COMPONENTS

Mechanical Parts (Dynamic System):

The tub is made of special plastic material that has high strength and no corrosion problem, is able to decrease noise level. The tub cover is also made of plastic and attached to the tub with special fixing clamps. The main motor is attached to the tub with two rubber grommets and a bolt in YOÇ series. On the other hand, motors are connected by 4 arms. Positioned behind the tub, on the right, left and top, are transport security bolt connection slots. There are also two concrete counterbalance weights one on top of, and one underneath the tub. The tub group is hooked onto the cabinet at each side by two springs. There are two horizontal shock absorbers at the bottom, the functions of the springs and the shock absorbers is to dampen the vibrations caused by tub movement and to reduce motion and noise. The drum is made of stainless steel.

Shock Absorber System:

Tub group is hooked onto the cabinet at each side by two springs. Furthermore, it is fixed to the cabinet by two shock absorbers. Springs and shock absorbers defeat high noise level and the movement of the machine transmitting vibration to the cabinet. Shock absorbers are connected to chassis and tub with plastic pins instead of nuts.

Electronic Control and Display Card:

Wash programs, wash and spin motor profiles, protection algorithms and components (motor, heater, pump, valves, door lock, NTC, pressure switch, rotary switch, spin/temperature potentiometer) are controlled by double-phase design control and display board designed by Arcelik R&D and Washing Machine Product Development Departments. The electronic board is assembled in subcontractors such as Solectron, Karel and Informa.

There are connection terminals of smps, motor and other component control circuits- triacs and relays- on the front face of the electronic board. There are microchips, auxillary function and program follower LEDs on the other face of the electronic board.

Wash operation is started due to the signals from the auxillary function, assembly rotary switch, spin /temperature potentiometer.

Auxillary function, spin/temperature and time delay options can be selected from electronic board.

Door lock:

A PTC type door-lock is used. When the door is closed, the PTC disk is heated up and locks the door. After the program is completed, the PTC is cooled down and the door is unlocked after max. 120 seconds. In this way the door is prevented from opening during operation. If there is a fault with the door lock, then washing machine will not operate.

Nominal Voltage: 230V 50-60Hz
Current: 10-50mA
PTC Resistance: Min.>=50Ohm
Lock time: <=8 s.
Unlock time: 35…70s.

Main motor:

The main motor is a universal series motor. It is controlled by the Fora mainboard. The motor spin is adjusted while triggering angle is being altered by the triac on the electronic board module depending on the tachometer. Universal motor is composed of stator and rotor. Stator and rotor are in series connection by collector and brush. Cycle of the motor is controlled by electronic board. Motor triac on board adjusts the motor/drum cycle by changing the triac alert angle according to signals from taco. There is a fuse that prevents extreme heating of winding on motor.

Nominal Voltage: 220-240V 50-60Hz
Current: 6A max (wash)/ 3A(spin)
Start Power: 300/450W
Start current: 5…8A(wash)/10A max (spin)

Taco generator technical data:

Number of Double Pole: 8
Taco Voltage at 300rpm: >0,9V
Taco Voltage at 1650rpm: <45V

Heater:

A 1900 watt heater is used for Fora54 product, and a 1450-watt heater is used for Fora35. There is a single thermofuse on the heater. The connector on the side without a thermofuse is driven over water level switch in order that if the heater runs without enough water, the switch is already turn off. If any problem occur about this contact opening, the thermofuse on the other side of the heater goes off, and thus this heater cannot be used again. The heater is energized only when there is enough water inside the washing machine. When the desired temperature is reached, electronic board reads the resistance of NTC and if the prescribed resistance (and hence temperature) is reached, the heater is switched off. In order to prevent the heater operating without water, “heater safety level” is introduced to microchip. Heater is out of operation when water level is under the heater level.

Nominal Voltage: 230V 50-60Hz
Nominal Power:1900W (±%5) (1450W (±%5) for Fora YOÇ35)

Valves:

There are double water inlet valves in single water inlet models and double and additional single valves in hot water inlet models. Valves are operated by triac. (For Fora YOÇ 35, only cold water inlet is used with a double water inlet valve)

Nominal Voltage 220-240V 50-60Hz
Nominal Power 5-8W
Coil Resistance 3400-4500 Ohm
Flow Rate 10lt/min

Drain Pump:

It is a synchronize motor that has single phased, double pole and magnetic rotor. Triac runs during drain step. Impedance is protected against the rotor blockage and continuous operation.

Nominal Voltage 220-240V 50Hz
Power: 25 W
Current <0,2A
Flow Rate >14lt/min
Starting Performance <=4 s. (160V)

NTC:

As the temperature of the surrounding of NTC increases, its resistance decreases. At a fixed temperature, NTC will always have a specified resistance within the tolerances. With the aid of this principle it becomes possible to have an operation without using a mechanical thermo-stop. The heater operates until the desired temperature is reached. In this way, the selected program completes properly each time in accordance with the program set and auxiliary functions selection and is not influenced by water temperature etc. Thus a considerable time can be saved at low temperature washes.

No mechanical thermostat or timer is used on these washing machines and the heater is completely driven by the relay.

Pressure Switch:

A mechanical single-level pressure switch is used to sense the water level. The heater is driven over the first water level contact. There is also an overflow contact which is directly connected to the drain pump, so the pump can be driven directly in case of an overflow risk.

DISASSEMBLY

First of all, unplug the power cord, turn off the machine and take all the necessary safety precautions before any service operation to reduce health risks.

1- Top plate:

- Remove two screws that attach the top lid to the body.
- Top plate is pulled back and then upwards and taken off.

2- Back cover:

- Remove five screws that attach the back cover to the body.
- The cover is laid 90º to the body and to be lifted up and then can be taken out of its retaining slot.

3-Kickplate:

Open the service cover of the kickplate by pressing down the handle. Unscrew the kickplate screw and then take out the kick plate by pulling to the right side.

4-Front panel:

- Door is opened by pulling the handle towards yourself.
- The door hood clamp that fixes the door hood to the front panel is removed by using the special pliers (shown below) or a suitable alternative.
- The door hood is released from the front panel

- Remove two screws that attach the safety lock to the front panel.
- Kick plate is disassembled.

- Remove the screws that attach the front panel to the body.

5-) **Front Door (Single Axis):**

-Open the front door
-Hinge holder screws, the connection between hinge and front door, are unscrewed and front door is separated from hinge.
-Hinge holder screws, the connection between hinge and front panel, are unscrewed and hinge is separated from front panel.

External Front Door:

-Screws that connect internal front door to external front door are unscrewed
-External front door is pulled from internal door.

Inner Front Door:

-Disassemble the front door group. Disassemble the subassemblies.
-Collect with the new internal door

External Front Door Glass:

- Disassemble the front door group
- Disassemble the front door
- Separate outer front door glass from the ratchets of internal door
-Assemble new glass (Be careful not to break the ratchets during assembly of the glass)

Hook:

-Disassemble external front door
-Unscrew 2 screws that hold hook on the internal door

Door Push and Door Push Spring:

-Disassemble the external door.
-Remove the ratchets of door push

Hinge:

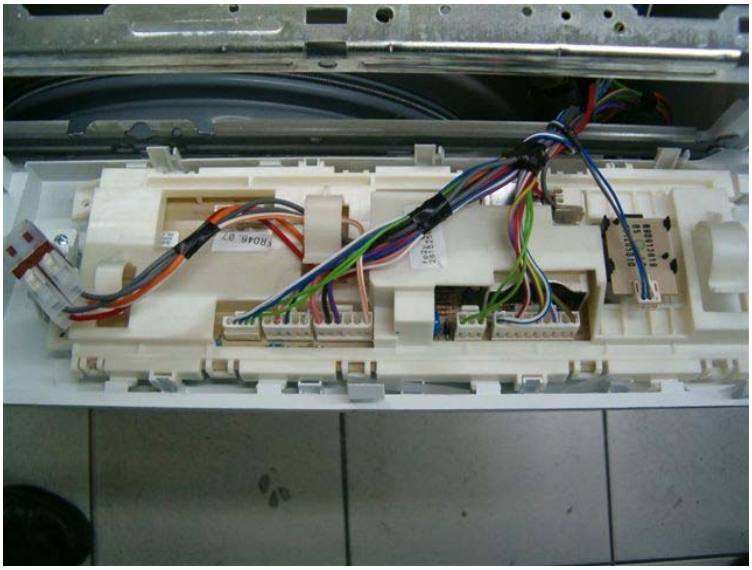
-Disassemble the front door.
-Unscrew the 4 screws that connect hinge to the internal door and then remove the hinge
-Assemble the 4 plastic hinge sleeve, taken from the old hinge, to the new hinge. New hinge is assembly to the internal door.
-Screw the hinge holder to the hinge, screw external door to the internal door.
-Screw front door group to the front panel.

6-) Rotary Switch:

-Push the ratchets of button from the inner face panel and then remove the button.

