SERVICE MANUAL

merrychef

Microaire

SERVICE MANUAL

For all Microaire models manufactured from January 2001

Part No. 32Z3311e Issue No. 6

CAUTION MICROWAVE EMISSIONS

DO NOT BECOME EXPOSED TO EMISSIONS FROM THE MICROWAVE GENERATOR OR PARTS CONDUCTING MICROWAVE ENERGY

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SAFETY CODE

This manual is designed to assist engineers who have been on a recognised product familiarisation and training course run by Merrychef Limited. It has been prepared to offer technical guidance for the Merrychef Microaire Series 5 range of Combination Microwave Ovens.

Please remember that it is wiser **not** to attempt a service task if you are unsure of being able to complete it competently, quickly, and above all **safely**.

To avoid injury to yourself, and to protect the appliance from possible damage, please follow this Safety Code when servicing these ovens.

Before attempting to repair the oven, check it for microwave leakage.

Check that the oven is not emitting microwaves, even when supposedly not in operation.

Check that the oven is not operating continuously, whether the display indicates cooking or not.

Always discharge the HT capacitors before working on the oven using a suitably insulated 10 MΩ Resistor

Before removing the rear cover from the oven, do all of the following:

- Switch off the mains supply and remove the plug from the wall socket.
  or
- If the oven is hard wired, ensure that the power is turned off at the isolator switch.

Note: the On/Off switch on the oven is **not** adequate protection against electric shock, as it does not isolate all of the internal wiring from the mains.

Upon completion of a service on a Microaire Series 5 oven, or before reconnecting the appliance to the mains supply for testing, check all of the following points:

- All internal electrical connections are correct.
- All wiring insulation is correct and is not touching a sharp edge.
- All Earth connections are electrically and mechanically secure.
- All four door safety interlocks are secure and mechanically sound.
- The door operation is smooth, and the arms run freely in the slots.
- The door activates all four of the door interlock switches **in the correct order**.
- All fuse-holder safety covers are correctly fitted.
- The temperature sensor is correctly connected to the Power PCB.

Before finishing the service call, recheck the following points:

- All of the electronics are functioning correctly, and all of the touch pads are working.
- The turntable is rotating freely.
- The power output of the oven is correct (see pages 11 & 12).
- Microwave emission is below permissible limit - 5 mW/cm² (see BS EN 60335-2-90:1998).
- Oven has correct 50mm air gap all round and 150mm above. Air flow should not be restricted.

PRODUCT SPECIFICATIONS

ELECTRONIC CONTROLS

Model Number: **RMC1003 + Voltage + Frequency + Current + Controls + Extras**

Model prefix	Voltage	Frequency	Current	Control Type
RMC1003	2 = 220-230V a.c. 4 = 230-240V a.c	5 = 50 Hz 6 = 60 Hz	EE=Reduced Current XE = Full Current	5 = Series 5 controls

Rail spec: **RMC1003 + RS + Carriage Type RF/HST**

MANUAL CONTROLS

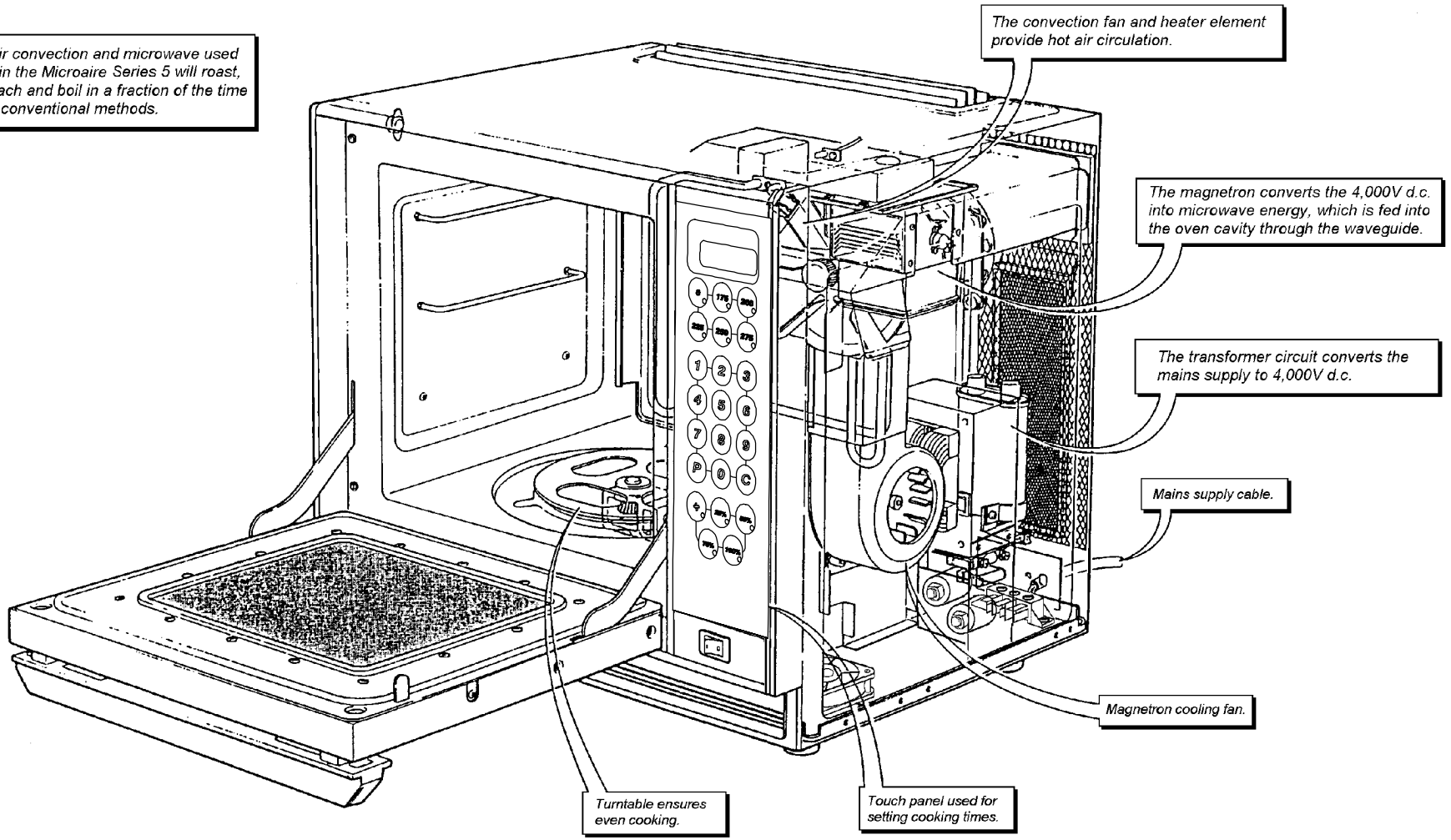
Model Number: **RMC1003 + Voltage + Frequency + Current**

Model prefix	Voltage	Frequency	Current
RMC1003	2 = 220-230V a.c. 4 = 230-240V a.c.	5 = 50 Hz 6 = 60 Hz	CD2 = 13amp XD2 = 30amp

Power Requirements	RMC100345EE5/CD2 RMC100325EE5/CD2 RMC100345XE5/XD2 RMC1003RSRF RMC1003RSHST	230-240V ac 50 Hz 13.0A Single Phase 2 Wire + Earth. 220-230V ac 50 Hz 14.2A Single Phase 2 Wire + Earth. 230-240V ac 50 Hz 19.2A Single Phase 2 Wire + Earth. 2 x Single Phase + Earth. See rating plate for full details. 2 x Single Phase + Earth. See rating plate for full details.
Power Output	Microwave 100% Convection Combination	700W (IEC 705) 3000W 700W + 1500W (EE) 700W + 3000W (XE, RS RF, RS HST)
External Dimensions	Height Width Depth	530 mm (Plus 150 mm minimum clearance above) 550 mm (Plus 50 mm minimum clearance each side) 575 mm (Plus 50 mm clearance behind)
Internal Dimensions	Height Width Depth Turntable Capacity	315 mm 330 mm 330 mm 300 mm Diameter 34.3 litres (1.21 ft^3)
Weight	Nett Gross packed	45 kg 58 kg
Construction	Cavity Casework	Vitreous Enamel Coated Steel 304 Stainless Steel Anodised Aluminium Extrusions
Settings	Microwave Temperature Timer	100%,75%,50%,25%, Convection only Off, 175°, 200°, 225°, 250°, 275° Up to 30 minutes Up to 3 cooking stages of up to 30 minutes each (Programmed)

MICROAIRE Series 5 - Principles of Operation

Forced air convection and microwave used together in the Microaire Series 5 will roast, bake, poach and boil in a fraction of the time taken by conventional methods.



INSTALLATION INSTRUCTIONS

Power Supply Requirements

The **Microaire Series** should be connected to a suitable electricity supply, which can cope with the switching-on surge that occurs with certain types of catering equipment, such as microwaves. Because of this requirement, we strongly recommend that a separate, suitably rated supply is installed for the oven.

The supply for the oven should be fitted with a **Type "C"** circuit breaker, rated at:

20 Amp for Microaire 13A/ CD² or 30 Amp for Microaire 30A/ XD²

If the oven is hard-wired to the supply, a double-pole isolator switch with a contact gap of at least 3 mm should be fitted.

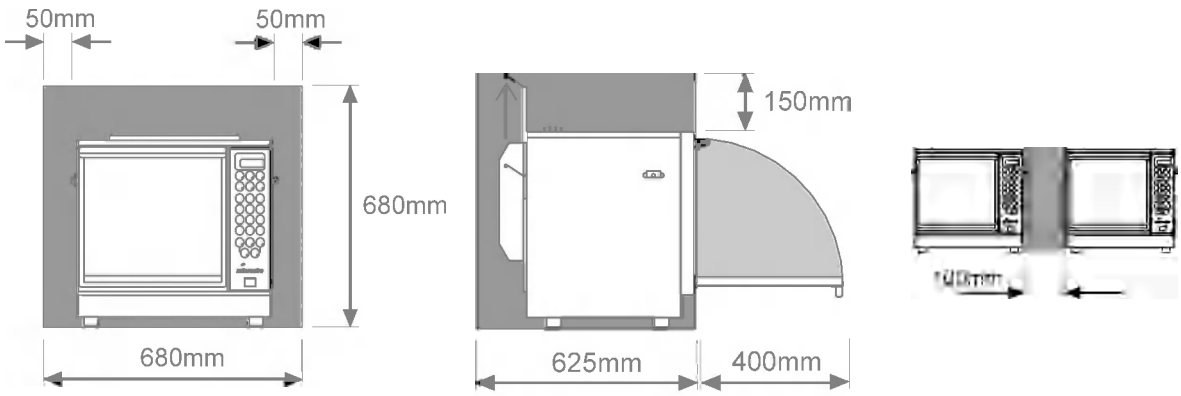
Custom ovens for Railway Use only

Microaire Series 5 RS RF and RS HST Power Supply Requirements

These versions of the oven are custom Rail Specification designs for use on two separate phases of a mains supply, with isolated neutrals and a common earth connection.The full power supply and circuit breaker requirements for these ovens is listed on the label affixed to the rear of the oven casing. **These ovens are NOT suitable for connection to a standard mains supply.**

Positioning the Oven

In order to maintain adequate ventilation for air intake and exhaust, and to allow access for cleaning filters, you must allow a minimum of 50 mm clearance at the sides and rear of the oven, and at least 150 mm above. Air intake temperature should not exceed 35°C.
Excessive temperature will lead to reduced operating duty cycle or premature ageing of internal components.



NEVER Install an oven above fryers, grills, griddles or any other major heat source.

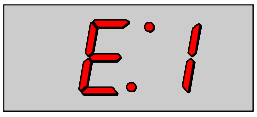
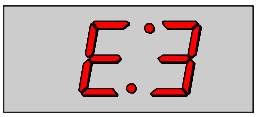
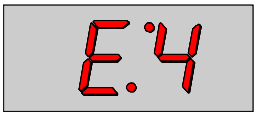
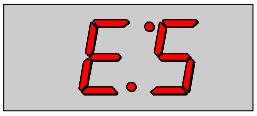
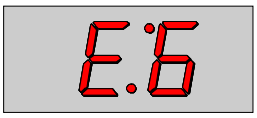
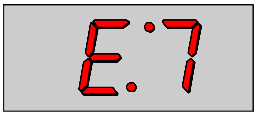
NEVER Stack machines on top of each other - always use a double stand.

ALWAYS Place containers in the cavity carefully - impact damage may chip the vitreous enamel coating.

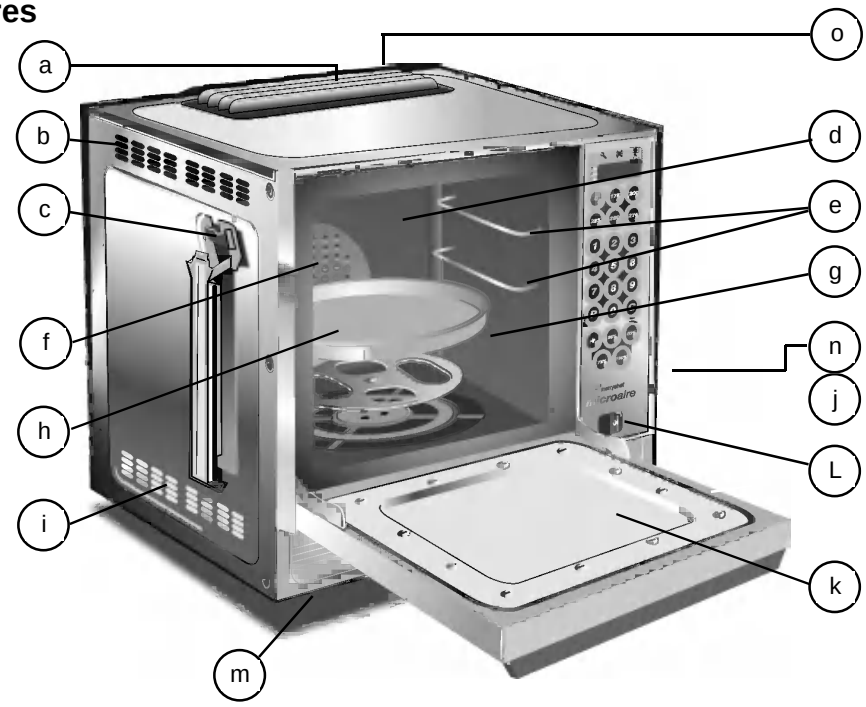
Error Codes and Diagnostics

The Microaire Series 5 will identify some of the most common problems by flashing an error message code in the time display window.

