IGNIS

Service Manual

Microwave oven
AKL 540

Model AKL 540
Version 8541 540 18221

This documentation is only intended for qualified technicians who are aware of the respective safety regulations.
Date: 29.08.1996 Subject to modification
Document-No.: 4812 714 10944

Introduction safety

INTRODUCTION

Before leaving the factory each oven is carefully checked.
It must, however, be installed and used correctly.

Despite all the steps taken to make the oven safe, the safety is dependent on the correct installation and the fact the user understands how to use and maintain the oven.

The information in this section should be used as a reminder that the oven is safe and that anyone who uses it must first read the instructions for use in order to be able to use the oven correctly and obtain best results.

SAFETY

To avoid injury to yourself and damage to the appliance always work to the following rules when servicing an oven.

Always disconnect the plug from the mains before starting work.

If there is no plug switch off the electric supply at the control box.

When you have finished servicing an oven before you reconnect it to the mains, make sure that:
- all the internal connections are correct
- the wires are insulated and not touching the door or the cabinet or anything sharp
- all the earth connections are electrically and mechanically sound
- do not modify or anyway interfere with the safety devices built-in to the oven

- make sure that each replacement part you use conforms to the manufacturer´s specifications

Do not start a repair if you have any doubt as to your ability to complete it.

CAUTION - MICROWAVE RADIATION

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON, WAVEGUIDE OR ANTENNA IF THEY ARE IMPROPERLY USED OR CONNECTED. ALL INPUT
AND OUTPUT MICROWAVE CONNECTIONS, WAVEGUIDES, FLANGES AND GASKETS MUST BE SECURE.
NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED.
NEVER LOOK INTO AN OPEN WAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.
NEVER OPERATE AN OVEN WITH CABINET OFF WITHOUT MEASURING THE MICROWAVE LEAKAGE
AROUND MAGNETRON AND VISIBLE MICROWAVE CONNECTIONS (WELDING JOINTS).

Do not operate the oven if the following conditions exist:
- the door does not close firmly against the door support because of the door being warped or the hinges damaged.
- The door trims or seals are damaged.
- If there is any visible damage to the oven.
- if the door does not close properly.

Avoid operating the oven if known components in the interlock system, oven door or microwave generating assembly are known defective. They must be replaced.

WARNING - HIGH VOLTAGE

IT IS POSSIBLE TO COME IN CONTACT WITH LETHAL HIGH VOLTAGE WHEN WORKING WITH
HV TRANSFORMER, HV CAPACITOR AND MAGNETRON. THEREFORE NEVER TRY TO MEASURE
THE HIGH VOLTAGE. ALWAYS TAKE UTMOST CARE WHEN PERFORMING ELECTRIC
MEASUREMENTS INSIDE THE OVEN.

Technical data

Dimensions of cabinet

Height	298	mm
Width	492	mm
Depth	375	mm

Dimensions of cavity

Height	190	mm
Width	300	mm
Depth	300	mm
Cavity volume	20	l

Weight

Net	18,3	Kg
Packed	20,8	Kg

Timer

Mechanical	60	min

5-level microwave power level
3-level combi power level

Electrical

Voltage	230	V
Frequency	50	Hz
Power consumption	1330	W
Current consumption	5,8	A
Fuse	8	A

Power

Output power	850	W
Microwave frequency	2450	MHz
Grill	1000	W

Accessories

Glass tray, turntable ring, grill rack

MAJOR COMPONENT TESTS

HV TRANSFORMER

1. Remove lead wire.
2. Measure the resistance of the winding using an ohm meter
3. Primary winding 3 ohm (approx.)
4. Secondary winding 100 ohm (approx.)
5. Filament winding 0 ohm (approx.)

HV CAPACITOR

1. Remove lead wire
2. Measure the resistance using an ohm meter set to R*1000
3. Terminal to terminal should momentary indicates several ohms but gradually increases to infinite.
4. Terminal to case should show infinite.

