SERVICE MANUAL

COOKING

© ELECTROLUX HOME PRODUCTS
Customer Care - EMEA
Training and Operations Support
Technical Support

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EN

Built-in Hobs

INDUCTION HOB
“HALFKITTEN”

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1. INTRODUCTION

1.1 PURPOSE OF THIS MANUAL

The purpose of this Manual is to provide information on “Induction Hob - HalfKitten”

1.2 WARNINGS

All work with open appliances must be done with the mains supply disconnected.

Work on electrical equipment should only be carried out by qualified personnel.

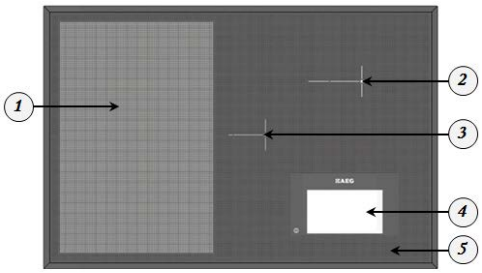
Before working on a device, check the efficiency of the system casing using appropriate equipment. As an example, refer to the indications described / illustrated in the portal Electrolux Learning Gateway (**http://electrolux.edvantage.net**).

After the work, carry out electrical safety tests and ensure that the all safety devices are working properly.

In the case of manipulation / replacement of the PCB, use the ESD kit (Code 405 50 63-95/4) to prevent electrostatic discharge damage the circuit board see SB No. 599 72 08-09

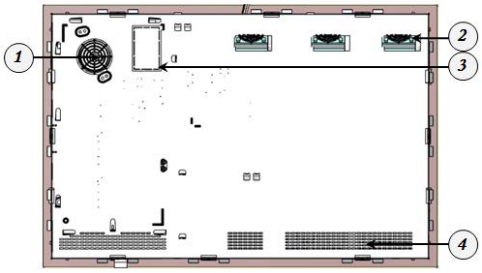
2. DESCRIPTION OF PRODUCT

Induction cooktop with flex cooking zone (*Half Kitten*) on the left side and 2 standard zones 145mm and 210mm on the right side. The User interface is PCIII for hobs with full touch display. The glass ceramic is a transparent back printed glass.



Top View

1. Flex zone 300x460mm with 20 coils 3600W
2. 210mm Coil Cheetah 2300/3600W
3. 145mm Coil Cheetah 1400/2500W
4. Interface PC3, 7 Inch + Full touch
5. Back Printed transparent glass



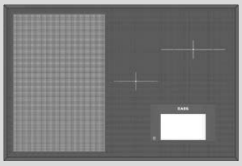
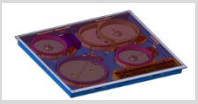
Bottom View

1. Fan Cheetah
2. 3 Ventilators for Kitten Zones
3. Mains terminal in cheetah housing
4. Air Outlet

Cut section

1. Ventilators / mains cable (*The 3 Vantilators in the rear are digging appromatly 1cm through the protection box*)
2. Protection box height 57mm

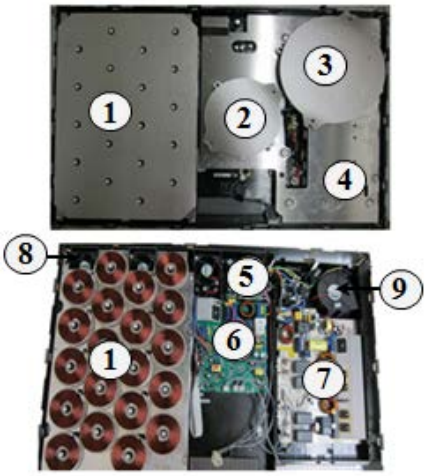
2.1 PRODUCT CONFIGURATION

Brands	AEG Electrolux
Size: 80cm Cut out: 750 x 490mm	
Height with power line : 69mm Standby : 2014 < 0,5W Connection : 1-Phase 32A : 2-Phases 16A Voltage : 220V-240V / 50-60Hz Power total : 7,4kW No Flex Power Management	
Project “Promise” Hob without screws	
User interface Project “PCIII”	
Induction module for standard cooking zones Project “Cheetah”	
New Induction module for HalfKitten cooking zone (POB)	

2.2 LAYOUT OF HOB

Glass ceramic with Interface from Back side

1. Back coated transparent glass
2. Interface PC3 7 Inch attached to glass



Chassis of Induction hob without glass

1. Half Kitten power module with 20coils
2. Induction zone 145mm Cheetah
3. Induction zone 210mm Cheetah
4. Coil carrier Cheetah
5. Relay Power Board
6. Control electronics
7. Cheetah Power board
8. Halfkitten Ventilators
9. Cheetah Fan

2.3 USER INTERFACE “PCIII”

The PCIII hobs system is equipped with TFT Display, ITO foil and Touch spring.

TFT Display : The 7’’ inch Amorphous-TFT-LCD (Thin Film Transistor Liquid Crystal Display) module. This module is composed of a 7 inch TFT-LCD panel, FPC, a backlight unit and works with Linux OS. This 7’’ TFT-LCD module is designed for electronic products which require high quality flat panel displays.

ITO Foil **:** The ITO foil provides the touchscreen functionality.

Touch Spring **:** Spring Contact to the glass ceramic used as On/Off Button

The user interface is supplied via the Relay Power Board with (5VDC) voltage.

1. ITO Foil
2. PCIII Plastic frame

1. MACS Bus 3-pol.
2. 7-inch Touch Display
3. Button On-/Off
4. Bus voltage 5VDC Relay 5-pol.

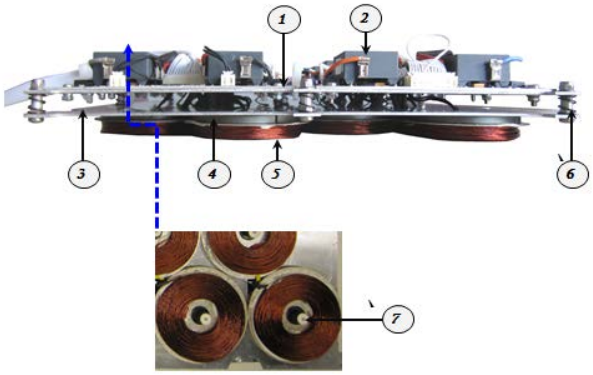
1. Condensing film

The user interface is configured with firmware via a USB (small) connection. (approx.25min.)

Spare part on stock is configured

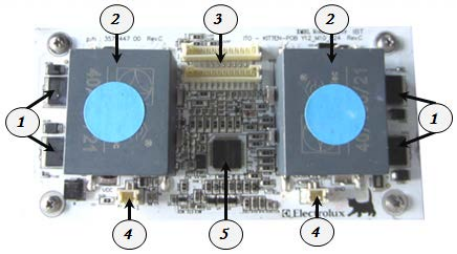
2.4 STRUCTURE OF HALFKITTEN

- Induction modules are fixed on the aluminium-carrier by heat transfer paste
- Ferrite and copper coil are glued on the aluminium-carrier



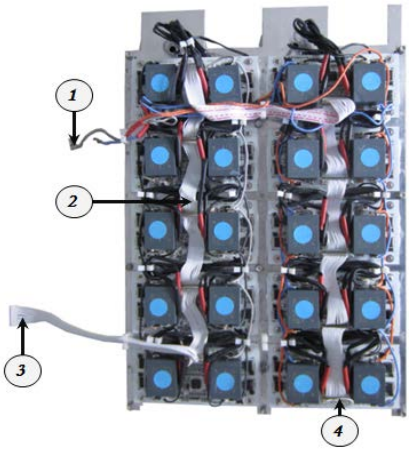
1. Lower Aluminium - Carrier
2. Induction module
3. Upper Aluminium -Carrier
4. Ferrite
5. Copper Coil
6. Springs for Pressure
7. Temperature sensor

2.4.1 INDUCTION MODULE HALFKITTEN POWER BOARD (POB)



1. 2 IGBT‘s for each cooking zone
2. Capacitor Induction module
3. 12-Pol Cable Connector
4. Temperature sensor
5. Processor

- 10 induction modules are connected in parallel for simultaneous data transfer.
- In case of bad cooling performance, the output of the module is decreased

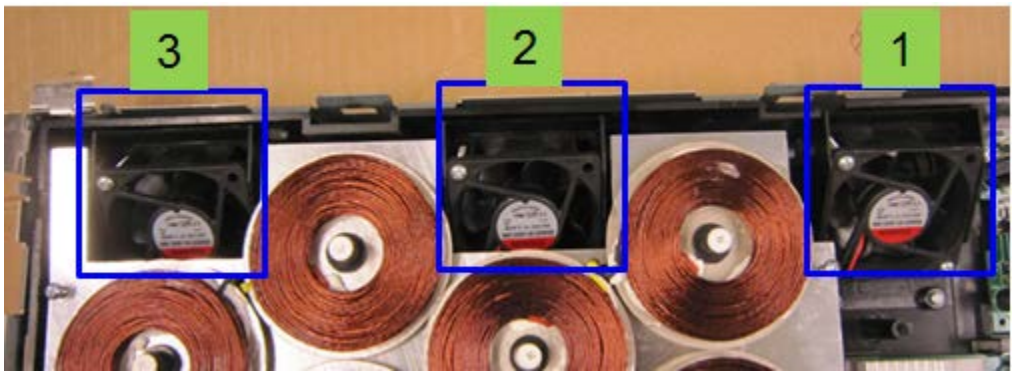


1. Power supply additional electronic
2. Flat cable 12-pol.Module to module
3. Flat cable 12-pol.Control voltage from the Control Electronic Board
4. Jumper

Temperature IGBT Measured (°C)	Estimated performance (%)
< 81	100
81	80
82	60
83	50
84	40
85	0

2.5 HALFKITTEN VENTILATORS

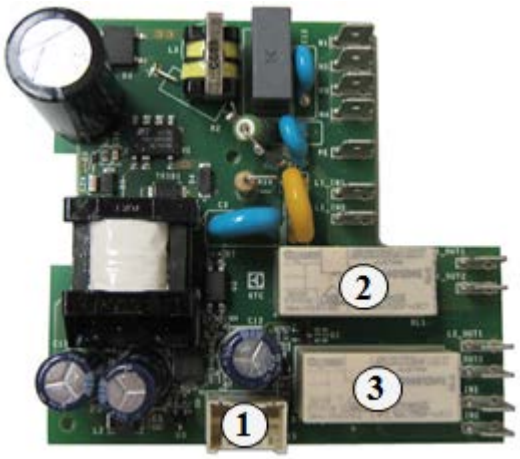
The HalfKitten is cooled by three ventilators. For an optimal cooling and noise performance, the ventilators are controlled according to the power levels.



2.6 RELAY POWER BOARD

The Relay Electronic Board is the power supply for the induction modules Cheetah, HalfKitten and the user interface PC3

1. Relay for HalfKitten
2. Relay for Cheetah
3. Power supply for PC3 5V DC Bus voltage



Power supply for control electronic

GND

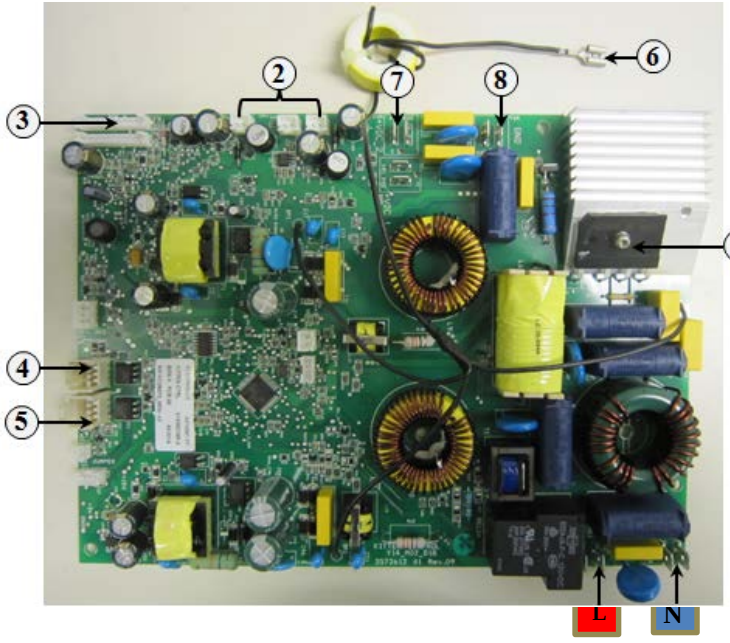
ower supply

L For Control Electronic

L For Cheetah

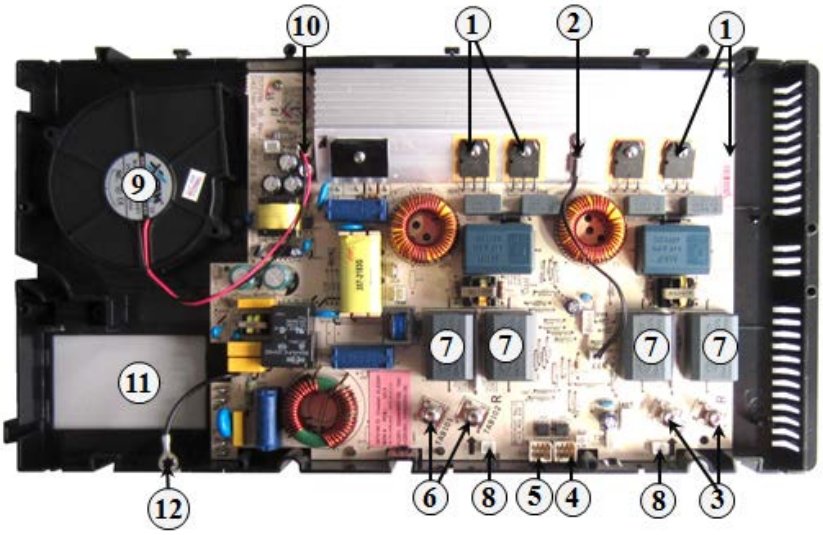
2.7 CONTROL ELECTRONIC BOARD

The Control Electronic controls all induction modules of the induction hob. Max power 3.6kw