These are the error messages, and suggestions for repairing them.

	1 2	Door not fully shut. Possible electrical fault	Close door fully. Door switch inoperative.
 	1 2 3	No time has been set. Invalid time has been set. Invalid program has been set.	Set a time. Set a valid time. Use call-back to check program.
	 1 2	Oven not heating up. Possible Heater fault. Possible Sensor fault.	Check heater fuse. Confirm operation of heater circuit. (RS units) Check slave heater relay and second supply.
	1	Oven Cavity overheating.	Confirm heater relay is operating. (RS units) Check slave heater relay .
 	1	Oven is not at correct temperature to start program.	Remove food. Allow oven to reach correct temperature. **Operator Error !!**
  	1	Magnetron overheating.	Check air filters. Check location, air inlet temperature and air filters. Note : this will lead to condition shown below.
	1 2	Magnetron has overheated but has now recovered. Internal diagnostic fault.	Check that magnetron cooling fan and turntable are working correctly. Check installation, air inlet temperature and air filters.
	1	Oven control area is overheating.	Check air filters. Check axial fan. Check installation for hot air intake.

Main Features



a STEAM OUTLET

Allows steam and excess pressure to escape from the oven cavity. It must be kept clear.

b AIR OUTLET

Hot air is vented here. It must be kept clear.

c TRAY HANDLE RESTS

There is one on each side of the oven for convenient storage of the tray handle.

d BAFFLE PLATE

Forms the inside rear of the oven and covers the hot air circulation fan. Removable for cleaning by unscrewing the four wing nuts which hold it in place. This must be cleaned on a regular basis, and kept free of debris.

e RUNNERS

These mounted on each side of the oven cavity to support the rectangular racks or oven trays, and are for use in **Convection mode only**.

f HOT AIR FAN

Situated behind the baffle plate, and circulates the hot air through the baffle plate, over the heating element, and around the edge of the baffle plate back into the cavity.

g OVEN CAVITY

The oven cavity is mainly constructed form vitreous enamelled steel panels. It must be kept clean.

h TURNTABLE TRAY

The vitreous enamelled turntable tray fits onto the turntable disc in the bottom of the oven cavity, and rotates during cooking to ensure an even distribution of microwave energy.

i AIR INLETS

Additional air inlets are situated along the lower edge of the left-hand side panel, and must not be obstructed.

j RATING PLATE

The rating plate is situated on the rear of the oven, and states the Model, Serial Number, Electrical Ratings and Manufacturers tel no.

k DOOR

The door consists of a thermally insulated inner section, and an additional air gap provided by a twin skinned door front to lower the surface temperature.

l ON/OFF SWITCH

This is used to turn the oven On or Off.
IT DOES NOT ISOLATE INTERNAL WIRING FROM THE ELECTRICAL SUPPLY.

m FEET

These feet are fitted to ensure adequate airflow under the oven. They must not be removed. On RS units, these are also the means of anchoring the oven to the work surface.

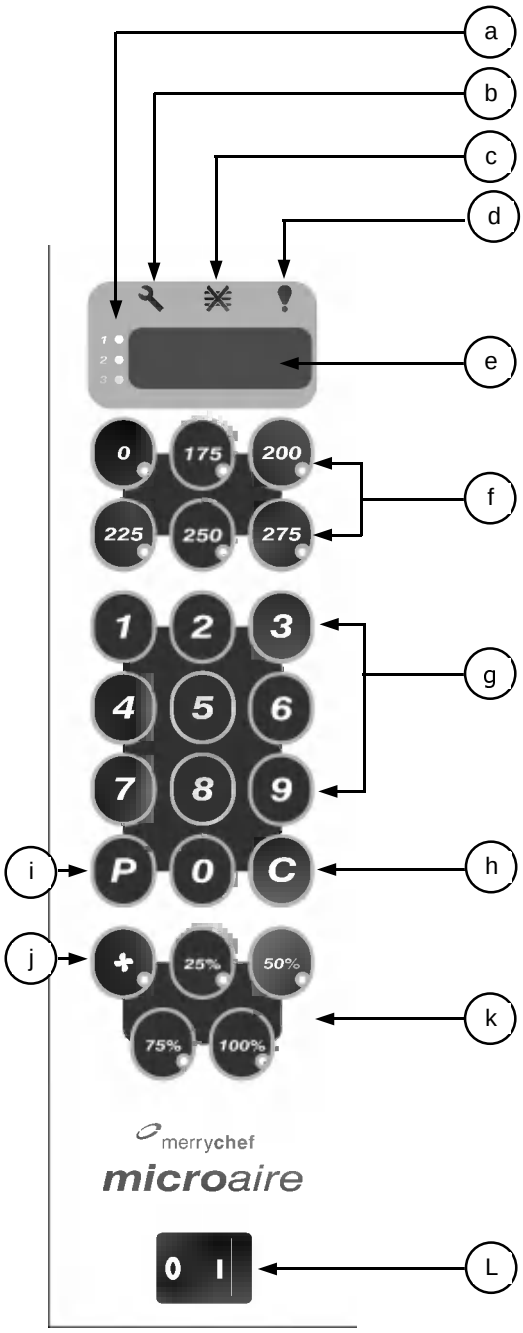
n ELECTRICAL SUPPLY LEAD

o AIR FILTER (REF 27)

Main intake for cooling air for internal components. Must be clear of obstructions.

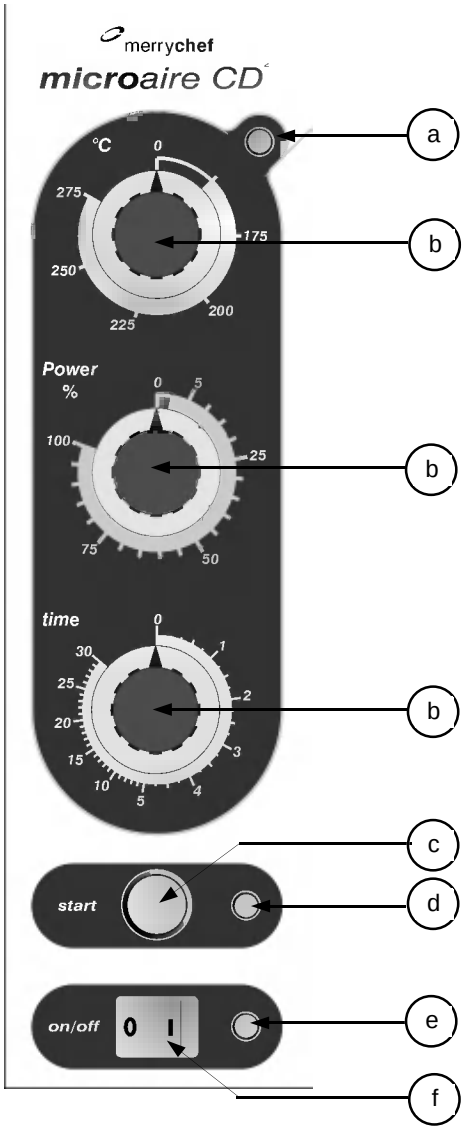
Electronic controls: Microaire Series 5

a	Stage LED's
b	Service Indicator
c	Air Filter Block Indicator
d	Operator error indicator
e	Program Display
f	Temperature Set Pads
g	Time / Precept Pads
h	Cancel/ Callback Pad
i	Program Pad
j	Convection Pad
k	Microwave power Pads
L	On/Off switch (Ref. No. 97)



Manual controls: Model No.s CD2, XD2

a	Timer Amber Neon
b	Control Knob
c	Start Pushbutton
d	Cook cycle Red Neon
e	Power Amber Neon
f	On/Off switch



Procedure A - Power Output Test in accordance with BS EN 60335-2-25:1996 Annex AA

This test is given in the BSI test standard for microwave ovens. It is reproduced below - not so that you can follow it, but to show you why it is impractical in normal conditions. A simplified procedure, which gives a good approximation to the BSI power output, is given in Procedure B which follows.

Note: This test can only be carried out on a **COLD** oven. If the oven has been operating, even for only a few seconds, the power given will be lower than the oven rating. This test must also be carried out at a stable voltage - the voltage in most kitchens varies considerably even within the period of the test. If the oven has been operating, go to **Procedure B.**

You will need:

A thermometer capable of reading to ±0.1°C.
A cylindrical borosilicate glass container, 190 mm diameter, with a wall thickness of 3 mm or less.
A calculator.
A set of scales capable of reading 1 kg to an accuracy of ± 1 g.
A glass or plastic stirrer.
A jug capable of holding over 1 litre of water.
Drinkable water which is at a temperature of 10°C ± 1°C.
A "Variac" or similar variable transformer capable of supplying the oven to ensure a stable voltage.

WARNING: *The Borosilicate Glass container has thin walls and is therefore fragile - take care not to break it during use.*

Method

A cylindrical container of borosilicate glass is used for the test. It has a maximum thickness of 3mm, an external diameter of approximately 190 mm and a height of approximately 90 mm. The mass of the container is determined.

At the start of the test, the oven and the empty container are at ambient temperature. Potable water having an initial temperature of 10°C ± 1°C is used for the test. The temperature of the water is measured immediately before it is poured into the container.

A quantity of 1000 g ± 5g of water is added to the container and its actual mass obtained. The container is then immediately placed in the middle of the oven shelf which is in its lowest normal position. The appliance is supplied at rated voltage and operated at the maximum power setting. The time for the water temperature to attain 20°C ± 2°C is measured. The oven is then switched off and the final water temperature is measured within 60's.

NOTES
1 The water is stirred before its temperature is measured.
2 Stirring and measuring devices are to have a low heat capacity.

The microwave power output is calculated from the formula:

$$P = \frac{4.187\ M_W\ (T_2-T_1) + 0.55\ M_C\ (T_2-T_0)}{t}$$

where
P is the microwave power output, in watts;
M_W is the mass of the water, in grams;
M_C is the mass of the container, in grams;
T_0 is the ambient temperature, in °C;
T_1 is the initial temperature of the water, in °C;
T_2 is the final temperature of the water, in °C;
t is the heating time in seconds, excluding the magnetron filament heat-up time.

Procedure B - Simplified Power Test

You will need:

A thermometer capable of reading to ±0.1°C.
A Polypropylene tray approximately 200 mm x 200 mm.
A measuring jug.
A calculator.
Water which is at a temperature of 10°C ± 2°C.

1 Measure 1 litre of cold water into the tray using the measuring jug.
2 Measure the water temperature, and record it as T[s].
3 Place the tray on the turntable in the oven and close the door.
4 Turn the oven on.
5 Set the timer to 1:02.
6 Press the “100%” pad.
7 When the oven bleeps, open the door and remove the tray.
8 Stir the water thoroughly, and measure its temperature. Record this as T[e].

Calculation:

1 T[r] = T[s] - T[e].
2 Power = 70 x T[r]. Power is in Watts.

The power given by the above test should be within ±10% of the rated power.

Procedure C - Power Transformer Test

You will need:

A Digital Multi-meter (D.M.M.)
A Megger or similar resistance meter using 500V d.c.

WARNING: *High voltages and large currents are present at the secondary winding and filament winding of the Power Transformer. It is very dangerous to work near this part when the oven is on. NEVER make any voltage measurements at the High Voltage circuits, including the magnetron filament.*

WARNING: *Even when the oven is not cooking, the Power Transformer has High Voltages present because of the Soft Start circuit. Isolate the oven before testing.*

1 Isolate the oven from the mains supply.
2 Ensure that the High Voltage Capacitor is discharged before commencing work.
3 Remove all connections from the Power Transformer.
4 Using a D.M.M., check the resistance of the windings. Results should be as follows:

Mains winding (between tags)	Approximately 1.1 Ω
High Voltage winding (between tag & chassis)	Approximately 60 Ω
Filament winding (between terminals)	Less than 1 Ω

5 Using a Megger, test the insulation resistance between:
One end of the High Voltage winding is connected to the chassis, so this is not tested.

Primary winding and chassis	Pass if over 10 MΩ
Filament winding and chassis	Pass if over 10 MΩ

Procedure D - High Voltage Capacitor Test

You will need:

A Digital Multi-meter (D.M.M.)
A Megger or similar resistance meter using 500V d.c.

WARNING: *High voltages and large currents are present at the High Voltage Capacitor. It is very dangerous to work near this part when the oven is on. NEVER make any voltage measurements at the High Voltage circuits, including the magnetron filament .*

WARNING: *Even when the oven is not cooking, the High Voltage Capacitor has High Voltages present because of the Soft Start circuit. Isolate the oven before testing.*

1 Isolate the oven from the mains supply.
2 Ensure that the High Voltage Capacitor is discharged before commencing work.
3 Remove all connections from the High Voltage Capacitor.
4 Using a D.M.M., check for continuity between the terminals & compare results with table.
5 Using a Megger, test the insulation resistance between the terminals and the case.

Between Terminals	Pass if approximately 10 MΩ
Between Terminals and Case	Pass if open circuit

Between Terminals and Case	Pass if over 100 MΩ

Procedure E - High Voltage Rectifier Test

You will need:

A Megger or similar resistance meter using 500V d.c.

