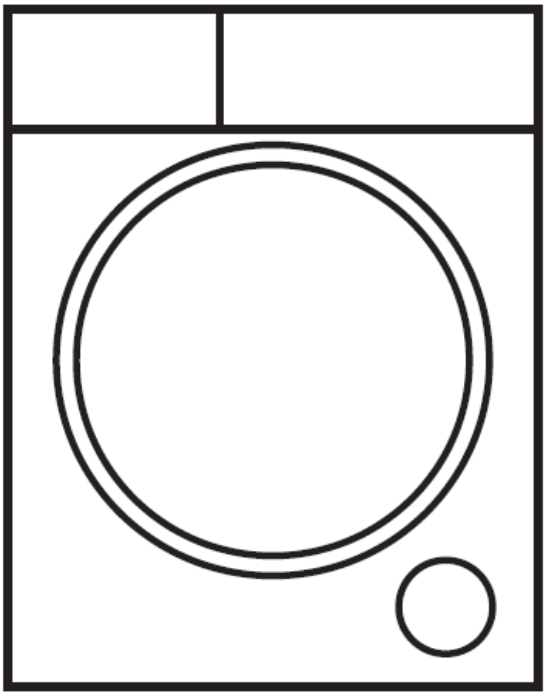
Washing Machine

Model :510-9-N11 单洗

Service Manual



Note：

Before service the unit, please read this manual first.
Contact with your service center if meet problem

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1 Precaution

When performing troubleshooting and part replacement during service take notice following safety precautions:

1.1 Safety Precautions

1.1.1 Use Genuine Parts

The components of the washing machine have safety features such as non-combustibility and voltage with standing. Therefore, always use the same part as suggested by the maker. In particular be sure to use only designated parts in case of major safety parts identified by the marker.

1.1.2 Grounding

Connect the grounding wire to the shell plate ,and bury it under at least 25cm of earth: alternatively, connect the ground wire to the appropriate pin on a properly grounded power receptacle. Never connect the wire to a telephone line, lightning rod, or gas pipe.

1.2 Servicing Precautions

1.2.1Observe Warnings

Make sure to follow special warnings and precautions described on labels and user manual.

1.2.2 Parts Assembly and Wiring

Make sure use insulation material(such as tube and tape) and restore all parts and wires to their original position. Take special care to avoid contact with sharp edges.

1.2.3 Perform Safety Checks after Servicing

After servicing, check and ensure screws, parts and wiring are restored to their original position. Do check the insulation between the external metals and the socket plug. In additional, place the washing machine in flat ground (less than 1 degree)to prevent vibration and noise during operations.

1.2.4 Insulation Check

Pull off the power plug from the socket, pour water into the spin tub.

Check the resistance insulation value between terminals of plug and external exposed metal of machine should bigger than 1MΩ .

Note : If it is unable to check insulation with a 500V insulation resistance tester, please use other testers for checking.

1 Precaution

1.3 CAUTIONS FOR SAFETY

- **Please observe the following notes for safety.**
- **The symbols indicate as follows.**

Symbol	Meaning
WARNING	Indicates possibility of death or serious injury of a repair technician and a person nearby through the misconducted work , or of a user by a defect of the product after the work performed by the technician.
CAUTION	Indicates possibility of injury or physical damages* of a repair technician and a person nearby through the misconducted work , or of a user by a defect of the product after the work performed by the technician.

* Means secondary damages of property, furniture , domestic animal and pet.

Symbol	Meaning
ELECTRIC SHOCK	Indicates a caution (including a warning). Specific instruction is followed by a graphic or characters in or near. Symbol left warns an electric shock.
DO NOT DISASSEMBLE	Indicates prohibition (act must not be conducted). Specific instruction is followed by a graphic or characters in or near. DO NOT Symbol left warns not to disassemble.
UNPLUG	Indicates forcing (act must be conducted). Specific instruction is followed by a graphic or characters in or near . Symbol left warns to unplug the power cord.

Symbol	Meaning
OUT OF CHILD	Advise the customer to keep children out of the work place. Children may be injured with a tool or a disassembled part.
UNPLUG POWER	Unplug power plug before working such as disassembling which is not necessary to power on . Do not hold the plug by a wet hand. Failing to unplug may cause an electric shock.
USE REPAIR PARTS	Use the specified repair parts when repairing the product. Otherwise , a malfunction or a defect may occur. Also , a short circuit , ignition or other danger to the customer may occur.