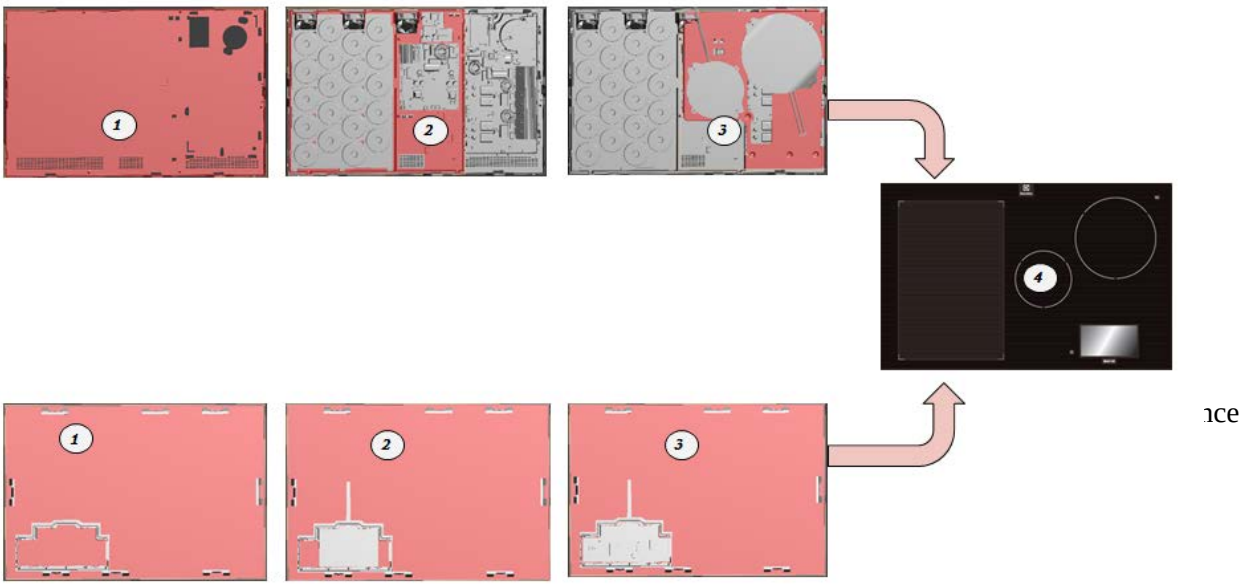
1. Rectifier creates +/- DC voltage for induction module Relay for Cheetah
2. Three ventilators 12V DC
3. Flat cable 12-pol. control voltage for HalfKitten
4. MACS Bus to PC3
5. MACS Bus to Cheetah
6. EMC
7. Power supply DC for HalfKitten Induction Module
8. Ground Connect for Halfkitten

2.8 INDUCTION MODULE CHEETAH



1. 2 IGBT‘s for each cooking zone
2. Temperature sensor
3. Connection for 145mm Coil
4. MACS Bus to control electronic
5. MACS Bus to SideKick
6. Connection for 210mm Coil
7. Capacitor 0,68uF Standard, 0,76uF High Power
8. Connection for Coil Sensor
9. Cheetah Fan
10. Cheetah fan connection
11. Slot for Main Cables
12. EMC

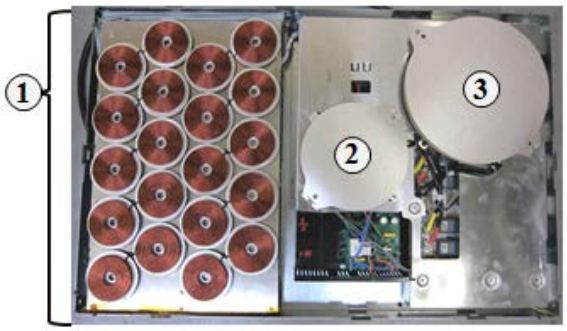
2.9 HOB ASSEMBLY SEQUENCE



2.10 HALFKITTEN AESTHETICS

2.11 TECHNICAL DETAILS

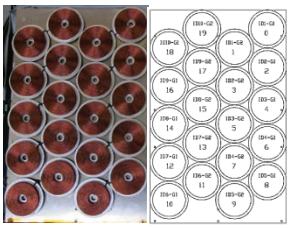
Cooking Zones



1. Cooking zone HalfKitten 450mm x 280mm
   Single cooking zone: 500W
   Complete Cooking zone 3700W
   The output of power is depended on the number of cooking zones and the pot size.
   Pot size 90 – 280mm

Pot Size (mm)	Min. Power (W)	Max. Power (W)	Power Average (W)
90	450	1000	750
120	750	1500	1000
145	1000	1800	1400
180	1500	2000	1800
210	2000	2500	2300
280	2300	3700	2800

Top View

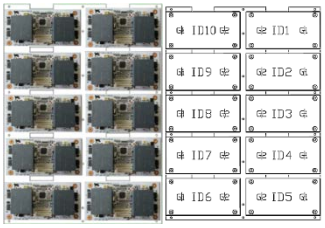


20 Cooking zones

Single coil:

- Copper coil Ø70mm
- Total Ø80mm
- Pot size Ø90mm
- Resistor: ???Ohm
- Power: 500W

Rear View



- 10 Induction modules
- Each induction module Control two cooking zones.

Both cooking zones 145 / 210mm are controlled by power board Cheetah.

2. Cooking zone 145mm
   Cooking levels 14 = 1400W
   P = 2500W
3. Cooking zone 210mm
   Cooking levels 14 = 2300W
   P = 3600W

3. DISMOUNT APPLIANCE / REPLACING SPARES

3.1 UNLOCKING THE APPLIANCE

Turn the hob in reverse side (glass in the bottom) and release all the clams with the promise tool (Spare Part no: 14002507101/4). Use of clean and soft sheet on the table top will avoid scratches on the glass top.

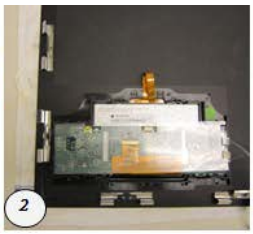
1. Promise Tool
2. ★ * 12

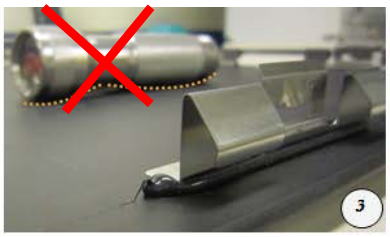
3.2 REMOVING THE GLASS

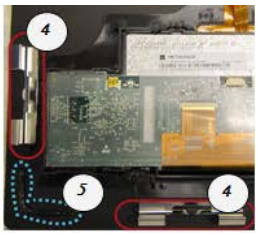
Turn the hob towards upwards after releasing all the clamps. When the appliance is opened first disconnect the Interface from the wiring otherwise the risk is to damage the Interface. Lift the glass in the front maximum 10 cm and disconnect the wiring by unplugging the Inter connection Interface – Chassis.

! Be aware that the back coated transparent Glass need to be handled sensitive. Every scratch on the rear side is visible from the top. Do no use a screwdriver or other tools to lift the hob from worktop.

1. Unsnap the Inter connection interface by lifting the ceramic glass by 10cm
2. Place the glass top on a clean and soft surface to avoid scratches while accessing PCIII user interface.
3. Don’t place any objects or instruments on top the glass on its inner surface
4. Be careful with the clamps glued to the glass.
5. Be careful with the silicon sealing’s







3.2.1 REPLACING THE GLASS CERAMIC

The glass ceramic need to be changed when

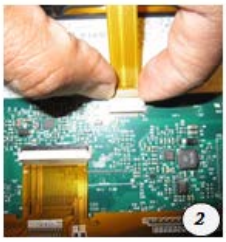
- Glass surface is scratched
- Back coating is scratched or discoloured
- One or more of the Promise springs are loosen
- Touch sensor is defect / damaged
- Interface frame on glass is loosen or damaged

Glass Ceramic spares are provided with Plastic frame (Glued) and ITO foil (Glued). Protection foil is place on the Sensor field; remove this foil directly before the User interface PCIII Display is placed in to the frame.

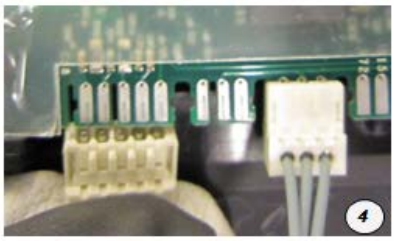
3.3 ACCESS TO PCIII USER INTERFACE

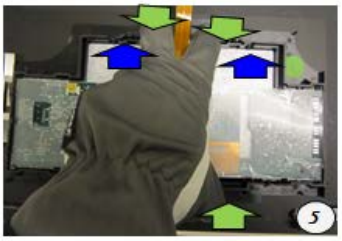
The complete interface is attached to the glass. This is required because of the glued PCIII Plastic Frame and ITO foil on the glass.

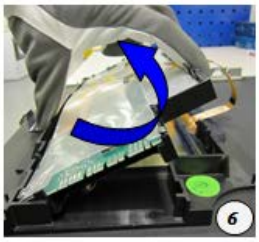
1. Remove the Condensing film
2. Release the clip on PCB to release the ITO foil cable
3. Take out the ITO Cable from the clip



4. Remove the Cables from the PCIII
5. Unsnap the PCIII (*2 locations*) from the PCIII frame (! *Do not use a screw driver to unlock the hooks. If the hooks are broken the glass need to be exchanged*). Applying small force ⇩ in this location will unlock the snaps ⇧
6. Lift the PCIII display by small rotation

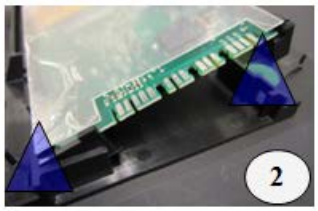


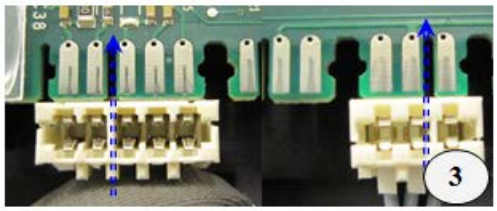




3.3.1 REPLACING OF PCIII TFT - DISPLAY

1. PCIII Display (! *remove the dust film on display when replacing new component*)
2. Make sure the 2 hooks in the front and in the rear of the frame are clicked to the edge of the PCIII frame
3. Check the configuration of Rast connectors while placing back

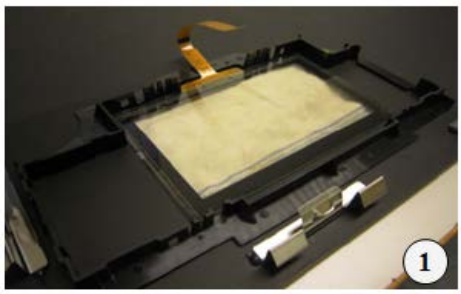




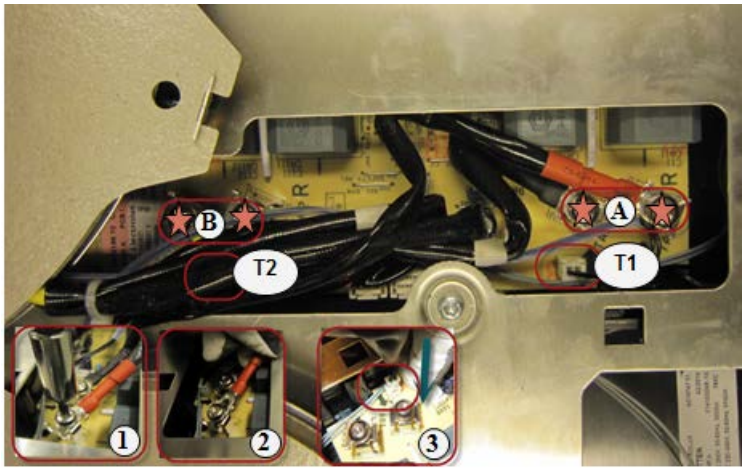
3.3.2 REPLACING OF PCIII ITO FOIL

The senor foil cannot be replaced separately. If the sensor foil is damage the complete glass need to be replaced.

1. ITO foil and the PCIII frame are glued (! *remove the dust film on ITO foil when replacing new component*)



3.4 ACCESS TO CHEETAH COILS



1. Unlock the coil Screws 25%
2. Release the coil cables
3. Release the temperature cable

A. Screws to release the 145mm coil

B. Screws to release the 210mm coil

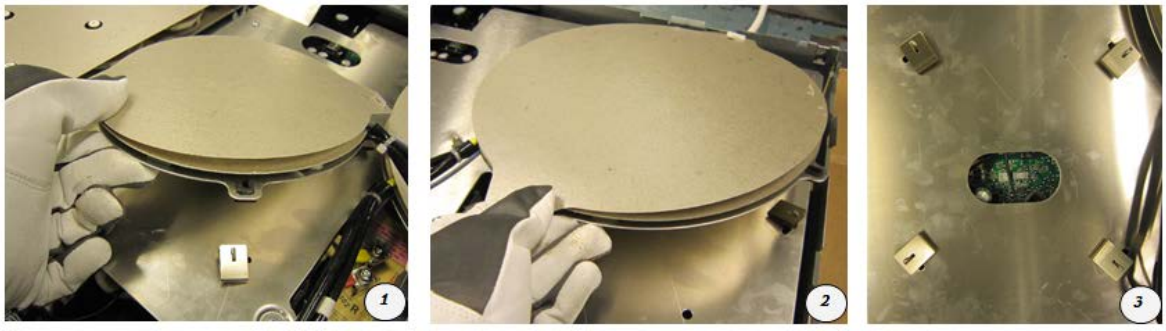
T1. Temperature cable for 145mm coil (! *Pull the cable applying the force on the cheetah board as show in 3*)

T2. Temperature cable for 210mm coil (*access available after removing the coil cables*)

! Connect the cables in correct slot after the service. Check chapter 8

3.4.1 REMOVE THE CHEETAH COILS.

1. Lift the 145mm coil once the cables are released
2. Lift the 210mm coil once the cables are released
3. Save the springs and place them back in the same direction after the service.