HV DIODE

1. Remove lead wire.
2. Measure forward resistance, normal diode show continuity.
3. Measure reverse resistance, normal diode show infinite resistance.

MAGNETRON

1. Remove lead wire.
2. Install the magnetron gasket in the correct position. Check that the gasket is in good condition.
3. Measure the resistance of the filament terminals. Normal magnetron should be less than 1 ohm.
4. Measure the resistance between the filament terminal to chassis. Normal magnetron should be infinite.

INTERLOCK SWITCH SYSTEM

IMPORTANT: The installation of the interlock and monitor switches is required by regulations.

Oven door status	Primary switch	Secondary switch	Monitor switch
Open	Open	Open	Close
Close	Close	Close	Open

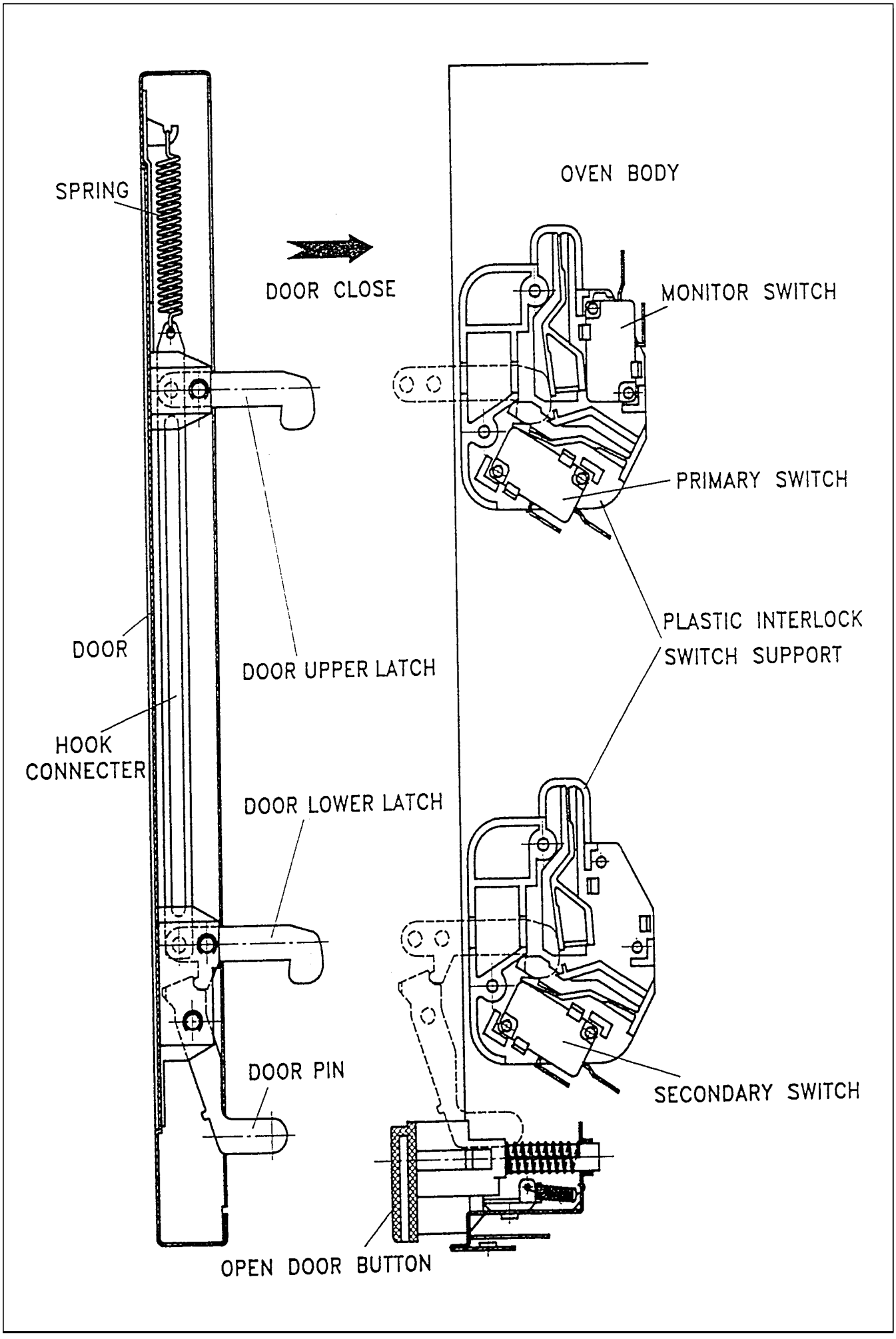
1. The interlock and monitor switches positions are not service adjustable. If the screws on the hinges of the oven door are loosen, the door may not be in a correct position. In this case, the interlock switches cannot be operated by the latch pins of the door when the door is shut. To repair the door, remount the door and fasten the screws on the door hinges.