1 Precaution

WARNING	
 **CHECK INSULATION RESISTANCE**	After repairing, measure insulation resistance between the charging part(power cord plug) and the non-charging metallic part (ground) with an insulation resistance meter (500V).The resistance shall be 10M or more. Failing to check the insulation resistance may cause a short circuit, electric shock or other diseases to the customer.
 **DO NOT MODIFY**	Do not modify the product. An electric shock or ignition may occur.
 **DO NOT MODIFY**	Only a repair technician can disassemble and repair. An electric shock, ignition or malfunction may cause injury.
 **USE EXCLUSIVE SOCKET**	Use an exclusive 230V AC/17A socket for the washing machine. Otherwise , an electric shock or ignition may cause. Sharing the same socket with other instrument causes heating of a branch socket and result in a fire.
 **CONNECT GROUNDING WIRE**	Connect the grounding wire. Failing to do so may cause an electric shock when a short circuit occurs. Consult an electric work shop or a sales shop.
 **DO NOT USE WET PLACE**	Do not install machine in bath room or a place exposed to wind or rain. An electric shock or a short circuit may cause a fire.
 **DO NOT SPLASH WATER**	Do not pour or immerse electrical parts into water or liquid solution. An electric shock or ignition may occur.
 **REMOVE DUST**	Wipe off dust adhered to the plug of power cord. Dust may cause a fire.
 **AVOID INFLAMMABLE**	Do not put inflammable into the washing tub. Do not put cloths stained with kerosene, gasoline, benzene, thinner, alcohol, etc. It may cause a fire or explosion.

1 Precaution

WARNING	
 **DO NOT TOUCH**	Do not touch the laundry before the spin basket stops completely. The laundry entangles your hand causing an injury even if the basket rotates slowly. Pay special attention to children.
 **INSTALL CAREFULLY**	Ask an electric work shop to install the product. Install the product securely and safely according to the electrical equipment technical standard and the wiring standard. Incorrect work causes an electric shock and a fire.
 **DO NOT PULL**	Do not pull the power cord when unplugging. Hold the power plug to unplug. An electric shock or short circuit may cause a fire.
 **DANGER HAND**	Do not insert your hand under the washing machine during operation. There is a rotary part under the machine which may cause an injury.
 **WATER LEAKAGE**	Before starting washing, open the faucet and check water supply hose joint which shall not be loosened for no water leaks. The loose screw or hose joint may cause water leakage resulting in an unexpected damage.

2 FACTORY PATTERN DETECTION

2.1 Service mode

Before entering into service mode, make sure no water remains in the inner drum, if not, select drain
only program to drain them out.
Turn on the machine and take turns [K3] [K5] [K3] [K5] buttons in 10s.
Press [K1] or [K2] to select test program. Press [K7] button to confirm your selection and start the selected test. If you want to go back to test selection interface, press the [K7] button to cancel previous selection.

2.1.1 Version switchover (t01)
1) Enter into service mode, LED displays "t01"
2) Press [K7] button, LED displays "0xx" .x means current version.
3) Press [K2] to confirm switchover.
4) Press [K3] to change version.
5) Press [K2] button continuously for 3s to confirm your change.
6) Press [K7] button to close all output and exit this program. LED displays "t01".

2.1.2 Error code checking (t02)
1) Enter into error code mode, LED displays "Err". Press [K7] button and LED displays EXX(x=1,2,3....)
2) Press [K1] to show the last code and press [K2] to show the next code. The latest 10 error codes
can be found in system, and same error code is recorded one time even if it occurs more than one time
3) If no error information found, LED shows E00.
4) Press [K2] and [K3] button at the same time continuously for 3s, after hearing the beep, all the error codes records deleted, LED displays E00.
5) Press [K7] button to exit, LED display t02.

2.1.3 Version information checking (t03)
Version information checking is used to show the current version information stored in nonvolatile memory applications.
1) Enter into service mode, LED displays "cod".
2) Press [K7], LED displays project number.
3) Press [K1] button, LED displays version number.
4) Press [K7] to go back to version information checking status, LED display "t03".

