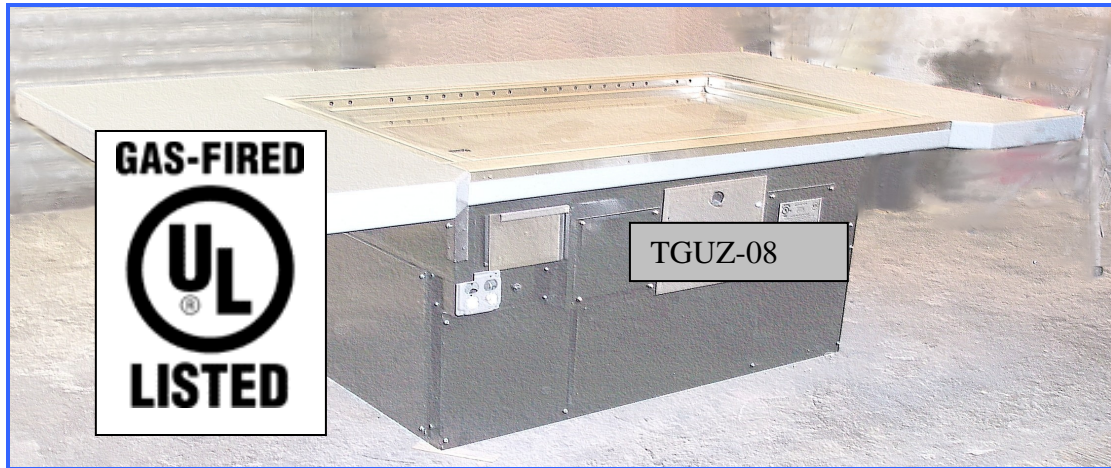


Hibachi Grill Models TGUZ-08, TGUZ-10

INSTALLATION AND INSTRUCTION MANUAL



ROASTER TECH 493 ASHFORD AVENUE, ARDSLEY, NY 10502

Phone: (914) 693-0936 Fax: (914) 693-0524 E-mail roastertec@aol.com

FOR YOUR SAFETY:

1. Do not store or use gasoline or other flame vapors of liquids in the vicinity of this or any other appliance.
2. A qualified installer must perform installation and service.

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.

WARNING: If you smell gas

1. Shut off gas to the appliance.
2. Extinguish any open flames.
3. Do not try to light any appliance.
4. Do not touch any electrical switch; do not use any phone in your building.
5. Immediately call you gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
6. If you cannot reach your gas supplier, call the fire department.

RETAIN THIS MANUAL FOR FUTURE REFERENCE

ASSEMBLER / INSTALLER: Leave these instructions with the appliance. A copy of these boxed instructions is to be posted in a prominent location and the instructions are to be followed in the event the use or area occupant detects gas odors.

Manual Revision - August, 2009

TABLE OF CONTENTS – ROASTER TECH TGUZ HIBACHIS

SECTION	SUBJECT
I.	GENERAL SAFETY ISSUES AND WARNINGS
II.	SPECIFICATIONS, WIRING DIAGRAM
III.	INSTALLATION REQUIREMENTS, CLEARANCES
IV.	INSTALLATION INSTRUCTIONS, AIR FLOW, DUCTING
V.	LIGHTING INSTRUCTIONS
VI.	OPERATING INSTRUCTIONS
VII.	SHUTDOWN INSTRUCTIONS
VIII.	DAILY AND PERIODIC SERVICE MAINTENACE AND CLEANING
IX.	DUCTS AND EXHAUST SYSTEM MAINTENNACE
X.	TROUBLESHOOTING GUIDE
XI.	SERVICE AND REPAIR
XII.	PARTS LIST
XIII.	WARRANTY AND SERVICE
XIV.	FIRE SUPPRESION SYSTEM

SECTION I. – GENERAL SAFETY ISSUES AND WARNINGS

This section of the manual contains important safety information. Please read the entire manual and follow all pertinent instruction when assembling, installing and operating this appliance. The manual should be retained for future reference.

- Appliance installation sites should be provided with safety instructions based on information supplied by local fuel suppliers. These instructions are to be posted in a prominent area near the appliance.
- All installations are to conform to local codes. In the absence of local codes, installation should conform to the *National Fuel Gas Code*, ANSI Z223.1/NFPA 54, and in Canada the *National Gas Installation Code*, CAN/CGA-B149.1 or the *Propane Installation Code*, CAN/CGA-BB149.2.
- The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of ½ psi (3.45 kPa).
- The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than ½ psi (3.45 kPa).
- For your protection we recommend an installer qualified by Roaster Tech or/or installation under the supervision of our factory staff.
- Do not allow untrained operators to use this equipment.
- Exercise extreme care in handling metal parts. Do not touch any metal surfaces that become hot in operation.
- The appliance must be wired by a qualified electrician and grounded in accordance with NEC 70 requirements.
- DO NOT TRY TO OPERATE THIS APPLIANCE DURING AN ELECTRICAL POWER FAILURE. In the event of the loss of electrical power, immediately turn off the power switch and turn off the gas valve (s).
- ON SOME UNITS AN OPTIONAL POWER LOSS INTERLOCK DEVICE WILL SHUT OFF ALL GAS IN THE EVEN OF ELECTRICAL POWER FAILURE. IF UNIT IS SO EQUIPPED AND IS A UNIT THAT UTILIZES SAFETY PILOTS, THEN THE PILOT IGNITION PROCESS WILL HAVE TO BE REPEATED FOLLOWING RESTORATION OF POWER. ON UNITS EQUIPPED WITH AIR FLOW INTERLOCK SWITCH, SHUTTING OFF THE EXHAUSTST BLOWER WILL ALSO SHUT OFF MAIN BURNER GAS UNTIL AIR FLOW AND POWER IS RESTORED.
- The TUGZ appliances are also provided with an air flow proving switch, (optional on TUG units), which acts to shut off all gas flow when the exhaust air flow is decreased to the switch activation level. When the unit is turned on, the normally open switch will not close until air flow levels can close the switch circuit to allow gas flow. Air flow is monitored by sensor placed at the C box top collar.
- **“CAUTION”** WHEN AIR FLOW TO EXHAUST IS RESTARTED, MAIN BURNER GAS FLOW WILL RESUME AND UNIT WILL CONTINUE TO OPERATE IF IT WAS SHUT OFF ONLY BY AIR FLOW SWITCH AND IF POWER SWITCH IS LEFT ON AND AUTOMATIC CONTROLS ARE SET TO COOKINING TEMPERATURES. To prevent unwanted operation under such conditions, users should be instructed to shut off all appliance gas valves, and turnoff

thermostats and shut off power during fan failure or interlock activations and keep these control settings off until causes of shutoff are corrected.

- It is not necessary to install overhead ventilation hood over the Hibachi table since it has a self contained downdraft exhaust as permitted under the NFPA 96 Code. The hibachi table exhaust system was also agency tested to comply with pertinent portions of UL 710 Test Standard for Commercial Kitchen Exhaust Hoods.
- Refer to local codes for the building fresh air supply requirements. See instructions on page 6 for manufacturer's recommendations. In the absence of local codes, refer to the National Ventilation Code entitled, "Standard for the Installation of Equipment for the Removal of Smoke and Grease laden Vapors from Commercial Cooking Equipment", NFPA-96-latest edition.
- For units firing at 38,000 BTU/Hr. (TGU Series with cast iron burners) 845 cfm of air flow should be maintained in the individual exhaust duct of each downdraft operating unit when the burners are on.
- TGUZ units with 50,000 BTU firing rate require 1025 cfm exhaust rate. Building make up of conditioned air should be adequately sized to provide makeup air for operating units. As a general rule, for each unit operating, 1/3rd of exhaust cfm make up air should be provide as based on unit use of 1/3rd of time.
- Note: Where servicing the appliance may require greater clearances, than those shown on the name plate, then the greater clearances should be allowed for.