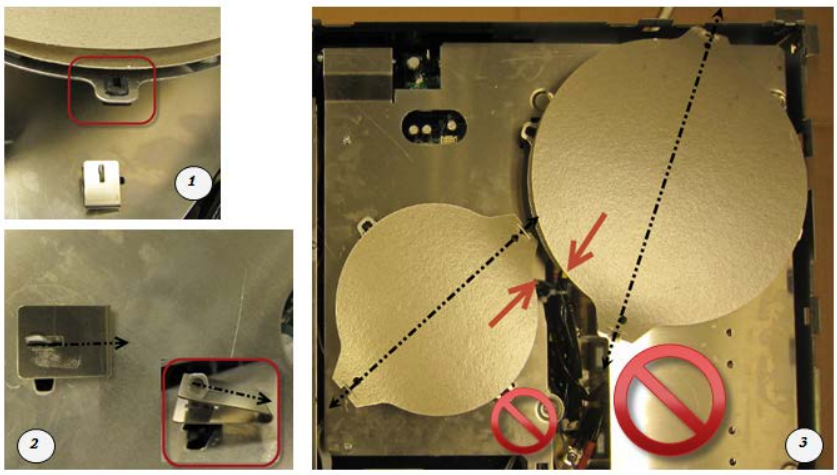


3.4.2 REPLACING COILS

The Cheetah coils can only be replaced as complete component with Sensor and Induction coil.

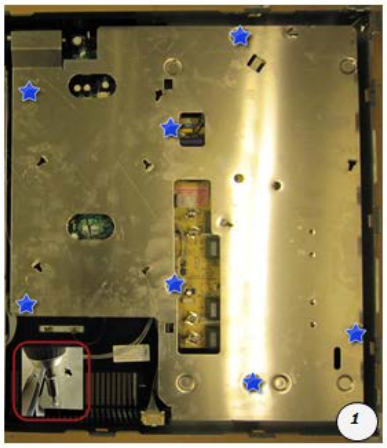
1. Check the silicon spacers in the fixation holes
2. Check the direction of the 4 springs
3. Place the coils in the direction as indicated with the red arrows (*cable output from the coils*) and no cables should be project out at the red marked areas (! *any condition not followed will influence the touch system).*

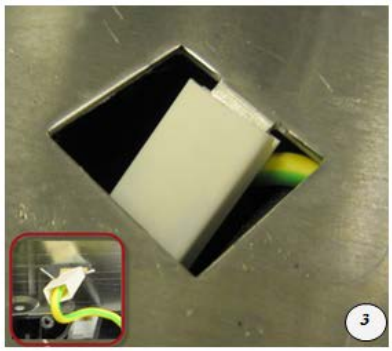
! Check the approximate positions indicated in Black dotted lines for springs and coils



3.5 ACCESS TO MAIN ELECTRONICS

1. Unscrew * 7 to remove the coil carrier
2. Place back the EMC cable and screw it on the coil carrier after the service
3. Remove the Ground wire to lift the coil carrier. Fix it back after service

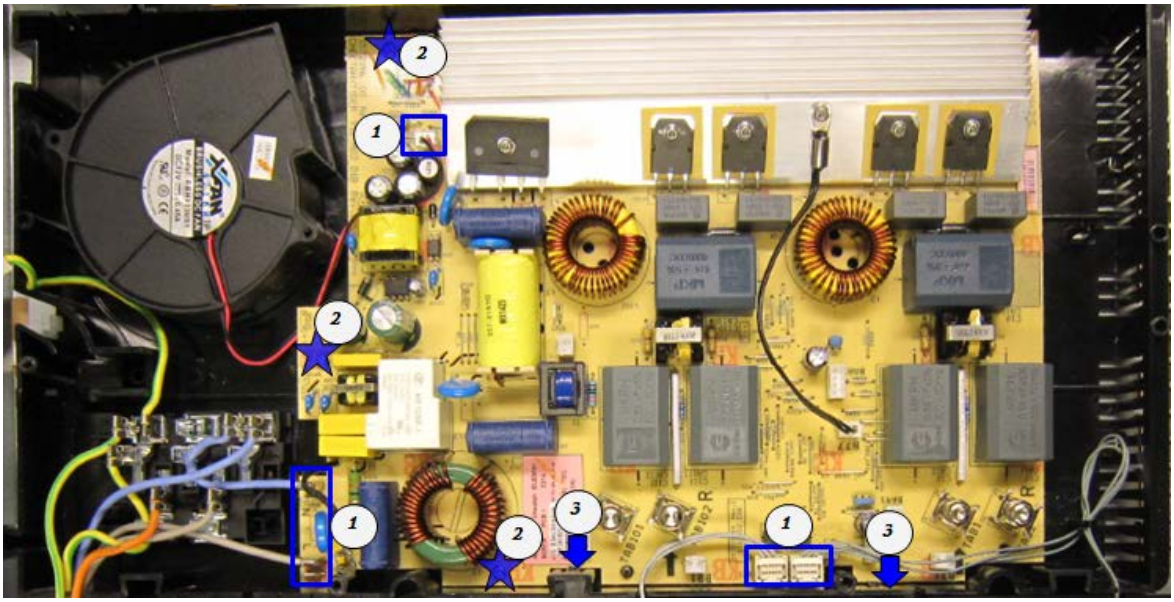




3.6 REPLACING OF ELECTRONIC / ELECTRIC SPARES

3.6.1 REPLACING CHEETAH POWER BOARD

1. Unplug all the bus cables , main connections and fan connector
2. Remove the screws * 3
3. Unlock the snaps * 2



Replace the new electronics with ID3 and **no Jumper**, snap and screw the Power board. Connect all the wiring.

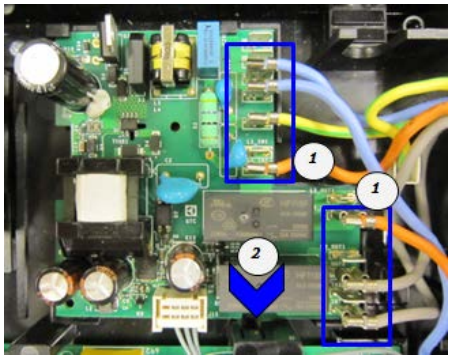
3.6.2 REPLACING OF FAN

1. Unscrew the fan screws ★*2 from the lower side of the hob
2. Disconnect the Fan cable from Cheetah board ▭

Assemble the Fan in the same position and connect the fan cable to the cheetah board.

3.6.3 REPLACING OF RELAY POWER BOARD

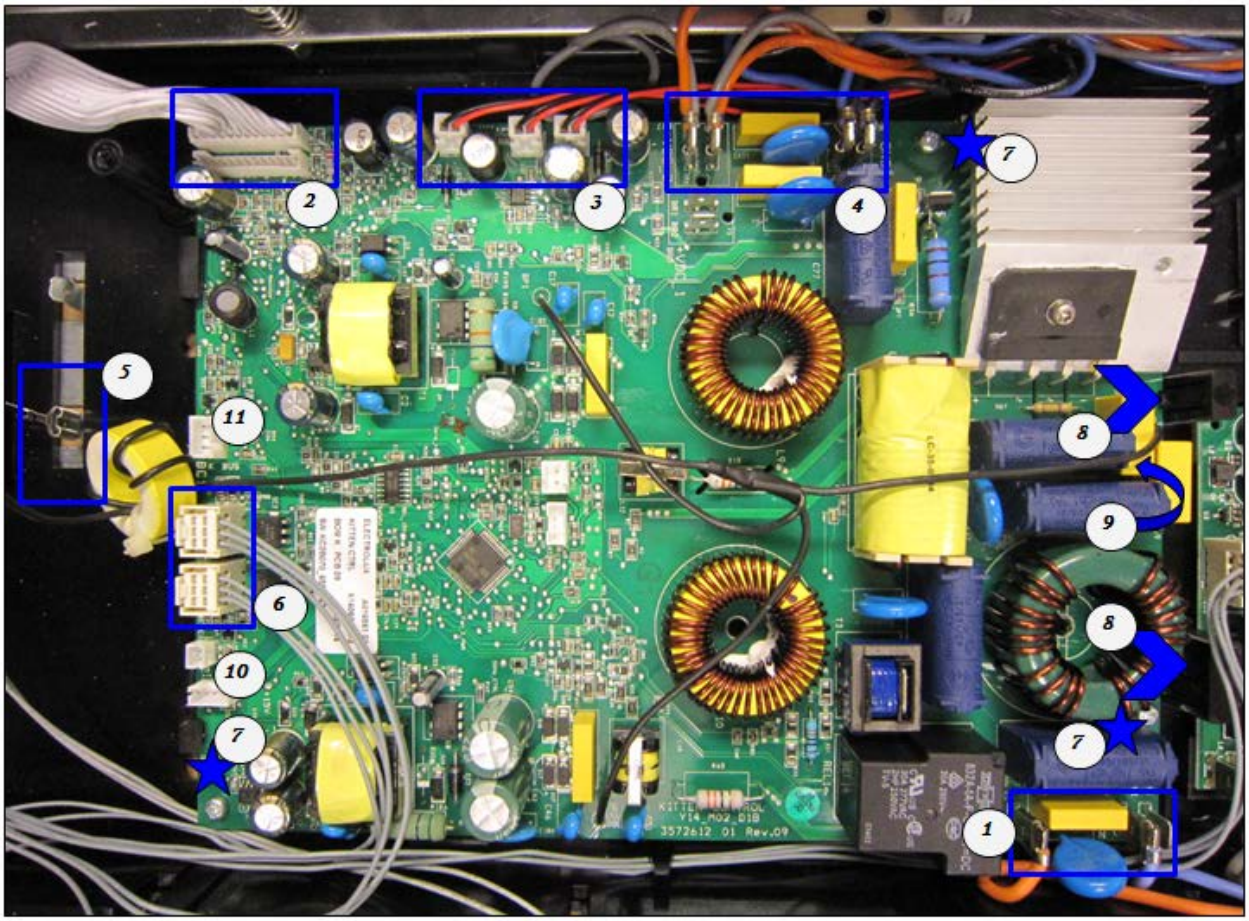
1. Disconnect the Power wiring harness.
2. Release the hooks and lift the board



Assemble the relay prower board by snapping to the Protection Box and connect the wires as per chapter 5

3.6.4 REPLACING OF CONTROL ELECTRONIC BOARD

1. Disconnect Power wiring
2. Disconnect Kitten Bus 12 pol
3. Disconnect 3 Ventilator cables
4. Disconnect the Kitten Power board Cables
5. Disconnect the EMC
6. Disconnect the Macs Bus Kitten Control
7. Unscrew the ★ * 3 screws
8. Release the » * 2 Snaps
9. Lift the board



Place the new board and follow the reveres step for assembling back.

Take care on the connection of ventilator that the one behind the Control Electronic Board is connected in the front connectors for replacing the ventilator 1 easily

! For the power board connection make sure that Orange/grey is connected to VDC and Blue/black to GND. Do not mix while Replacing, this will **blow** up the Control board. Details to the Connectors are given in the chapter 5

Power in (1): Neutral rear, Line front. Both connectors are bridged internally
Macs bus (6): Connector 1 = + 5V, 2 = data, 3 = Ground, both connectors are parallel
Kitten bus (2): 12 pol connector to control Power board. Both connectors are parallel

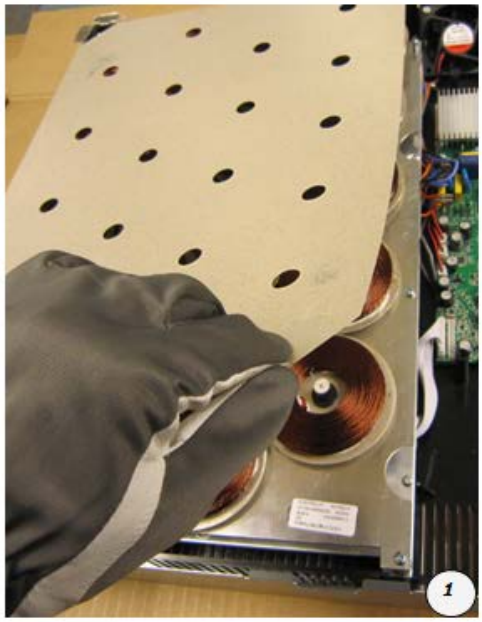
Low voltage programming: 2 = +5V 2A, 3 = data, 4 = Ground

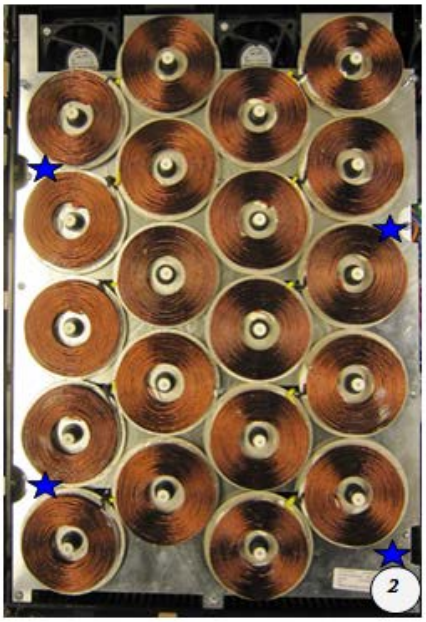
Ventilator connectors (3): Connector ventilator 1 for Control board, ventilator 2 + 3 for Power board
Programming connector: Connector for E8a Programmer for Control SW KT2B080_5340.s2
Jumper (10): No Jumper adapted. 5V Power supply via Interface.
K-Bus (11): Analysis connector for Kitten power board for Ami Gateway V3

3.6.5 REPLACING OF HALFKITTEN POWER BOARD

If the one of the HalfKitten Coil is damaged the complete Kitten Powerboard have to exchanged

1. Remove the mica cover
2. Remove the 4 screws of the module
3. Disconnect the Kitten Bus 12 pol, Power board cables and remove the module



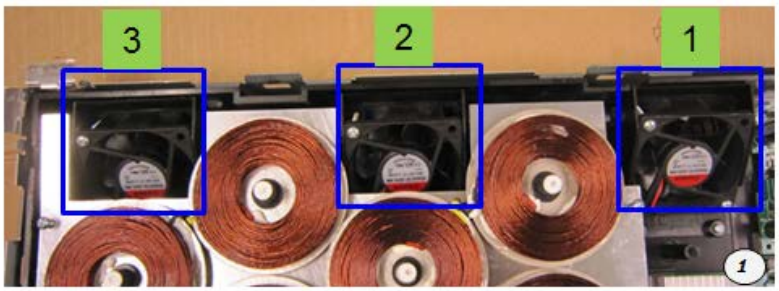


Connect the new module and fix it in the housing. Be aware the power cable Blue/Black to connect to the GND connectors and orange/grey to VCC of the control board

3.6.6 REPLACING OF VENTLATORS

If ventilator 2 or 3 is defect (E7 / K …)

1. Check the numbers of ventilator (1, 2, 3)
2. Follow the removal of Half kitten Power board in Chapter 3.6.4
3. Unscrew the 2 screws of each ventilator
4. Disconnect the ventilator from Control board



Assemble the ventilator and replace the halfkitten module. Connect the ventilator cables to the control board.