2 FACTORY PATTEN DETECTION

2.1.4 UI Checking (t04)
1) Press [K7] button to illuminate the whole LED display.
2) Press [K1] button, the whole LED display flashes.
3) Press [K7] to stop flash, LED display "t04"
3.2.5 Drain pump checking (t05)
1) Enter into service mode, LED displays "pup".
2) Press [K7] button to drain out all the remaining water. If all water drained out, LED displays "god", and 6 minutes later ,if there is still water remains in it, LED displays "FP".
3) Press [K7] button to exit, LED displays "t05"

2.1.5 Pressure switch checking (t06)
1) Enter into service mode, drain out the water, LED displays LL.
2) Press [K7] button to activate inlet valve. LED displays level frequency once water lever get the main wash level,after the water level reaching the overflow line, drain out all the water.

2.1.6 Water temperature sensor and heater checking (t07)
1) Press [K7] button to activate the main inlet valve and get the water lever to heating level then turn on the heater and 5 min later turned off automatically.
2) After heater turned on, LED displays the current temperature. Detect the real temperature of inner drum and check with the numbers on the display.
3) Press [K7] button to exit, LED displays "t07"

2.1.7 Inlet valve checking (t08)
1) Enter into service mode, drain out the water, LED displays "UU". Press [K7] button, LED displays "out".
2) Press [K1] button, LED displays "u2" and switch on prewash valve for 5s.
3) Press [K1] button, LED displays "u1" and switch on the main wash inlet valve for5s.
4) Press [K1] button to switch on main wash and prewash valve and get the water lever to setting level, then drain out the water.

2.1.8 Rotating checking (t09)
1) Enter into service mode, LED displays "tUB"
2) Press [K7] button, inner drum rotates in 45r/m clockwise for 10s and stop for 10s, over and over again.
3) Press [K7] button to turn off the motor and exit, LED displays "t09".

2.1.9 Spin speed checking (t10)
1) Press [K7] to enter into service mode, LED displays "spn".
2) Press [K7] button again, the number on the display goes up in the same pace with the real speed and when it reach 400rpm, you need to press [K1] button to get the machine to reach its target speed.
(if declared speed ≥1000rpm, target speed is 1000rpm and if declared speed < 1000rpm,target speed is its declared speed)
3) Press [K7] button to exit and LED displays "t10".

3. UNPACKING WAYS OF MAIN PARTS

1. Undo the back cover
2. Undo top cover
3. Undo the control panel
4. Undo the lower panel
5. Undo the door lock
6. Undo the front plate
7. Undo the facade counterweight
8. Undo the gasket
9. Undo the PCB panel
10. Undo the detergent box
11. Undo the inlet valve
12. Undo the pressure
13. Undo the pulley
14. Undo the absorber pin
15. Undo the filter
16. Undo the drain pump
17. Undo the heater
18. Undo the NTC
19. Undo the door glass
20. Undo the panel support
21. Undo the drum tub assembly
22. Undo the absorber
23. Undo the motor

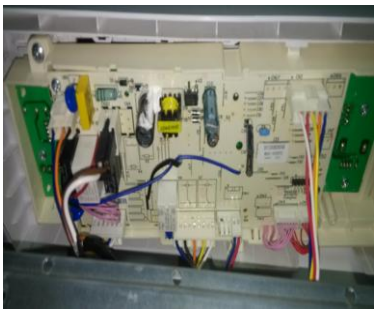
3 UNPACKING WAYS OF MAIN PARTS

Operation	Picture
1. Undo the back cover Undo four screws fit between back plate and cabinet, and then pull out.	 
2. Undo the top cover I. Undo 2 screws fit back Cabinet. II. Push back the top cover 15mm until it leaves away from the control panel, and then take it down.	
3. Undo the control panel I. Departing the top cover II. Draw out the detergent drawer. III. Loosen two screws fit on the control panel . IV. Loosen two screws fit on the control panel. V. Take out the control Panel inclined from the panel .	   