2. The monitor switch is provided to monitor the operation of the primary interlock switch. If the primary switch fails to operate when the door is open, the monitor switch will form a short circuit across the supply and the fuse in the oven will blow. Electric arc may form across the switch contacts of the primary interlock switch, the secondary switch and the monitor switch. The switches may then be damaged. If the fuse is blown due to the failure of the primary interlock, repair the failed mechanical parts and replace all the interlock switches.

IMPORTANT

After replacement of any part of the interlock and monitor circuit:

1. Check if the microswitches are turned ON and OFF by the latches as specified in the table above.
2. Apply sealant to the screws and nuts of the door hinges.
3. Check microwave leakage.
4. Check if the oven will turn off instantly when the door button is pushed to the position where the door latches leave the interlock switches.


SPRING
DOOR CLOSE
OVEN BODY
MONITOR SWITCH
PRIMARY SWITCH
PLASTIC INTERLOCK
SWITCH SUPPORT
DOOR
DOOR UPPER LATCH
HOOK
CONNECTER
DOOR LOWER LATCH
DOOR PIN
SECONDARY SWITCH
OPEN DOOR BUTTON

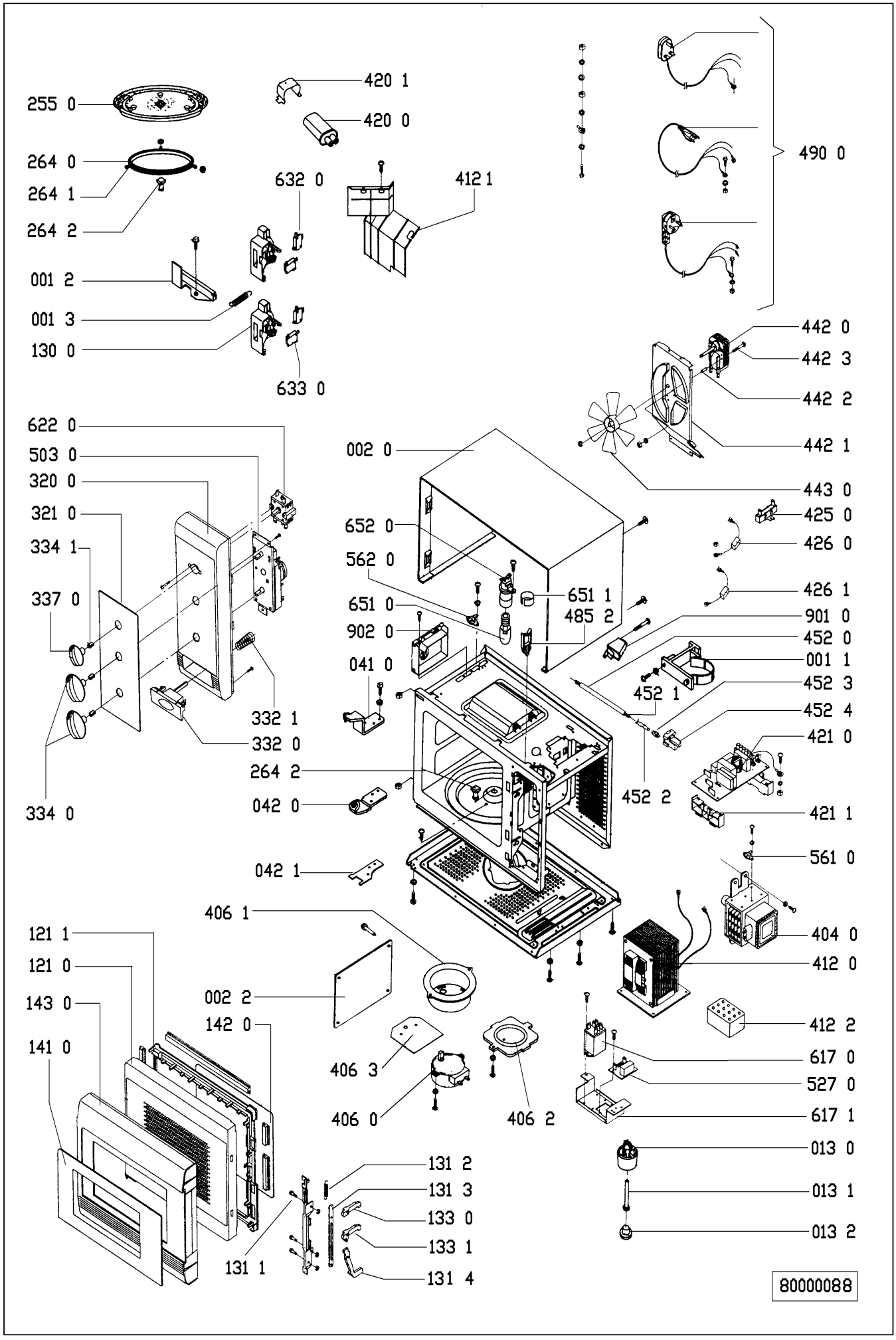
Spare part list

Model	**AKL 540**
Service No.	**854154018221**
Version	**854154018221**

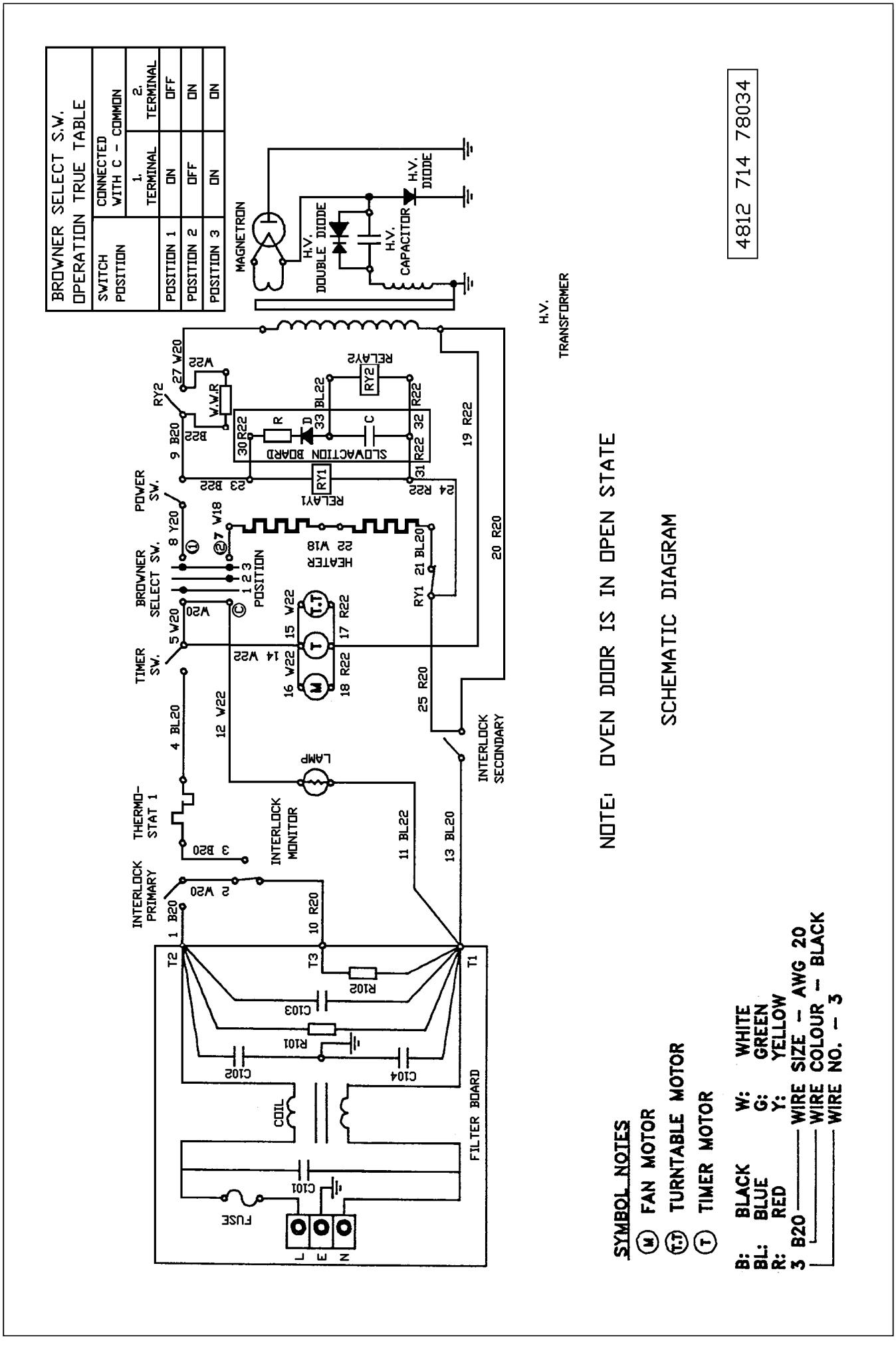
Pos. No.	12NC Code	Description
001 1	**4819 902 00031**	Spacer
001 2	**4819 902 00176**	Lever
001 3	**4819 902 00025**	Spring,tension
002 0	**4819 902 00172**	Lid
002 2	**4819 902 00082**	Cover
013 0	**4819 902 00115**	Foot
013 1	**4819 902 00055**	Pin foot
013 2	**4819 902 00056**	Cap foot
041 0	**4819 902 00274**	Support
042 0	**4819 902 00273**	Support
042 1	**4819 902 00183**	Plate
121 0	**4819 902 00288**	Door
121 1	**4819 902 00291**	Frame
130 0	**4819 902 00228**	Switchmechanism
131 1	**4819 902 00013**	Pin
131 2	**4819 902 00014**	Spring
131 3	**4819 902 00283**	Hook
131 4	**4819 902 00037**	Pivot
133 0	**4819 902 00035**	Lockingmechn.
133 1	**4819 902 00036**	Lockingmechn.
141 0	**4819 902 00169**	Oven glass outer AKL 540
142 0	**4819 902 00128**	Oven glass inner
143 0	**4819 902 00121**	Door frame outer
255 0	**4819 902 00218**	Turntable