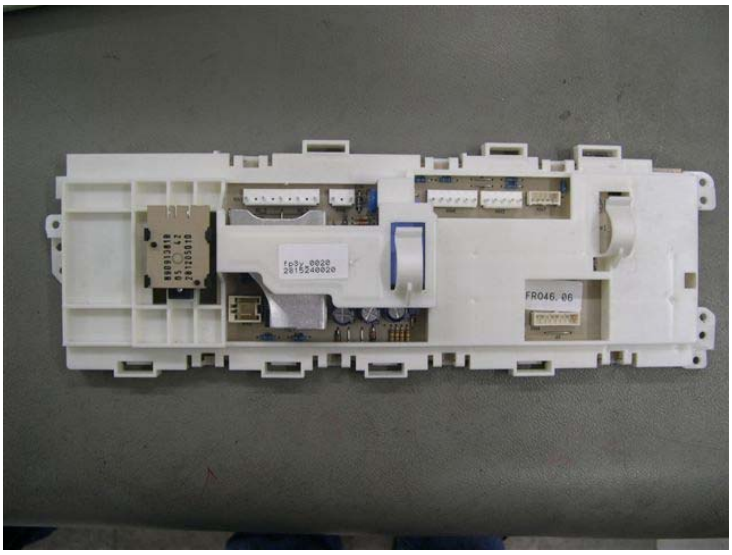
7-) Drawer panel:
-Drawer is pulled back from the detergent box.
-The piece INDICATED by the arrow is pressed and the drawer is pulled back
-Drawer is turned upside down in order to release the drawer front cover panel

8-) Panel
-Drawer is removed from the detergent box
-Remove the screw that attaches the panel to the panel holder bracket.
-Remove 2 screws that attach the panel to the panel holder bracket
-Panel is released from the snaps on the panel holder



9-) Program Card:

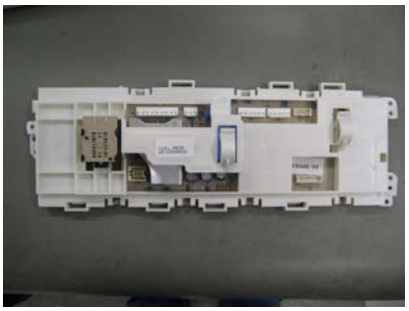
-Remove the sockets of program control card
-Unscrew the 2 screws of on the display holder
-Separate display holder from ratchets



-Unscrew 2 screws and remove the on-off switch. Separate the on-off switch from panel by pushing from lamp holder ratchets.

10-) Electronic board:

-Remove the card from card holder



11-Pressure Switch:

- Remove 1 screw on its holder that attach the pressure switch to the main cable group

12- On-off Switch (Not Illuminated):

-Disassemble on-off switch cables
-Disassemble 2 PT screws from the switch holder

13-Interference Suppressor:

-Disassembled top plate
-Disconnect interference suppressor cables
-Remove two screws that are in the terminal box behind the body that fixes the interference suppressor to the terminal group.
-Hold the interference suppressor with one hand and the M8 nut is unscrewed with an appropriate spanner or socket.

14-Water Inlet Valve
-Disassemble top plate
-Disconnect single valve cables
-Release single valve hose clamp and move up the hose.
-Remove hose from the end of the valve
-Turn the valve counter-clockwise

15-Double Valve:

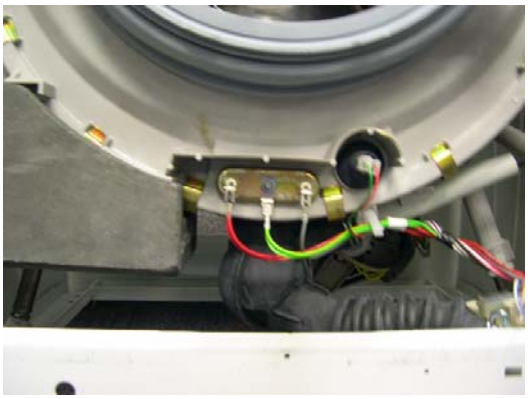
-Disassemble top plate
-Disconnect double valve cables
-Release single valve hose clamp
-Remove the hose
-Unscrew the 2 screws that connect valve to the cabinet

16-Door Safety lock:

-Hold the front door handle and pull the door towards yourself.
-Remove the clamp that fixes the door hood to the front panel
-Disassemble door hood from the front panel
-Remove two screws that attach the safety lock to the body
-Remove front panel
-Disconnect cables

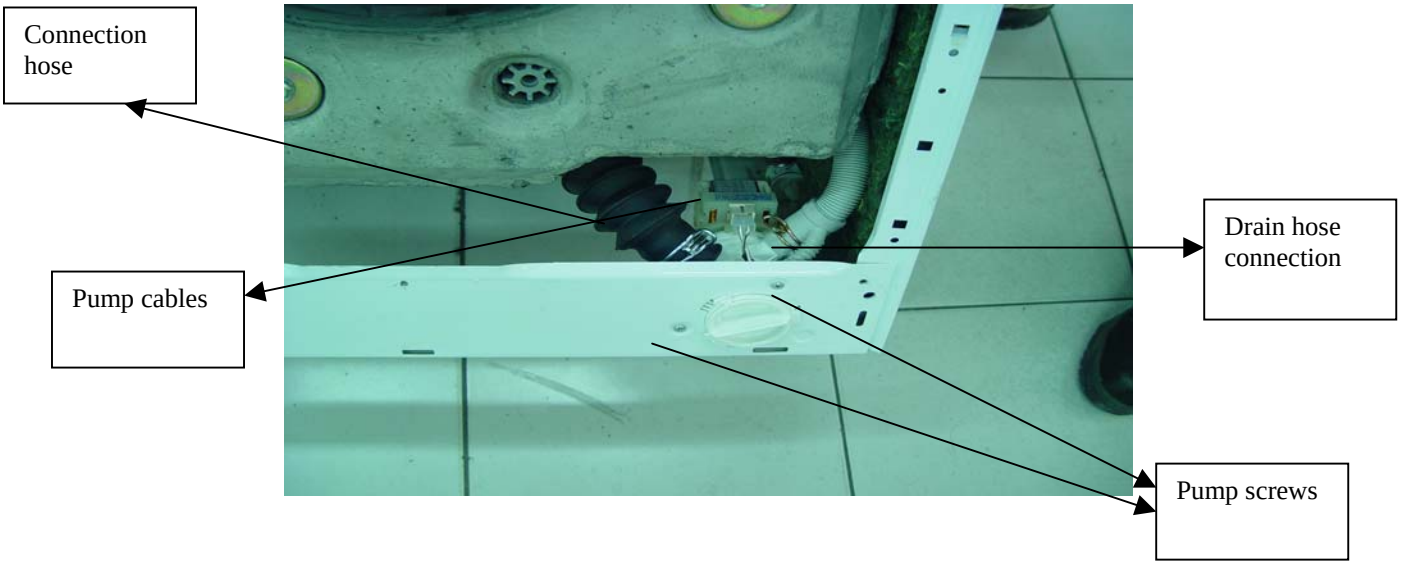
17-Heater:

-Disassemble front panel
-Disconnect heater cables
- Loosen heater M6 bolt and release heater through the tub cover
(When re-fitting the heater ensure element engages correctly in the heater holder clip which is fixed to the tub)



18-Pump:

-Disassemble front panel
-Disconnect pump cables
-Release tub filter hose from the pump
-Release outlet hose
-Remove the screw that attaches the pump to the body
-Separate pump from the body



19-Tub Gasket:

<u>Disassembling:</u>

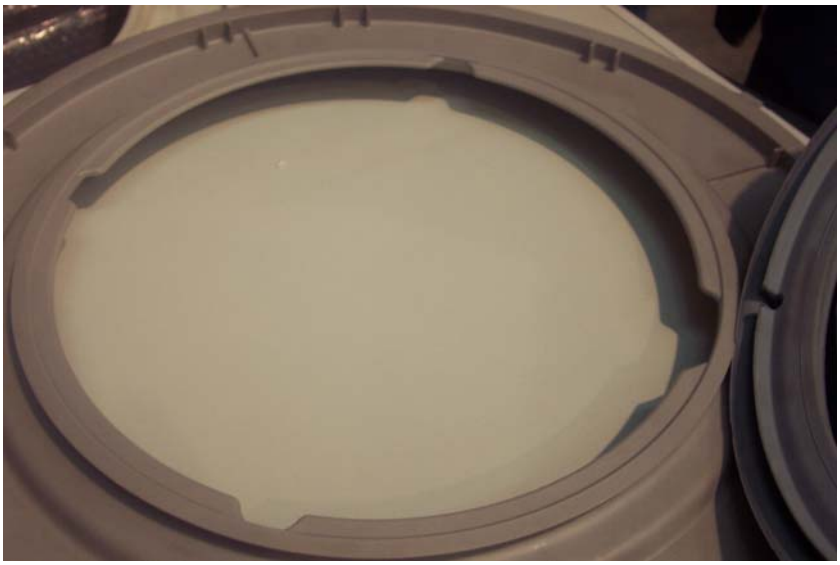
-Disassemble front panel
-Grab the door hood and pull with force. The hood and the spring clamp will release from the tub.