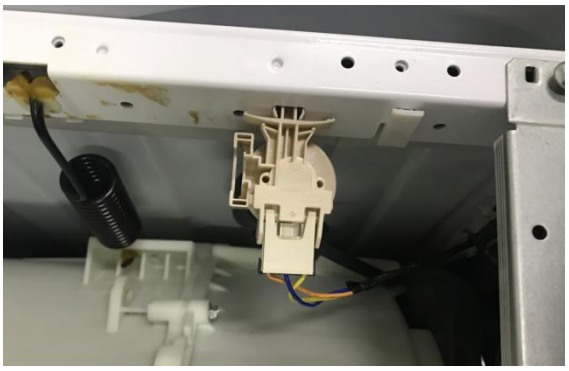
3 UNPACKING WAYS OF MAIN PARTS

4. Undo the lower panel I.Open the filter cover, release the screw on the lower panel. II.Turn the washing machin back at an angle, pinch the clasp ,and push it out.	 
5. Undo the door lock I.Open the door of washing machine. II.Take the outer gasket III.Remove two screws on the door lock, and take down the door lock. IV.Take out the door lock and draw out the plug.	 
6. Undo the front plate I.Remove the lower cover. II.Undo five screws in front plate III.Put the front plate up to the clasp of the front plate away from the loading holder, and then take off the front plate.	 
7. Undo the facade counterweight I.Undo the front plate II.Remove six screws pull out the facade counterweight.	

3 UNPACKING WAYS OF MAIN PARTS

8. Undo the gasket I.Undo the top cover, control panel, lower cover, machine door and the front plate. II.Remove the outer gasket clamp between the door seal and the front plate. III.Loosen the inner gasket clamp between the door seal and the front of the outer tub.	 
9. Undo the PCB panel Undo the top cover and control panel	 
10. Undo the detergent box I. Undo the top cover and the control pane II. Release the hose clamp and pull out the inlet hose. III. Release the hose clamp and pull out the detergent box hose, and then take out the detergent box.	 
11. Undo the inlet valve I.Remove the top cover II.Undo 2 screws between cabinet and inlet valve. III.Release the clamp fixing the inlet valve and the inlet hose, and then pull out the inlet hose. IV.Take out the inlet valve	

3 UNPACKING WAYS OF MAIN PARTS

12. Undo the pressure switch I.Undo the top cover II.Pull out the plugs on the pressure switch. II.Loosen the pressure switch hose clamp, and pull out the hose from the pressure switch interface. III.Rotate the pressure switch anticlockwise by 90º, and then pull out the pressure switch.	
13.Undo the pulley I.Undo the back cover II.Rotate the pulley and at the same time pull out the belt. II.Remove the screw on the pulley and then take down the pulley.	
14.Undo the upper counterweight I. Undo the top cover II. Remove three screws fit on the upper counterweight and then pull out the upper counterweight.	 
15. Undo the absorber pin I.Undo the front plate II.Use pliers to pinch the absorber pin' s protuberance, and knock the absorber pin out from back lightly; in the same way, remove the other one.	 

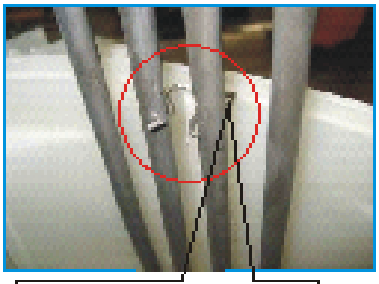
3 UNPACKING WAYS OF MAIN PARTS

16.Undo the filter
Open the filter cover.
Rotate the filter knob anticlockwise, and then pull out the filter.

17. Undo the drain pump
I.Undo the top cover, control panel, lower cover and front plate.
II.Nip out clamp between drain hose and the drain pump, and then pullout the drain hose.
III.Loosen the screws fitted on the drain pump, and then pull out the drain pump.

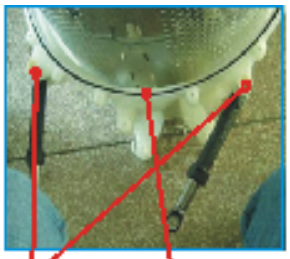
18.Undo the heater

I.Under the top cover,
II.control panel lower cover and front plate.
III.Pull out the heater plug.

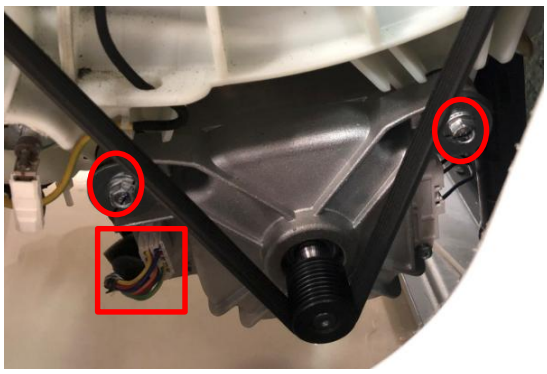


In the red circle it is the heater support, clamping the heater.

