







Thor Gas Hot Plate

Service Manual

Model: GE756-P, GE756-N, GE757-P, GE757-N

 **WARNING:** For your safety, do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliances. Keep the area free and clear of combustible. 

 **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 :** Instructions must be posted in a prominent location. All safety precautions must be taken in the event the user smells gas. Safety information can be obtained from your local gas supplier. 

thor

15 Badgally Road, Campbelltown

NSW 2560

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Introduction

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 APPLIANCE.

WARNING:

INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS ARE TO BE POSTED IN A PROMINENT LOCATION. THIS INFORMATION SHALL BE OBTAINED BY CONSULTING THE LOCAL GAS SUPPLIER.

WARNING:

GREAT CARE MUST BE TAKEN BY THE OPERATOR TO USE THE EQUIPMENT SAFELY TO GUARD IT AGAINST RISK OF FIRE.

- THE APPLIANCE MUST NOT BE LEFT ON UNATTENDED.
- IT IS RECOMMENDED THAT A REGULAR INSPECTION IS MADE BY A COMPETENT SERVICE PERSON TO ENSURE CORRECT AND SAFE OPERATION OF YOUR APPLIANCE IS MAINTAINED.
- DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPOURS OR LIQUIDS IN THE VICINITY OF THE APPLIANCE.
- DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.

CAUTION:

THIS APPLIANCE IS;

- FOR PROFESSIONAL USE AND IS TO BE USED BY QUALIFIED PERSONS ONLY.
- ONLY QUALIFIED SERVICE PERSONS ARE TO CARRY OUT INSTALLATION, SERVICING AND GAS CONVERSION OPERATIONS.
- COMPONENTS HAVING ADJUSTMENTS PROTECTED BY THE MANUFACTURER SHOULD NOT BE ADJUSTED BY THE USER/OPERATOR.
- DO NOT OPERATE THE APPLIANCE WITHOUT THE LEGS SUPPLIED FITTED.

SPECIFICATION

General

Commercial heavy duty hot plate with cast iron trivets and burners, and fitted with full pilot and flame failure protection.

Pack Contents

The following is included:

- Thor Gas Hot Plate
- Feet
- Instruction Manual

Gas Supply Requirements

	Natural Gas		Propane	
	GE756-N	GE757-N	GE756-P	GE757-P
Single burner Heat Input	32.5 MJ	32.5 MJ	32.5 MJ	32.5 MJ
Heat Total	65 MJ	195 MJ	65 MJ	195 MJ
Burner Operating	1.0kPa	1.0kPa	2.75kPa	2.75kPa
Supply Pressure	1.0kPa	1.0kPa	2.75kPa	2.75kPa
Gas Connection	¾" BSP	¾" BSP	¾" BSP	¾" BSP

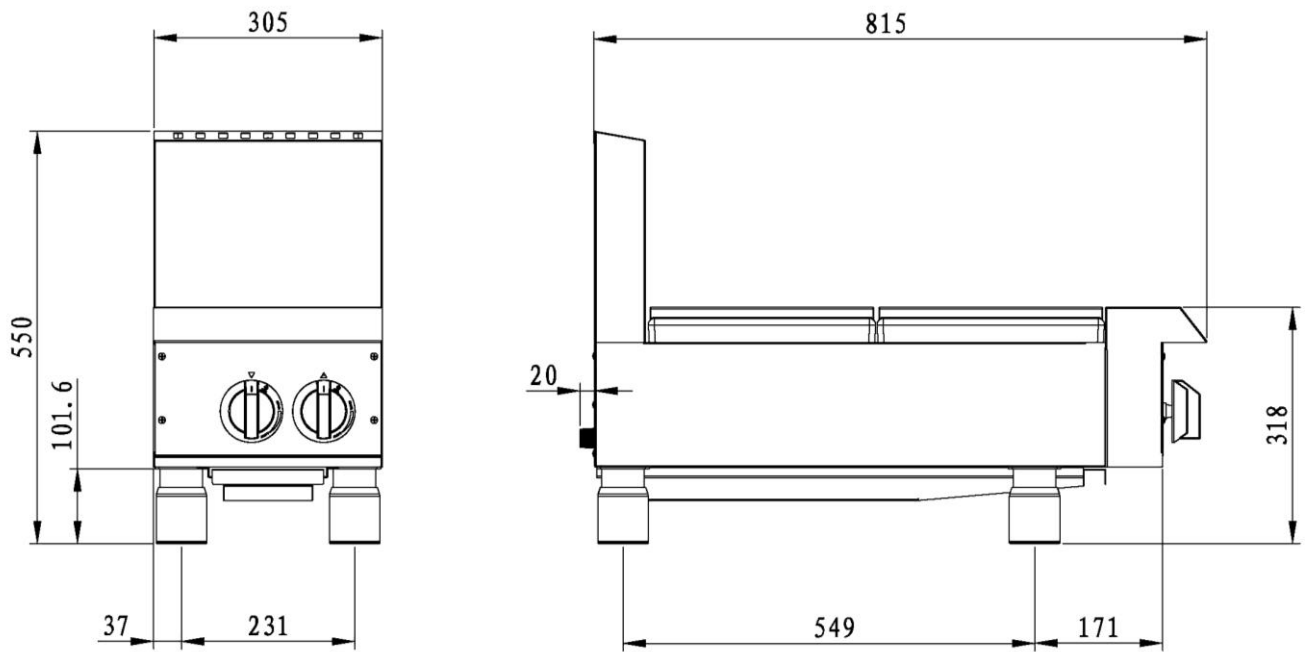
The burner operating pressure is to be measured at the manifold test point with two burners operating at full setting. The operating pressure is ex-factory set, through the appliance regulator and is not to be adjusted.

Minimum input Heat of burner: 21MJ for LPG AND LPG

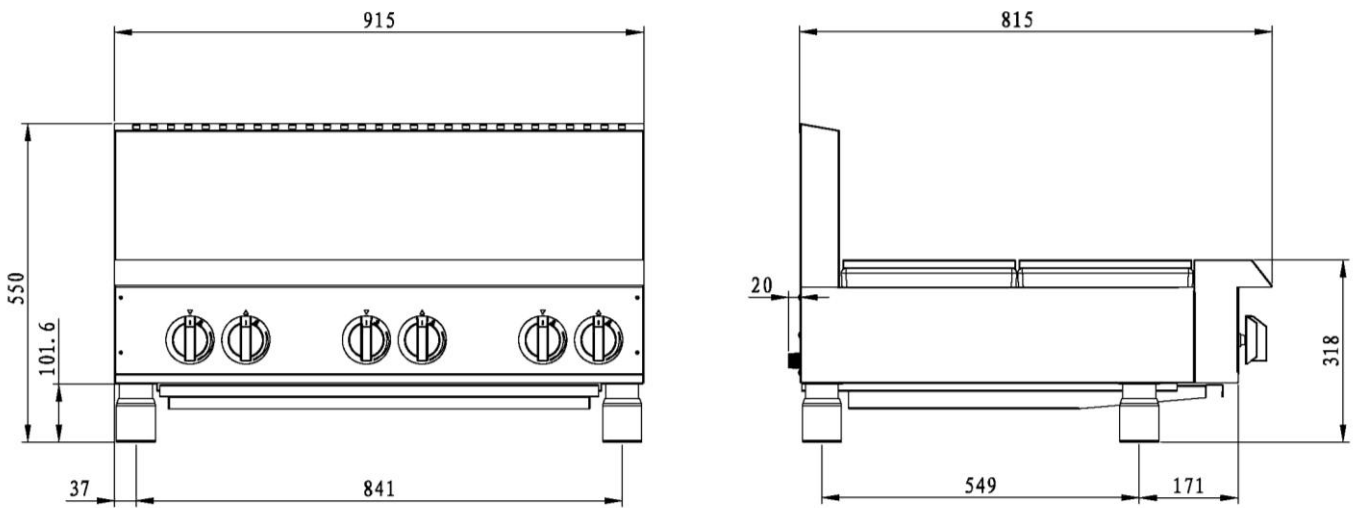
Size of the pan: The biggest pan for open burner is 280mm.

Dimensions

GE756-P / GE756-N



GE757-P / GE757-N



Installation

Installation Requirements

NOTE:

- **It is most important that this appliance is installed correctly and that operation is correct before use. Installation shall comply with local gas, health and safety requirements.**
- **This appliance shall be installed with sufficient ventilation to prevent the occurrence of unacceptable concentrations of substances harmful to health.**

Our Gas Hot Plates are designed to provide years of satisfactory service and correct installation is essential to achieve the best performance, efficiency and trouble-free operation.

This appliance must be installed in accordance with National installation codes and in addition, in accordance with relevant National / Local codes covering gas and fire safety.

Australia:

AS 5601/AG 601 (to be AS 5601)- Gas Installations

New Zealand:

NZS 5261 - Gas Installation.

United Kingdom:

Gas Safety (Installation and Use) Regulations 1998

BS 6173-Installation of Catering Appliances.

BS 5440-1&2 Installation Flueing & Ventilation.

Ireland:

IS 820-Non Domestic Gas Installations.

Installations must be carried out by qualified persons only. Failure to install equipment to the relevant codes and manufacturer's specifications shown in this section will void the warranty.

Components having adjustments protected by the manufacturer are only to be adjusted by an authorized service agent. They are not to be adjusted by the installation person.

Unpacking

- Remove all packaging and transit protection from the appliance including all protective plastic coating from the exterior stainless steel panels.
- Check equipment and parts for damage. Report any damage immediately to the carrier and distributor.
- Ensure that the 4 adjustable feet are fitted with the protruding centre screw.
- Report any deficiencies to the distributor who supplied the appliance.
- Check that the available gas supply is correct to that shown on the rating plate located on the right hand panel.

Location

1. Installation must allow for a sufficient flow of fresh air for the combustion air supply.
2. Installation must include adequate ventilation means, to prevent dangerous build-up of combustion products.
3. Any gas burning appliance requires adequate clearance and ventilation for optimum and trouble-free operation. The minimum installation clearances shown below are to be adhered to.
4. Position the appliance in its approximate working position.
5. All air for burner combustion is supplied from underneath the unit. The legs must always be fitted and no obstructions placed on the underside or around the base of the unit, as obstructions will cause incorrect operation and / or failure of the appliance.
6. Components having adjustments protected by manufacturer are only allowed to be adjusted by an authorized service agent. They are not to be adjusted by the installation person.

Installation

Clearances

NOTE: Only non-combustible materials can be used in close proximity to this appliance.

	Combustible Surface	Non Combustible Surface
Left / Right Hand Side	250mm	0mm
Rear	250mm	0mm

Assembly

NOTE:

- This appliance is assembled before delivery except feet.
- This appliance is fitted with adjustable feet to enable the appliance to be positioned securely and level. This should be carried out on completion of the gas connection. Refer to the 'Gas Connection' section.
- IM will be stated that the appliance shall be installed in such a way that side body surfaces are not accessible in the installed position.

Gas Connection

NOTE: ALL GAS FITTING MUST ONLY BE CARRIED OUT BY A QUALIFIED PERSON.

1. The Gas Hot Plates do not require an electrical connection, as they function totally on the gas supply only.
2. It is essential that the gas supply is correct for the appliance to be installed and that adequate supply pressure and volume are available. The following checks should therefore be made before installation:-
 - a. Gas Type required for the appliance is shown in the rating label. Check that this is correct for the gas supply the appliance is being installed for. The gas conversion procedure is detailed in this manual.
 - b. Supply Pressure required for this appliance is shown in the 'Gas supply requirements' section of this manual. Check the gas supply to ensure adequate supply pressure exists.
 - c. Input Rate of this appliance is stated on the Rating label .The input rate should be checked against the available gas supply line capacity. Particular note should be taken if the appliance is being added to an existing installation.

NOTE: It is important that adequately sized piping runs directly to the connection joint on the appliance with as few tees and elbows as possible to give maximum supply volume.

NOTE: Ensure the regulator is converted to the correct gas type that the appliance will operate on. The regulator outlet pressure is fixed ex-factory for the gas type .

3. Correctly locate the appliance into its final operating position and using a spirit level, adjust the legs so that the unit is level and at the correct height.
4. Connect the gas supply to the appliance through the regulator. (refer to the picture of "Install the Regulator"). A suitable jointing compound which resists the breakdown action of propane must be used on every gas line connection, unless compression fittings are used.
5. Check all gas connections for leakages.

WARNING:

DO NOT USE A NAKED FLAME TO CHECK FOR GAS LEAKAGES.

Installation

6. Check that the gas operating pressure is according to the gas pressure indicated in the equipment's rating label and that the gas pressure is within the standard requirement of the equipment. Refer also to the Gas Supply Requirements section of this manual.

NOTE: The operating pressure to be measured at the manifold test point and with 2 burners operating at the 'High Flame' setting.

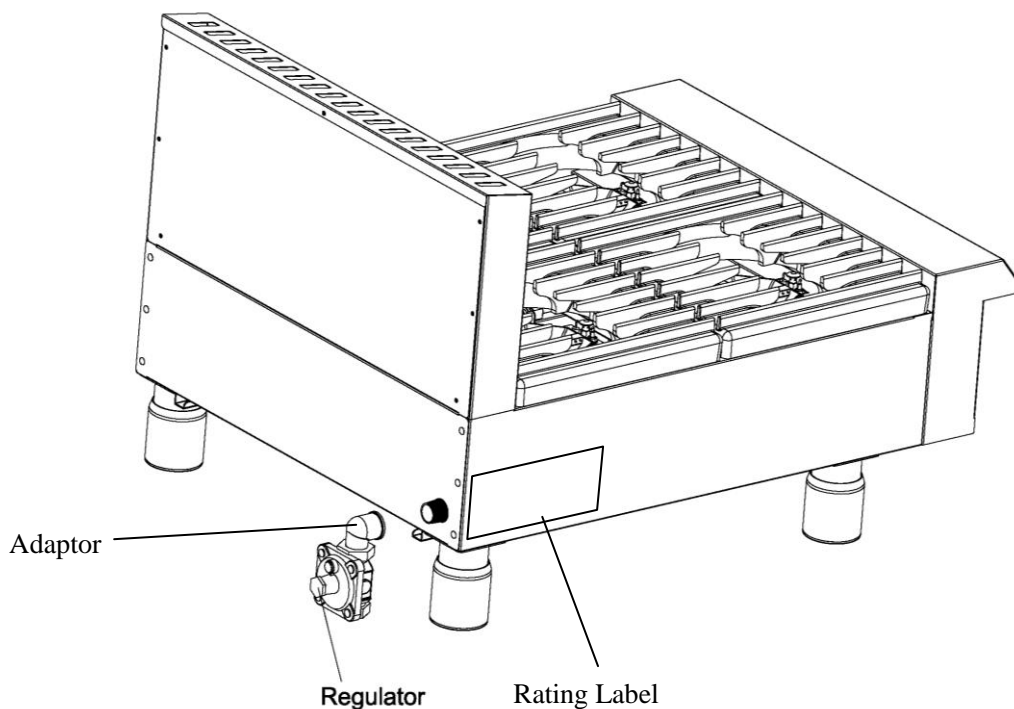
7. Turn off the mains gas supply and bleed the gas out of the appliance gas lines.
8. Turn on the gas supply and the appliance.
9. Verify that the operating pressure remains correct.

Commissioning

1. Before leaving the new installation;
 - a. Check the following functions in accordance with the operating instructions specified in the 'Operation' section of this manual.
 - Light the Pilot Burner.
 - Light the Main Burner.
 - Turning 'Off' the Main Burner/Pilot.
 - b. Ensure that the operator has been instructed in the areas of correct lighting, operation, and shutdown procedure for the appliance.
2. This manual must be kept by the owner for future reference and a record of the Date of Purchase, Date of Installation and the Serial Number of the Appliance must be recorded and kept with this manual. (These details can be found on the Rating label, refer to the image below).

