

# **TECHNICAL INFORMATION MasterChef Collection Cooktops**



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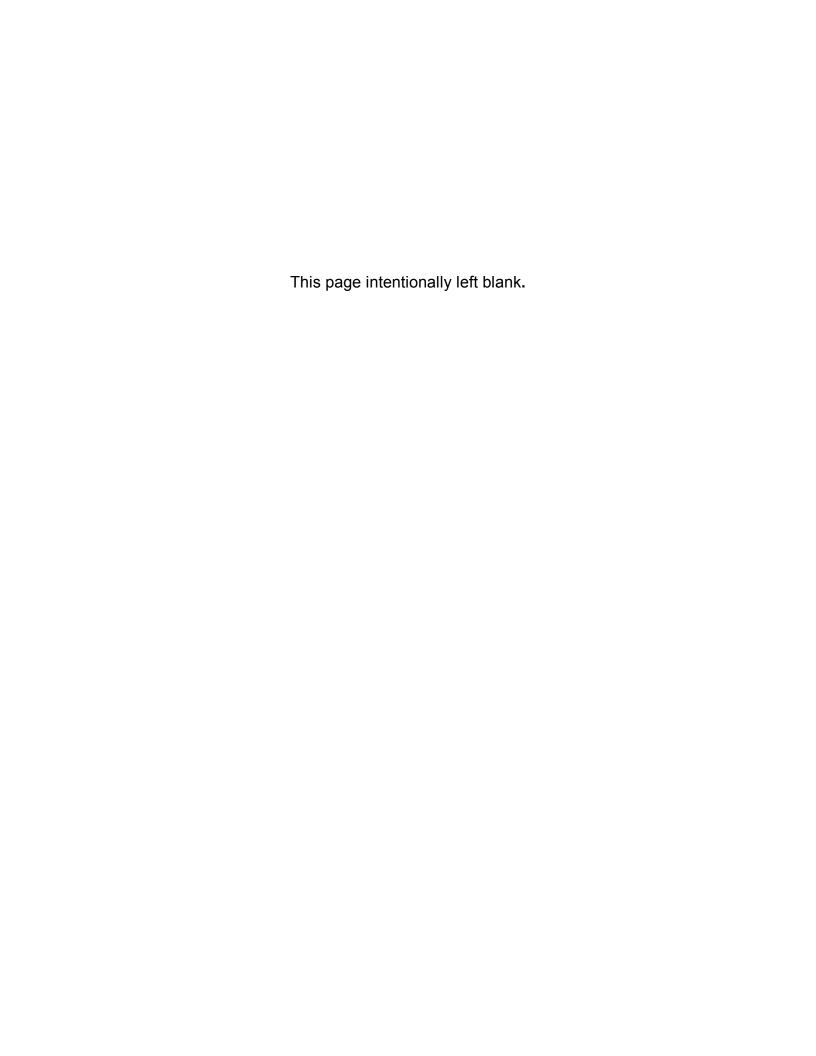
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# 1.0 Construction and Design

# 1.1 Summary of MasterChef Cooktops

Model Number	Description of Cooktop	Electrical Data	Burners (Max BTU or Watts)
KM342	5 Burner Gas  Available in Black, White & Stainless Steel	120VAC	- Two 9000 BTU Burners - One 12000 BTU High Speed Burner - Two 15300 BTU Double Ring Superburners
KM344	6 Burner Gas  Available in Black, White & Stainless Steel	120VAC	- Two 90000 BTU Burners - Two 12000 BTU High Speed Burners - One 15300 Double Ring Superburner - One 16500 Double Ring Superburner
KM421	Electric - 24" Four Burner w/ Black Ceran Finish	240VAC (30 Amp)	- Two 1200 Watt Burners - Two 1800 Watt Burners
KM424	Electric - 30" Four Burner / Seven Cooking Zones w/ Black Ceran Finish	240VAC (40 Amp)	- One 1200 Watt Burner - One Variable 1800 Watt Burner - One Variable 2400 Watt Burner - One Variable 2400 Watt Oval Burner
KM427	Electric - 36" Five Burner / Eight Cooking Zones w/ Black Ceran Finish	240VAC (50 Amp)	- Two 1200 Watt Burners - One Variable 1800 Watt Burner - One Variable 2500 Watt Square Burner - One Variable 2500 Watt Burner
KM452	Electric - 42" Six Burner / Nine Cooking Zones w/ Black Ceran Finish	240VAC (50 Amp)	- Front Left : 1100/2500 Watts (variable) - Rear Left and Right: 1200 Watts / each - Rear Middle: 1800 Watts / each, 4400 with extended area on - Front Right: 900/2400 Watts (variable)