3 UNPACKING WAYS OF MAIN PARTS

19. Undo the NTC I.Undo the top cover, control panel, lower cover and front plate. II.Undo the NTC with special tools.	 
20.Undo the door glass I. Open the door, remove two screws fixing the hinge and front plate, and then remove the door. II. Remove twelve screws on the inner door. III. Remove the outer door and the inner door with special tool.	 
21.Undo the panel support I. Undo the top cover II.Undo the control panel. III.Remove two screws fixing the panel support, and then remove it.	 
22.Undo the drum tub assembly I.Remove the motor in II.Pull out the heater. III.Remove the belt. VI.Remove the screws fixing the pulley, and then take out the pulley. V.Remove the screws fixing the front and rear tub, and then remove the tub. VI.Remove the inner drum kit.	   

3 UNPACKING WAYS OF MAIN PARTS

23.Undo the absorber I.Lift out the outer tub kit. II.Undo the absorber pin between absorber and rear tub, remove the absorber.	 
24.Undo the motor I.First let the machine lie down on the back and then pullout the motor wire and grounding wire. II.Use spanner to remove the motor screw, and lift up the motor with the other hand in case of falling to the drain pump III.After two screws are removed, change the motor. First support it to clasp the correct position, then install the screws.	

4 MALFUNCTION CODES AND EXPLANATIONS

Schedule of failure alarm

Malfunction code	Reason	Possible cause	Solution
E10	In 3 minutes, the water level Doesn’ t change with valves open	The water level doesn’ t change in 3 minutes during filling the water.	If the washer fills very slowly, the water pressure from the house might be too low. If the water inlet valve isn't leaking and there are no other symptoms this problem does not need to be corrected.
		Water inlet hose	Make sure that water faucet is turned on and that the screens on the hoses are not restricted.
		Water inlet valve (The voltage on the water inlet valve is normal)	If the water pressure is good, try cleaning the screens inside the water inlet valve hose connection ports. If those are clean, replace the water inlet valve.
		Water level sensor or control switch (No voltage on the water inlet valve)	A water level control switch controls how much water enters the washing machine by PCB. If the water level control switch is defective, or more commonly, if the small air pipe attached to the air bell restricted, The switch will not be able to close the electrical contacts to the washer fill valve. CHECK THE AIR PIPE CHECK THE WATER level SENSOR CHECK THE PCB and the inner wire between PCB and the sensor
E12	The water level in drum exceed a certain level for alarm	Restart	Sometimes just restart the unit can solve the problem.
		Water inlet valve (The voltage on the water inlet valve is normal)	If the washer is overflowing, the water inlet valve has failed. Replace it.
		Water level sensor or control switch (No voltage on the water inlet valve)	A water level control switch controls how much water enters the washing machine by PCB. If the water level control switch is defective, or more commonly, if the small air pipe attached to the air bell restricted, The switch will not be able to close the electrical contacts to the washer fill valve. CHECK THE AIR PIPE CHECK THE WATER levelL SENSOR CHECK THE PCB and the inner wire between PCB and the sensor