NOTE: If for some reason it is not possible to get the appliance to operate correctly, shut off the gas supply and contact the supplier of this appliance.

Install the Regulator



Operation

Operation Guide

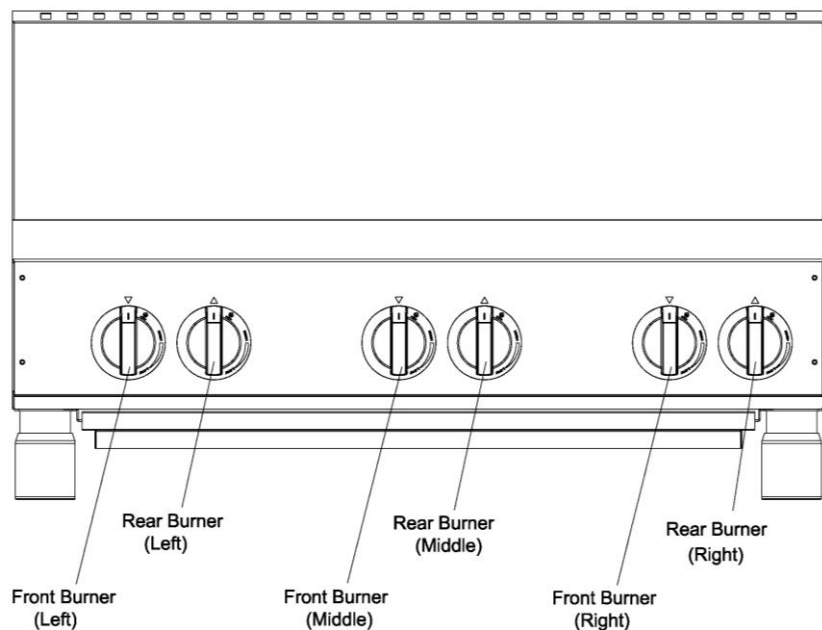
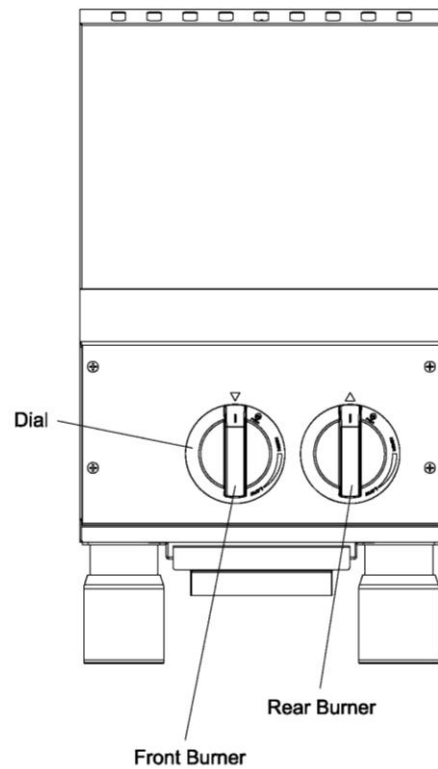
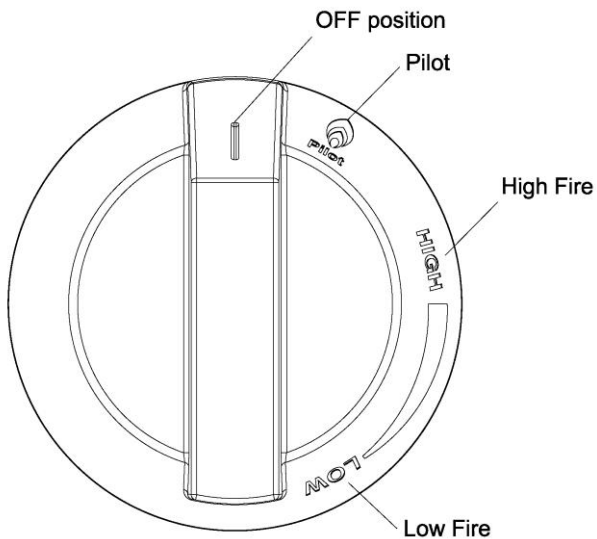
CAUTION:

- This appliance is for professional use and is only to be used by qualified persons.
- Only authorized service persons are to carry out installation, servicing or gas conversion operation operations.
- Components having adjustments protected by the manufacturer should not be adjusted by the user/operator.

1. The Gas Hot Plates have been designed to provide simplicity of operation and 100% safety protection.
2. Improper operation is therefore almost impossible, however bad operation practices can reduce the life of the appliance. To use this appliance correctly please read the following sections carefully:

- Lighting the Main Burner.
- Turning off the Main Burner / Pilot.

3. Please use wok with diameter of 240-280mm.



Operation

1. Lighting the Main Burners

The hot plates are fitted with individual standing pilots for each open burner which allows the main burners to be turned ON- OFF without the need to manually re-light the burner each time that it is turned ON, as the burner will be automatically lit itself by the pilot burner.

Flame Failure Protection is incorporated for each burner by way of a thermo-electric system which will shut off the gas supply to that burner in the event that the burner goes out, so that un-burnt gas is not expelled.

- a. Select the burner required, depress and turn the corresponding gas control knob anti-clockwise to the 'PILOT' position.
- b. With the gas control knob depressed, manually light the pilot burner or use the piezo igniter provided (optional).
- c. Release the gas control knob after approximately 10-20 seconds after lighting the pilot burner.
- d. The pilot burner should stay alight - if not, repeat Steps (b. to c. above.)
- e. 'Full Flame' can now be achieved by depressing and rotating the gas control knob anti-clockwise to the first stop 'HIGH' flame position.
- f. Low flame can be achieved by depressing the gas control knob and rotating fully anti-clockwise to the 'LOW' flame position.
- g. To achieve simmer control, depress the gas control knob and rotate between the 'HIGH' and 'LOW' positions to achieve the temperature required.

2. Turning 'OFF' the Open Burners / Pilots

- a. To turn 'LOW' the main burner, but keep the pilot burner alight, rotate the gas control knob to the 'PILOT' position. The main burner will extinguish and the pilot will remain alight.
- b. To turn 'LOW' the 'PILOT', depress and turn the gas control knob clockwise back to the ' | ' position. The 'PILOT' burner will extinguish.

Operation

Main burner air supply:

1. For efficient burner operation, a proper balance of gas volume and primary air supply must be maintained which will result in complete combustion. Insufficient air supply results in a yellow streaming flame. Primary air supply is controlled by an air shutter on the front of the burner.
2. Loosen the screws on the front of the burner and adjust the air shutter to just eliminate the yellow tips of the burner flame. Lock the air shutter in place by tightening the screws.

CAUTION

The space between the legs at the bottom admits combustion air. DO NOT BLOCK THIS SPACE.

All burners are lit from constantly burning pilots. Turning the valve to the desired flame height is all that is required to put the unit in service.

Do not permit fans to blow directly at the unit. Wherever possible, avoid open windows next to the units' sides or back. Avoid wall type fans which create air cross-currents within a room.

It is also necessary that sufficient air should be allowed to enter the room to compensate for the amount of air removed by any ventilating system. Otherwise, a subnormal atmospheric pressure will occur, affecting operation and causing undesirable working conditions.

A properly designed and installed hood will act as the heart of the ventilating system for the room or area in which the unit is installed, and will leave the unit independent of changing draft conditions.

All valves must be checked and lubricated periodically. This must be done by an authorized service representative in your area.

Note:

Please wait at least 15 seconds to restart the main burners to maintain the best function of the thermostat valve after turning off the main burners.

IMPORTANT

Should any abnormal operation like;

- ignition problems,
- abnormal burner flame,
- burner control problems,
- partial or full loss of burner flame in normal operation, be noticed, the appliance requires IMMEDIATE service by a qualified service person and should not be used until such service is carried out.

Cleaning and Maintenance

CAUTION:

Always turn off the gas supply before cleaning.
This appliance is not water proof.
Do not use water jet spray to clean this appliance.

GENERAL

Clean the Gas Hot Plate regularly. A clean Gas Hot Plate looks better, will last longer and will perform better. Carbonised grease on the surface or between the trivets, will hinder the transfer of heat from the cooking surface to the food. This will result in loss of cooking efficiency.

DO NOT use water on the trivets, burners while these items are still hot as warping and cracking may occur. Allow these items to cool down and then remove for cleaning.

The entire trivets burner can be dismantled for cleaning.

NOTE:

- DO NOT use abrasive detergents, strong solvents or caustic detergents as they could corrode or damage the Gas Hot Plate.
- In order to prevent the forming of rust on the trivets, and burners, ensure that any detergent or cleaning material has been completely removed after each cleaning.

DAILY CLEANING

1. The drip tray should be checked and emptied frequently to prevent overflow and spillage. Remove the drip tray while still warm so that the grease is in a liquid state. Empty any grease from the trays and wash thoroughly in the same manner as any cooking utensil.
2. Remove the burner, the trivets and thoroughly clean the splash back, interior and exterior surfaces of the range with hot water, a detergent solution and a soft scrubbing brush.
3. Dry the Gas Hot Plate thoroughly with a dry cloth and polish with a soft dry cloth.

NOTE:

- If the Hot Plate usage is very high, we recommend that the weekly cleaning procedure is carried out on a more frequent basis.
- Ensure that protective gloves are worn during the cleaning process.
- DO NOT use harsh abrasive detergents, strong solvents or caustic detergents as they will damage the grate and burners.
- Allow these items castings to cool and remove for cleaning.
- Parts protected by the manufacturer or his agent are not to be adjusted by the installer, unless the installer is an authorized service agent.

Periodic Maintenance

NOTE: All maintenance operations should only be carried out by a qualified service person.

To achieve the best results cleaning must be regular and thorough and all controls and mechanical parts should be checked and adjusted periodically by a qualified service person. If any small faults occur, have them attended to promptly. Don't wait until they cause a complete breakdown.

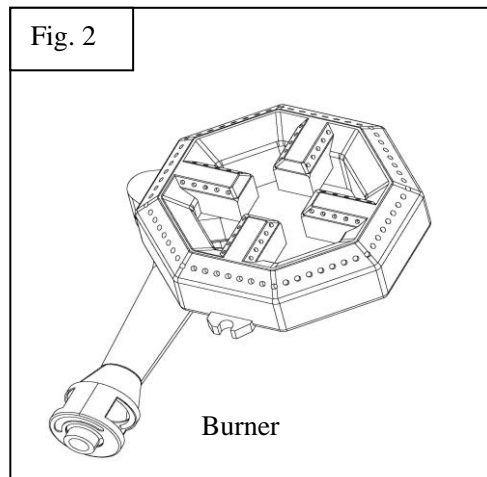
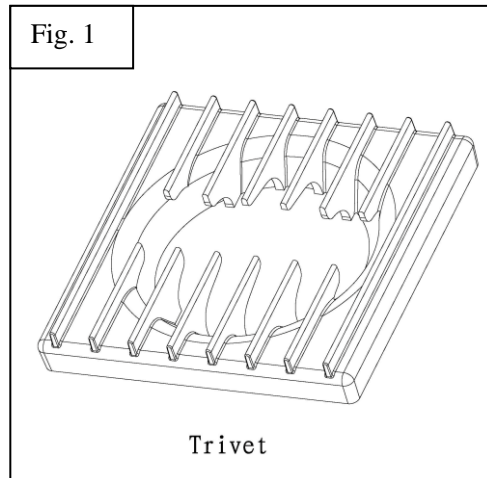
Cleaning and Maintenance

Trivets and Burners

- Remove the trivets from the top of the appliance (Refer to Fig. 1).
- b. Remove the burner from the top of the bracket of appliance (Refer to Fig. 2).
- c. The trivets and burners should be cleaned with a mild detergent and hot water solution using a soft bristled brush. Dry thoroughly with a dry cloth.

Stainless Steel Surfaces

- a. With the trivet and burners removed, clean the interior and exterior surfaces of the Gas Hob with hot water, a mild detergent solution and a soft scrubbing brush. Note that the gas control knobs are a push fit onto the gas control valve spindles and can be removed to allow cleaning of the front of the control panel.
- b. Baked on deposits or discoloration may require a good quality stainless steel cleaner or stainless steel wool. Always apply cleaner when the appliance is cold and rub in the direction of the grain.
- c. Dry all components thoroughly with a dry cloth and polish with a soft dry cloth.
- d. To remove any discoloration, use an approved stainless steel cleaner or stainless steel wool. Always rub in the direction of the grain.
- d. Remove the drip tray and clean with a mild anti-bacterial detergent and hot water solution using a soft bristled brush.
- f. Dry the drip tray thoroughly with a dry cloth.



Burner Low Flame Adjustment Guide

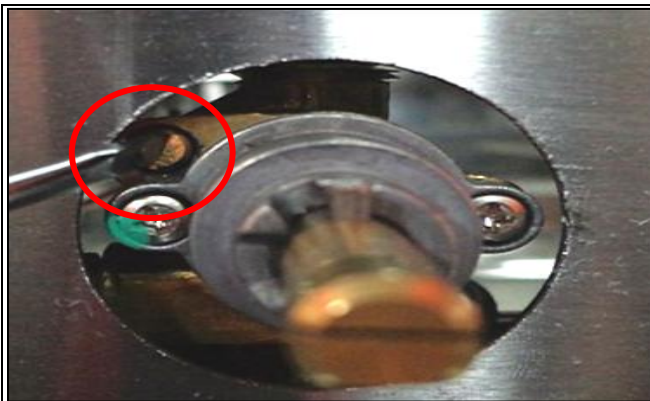
NOTE: THE LOW FLAME ADJUSTMENT SCREW IS FACTORY SET AND NOT INTENDED FOR ANY ADJUSTMENT. HOWEVER, IF ADJUSTMENTS ARE NECESSARY, ONLY AUTHORIZED SERVICE AGENTS ARE ALLOWED TO ADJUST THE LOW FLAME ADJUSTMENT SCREW.



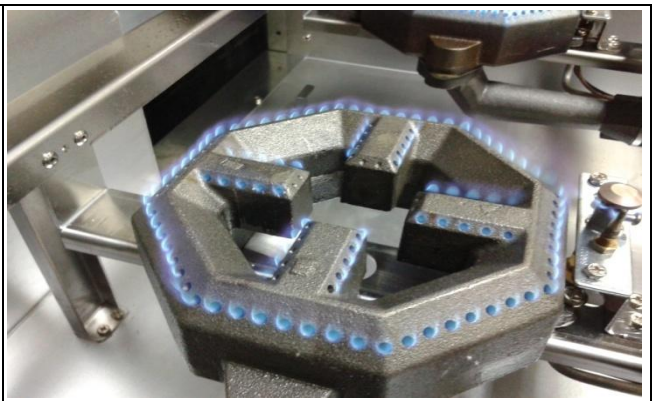
1. Turn ON the top burner/s and set the knob to low flame by turning the knob counter-clockwise until it stops.



2. Remove the knob/s of the burner that needs to be adjusted..



3. Locate the low flame adjustment screw on the safety gas valve. Turn the screw clockwise to check if it is already tight. If the screw is tight, no adjustments are needed since it is already at the minimum setting. Otherwise, proceed to STEP 4.



4. Turn the screw clockwise to decrease the flame height/strength. When the screw is tight, stop rotating as this could damage the screw. It also means the adjustment is already at its minimum height.