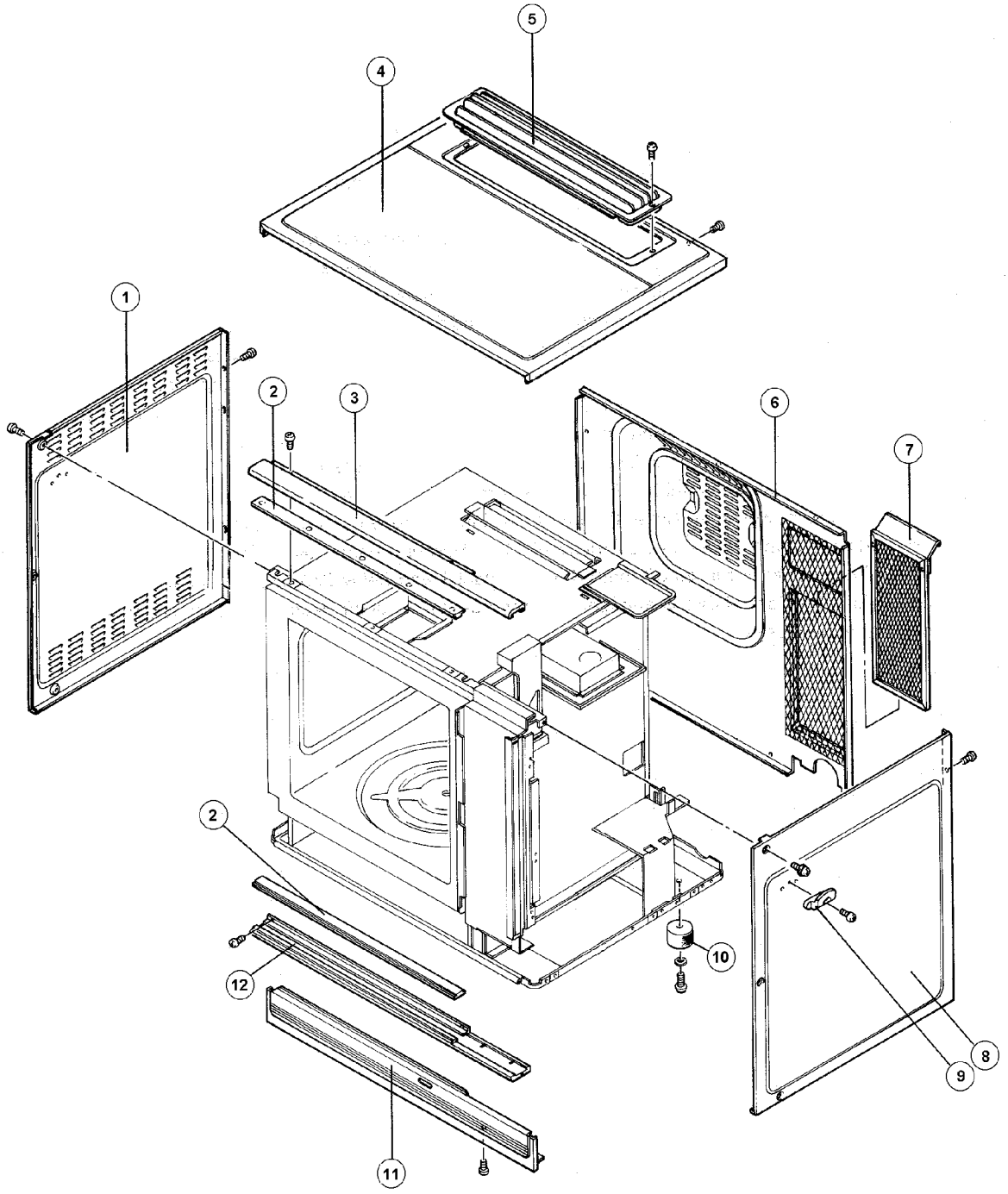
WARNING: *High voltages and large currents are present at the High Voltage Rectifier. It is very dangerous to work near this part when the oven is on. NEVER make any voltage measurements at the High Voltage circuits, including the magnetron filament .*

WARNING: *Even when the oven is not cooking, the High Voltage Rectifier has High Voltages present because of the Soft Start circuit. Isolate the oven before testing.*

1 Isolate the oven from the mains supply.
2 Ensure that the High Voltage Capacitor is discharged before commencing work.
3 Remove all connections from the High Voltage Rectifier.

Open Circuit both ways	**FAIL**
Conducts one way only	PASS
Short Circuit both ways	**FAIL**
Conducts one way, leaks the other	**FAIL**

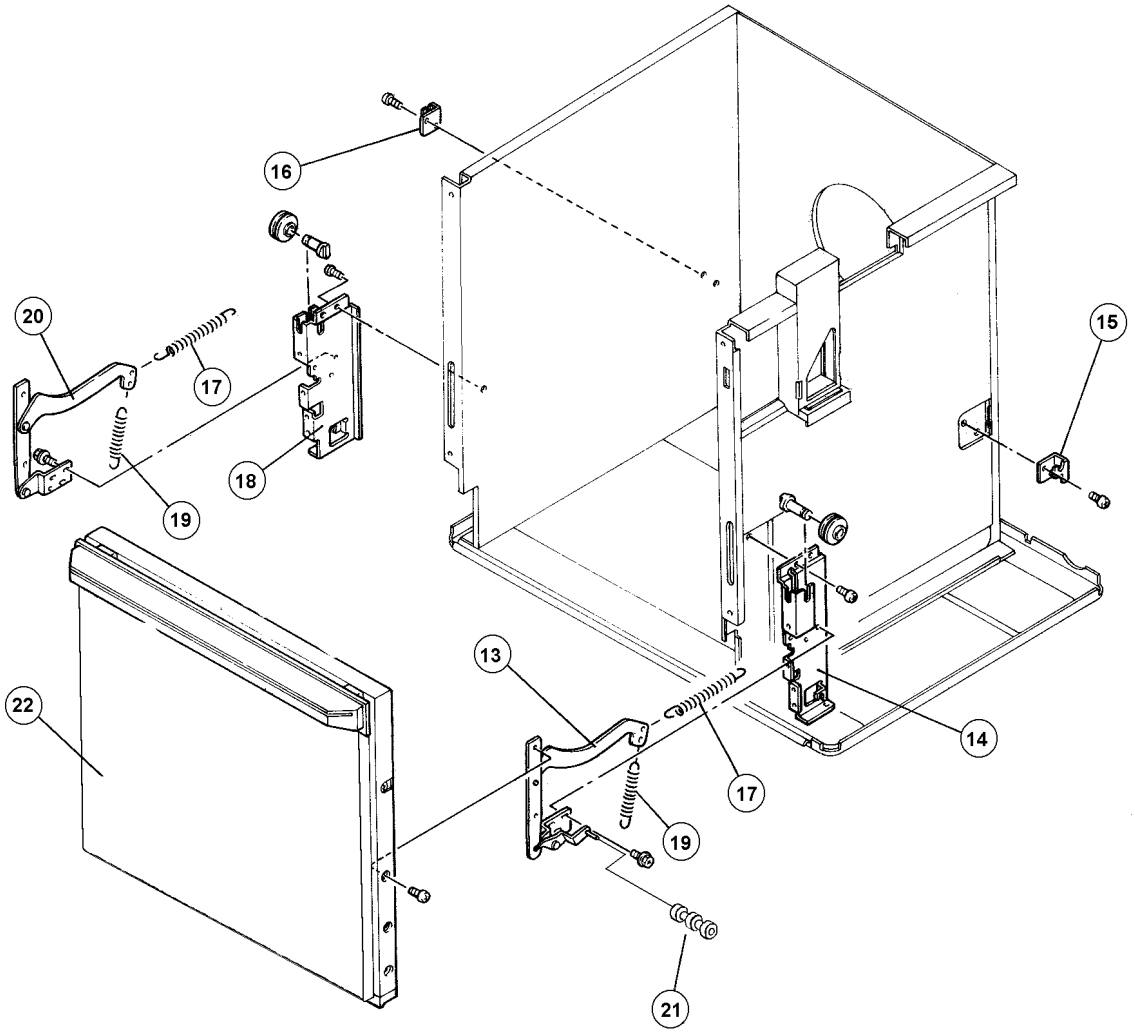
Principal components: Casework



1	Side Panel (L/H)	MC3134
2	Ferrite (2)	RMC6773
3	Upper Trim	MC3120X01
4	Top Plate	RMC6759E
5	Exhaust Gallery	RMC73372
6	Rear Panel	MC3129

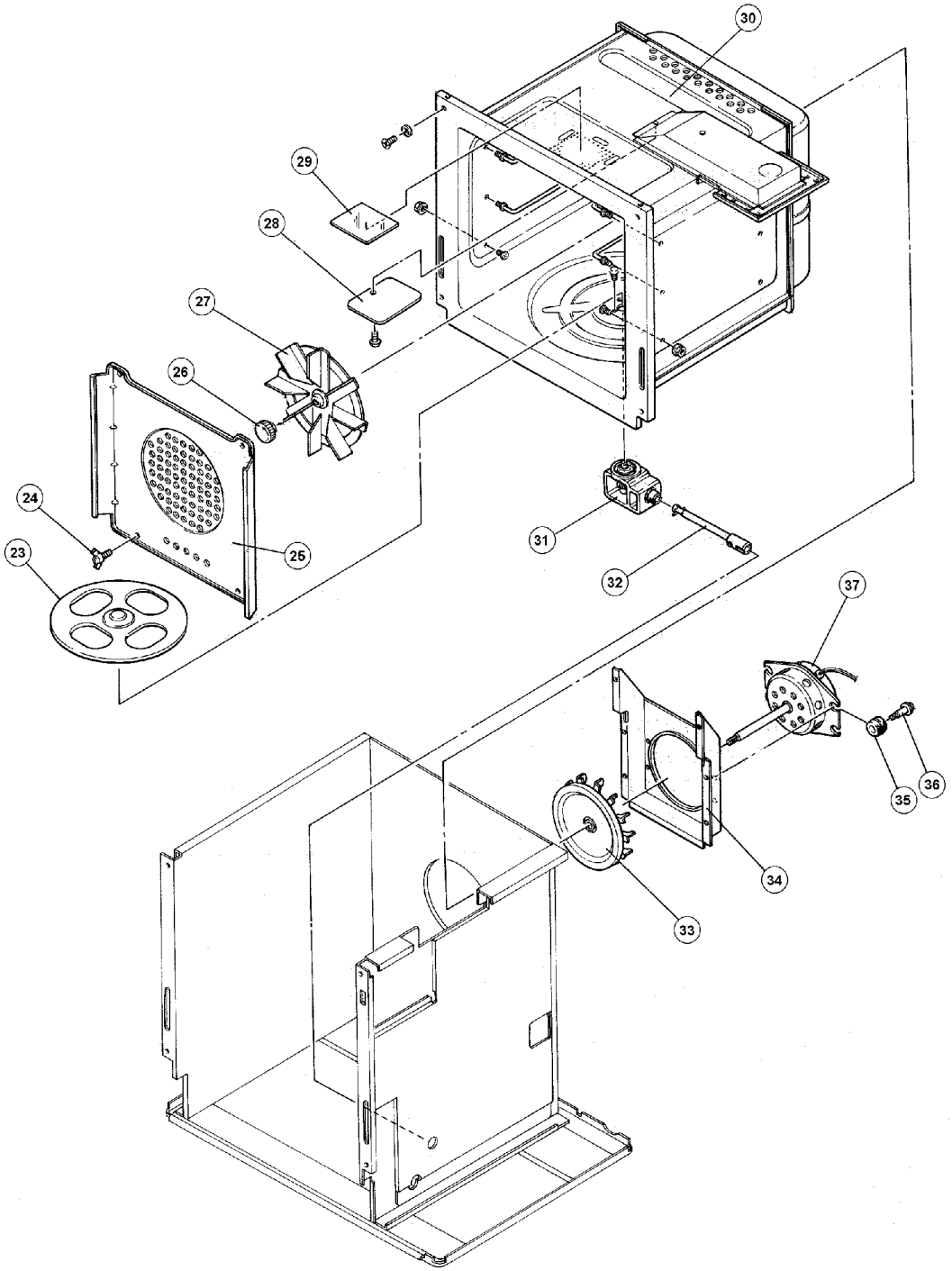
7	Grease Filter	MC3155
8	Side Panel (R/H)	MC3133
9	Handle Hanger (2)	RCK6319
10	Rubber Foot (EE,XE) (4) Foot (RF, HST) (4)	RMC6104 40H0092
11	Front Lower Panel	MC3047
12	Lower Trim	MC3122

Door Mechanism



13	Door Stay (R/H)	MC3040
14	Hinge Body	MC30121
15	Hook (A)	RMC66171
16	Hook (B)	RMC66172
17	Door Spring (B)	MC3068X01
18	Hinge Body (L/H)	MC30122
19	Door Spring (A)	MC3067
20	Door Stay (L/H)	MC3046
21	Microswitch Guide	40H0076
22	Microaire Solid Door Assy	11H0031