If ventilator 1 is defect (E7 / K …)

Take care on the connection of ventilator 1 that the one behind the Control Electronic Board is connected in the front connectors for replacing the ventilator 1 easily

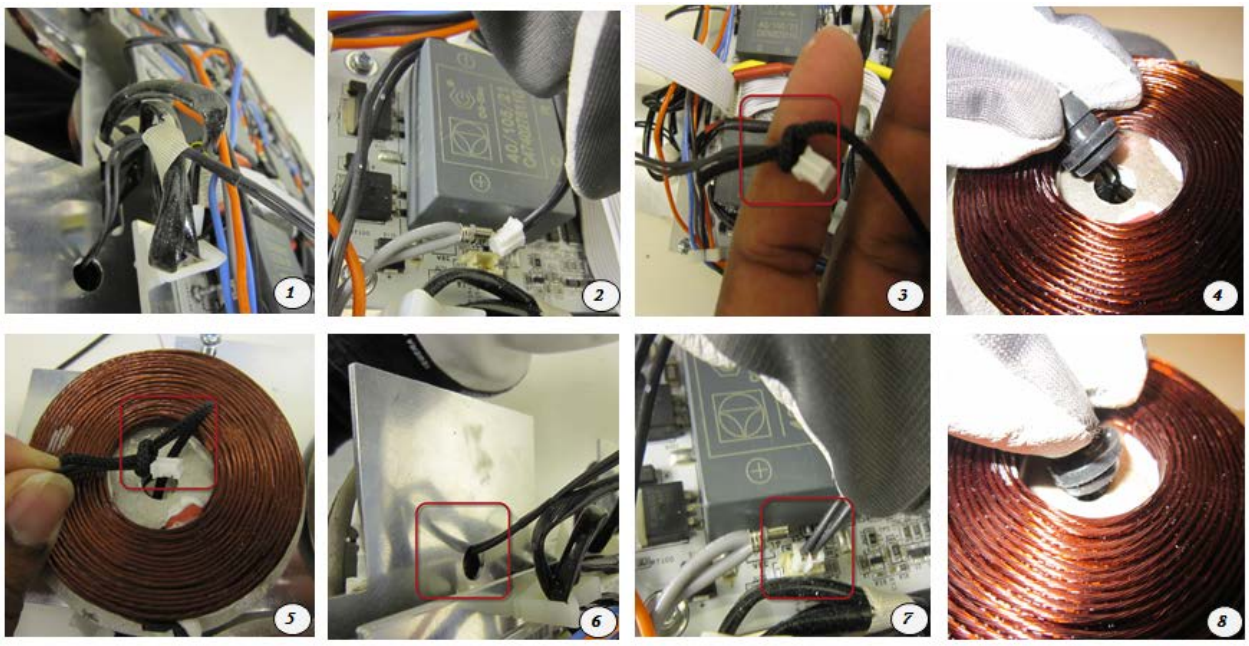
1. Check the numbers of ventilator (1, 2, 3)
2. Follow the removal of Cheetah coils and Cheetah carrier from Chapter 3.4 and Chapter3.5
3. Unscrew the 2 screws of each ventilator
4. Disconnect the ventilator from Control board

Connect the ventilator cables to the control board and assemble the cheetah coils.

3.6.7 REPLACING OF HALFKITTEN TEMPERATURE COIL SENSOR

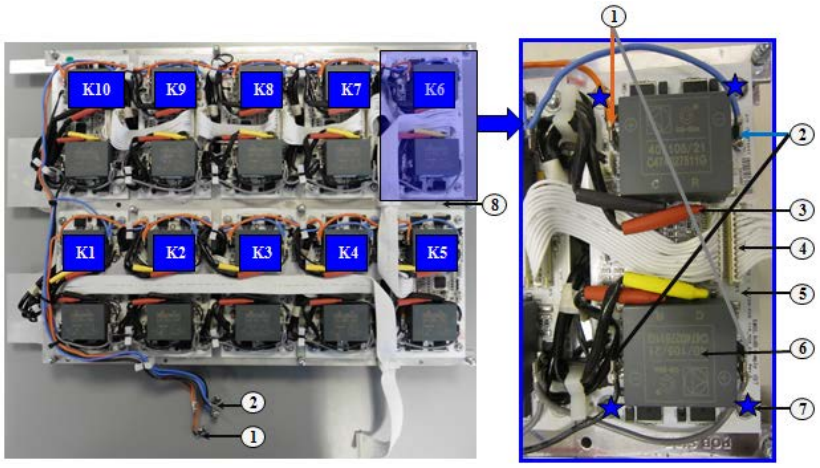
Defective temperature coil sensor on the halfkitten can be exchanged as a single spares. Determine the defect sensor and verify with the Multimeter

1. Identify the defective temperature sensor as defined in chapter 4.1.3 and release the cable from the bunch by opening the tape
2. Unplug the cable from the power board
3. Tie a thread with a good length to the sensor wire to pull back the new sensor wire without any hassle
4. Turn around the module and Pull the defective sensor until the sensor wire is visible.
5. Pull it out till the thin thread reaches the top and tie the thread to the new sensor
6. Make the cable to pass through the aluminium plats
7. Connect the sensor to the power board removing the thread and tape the sensor wire in to the same bunch
8. Press the rubber cap with sensor to the coil base
9. Check the value of the new sensor



3.6.8 REPLACING THE SINGLE HALFKITTEN POWER BOARD

! High skills are required to replace the single defective Power Board (POB)



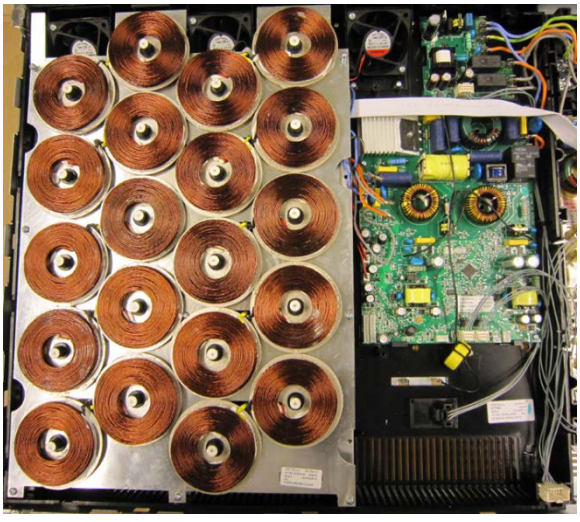
1. Orange / Grey VCD
2. Blue / Black GND
3. Coil Wires
4. 12 Pol Wire
5. POB
6. Capacitor Block
7. Screws to assemble POB
8. POB Carrier

To replace a single POB, do following steps:

1. Open the appliance as defined in Chapter 3.1 , Chapter 3.2
2. Unscrew the HalfKitten module like described in Chapter 3.6.5
3. Disconnect the Power cable and the 12 pol cable from the control board
4. Place the module upside down on a flat surface and detect according to the failure code E6 /K 1 – K10 for the defect of single POB. Error codes defined in Chapter 4
5. Disconnect the power cable on both sides of the capacitor block
6. Disconnect the 12 pol wires
7. Disconnect the sensors and the Coil wires of the capacitor blocks
8. Remove the 4 screws in the corner and lift the board carefully. Do not use screw driver between Carrier and POB
9. Use the new POB and put the delivered heat paste on the POB. Use the old POB to even the past in the POB.
10. Place the new POB in the same orientation like the other POBs in the row and screw it carefully to the POB. Avoid creating a new thread into the Carrier POB and fix the screws until the plate is even on the Carrier POB, Ignore the oozing of heat paste.

3.6.9 REPLACING THE COMPLETE HALFKITTEN MODULE

When a power board has short circuit the HalfKitten induction module and the Control board is broken. Replace the complete HalfKitten module



4. ERROR CODES

Displayed Error	Rout Cause	Action to solve
E0	Configuration on Interface not present	Reprogram UI
E1		
E2		
E3	Wrong supply voltage	Check supply voltage
E4	Sensor for coil out of range Sensor is broken/short cut	Cool down appliance Replace coil / Sensor
E5		
E6	Power board defect	Replace power board
E7	Fan blocked/defect	Check fan, replace fan
E8	Communication error	Check wiring/ Check supply voltage / Check relay power board
E9	User interface defect	Replacing user interface
/ K	Kitten Control board defect	Replace Kitten control board
/ U	Display unit defect	Replace PC3 display unit
/ P	Power board of Kitten defect	Replace module or single Power board
/ F	Sensor foil on Glass defect	Replacing glass with Touch
/ C	Defect Cheetah board	Check installation L2, Replacing Cheetah board / Coil

4.1 DETECTING THE FAULTS

4.1.1 POWER SUPPLY

How to test the Power supply:

1. Is User interface working?
   If Yes: Does the relay clicks with ON/OFF is touched?
   → If Yes: release Relay Power board from fixation and check the solder points of relays
   → If No: Replacing Relay Power board
   If No: Check supply voltage and Check bus voltage
2. The Relays can be bridged when the connector L1 out connected to L1 in and L2 out on L2 in.
   If the board is still not working the Kitten Control or the Cheetah board is defect.

4.1.2 KITTEN CONTROL BOARD

When the failure code E8 / K was displayed the Kitten Control board does not communicated to the user interface. First check if the Power board for any short circuited.

- Measure the value with a multimeter in Diode test mode.
- Connect Plus of Multimeter to VDC and Minus of Multimeter on GND.
- If the Multimeter shows an endless value the Power board is OK.
-

If the Multimeter shows a value of around 0 to 0,8V then the board is short circuited.

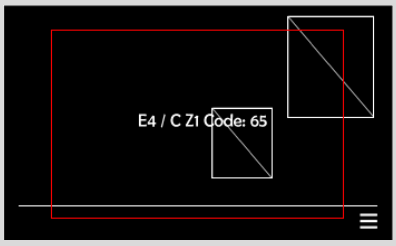
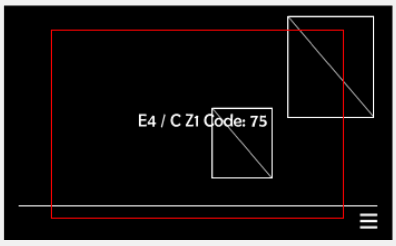
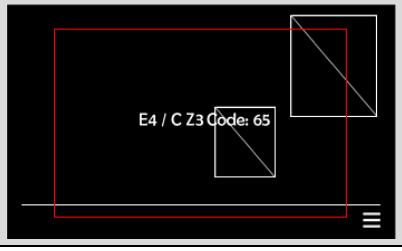
- Disconnect the power board and measure the connectors separately.
- If the value is still the same the control board and the Power board need to be exchanged.
- Check Chapter 3.6.4 for replacing the Kitten control board

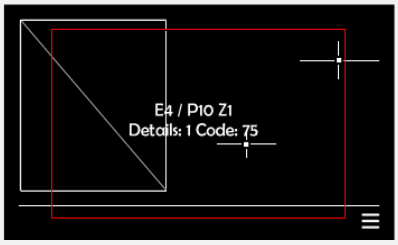
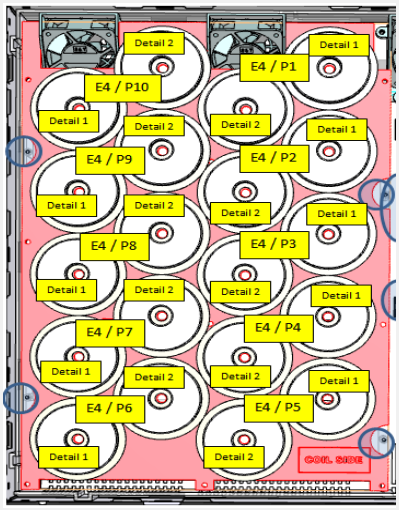
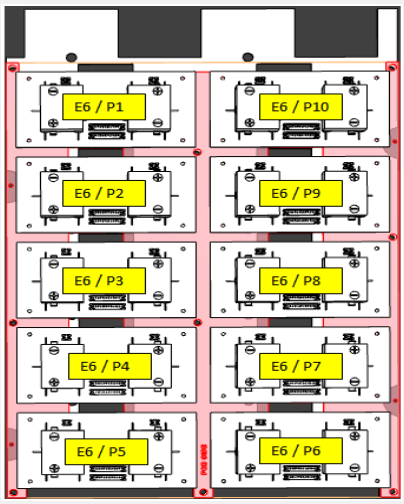
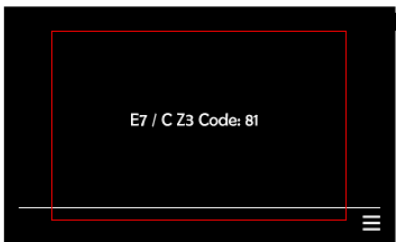
4.1.3 COIL SENSOR HALFKITTEN ERROR CODE