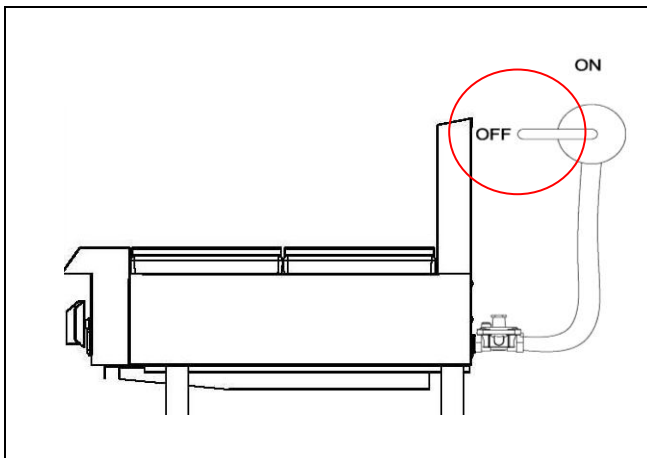


5. Turn the screw counter-clockwise to increase flame height/strength. Stop rotating when the flame stops increasing its height. It means it has already reached its maximum height.



6. Once the low flame is set, check the bypass screw for gas leak, as you might have opened the bypass screw too much. Use soapy water to check for gas leak on the bypass screw. Then, return the knob/s after the gas leak test.

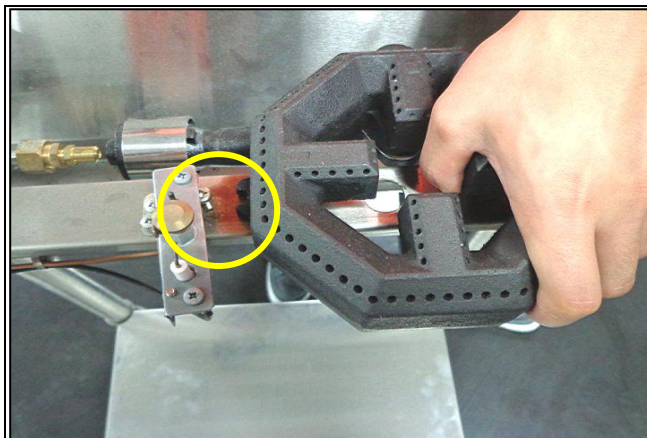
Burner's Air Shutter Adjustment Guide



1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.



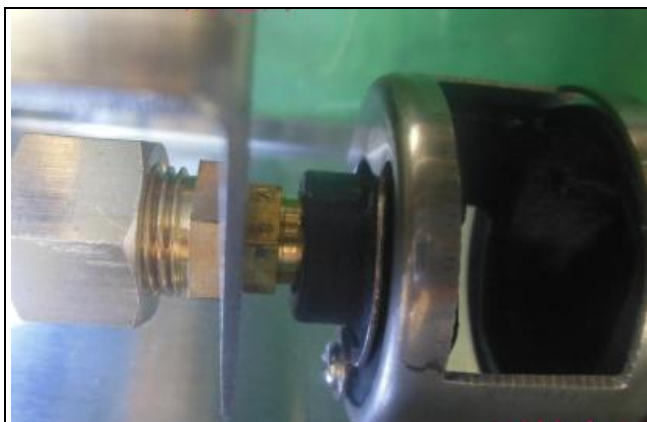
2. Remove the trivets.



3. Remove the burner lock screw/s, and pull-out the burner/s from the injector.



4. Loosen the screw and move the air shutter to close or open.



5. The standard setting for the air shutter must be **FULLY** open. However, the air shutter can be adjusted according to the actual flame, to eliminate yellow tipping or other burner problems which is caused by too much air or lack of air.



6. When installing the injector into the burner, ensure that both are aligned with each other. Misalignment can cause yellow tipping of flames and sooting.

Gas Conversion

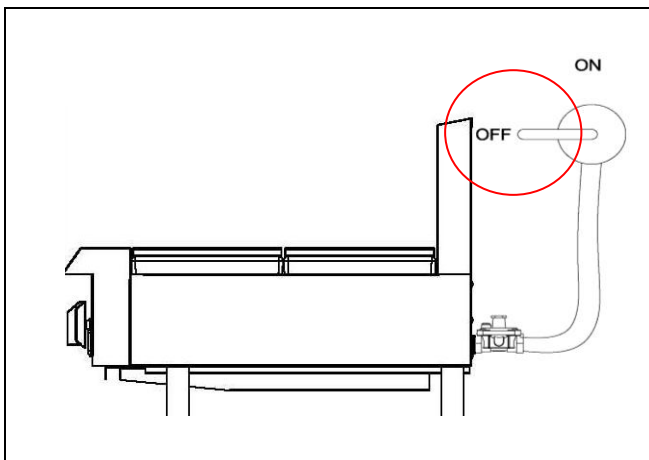
CONVERTING FROM ONE GAS TYPE TO ANOTHER

CAUTION:

Ensure that the appliance is isolated from the gas supply before commencing servicing.

NOTE:

- These conversions should only be carried out by qualified persons. All connections must be checked for leaks before re-commissioning the appliance.
- Adjustment of components that have adjustments / settings sealed (e.g. paint sealed) can only be adjusted in accordance with the following instructions and shall be re-sealed before re-commissioning this appliance.
- For all relevant gas specifications refer to the 'Gas Specifications' table at the end of this section.

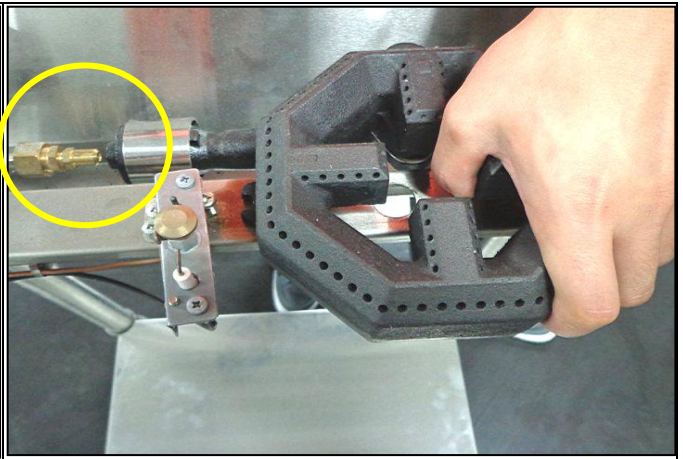


1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

2. Remove the trivets and knobs.



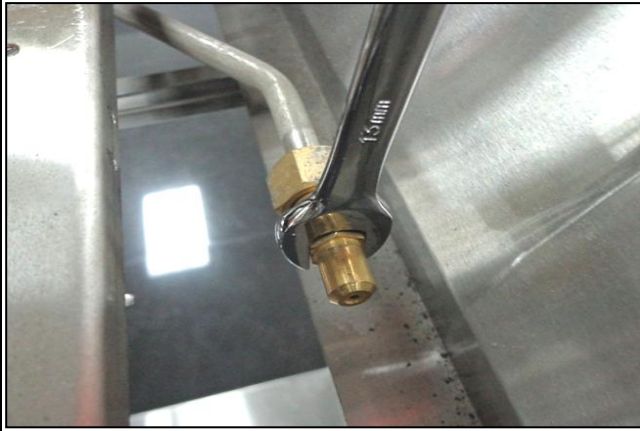
3. Remove the burner lock screw/s.



4. Pull-out all the burners from the injector.

Gas Conversion

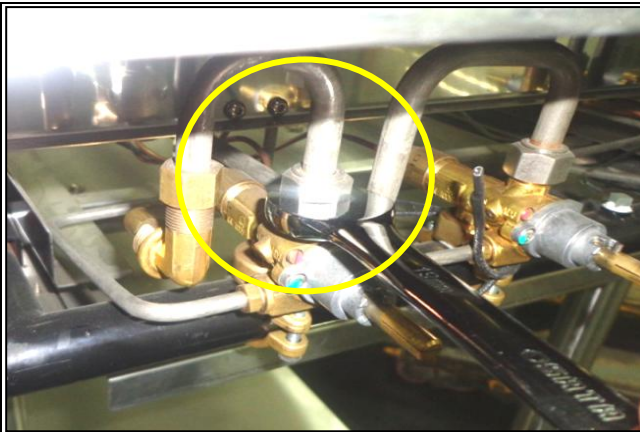
CONVERTING FROM ONE GAS TYPE TO ANOTHER – cont'd.



5. Remove the rear main burner injector, and replace the injector with the appropriate orifice size for the new gas type to be used. Refer to the GAS SPECIFICATION Table on the succeeding page. Use 13mm spanner to remove and install the injector.



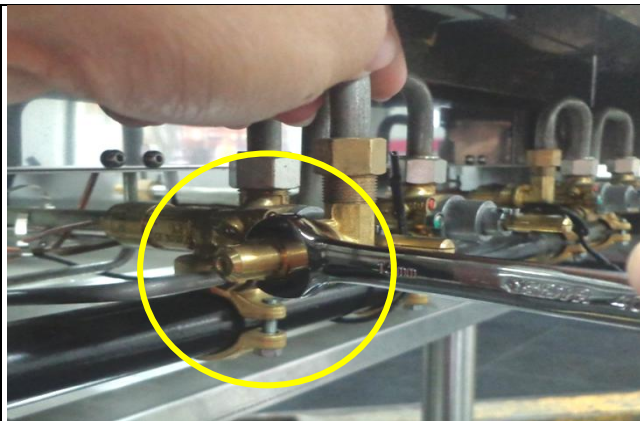
6. Remove the front control panel cover.



7. Loosen the fitting of the front burner main pipe assembly connected to the gas valve. Use 19mm spanner.



8. Rotate the front burner main pipe assembly towards you for easy access to the burner injector.



9. Remove the front main burner injector, and replace the injector with the appropriate orifice size for the new gas type to be used. Refer to the GAS SPECIFICATION Table on Page 21, for the main burner injector orifice size. Use 13mm spanner to remove and install the injector.



10. Rotate the main pipe assembly back to its original position and tighten the connection fitting.

Gas Conversion

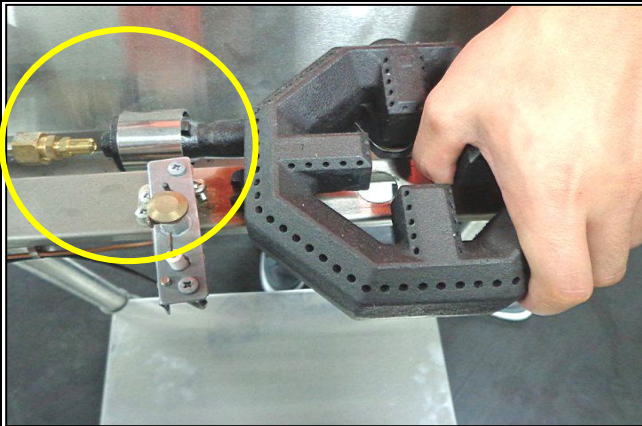
CONVERTING FROM ONE GAS TYPE TO ANOTHER – cont'd.



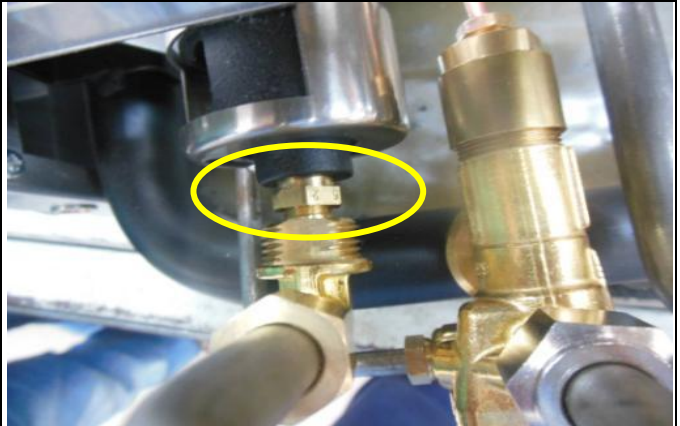
11. Disconnect the pilot pipe assembly from the pilot injector of the FDS.



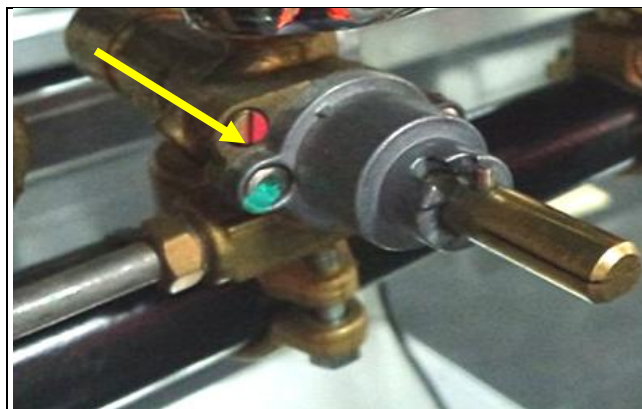
12. Remove the pilot injector from the FDS, and replace with the appropriate orifice size for the new gas type to be used. Refer to the GAS SPECIFICATION Table on Page 21, for the pilot injector orifice size. Use 10mm spanner to remove and install the pilot injector.



13. After changing the pilot and main burner injector, return the burners into place.



14. When installing the burner to the injector, make sure that the injector is fully inserted in the burner hole and that the injector is properly aligned. Misalignment of the injector into the burner hole can cause yellow tipping of flames.



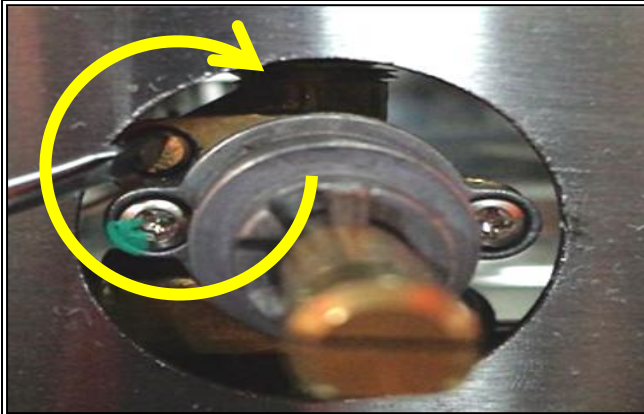
15. Remove the low flame adjustment screw from the safety gas valve. Use a small screwdriver, and turn counter-clockwise to loosen, then use a pair of pliers to pull it out from the gas valve.



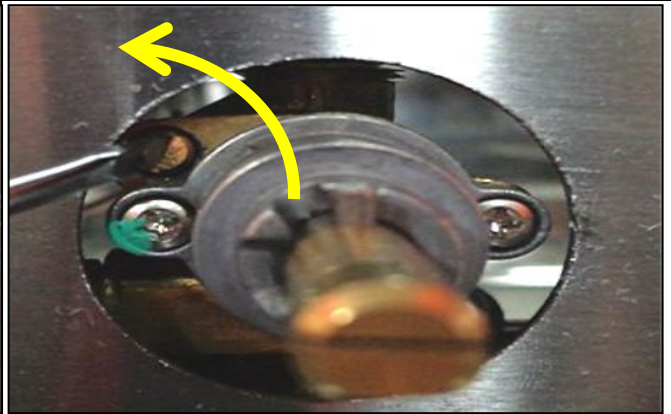
16. Replace the low flame adjustment screw with the correct type according to the gas type used. Use $\text{Ø}0.7\text{mm}$ for LPG and $\text{Ø}1.6\text{mm}$ for NG. Refer also to the Gas Specification table. Then, set the adjustment screw.

Gas Conversion

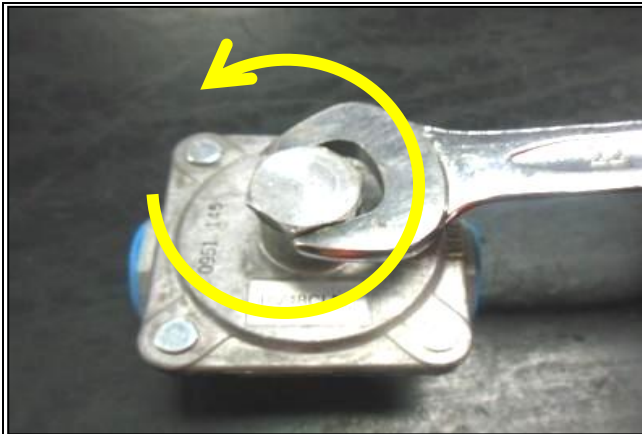
CONVERTING FROM ONE GAS TYPE TO ANOTHER – cont'd.