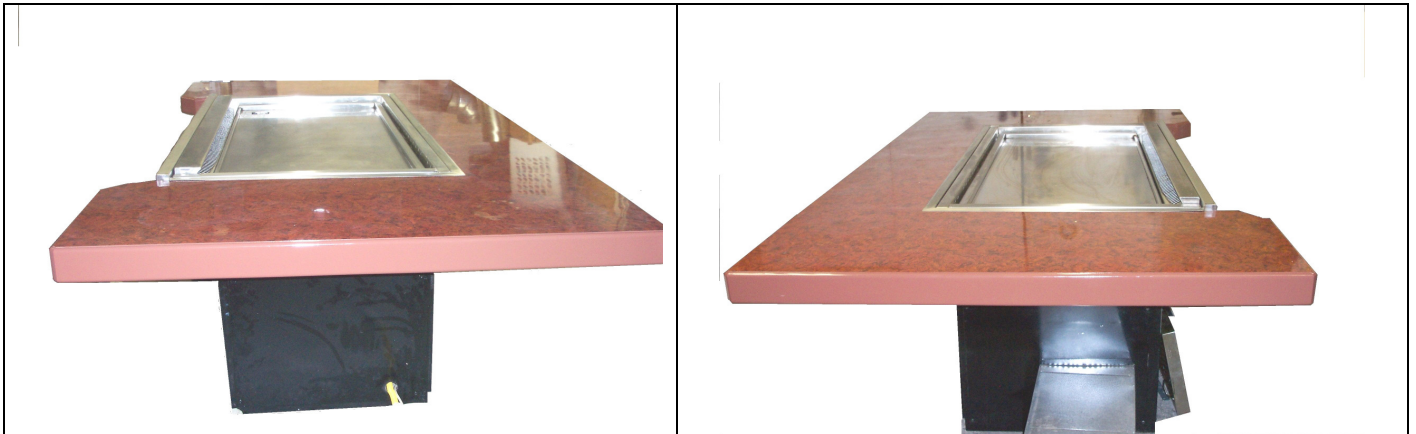


TABLE WITH LEFT SIDE VENTING ARRANGEMENT

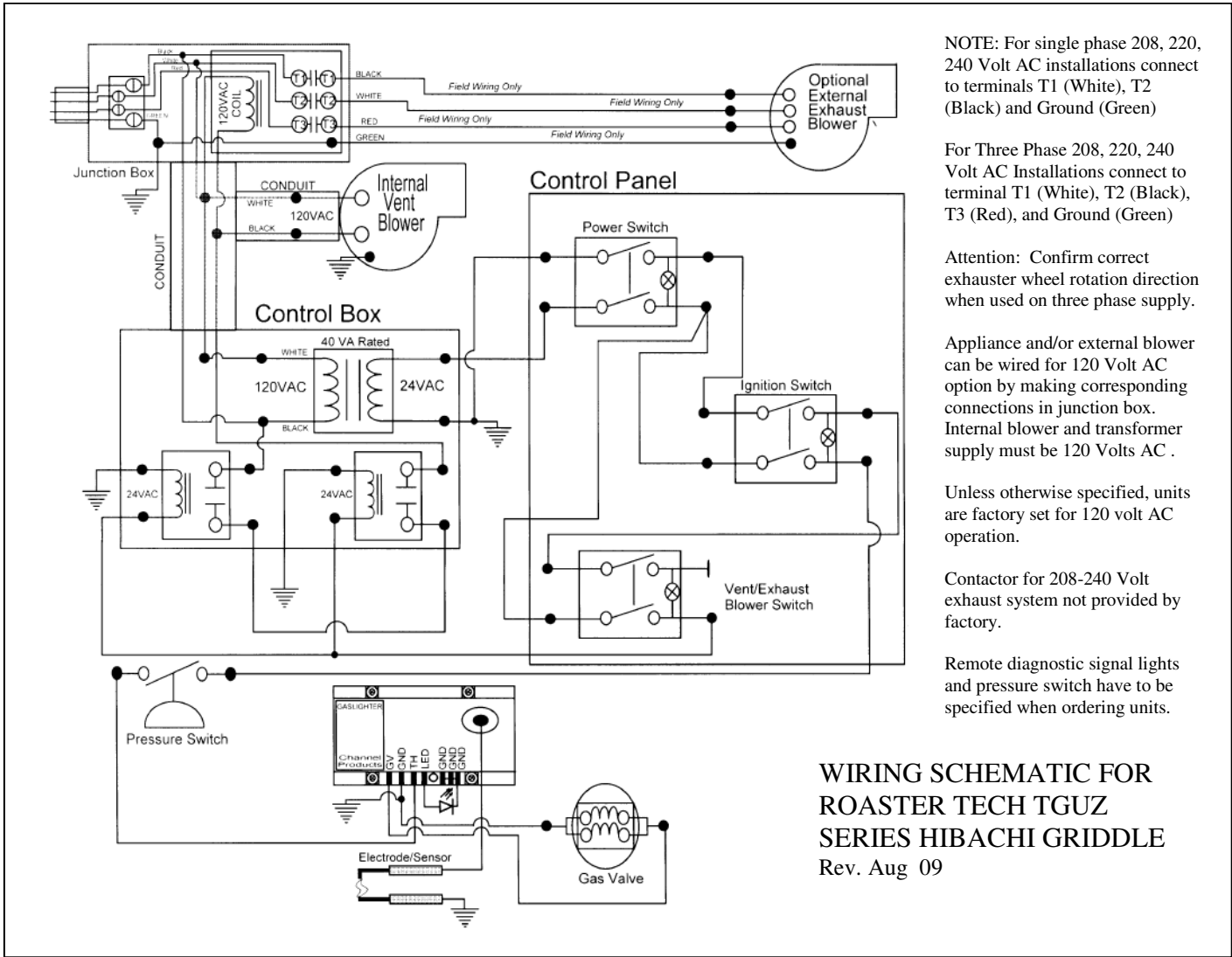
SECTION II. – SPECIFICATIONS

Model No.

TGU-08, TGUZ-08, TGUZ-

TGU-08, TGUZ-08, TGUZ-010

Type of Gas:	010	Propane Gas
Gas Supply Pressure (Max):	Natural Gas	13.0 "w.c.
Gas Supply Pressure (Min):	10.5 "w.c.	11.0 "w.c.
Appliance Manifold Pressure	4.0 "w.c.	TGU and TGUZ Series 10.0 "w.c.
Input Rating	TGU Series 3.5" w.c.	TGU-08 38,000 Btu/hr
Supply Voltage	TGUZ Series 4.0" w.c.	TGUZ Series, 50,000 Btu/hr
Phase	TGU-08 38,000 Btu/hr	120 V
Hertz	TGUZ Series, 50,000 Btu/hr	1 Ø
Amperes		60
		Less than 10



Unless otherwise specified, units are factory set for 120 volt operation.
Contactor for 208-240 volt exhaust systems has to be supplied at installation.

PLEASE NOTE

- The above schematic wiring diagram represents a configuration option which might or might not be required by local jurisdictions.
- The schematic are shown for a single unit installation configuration. Installations of multiple appliances can be wired to share power switches, gas interlocks and other components as long as such a configuration is acceptable to local jurisdictions.
- Local jurisdictions should be consulted to determine the required installation configuration for gas interlock and air flow switches as applicable to their areas.
- Certain configurations of the hibachi might not incorporate all of the features shown on the diagram and any special requirements should be brought to the attention of Roaster Tech.
- For details of fire suppression system and wiring please refer to corresponding fire suppression wiring manual drawings.

SECTION III. – INSTALLATION REQUIREMENTS

Installation Clearances Table

Clearance from	Clearances (inches)
Cook top (Overhead)	48" from combustible and noncombustible construction
Sides of appliance	6" from combustible construction except 0" for factory supplied table*
Back (tableside)	6" from combustible construction except 0" for factory supplied and mounted guest table top*
Front	6" clearance must be maintained, however for cooks access and servicing a 30" clearance is recommended
Floor	Can be installed on combustible flooring. Do not install on carpeting as it could block the air intake opening around the base.

***Factory supplied table was agency tested as part of the appliance. Adequate clearances should be provided for proper operation and servicing of the hibachi appliance and any field installed optional items such as fire suppression systems.**

- 120 Volt/60hz/1 ph electric power must be provided to appliance.
- This appliance is for installation only at the clearances indicated. Clearances are specified from combustible and for noncombustible construction.
- Units are capable of and can be set up at factory for left or right side venting, electric power, gas supply and fire suppression installation hookup. The geometry of these features should be considered before layout plans are finalized.