Table 1-1: Summary of MasterChef Collection Cooktops



# 1.2 Appliance Overview

Products are listed in numeric order by model number.

# 1.2.1 KM342 - Overview

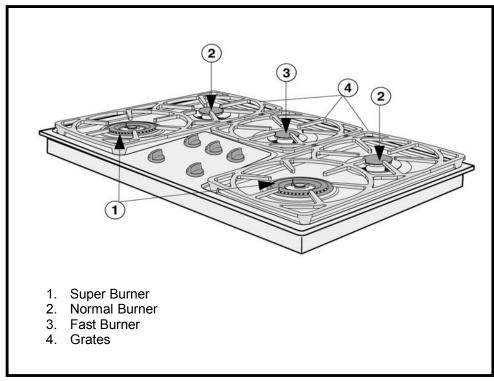


Figure 1-1: KM342 Overview



## 1.2.2 KM344 – Overview

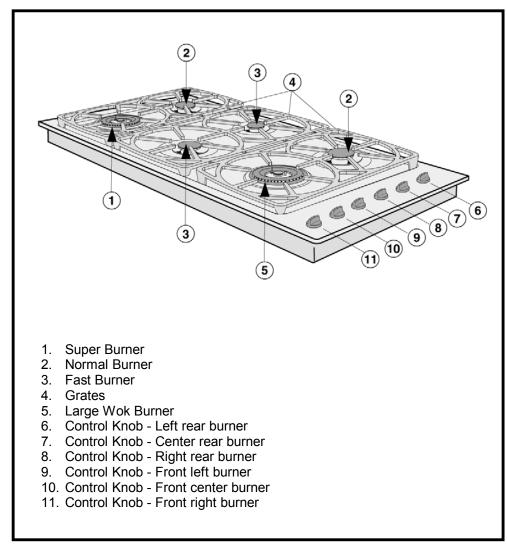


Figure 1-2: KM344 Overview



# 1.2.3 KM421 - Overview

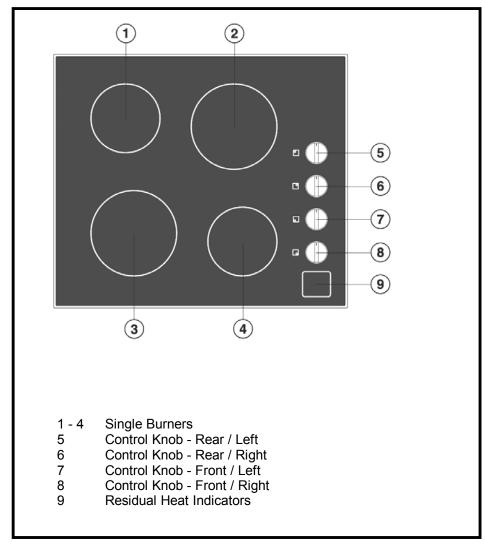


Figure 1-3: KM421 Overview



# 1.2.4 KM424 - Overview

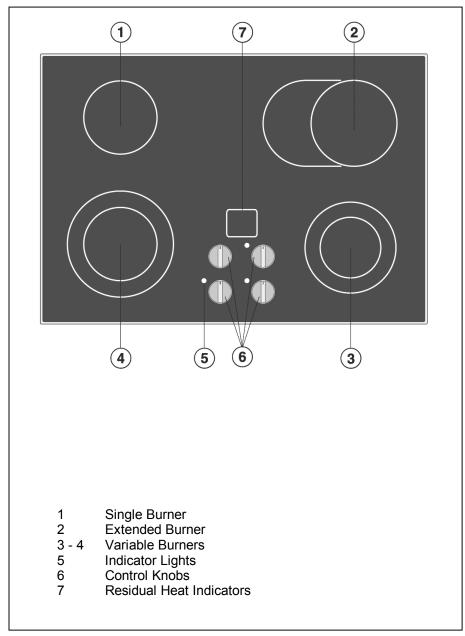