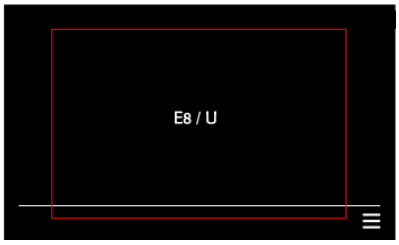
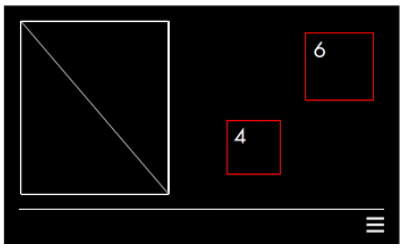
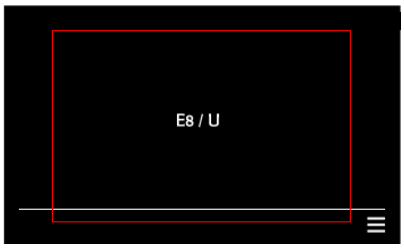
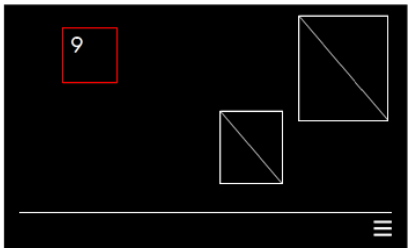
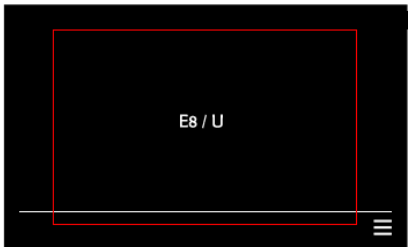
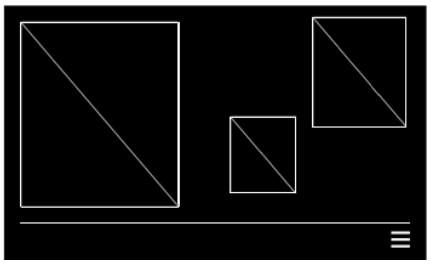
E	Code	Error description	Related board	First line displayed	Second line displayed
1	161	Flash error	PC3	E1 / U Code: 161	
1	160	Configuration compatibility	PC3	E1 / U Code: 160	
2	52	Pot detection time out	Control board / Cheetah	E2 / K or C Z<value> Code: 52	
2	76	Pot generic alarm	Control board / Cheetah	E2 / K or C Z<value> Code: 76	
3	58	400V detected	Control board / Cheetah	E3 / K or C Z<value> Code: 58	
3	59	Low voltage	Control board / Cheetah	E3 / K or C Z<value> Code: 59	
3	60	High voltage	Control board / Cheetah	E3 / K or C Z<value> Code: 60	
4	65	Induction sensor open	HalfKitten / Cheetah	E4 / P or C Z<value>	Details: <value> Code: 65
4	75	Induction sensor FMA	HalfKitten / Cheetah	E4 / P or C Z<value>	Details: <value> Code: 75
4	73	Induction zone temperature	HalfKitten / Cheetah	E4 / P or C Z<value>	Details: <value> Code: 73
4	77	Pot sensor	HalfKitten / Cheetah	E4 / P or C Z<value>	Details: <value> Code: 77
5	78	PC3 watchdog	PC3	E5 / U Code: 178	
6	57	Relay glued	Control board / Cheetah	E6 / K or C Z<value> Code: 57	
6	67	Internal HC communication	Control board / Cheetah	E6 / K or C Z<value> Code: 67	
6	71	Bad mains current	Control board / Cheetah	E6 / K or C Z<value> Code: 71	
6	72	Power micro sync	Control board / Cheetah	E6 / K or C Z<value> Code: 72	

6	74	IGBT sensor	Control board / Cheetah	E6 / K or C Z<value> Code: 74	
6	61	15V Bad value	Control board / HalfKitten / Cheetah	E6 / K or P or C Z<value>	Details: <value> Code: 61
7	64	Ventilator blocked	Control board / Cheetah	E7 / K or C Z<value> Code: 64	
7	81	Ventilator disconnected	Control board / HalfKitten / Cheetah	E7 / K or P or C Z<value>	Details: <value> Code: 81
8	176	HC comm. watchdog	PC3	E8 / U Code: 176	
8	177	MACS ACK timeout	PC3	E8 / U Code: 177	
519	150	Key watchdog	PC3	E8 / U Code: 150	
9	159	Key generic alarm	PC3	E9 / U Code: 159	
509	62	Key error	PC3	E10 / U Code: 62	
10	183	Internal PC3 communication	PC3	E10 / U Code: 183	
493	185	Backlight	PC3	U Code: 185	
406	184	PC3 board temp	PC3	U Code: 184	
497	187	Humidity	PC3	U Code: 187	
495	188	Power	PC3	U Code: 188	
494	186	RTC	PC3	U Code: 186	
500	190	TFT-Display	PC3	U Code: 190	

4.1.3.1 Error Examples

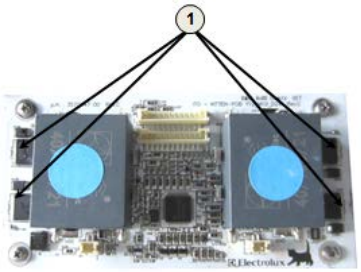
Cause	Display	Representation
Temperature Sensor on 145mm coil disconnected on 210mm coil disconnected		: Coils Standard out of order E4 : Error code C : Cheetah electronic Z1 Z2 : ? Code : 65 : Sensor Open
Temperature Sensor on 145mm coil short circuit on 210mm coil short circuit		E4 : Error code C : Cheetah electronic Z1 Z2 : ? Code : 65 : Short circuit On display appears “The hob surface is hot”.
Temperature Sensor on 145mm coil and 210mm coil disconnected		E4 : Error code C : Cheetah electronic Z1 Z2 : ? Code : 65 : Sensor open

Temperature sensor on HalfKitten electronic disconnected	 HalfKitten coils E4 / P1 to P10  Half Kitten Induction module E6 / P1 to P10 	: Coils Halfkitten out of order E4 : Error code C : Cheetah electronic Z1 : ? Detail : 1 = outer coils 2 = inner coils Code:75 :Sensor open
Ventilator on Cheetah electronic disconnected		E7 : Error code C : Cheetah electronic Z3 : ? Code:81 : Ventilator disconnected

Power supply connector BPL1 to Control board disconnected	 Switch off and Swicth on and touch the display 	E8 : Error code U : User interface PC3 HalfKitten zone is out of order, Both flexible zones are still working
L1 missing Connector J18 on User interface PC3 disconnected		No reaction on the display
L2 missing Macs Bus BC3 on Cheetah board disconnected	 Switch off and Swicth on and touch the display 	E8 : Error code U : User interface PC3 Both flexible zones are out of order, HalfKitten zone is still working
Macs Bus J7 on User interface PC3 disconnected	 Switch off and Swicth on and touch the display 	E8 : Error code U : User interface PC3 Both flexible zones and HalfKitten zone are out of order

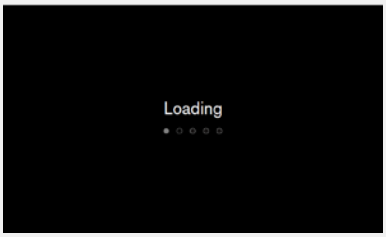
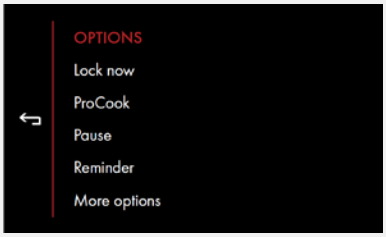
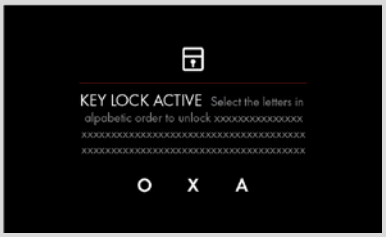
4.1.4 INDUCTION MODULE HALFKITTEN

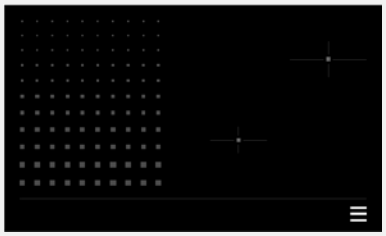
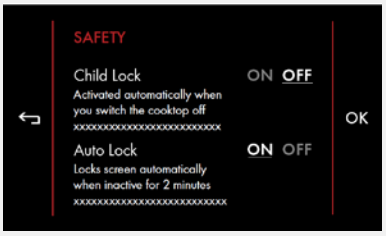
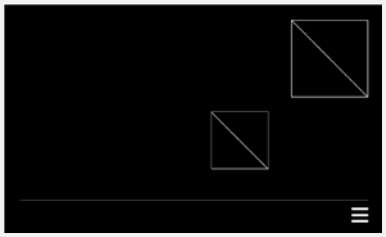
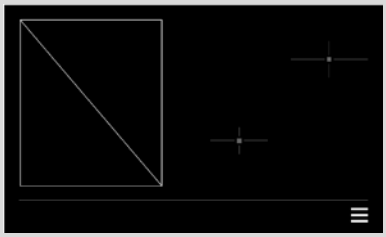
In a short circuit of an IGBT's on a HalfKitten electronics, conductor path are also destroyed on the control electronic. Error (E8 / K).



5. PCIII USER INTERFACE INTERPRETATION

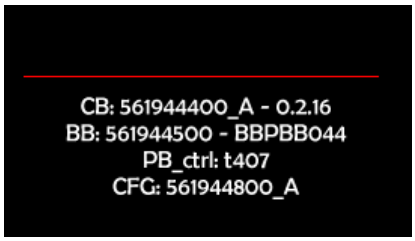
5.1 PCIII SCREENS

Screen name	Picture	Notes
Start-up		If the Screen keep in this screen or in white screen remove fuse for 1 – 2 sec
Main Screen		Static zone (Cheetah) right side. Flex zone creates zones only with pots Menu Buttom in right front corner If Symbols are visible the Short cuts are activated (not in first setting)
Zone on Flex zone active		The box shows size (3 sizes available + 2 Large boxes for e.g. Plancha) With Pan/pots which having uneven pots bottom it could happen that the flex system detects two pots. This causes that one coil in the middle is detecting no pot. Move the pan/pot a bit to get one zone
Split function		A large pot / Plancha can be split into 2 heating zones. By tapping the both areas with two fingers at same time the zone can be merged or split. To set both area each time the area need to touch before the level can be set. In some cases it could happen that with merging the zone 2 zone are detected. Lift the cookware and place again
First Menu Level		Lock now = Key lock ProCook = Chef Mode Pause = Stop&Go Reminder = short Time clock More Options = next Menu level
Lock now		To unlock the appliance touch the screen. Then this window appears. Touch the letters A – O – X. Then the lock is disabled

ProCook		In ProCook mode only one pot is active. If a 2nd pot is place the function is disables or can not actived. In some cases it could happen that a 2nd cross is displayed with the pot is moved. This is caused while the 20 coils are scanned in series and the system sees a moved pot on new position while the old postion was scanned meantime
2nd Menu Level		Tips and Tricks = function information Short cuts = activates short cut symbols in the bottom of screen Safety = Child lock, Auto lock Display = Brightness 1 – 4 Service = Demo, Software, Reset all settings
Safety		If the Appliance locks after turn off the Child Lock function is active. Set Child Lock to “OFF” and touch OK If the appliance locks it self after 2 min. and A-O-X as code need to touched the AutoLock function is active. To deactivate set the buttom to “OFF” and touch OK
Service → Software		CB = Core board (small board on PC3) BB = Large board of PC3 Conf. = Configuration file
Defect Compontent on Cheetah		If zones are not working a box strikethrough is displayed. Before an Error Code is displayed. The other side and be used as normal
Defect Component on Kitten		Flex zone is defect. An Error code is displayed before. The Cheetah zones can be used normal
DEMO MODE		To activate or deactivate the DEMO MODE touch the field 2 – 4 – 6 – 8 and confirm with OK If the Demo is active “Demo” is written in the main screen near the menu key

5.2 SOFTWARE VERSION

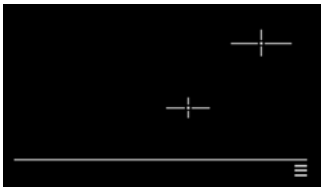
1. Switch on the appliance.
2. Touch “ ”.
3. Select **“Menu”** and touch it.
4. Select **“Service”** and touch it.
5. Select **“Software version”** and touch it.
6. Software versions appear on the display.



CB: 561944400_A - 0.2.16 = Core board : ANC-no. - Software
BB: 561944500 - BBPBB044 = Bridge board : ANC-no. – Software
PB: ctrl: t407 = Power board : Software
Control board: Software
CFG: 561944800_A = Configuration: Configuration file no.
CB: Software 0.2.16 → Few appliances in the field.
CB: Software 0.2.25 → Field on display, to skip the Service Mode function (replace PC3)
CB: Software 0.2.31 → Under investigation, use of SidekickPC for Control electronic and Cheetah power board (5VDC).

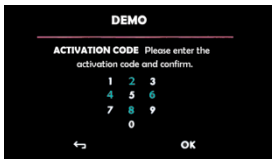
5.3 DEMO MODE

Core board: 0.2.16 / 0.2.25 / 0.2.31 Bridge board: BBPBB044
User interface: PC3
Activate demo mode:



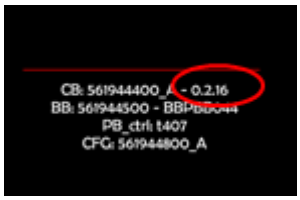
The appliance is in off-state

1. Switch on the appliance.
2. Touch “ ”.
3. Select “Menu” and touch it.
4. Select “Service” and touch it.
5. Select “Demo mode” and touch it.
6. Activation code: 2 4 6 8
7. Touch „OK“ to confirm.
8. Demo mode is activated and “DEMO” appears on the display.



Deactivate demo mode: Same procedure

5.4 FACTORY END TEST



! Before you activate the “Factory end test”, it is important to know, which software includes the user interface PC3

CB: Software 0.2.16 → Includes non ”skip” button. It is **impossible** to skip the factory end test. To complete the test, two metal strips are necessary.