- Observe clearances from combustible surfaces as marked on name plate. Clearances posted on unit are for safety reasons and lesser clearances cannot be applied. Additional clearances might be required for service and operator access.
- Ducting rated for grease service must be installed to exhaust each hibachi table. Where allowed by local codes, ducts can be assembled and sealed using suitable high temperature sealing materials such as Permatex “Ultra Copper” which is suitable in non food zones and is rated for continuous use at temperatures of up to 600°F with periodic exposure to 700°F. In designated food zone areas, NSF 51 listed Permatex Ultra Blue or The Right Stuff may also be utilized.
- Ducts should be sized to allow for exhaust of required exhaust air flow of 845 cfm for TGU-08 units and 1025 cfm for TGUZ models. Flow velocity inside ducts should comply with local codes requirements.
- Recommended maximum duct length outside of appliance is 50 feet plus three 90 elbows (sweep or sharp turn). Duct length can exceed the recommended length, however a larger motor might be required to meet the required listed exhaust air flow volume.
- Minimum recommended duct length is 8 feet.
- The listed exhaust air flow volume for full capture of cooking odors and smoke per unit requirement as determined by agency test is 845 **cfm for the TGU Series and 1025 cfm for the TGUZ Series**. This volume of air is required to be maintained when the burners are operating and food is being cooked on the hibachi.
- Building make up air supply for hibachi table use should meet local codes requirements. When these make up air calculations are determined, it should be based on the assumption that the hibachi is generally operating on active gas firing and cooking mode at an average 1/3rd of guest seating time. The rest of the guest seating time is post cooking time (eating, conversation, and waiting) and pre cooking time such as order taking and waiting and standby. Since the hibachi is either not yet gas firing or finished with gas firing, no make up air is required for these periods. It is also highly unlikely that all hibachi units in a restaurant would be operating simultaneously and continuously.
- Safety controls as provided incorporate a pre purge of vent systems. This feature will result in a slight delay in gas flow and ignition following appliance turn on. In the event of loss of venting/exhaust flow the design also incorporates a feature to automatically shut off the gas supply. Momentary electric power interruptions might also shut off gas flow and require a restart cycle to again establish the cooking flames.

SECTION IV. – INSTALLATION INSTRUCTIONS

BEFORE STARTING WITH THE INSTALLATION OF THE APPLIANCE, PLEASE READ AND BE FAMILIAR WITH THE INFORMATION ON PAGES 2 to 6 OF THIS MANUAL

When installing this appliance, please refer to all applicable codes or, in the absence of local codes, follow the ***National Fuel Gas Code, ANSI Z223.1/NFPA 70***. In addition, ANSI / NFPA 96 – (latest edition), covering the installation of equipment for the removal of smoke and grease-laden vapors from commercial cooking equipment must be conformed to.

The electrical diagram is located inside the front right side access panel of the appliance. Be sure to refer to the diagram as needed for service and installation purposes.

When installed, the appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70*, or the *Canadian Electrical Code, CSA C22.2*, as applicable.

STEPS FOR INSTALLING UNIT

1. Remove appliance from shipping crate.
2. Inspect for damage. If any damage is noted, report damage to freight company, and contact Roaster Tech at the address shown on the front cover.
3. Read and observe all of the instructions in this manual pertaining to installation and safety.
4. Verify that the unit marking plate indicates that the unit is set up for service on the type of gas fuels as found at the installation site.
5. Insure that the hibachi geometry (left or right side setup) fits with the gas, electric, fire suppression and duct layout. If you have any concerns about this contact the factory.
6. Place unit on a suitable location in such a manner as to be best accessible to operator and for seating of guests.
7. Proper gas piping: In order to insure proper performance of this unit as well as other gas appliances, alone or in conjunction with other appliances, a well planned and properly sized gas supply system is a must. If the appliances are to be connected to existing piping, the piping should be checked for adequate capacity enabling full firing for all of the units that are to use the piping run.

8. Pipe thread sealant (joint compound) shall be used sparingly and only on male threads of pipe joint. Such compounds shall be resistant to the action of L.P. gases.
9. The manifold pressure must also be maintained to the pressure shown on the name plate.
10. **WARNING:** All pipe fittings must be clean and free of dirt or other contaminants. Any loose particles, such as dirt or metal filing, in gas lines can damage the controls and affect operation.
11. Make certain not to obstruct the flow of combustion and ventilation air. Insure that air intake openings around the lower edge of the appliance jacket are not obstructed.
12. The area at the air curtain fan intake and filter located under the griddle plate is not to be obstructed.
13. Most local codes require that a manual shutoff valve is installed in the same room and within six feet of the appliance.
14. Locate unit so that traffic in area will not interfere with unit operation. When choosing unit location, take into consideration the operation of overhead heating/cooling ducts and fans
15. Appliance must be connected to suitable exhaust duct in compliance with all applicable local codes. See instructions on page 5 and page 6.
16. Insure that proper clearances for safety and service are provided.
17. Be sure that appliance is level. If not level then level the appliance.
18. Install griddle plate if not installed. On units provided with thermostats, be sure to insert thermostat probe into housing welded to underside of griddle plate. When removing griddle plate for any reason, be sure not to damage thermostat probe capillary leads.
19. Connect to gas supply and before operating unit, conduct a gas leakage tests to verify gastight connections. Check entire piping system for leaks. A solution consisting of 50% dishwashing detergent and water mix can be applied with a brush. Matches, candles or other sources with open flames or sparks shall not be used for this purpose.
20. Connect to electrical supply. Insure that electrical supply line is routed away from hot surfaces. Electrical supply line should be routed so as not to interfere with unit operation.
21. An electrical connection box is provided for connection to field wiring, or if local codes permit, for the connection of listed grounded cord set.

22. When installed, the appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the *National Electrical Code, ANSI/NFPA 70*, or the *Canadian Electrical Code, CSA C22.2*, as applicable. A green colored grounding point is provided in the connection box.
23. Connect exhaust system and verify proper operation.
24. Conduct tests of any installed suppression system as required by authority having local jurisdiction.

SECTION V. – LIGHTING INSTRUCTIONS

Note: Lighting instructions may differ on various hibachi units depending on the optional features of the hibachi table. Units are factory equipped with various optional control systems. Lighting instructions that apply to the specific appliance version should be the one used when operating the hibachi. TGUZ Models offer automatic electronic ignition of main burners.

LIGHTING INSTRUCTION, TGUZ Series

TO TURN ON UNIT

1. Turn on power switch to energize unit.
2. If unit is equipped with thermostat, set thermostat to required heat setting.
3. Fully open manual valve.
4. Turn on igniter switch. This will start sequence of duct air purge followed by electronic spark ignition and opening of automatic gas valve to initiate gas flow to burners.
5. After burners ignite, thermostat setting will be automatically maintained on the griddle surface for units so equipped.
6. For unit without thermostats, manual valve should be used to adjust temperature as needed for cooking.

SECTION VI. – OPERATING INSTRUCTIONS

Roaster Tech highly recommends that all users of this equipment be trained on the proper use of this equipment by factory staff. Please contact the factory at the number listed on the front cover for information on available training programs.

The appliance listing applies to and includes general purpose foodservice use.

If the hibachi is to be employed for showcase type cooking where fires or open flames are intentionally created on the cooking surface, user is to insure that proper precautions are taken to warn and safeguard guests and that staff is trained on the procedures and safety requirements as required under applicable codes.

Agency testing of this equipment did include testing operations during which intentional fires were created on the cooking surface to simulate flare up, abnormal flare up and cooking fire.

GENERAL OPERATING INSTRUCTIONS:

1. After the burners have been lit, (see **Section V**), allow time for griddle warm-up before cooking.
2. On units without thermostats, reduce flame size when lower cooking temperatures are required. Due to the mass of the solid metal cooking surface, it might take some time for the cooking surface temperature to drop.
3. Burners can also be totally shut off manually. To do so without shutting of “Ignition” switch will lock out safety control and require power off to relight. When relighting burners after shutoff, **be sure to set gas control on full fire rate.** Only after burners are lit at full fire should any corrections to lower the burner flames be made.
4. On models equipped with thermostats, select the desired cooking temperature by adjusting thermostat dial. When thermostat cycles or changes to reduce burner flame size that means that the pre selected temperature has been reached.
5. On models without thermostats, cooking temperature can be adjusted by use of the manual temperature control burner valves.
6. On units with cast iron burners, the temperature of the center and the outside of cooking area can be controlled separately by manipulating either or both of the manual burner valves. Foods requiring high heat are cooked at the center of the grid center cooking area.
7. Foods requiring lesser heat or foods that have been previously cooked are stored to keep warm at the cooler outside edge of the cooking area.
8. When finished with cooking, scraps can be dropped in to the scrap tray opening. The drawer holding scraps should be cleaned as required following each use period.
9. On units equipped with duct air flow proving interlock switches, loss of electric power and or partial or full duct blockage such as obstruction or dirty grease filter will shut off main burner gas. Main burners would not be able to be fired in such case unless power is restored and/or the duct blockage is corrected.
10. **CAUTION:** When power is restored and/or the vent blockage cleared, burners can come on automatically. Always shut off burner manual controls and turn off “Ignition” switch when encountering these types of conditions. Fix any problems before unit is put back in service or cooking is resumed.
11. Do not attempt to bypass any safety controls. Such action voids your warranty and creates dangerous operating conditions.
12. All maintenance and repairs should be referred to the authorized representative of Roaster Tech or to the qualified local service personnel.