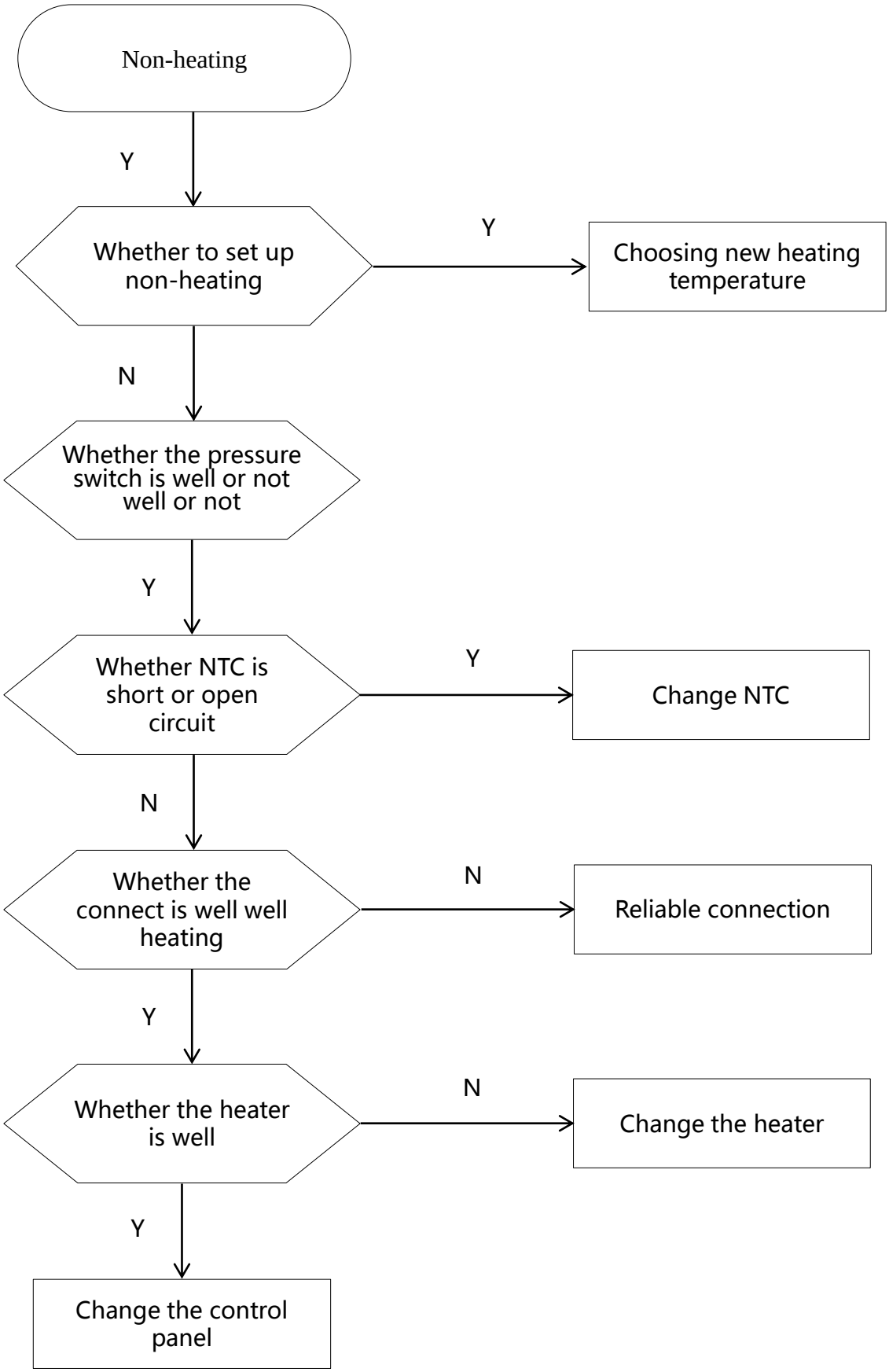
4 MALFUNCTION CODES AND EXPLANATIONS

E21	In 3 minutes, the water level doesn’ t change with pump started	Drain hose	If the washer won't drain water check the drain hose. Be sure the hose did not get kinked behind the washer. Also, remove the hose from the pump and check it for obstructions.
		pump	If the washer won't drain water the drain pump might be defective. It's also common for a small sock or other article of clothing to get caught in the drain pump or in the drain hose. Check both for an obstruction before replacing the pump.
		PCB	Check the PCB
E30	Door can’ t be unlocked with over 3 time’ s fail.	Door lock	1Check the door hook and the door lock to get correct location.
		PCB	1.If the washer door won't unlock the problem might be the main The PCB. This is not common. 2.Check the inner wire between the PCB and the door lock.
E33	The PCB can not detect the signal of the water level sensor.	Water level sensor	1.Check the water level sensor 2.Check the PCB the inner wire between PCB and the sensor
E34/E35	The water temperature in the drum exceed a certain level for alarm(background)	Water Temperature Sensor Failure	Check the heater NTC
E50	Motor Inverter PCB board doesn’ t work	The Inverter PCB works abnormal	1.Check the Inverter PCB The the main PCB 2.Check the motor rotate resisted 3.Check the power voltage and frequency
E64	Motor Inverter and Main PCB communication fault	Inverter PCB fault	1.Check the Motor Inverter PCB board or main PCB board 2.Check the connect wire
E80	Display PCB and Main PCB communication fault	Display PCB fault	1.The Connect wire is broken 2.Check the Main PCB board