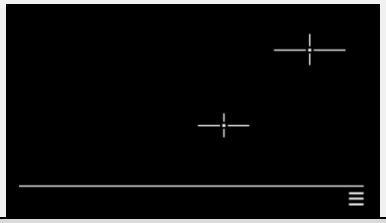
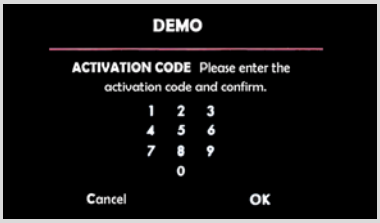
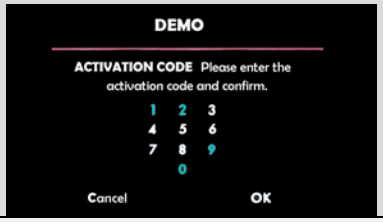
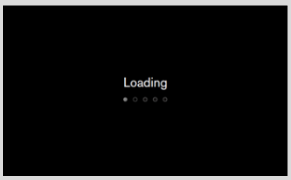
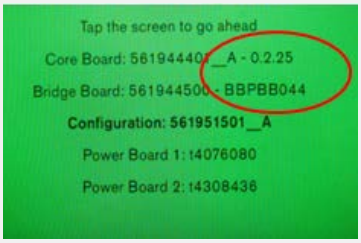
CB: Software 0.2.25 → Includes a “skip” button. It is **possible** to skip the factory end test.

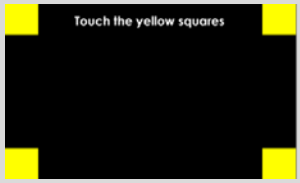
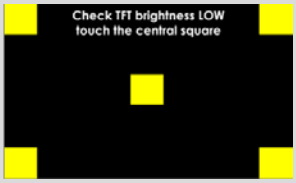
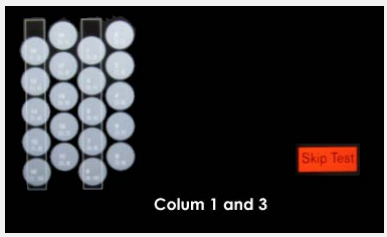
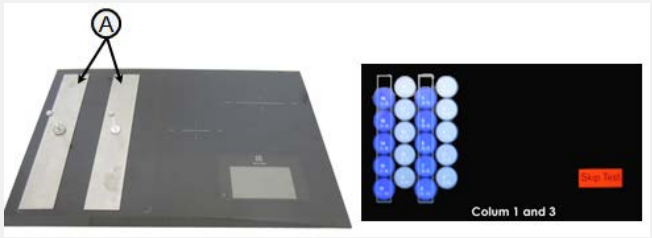
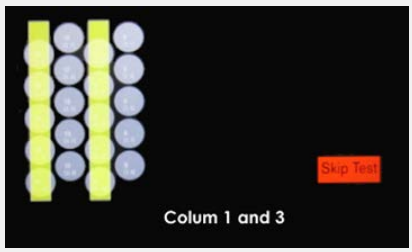
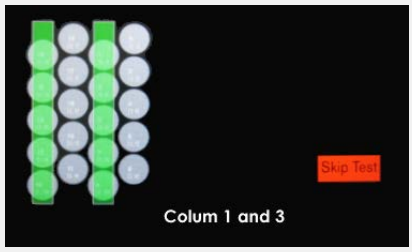
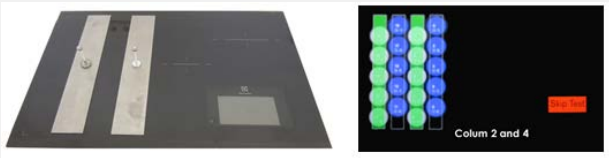
CB: Software 0.2.31 → Includes a “skip” button. It is **possible** to skip the factory end test.

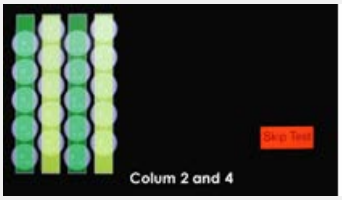
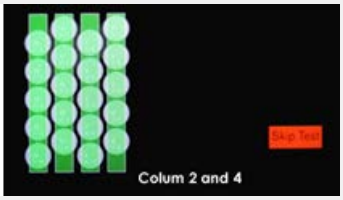
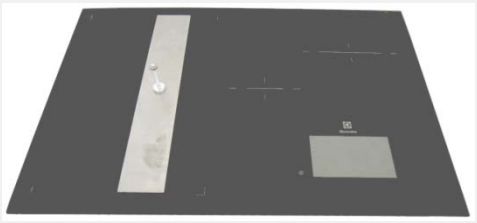
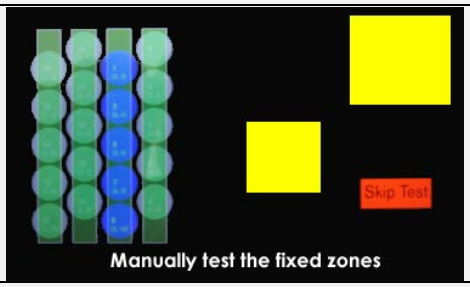
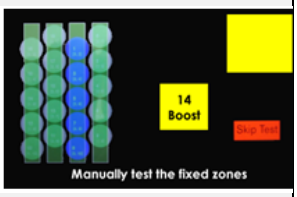
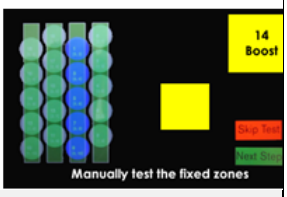
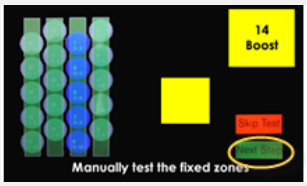
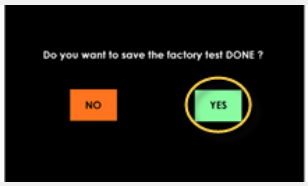
Core board: 0.2.16 / 0.2.25 / 0.2.31 **Bridge board: BBPBB044**

User interface: PCIII

Activate factory end test:

Screen name	Picture
The appliance is in off-state	
1. Switch on the appliance. 2. Touch “ ☰ ”. 3. Select **“Menu”** and touch it. 4. Select **“Service”** and touch it. 5. Select **“Demo mode”** and touch it. 6. Activation code: → **1 9 0 2** 7. Touch **„OK“to** confirm. 8. Touch **„CANCEL“**.	 
9. Select **“Reset all settings”** and touch it	
10. Screen gets dark. The user interface restarts and loading.	 
11. Green screen with the configurations appears. Touch anywhere on the TFT	

12. Touch all 4 yellow corners and twice the centre to verify the touch screen. Frist LOW, second MID.	 
13. Press I/O button to continue	
14. Check the coil column 1 and 3 need to be covered by a long stripe of metal.	
15. Place two metal strips (A) on the coil column 1 and 3. The coils appear in blue colour, if the pot detection is detected.	
16. The coils appear in yellow colour, if all 10 coils start for powering.	
17. The coils appear in green colour, if all 10 sensors detecting a temperature rise. (3K in 3sec.)	
18. Move the metal strips to the coil column 2 and 4. Same procedure.	

19. Same procedure for coil column 2 and 4	 
20. Take away one metal strip and move the other metal strip on column 3	
21. The fixed zones will activated for the test	
22. Place a pot on the first zone and touch the yellow field. The zone starts with level 14 and boost.	
23. Move the pot on the second zone and touch the yellow field. The zone starts with level 14 and boost.	
24. Touch the “Next step” button and “Yes” button to leave the factory end test	 

5.4.1 FACTORY END TEST (FAST TESTING OF COILS)

It is only possible on software CB: 0.2.25 / 0.2.31

If Temperature sensor defect → E4 / P10 Z1 Details: 1 Code: 75 appears on the TFT

If HalfKitten electronics defect → E6 / P1 until P10 appears on the TFT

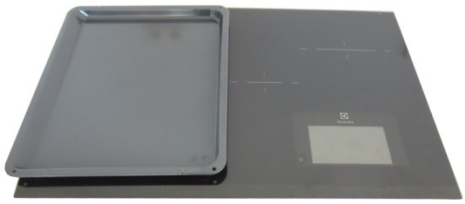
If HalfKitten IGBT-driver defect (non short circuit) → non error message

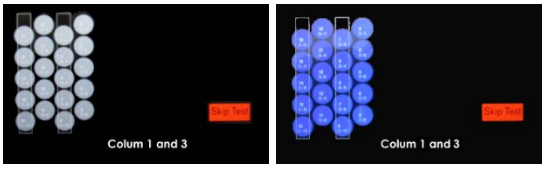
If HalfKitten coil defect → non error message

Test procedure

Start the factory end test as described before and place a baking tray on the HalfKitten coils.

- Coils appear blue





If any coil is defect, the coil appears in bright (A)!

Additional test: Boiling water via baking try! Level 14 with active Booster (7,12A)

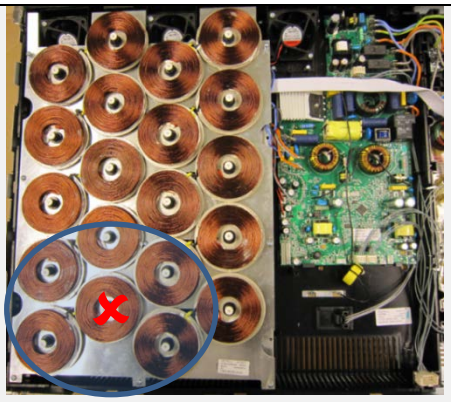
5.4.2 SKIP FUNCTION

It is only possible on software CB: 0.2.25 / 0.2.31

To interrupt the **factory end test**, touch the Skip test → YES → Reboot button

5.5 PCIII PROBLEM / ROOT CAUSE / SOLUTION

Problem	Root cause	How to solve
Touch area do not works	A cookware is closed to the interface (< 2cm to window corner). Signal wires of the Touch electronic are covered.	Move the pot more far away from interface
	Interface was cleaned before	Wait around 1 minute for new calibration of Touch system Disconnect hob for 10 sec from mains.
In start-up phase Loading keeps present	System stucks in loading phase	Disconnect hob shortly (1 – 2 Sec) from mains.
Screen keeps white in start up phase	System stucks in start-up phase	Disconnect hob shortly (1-2 sec) from mains
A zone keeps in display and appears after turn on again	In the storage the zone was stored and not refreshed.	Change the zone or set to the zone to level 0 before turning of.
On the Flex zone 2 zones or 3 zones are displayed while one large pot is placed	If the system detects one not covered zone in a area the system assumes that different pots are placed. This is mainly caused by the deviation of pot eveness.	Move the pot a bit until the system detects only one pot

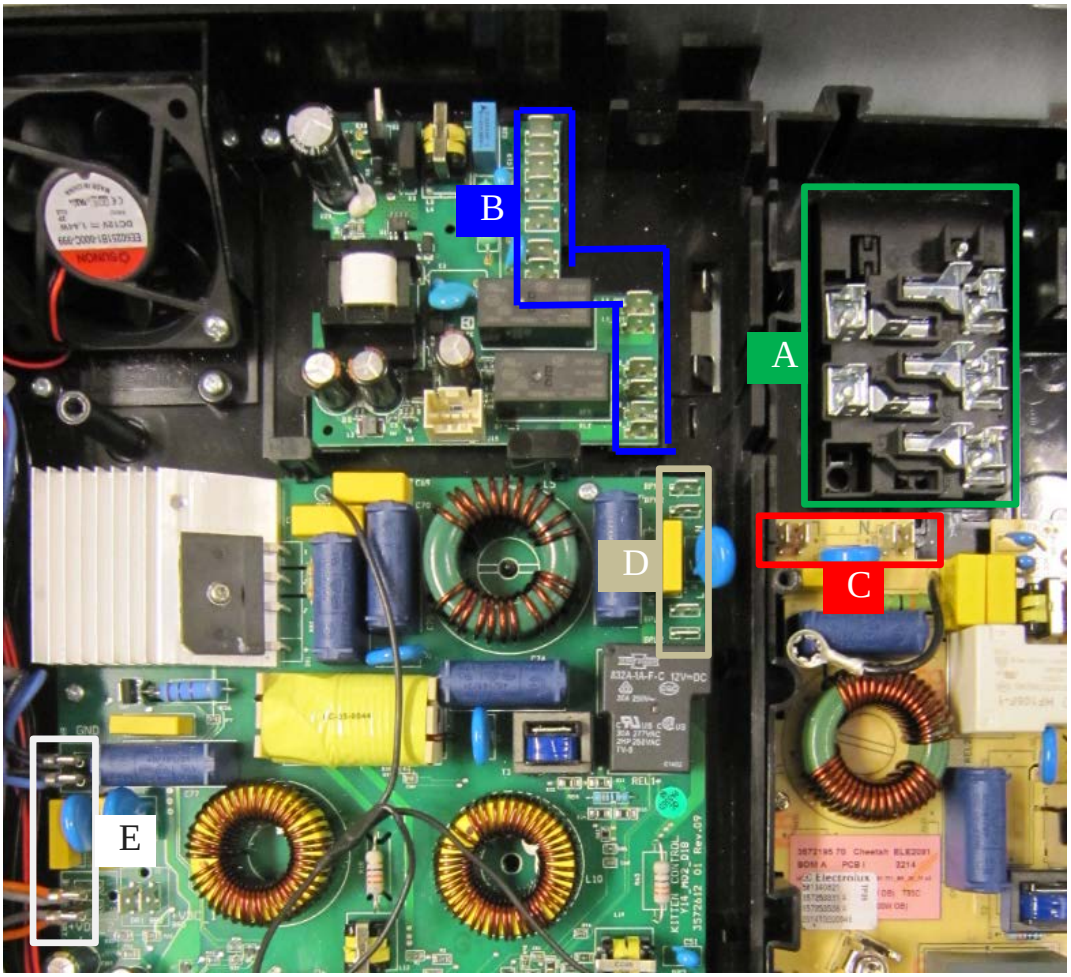
		
On the flex zone are placed 2 pots and they are detected as one zone	When the system scannes the area and 2 pots are place closed to eachother the sytem assumes that one pot is places on the flex area	Place one pot set the power level. Then the group of coils are frozen. Place the next pot and a new group is created.
By the use of a large pot e.g. Plancha a small pot is create and some time a large pot	If 2 columns of coils are detected the zone shows a small symbol. There are some free coils which can drive a small pot in addition If 3 columns of coils are detected no free coil is avail able to drive another pot. The symbol is large	Move the pot to left of right side to get a large pot. If it changes during the use the bottom has bended and some coils in the group do not detect a pot anymore.
When a pot is placed on the flex surface a clicking noise appears	The pot detection is working. It starts to work always when the hob is on a pot is placed on the flex area. The power is lower then 5W. On Cheetah zone the zones are activated when set. The zone position is fixed.	Remove the unused pots from the flex area. On stainless steel pots the clicking is stronger due to the thin material that works like a loudspeaker.
When the Split mode is disabled the system creates 2 zones instead of one	When the Spilt function is removed it could happen that the system creates 2 separate zones or only one of this zones can be set.	Set the zone to 0 and lift the pot/pan and place again. Then the zones are created new.
Heat distribution is different	All zones need to work on the same frequency to avoid noise interferances between the different coils. This causes also different power on the zones. Therefore that tolerance of components, coverage of coils, distance of pot to glass are influencing the inductivity of the coil the power is different	A movement of pot can get a better coil coverage. Use pots with thick pot bottom.
Booster power is low	Each of the 2o coils can support max 500W. With a 145mm pot the maximum power is 1500W (best case, mostly 1300 – 1400). If the pot is covering less coils or the coils only partly the power can be lower Additional booster power is supported on pots larger then 180mm. A calculation factor down grating the power of the coil power in dependence of size	The size of box signalized if 3, 4 - 5 or more coils are covered. A slight movement gets a better power to the pots.
The Cheetah zones coiling faster then on the flex area	On the flex zone several coils are driving one pot this causes that the coils need to synchronise to each other which reducing the total power compared to standard zone where only one coils need to be managed to drive the pot	For fast boiling use the Standard zone for flexibility use the flex area.