17. When Nat Gas is used, the installed low flame adjustment screw must be $\text{\O}1.6\text{mm}$. The adjustment screw must be FULLY closed. Turn the screw clockwise to close.



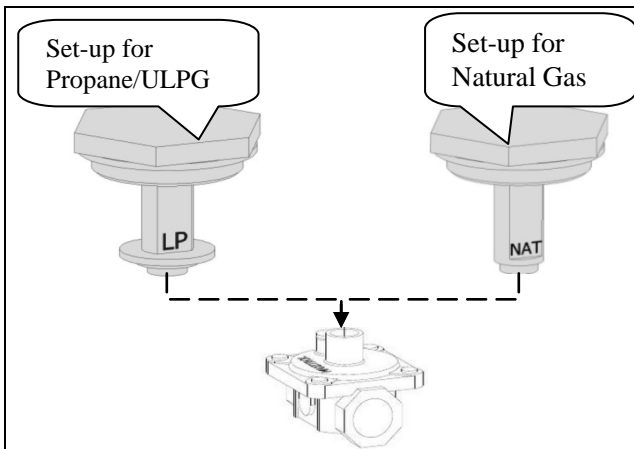
18. When LPG is used, the installed low flame adjustment screw must be $\text{\O}0.7\text{mm}$. From the FULLY closed position, open the adjustment screw by about 90° , by turning it counterclockwise to open.



19. Remove the gas regulator from the equipment. Then, open the gas regulator cap. Use 22mm spanner.



20. Remove the converter from the cap. See image above.



21. Set the converter on the cap according to the gas type to be used. See illustration above. Then, install the cap on the gas regulator.



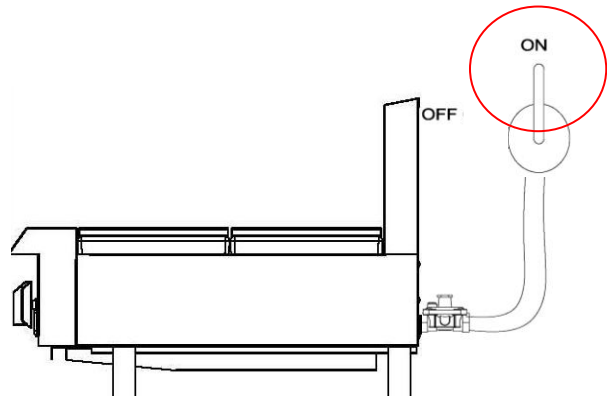
22. Tighten the gas regulator cap. Use 22mm spanner.

Gas Conversion

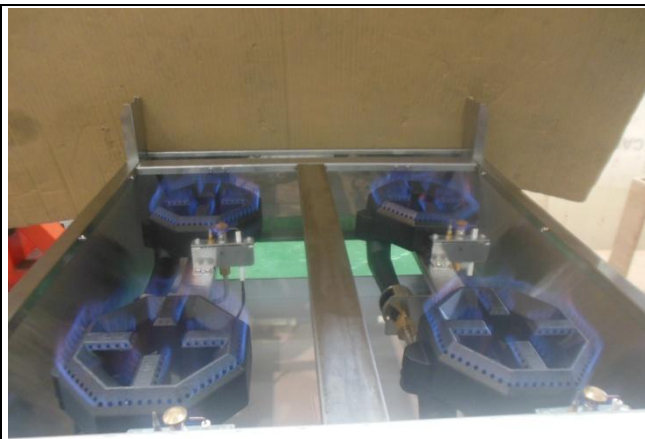
CONVERTING FROM ONE GAS TYPE TO ANOTHER – cont'd.



23. Install the gas regulator to the unit. Ensure that the arrow points toward the appliance. The arrow signifies the flow of the gas.



24. Adjust the gas pressure according to the new gas type to be used. Refer to the Gas Specification table on page 18. Then, turn ON the isolation gas valve.



25. Check for gas leaks. Use soapy water (bubble test) to check for leaks. Never use naked flame to check for leaks. Then, open the burners and perform a function test.

GAS CONVERSION LABEL

MODEL NO.:	DATE:
SERIAL NO.:	INPUT RATE (BTU/HR):
TYPE OF GAS:	MANIFOLD PRESS. (IN W.C.):
INLET GAS PRESS.:	

CAUTION!
 THIS UNIT HAS BEEN CONVERTED TO THE ABOVE GAS SUPPLY SPECIFICATION. REFER TO OPERATION MANUAL FOR MANIFOLD PRESSURE AND INPUT RATE REQUIREMENTS.
 THIS APPLIANCE WAS CONVERTED ON (DATE) _____
 TO (GAS TYPE) _____ BY (COMPANY NAME AND ADDRESS) _____

WHICH ACCEPTS THE RESPONSIBILITY THAT THIS GAS CONVERSION HAS BEEN MADE PROPERLY.

26. Replace the corresponding rating label that shows the gas type operated after an authorized service agent had converted to another gas type in order not to cause death or injury or damage to property.

Commissioning

Before leaving the converted installation;

1. Check all gas connections for leakages using soapy water or other gas leak detecting equipment.
2. Check the following functions in accordance with the operating instructions specified in the 'Operation' section of this manual.
 - Light the Main Burners.
 - Check the Low Flame burner operation.
 - Check the High Flame burner operation.
 - Ensure all controls operate correctly.

NOTE:

If for some reason it is not possible to get the appliance to operate correctly, shut off the gas supply and contact the supplier of this unit.

Gas Conversion

CONVERTING FROM ONE GAS TYPE TO ANOTHER – cont'd.

GAS SPECIFICATION TABLE

		Natural Gas	Propane
		GE756-N / GE757-N	GE756-P / GE757-P
Single burner Heat Input		32.5 MJ	32.5 MJ
Heat Total		65 MJ / 195 MJ	65 MJ / 195 MJ
Burner Operating		1.0kPa	2.75kPa
Main Inlet Supply Pressure		1.0kPa	2.75kPa
Gas Connection		¾" BSP	¾" BSP
Main burner injector orifice		#37 	#52 
Pilot injector orifice		#4  Ø0.4mm	#2  Ø0.2mm
Open burner Air Shutter Set-up		 The standard setting is FULLY OPEN.	 The standard setting is FULLY OPEN.
Gas Regulator Converter Set-up			
Burner Low Flame Adjustment Screw	Screw Hole Size	Ø1.6mm (Ex-Factory)	Ø0.7mm (Ex-Factory)
		Part No.: 66.04.1820118	Part No.: 66.04.1820117
	Default Setting	Fully Closed	Fully Closed
	Recommended Setting	Fully Closed	From fully closed position, turn 90° counter-clockwise

Troubleshooting

This section provides an easy reference guide to the more common problems that may occur during the operation of your equipment. The fault finding guide in this section is intended to help you correct, or at least accurately diagnose problems with your equipment.

Although this section covers the most common problems reported, you may encounter a problem not covered in this section. In such instances, please contact the manufacturer who will make every effort to help you identify and resolve the problem. Please note that the service agent will require the following information:

- **Model Code and the Serial Number of the appliance. (Both of them can be found on the Rating Plate located on the appliance).**

NOTE: Components having adjustments protected by the manufacturer are only to be adjusted by an authorized service agent. They are not to be adjusted by an unauthorized service person.

GENERAL INFORMATION ON TROUBLESHOOTING:

BURNING SPEED:

The velocity at which flame travels through an air-gas mixture. Burning speeds vary with types of gases, and the amount of air mixed with the gas. This air to gas ratio is very important in that it is directly related to flame stability.

PRODUCTS OF COMBUSTION:

Carbon dioxide and water vapor is formed in burning plus the nitrogen in the reactants that entered with the combustion air.

FLUE PRODUCTS:

The combination of combustion and excess air leaving the combustion area. Since water is produced as a vapor in the burning of gas it is also present in flue products. If the flue products and vent system remain hot enough this vapor is harmlessly discharged. If not, the vapor can reach the dew point and condense into water which can accumulate in the system.

INCOMPLETE COMBUSTION:

A poorly vented appliance restricts flow of air into an appliance. Lack of ventilation around an appliance may lower oxygen content in the surrounding air. This can be a result of spillage of combustion products into the room as well. These conditions can cause incomplete combustion and poor performance of an appliance. Adequate, but not excessive ventilation is a must and cannot be over emphasized.

PRIMARY AIR:

That air which is mixed with gas before the gas leaves the burner port to burn. Ideal burning condition generally is 10 cubic feet of air per cubic foot of gas.

SECONDARY AIR:

The remaining air needed for complete combustion besides primary air. This is the air surrounding the flames.

FLAME STABILITY:

Primary air, burning speed, port size and port depth are several factors affecting flame stability. Flames on a burner tend to stabilize at a point where flow velocity out and burning speed back are equal. This balance of flow velocities and burning speed explain why flames change when primary air or gas rate is adjusted.

B.T.U.:

British Thermal Units is the heat energy produced when burning a fuel gas. One BTU of heat will raise the temperature of one pound of fresh water one degree Fahrenheit.

BURNER PROBLEMS

LIFTING FLAMES:

How to recognize:

When lifting flames occur, part of the flame lifts from the burner port. Lifting flames rise from the ports to burn some distance above the port. In some cases, these flames will drop back to the port and lift again intermittently. Lifting flames may occur on a few or all of the burner port holes. If flames lift from a number of ports, they may create a distinct flame noise. Lifting burner flames result when the velocity of the air-gas mixture from a port exceeds the flame velocity.

How to correct:

The simplest way to stop burner flames from lifting is to reduce primary air. However, before doing this, check the appliance input rate and reduce if necessary. Lifting may be observed with only one of several burners in an appliance. Check the orifice size of that burner against the others to make sure the burner is not operating over rated input. When reducing primary air to prevent lifting flames, make sure yellow tipping does not occur.

FLASHBACK:

How to recognize:

When flashback occurs in a burner, the air-gas mixture ignites inside the burner to burn near the orifice. This burning in the mixer tube usually creates a roaring noise like a blowtorch.

How to correct:

Flashback on ignition or during burner operation usually can be eliminated by reducing primary air to the burner. Make sure that the air adjustment does not produce yellow tipping of flames. The burner may be under rated, so check input rate and adjust it to its correct value if necessary. The orifice size may be enlarged, or gas pressure increased if rate or supply pressure is found to be too low. Sometimes only one burner of several in an appliance flashes back. Check the orifice size of that burner against those of the other burners. If flashback occurs with the burner's gas valve in off position, the gas valve is probably leaking. Repair the valve or replace it. Replace the burner, or burners, if the above correction fails to eliminate the flashback.

EXTINCTION POP:

How to recognize:

Sometimes a small explosion of gas in the burner head occurs when the burner is shut-off. Under these conditions flashback or extinction has taken place. This problem is commonly called "**extinction pop**".

Extinction pop creates a noise or a loud "bang". Ordinarily, it is not followed by burning in the burner head or mixer tube, since the gas supply is turned-off. The pop occurs at the time the gas supply to the burner is shut-off. Sometimes it may be delayed for a few seconds.

How to correct:

It may be possible to eliminate extinction pop by reducing primary air supplied to the burner. Make sure that this air adjustment does not cause yellow tipping during normal burner operation. It also may help to increase gas pressure and decrease gas orifice size. These changes provide a faster flow of the final air-gas mixture, and allow the air shutter to be closed more than with a larger gas orifice and lower gas pressure. If these actions fail to correct the problem, replace the burner.

YELLOW TIPPING OF FLAMES:

How to recognize:

Bunsen-type flames should be completely blue. If not enough primary air is supplied, yellow tips appear in the flames. Do not confuse yellow tips with red or orange streaks which sometimes appear in flames. These color streaks usually are due to dust in the air supply and should create no problems. There also have been some reports of humidifiers, operating with softened water, causing orange flames on burners. The use of some tinted glasses, such as brazing goggles, will eliminate those discolorations from view, leaving true yellow tips still visible. Yellow tip flames indicate incomplete combustion in appliances designed for blue flame operation. This condition is aggravated if the flames impinge on cool surfaces. Yellow flames which produce soot (carbon) can be a nuisance. Sooting presents a serious problem if it collects to block flueways. Plugged flueways impede venting of combustion products and reduce the amount of air drawn into the combustion chamber. Incomplete combustion can then take place.

How to correct:

Yellow tipping is caused by a lack of enough primary air. This condition may be due simply to an incorrect air shutter adjustment. If this is the case, open air shutters to get rid of the yellow tips. Make sure that this added primary air does not cause lifting of flames or flashback.

Lint and dust may have blocked the primary air openings, or collected inside the burner tube or on the underside of burner ports to which reduced primary air injection, causing yellow tipping. If so, clean and re-adjust the burner.

A burner orifice spun out of line will reduce primary air injection. Faulty drilling or a dirty orifice can have the same effect. Check the orifice, clean it, re-align it or replace it if necessary.

FLUCTUATING FLAMES:

How to recognize:

Length of burner flames may fluctuate or shorten over a period of time without any re-adjustments of the burner. This condition usually indicates a non-uniform gas pressure at the orifice. Fluctuating flames usually do not create any immediate problems, such as incomplete combustion, unless flames impinge on cool surfaces. This condition should be corrected, however, since it warns of possible future problems.

How to correct:

Unsteady gas pressures cause flames to fluctuate. Usually this condition indicates problems with the gas pressure regulator, the gas meter or other gas supply problems. Burner flames may shorten with no change in gas pressure or primary air adjustment. Check the orifice for blockage by dust or dirt from supply lines. Very small pilot orifices are quite prone to blockage.

FLAME ROLL-OUT:

How to recognize:

When the condition known as flame roll-out occurs, flames roll out of the combustion chamber openings when the burner is turned ON. Flame rollout may create a fire hazard, or scorch appliance finishes, burn wire, or damage controls. The gas in the burner mixer may be ignited, producing a flashback.

How to correct:

Flame rollout is actually a variation of floating flames, with flames reaching for air outside the combustion chamber. Again, the basic cause is a lack of combustion air. This lack of air may be due to overrating of burners, poor draft or blockage of flueways. Apply the corrections for these problems listed for floating flames.

FLOATING FLAMES:

How to recognize:

The difference between floating flames and lifting (or blowing flames) should be clearly understood. Both conditions are undesirable, but the cause and corrective steps are different in each case. Lifting or blowing flames are well defined and hard, and may create a blowing noise. Cutting back on primary air usually stops flames from lifting. Floating flames are lazy looking. They do not have well defined cones, and appear to be "reaching" for the air. They are long, ill-defined, quiet flames which roll around in the combustion chamber sometimes completely off the ports. Usually a strong aldehyde odor is present. Floating flames almost always indicate incomplete combustion. They point to a dangerous condition which requires prompt correction.

If secondary air supply is reduced too far, burner flames will float. Combustion products above the burner re-circulate lower in the chamber. These products contaminate the air supply, adding to the problem.

How to correct:

A lack of combustion air causes burner flames to float. Several conditions, or a combination of these conditions, can be the cause. The appliance may be overrated. If so, the flue outlet area provided for the rated input may be too small for the increased gas rate. Check the appliance rate and reduce it if necessary.

Other conditions may cause poor venting and lead to floating flames. Soot or dust may be blocking the flueways. Check flueways and clear any blockage found. Determine, if possible, the reason the flueways were blocked up. Check for blockage of burners, and clean them if necessary. Adjust primary air to get rid of any yellow tipping which may have produced soot to block the flueways. Make sure secondary air inlet openings are not blocked.