Figure 1-4: KM424 Overview



# 1.2.5 KM427 - Overview

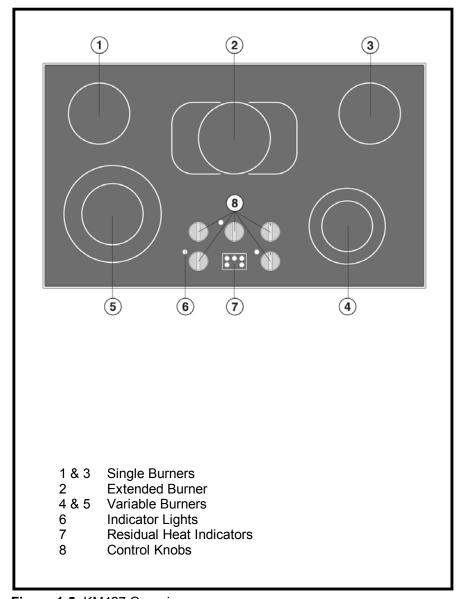


Figure 1-5: KM427 Overview



# 1.2.6 KM452 - Overview

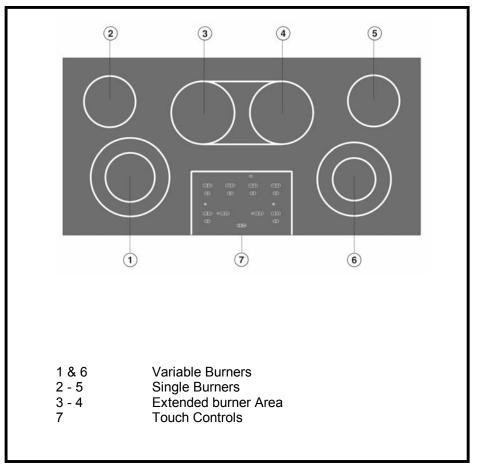


Figure 1-6: KM452 Overview



# 1.2.6.1 KM452 Touchpad Controls

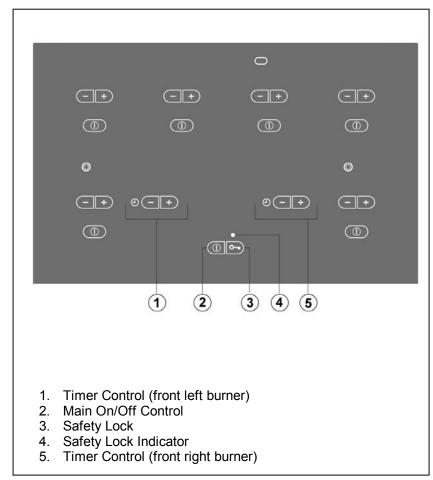


Figure 1-7: KM452 Controls

# 2.0 Installation

For information on appliance information refer to the Miele Installation Manual and the product specific Operating Manual.