Assembling

-Assembly should be done on the freestanding tub cover. For that reason disassemble the tub cover by taking out the clips one by one.

-Then find the water drainage hole on the tub gasket. It should be placed at 6 o'clock position of the tub front cover. Begin from 6 o'clock position and remount the door hood on the peripheral of the tub opening. Rear tongue should be placed in the tub side and the front tongue should be placed in the front canal at the same time.

-After positioning the tub gasket, fix it with the spring clamp.



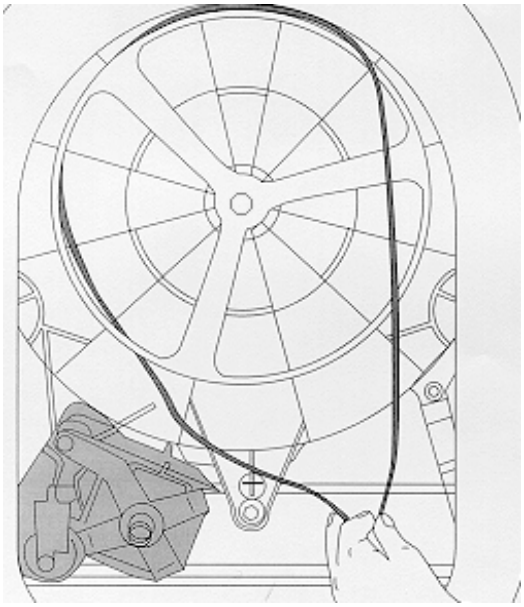
20-Water inlet hose:

-Loosen the hose clamp on the detergent box connection and release the water inlet hose

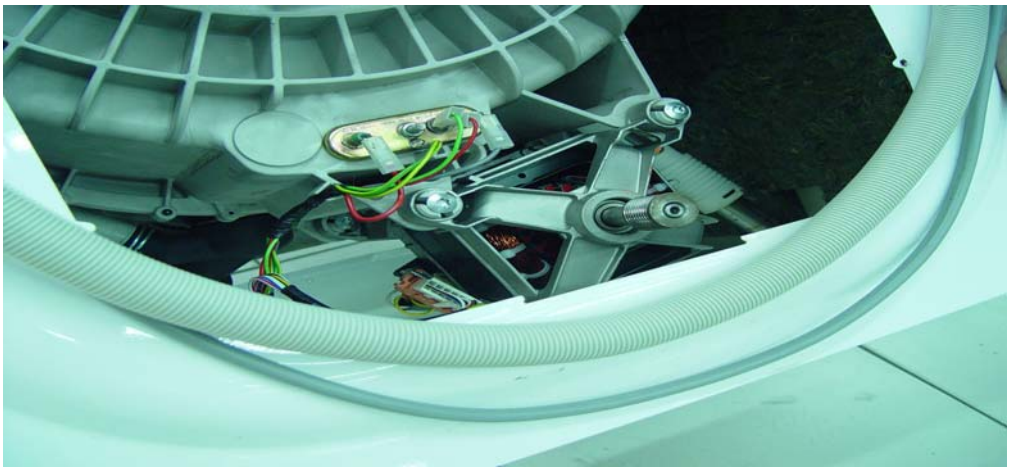
-Take out the clamp and pull off the other end of the water inlet hose from the tub.

21- Poly-V Belt:
-Remove back cover
-Pull off Poly-V belt while turning over the pulley

22- Pulley:
-Remove back cover
-Remove poly-V belt
-Unscrew the bolt that connects the pulley to the drum shaft
-Pull off pulley from the drum shaft.



23-Motor:
-Remove back cover
-Plug out motor socket
-Remove poly-V belt
-Unscrew the bolt that attach the motor to the tub (there are 4 bolts, in order to unscrew the bolts use end 40)
-Release motor from the grommet.



24-Power supply cord:
-Release terminal group cover from the snaps at both sides
-Loosen cable holder screw
-Remove power supply cord terminal from the interference suppressor

25- Upper counterweight:
-Remove top plate
-Unscrew upper counterweight fixture screws and pull off counterweight

26-Lower Counterweight:
-Disassemble front panel
-Lower counterweight fixture screws are unscrewed and counterweight pulled off.
(Torque value during assembly of lower and upper counterweight should be 2100Ncm)

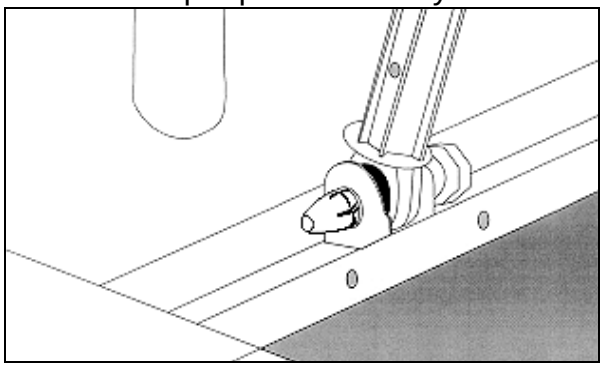
IMPORTANT:
Transportation bolts should be used in the case of laying the machine to the front. If tilting the machine to the front is unnecessary, lower counterweight bolts should not be unscrewed.

A 25 Torks end is required in order to separate tub connections.

27-Tub seal:
-Disassemble the front panel
-Loosen the lower counterweight to improve access to tub clips.
-Screw that connects pressure sensor pipe to the tub is unscrewed, so that unscrewing process becomes easy.
-Remove heater
-Remove NTC
-Release tub cover clips
-Pull off tub cover and turn upside down
-Remove tub seal.
(When re-fitting, ensure that the seal and cover fit into the tub securely. Assembly of the tub group requires 450 Ncm torque with –50Ncm tolerances)

28-Drum group:
-Disassemble front panel
-Remove tub cover
-Disassemble back cover
-Disassemble pulley
-Pull off drum from the tub

29-Shock absorber:
-Disassemble back cover
-Pull off damper pin at the tub pressing on the snaps at the sharp end
-Pull off damper pin at the body



30- **Discharge hose:**
-Remove front panel
-Loosen the clamp at the pump entry of the discharge hose and slid back.
-Pull off discharge hose from the pump.
-Release the hose from the hose holder part at the back of the chassis.
-Take the discharge hose out of the machine from the front.

FORA FUNCTIONAL TEST MODE :

NOTE: To prevent any misunderstanding, entering the functional test mode ends the running program and erases any failure code stored in the memory. So the service firstly must check the failure code observing mode to see if there is any failure code stored in the memory and then run the functional test program.

In functional test mode all the functions are tested for a short time. In Cotton 90C position the machine is opened from the on/off button while pressing the start/stop button at the same time. Keep pressing the button for 2-3 seconds until the start /stop button starts blinking. Now we are in functional test mode. Each push to the Start/ Pause button will represent one function.

For softwares before FR050_XX:

1. Door will be locked.
2. All leds on the board will start to blink when the door is locked. (Led check). By this way we can see the led which is not functioning.
3. Take in water from prewash compartment.
4. Take in water from main wash compartment.
5. Take in water from softener compartment.
6. Take in hot water. (Main wash compartment)
7. Heater will be on. (Note : If the water level inside the tub is not enough for the heater to be switch on, the machine will turn on all the valves and take in water from all compartments to reach to the required level. It is impossible for the heater to switch on without reaching to the required level. By this way the machine can not pass to the next step without testing the previous step)
8. Clockwise motor rotation with 52 rpm.
9. Counter clockwise rotation with 52 rpm.
10. Draining.
11. Spinning.(Spinning up to ½ of the maximum spinning rpm)
12. Turn on all the valves to fill a certain level in a short time for water leakage test on the production line.
13. End of functional test mode.

You can get off the test mode by turning the machine off.

NOTE : In spinning step if the machine spins up to 100 rpm this points to NTC open/short circuit failure.
In spinning step if the machine spins up to 140 rpm this points to line voltage either less than 180 V of higher than 265 V

For softwares FR050_XX:

1. Door will be locked.
2. All leds on the board will start to blink when the door is locked. (Led check). By this way we can see the led which is not functioning.
3. One of the follower Leds will start to blink with respect to the position of Temperature/Spin Rate selector button.
4.Take in water from prewash compartment.
5. Take in water from main wash compartment.
6. Take in water from softener compartment.
7. Take in hot water. (Main wash compartment) (If it is available)
8. Heater will be on. (Note : If the water level inside the tub is not enough for the heater to be switch on, the machine will turn on all the valves and take in water from all compartments to reach to the required level. It is impossible for the heater to switch on without reaching to the required level. By this way the machine can not pass to the next step without testing the previous step)
9. Clockwise motor rotation with 52 rpm.
10. Counter clockwise rotation with 52 rpm.
11. Draining.
12. Spinning.(Spinning up to ½ of the maximum spinning rpm.)
13. Turn on all the valves to fill a certain level in a short time for water leakage test on the production line.
14. End of functional test mode.

You can get off the test mode by turning the machine off.