Reduce natural draft (venting) through an appliance may take place when it is operated from a cold start. Some floating flames may appear for a brief moment until such time draft is established. When the appliance heats up it should operate in a normal manner.

GAS ODOR AT PRIMARY AIR OPENINGS:

Under normal burner operation, a negative pressure (vacuum) should exist inside the primary air openings of a burner, drawing in air. If all gas fed to the burner by the orifice does not flow to the burner head, some gas may spill from the primary air openings. If this condition is found, check the burner body for restrictions, and check the orifice to make certain it is not out of line.

CORROSION OF APPLIANCES:

Gas appliances are designed and built to give long dependable service life. In some installations recently, usually severe corrosion has occurred resulting in customer complaints. This corrosion is attributed to the extensive use of aerosol propellants, hydrocarbons which contain the elements FLUORINE AND CHLORINE. These elements are called halogens. Halogens in their free state are very corrosive. When the propellants pass through a flame, they break down and the halogen gases are released. In combination with the water vapor in the flue gases they cause corrosion in heat exchangers, flueways and other appliance parts.

Troubleshooting

Technical Troubleshooting Guide:

Fault	Possible Cause	Remedy
Pilot won't light.	No gas supply or gas isolation valve is OFF.	Ensure gas isolation valve is turned on, and that gas tanks are not empty.
	Pilot burner is clogged/blocked.	Check the pilot burner if clogged, and clean, or replace if necessary.
	Faulty thermocouple.	Replace the thermocouple.
	Faulty safety gas valve.	Replace the safety gas valve.
Pilot flame is very small and can be easily blown out by a small draft.	Pilot injector is clogged or blocked.	Check the pilot burner if clogged, and clean, or replace if necessary.
	Pilot head is partially blocked.	Check the pilot head for any blockage. Clean or remove the blockage. Replace the pilot head if necessary.
	Faulty safety gas valve.	Replace safety gas valve.
Main Burner will not light.	No gas supply or gas isolation valve is OFF.	Ensure that gas tanks are not empty, and gas isolation valve is turned ON.
	Insufficient gas supply pressure.	Adjust the gas supply pressure to required standard. Refer to GAS SUPPLY REQUIREMENTS.
	Clogged or blocked burner injector.	Clean the burner injector or replace it if necessary.
	Faulty or broken gas valve.	Replace the gas valve.
Main burner and pilot shuts-off after a few minutes of operation.	Clogged pilot injector.	Replace pilot injector.
	Faulty thermocouple.	Replace thermocouple.
	Faulty safety gas valve.	Replace safety gas valve.
Flame does not come out from some of the holes of the main burner.	Holes are clogged with carbon or food debris.	Clean the burner or replace it if necessary.
Burner and Pilot flame color is yellow.	Wrong gas type used.	Check the gas type used, change to the correct gas type.
	Wrong orifice installed.	Check the orifice installed. Replace it with correct orifice for the gas type used.
	Air shutter is partially or fully closed. Not enough combustion air.	Adjust the air shutter of the burner to eliminate the yellow flame.

Troubleshooting

Technical Troubleshooting Guide:

Fault	Possible Cause	Remedy
Burner flame is too high or too low.	Pressure is very high or too low.	Adjust pressure to standard. Refer to GAS SUPPLY REQUIREMENTS.
	Burner injector used is not appropriate for the gas type used.	Change the burner injector to appropriate gas type used.
	Incorrect gas type used.	Change gas type used based on the product's rating label.
	Faulty safety gas valve.	Replace safety gas valve.
Yellow tipping of flames	Lack of primary air due incorrect air shutter adjustment.	Open air shutters to get rid of yellow flame.
	Lint and dust may have blocked primary air openings or have collected inside the burner tube or on the underside of the burner ports which reduced primary air injection.	Clean and re-adjust the burners' air shutter. Replace the burners if necessary.
	The burner orifice/injector might have spun out of line.	Check and re-align the injector to the burner.
	Blocked or clogged injector orifice.	Check and clean the injector orifice. Replace it if necessary.
Lifting of flames or Blowing Flames	Too much primary air.	Adjust the air shutter to eliminate lifting of flames.
	Wrong size of injector orifice installed.	Check the orifice size of the injector installed. Replace injector if necessary.
Flashback or backfire	Too much primary air.	Adjust the air shutter of the burner to minimize primary air input.
	Wrong injector orifice size installed.	Check the orifice size of the injector installed. Replace injector if necessary.
	If flashback occurs when the burner gas valve is in an OFF position. The gas valve is probably leaking.	Replace the gas valve.
	Gas pressure is too low.	Adjust the gas supply pressure to required standard. Refer to GAS SUPPLY REQUIREMENTS.
	Faulty or clogged burner.	Clean the burner or replace it if necessary.
	Operated from cold start. Warm up stage.	Allow the appliance to heat up.

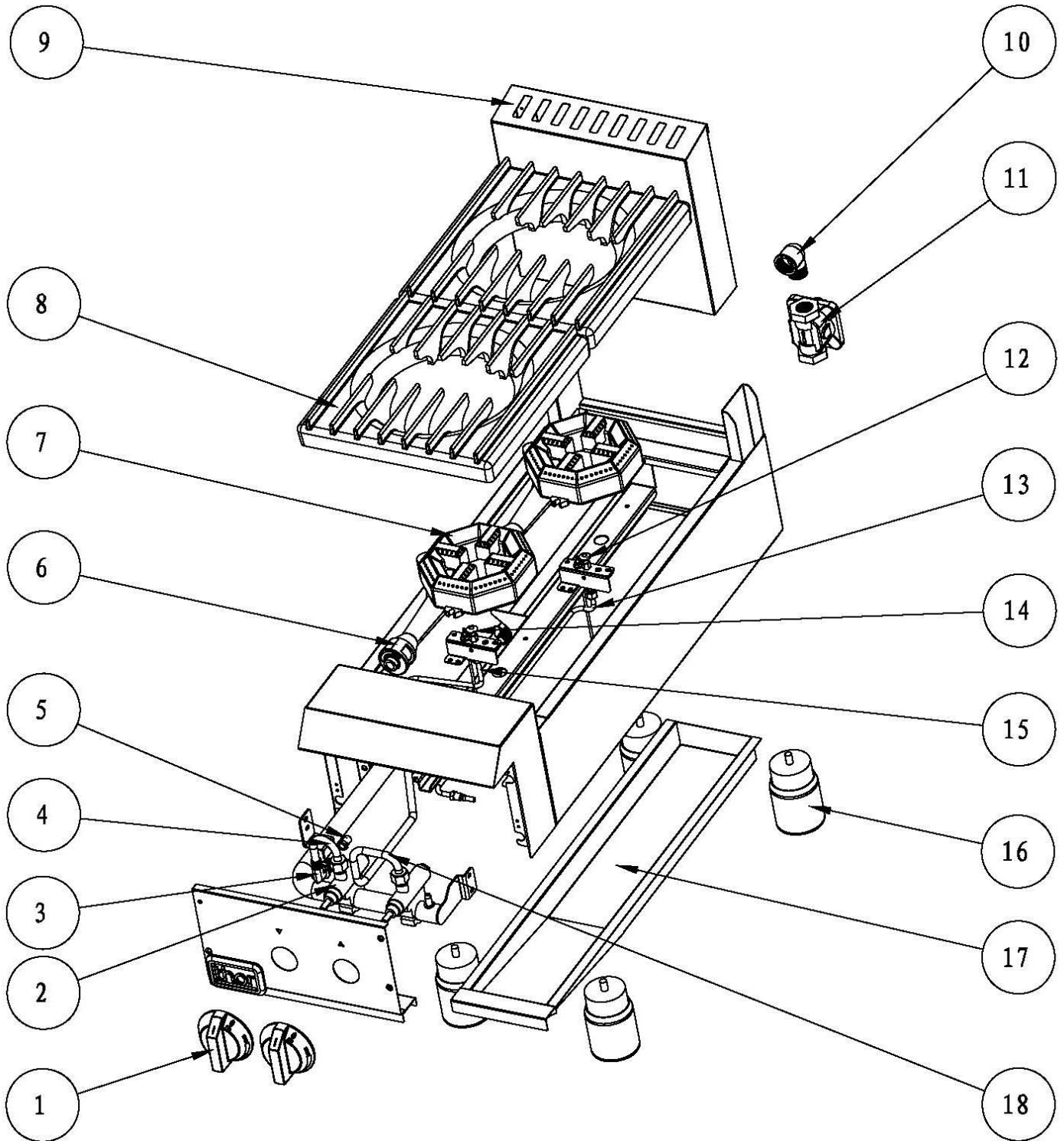
Troubleshooting

Technical Troubleshooting Guide:

Fault	Possible Cause	Remedy
Extinction Pop or Flashback during extinction	Too much primary air.	Adjust the air shutter of the burner to minimize primary air input.
	Gas pressure is too low.	Adjust the gas supply pressure to required standard. Refer to GAS SUPPLY REQUIREMENTS.
	Wrong injector orifice size installed.	Check the orifice size of the injector installed. Replace it if necessary.
	Faulty or clogged burner.	Clean the burner or replace it if necessary.
Fluctuating flames	Unsteady gas pressure due to faulty gas pressure regulator or gas meter.	Replace the gas regulator or gas meter.
	Injector's orifice is clogged or blocked by dust or dirt.	Clean the injector's orifice or replace it as necessary.
Floating flames	Poor venting. Flueways are blocked by soot or dust.	Check and clean the flueways.
	Burners are clogged or blocked.	Clean the burners or replace them as necessary.
	Operated from cold start. Warm up stage.	Allow the appliance to heat up.
Flame roll-out.	Poor venting. Flueways are blocked by soot or dust.	Check and clean the flueways.
	Burners are clogged or blocked.	Clean the burners or replace them as necessary.
Piezo igniter won't ignite (for units with piezo igniter)	Faulty igniter wire.	Replace the FDS (Flame Device System).
	Faulty piezo igniter.	Replace the piezo igniter.

Explosion Drawing

GE756-P / GE756-N



Spare Parts List

NO.	DESCRIPTION	MODEL	CODE	QTY
1	Dial	GE756-P GE756-N	06.05.1471455	2
2	Safety Valve	GE756-P GE756-N	01.20.1068524	2
3	L Connector For Orifice	GE756-P GE756-N	01.18.1067404	1
4	Main Pipe Assy.- Front	GE756-P GE756-N	01.24.1070902	1
5	Orifice	GE756-P	01.20.1068652	2
		GE756-N	01.20.1068637	
6	Air Shutter	GE756-P GE756-N	01.02.1005356	2
7	Burner	GE756-P GE756-N	01.03.1015066	2
8	Trivet	GE756-P GE756-N	01.11.1062047	2
9	Flue Assy.	GE756-P GE756-N	06.05.1472409	1
10	L Connector For Manifold	GE756-P GE756-N	01.02.1005351	1

Spare Parts List

NO.	DESCRIPTION	MODEL	CODE	QTY
11	Regulator	GE756-P GE756-N	01.22.1069526	1
12	Flame Device System– Rear (No include injector)	GE756-P GE756-N	01.22.1069540	1
	ODS Injector-0.20	GE756-P	01.20.1068546	1
	ODS Injector-0.40	GE756-N	01.20.1068547	1
	Thermocouple (can be bought separately)	GE756-P GE756-N	03.11.1250052	1 pc. per FDS
13	Pilot Pipe Assy.- Rear	GE756-P GE756-N	01.24.1070904	1
14	Flame Device System– Front (No include injector)	GE756-P GE756-N	01.22.1069539	1
	ODS Injector-0.20	GE756-P	01.20.1068546	1
	ODS Injector-0.40	GE756-N	01.20.1068547	1
	Thermocouple (can be bought separately)	GE756-P GE756-N	0311.1250031	1 pc. per FDS
15	Pilot Pipe Assy.- Front	GE756-P GE756-N	01.24.1070903	1
16	Foot	GE756-P GE756-N	01.02.1005187	4
17	Tray	GE756-P GE756-N	01.05.1029822	1
18	Main Pipe Assy.- Rear	GE756-P GE756-N	01.24.1070901	1

Replacement Parts

IMPORTANT:

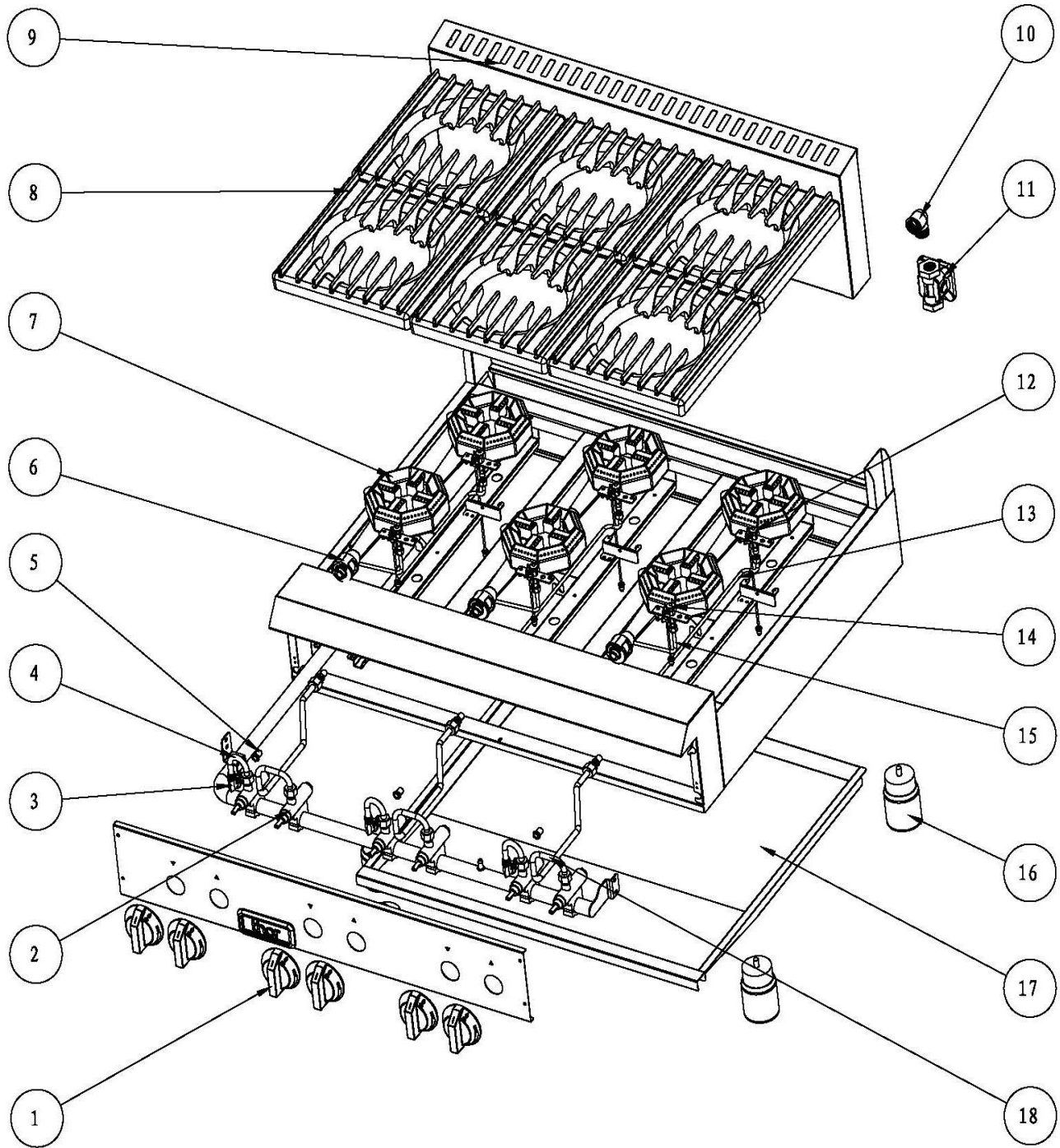
Only genuine authorized replacement parts should be used for the servicing and repair of this appliance. The instructions supplied with the parts should be followed when replacing components.