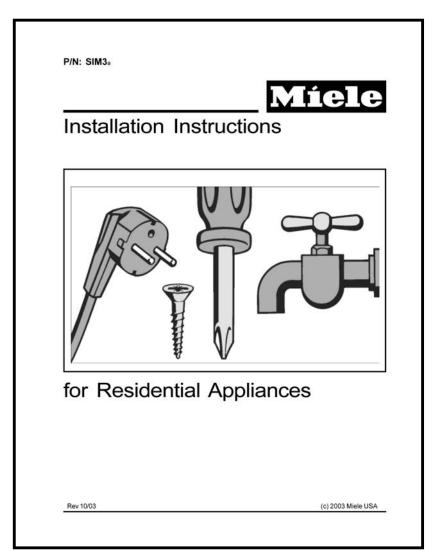


Figure 2-1: Miele Installation Manual



# 3.0 Commission and Operation

## 3.1 KM342 and KM 344 General Operating Information

#### 3.1.1 Fast-Ignition-System

The gas cooktops are equipped with a Fast-Ignition-System incorporating the following features:

- The control knob can be released once it is turned to the largest flame symbol.
- If the flame goes out during use, (i.e. from a draft) the burner will automatically relight. If the re-ignition process is unsuccessful, the gas supply will automatically be shut off.

#### 3.1.2 Operating a Burner

#### To Light a Burner

Press down and turn the corresponding control knob counterclockwise to the largest flame symbol and release the knob. The igniter will click and ignite the gas.

The ignition process takes about 8 – 10 seconds. The flame should light within 4 seconds. The Fast-Ignition-System will click a few seconds after the flame is lit to ensure the safety system was activated.

#### To Adjust the Setting:

Turn the knob without pressing down. Adjustment should be performed from the 9 o'clock position down. Failure to do so may result in the ignition being activated between the 9 and 12 o'clock positions.

#### To Extinguish a Burner

Turn the control knob clockwise to the "•" position.



# 3.2 KM421, KM424 & KM 427 General Operating Information

#### 3.2.1 Operating a Single Burner

A burner <u>without the symbol</u> onext to the control knob is turned on by pushing the control knob down and turning it clockwise or counter-clockwise to the desired setting.

To adjust the setting, turn the knob without pressing down. The burner is turned off by turning the control knob clockwise or counterclockwise to "0".

#### 3.2.2 Operating a Variable / Extended Burner

If a burner has the symbol  $\bigcirc$  next to the control knob, you can switch on an additional outer or extended heating circle.

#### To Turn On a Burner:

Push down and turn the control knob:

- Clockwise to the desired setting turns on one heating circle.
- Counter-clockwise to the desired setting to turn on both heating circles.

#### Note

If both heating circles are turned on an indicator light will come on left of the control knob.

#### To Adjust the Setting:

Turn the knob without pressing down.

#### To Turn the Burner Off:

Turn the knob without pressing down to the "0" position.

# 3.3 KM452 - General Operating Information

#### 3.3.1 Overview of Controls

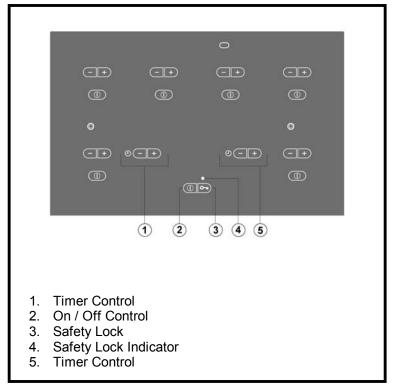


Figure 3-1: KM452 Controls

#### 3.3.2 Touch Controls

The KM452 uses electronic touch controls activated by a finger. There is a separate touch control for each burner. A tone sounds to indicate that contact has been made with a control. Keep the control area clean.

#### Note

To prevent damage to the electronics never place hot pans on the control panel.



#### 3.3.3 Turning On a Burner

Once the cooktop is turned on, touch the  $\bigcirc$  "ON/OFF" control of the burner you wish to use. A  $\mathcal{D}$  will appear in the burner display.

Select the desired setting between 1 and 12 by touching the - or + touch controls.

#### Note

Ensure only one control is touched at a time or the cooktop may not respond.