NOTE : In spinning step if the machine spins up to 100 rpm this points to NTC open/short circuit failure.
In spinning step if the machine spins up to 140 rpm this points to line voltage either less than 180 V of higher than 265 V

For softwares after FR051_XX, NF005_XX and CF003_XX:

1. Door will be locked.
2. All leds on the board will start to blink when the door is locked. (Led check). By this way we can see the led which is not functioning.
3. One of the follower Leds will start to blink with respect to the position of Temperature/Spin Rate selector button. (Selector Check)
4. Clockwise motor rotation with 52 rpm and Pump On.
5. Counter clockwise rotation with 52 rpm and Pump On.
6. Spinning.(Spinning up to ½ of the maximum spinning rpm.) and Pump On
7. Take in water from prewash compartment.
8. Take in water from main wash compartment.
9. Take in water from softener compartment.
10. Take in hot water. (Main wash compartment)
11. Heater will be on and Clockwise motor rotation with 52 rpm . (Note : If the water level inside the tub is not enough for the heater to be switch on, the machine will turn on all the valves and take in water from all compartments to reach to the required level. It is impossible for the heater to switch on without reaching to the required level. By this way the machine can not pass to the next step without testing the previous step.)
12. Draining.
13. End of functional test mode.

You can get off the test mode by turning the machine off.

NOTE : In spinning step if the machine spins up to 100 rpm this points to NTC open/short circuit failure.
In spinning step if the machine spins up to 140 rpm this points to line voltage either less than 180 V of higher than 265 V

For softwares after F64_0137 (Later than 01.06.2009)

1. Door will be locked.
2. The last recorded failure code will be displayed. (The failure code will be erased from memory if Start button is pressed.)
3. All leds on the board will start to blink when the door is locked. (Led check). By this way we can see the led which is not functioning.
4. One of the follower Leds will start to blink with respect to the position of Temperature/Spin Rate selector button. (Selector Check)
5. Clockwise motor rotation with 52 rpm and Pump On.
6. Counter clockwise rotation with 52 rpm and Pump On.
7. Spinning.(Spinning up to ½ of the maximum spinning rpm.) and Pump On
8. Take in water from prewash compartment.
9. Take in water from main wash compartment.
10. Take in water from softener compartment.
11. Take in hot water. (Main wash compartment)
12. Heater will be on and Clockwise motor rotation with 52 rpm . (Note : If the water level inside the tub is not enough for the heater to be switch on, the machine will turn on all the valves and take in water from all compartments to reach to the required level. It is impossible for the heater to switch on without reaching to the required level. By this way the machine can not pass to the next step without testing the previous step.)
13. Draining.
14. End of functional test mode.

You can get off the test mode by turning the machine off.

NOTE : In spinning step if the machine spins up to 100 rpm this points to NTC open/short circuit failure.
In spinning step if the machine spins up to 140 rpm this points to line voltage either less than 180 V of higher than 265 V

Fora Failure Algorithms

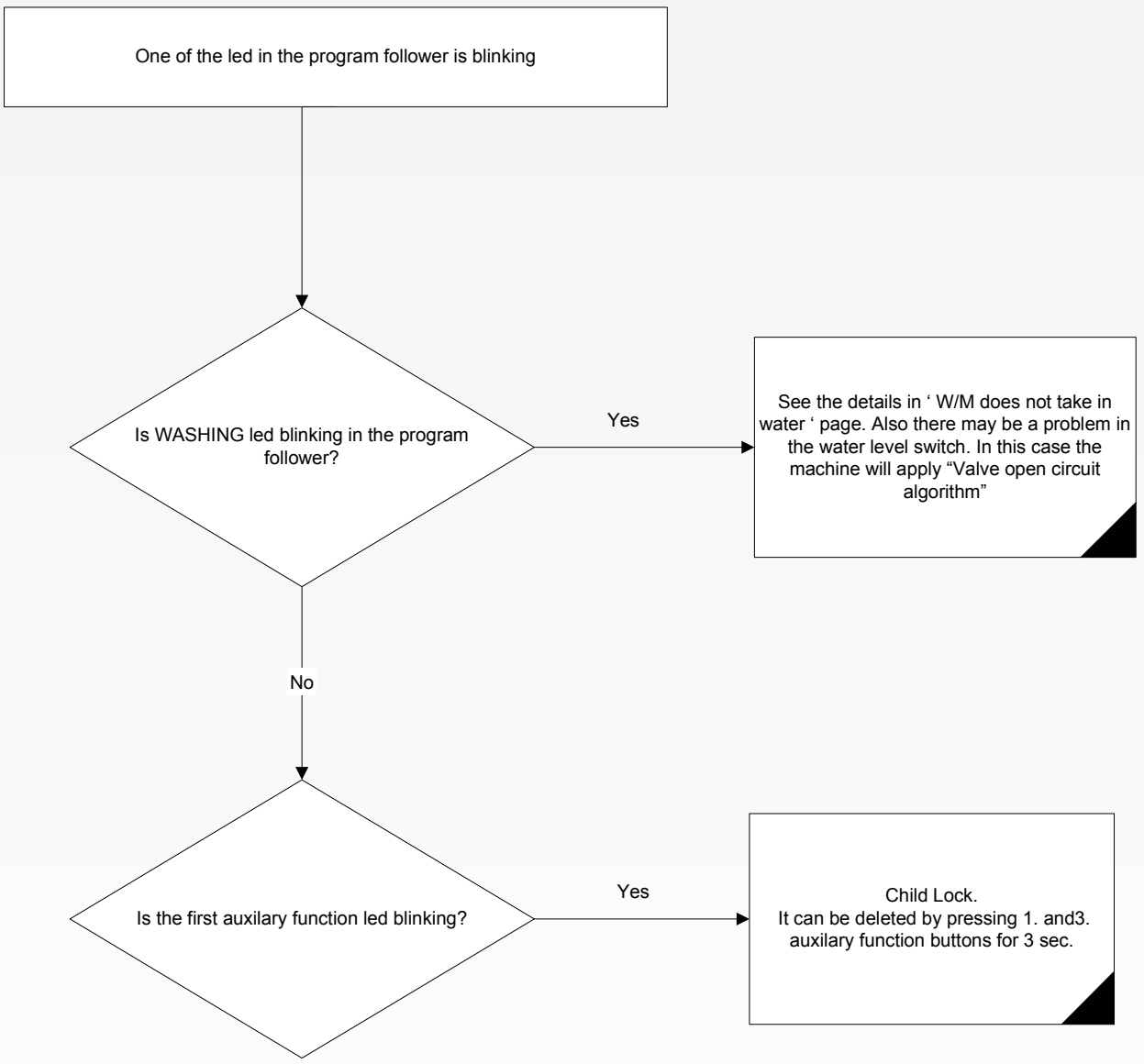
Check the failure code (Can be observed at “failure code observing mode”)

Go to the algorithm related with the error code

- 1 0 0 → NTC short circuit or open circuit problem. Follow “no heating” flow-chart
- 0 1 0 → Heater open circuit problem. Follow “no heating” flow-chart
- 1 1 0 → Heater always on problem. Start draining program. If heating is observed, change the electronic card group
- 0 0 1 → Valve triac short circuit problem. After checking wiring(is there a problem in cable orders), change the electronic card if the valve always on failure is actually seen.
- 1 0 1 → Pump open circuit or pump short-circuit problem. See no-draining flow-chart
- 1 1 1 BLINK → Pump triac diode mode
- 1 1 1 → Pump triac short circuit
- 1 1 BLINK 1 BLINK → Door lock/no signal/triac open circuit.
- 1 BLINK 1 BLINK 1 BLINK → Door lock/ Triac short circuit.
- 0 1 1 → Motor triac short-circuit failure. See spinning at a washing step flow-chart
- 0 0 1 BLINK → Motor open circuit or tacho open circuit failure. See No wash follow-chart
- 0 1 BLINK 1 BLINK → EEPROM Failure
- 1 BLINK 1 BLINK 1 → Program/Heat/rpm selector open/ short circuit.
- 0 1 BLINK 0 → No Water, Pump triac short circuit of valve triac open circuit.
- 1 1 BLINK 1 → Foam Detected.
- 0 1 BLINK 1 → Final spin couldn’t be done because of unbalance problem.
- NONE → Go to the flow-chart which defines the problem you observe.

FAILURE CODE OBSERVING MODE:
Entrance:
Open the machine from on/off button. From left to right (Starting from the button next to the start/stop button),press the second auxilary function button for 3 sec.. The failure code will be seen on the follower. It will disappear in 3 - 5 sec. It will be seen if the button is pressed again.
Also last failure code can be displayed by entering the functional test mode.

NOTE:
THE FAILURE CODES DO NOT COMPLETELY SHOW THAT THE RELATED COMPONENT IS NOT FUNCTIONING. TO DECIDE THIS WE HAVE TO CHECK THE CABLE CONNECTIONS AND BE SURE THAT THERE IS NOT ANY PROBLEM BETWEEN THE CONNECTIONS.


One of the led in the program follower is blinking
Is WASHING led blinking in the program follower?
Yes
See the details in ‘ W/M does not take in water ‘ page. Also there may be a problem in the water level switch. In this case the machine will apply “Valve open circuit algorithm”
No
Is the first auxilary function led blinking?
Yes
Child Lock.
It can be deleted by pressing 1. and3. auxilary function buttons for 3 sec.