For further information and servicing instructions, contact your nearest authorized service branch.

When ordering replacement parts, please quote the part number and the description listing below. If the part required is not listed below, request the part by description and quote model number and serial number which is shown on the rating plate.

Explosion Drawing

GE757-P / GE757-N



Spare Parts List

NO.	DESCRIPTION	MODEL	CODE	QTY
1	Dial	GE757-P GE757-N	06.05.1471455	6
2	Safety Valve	GE757-P GE757-N	01.20.1068524	6
3	L Connector For Orifice	GE757-P GE757-N	01.18.1067404	3
4	Main Pipe Assy.- Front	GE757-P GE757-N	01.24.1070902	3
5	Orifice	GE757-P	01.20.1068652	6
		GE757-N	01.20.1068637	
6	Air Shutter	GE757-P GE757-N	01.02.1005356	6
7	Burner	GE757-P GE757-N	01.03.1015066	6
8	Trivet	GE757-P GE757-N	01.11.1062047	6
9	Flue Assy.	GE757-P GE757-N	06.05.1471865	1
10	L Connector For Manifold	GE757-P GE757-N	01.02.1005351	1

Spare Parts List

NO.	DESCRIPTION	MODEL	CODE	QTY
11	Regulator	GE757-P GE757-N	01.22.1069526	1
12	Flame Device System– Rear (No include injector)	GE757-P GE757-N	01.22.1069540	3
	ODS Injector-0.20	GE757-P	01.20.1068546	3
	ODS Injector-0.40	GE757-N	01.20.1068547	3
	Thermocouple (can be bought separately)	GE757-P GE757-N	03.11.1250052	1 pc. per FDS
13	Pilot Pipe Assy.- Rear	GE757-P GE757-N	01.24.1070904	3
14	Flame Device System– Front (No include injector)	GE757-P GE757-N	01.22.1069539	3
	ODS Injector-0.20	GE757-P	01.20.1068546	3
	ODS Injector-0.40	GE757-N	01.20.1068547	3
	Thermocouple (can be bought separately)	GE757-P GE757-N	0311.1250031	1 pc. per FDS
15	Pilot Pipe Assy.- Front	GE757-P GE757-N	01.24.1070903	3
16	Foot	GE757-P GE757-N	01.02.1005187	4
17	Tray	GE757-P GE757-N	01.05.1029024	1
18	Main Pipe Assy.- Rear	GE757-P GE757-N	01.24.1070901	3

Replacement Parts

IMPORTANT:

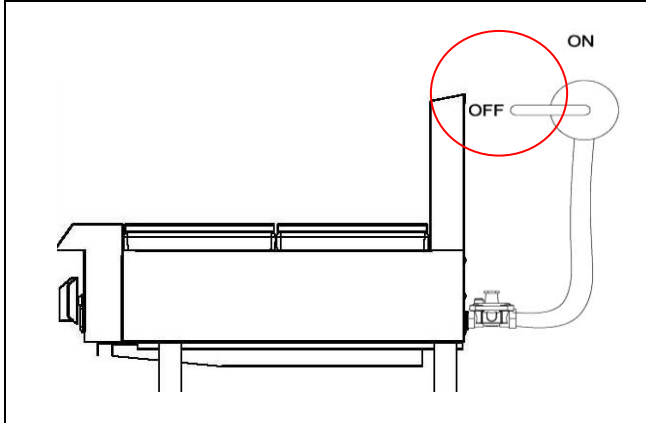
Only genuine authorized replacement parts should be used for the servicing and repair of this appliance. The instructions supplied with the parts should be followed when replacing components.

For further information and servicing instructions, contact your nearest authorized service branch.

When ordering replacement parts, please quote the part number and the description listing below. If the part required is not listed below, request the part by description and quote model number and serial number which is shown on the rating plate.

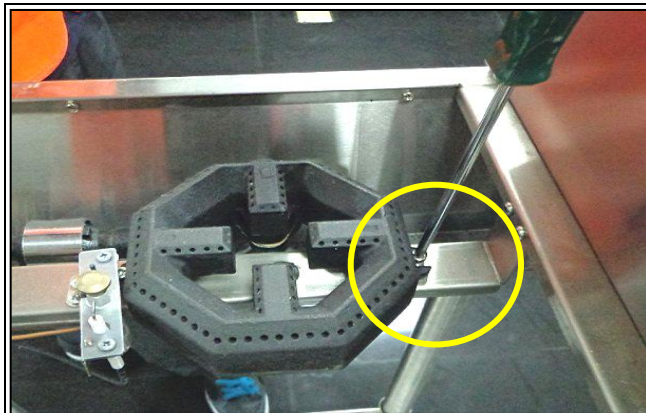
Parts Replacement Guide

A. REPLACING THE BURNER

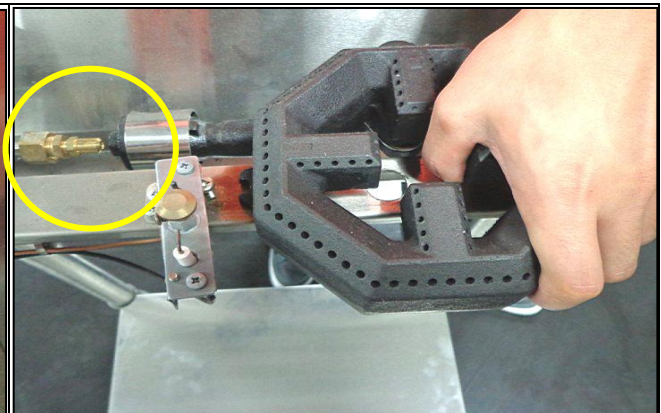


1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

2. Remove the trivets.



3. Remove the burner lock screw/s.



4. Pull-out all the burners from the injector and replace as necessary.



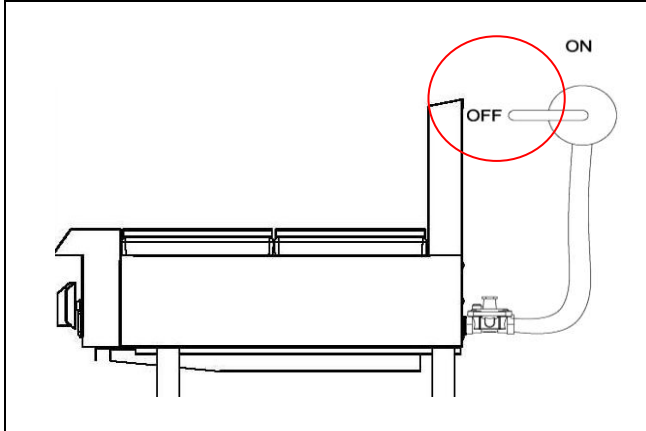
5. When installing the burner to the injector, make sure that the injector is fully inserted in the burner hole and that the injector is properly aligned. Misalignment of the injector into the burner hole can cause yellow tipping of flames.



6. After burner installation, turn on the isolation gas valve and light the burner and check if it has blue flame. Adjust the air shutter as necessary. Otherwise, follow the troubleshooting guide.

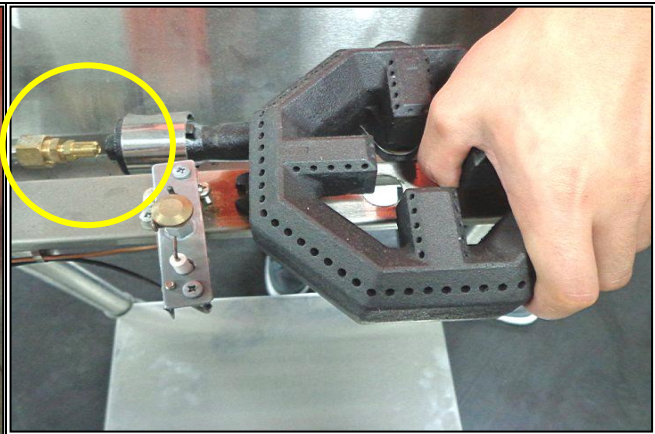
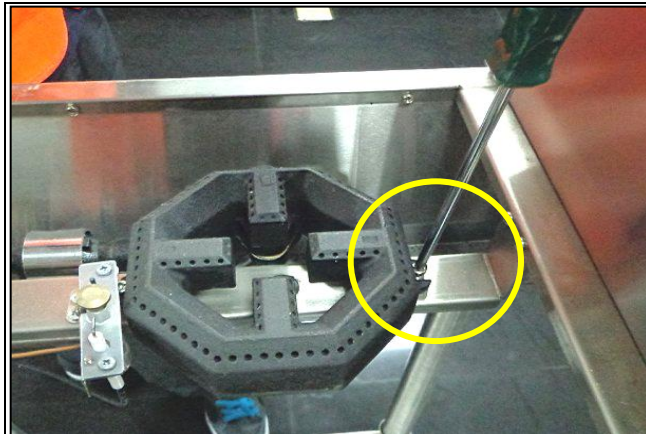
Parts Replacement Guide

B. REPLACING THE MAIN BURNER INJECTOR



1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

2. Remove the trivets and knobs.



3. Remove the burner lock screw/s.

4. Pull-out all the burners from the injector and replace as necessary.

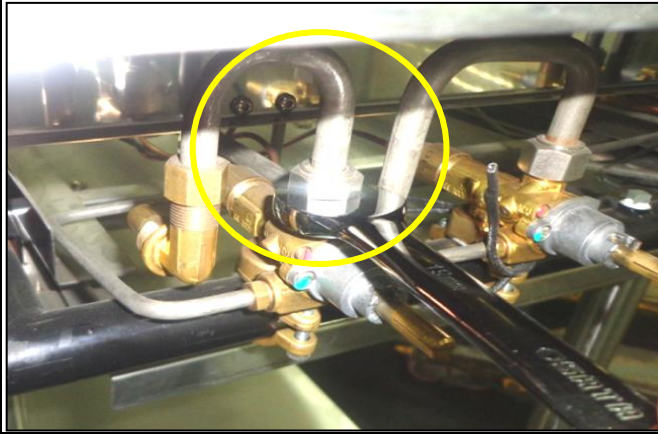


5. Remove the rear main burner injector, and replace the injector with the appropriate orifice size for the gas type. Refer to the GAS SPECIFICATION Table on page 21. Use 13mm spanner to remove and install the injector.

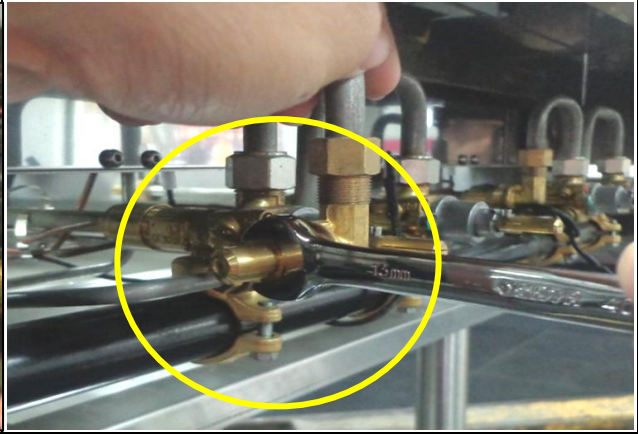
6. For the front main burner injector, remove the front control panel cover.

Parts Replacement Guide

B. REPLACING THE MAIN BURNER INJECTOR – cont'd.



7. Loosen the fitting of the front burner main pipe assembly connected to the gas valve. Use 19mm spanner.



8. Rotate the front burner main pipe assembly towards you for easy access to the burner injector. Then, remove the burner injector. Use 13mm spanner.



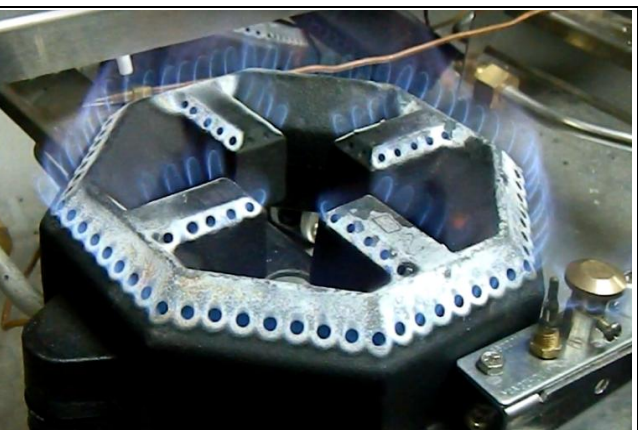
9. Replace the injector with the appropriate orifice size for the gas type used. The orifice size/number is printed on the injector. Refer to the GAS SPECIFICATION Table on Page 21, for the appropriate main burner injector orifice size.



10. After installing the new main burner injector, rotate the main pipe assembly back to its original position and tighten the connection fitting. Use 19mm spanner.



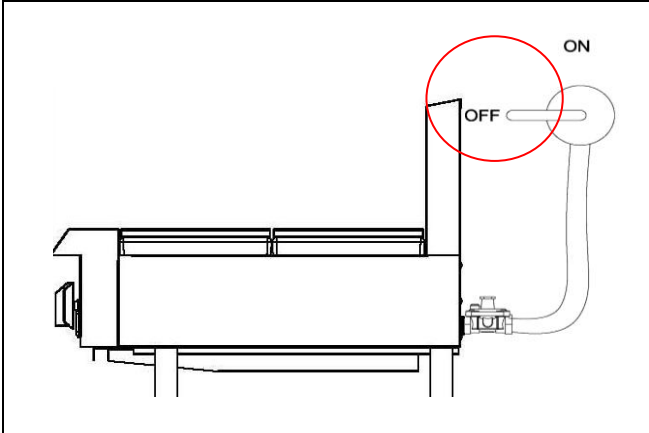
11. Install back the burner. When installing the burner to the injector, make sure that the injector is fully inserted in the burner hole and that the injector is properly aligned. Misalignment of the injector into the burner hole can cause yellow tipping of flames.



12. After burner installation, turn on the isolation gas valve and check for gas leak. Light up the burner and check if it has blue flame. For any abnormality found, follow the troubleshooting guide.

Parts Replacement Guide

C. REPLACING THE PILOT INJECTOR

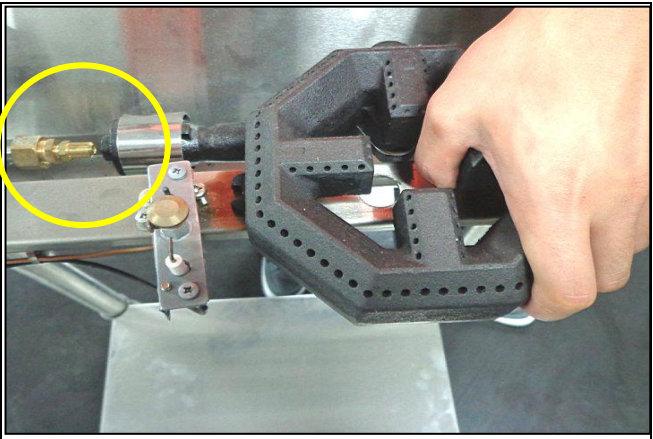


1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

2. Remove the trivets.



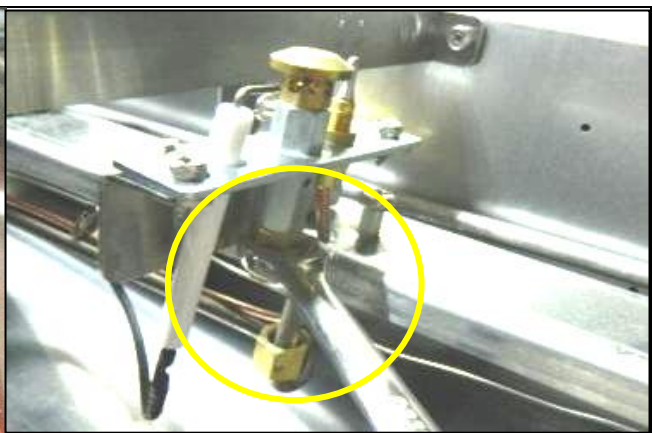
3. Remove the burner lock screw/s.