6. POWER WIRING

The mains cable is connected to the Mains terminal (A). From the Mains terminal the lines are connected to the Relay Power Board (B). Via relays the Cheetah (C) and Control Board (D) boards are supply by this board.

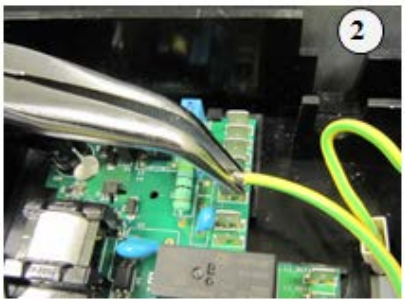
Relay Power board have two functions: Supply Interface with 5V DC and disconnect Cheetah and Control board from Mains to meet the Standby requirements of lower than 0,5W.

Power supply DC for HalfKitten induction module is supplied from connections at (E).



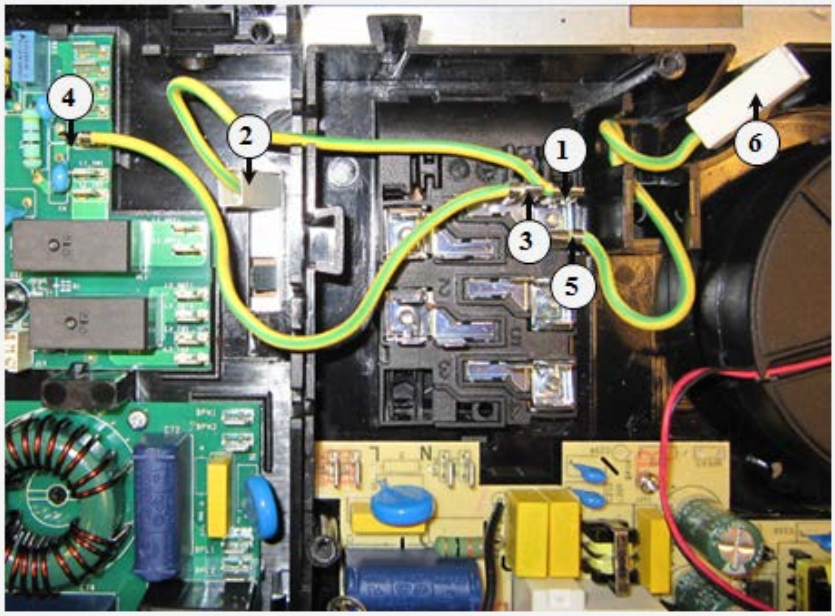
6.1 SERVICE NOTES

1. Study the Power Wiring Harness before releasing the connections
2. Use Proper tongs to pull the wires from the board

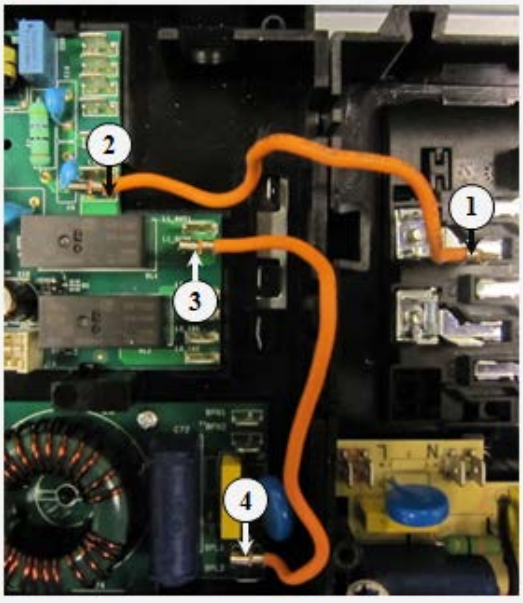


6.2 POWER SUPPLY CONNECTIONS

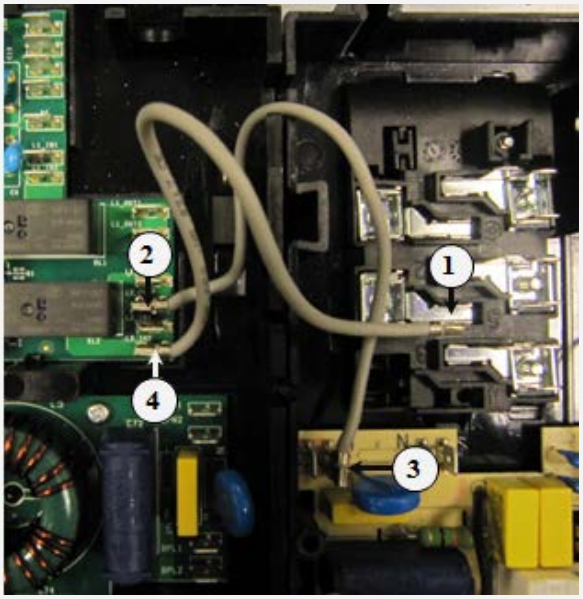
6.2.1 EARTH CONNECTOR

Earth Connector: Yellow/ Green 3 Wires	**Connection :** 1 → 2 : Connector Earth to Protection Box 3 → 4 : Connector Earth to Relay Power Board PE 5 → 6 : Connector Earth to Coil Carrier Cheetah
	

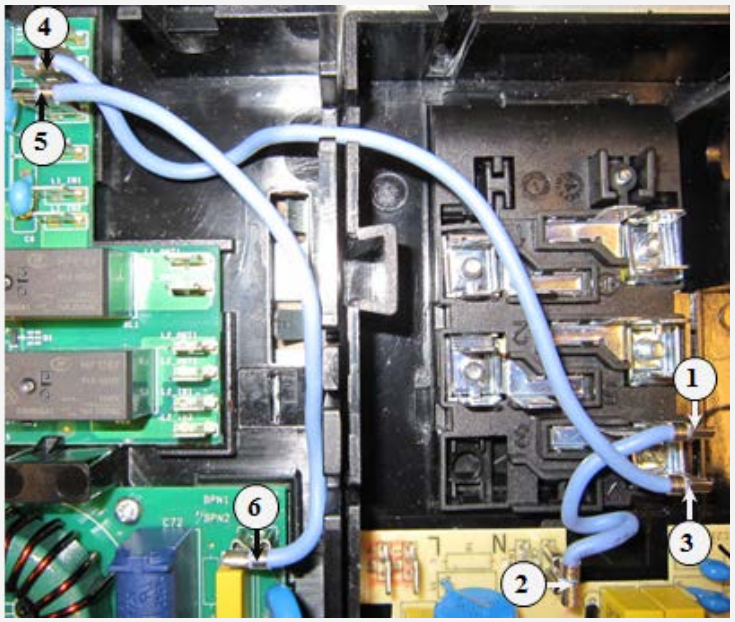
6.2.2 LINE 1 CONNECTOR

Line 1 Connector: Orange 2 Wires	**Connection :** 1 → 2 : Connector Line 1 to Relay Power Board L1 In 3 → 4 : Relay Power Board L1 Out to Control Electronic Board L
	

6.2.3 LINE 2 CONNECTOR

Line 2 Connector: Grey 2 Wires	**Connection :** 1 → 2 : Connector Line 2 to Relay Power Board L2 In 3 → 4 : Cheetah L to Relay Power Board L2 out
	

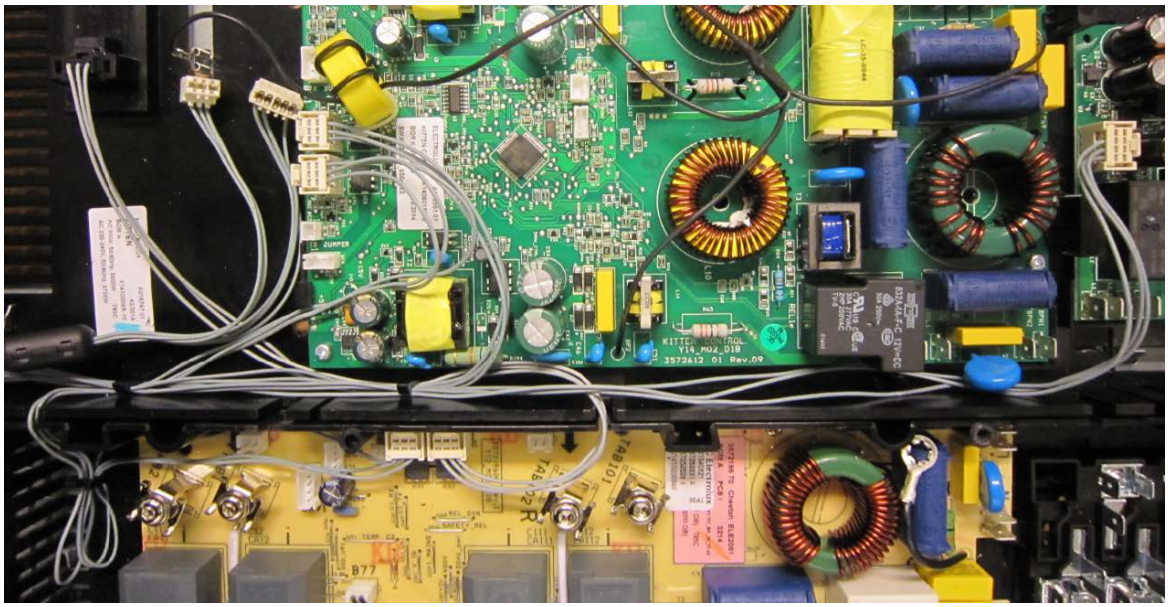
6.2.4 NEUTRAL CONNECTOR

Neutral Connector: Blue 3 Wires	**Connection :** 1 → 2 : Connector Filtered Neutral to Cheetah N 3 → 4 : Connector Neutral to Relay Power Board N 5 → 6 : Relay Power Board N to Control Electronic Board N
	

7. BUS WIRING

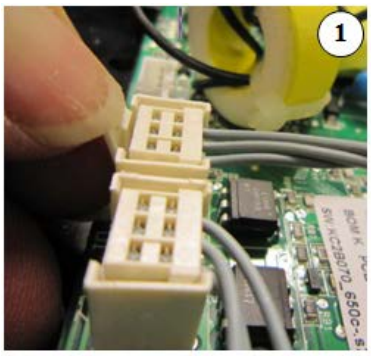
Via the Macs the electronics Interface PC3, Cheetah Induction and Control Electronic Board are communicating. The HC 1 + 2 is used for the HalfKitten module and HC 3 is for Cheetah. Therefore the Cheetah module gets the ID3 programming without Jumper.

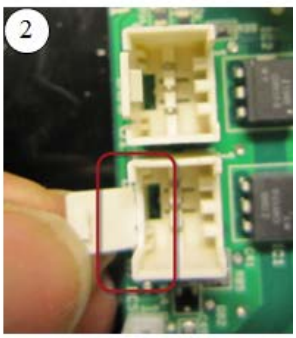
On the Control electronic Board is also no Jumper used because the 5V power is supplied by the Relay Power board with the mains relays. This voltage is insulated so that a damage of the insulation to the ground will not damage the electronics.