When the cooktop is turned on the auto heat option can be selected by performing the following:

- To cook using "auto heat":
   Press the + control
- To Cook without "auto heat":
   Press the control

## 3.3.4 Auto Heat Setting

When auto heat is activated, the selected burner turns on automatically to the highest setting to bring the burner up to temperature. The burner then changes to the cooking setting selected by the user. The "heat-up" time depends on the cooking setting chosen.

#### 3.3.5 Touch Controls – Automatic Reset

The cooktop automatically resets:

- after a power failure
- in response to changing light conditions see note below.

#### Note

Should the cooktop be installed in an environment that is brightly lit, or completely shaded; the touch controls may not function properly.

#### 3.3.6 Touch Controls – Manual Reset

- 1. Shut off power to the appliance (i.e. turn circuit breaker off).
- 2. Wait at least one (1) minute.
- 3. Restore the power to the appliance.

#### 3.3.7 Residual heat indicator

After the burners or the cooktop have been turned off, the residual heat of the burners which may still be hot are indicated by an <u>in the display</u>.

The  $\Xi$  in the display goes out when the burners are safe to touch.

#### **Service Tip**

If the power supplied to the appliance is interrupted (i.e. breaker shut off, power outage...) the residual heat indicators will flash when power is restored.



#### 3.3.8 Safety Lock

The Safety Lock can be activated; to prevent children or pets from turning on the burners or changing the settings. The safety lock can be activated as follows:

- If activated when the appliance is off then the appliance cannot be turned on
- If activated while the appliance is in use, then: the safety lock is activated when the
  - The settings for the burners and for the timer cannot be altered.
  - The burners and cooktop can still be turned off but once turned off cannot be turned on again.

#### To activate the safety lock:

Touch the O— until the indicator lights. (The indicator will go out after a short period of time).

If you touch the control for the safety lock or try to select a setting the light will come on again to show that the child safety lock has been activated.

#### To deactivate the safety lock:

Touch the o→ until the indicator goes out.

#### Note

If the power supplied to the appliance is interrupted (i.e. breaker shut off, power outage...) the safety lock will be deactivated.

# 4.0 Description of Function

## 4.1 Electric Cooktops – General Information

#### 4.1.1 Temperature Limiters – Electric Cooktops

Each burner is equipped with a temperature limiter that turns off the heating element(s) before the ceramic surface become too hot. Once the surface cools to a safe temperature, the heating element(s) automatically turn back on.

The overheating protection may activated when:

- Turning on a burner without putting a pan on it.
- Heating an empty pan.
- Pan / pot is not sitting evenly on the burner.
- The pan is not conducting heat properly.

If the heating elements cycle on and off, even at the highest setting, the overheat protection has been activated.

### 4.1.2 KM452 Safety Cut-Out - Controls are Covered

The cooktop will turn off automatically if any of the touch controls are covered for more than 10 seconds, for example by finger contact, food boiling over, or by an object such as an oven mitt or towel.

When the cooktop turns itself off a tone will sound every 30 seconds (for a maximum of 10 minutes) and an *F* will flash in the display of the touch control which was covered.



## 4.1.3 KM 452 Safety Cut-Out Feature

The KM452 is equipped with a safety cut-out feature. In the event one of the burners is left on for an unusually long period of time without any control adjustments; the cooktop automatically turns off and illuminates the residual heat indicator. Refer to table 4-1 for specific operating durations.

Power setting	Maximum operating hours
1	10
2	5
3	5
4	4
5	4
6	4
7	3
8	3
9	2
10	2
11	2
12	1

Table 4-1: Safety Cut-Out Setting and Operating Hours

### 4.1.4 KM452 Touch Controls - Resetting

#### 4.1.4.1 Automatic Reset

The cooktop automatically resets:

- after a power failure
- in response to changing light conditions see note below.

#### Note

If the cooktop be installed in an environment that is brightly lit, or completely shaded; the touch controls may not function properly.