4. Pull-out all the burners from the injector and replace as necessary.



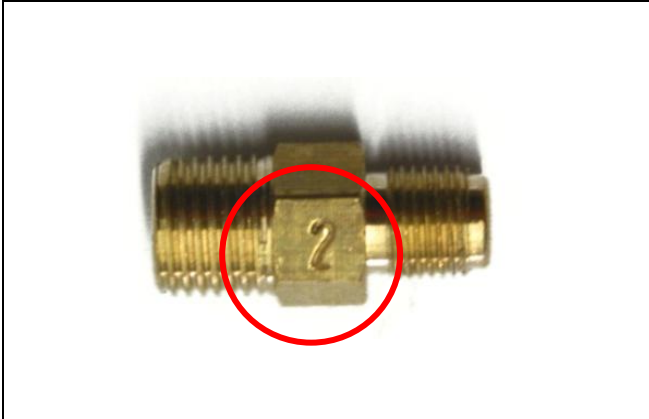
5. Disconnect the pilot pipe assembly from the pilot injector of the FDS. Use 13mm spanner.



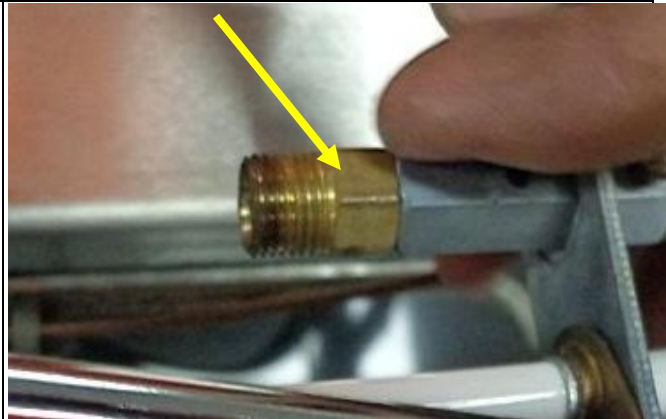
6. Remove the pilot injector from the FDS. Use 10mm spanner.

Parts Replacement Guide

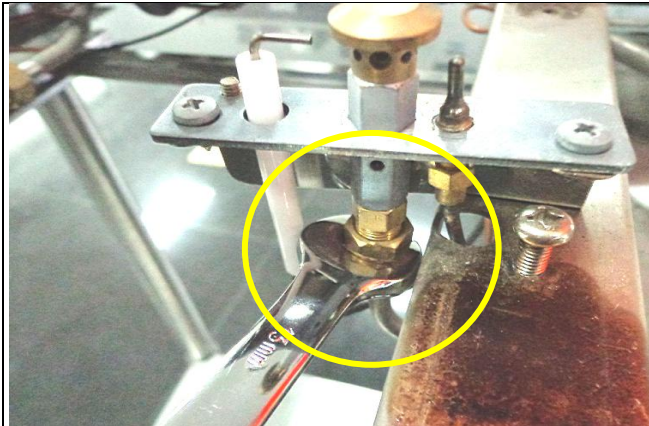
C. REPLACING THE PILOT INJECTOR – cont'd.



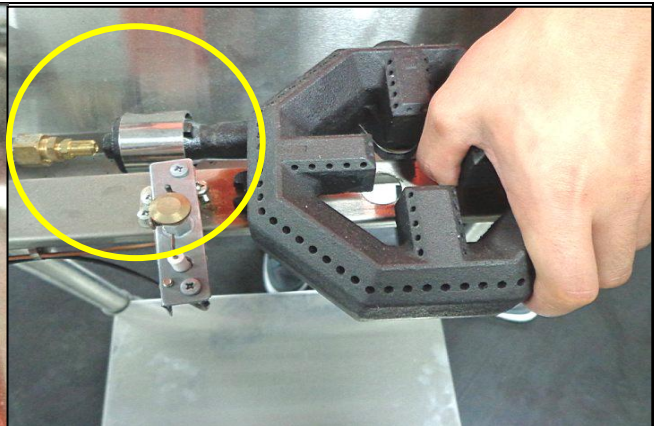
7. Replace the pilot injector with the appropriate orifice size for the gas type used. The orifice size/number is printed on the pilot injector. Refer to the GAS SPECIFICATION Table on Page 21, for the appropriate pilot injector orifice size.



8. Install the new pilot injector to the FDS. Use 10mm spanner.



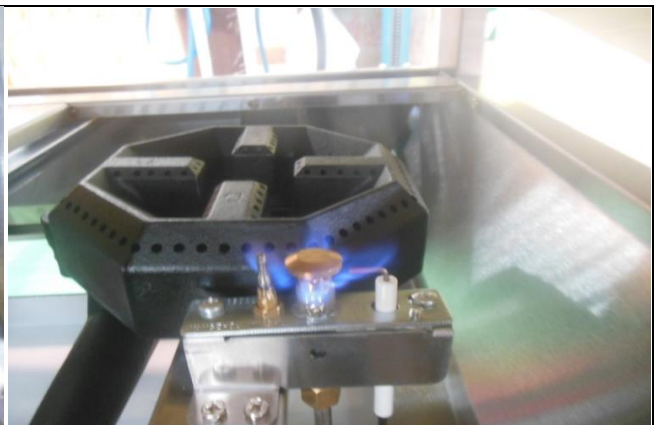
9. Reconnect the pilot pipe assembly to the pilot injector of the FDS. Use 13mm spanner.



10. Return the burner.



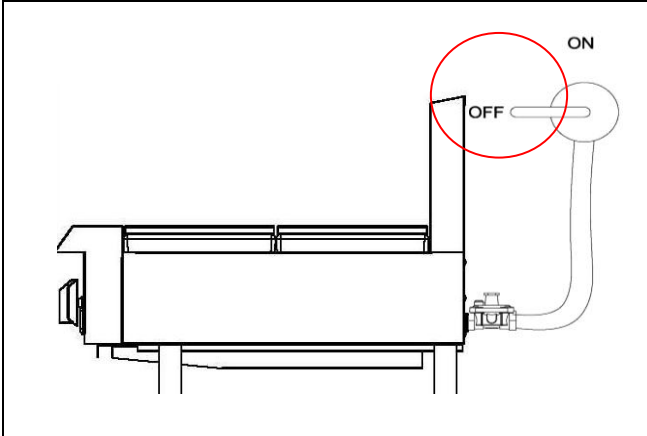
11. When installing the burner to the injector, make sure that the injector is fully inserted in the burner hole and that the injector is properly aligned. Misalignment of the injector into the burner hole can cause yellow tipping of flames.



12. After burner installation, turn on the isolation gas valve and check for gas leak. Light up the pilot and check if it has blue flame. For any abnormality found, follow the troubleshooting guide.

Parts Replacement Guide

D. REPLACING THE THERMOCOUPLE

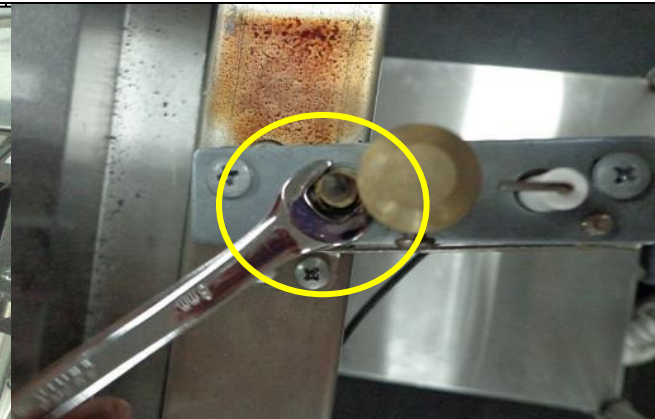


1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

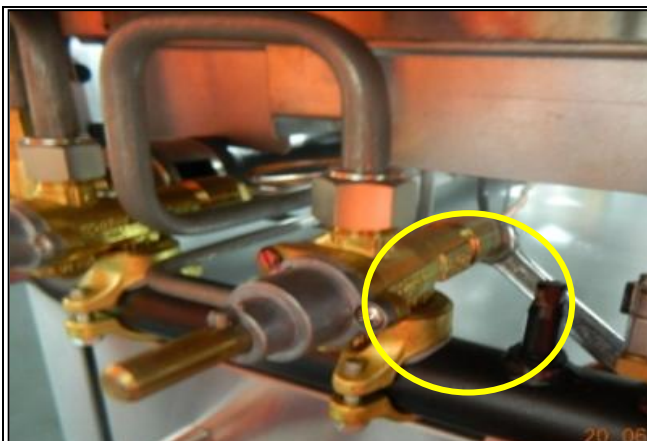
2. Remove the trivets and knobs.



3. Remove the front control panel and drip tray.



4. Disconnect the thermocouple from the FDS. Use 8mm spanner.



5. Disconnect the thermocouple from the safety gas valve. Use 9mm spanner.



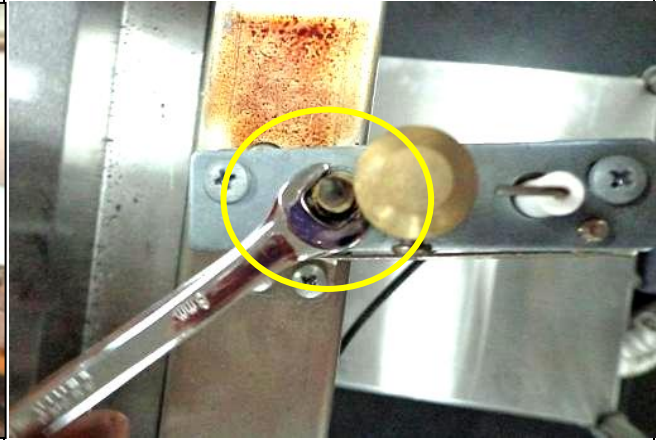
6. Remove the thermocouple and replace it, as necessary.

Parts Replacement Guide

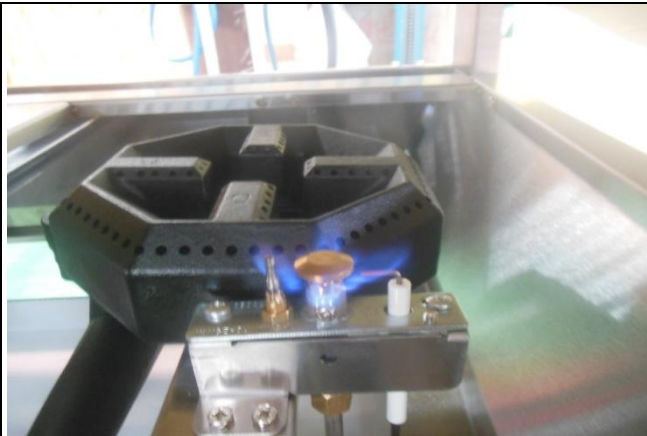
D. REPLACING THE THERMOCOUPLE – cont'd.



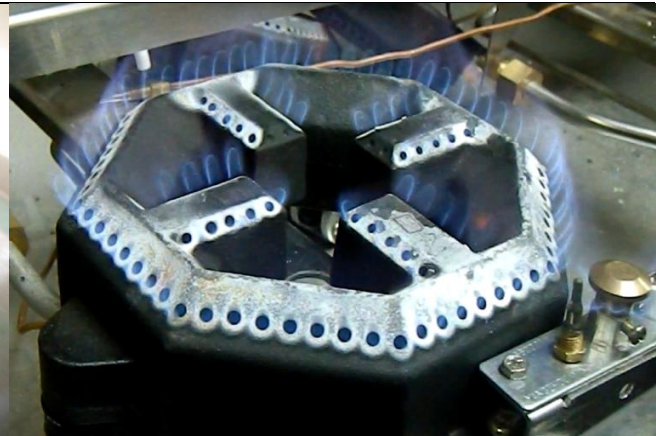
7. Reconnect the new thermocouple to the safety gas valve. Use 9mm spanner. Tighten the thermocouple up to 2.5N-m of torque. Tightening too much can cause the thermocouple to break and fail.



8. Reconnect the new thermocouple to the FDS. Then, open the gas isolation valve.



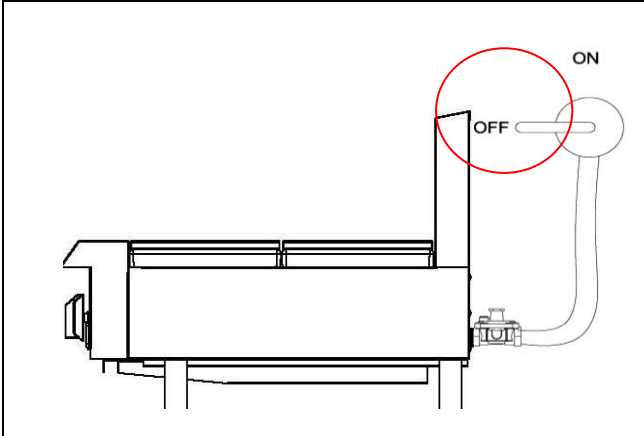
9. Turn on the isolation gas valve and light up the pilot and check if the flame hits the tip of the thermocouple. Adjust the thermocouple by moving upward or downward, or adjust the pilot head, so that the flame hits the tip.



10. Light up the burner and observe for 5 mins., to make sure that the thermocouple works perfectly. For any abnormality found, follow the troubleshooting guide.

Parts Replacement Guide

E. REPLACING THE FLAME DEVICE SYSTEM (FDS)



1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting disassembly, to prevent injury.

2. Remove the trivets and knobs, and front control panel cover.



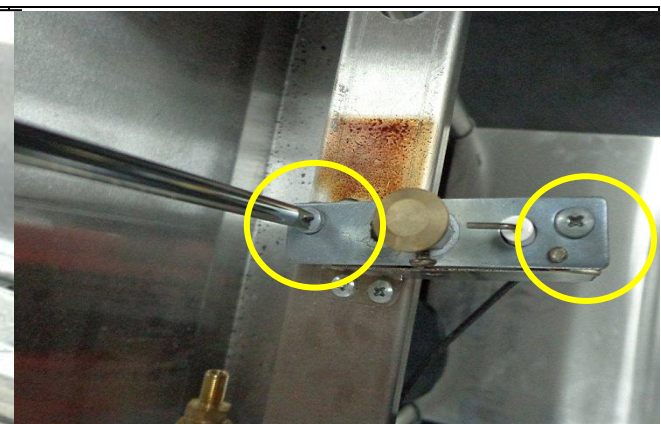
3. Disconnect the thermocouple from the safety gas valve.



4. Disconnect the pilot pipe assembly from the pilot injector of the FDS. Use 13mm spanner.



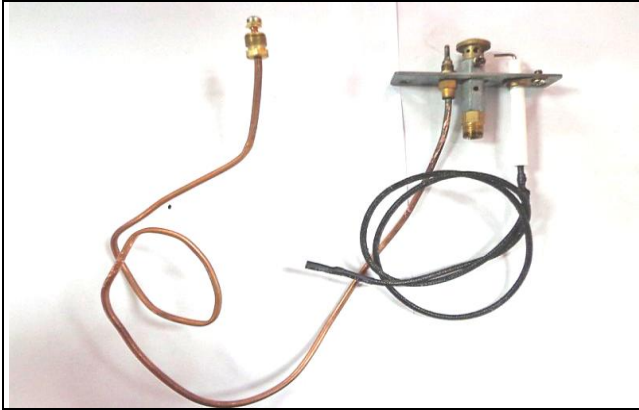
5. Remove the pilot injector from the FDS.