Fora Failure Algorithms

W/M does Not Work

Does the washing led or the first auxilary function led blink?

- Yes → See the details in the page 'one of the led is blinking in the program follower ?'
- No →

Are front panel leds on ?

- Yes → Select any washing program then start the program. Start led (arrow shape) must be on. If led is not on , check the front panel connection. If there is no connection problem , then change the display PCB. Is this way solve the problem

Check the continuity between KN1.1 and KN3.5. Can you measure 220V?

- No → Check the continuity between KN1.1 and KN6.6. Can you measure 220V?
  - Yes → Change the door lock switch
  - No → Change the Main PCB
- Yes →

Is the pressure sensor open circuit?

- Yes → Check the pressure sensor connections and correct if required.
- No → Select the pump and spinning program then start the program. If selected program can not be started, change the Main PCB. If only some of the programs are performed , look at the selection failure algorithm that which are not performed.

Is ready led ON?

- Yes →

Check the continuity between KN1.1 and KN6.6

- Yes → Check the other components on the main PCB.
- No → Check the cable order on KN6. If it is wrong correct it.

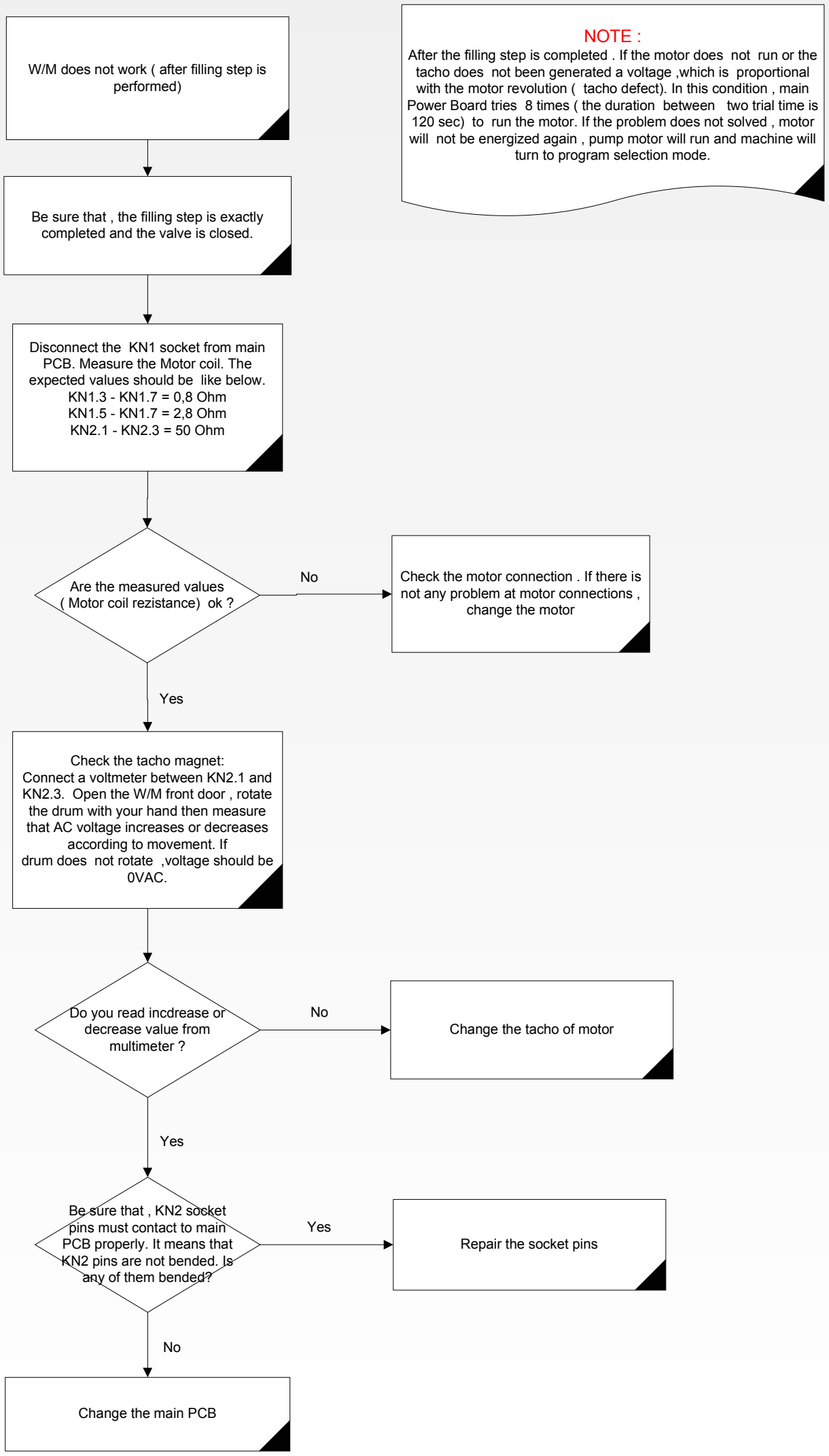
- No →

Check the continuity between interference suppressor and on/off switch
Gray / Gray
Gray / Green - Blue
Are they Ok?

- Yes → Check the On/Off switch connection. If there is not any problem at connection then change the On/ Off switch
- No → Check the power cable and main fuses If the power cable has been damaged then change it.

Warning:
W/M does not work , means all function is not performed . In other words W/M does not performing one of the following functions;
filling , washing , spining and draining.