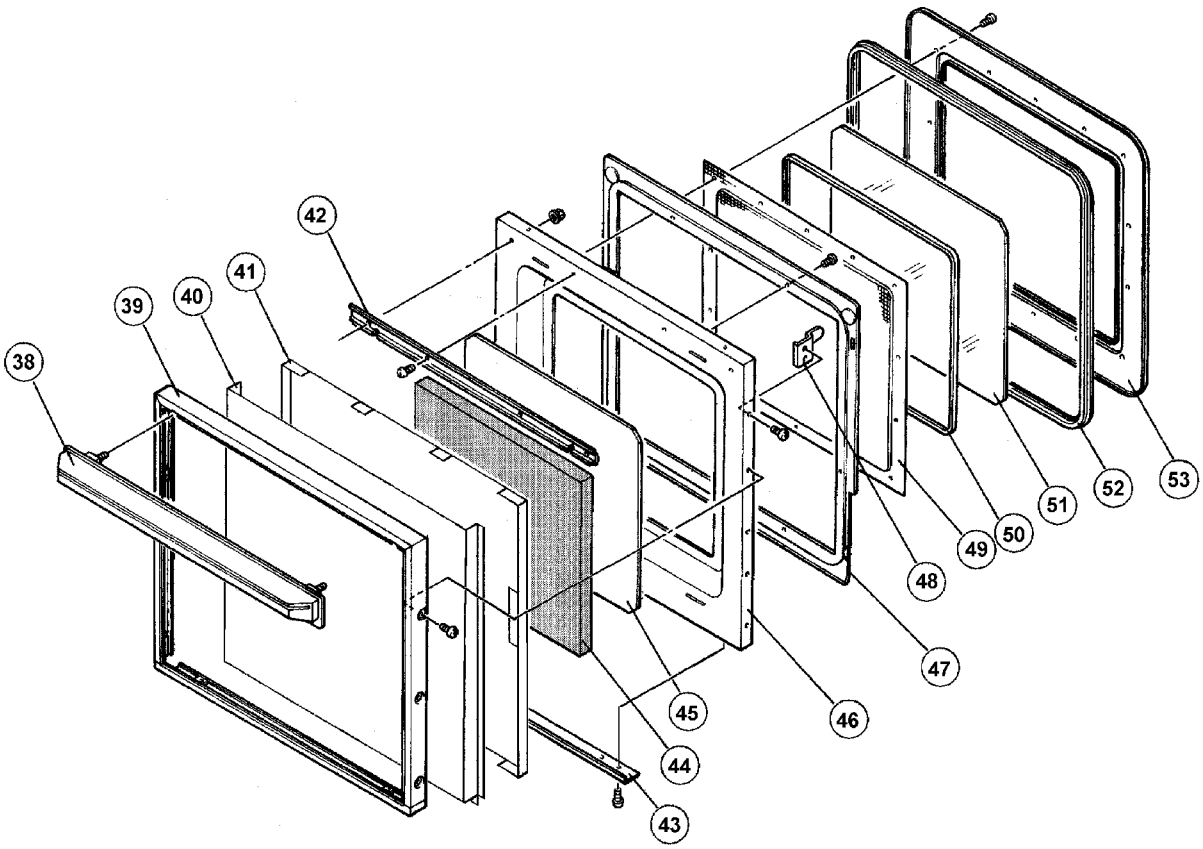
Oven Cavity Components and Hot Air System



23	Turntable Disc	RMC7340X01
24	Baffle Plate Bolt	CP30326
25	Baffle Plate	MC3018
26	Fan Fixing Cap	RCK7617
27	Fan	MC3111
28	Partition Plate	11H0007
29	Cavity Sealing Glass	RMC7043
30	Oven Body	MC3013

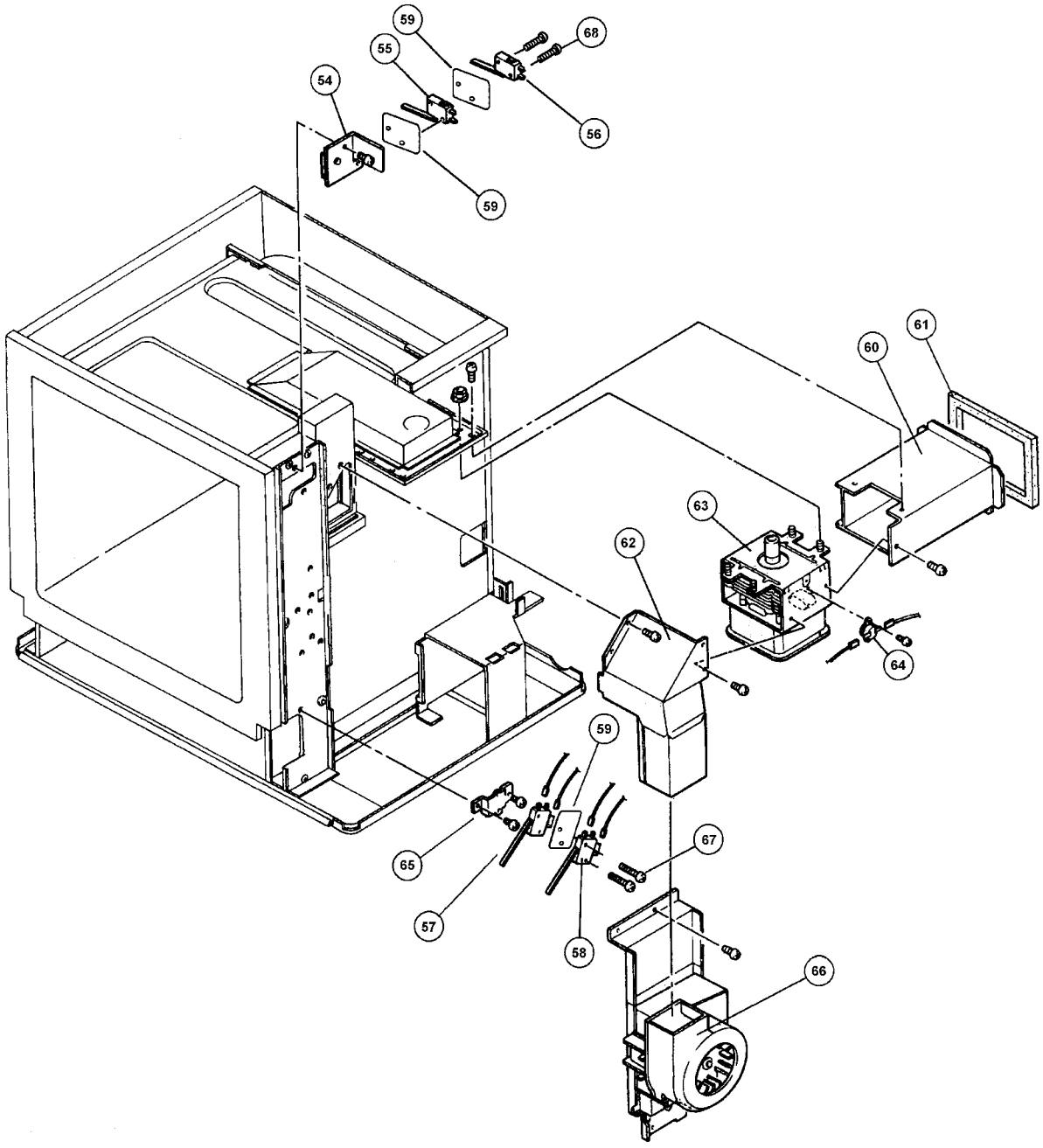
31	Gearbox	MC3216
32	Shaft	RMC7391X01
33	Cooling Fan	RMC7310
34	Motor Bracket	RMC7307X01
35	Cushion Rubber	RCK8273
36	Motor Fixing Screw	CP30310
37	Hot Air Motor	MC3110

Oven Door Assembly



38	Black Handle Microaire	RBR12852
39	Door Frame (A) Black	MC30503
40	Door Cover Outer Skin	40H0080
41	Insulation Panel	40H0081
42	Door Reinforcement	RMC70722
43	Door Frame (B)	MC3055
44	Insulation Wrap	32Z0001
45	Window Screen	40H0082
46	Door Base Silver	MC3031KX04
47	Door Cover	MC3064
48	Plate - Door Switch	MC3056
49	Screen	MC3061
50	Packing (A)	MC3063
51	Inner Door Glass	MC3062
52	Packing (B)	MC3065
53	Door Rear Plate	MC3066

Magnetron and Door Interlock Components

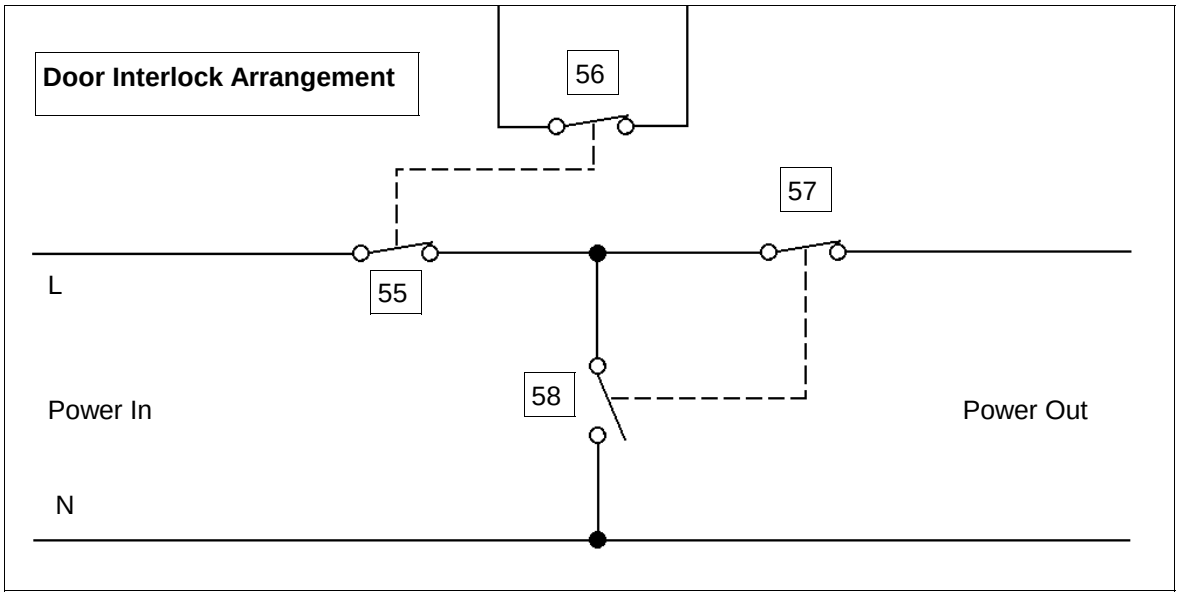


54	Door Switch Bracket Ass	11H0033
55	Primary Microswitch	30Z0240
56	Low Voltage Microswitch	30Z0240
57	Secondary Microswitch	30Z0240
58	Monitor Microswitch	30Z0240
59	Microswitch Insulator	31Z0115
60	Outlet Duct	MC3037
61	Foam Tape	31Z0042

62	Inlet Duct	RMC7193X01
63	Magnetron	30Z0264
64	Magnetron Cut-out	30Z0088
65	Switch Bracket	RMC7100X01
66	Blower Assembly	MC3141
67	M3 x 25 Pan Head Pozi	31Z3093
68	M3 x 30 Pan Head Pozi	31Z3113

Door Interlock Operation

The door on the Microaire Series 5 oven is monitored by four microswitches. Three of these are used in the conventional “Primary, Secondary and Monitor” switch arrangement shown below, while the fourth is a low-voltage switch linked directly to the control circuitry.
The switches operate as follows:



1. **Primary Interlock [55 , Top Left-Hand] and Low voltage [56 , Top Right-Hand] Switches**
   Operate simultaneously. Either will cut off the microwave emissions from the oven when the door is opened: the Primary switch by breaking the mains supply circuit to the transformers, and the Low-Voltage switch by breaking the relay circuit on the Power / Relay PCB.

2. **Monitor [58 , Bottom Outer] and Secondary Interlock [57 , Bottom Inner] Switches.**
   Operate simultaneously. The Monitor switch will produce a short circuit across the mains supply if the Primary interlock switch is faulty, thus blowing the microwave fuse and rendering the oven inoperative. The Secondary interlock switch will cut off the microwave emission if all three of the other switches have failed.

Note: If operation of the Monitor switch has caused the Microwave Fuse to blow, the Primary and Monitor microswitches must be changed, as they may have been damaged by the high short-circuit currents involved.

Error Light Operation

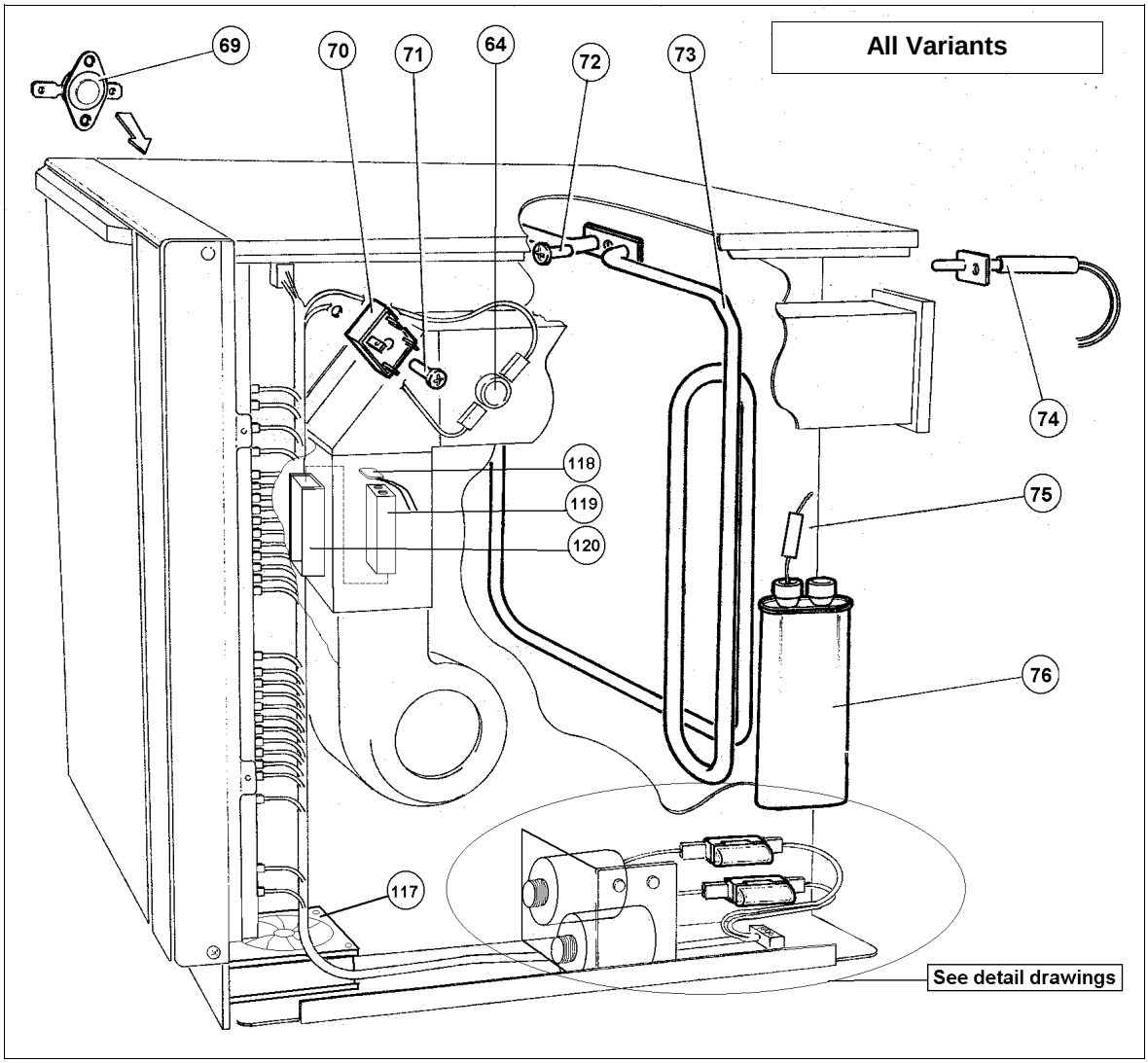
The “Air Filter Blocked” light and “Service” light are triggered by the internal circuitry. If the magnetron overheats, the error code “E:7” is displayed on the front panel, and both the “Air Filter Blocked” and the “Service” indicators will light. Once the magnetron has cooled sufficiently to allow the oven to restart, the “Service” light will remain illuminated until the oven is turned off.