NOTE: FAILURE TO IGNITE ON INITIAL SETUP OR AFTER EXTENDED PERIOD OF NON USE: See information on SERVICE, SECTION XI

SECTION VII – SHUTDOWN INSTRUCTIONS

For Daily Shutdown

1. Remove food from the cooking surface.
2. If unit is thermostat equipped, set thermostat to lowest setting.
3. Turn manual burner valves to “OFF” position.
4. Turn all gas controls to full “OFF” position.
5. While observing through the viewing area, make sure that there are no flames visible.
6. Following cool off of the griddle surface, turn off electrical power to the appliance.
7. Follow daily cleaning instructions as presented in this manual.

SECTION VIII – DAILY AND PERIODIC

MAINTENANCE, SERVICE AND CLEANING

COOKING SURFACE:

Surface should be cleaned and scraped with a non marring cleaning pad if necessary following each use. For most stains a clean cloth with detergent should suffice. If in doubt about a cleaning product, it should first be tested on a small area to insure that the required cleaning results are obtained and to verify that it does not damage the appliance surface or finish. At end of shift unit should be completely cleaned off and scraped and when dry, the cooking surface should be wiped with a light cooking oil coat.

Steel Plate griddle surface requires special cleaning instructions to be followed in order to not scratch or damage finish. Minor stains can be removed by rubbing with either lemon juice or baking soda used with a non-abrasive pad.

If hibachi is provided with clad stainless steel type griddle, cooking surface cleaning can be done using non –abrasive cleaners that are recommended for cleaning stainless steel.

Counter top is varnished or lacquered wood finish or other fine synthetic material. Care should be taken not to mar finish when cleaning. If in doubt about the cleanser or process for cleaning, call Roaster Tech at the number indicate in this manual.

Scrap tray and grease tray pan should be fully cleaned on a daily basis and every time when full.

Trim plate and frame should be wiped clean daily.

Grease ducts and grease filter should be checked on a regular basis and cleaned

as required under local codes.

!CAUTION!

1. Never clean with pumice or griddle stone on the cooking surface.
2. Do not strike cooking surface with sharp metal utensils such as spatula edge or drag metal cooking utensils of pot, pans across surface. Such action can damage the finish.
3. Never use commercial liquid grill cleaner on the griddle surface.
4. If removing griddle top for any reason, care must be taken so as to not damage the thermostat capillary. When replacing top allow the capillary proper positioning and clearance so as not to pinch the tube.

Damage to the cooking surface from misuse, weather intentional or otherwise, voids the warranty

SECTION IX – DUCTS AND EXHAUST MAINTENANCE

Access to Exhaust Duct System and Grease Drain and drip Pan: Shut off power to unit and wait until unit cools down before servicing.

1. Remove top trim frame pieces (after cooking surface cools). (See Illustration on pages 11 and 12)
2. Open the front duct panel by removing bolts from cover door. Be careful to save all parts for reuse. (See illustration on page 13)
3. With a clean cloth and suitable non abrasive cleansing solution, wipe out the exhaust duct area within reach. Be careful not to bend out of position the air proving sail metal plate (if the unit is provided with one)
4. Hardened deposits should be scraped from duct surface.
5. Correctly replace all parts removed.

REMOVAL OF TRIM AND FRAMING





Cleaning the grease drain channels

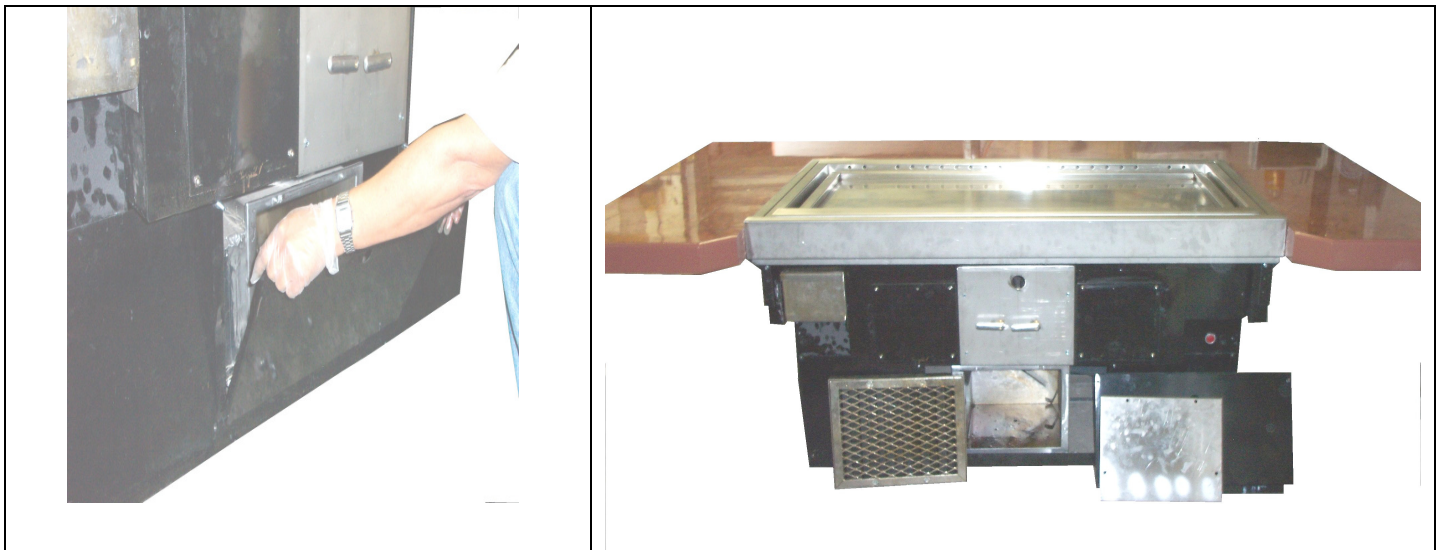


C-Box, grease drain pan and filter:

1. Remove screws on front appliance jacket panel and open the front to expose the collection box. Open collector for access to filter by removing cover wing nuts from bolts. When removing cover take care not to damage any gaskets. Any damaged gaskets will have to be replaced before returning unit into service. (See illustrations below)
2. Remove filter being careful not to damage the air flow interlock probe tube located above filter. Slide out the metal baffle filter and remove the grease tray located under the filter. Be careful not to bend out of position the air proving sensor tube located above the filter (if the unit is provided with one). On some units a separate grease tray drawer is located under the filter. This drawer serves as the grease tray.

3. Scrape off any solidified grease in box and accessible duct areas
4. If probe tube is dirty it also should be wiped free of grease.
5. Spray off grease coated parts with hot water. Soak in cleaner or place in dishwasher to clean.
6. With a clean cloth and suitable non abrasive cleansing solution, wipe out the collector box area. This operation should also be conducted daily.
7. When finished replace pan, filter and C box cover. Replace wing nuts and tighten to seal. If grease box cover or drawer is left open, possible shutdown on pressure switch can take place.
8. Schedule full duct cleaning service with professional agency at least at the frequency that is required by local codes.