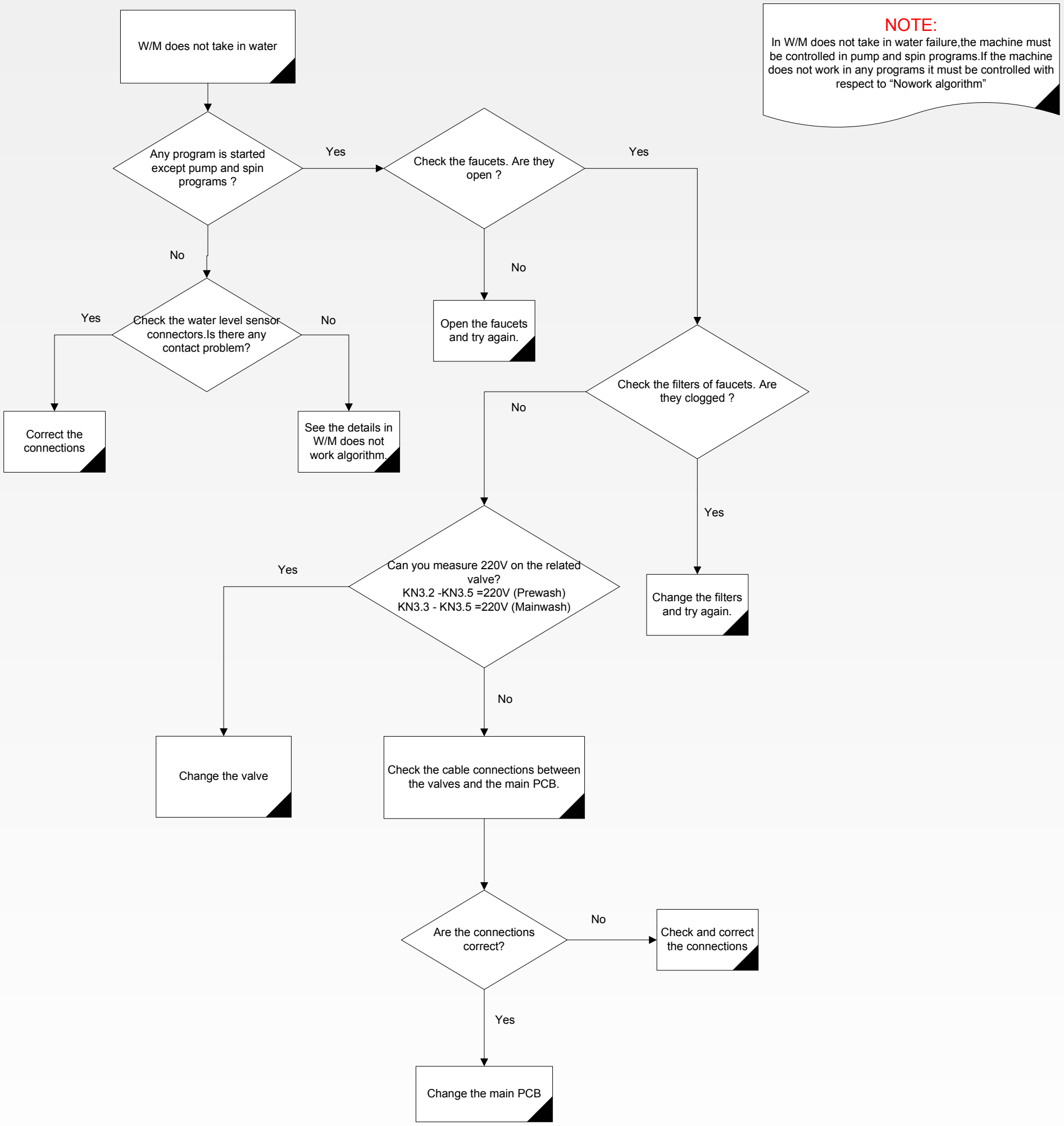
Fora Failure Algorithms

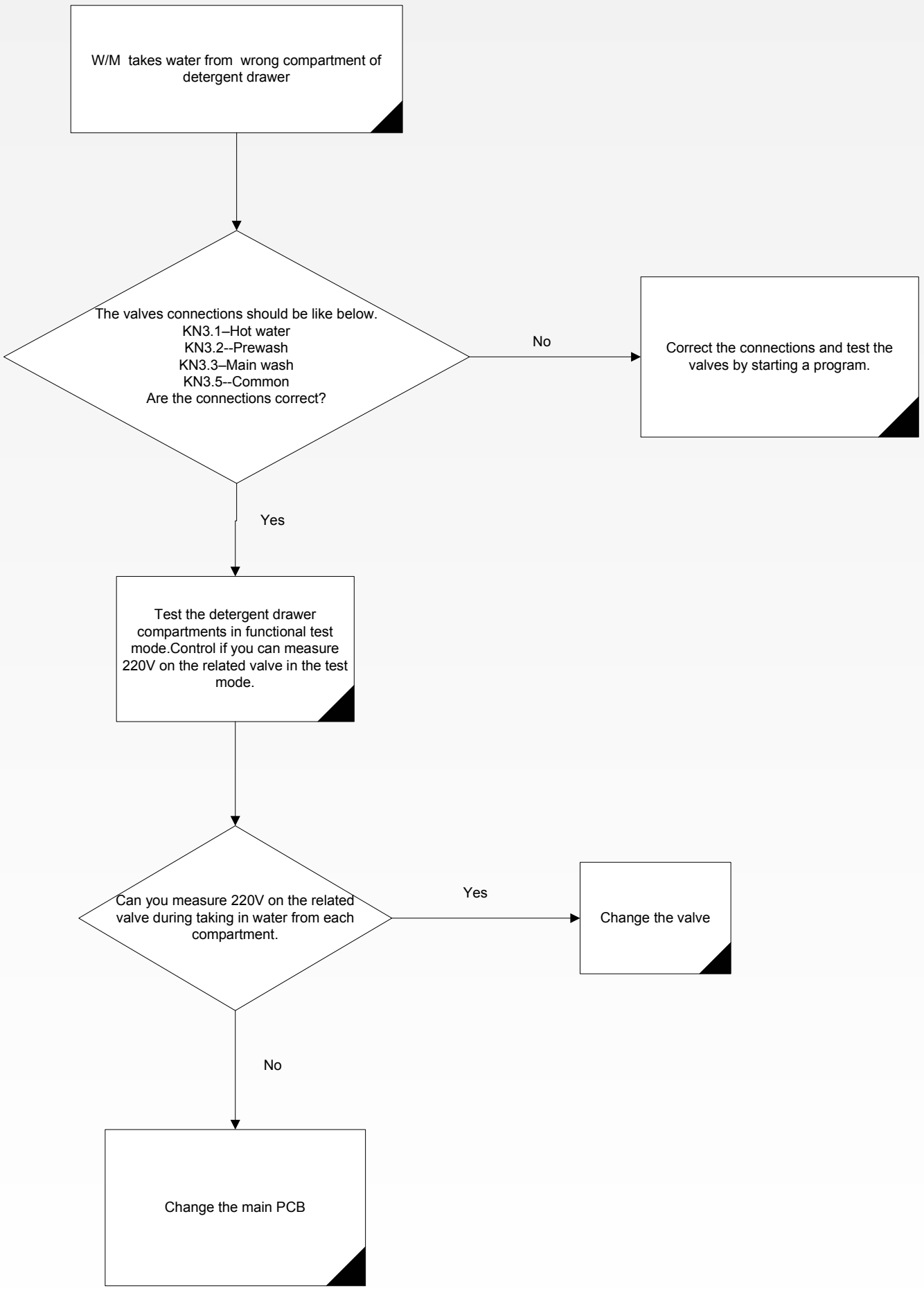


NOTE :

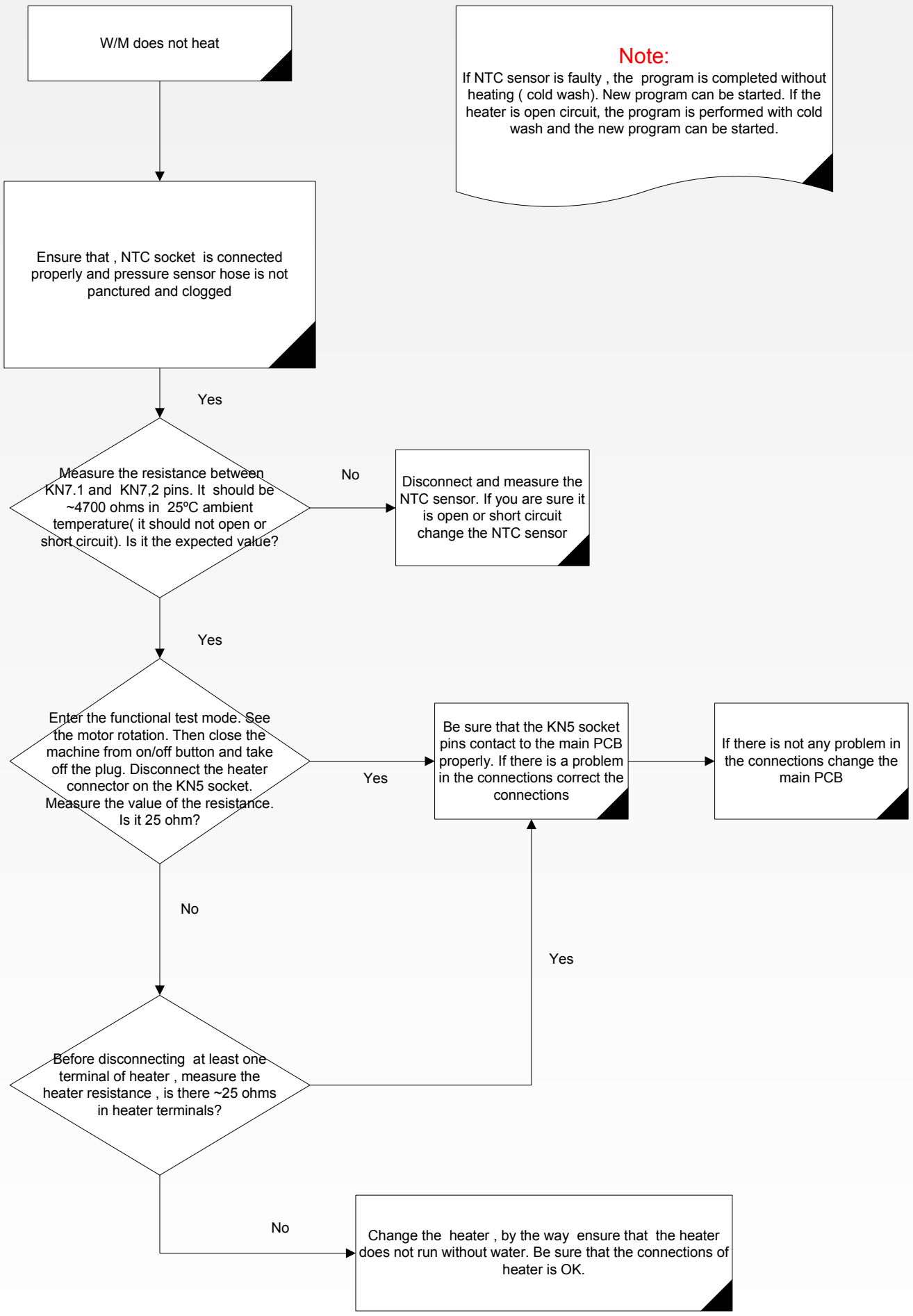
After the filling step is completed . If the motor does not run or the tacho does not been generated a voltage ,which is proportional with the motor revolution (tacho defect). In this condition , main Power Board tries 8 times (the duration between two trial time is 120 sec) to run the motor. If the problem does not solved , motor will not be energized again , pump motor will run and machine will turn to program selection mode.