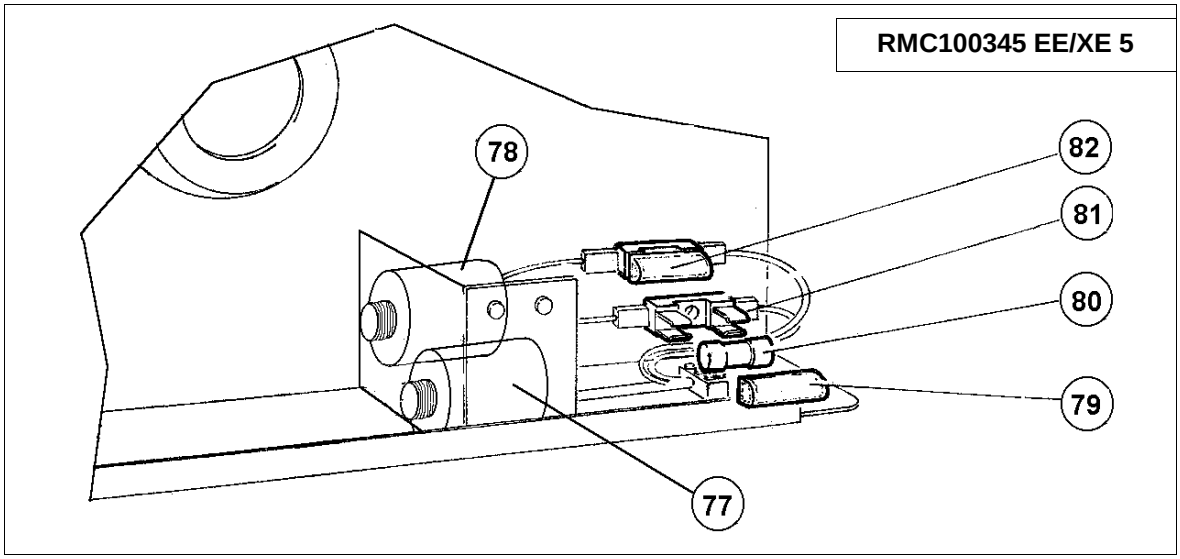
This fault may have been triggered by one of the following causes:

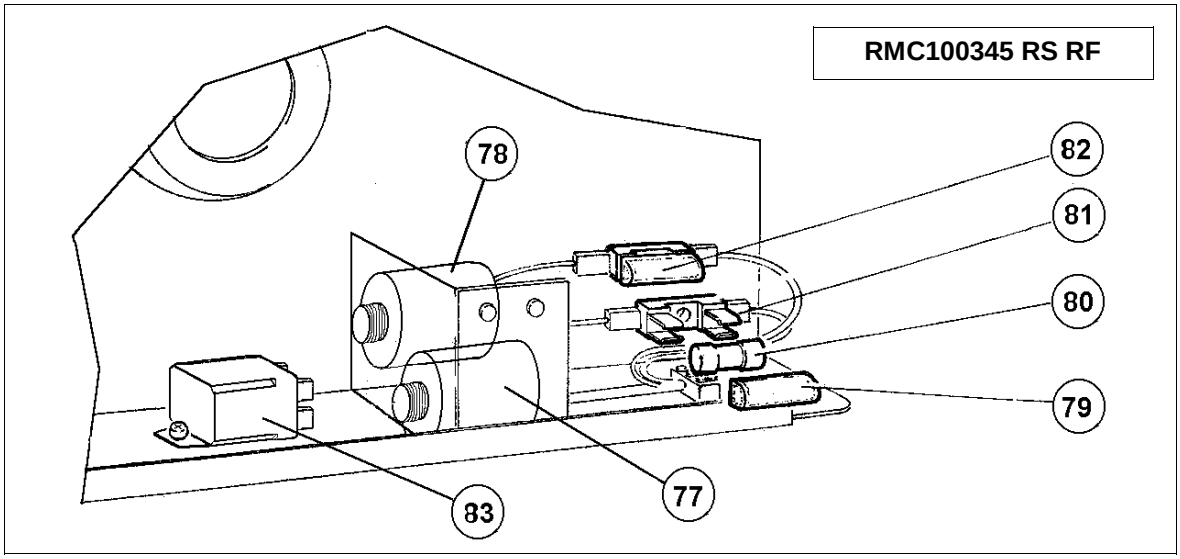
- Air inlet on rear of machine being obstructed.
- High air inlet temperature.
- Slow running cooling fan, jammed turntable or broken gearbox (cooling fan also drives turntable).
- Faulty magnetron overheat ‘stat or associated wiring.

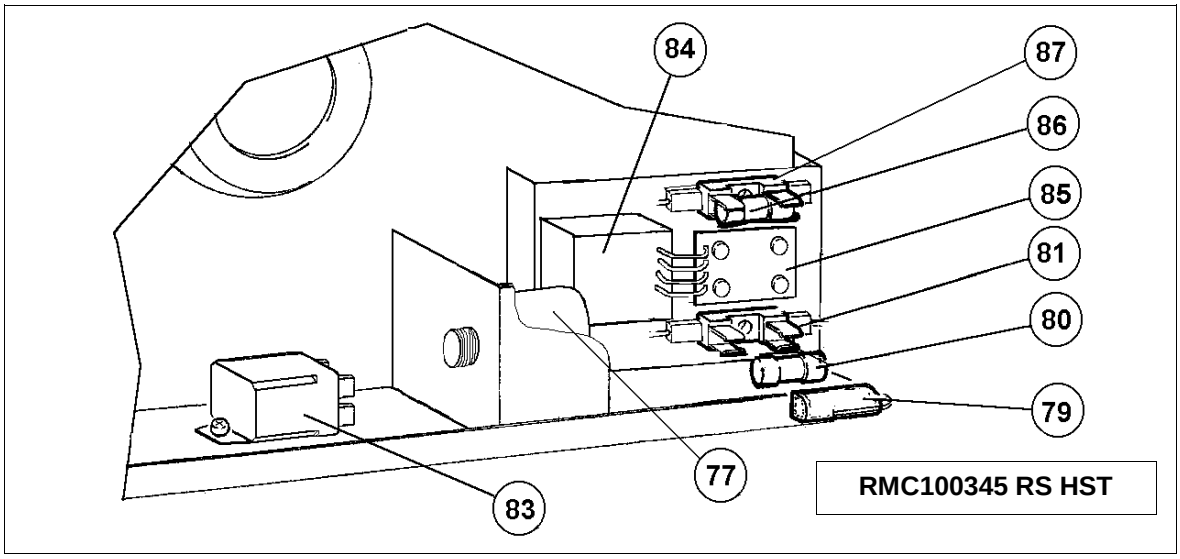
Note that the customer may not have noticed that the oven displayed “E:7” , and so the reported fault may be misleading.

Major Electrical Components





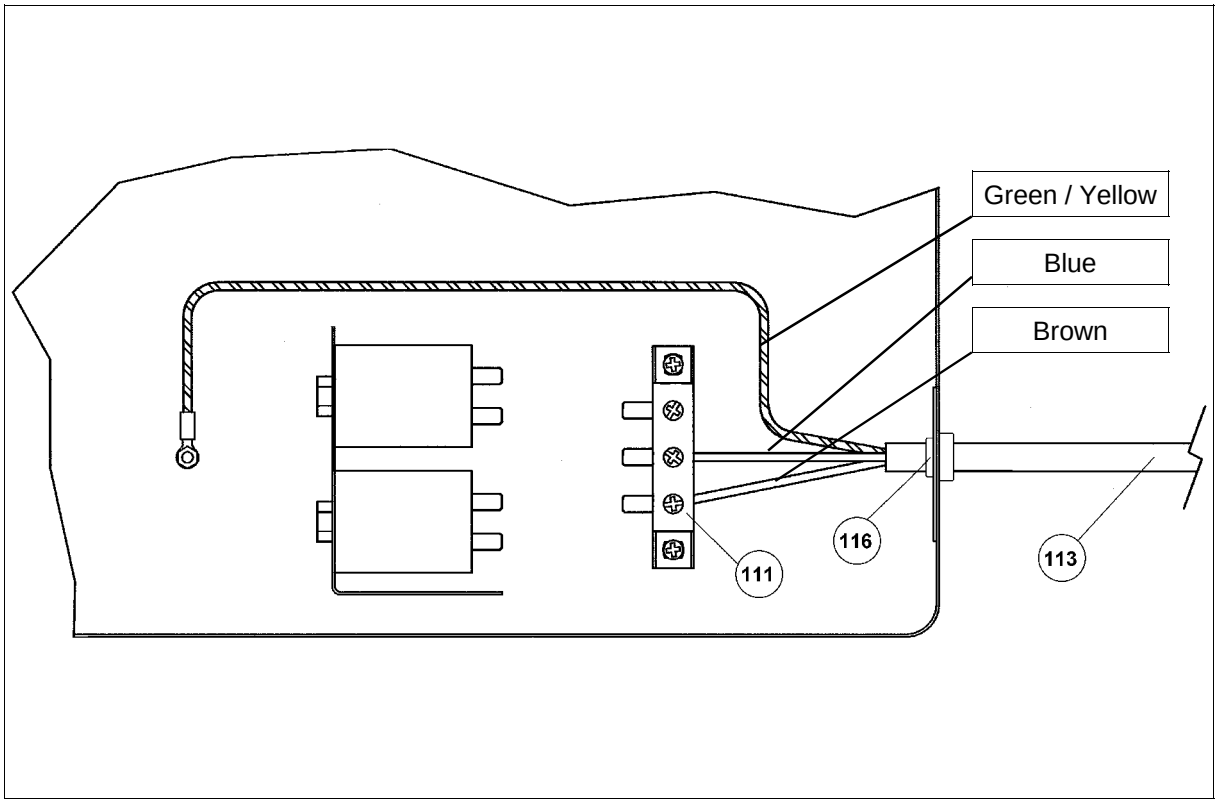




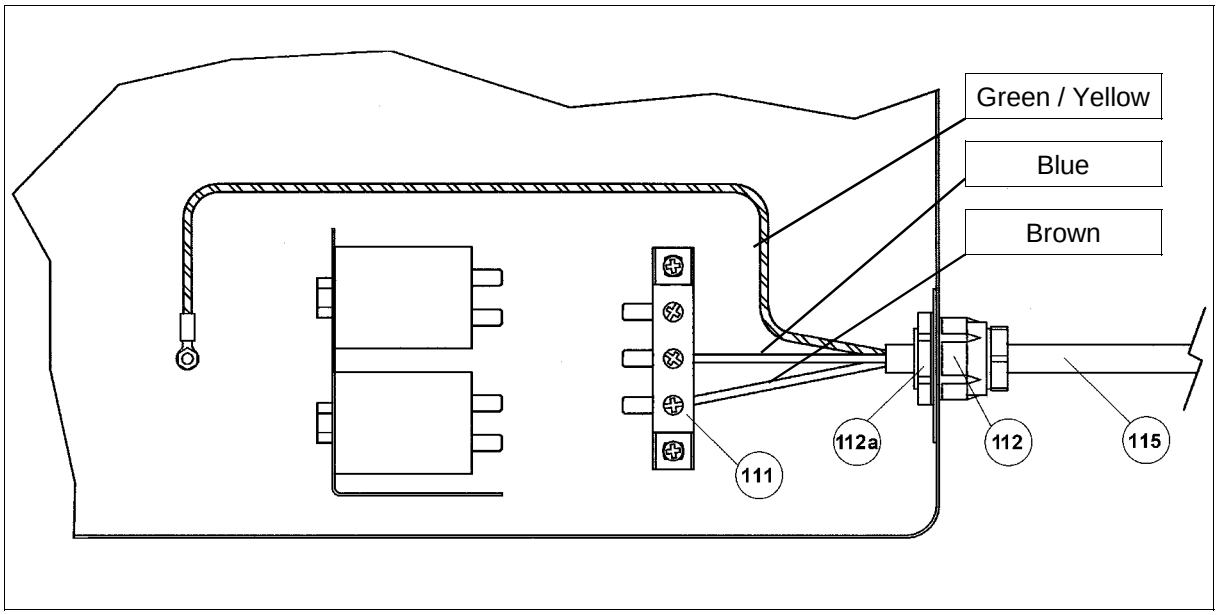
69	Cavity Overheat Switch	30Z1031
70	Bridge Rectifier (EE only)	341520
71	N0. 8 Screw	31Z3107
64	Magnetron Overheat Switch	30Z0088
72	M5 Screw	101825
73	240V Heating Element (UK/RF) 220V Heating Element (EEC) 276V Heating Element (HST)	40H0009 40H0077 40H0091
74	Temperature Sensor	50E123
75	HV Diode Assembly	11H0010
76	High Voltage Capacitor	30Z0989
77 78	Microwave Mains Filter 16A Heater Mains Filter 16A	30Z0997 30Z0997