264 0	**4819 902 00192**	Ring
264 1	**4819 902 00195**	Wheel
264 2	**4819 902 00193**	Shaft
320 0	**4819 902 00116**	Control panel
321 0	**4819 902 00304**	Insert AKL 540
332 0	**4819 902 00117**	Button,push
332 1	**4819 902 00281**	Spring,compres.
334 0	**4819 902 00062**	Knob timer
334 1	**4819 902 00095**	Bushing
337 0	**4819 902 00158**	Knob browning
404 0	**4819 902 00063**	Magnetron
406 0	**4819 902 00271**	Motor
406 1	**4819 902 00179**	Cover
406 2	**4819 902 00174**	Cover
406 3	**4819 902 00272**	Gasket
412 0	**4819 902 00203**	Transformer,HT 230V
412 1	**4819 902 00029**	Guide
412 2	**4819 902 00285**	Rubber shock-proof spacer
420 0	**4819 902 00065**	Capacitor,HT
420 1	**4819 902 00177**	Support
421 0	**4819 902 00126**	Control unit
421 1	**4819 902 00058**	Support
425 0	**4819 902 00215**	Resistor
426 0	**4819 902 00209**	Diode
426 1	**4819 902 00122**	Diode
442 0	**4819 902 00207**	Motor,fan
442 1	**4819 902 00178**	Support
442 2	**4819 902 00052**	Bushing
442 3	**4819 902 00019**	Screw
443 0	**4819 902 00276**	Fan wheel
452 0	**4819 902 00132**	Infra-r.element