#### 4.1.4.2 Manual Reset

- 1. Shut off power to the appliance (i.e. turn circuit breaker off).
- 2. Wait at least one (1) minute.
- 3. Restore the power to the appliance.



## 4.2 Electric Cooktops - Components

#### 4.2.1 Regulator

On electric burner Combi-Sets user adjustable Regulators are used to control the power to the Heater Element. The power is regulated by the user via the adjustable control knobs.

On the KM452 the regulator system is integrated into the electronic.

#### 4.2.2 Temperature Monitor

The Temperature Monitor; mounted (horizontally) across each Heater Element is responsible for monitoring the temperature at the Heater Element. Signals are provided to the Regulator to control the power to the Heater Element.

#### 4.2.3 Operational Indicator

The Operational Indicator illuminates when the appliance is switched on for usage.

#### 4.2.4 Residual Heat Indicator(s)

The Residual Heat Indicator illuminates when the appliance reaches a specific temperature alerting the user the cooktop surface is hot. Even if the appliance is switched off; the indicator(s) remains illuminated until the appliance cools down.

#### 4.2.5 Heater Elements

The Heater Elements are powered by 240VAC. The element assemblies are designed to disperse heat only toward the cooking surfaces. If the appliance is converted to operate at a lower voltage (i.e. 208 VAC) a decal indicating the same, should be affixed to the appliance near the data plate. Under no circumstances should a lower voltage unit be connected to higher voltages.

## 4.3 Gas Cooktops

# **4.3.1** Operational Overview of Ignition / Re-Ignition System Refer to figure 4-1

When the user turns on a burner the following actions occur:

- The Mechanical Gas Regulator (Item 2) opens when the control knob is pressed down.
- The Ignition Switch (Item 1) is closed when the control knob is turned to the 9 o'clock position. This allows power to be provided to Electronic (Item 7) and the Transformer (Item 8).

The Electronic (Item 7) provides approximately 8 millivolts to the activate the Thermocouple Solenoid (Item 3) for approximately 6-10 seconds to allow gas flow to the burner.

At the same time, the Transformer (Item 8) sends voltage to the Ignition Electrodes (Item 4) to ignite the gas at the Burner (Item 5).

Once the Burner (Item 5) is lit, the Thermocouple (Item 6) is heated and produces approximately 6-8 millivolts. The power from the Thermocouple (Item 6) is monitored by the Electronic (Item 7) and keeps the Thermocouple Solenoid (Item 3) open permitting gas flow to the Burner (Item 5).

Should the Burner (Item 5) be extinguished (example: by wind) the Thermocouple (Item 6) begins to cool down and the voltage being produced drops. The Electronic (Item 7) detects the drop in power and triggers the Transformer (Item 8) to spark the Ignition Electrodes (Item 4) to re-ignite the gas. The Thermocouple (Item 6) heats up producing 6-8 millivolts and the appliance resumes regular operation.

In the event that the gas does not re-ignite (i.e. a defective or contaminated Ignition Electrode (Item 4) the Thermocouple (Item 6) continues cooling and dropping in power. Eventually the drop in power can no longer keep the Thermocouple Solenoid (Item 3) energized; this shuts off the gas supply to the burner (regardless of the position of the Mechanical Regulator) (Item 2).