REMOVAL GREASE COLLECTOR BOX COVER (Grease tray drawer not shown)



CLEANING COLLECTOR BOX

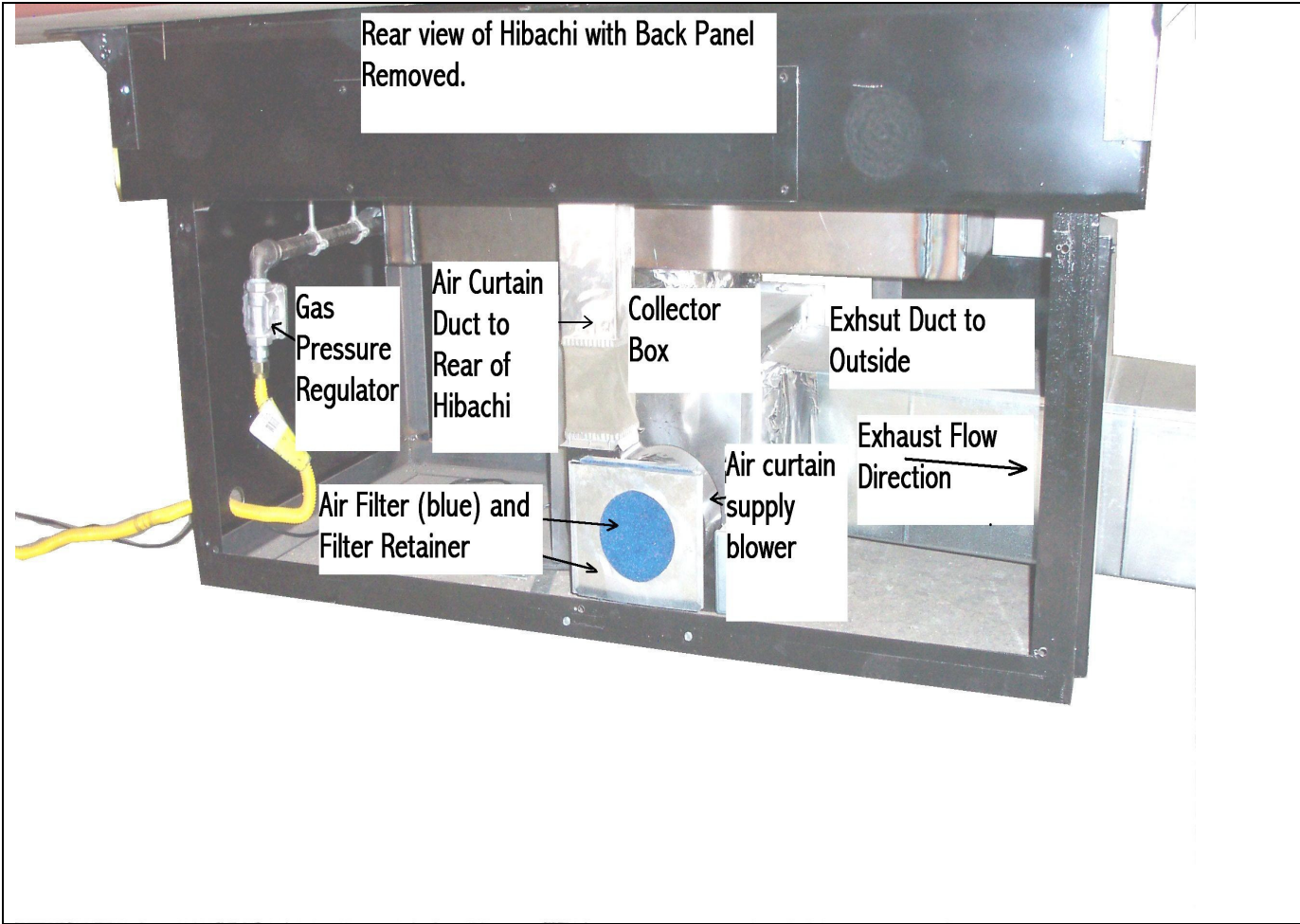


Ducts downstream from appliance: It is recommended that duct cleaning service be performed on a yearly schedule, or as required under local codes in effect, and be conducted by a reputable service organization. The following steps are to be included and it is to include the following

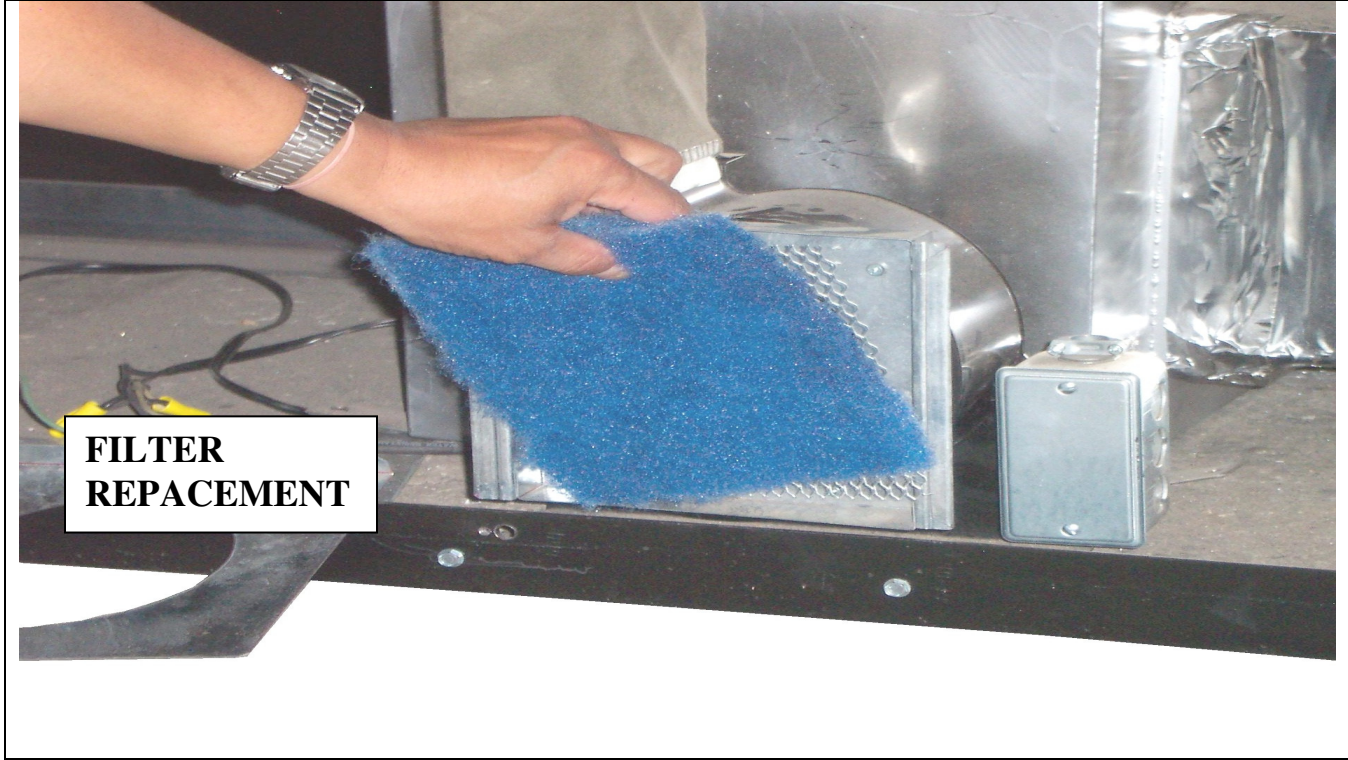
1. Shut off power to unit, including exhaust system components and wait until unit and ducts cool down.
2. It is recommended that grease cutter be sprayed into ducts from exhaust outside end and if needed also apply grease cutter at clean out openings which are provided to meet codes. Duct end terminal might need to be removed from duct ends to do this.
3. Grease cutter is to remain in ducts as recommended by manufacturer of products, usually 2-3 hours).
4. Emulsified grease can be removed by wet type vacuum appliance or other suitable means.
5. Duct sides and top are to be wiped and all inspection openings resealed with all gaskets returned in place. Replace any gaskets that are torn or damaged.
6. Replace all duct covers and duct terminal before restoring power.
7. Verify that interlock devices (if provided) and air flow switch are operating correctly before returning hibachi appliances to normal operation.