79	Fuse Cover	20Z1080
80	Fuse 10A HRC	30Z0217
81	Fuse Holder 1”	30Z0231
82	Fuse 13A Anti-surge	30Z0168
83	Relay	30Z1063
84	Mutual Inductor	30Z1068
85	HST Mains Filter Assy.	11H0030
86	Fuse 16A 1¼”	30Z1066
87	Fuse Holder 1¼”	30Z0285
117	80mm Axial Fan	310010
118	PP3 Battery Clip	31Z0414
119	PP3 Battery NiMH	30Z1064
120	PP3 Battery Holder	31Z0413

Input Wiring Details: Microaire Series 5 EE5

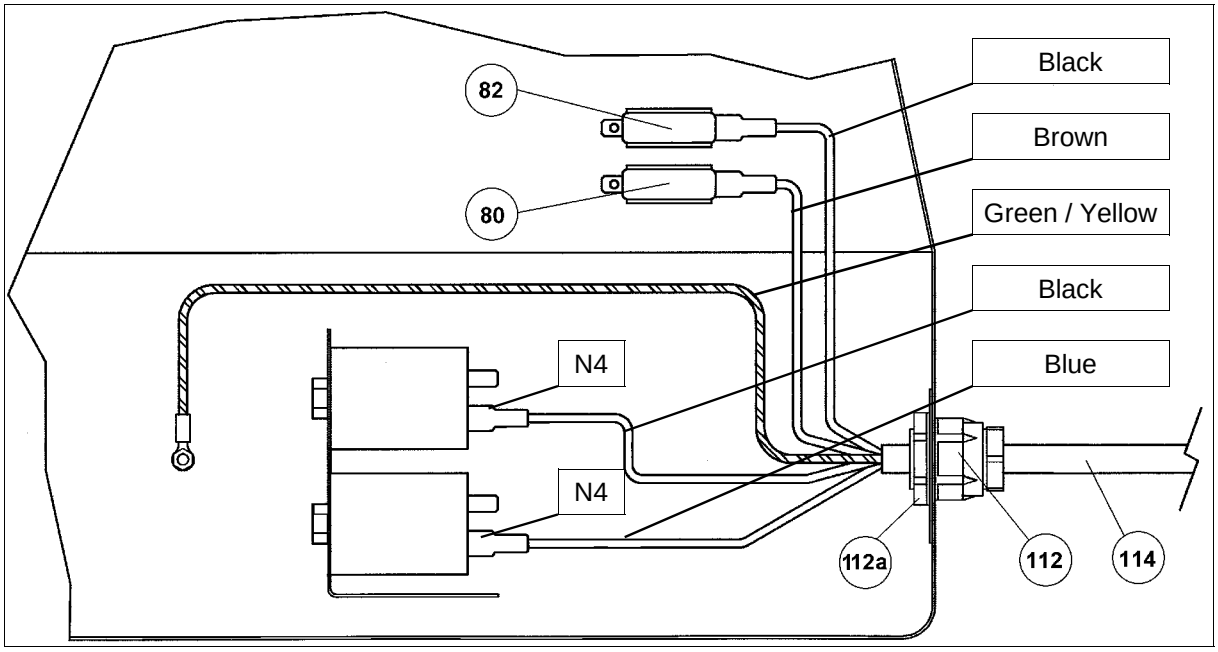


Input Wiring Details: Microaire Series 5 XE5

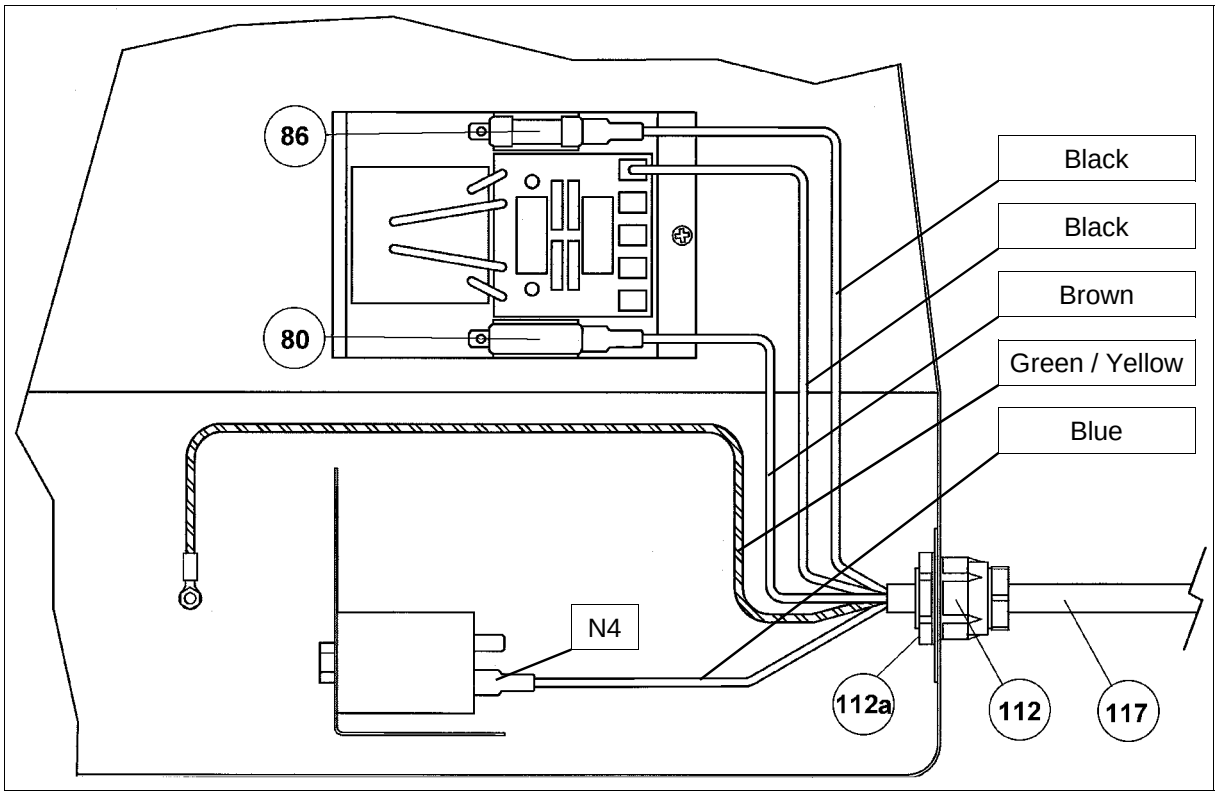


111	Mains Input Block	31Z0328
112	Cable Gland	31Z1070
113	Input Cable Assembly	31Z0220
115	XE5 Input Cable Assembly	302030
116	Strain Relief Grommet	31Z1036

Input Wiring Details: Microaire Series 5 RS RF

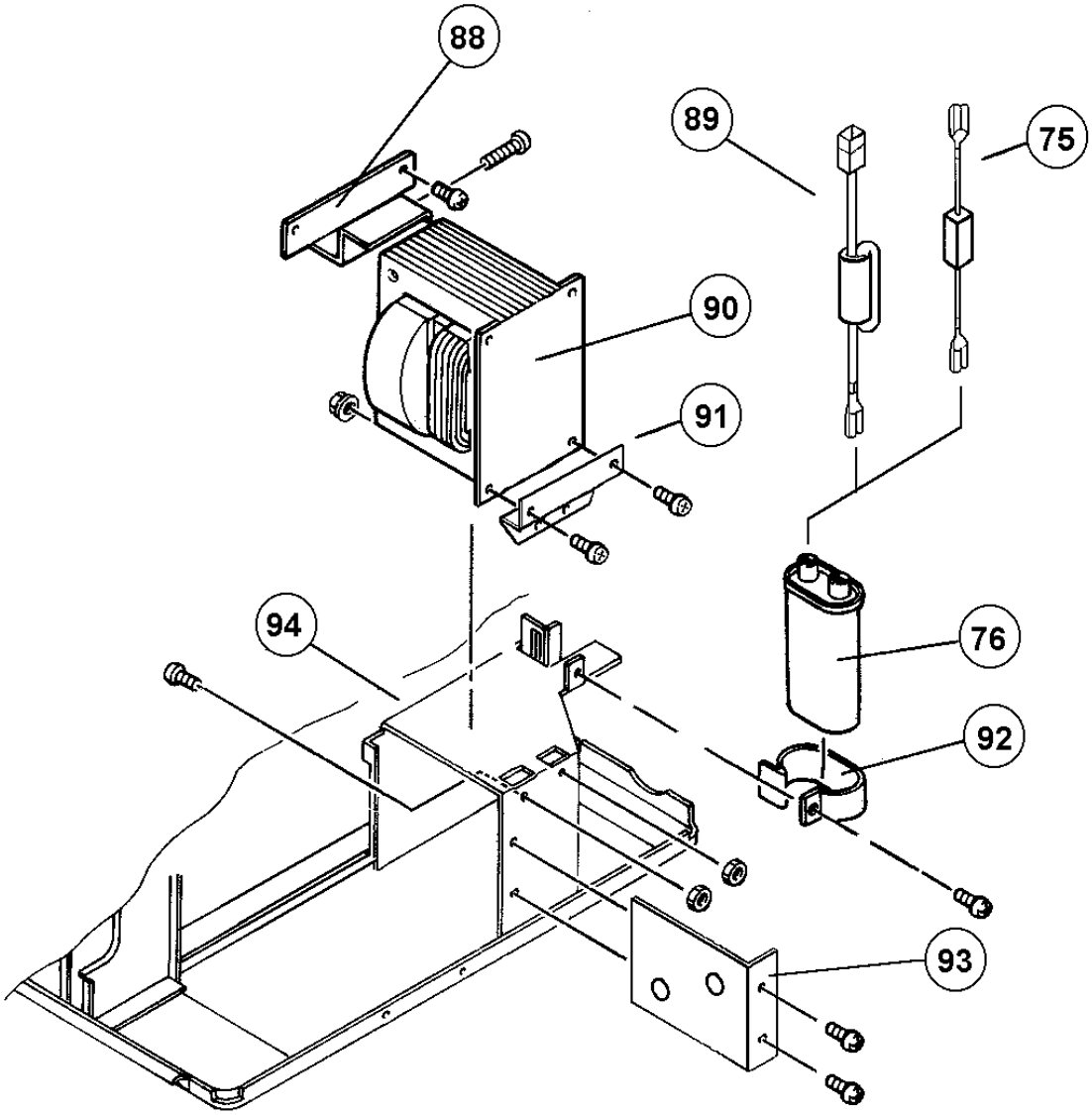


Input Wiring Details: Microaire Series 5 RS HST



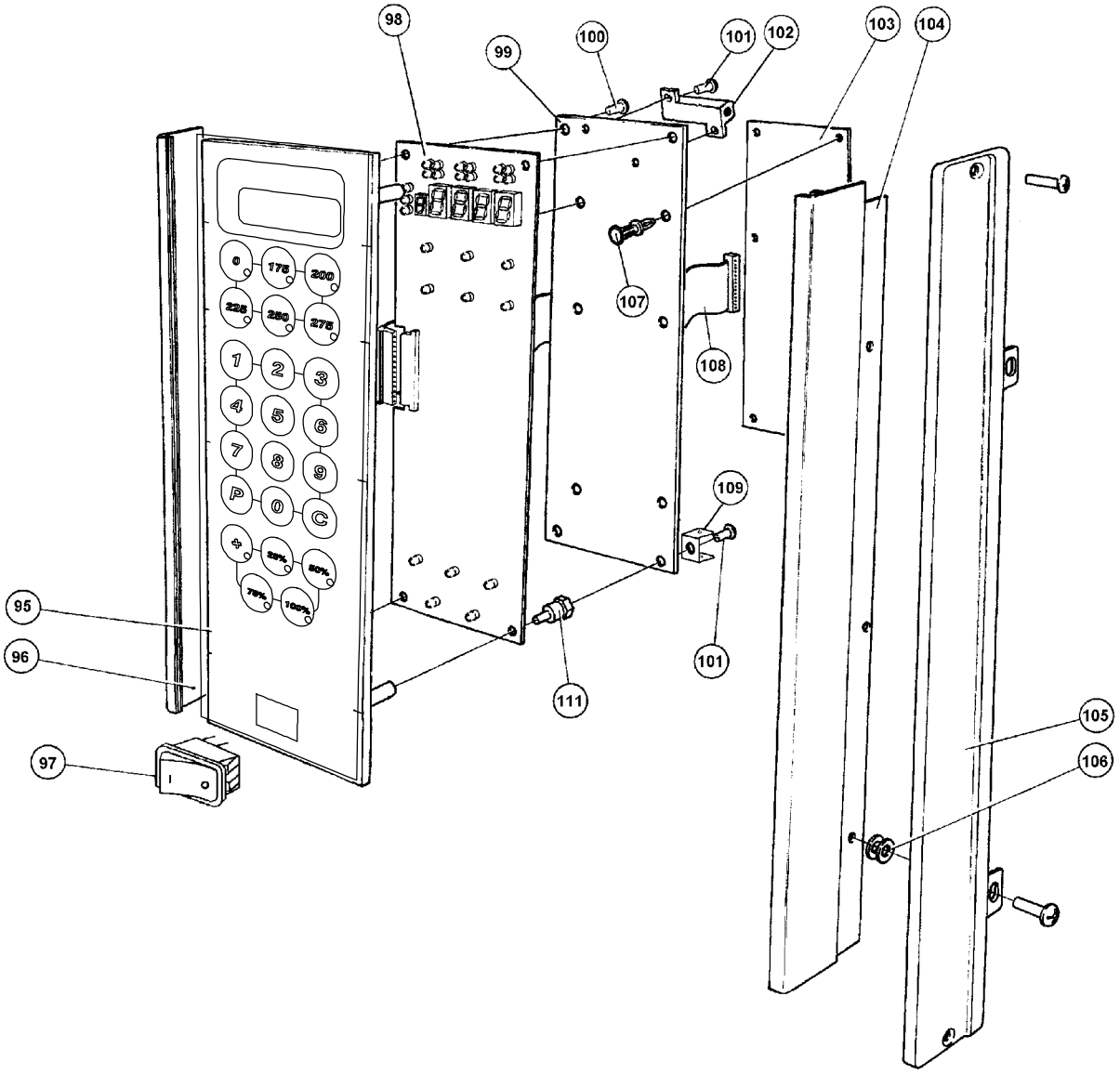
80	Fuse 10A HRC	30Z0217
82	Fuse 13A Anti-surge	30Z0168
86	Fuse 16A 1¼"	30Z1066
112	Cable Gland	31Z1070
112a	Cable Gland Nut	31Z1082
114	Rail Spec. Input Cable Assy	11H0032