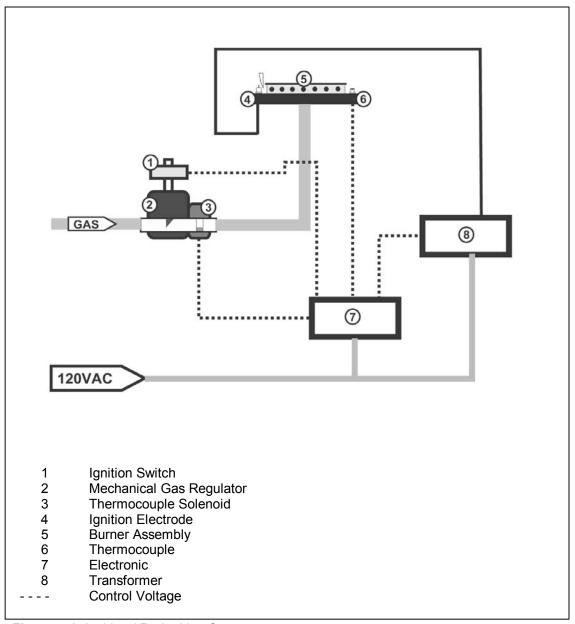


Figure 4-1: Ignition / Re-Ignition System



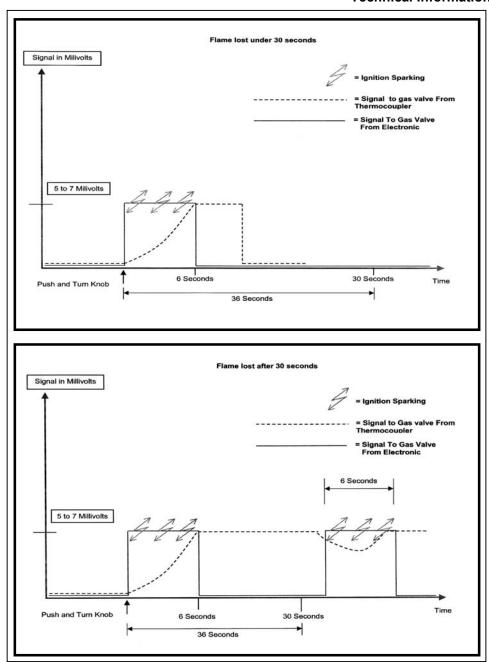


Figure 4-2: Re-Ignition / Control System Data



### 4.3.2 Burner Gas Regulators

Each burner is user controlled via a mechanical Gas Regulator. Each Regulator contains a connection port for the Thermocouple Solenoid, that works with the Ignition / Re-Ignition System (see 4.3.1).

Even if the user control is placed into the fully open position no gas can flow from the Regulator unless the Thermocouple Solenoid is energized (in the open position).

#### 4.3.3 Connecting to LP Gas

The KM342 and KM344 is ordered specific for the type of gas supply being used - field conversion is not possible.

#### 4.3.4 Burner Assemblies

### 4.3.4.1 Normal and Fast Burner Assembly

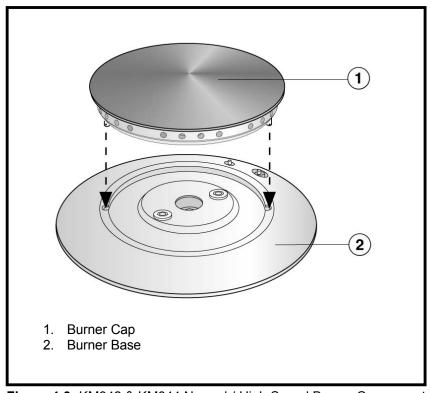


Figure 4-3: KM342 & KM344 Normal / High Speed Burner Components

## 4.3.4.2 Super Burner Assembly

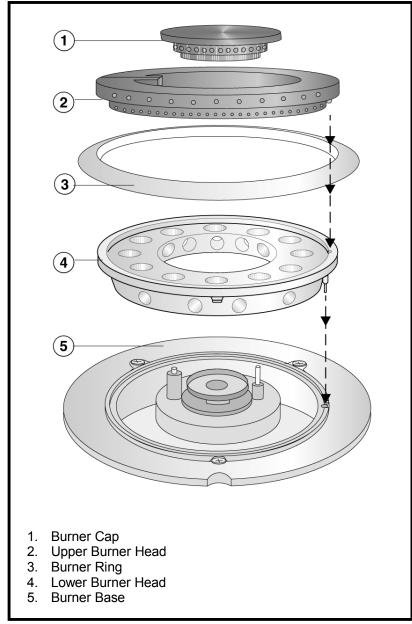


Figure 4-4: KM342 & KM344 Wok Burner Components



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## 5.0 Service and Maintenance

### Warning!

Service and repair work should only be performed by qualified personnel; in accordance with applicable regulations.

