fitting one 2 inch long lengths of approx. 1/8" diameter flexible rubber hose (closed on one end).

Tasks:

1. Verify pressure regulator vent are clear before making any pressure adjustments.
2. Remove the 1/8" NPT pipe plug from the main gas valve and install the 1/8" NPT barbed hose fitting. Tighten and mount one length of the rubber hose.
3. Allow the appliance to heat up to at least 200°F. First, check the main burner regulator pressure. Remove the rubber hose and replace with the manometer tube. **The pressure should be 5" WC for natural gas and 10"WC for propane.** If the outgoing pressure does not meet this value, remove the cap on the main burner pressure regulator and adjust it to the necessary value.
4. Replace the hose fittings with original plug.

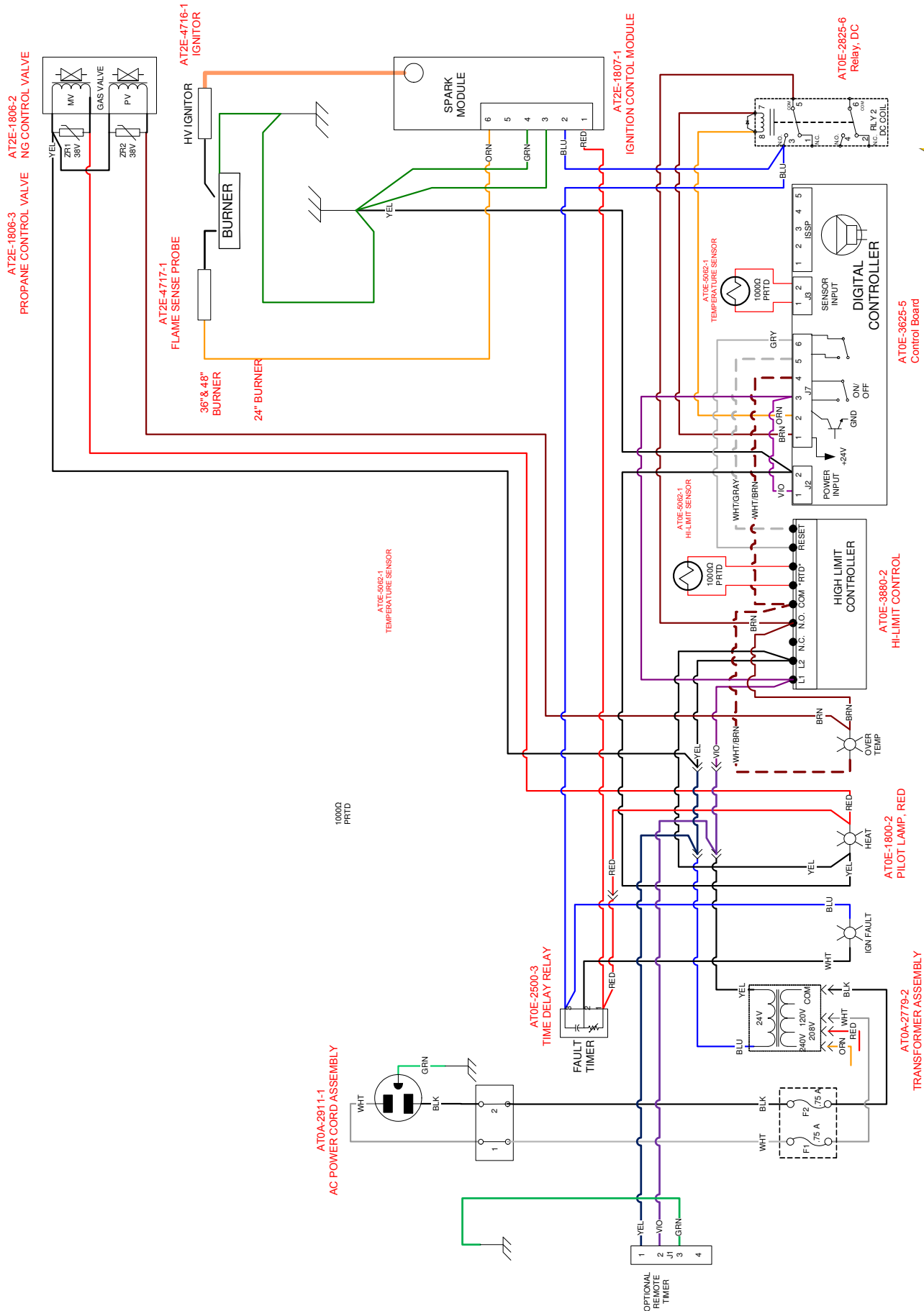
The internal dual gas valves are rated for a low pressure systems. Low pressure is 1/2lb (14" water column) or less. An external regulator should ONLY be used if incoming gas pressure exceeds this value. If incoming gas pressure does not meet 7" water column for Natural gas or 12" water column for propane then the technician should first check to see if there is an external regulator installed and if there is not, the gas supply company should be contacted and asked to raise the supply pressure to the building. Another inspection point in the gas system is the gas supply lines. **The recommended gas supply hose is commercial grade (Dormant) 3/4" ID and not to exceed 4 feet in length from the main supply.** When inspecting the gas supply system, verify there are no restricting adapters or regulators (Unless on a high pressure system).