HT Components



88	HT Transformer Top Bracket	MC3127
89	HV Lead Assembly	11H0025
75	HV Diode Assembly	11H0010
90	Unitran HT Transformer 240V Unitran HT Transformer 220V	30Z0992 30Z1018
91	HT Transformer Bottom Bracket	40H0070
76	HT Capacitor	30Z0989
92	Capacitor Band	RMC7215
93	Filter Bracket	40H0065
94	HT Transformer Support Bracket	MC3024

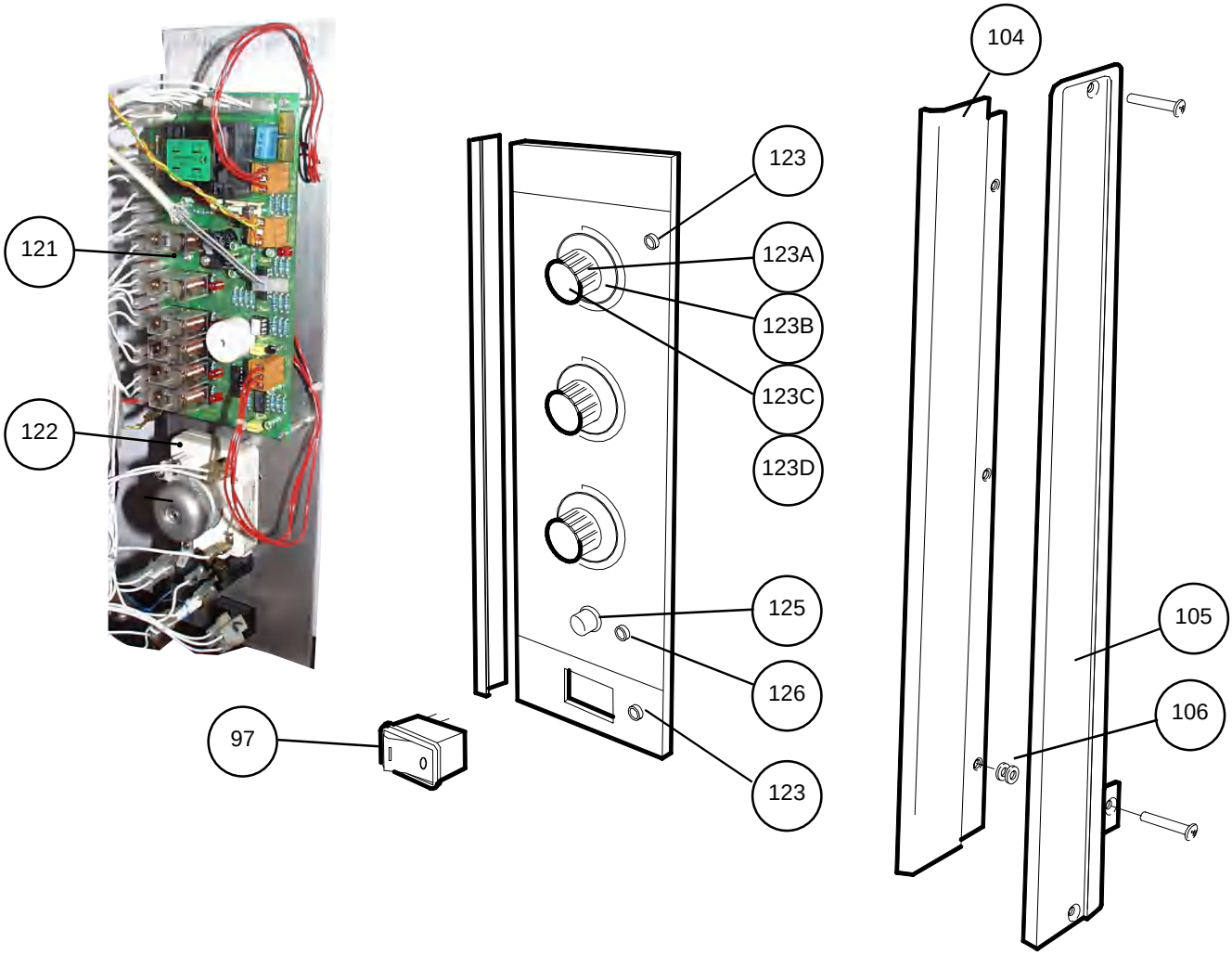
Electronic Control Panel Assembly: Microaire Series 5



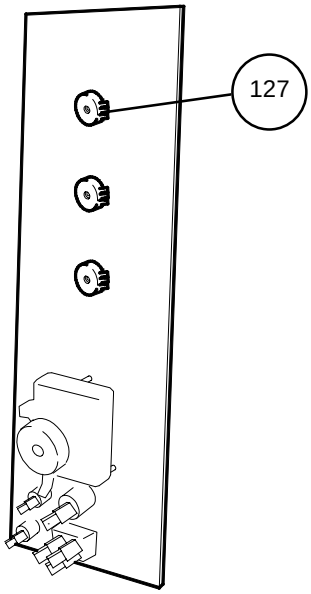
95	Membrane Assembly	11H0024
96	Microaire 5 Extrusion LH	40H0083
97	On/Off Switch	30Z0503
98	Microaire S5 Logic Assy. Microaire S5 RS Logic Assy.	11C0285 11H0029
99	Support Shield Microaire 5	40H0075
100	M3 x 5 Screw	31Z3106
101	No. 4 x 3/8” Screw	31Z3112
102	470R 50W Resistor	30Z0283

103	Microaire S5 Relay Assy. Microaire S5 RS Relay Assy.	11C0286 11H0028
104	Microaire 5 Extrusion RH	40H0084
105	Side Trim	MC31211
106	M5 Flat Washer	31Z5004
107	PCB Stand-off	31Z7010
108	15 Way Ribbon Connector	11Z0298
109	Twin 0.25” Blade	309610
110	M3 Nylon Support	31Z0206

Manual Control Panel Assembly: Microaire CD2, XD2



97	On/Off Switch	30Z0503
121	PCB Assembly	11H0027
122	Timer	30Z0991
123	Amber Neon	316031
124A	Control Knob	313020
124B	Control Knob Skirt	313160
124C	Control Knob Cap	313220
124D	Control Knob Shaft Adaptor	313030
125	Pushbutton (Start)	31Z0349
126	Red Neon	316030
127	Potentiometer	40C0892



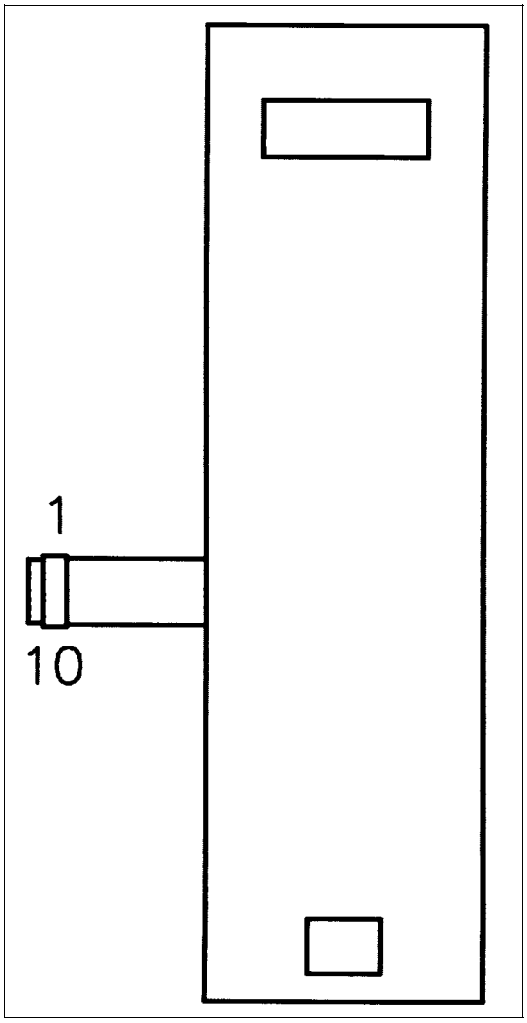
Control Board not shown for clarity

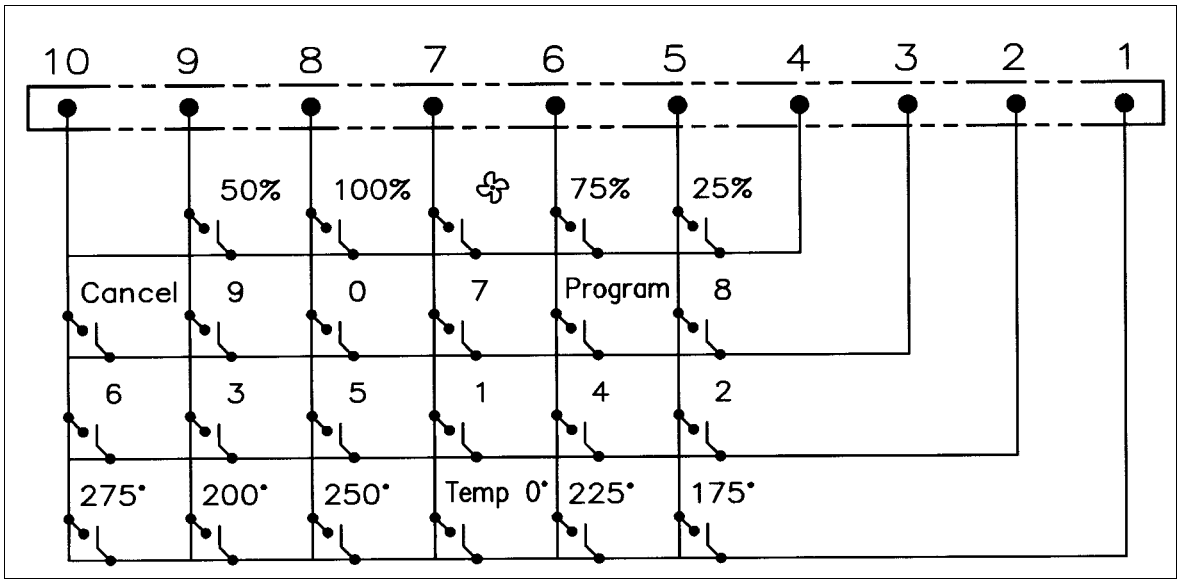
Membrane Panel Circuit: Microaire Series 5

You will need:

A Digital Multi-meter (D.M.M.)

1. Isolate the oven from the mains supply.
2. Remove the Logic Assembly from the Control Panel Housing.
3. Unplug the membrane “tail” from the Logic PCB Assy.
4. Using a D.M.M., check for continuity between the correct terminals when the pads are pressed.
5. When the panel has been tested, re-assemble and re-test the control housing.