The appliance must be disconnected from the main power supply (i.e. unplugged, circuit breaker shut off) <u>before</u> any service work is performed.

The gas supply to the appliance must be shut off <u>before</u> performing any service on the KM342 and KM344.

After service all gas connections should be checked to ensure they do not leak. Repair as necessary before any operation.

Where applicable by law, gas connections must be performed by qualified / licensed personnel.



### 5.1 Removing Cooktop for Service

Should the internal components of the cooktop require service, the Cooktop must be removed.

#### **Removal Procedure**

Refer to Figure 5-1.

- 1. Shut off the electrical supply to the appliance (i.e. shut off the circuit breaker). Turn off the gas supply (if applicable)
- 2. Disconnect the electrical supply. Disconnect the gas (if applicable).
- 3. Access the underside of the appliance.
- 4. Press inward on the retaining clips (1) while pushing the appliance upward (2)

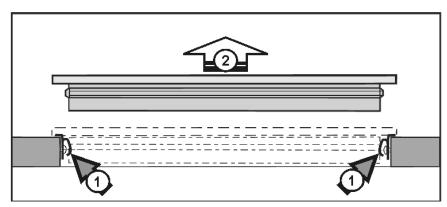


Figure 5-1: Removing the Cooktop for Service

#### Note:

During re-installation all gas connections <u>must</u> be leaked tested before reconnecting the electric supply.

# 6.0 Fault Diagnosis

### 6.0.1 Fault Diagnosis - Gas

### Flame Not Igniting

- Check for:
- Dirty burner head parts / Parts not seated correctly
- Dirty Ignition Electrode / Faulty Ignition Electrode
- Appliance is damp (spark current grounding within the unit)
- Faulty Transformer
- Faulty Ignition Switch
- Incorrect type of gas supply.

### The Flame Goes Out When Using A Low Setting

Dirty burner head parts

#### **Uneven / Flickering Flame**

- Dirty burner head parts / parts not seated correctly
- Gas pressure not in specification
- Faulty Gas Regulator

#### **Unusual Color Flames**

- Dirty burner head parts
- Contaminated Gas Supply

#### Flame not visible around the entire burner or uneven flames

- Parts not seated correctly
- Dirty Burner Components carefully inspect all holes in burner ring for contamination (i.e. food residues)

### Flame Continuously Goes Out about 30 seconds after Igniting

- Dirty burner head parts. / Parts not seated correctly
- Dirty, damaged or defective Thermocouple
- Loose connections with the Thermocouple circuit



### 6.0.2 Fault Diagnosis - Electric

### **Appliance Inoperative – New Installation**

- Ensure appliance is correctly connected to the electrical supply.
- Ensure the electric supply matches the requirements of the appliance.

## is Displayed While the Cooktop is Off (KM352)

 The Residual Heat Indicator is indicating that a burner is still hot. Allow the Appliance to cool.

# F is Displayed While the Cooktop is Off (KM352)

The cooktop controls Controls are Covered The cooktop will turn off automatically if any of the touch controls are covered for more than 10 seconds, for example by finger contact, food boiling over, or by an object such as an oven mitt or towel.

When the cooktop turns itself off a tone will sound every 30 seconds (for a maximum of 10 minutes) and an *F* will flash in the display of the touch control which was covered. 4.1.2

#### KM452 - Cannot be operated

After intensive cleaning, the appliance cannot be operated for a period of 3 to 4 hours. After this time has elapsed <u>or</u> after switching the supply power off the appliance can be operated without any limitations.

Numerous movements during may be detected by the electronic during extensive cleaning. This excessive data can cause an inoperative condition for about 3 to 4 hours.