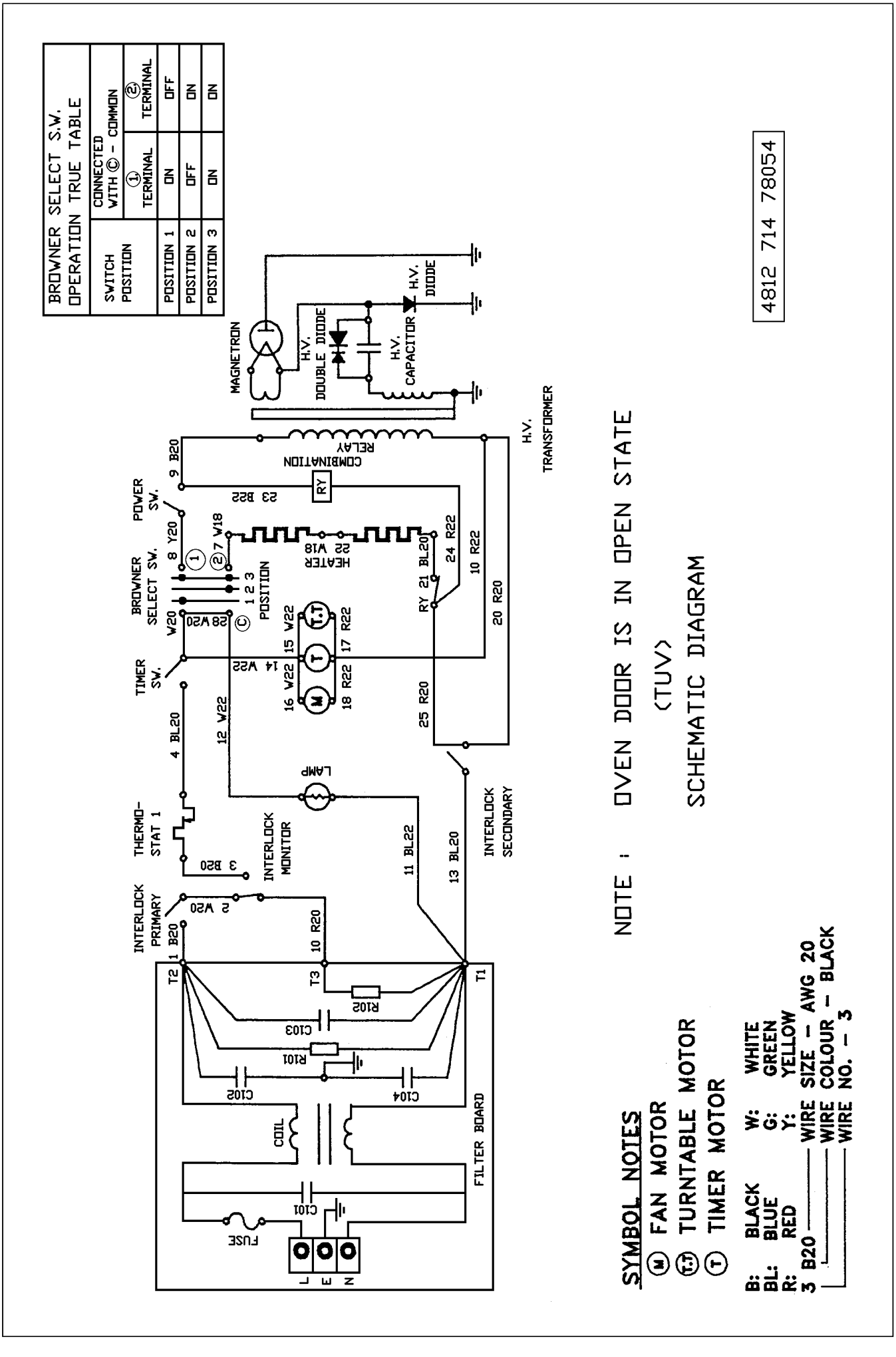
Pos. No.	12NC Code	Description
452 1	**4819 902 00133**	Heating element coil
452 2	**4819 902 00098**	Clamping piece
452 3	**4819 902 00129**	Holder
452 4	**4819 902 00131**	Holder
485 2	**4819 902 00047**	Clip
490 0	**4819 902 00239**	Cable,mains VDE plug
503 0	**4819 902 00073**	Timer
527 0	**4819 902 00216**	Control unit
561 0	**4819 902 00071**	Thermostat magnetron
562 0	**4819 902 00237**	Thermostat
617 0	**4819 902 00214**	Relay
617 1	**4819 902 00094**	Support
622 0	**4819 902 00127**	Hex.code switch
632 0	**4819 902 00077**	Switch
633 0	**4819 902 00078**	Switch
651 0	**4819 902 00275**	Lamp
651 1	**4819 902 00219**	Cover,lamp
652 0	**4819 902 00079**	Holder,lamp
901 0	**4819 902 00197**	Cable clamp (T)
902 0	**4819 902 00287**	Guide