Part Number Identification Chart: Microaire series ovens

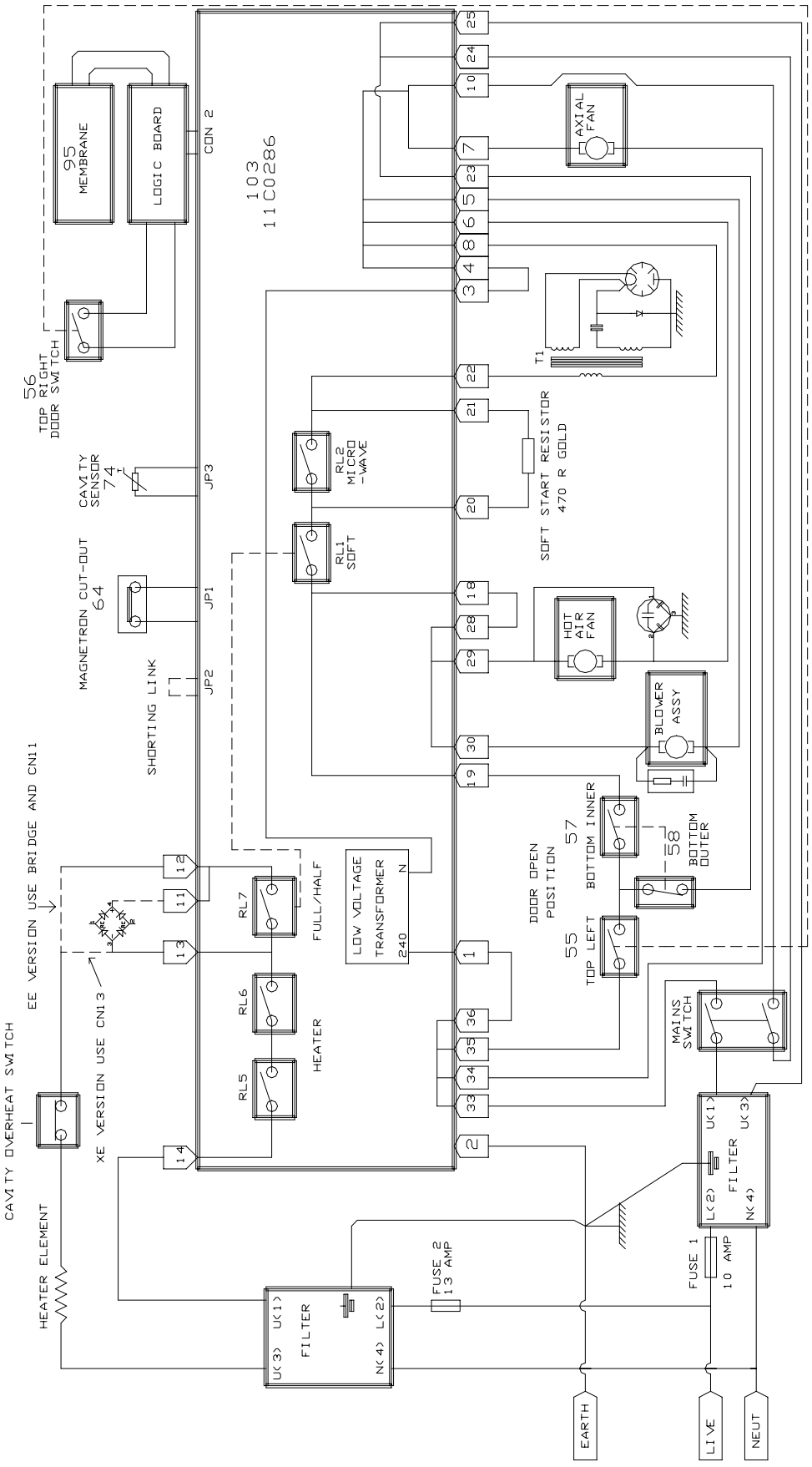
1	SIDE PANEL (L/H)	MC3134
2	FERRITE (2)	RMC6773
3	UPPER TRIM	MC3120X01
4	TOP PLATE	RMC6759E
5	EXHAUST GALLERY	RMC73372
6	REAR PANEL	MC3129
7	GREASE FILTER	MC3155
8	SIDE PANEL (R/H)	MC3133
9	HANDLE HANGER (2)	RCK6319
10	RUBBER FOOT (EE,XE) (4)	RMC6104
11	FRONT LOWER PANEL	MC3047
12	LOWER TRIM	MC3122
13	DOOR STAY (R/H)	MC3040
14	HINGE BODY	MC30121
15	HOOK (A)	RMC66171
16	HOOK (B)	RMC66172
17	DOOR SPRING (B)	MC3068X01
18	HINGE BODY (L/H)	MC30122
19	DOOR SPRING (A)	MC3067
20	DOOR STAY (L/H)	MC3046
21	MICROSWITCH GUIDE	40H0076
22	MICROAIRE SOLID DOOR	11H0031
23	TURNTABLE DISC	RMC7340X01
24	BAFFLE PLATE BOLT	CP30326
25	BAFFLE PLATE	MC3018
26	FAN FIXING CAP	RCK7617
27	FAN	MC3111
28	PARTITION PLATE	11H0007
29	CAVITY SEALING GLASS	RMC7043
30	OVEN BODY	MC3013
31	GEARBOX	MC3216
32	SHAFT	RMC7391X01
33	COOLING FAN	RMC7310
34	MOTOR BRACKET	RMC7307X01
35	CUSHION RUBBER	RCK8273
36	MOTOR FIXING SCREW	CP30310
37	HOT AIR MOTOR	MC3110
38	BLACK HANDLE MICROAIRE	RBR12852
39	DOOR FRAME (A) BLACK	MC30503
40	DOOR COVER OUTER SKIN	40H0080
41	INSULATION PANEL	40H0081
42	DOOR REINFORCEMENT	RMC70722
43	DOOR FRAME (B)	MC3055
44	INSULATION WRAP	32Z0001
45	WINDOW SCREEN	40H0082
46	DOOR BASE SILVER	MC3031KX04
47	DOOR COVER	MC3064
48	PLATE - DOOR SWITCH	MC3056
49	SCREEN	MC3061
50	PACKING (A)	MC3063
51	INNER DOOR GLASS	MC3062
52	PACKING (B)	MC3065
53	DOOR REAR PLATE	MC3066
54	DOOR SWITCH BRACKET ASSBLY	11H0033
55 56 57 58	PRIMARY MICROSWITCH LOW VOLTAGE MICROSWITCH SECONDARY MICROSWITCH MONITOR MICROSWITCH	30Z0240 30Z0240 30Z0240 30Z0240
59	MICROSWITCH INSULATOR	31Z0115
60	OUTLET DUCT	MC3037
61	FOAM TAPE	31Z0042
62	INLET DUCT	RMC7193X01
63	MAGNETRON	30Z0264
64	MAGNETRON CUT-OUT	30Z0088
65	SWITCH BRACKET	RMC7100X01
66	BLOWER ASSEMBLY	MC3141
67	M3 X 25 PAN HEAD POZI	31Z3093
68	M3 X 30 PAN HEAD POZI	31Z3113
69	CAVITY OVERHEAT SWITCH	30Z1031
70	BRIDGE RECTIFIER (EE ONLY)	341520
71	N0. 8 SCREW	31Z3107
72	M5 SCREW	101825
73	240V HEATING ELEMENT (UK/RF) 220V HEATING ELEMENT (EEC) 276V HEATING ELEMENT (HST)	40H0009 40H0077 40H0091
74	TEMPERATURE SENSOR	50E123
75	HV DIODE ASSEMBLY	11H0010
76	HIGH VOLTAGE CAPACITOR	30Z0989
77 78	M'WAVE MAINS FILTER 16A HEATER MAINS FILTER 16A	30Z0997 30Z0997
79	FUSE COVER	20Z1080
80	FUSE 10A HRC	30Z0217
81	FUSE HOLDER 1”	30Z0231
82	FUSE 13A ANTI-SURGE	30Z0168
83	RELAY	30Z1063
84	MUTUAL INDUCTOR	30Z1068
85	HST MAINS FILTER ASSY.	11H0030

Part Number Identification Chart: Microaire series ovens

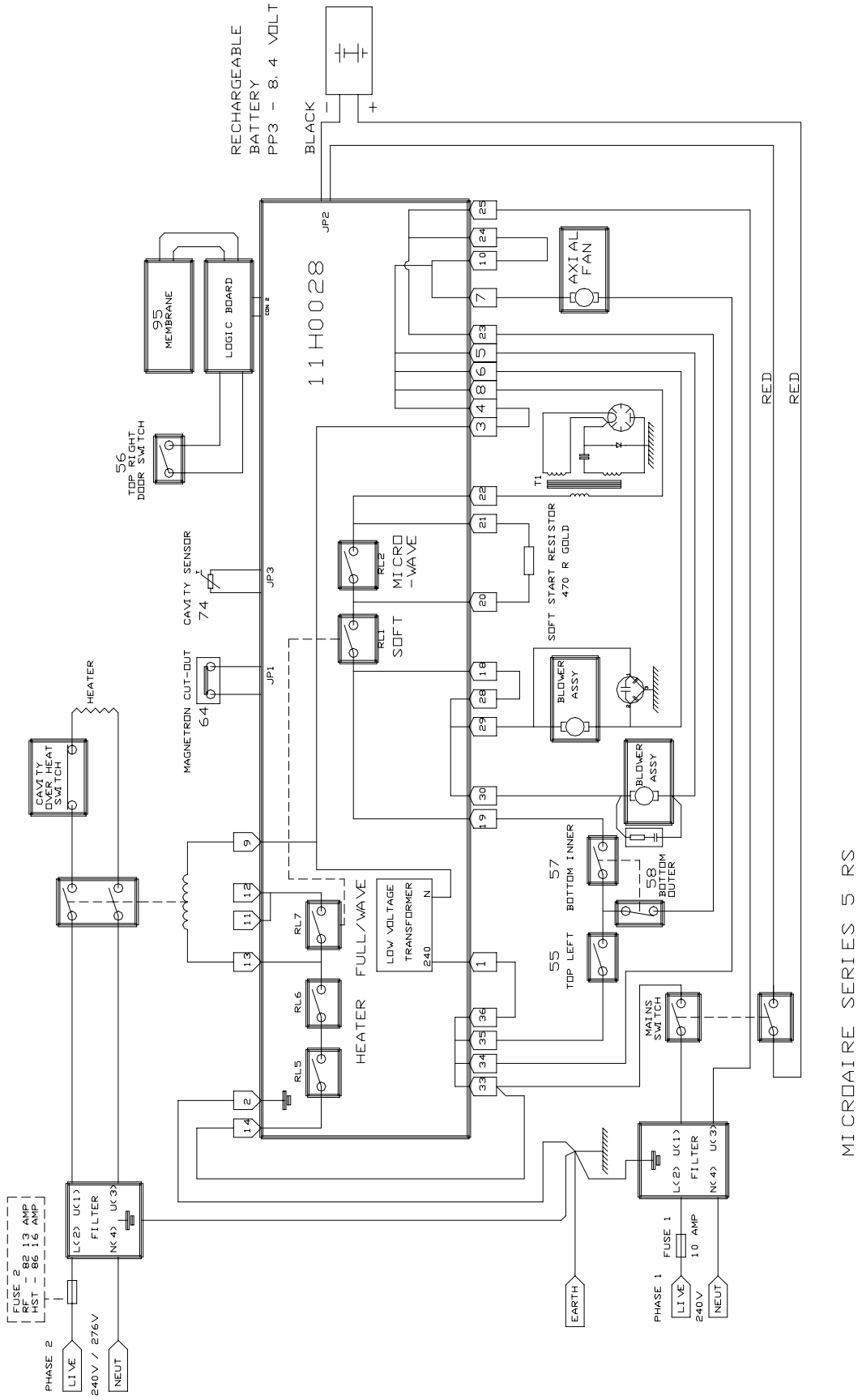
86	FUSE 16A 1¼"	30Z1066
87	FUSE HOLDER 1¼"	30Z0285
88	HT TRANSFORMER TOP BRACKET	MC3127
89	HV LEAD ASSEMBLY	11H0025
90	UNITRAN HT TRANSFORMER 240V UNITRAN HT TRANSFORMER 220V	30Z0992 30Z1018
91	HT TRANSFORMER BOTTOM BRACKET	40H0070
92	CAPACITOR BAND	RMC7215
93	FILTER BRACKET	40H0065
94	HT TRANSFORMER SUPPORT BRACKET	MC3024
95	MEMBRANE ASSEMBLY	11H0024
96	MICROAIRE 5 EXTRUSION LH	40H0083
97	ON/OFF SWITCH	30Z0503
98	MICROAIRE S5 LOGIC ASSY. MICROAIRE S5 RS LOGIC ASSY.	11C0285 11H0029
99	SUPPORT SHIELD MICROAIRE 5	40H0075
100	M3 X 5 SCREW	31Z3106
101	NO. 4 X 3/8" SCREW	31Z3112
102	470R 50W RESISTOR	30Z0283
103	MICROAIRE S5 RELAY ASSY. MICROAIRE S5 RS RELAY ASSY.	11C0286 11H0028

104	MICROAIRE 5 EXTRUSION RH	40H0084
105	SIDE TRIM	MC31211
106	M5 FLAT WASHER	31Z5004
107	PCB STAND-OFF	31Z7010
108	15 WAY RIBBON CONNECTOR	11Z0298
109	TWIN 0.25" BLADE	309610
110	M3 NYLON SUPPORT	31Z0206
111	MAINS INPUT BLOCK	31Z0328
112 112A	CABLE GLAND CABLE GLAND NUT	31Z1070 31Z1082
113	INPUT CABLE ASSEMBLY	31Z0220
114	RAIL SPEC. INPUT CABLE ASSY	11H0032
115	XE5 INPUT CABLE ASSEMBLY	302030
116	STRAIN RELIEF GROMMET	31Z1036
117	80mm Axial Fan	310010
118	PP3 Battery Clip	31Z0414
119	PP3 Battery NiMH	30Z1064
120	PP3 Battery Holder	31Z0413
121	PCB Assembly	11H0027
122	Timer	30Z0991
123	Neon Amber	316031
124A	Control Knob	313020
124B	Control Knob Skirt	313160
124C	Control Knob Cap	313220
124D	Control Knob Shaft Adapter	313030
125	Pushbutton (Start)	31Z0349
126	Neon Red	316030
127	Potentiometer	40C0892

Circuit Diagram: Series 5 EE & XE



Circuit Diagram: Series 5 RS



Manual Corrections and Modifications

Whilst every effort has been made to ensure that the information contained in this manual is accurate and complete, if you believe that an error has been made, or if you have any suggestions for how the manual could be improved, please fill in and return this form. A review of any forms returned will be made on a regular basis, and the manual will be updated if required.

Name
Address
Page on which error occurs (if applicable) - **Microaire Series**
Description of error
Suggestion for improvement to manual
Please return this form to: Engineering Department Merrychef Ltd Station Road West Ash Vale Aldershot Hampshire GU12 5XA Or Fax it on: +44 (0) 1252 371007