6. Remove the two mounting screws of the FDS.

Parts Replacement Guide

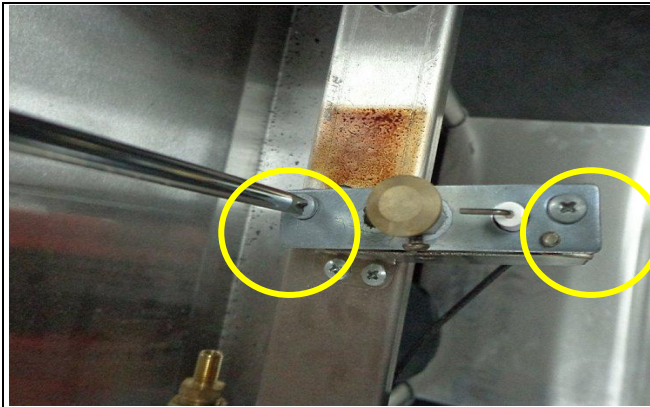
E. REPLACING THE FLAME DEVICE SYSTEM (FDS) – cont'd.



7. Pull-out the FDS and replace it, as necessary.



8. Re-install the old pilot injector to the new FDS or replace the pilot injector with a new one, if you deemed it necessary. Use 10mm spanner. It is also recommended to clean the pilot injector by blowing in air before reinstalling it.



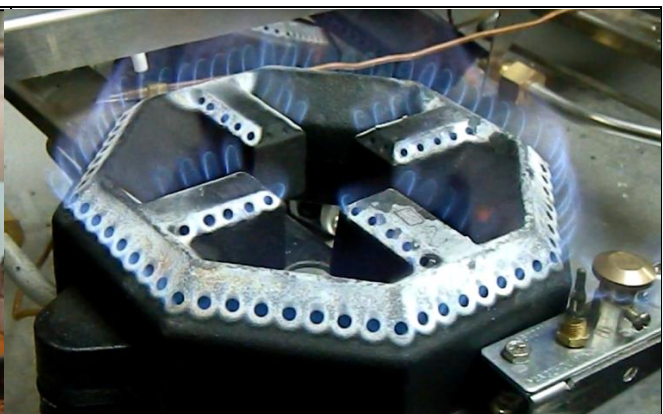
9. Re-install the old pilot injector to the new FDS or replace the pilot injector with a new one, if you deemed it necessary. Use 10mm spanner. It is also recommended to clean the pilot injector by blowing in air before reinstalling it.



10. Re-install the FDS and its mounting screws.



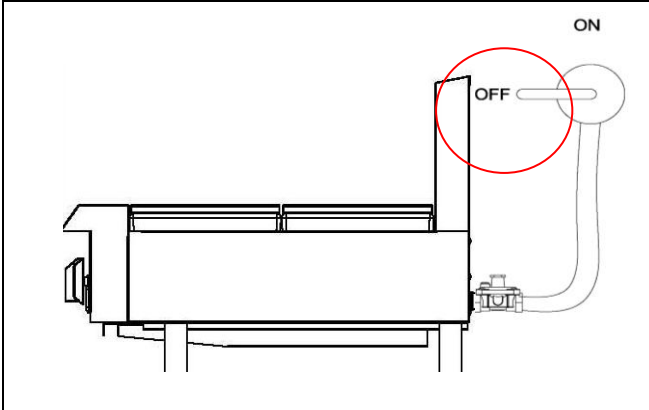
11. Reconnect the new thermocouple to the safety gas valve. Use 9mm spanner. Tighten the thermocouple up to 2.5N-m of torque. Tightening too much can cause the thermocouple to break and fail.



12. Turn on the isolation gas valve and check for gas leak. Light up the burner and check if it has blue flame. For any abnormality found, follow the troubleshooting guide.

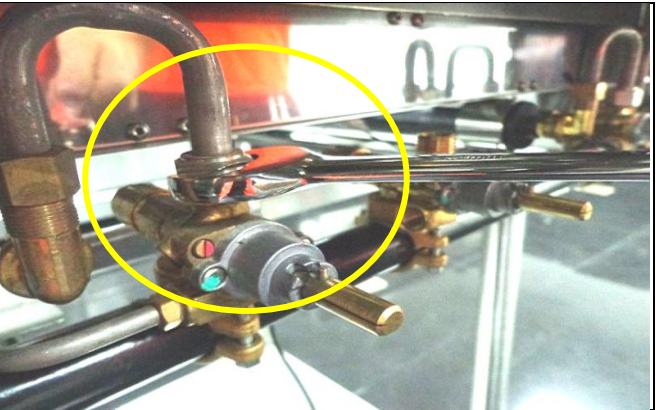
Parts Replacement Guide

F. REPLACING THE SAFETY GAS VALVE



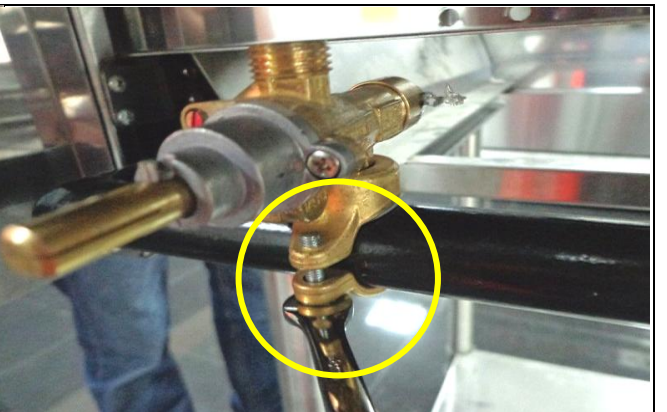
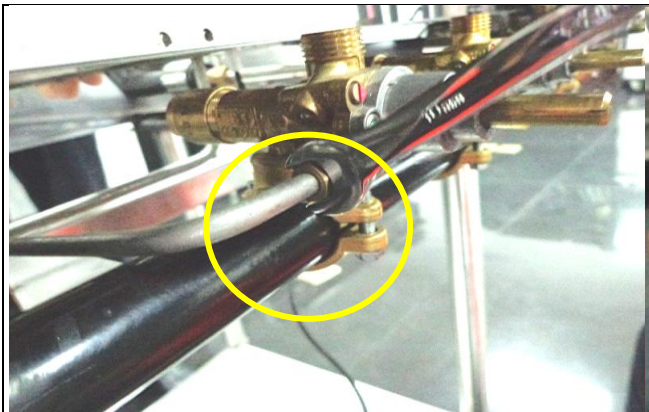
1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

2. Remove the front control panel.



3. Disconnect the thermocouple from the safety gas valve. Use 9mm spanner.

4. Disconnect the main pipe assembly from the safety gas valve. Use 19mm spanner.



5. Disconnect the pilot pipe assembly from the safety gas valve. Use 10mm spanner.

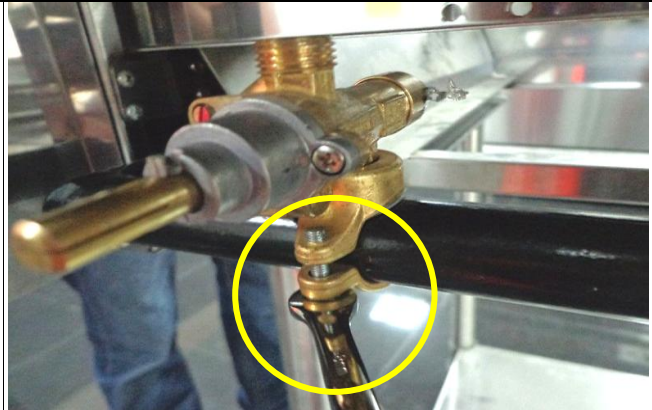
6. Remove the two mounting bolts of the safety gas valve. Use 10mm spanner.

Parts Replacement Guide

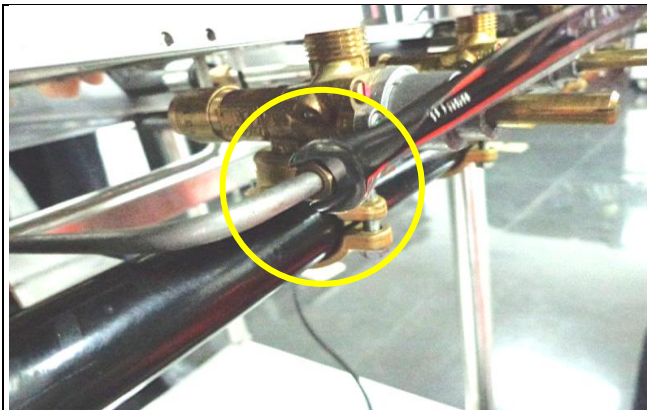
F. REPLACING THE SAFETY GAS VALVE – cont'd.



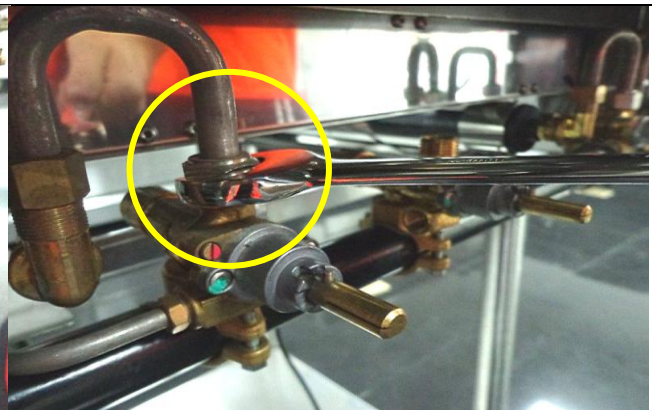
7. Remove the safety gas valve from the main gas pipe manifold and replace as necessary.



8. Install the new safety gas valve to the main gas pipe manifold. Use 10mm spanner to install the mounting bolts.



9. Reconnect the pilot pipe assembly to the safety gas valve. Use 10mm spanner.



10. Reconnect the main burner pipe assembly to the safety gas valve. Use 19mm spanner.



11. Reconnect the thermocouple to the safety gas valve. Use 9mm spanner. Tighten the thermocouple up to 2.5N-m of torque. Tightening too much can cause the thermocouple to break and fail.

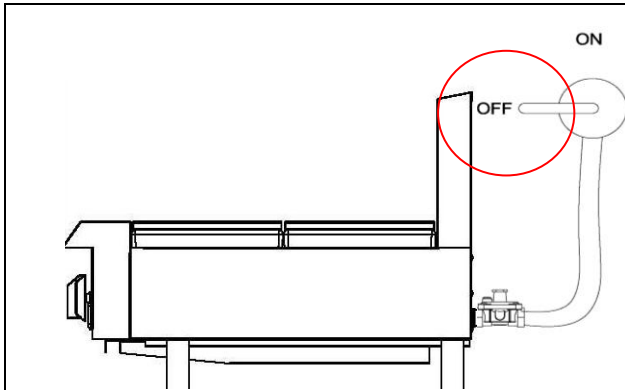


12. Turn ON the isolation valve and light up the burner and check for leaks on the fitting connections. Check also if it has blue flame. For any abnormality found, follow the troubleshooting guide.

Parts Replacement Guide

B. REPLACING AND SETTING THE LOW FLAME ADJUSTMENT SCREW

NOTE: THE LOW FLAME ADJUSTMENT SCREW IS FACTORY SET AND NOT INTENDED FOR ANY ADJUSTMENT. HOWEVER, TO GIVE THE CUSTOMER A WIDER RANGE OF LOW FLAME SETTING, THE LOW FLAME ADJUSTMENT SCREW CAN BE CHANGED AND SET UPON CUSTOMER'S REQUEST.



1. Turn-OFF the pilot. Shut-OFF the main isolation valve. Follow Lock-Out/Tag-Out procedure. Allow the equipment to cool down first before starting dis-assembly, to prevent injury.

2. Remove the front control panel.



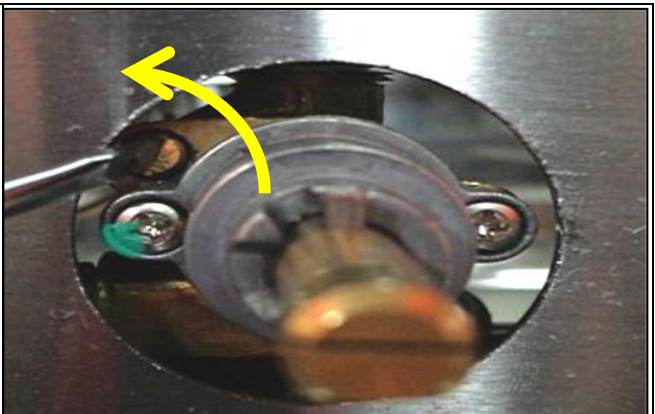
3. Remove the low flame adjustment screw from the safety gas valve. Use a small screwdriver, and turn counter-clockwise, then use a pair of pliers to pull it out from the gas valve.



4. Replace the low flame adjustment screw with a $\text{\O}0.7\text{mm}$ hole for a wider range of low flame adjustment. Make sure that the adjustment screw is hand tight after installation.



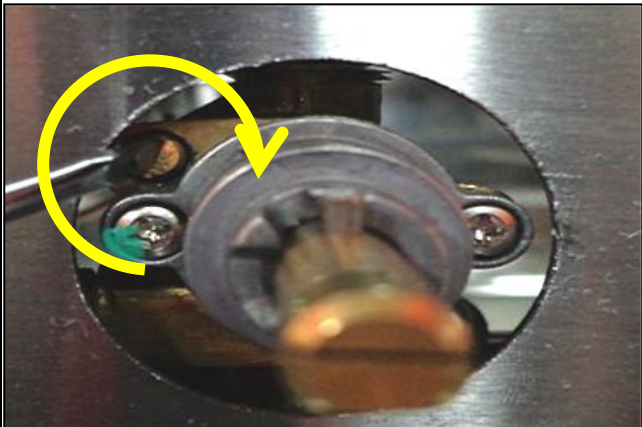
5. Return the control panel. Turn ON the isolation gas valve and check for gas leaks on the part replaced.



6. **When LPG is used, the installed low flame adjustment screw must be $\text{\O}0.7\text{mm}$. From the FULLY closed position, open the adjustment screw by about 90° , by turning it counterclockwise to open.**

Parts Replacement Guide

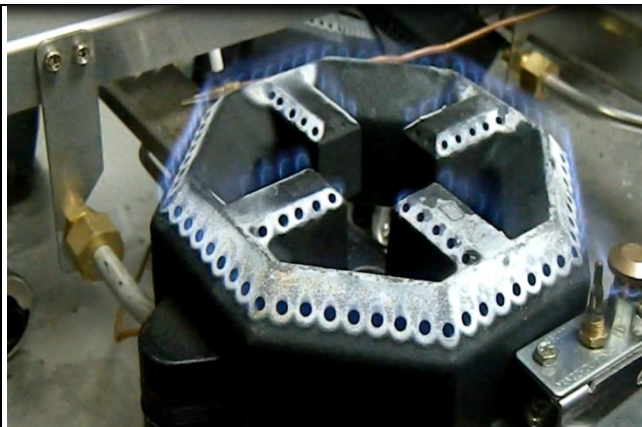
G. REPLACING AND SETTING THE LOW FLAME ADJUSTMENT SCREW



7. **When Nat Gas is used, the installed low flame adjustment screw must be $\varnothing 1.6\text{mm}$. The adjustment screw must be FULLY closed. Turn the screw clockwise to close.**



8. Put back the knob. Turn ON the burner and set the knob to low flame.



9. Remove the knob and adjust the screw to desired low flame height. Turn the screw clockwise to decrease the flame.



10. Turn the screw counter-clockwise to increase the flame.



11. Put back the knob, trivets etc., and the low flame is set.

thor

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