Push air Filter (Air Curtain Blower Filter):

1. This filter should be changed out every two months. See Photo Below and next page.



Replacing Air Curtain Blower Filter



SECTION X TROUBLESHOOTING GUIDE

SEQUENCE OF OPERATION:

1. All controls operate off of 24 volts AC. As a safety feature, the control panel only has low voltage wiring. Turning on the power switch brings 24 volt electric power from the appliance junction box to the control panel switches.
2. The blower switch controls power to the exhauster and the air curtain blower (inside appliance blower) through a 120 volt relay. Blowers can be turned on or off at any time after power is established. One lead from the blower switch is part of the 24 volt circuit, (from the transformer), that powers the gas controls and safety circuit. Because of codes required exhaust to fuel gas interlock, the exhaust blower must be turned on in order to operate the appliance burners.
3. Turning on the ignition switch completes the electric circuit to the gas controls. The transformer secondary 24 volt circuit powers the control circuit, and through a system of switches and relays energizes the interior and exhaust blowers.
4. On power, the Channel ignition module control circuit initially undergoes a self diagnostic check and if fault(s) is/are detected before the pre-purge, the control goes into lockout. The control red LED then flashes a fault warning consisting of 7 consecutive flashes followed by a pause. This fault signal is repeated until the control is de-energized and the fault is corrected. Ignition is not possible in this fault mode. To continue the ignition cycle, correction of the condition causing the lockout and reset of the ignition switch will be required.
5. When the exhaust blower is running, it draws smoke and fumes from above the cooking surface, into the appliance, past the filter and through the ducts, exhausting that air to the outside.
Air drawn through the duct generates a negative pressure in the duct system.
Exhaust air flow resulting from a negative pressure of at least minus (-) 0.25" is relayed through a hose connected to a probe to the pressure switch acting on diaphragm membrane which actions the switch.
When the normally open pressure switch closes on negative pressure, it completes a timed circuit to the ignition control. The circuit is activated to purge the appliance exhaust system of possible leaked combustible gas, which if ignited could case an explosion.
If the exhaust air flow is not adequate to energize (close the normally open pressure switch), the ignition sequence is not initiated and fuel gas does not flow since the gas valves stays shut. In that case the exhaust fan continues to run (and exhaust) unless intentionally turned off by turning off the ignition switch.
6. At the end of the purge time, with the pressure switch closed, the dual solenoid gas valves are opened allowing gas flow to the burner and the ignition safety control begins an ignition sequence that results in sparking and concurrent flame sensing at the ignition electrode gap.
If gas is ignited and the ignited gas has an acceptable flame level, a flame rectification signal verifies that ignition has taken place and signals the control to discontinue the ignition spark sequence but also to keep the gas valve open. Monitoring for flame sensing is continued as long as the gas valve is open.
7. If the gas at the burner does not light or if flames are too small to be signal detected, the gas valve closes and the control initiates a second (or even third) ignition sequence with 30 second inter-purge times (and no interim gas flow) followed by gas flow and igniter activation. After three failed ignition tries the control locks out and the red LED then flashes a fault warning consisting of single (1) flashes followed by a pause. This fault signal is repeated until corrected. If ignition does not take place within three tries, the control will not again allow gas flow until the operator shuts off electric power and then restores it. Correction of the condition causing lockout and resetting of the controls is needed to restart the ignition cycle.
8. If loss of flame occurs after flame is established during a normal run, the flame signal is lost and the control will shut off the power to the gas valve and conduct inter-purge cycles and re-ignition up to 5 times. If ignition is not established in these five re-ignition tries, the control red LED flashes a fault warning consisting of single (1) flashes followed by a pause. This fault signal is repeated until the fault causing the condition is corrected.
9. Shutting off gas supply manually without turning off power will result in flame loss signal and re-ignition tries until lockout. To relight unit, turn off power and turn it on again.

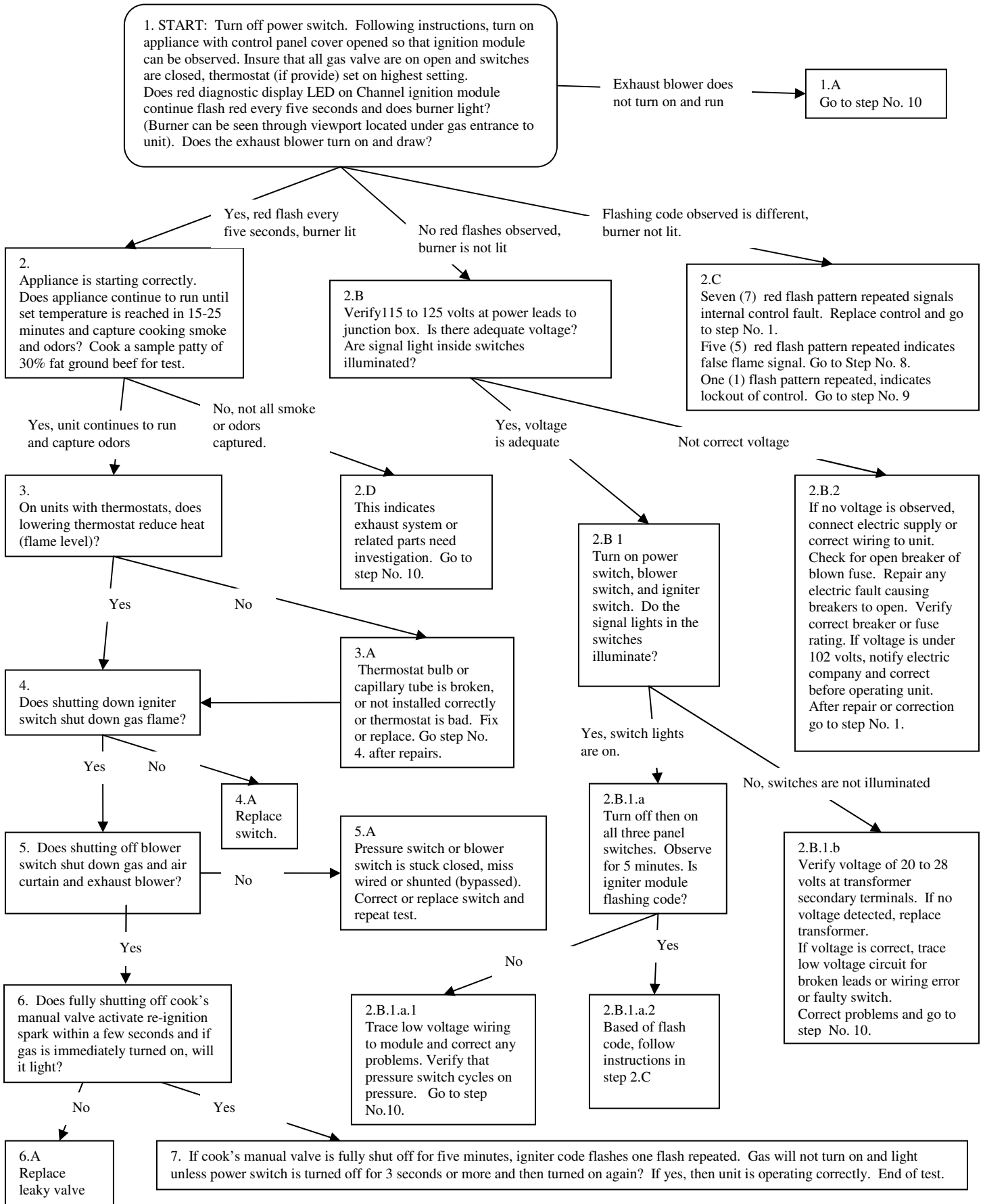
Flame height can be set by the operator using the manual valve or for the hibachi table by an optional modulating mechanical thermostat which limits gas flow to heat demand. The thermostat does not completely shut off gas flow, only modulates it to a lower firing level (and smaller flames).

Loss of required minimum exhaust air flow after flames are proved will result in gas shutdown until air flow is restored. At the time an inter-purge ignition sequence will start.

Loss of air flow could be due to many factors such as voltage drop, weakening of the exhaust blower due to aging and wear, fully or partially blocked exhaust duct, blocked exhaust duct inlet openings, strong wind gusts at the exhaust termination, blocked or dirty air filter, blower drive belt slip or loss, dirt sticking and blocking blower blades.

The air flow switch uses high temperature silicone tube to transmit pressure to the sensing unit in the control compartment. If the tubing is disconnected, damaged, torn or blocked, the pressure switch may not close and then gas will not turn on.

HIBACHI TROUBLESHOOTING STEPS HIBACHI TABLE TGUZ SERIES



8.
Five flashes repeated indicates false flame signal to ignition control. Verify that there are no flames at burner caused by failure to shut off due to gas leak through valve. Replace leaky valves. Clean electrode and spark gap, clean ignition wire and contacts. Spark gap should be 0.125" across. Remove any dirt from area of spark igniter. Replace igniter and igniter cable if damaged. Go to Step No. 1.

9.
One red flash repeated indicates a lockout of ignition module. This means that several tries of ignition did not result in gas ignition and proof of flame so for safety, the control stops trying to light gas and shuts off gas flow until power is shut off and turned on again. Possible causes could be lack of gas flow to appliance or burner, or on new installation, air trapped in gas line. Verify that all gas valves leading to appliance are open.

Yes, gas valves were open.