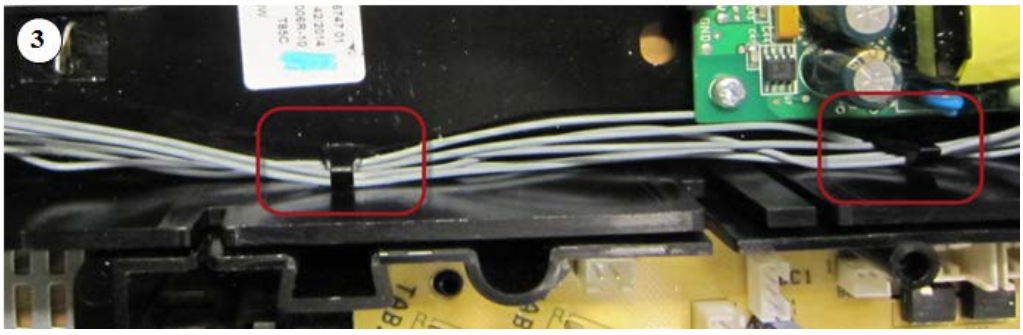


7.1 SERVICE NOTES

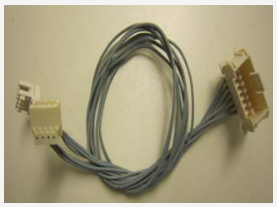
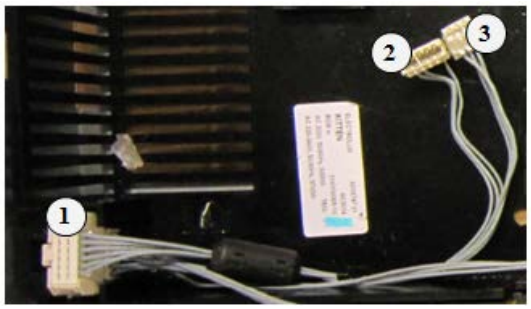
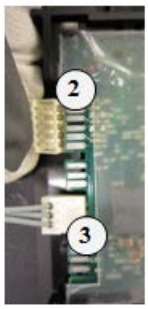
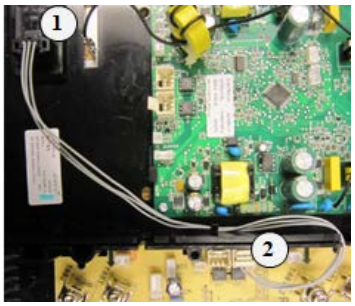
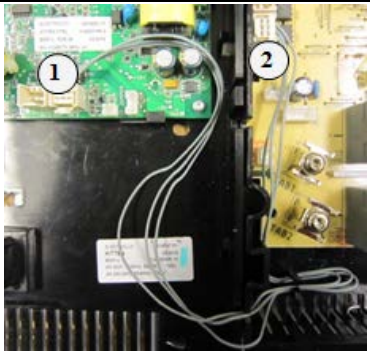
1. Open the snap of Rast connector's very carefully in order to avoid breakage
2. You may experience breaks if you pull the snaps too much
3. Pack the wiring back to the holders after service







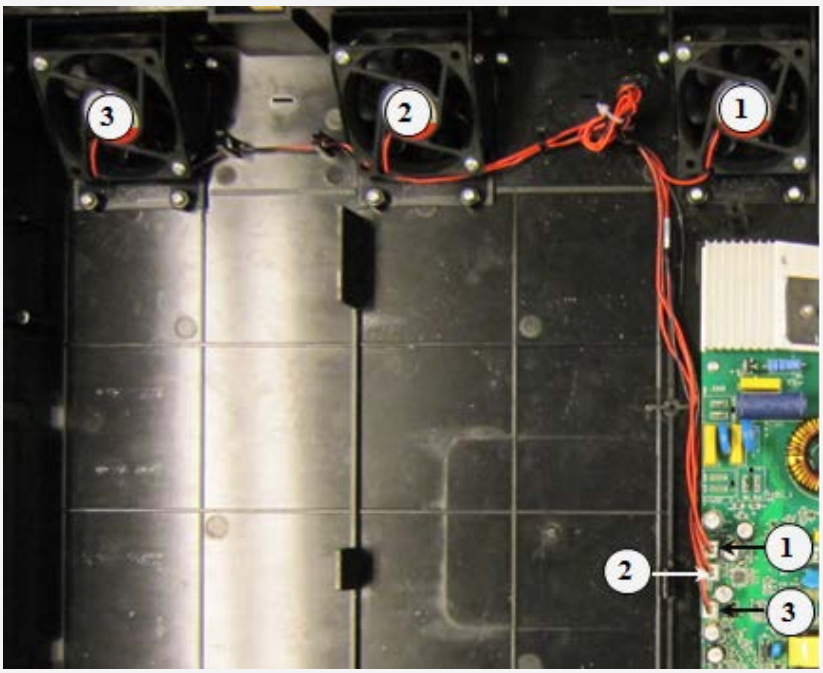
7.2 BUS WIRE CONNECTIONS

Bus Wire 1	**Connection :** 1 → 2 : Relay Power Board 5V to Inter connection interface 1 → 3 : Inter connection interface to Macs Bus Kitten Control 1(+5V), 2(Data), 3(0V)
	
Bus Wire 2	**Connection :** 1 → 2 : Inter connection interface to Macs Bus Interface PC3 1 (0V), 2 (data), 3 (+5V) 2 → 3 : Inter connection interface to Power supply Interface PC3 1 (+5V), 2 (relay), 5 (0V)
	 
Bus Wire 3	**Connection :** 1 → 2 : SideKick connector **to** Macs Bus Cheetah 1 (+5V), 2 (data), 3 (0V)
	
Bus Wire 4	**Connection :** 1 → 2 : Macs Bus Kitten Control **to** Macs Bus Cheetah
	

8. FAN WIRING

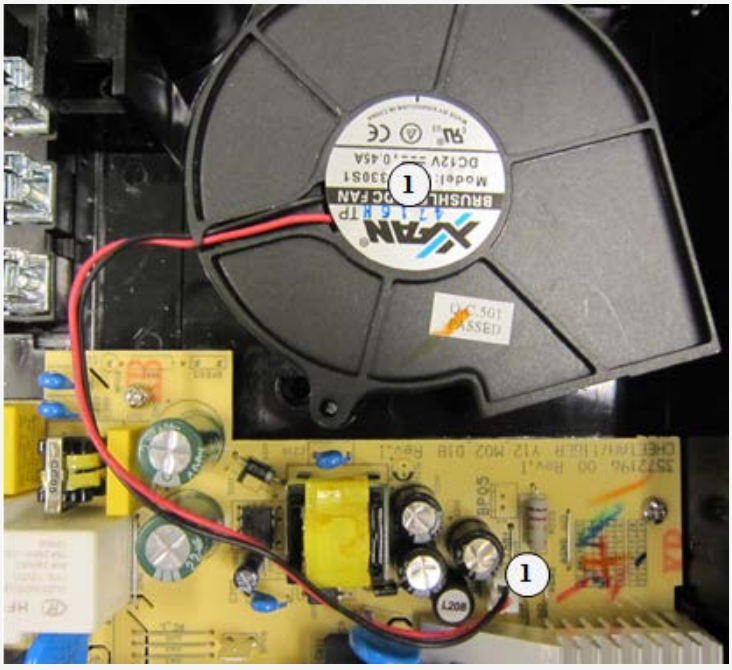
8.1 VANTILATORS HALFKITTEN

Connection :
1 → 1 : Ventilator 1 to HalfKitten control Electronics 1
2 → 2 : Ventilator 2 to HalfKitten control Electronics 2
3 → 3 : Ventilator 3 to HalfKitten control Electronics 3



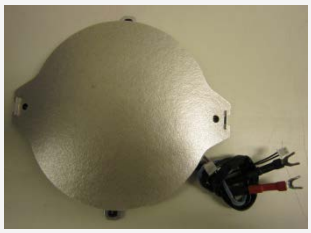
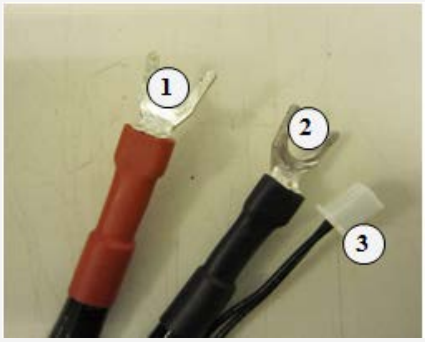
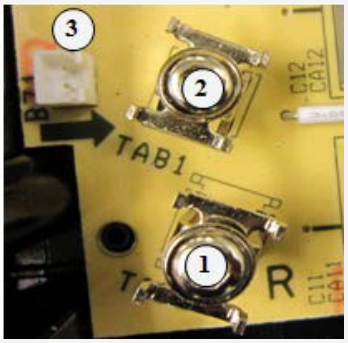
8.2 CHEETAH FAN

Connection :
1 → 1 : Cheetah Fan to Induction Module Cheetah

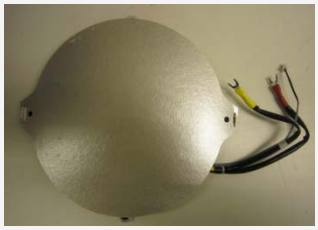
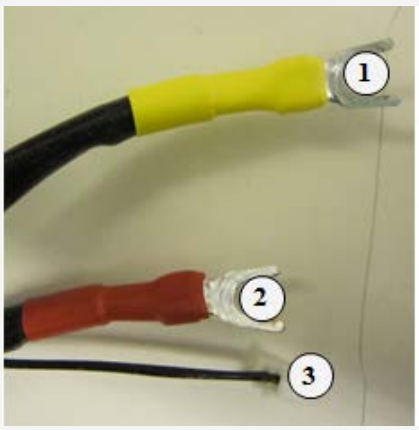
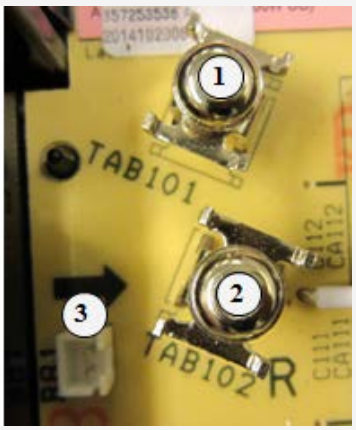


9. CHEETAH COIL WIRING

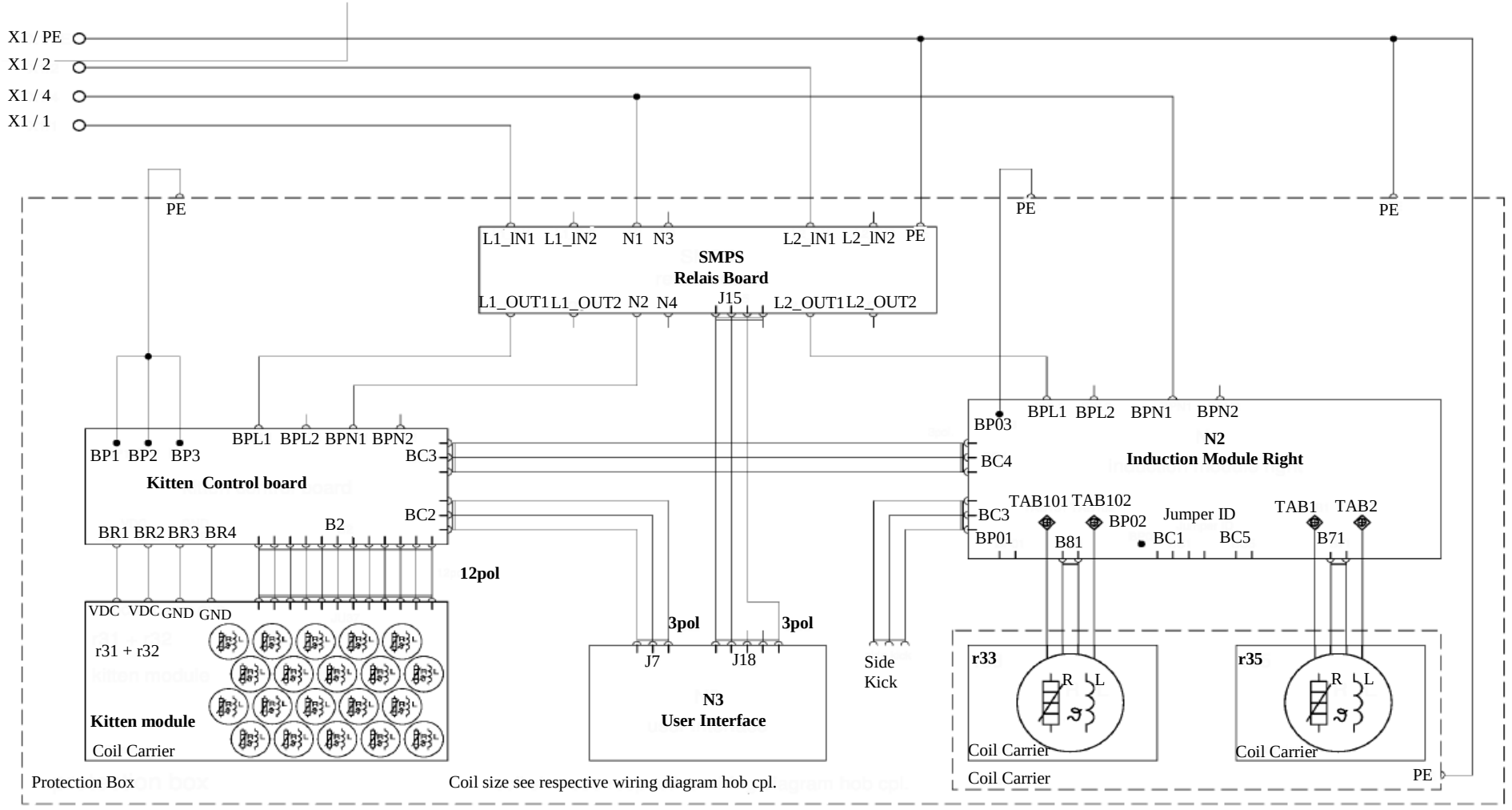
9.1 145MM CHEETAH COIL

145 mm Coil	**Connection :** 1 → 1 : Red coil Connector to TAB 2 Cheetah module 2 → 2 : Black coil Connector to TAB 1 Cheetah module 3 → 3 : Coil Sensor Cable to Sensor holder Cheetah module
	 

9.2 210MM CHEETAH COIL

210 mm Coil	**Connection :** 1 → 1 : Yellow Coil Connector to TAB101 Cheetah module 2 → 2 : Red Coil Connector to TAB102 Cheetah module 3 → 3 : Coil Sensor Cable to Sensor holder Cheetah module
	 

10. CIRCUIT DIAGRAM



11. REVISIONS

Revision	Date	Description	Author	Approved by - on
00	01/2015	Document Creation	BSP	
01	01/2016	Change in chapater 4.1.3 , 4.1.4 Added chapter 4.1.3.1 Added chapter 5.2, 5.3, 5.4 , 5.4.1, 5.4.2	BSP	