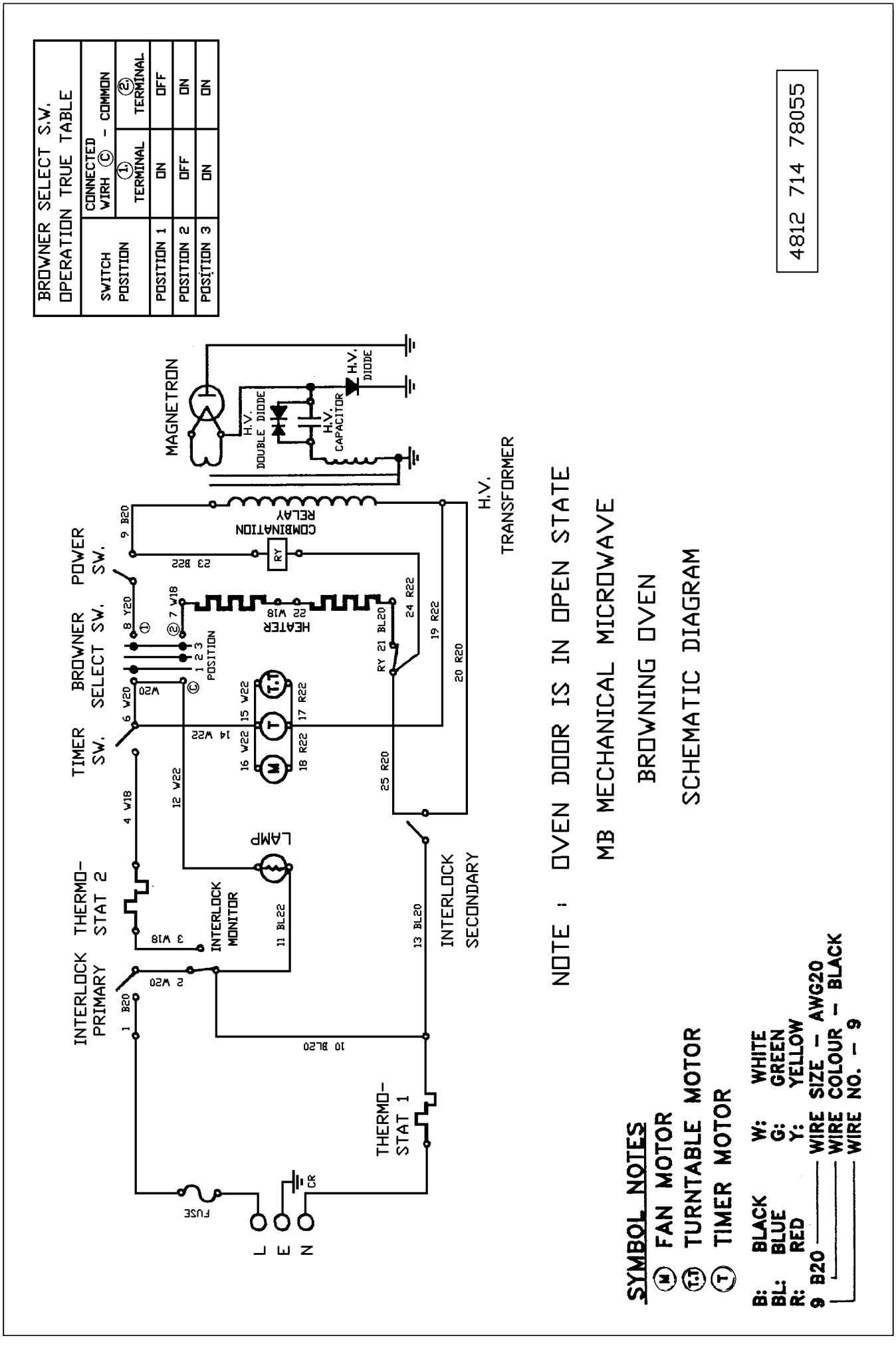
Exploded view



Wiring diagram




BROWNER SELECT S.W.
OPERATION TRUE TABLE
SWITCH POSITION
CONNECTED WITH © - COMMON
① TERMINAL
② TERMINAL
POSITION 1 ON OFF
POSITION 2 OFF ON
POSITION 3 ON ON
4812 714 78054
MAGNETRON
H.V. DOUBLE DIODE
H.V. CAPACITOR
H.V. DIODE
H.V. TRANSFORMER
COMBINATION RELAY
RY
POWER SW.
BROWNER SELECT SW.
POSITION
HEATER
TIMER SW.
THERMO-STAT 1
INTERLOCK PRIMARY
INTERLOCK MONITOR
INTERLOCK SECONDARY
LAMP
FILTER BOARD
COIL
FUSE
L E N
T1 T2 T3
R101 R102
C101 C102 C103 C104
NOTE : OVEN DOOR IS IN OPEN STATE
<TUV>
SCHEMATIC DIAGRAM
SYMBOL NOTES
(M) FAN MOTOR
(T.T) TURNTABLE MOTOR
(T) TIMER MOTOR
B: BLACK W: WHITE
BL: BLUE G: GREEN
R: RED Y: YELLOW
3 B20 —— WIRE SIZE — AWG 20
WIRE COLOUR — BLACK
WIRE NO. — 3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POSITION 3 ON ON
4812 714 78055
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H.V. DOUBLE DIODE
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H.V. TRANSFORMER
COMBINATION RELAY
HEATER
LAMP
TIMER
BROWNER POWER SW.
SELECT SW.
INTERLOCK PRIMARY
THERMO-STAT 2
INTERLOCK MONITOR
INTERLOCK SECONDARY
THERMO-STAT 1
FUSE
L
E
N
NOTE : OVEN DOOR IS IN OPEN STATE
MB MECHANICAL MICROWAVE
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SCHEMATIC DIAGRAM
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T1 TURNTABLE MOTOR
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R: RED Y: YELLOW
9 B20 — WIRE SIZE — AWG20
WIRE COLOUR — BLACK
WIRE NO. — 9