No, gas valves were closed

9.A
Safely bleed off a small amount of gas and use a pressure gage or monometer to verify gas pressure at appliance inlet (before controls) is at least minimum 4" w. c. for natural gas and 11" w. c. for propane

9.B
Open gas valves, verify gas pressure as in step 9.A, carefully bleed off some gas and go to step No. 1

There is no pressure in gas line

Gas pressure at inlet is at least the minimum required

Gas pressure, but at inlet it is less than the required minimum

9.A.1.
Call gas company to turn on gas. Fill propane tank. Go to Step 1.

9.A.2
Attach pressure gage or monometer to the gas **pressure tap point on the solenoid valve body**. Monitor gas pressure during start up procedure when spark igniter is on. Gas pressure should build up to at least 4" during this time.

9.A.3
Gas supply pipe may be too small to serve all of connected appliances simultaneously. Turn off other appliances served by supply line and check to see if gas pressure increases to at least minimum required pressure. On propane systems, fill propane tank.

9.A.2.a
Solenoid stuck shut or faulty. Replace and go to Step No. 1

No gas pressure at tap.

Gas pressure still too low

Yes, gas pressure spiked to 4" or higher during ignition

No gas pressure during sparking

Gas pressure at required or higher

9.A.2.b
Check igniter gap for dirt. Verify spark for ignition is in spark electrode gap. Insure igniter cable is not shorted or otherwise damaged. Verify correct igniter position. Verify that spark electrode ceramic is not wet or cracked. Clean and/or replace damaged parts. Go to step 1.

9.A.2.c
Regulator might be installed backwards. If so, correct.

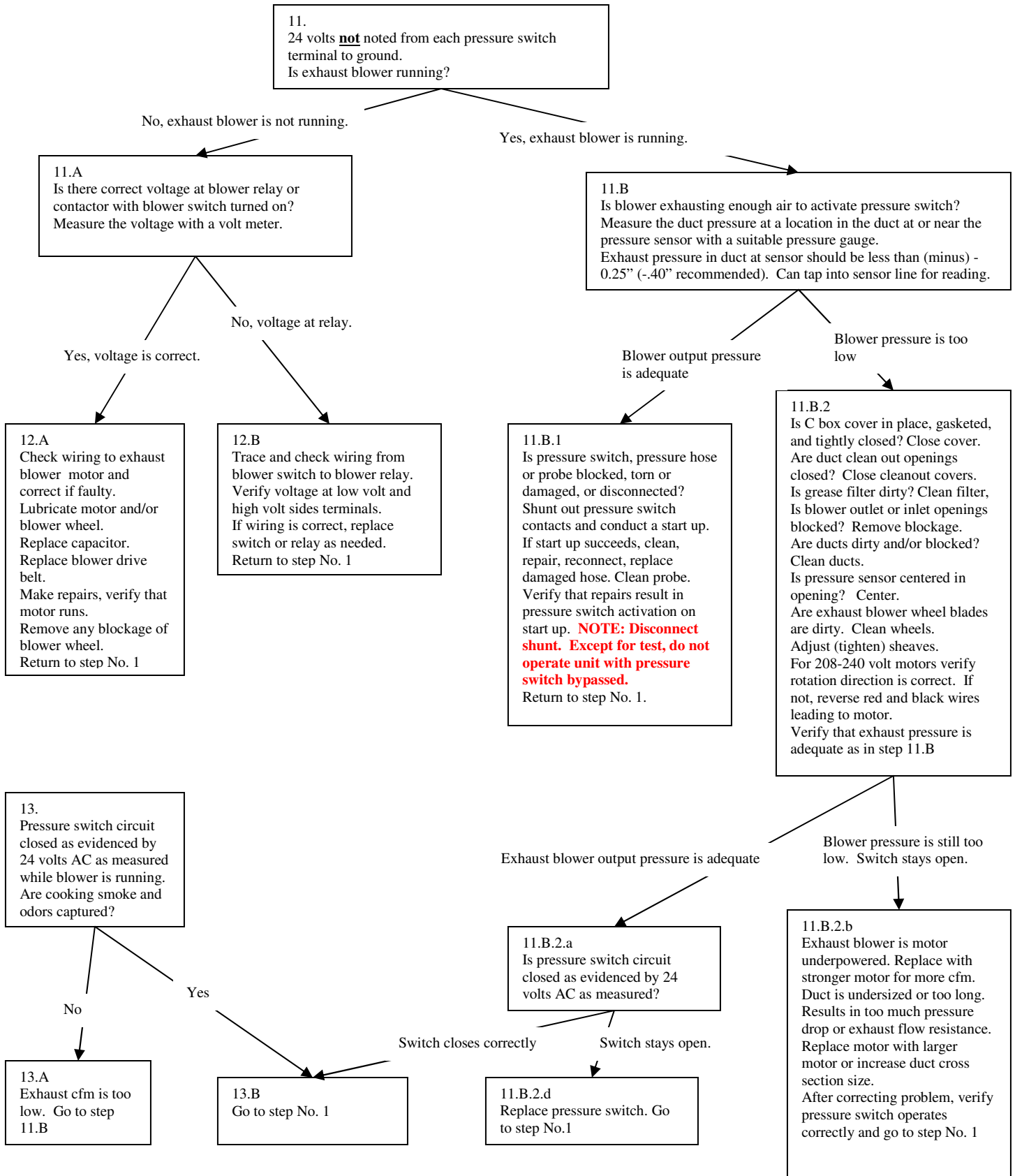
9.A.3.a
Gas supply or line or both are undersized. Correct supply issues and go to step No. 1.

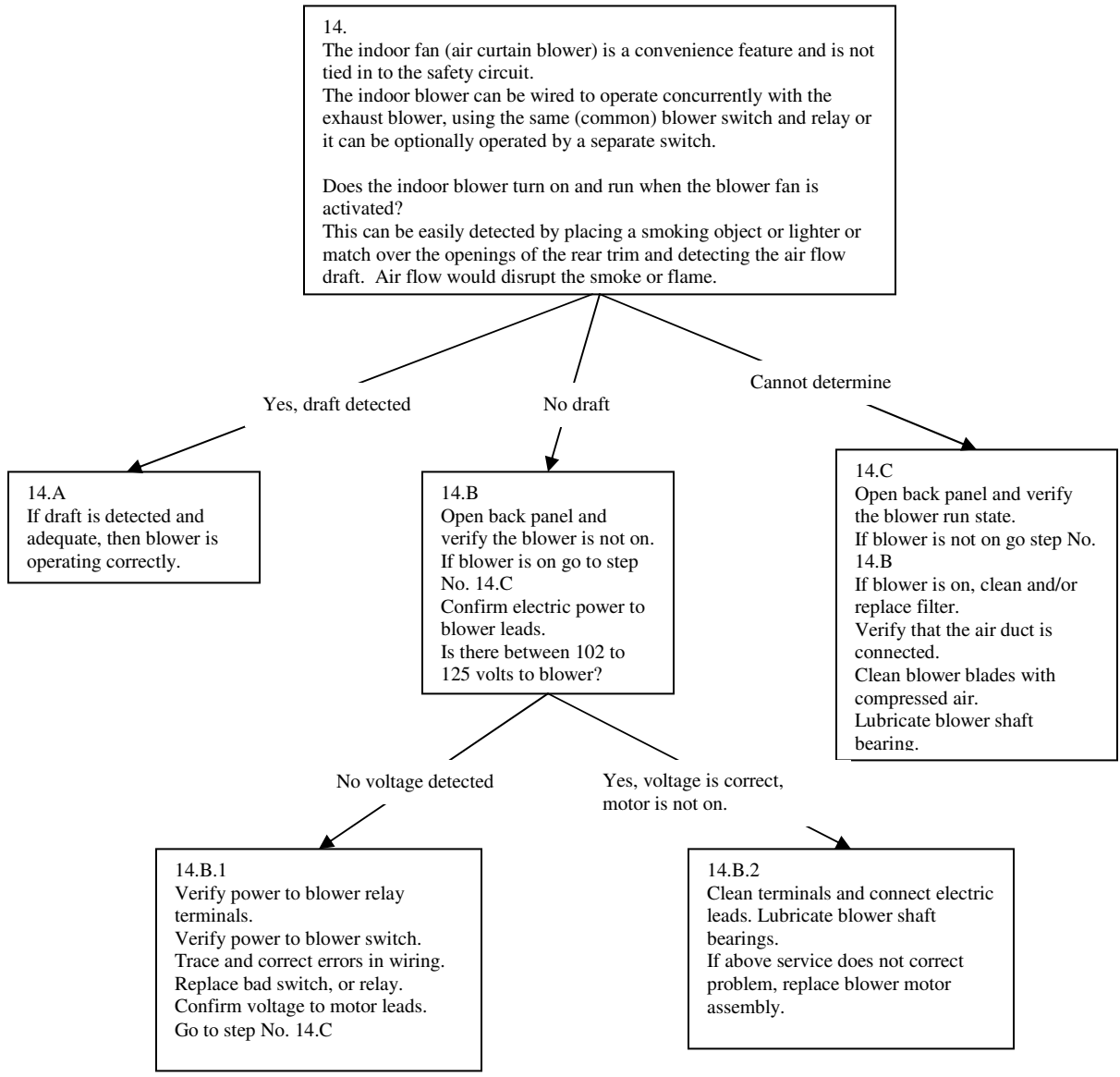
9.A.3.b
If you are not qualified, call gas supplier to adjust service regulator. Go to Step No. 1 after repairs.