Fora Failure Algorithms

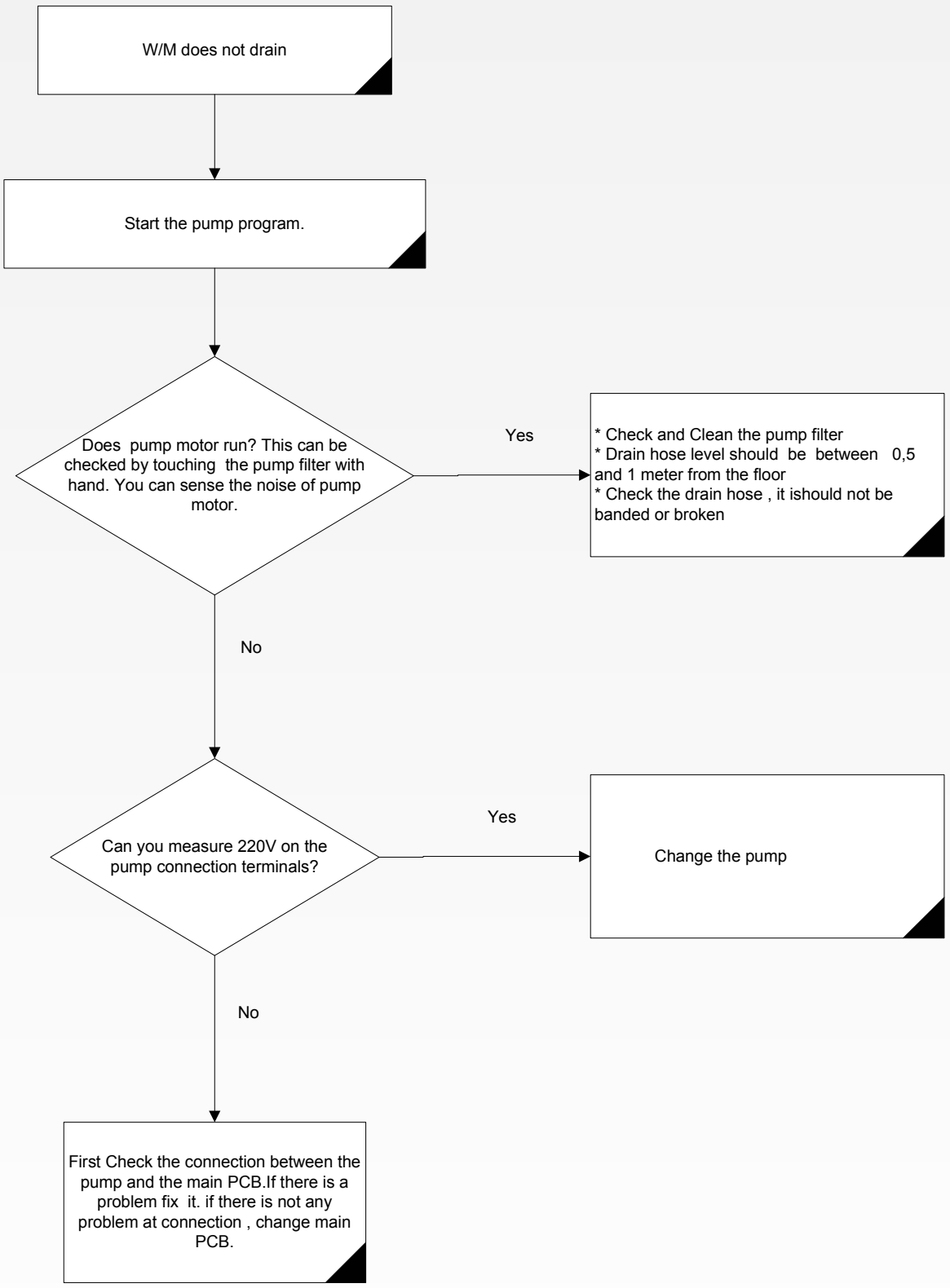


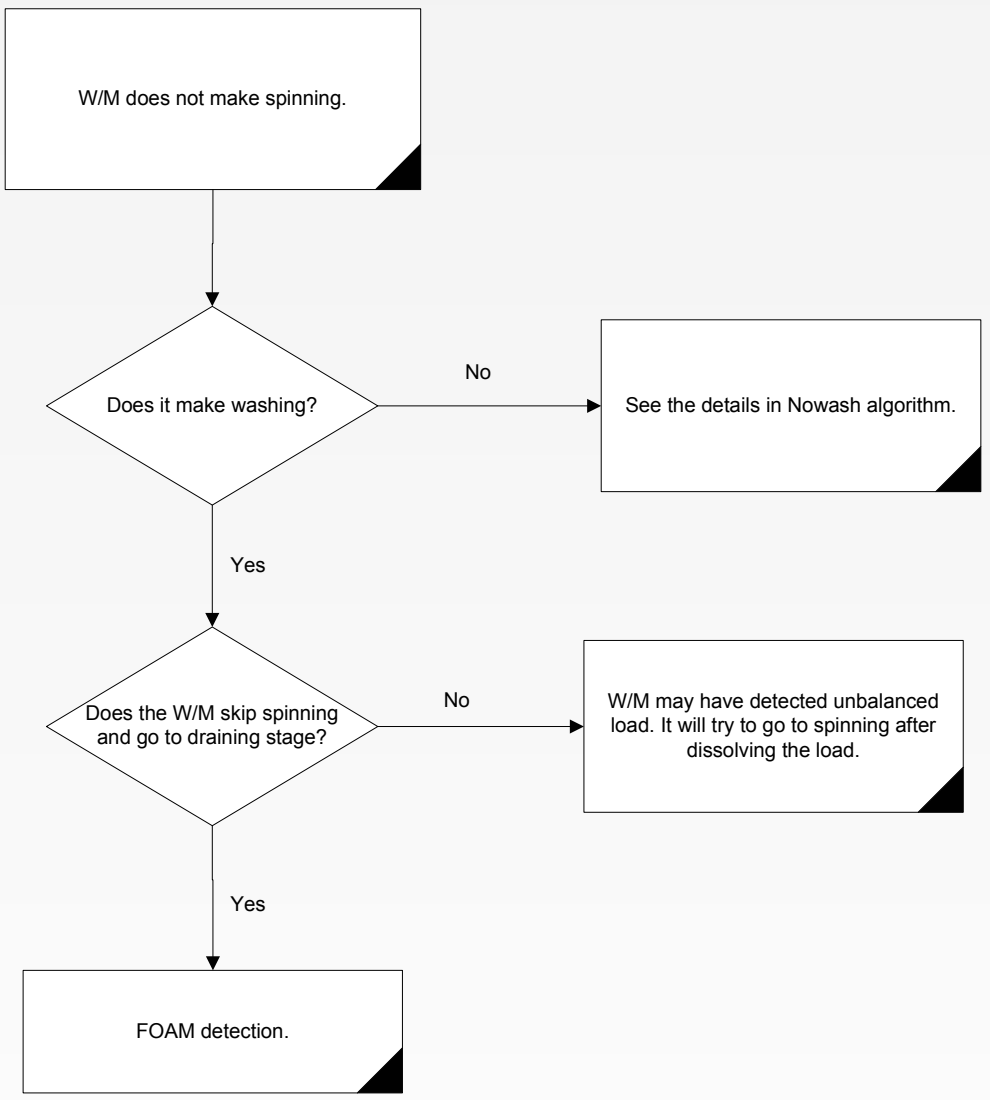

W/M takes water from wrong compartment of detergent drawer
The valves connections should be like below.
KN3.1–Hot water
KN3.2--Prewash
KN3.3–Main wash
KN3.5--Common
Are the connections correct?
No
Correct the connections and test the valves by starting a program.
Yes
Test the detergent drawer compartments in functional test mode.Control if you can measure 220V on the related valve in the test mode.
Can you measure 220V on the related valve during taking in water from each compartment.
Yes
Change the valve
No
Change the main PCB