9. Planned Maintenance

 It is recommended that you contact your AccuTemp authorized service provider to setup a planned maintenance program to keep your appliance operating in the most efficient manner. AccuTemp recommends a minimum of a yearly schedule.

PM DESCRIPTION	GENERAL ITEMS	BIANNUAL ITEMS	ANNUAL ITEMS
Verify that the appliance is level and properly located under the hood.		X	X
Verify that the temperature controller is working properly and that there are no rips in the overlay.	X	X	X
Check that the splash shield at the top of the control panel is under the rail provided. If not water and or grease can migrate and cause possible damage to the internal electronic components.		X	X
Inspect the control compartment for foreign particulate and any loose wiring connections.		X	X
A back draft diverter has been installed at the factory this will keep scraping from spatulas from dropping down the flue and will provide addition protection from back drafts. Check that flue has not been pushed in resulting in an uneven opening across the flue passage. Pull flue out so that flue opening is even across width of appliance.		X	X
Verify the operation and condition of the igniter and flame sense probe assembly. Probes should be cleaned with an alumum abrasive and/or emery cloth. Caution: DO NOT use any abrasive that contains silica. This will leave a coating on the flame sensor that could cause the unit not to ignite.		X	X
Clean all burner orifices, making sure that each orifice is clear and unobstructed. It may be necessary to use a drill the same size of the orifice, if very soiled.		X	X
Inspect the burner venturi tubes for foreign particulate. Wipe out with a mild detergent and warm water and rinse with clean water.		X	X
Inspect combustion chamber and the burner tiles. If water stains are present on tiles check that tiles have no cracks and haven't sunk into the burner. Replace burners if this condition is present.			X
Inspect the ignition wire harness for any evidence of high temperature degradation or grease build-up on harness connector. Spray contact cleaner into white connector and clean mating connector imbedded in ignition module. Coat the pins with a dielectric grease.		X	X
Verify main burner regulator pressures are correct.		X	X
Verify flame sense operation		X	X

10. Wiring Schematic



11. Limited Warranty

LIMITED WARRANTY One Year Labor and Parts

AccuTemp Products, Inc. (AccuTemp) warrants that your AccuTemp equipment will be free of defects in material and workmanship under normal use for a period of twelve (12) months from installation or fifteen (15) months from date of shipment from AccuTemp, whichever date first occurs (the Warranty Period).

Registration of AccuTemp equipment is required at time of installation.

Damage to AccuTemp equipment that occurs during shipment must be reported to the carrier, and is not covered under this warranty. The reporting of any damage during shipment is the sole responsibility of the commercial purchaser/user of such AccuTemp equipment.

AccuTemp provides an active service department, which should be contacted and advised of service issues regardless of warranty period.

During the warranty period, AccuTemp agrees to repair or replace, at its option, F.O.B. factory, any part which proves to be defective due to defects in material or workmanship, provided the equipment has not been altered in any way and has been properly installed, maintained, and operated in accordance with the instructions in the AccuTemp Owners Manual.

During the warranty period, AccuTemp also agrees to pay for any factory authorized equipment service agency (within the continental United States and Canada) for reasonable labor required to repair or replace, at our option, F.O.B. factory, any part which proves to be defective due to defects in materials or workmanship, provided the service agency has received advance approval from AccuTemp factory service to perform the repair or replacement. This warranty includes travel time not to exceed two hours and mileage not to exceed 50 miles (100 miles round trip), but does not include post start-up assistance or training, tightening of loose fittings or external electrical connections, minor adjustments, gaskets, maintenance, or cleaning. AccuTemp will not reimburse the expense of labor required to replace parts after the expiration of the warranty period.

Proper installation is the responsibility of the dealer, owner-user, or installing contractor and is not covered by this warranty. While AccuTemp products are built to comply with applicable standards for manufacturers, including Underwriters Laboratories (UL) and National Sanitation Foundation (NSF), it is the responsibility of the owner and the installer to comply with any applicable local codes that may exist.

AccuTemp makes no other warranties or guarantees, whether expressed or implied, including any warranties of performance, merchantability, or fitness for any particular purpose. AccuTemp's liability on any claim of any kind, including negligence, with respect to the goods and services covered hereunder, shall in no case exceed the price of the goods and services, or parts thereof, which gives rise to the claim. In no event shall AccuTemp be liable for special, incidental, or consequential damages, or damages in the nature of penalties.

This constitutes the entire warranty, which supersedes and excludes all other warranties, whether written, oral, or implied.

IMPORTANT

Improper installation can affect your warranty. Installation is the responsibility of the Dealer, Owner/User or the Installation Contractor. See: Section One, Installation of the Owners Manual.

For Service Call 800-480-0415 or email: service@accutemp.net



LIFETIMETM
SERVICE & SUPPORT
1-800-480-0415 | service@accutemp.net