Regulator positioned OK, but gas pressure still too low

9.A.2.c.1
Adjust regulator to 4" outlet for natural gas, 10" for propane. Check and fix blockages in gas line. Go to Step No. 1

10.
EXHAUST SYTEM CHECK: The exhaust system consists of the C box, filter, collector and exhaust ducts, exhaust blower and blower motor. It is tied in to operate the pressure switch in the gas circuit and failure of the exhaust to deliver enough air would shut the unit off through the pressure switch circuit and the gas solenoid valve interlock switch. The pressure switch circuit is normally open and is closed by exhaust air flow to complete the gas control circuit. The system, by building codes and terms of listing, has to shut down when exhaust air flow volume fall by 25% from the required 1025 cfm. The indoor blower (air curtain blower) is a convenience feature and is not tied in to the safety circuit. See step No. 14 for details on how to check out the indoor blower for proper operation. When the blower switch is turned on does the exhaust fan start and close the pressures switch circuit? This would be evidenced by 24 volt AC from each of the pressure switch terminals to ground. If no, go to step No. 11. If yes, go to step No. 13. For units installed over 4500' elevation, contact manufacturer





SECTION XI REPAIR AND SERVICE

1. Only qualified persons should conduct service or repair of this equipment.
2. Always disconnect power when repairing or servicing these appliances.
3. Any service or repair conducted on the unit as covered by the warranty has to be authorized by the manufacturer.
4. Only the original factory parts are to be used for any repair or replacement.
5. If parts are lost or missing, obtain and install replacement parts before returning unit to service.
6. When replacing wiring for any reason, insure that wiring of proper gage and temperature rating is used.
7. When removing griddle plate on units with thermostats, care should be taken not to damage the capillary tube.
8. When griddles are replaced, capillary tubes should be so located that they are not pinched between metal parts.
9. Following service, be sure to reconnect all parts, and close all panels and covers before power is turned back on.

FAILURE TO IGNITE ON INITIAL SETUP OR AFTER EXTENDED PERIOD OF NON USE:

If after powering up on the initial start up, or after the hibachi has been off for some time, the first ignition trial may be unsuccessful due to a need to purge air from the gas line and manifold at start up. Usually completing a few ignition trials can clear out the air from gas lines so that ignition can take place.

On some new projects where recently installed gas lines have been leak tested on air and then left open without bleeding off the air, air can be purged from these lines by bleeding from a loose piping joint or union. The selected joint should be as close to the appliance as possible. Before loosening gas lines, all sources of ignition should be removed and/or shut off.

When purging a gas line do not ignore static electric ignition sources such as rugs, synthetic articles of clothing etc. or other spark sources such as motors clocks and cell phones.

Also keep in mind that propane gas is heavier than air and can collect and pool in low lying locations. Bleed the gas line to release air for no longer than 15 seconds or until the smell of the gas odorant is detected.

Please note that some types of new piping absorb the odorant in gas and therefore the escaping gas cannot be detected by smell but it can still ignite or explode.

After bleeding off air for gas lines, the area of the installation should be properly ventilated before any attempts are made to start the appliances. A minimum five minutes wait time is mandatory.

By design, if ignition does not take place on the first sparking trial, the gas and igniter spark are automatically shut off by the igniter control and the control enters an inter purge period of about 15 seconds. During this time the exhaust blower continues to run and purge the duct. At the end of this period another ignition spark trial will be initiated.

The automatic safety controls will initiate up to three igniting trials on a call for heat before they lock out, (shut off ignition and gas flow function). Controls can be manually brought out of lockout, (reset) by turning off the power switch and turning it back on again.

After reset, the previous ignition cycle can be repeated by turning on the power switch for the igniter. Consult and follow troubleshooting guide if these steps do not result in the unit operating.

SECTION XII – PARTS LIST

Always specify full model numbers and serial numbers when ordering parts.

ITEM DESCRIPTION, TUG and TUGZ Series

Part Description	Part Number/Details
Combination Gas Regulator/Solenoid Valve (Must specify if for use with natural gas or propane)	Maxitrol CV300
Corrugated, flexible gas connector, Manual gas valve, Hibachi Gas valve handles	CSA Listed Delta “C” Matchless Valve
Grease Tray	
Thermostat, TUG Series (Cast iron burners)	Robertshaw (Invensys)
Thermostat, TUGZ Series(Stainless steel burners)	Maxitrol
Spark Ignition cable, direct ignition electrode	Channel Products
Duct air flow switch sensor tube, fittings, connector hose	
Duct air flow switch	Endura Plastics EPS set at -.25” with bleed
Grease Extractor	UL listed such as C. R. Steel or Marathon, provide dimensions needed
Electric Junction box	Any UL listed
Collector box cover	
Collector box grease drawer	
Air curtain blower and motor	Dayton 99080464
Air curtain blower duct	
Air curtain filter	
Wiring harness	Specify full model number
Fire suppression system	To local code specifications
Trim frame front	
Trim frame back	
Trim frame sides	
Griddle plate, cold rolled steel, need to provide model number of appliance	
Griddle plate “Clad or solid Stainless Steel finish”. Need to provide model number of appliance	
Griddle plate lift hook	
Table brackets	
Surround table style “A” 8 foot. Need to provide model number of appliance	
Surround table style “B” 10 foot. Need to provide model number of appliance	
Surround table style “Premium” 8 or 10 foot. Need to provide model number of appliance	
Surround table style “Special design or style”. Need to provide model number of appliance	
Cast Iron burner TUG Series	
Stainless Steel burner TUGZ	
Igniter /Flame Sensor assembly	Channel Products Part No. 1804-2343
Fan Relay	
Ignition module TUGZ Series	Channel Products Micro 50N-24-3-3-8.5-30-0 P03062
Pilot Igniter TUG Series	Channel Products battery operated
Fan Switches, Panel	
Power switch	

SECTION XIII – WARRANTY AND SERVICE

LIMITED WARRANTY

Roaster Tech warrants this hibachi table for repair of parts or workmanship of and or replacement for a period of 90 days following factory approved installation.

The warranty covers the appliance only and extends to the ducting only in that portion that is enclosed by the appliance jacket. Warranty is available only to the original owner and he/she must have proof of purchase. Any repair or parts replacement by parties other than Roaster Tech must be cleared and authorized by the manufacturer.

Return authorization number must be obtained from Roaster Tech. The shipping containers must be marked with this number and any shipment must be shipped prepaid. Any attempt to operate the appliance in a manner not covered by listing or to intentionally operate the unit in an unsafe or unlisted manner, such as with safety controls blocked, voids the warranty.

Damages or losses to persons or property of any nature and the incidental or consequential costs are not covered by this warranty. Warranties issues pertaining to the fire suppression system and components are not included in the warranty coverage and have to be resolved by the user through the systems installer.

Some states do not allow exclusion of incidental or consequential damage or limitations on how long the implied warranty lasts; therefore the listed exclusions of limitations may not apply to you. You have specific rights under this warranty. Legal rights may vary from state to state.

Roaster Tech

(914) 693 –0936

SECTION XIV –FIRE SUPRESSION SYSTEM

Units installed at some locations will be required to be equipped with listed fire suppression systems. The supplier of the fire suppression system must provide a operation and service manual suitable for the suppression system. The manual must be located with or near the units so as to be available for service needs.

Roaster Tech can recommend local organizations which are familiar with codes requirements regarding the fires suppression systems requirements and their installation. All such inquiries should be made directly to Roaster Tech at the telephone numbers shown below.

For any questions on this product please contact the manufacturer shown below.

ROASTER TECH
493 ASHFORD AVENUE, Office #2
ARDSLEY, NY 10502
Phone: (914) 693-0936 Fax: (914) 693-0524
E-mail roastertec@aol.com