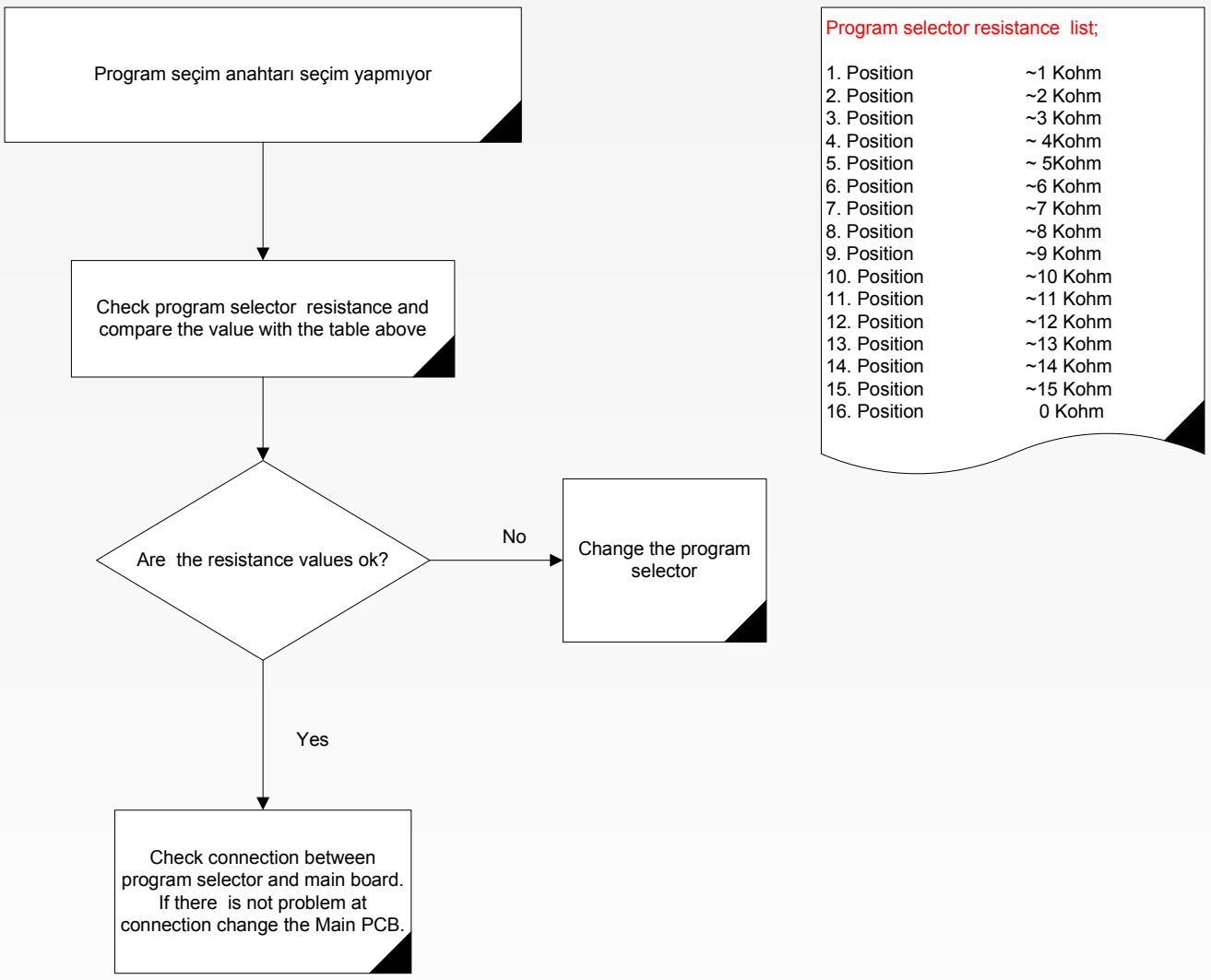
Fora Failure Algorithms



Note:
If NTC sensor is faulty , the program is completed without heating (cold wash). New program can be started. If the heater is open circuit, the program is performed with cold wash and the new program can be started.


W/M does not drain
Start the pump program.
Does pump motor run? This can be checked by touching the pump filter with hand. You can sense the noise of pump motor.
Yes
* Check and Clean the pump filter
* Drain hose level should be between 0,5 and 1 meter from the floor
* Check the drain hose , it ishould not be banded or broken
No
Can you measure 220V on the pump connection terminals?
Yes
Change the pump
No
First Check the connection between the pump and the main PCB.If there is a problem fix it. if there is not any problem at connection , change main PCB.

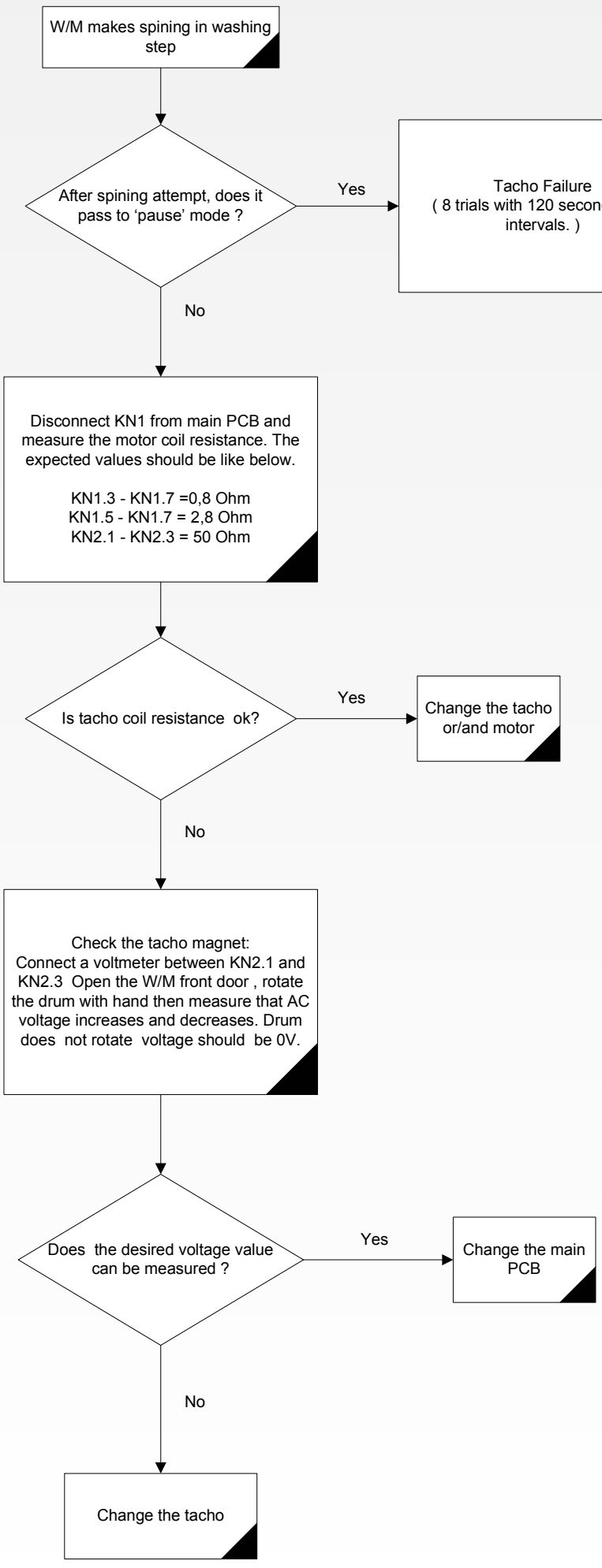

W/M does not make spinning.
Does it make washing?
No
See the details in Nowash algorithm.
Yes
Does the W/M skip spinning and go to draining stage?
No
W/M may have detected unbalanced load. It will try to go to spinning after dissolving the load.
Yes
FOAM detection.



Program selector resistance list;

1. Position	~1 Kohm
2. Position	~2 Kohm
3. Position	~3 Kohm
4. Position	~ 4Kohm
5. Position	~ 5Kohm
6. Position	~6 Kohm
7. Position	~7 Kohm
8. Position	~8 Kohm
9. Position	~9 Kohm
10. Position	~10 Kohm
11. Position	~11 Kohm
12. Position	~12 Kohm
13. Position	~13 Kohm
14. Position	~14 Kohm
15. Position	~15 Kohm
16. Position	0 Kohm

Fora Failure Algorithms



NOTE:
If 3 spining attempts are occurred by 30seconds time intervals, this shows motor triac short circuit failure.

FAILURE CODES THAT CAN BE SEEN IN FAILURE CODE OBSERVING MODE

NTC OPEN/SHORT CIRCUIT	(1 - 0 - 0)
HEATER OPEN CIRCUIT	(0 - 1 - 0)
HEATER IS ALWAYS ON	(1 - 1 - 0)
VALVE TRIAC SHORT CIRCUIT / TRIAC DIODE MODE	(0 - 0 - 1)
PUMP OPEN CIRCUIT	(1 - 0 - 1)
PUMP TRIAC DIODE MODE	(1 - 1 - 1 BLINK)
PUMP TRIAC SHORT CIRCUIT* (BEFORE 01.06.2009)	(1 - 1 - 1)
DOOR LOCK FAILURE	(1 - 1 BLINK - 1 BLINK)
DOOR LOCK TRIAC SHORT CIRCUIT	(1 BLINK - 1 BLINK - 1 BLINK)
MOTOR TRIAC SHORT CIRCUIT / TRIAC DIODE MODE	(0 - 1 - 1)
MOTOR OPEN CIRCUIT /TACHO FAILURE	(0 - 0 - 1 BLINK)
EEPROM FAILURE	(0 - 1 BLINK - 1 BLINK)
PROGRAM / TEMPERATURE / SPIN SELECTION POTANTIOMETER FAILURE	(1 BLINK - 1 BLINK - 1)
NO WATER, VALVE TRIAC OPEN CIRCUIT, PUMP TRIAC SHORT CIRCUIT** (AFTER 01.06.2009)	(0 - 1 BLINK - 0)
FOAM DETECTED ** (AFTER 01.06.2009)	(1 - 1 BLINK - 1)
NO SPINNING BECAUSE OF UNBALANCE PROBLEM ** (AFTER 01.06.2009)	(0 - 1 BLINK - 1)

NOTE:
THE FAILURE CODES DO NOT COMPLETELY SHOW THAT THE RELATED COMPONENT IS MALFUNCTION.
TO DECIDE THIS, WE HAVE TO CHECK THE CABLE CONNECTIONS AND BE SURE THAT THERE IS NOT ANY PROBLEM BETWEEN THE CONNECTIONS.

* “Valve Triac Open Circuit”, “No Water” and “Pump Triac Short Circuit” failure codes have been combined together in the new software which was taken in use on 01.06.2009
** New failure codes for “Foam Detection” and “Unbalance problem” have been defined in the new software which was taken in use on 01.06.2009