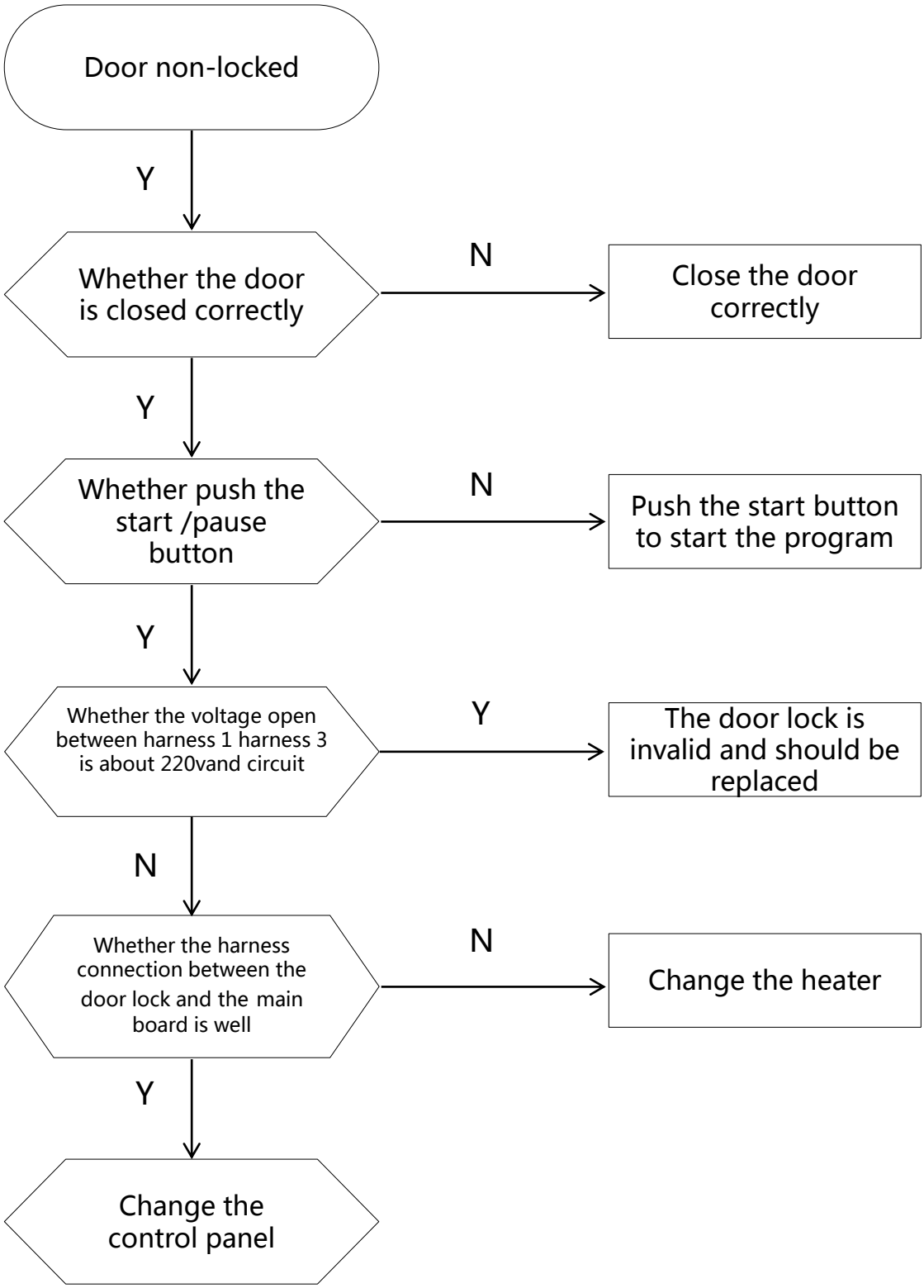
5 TROUBLESHOOTING

Fault tree

1. Maintenance non-heating malfunction

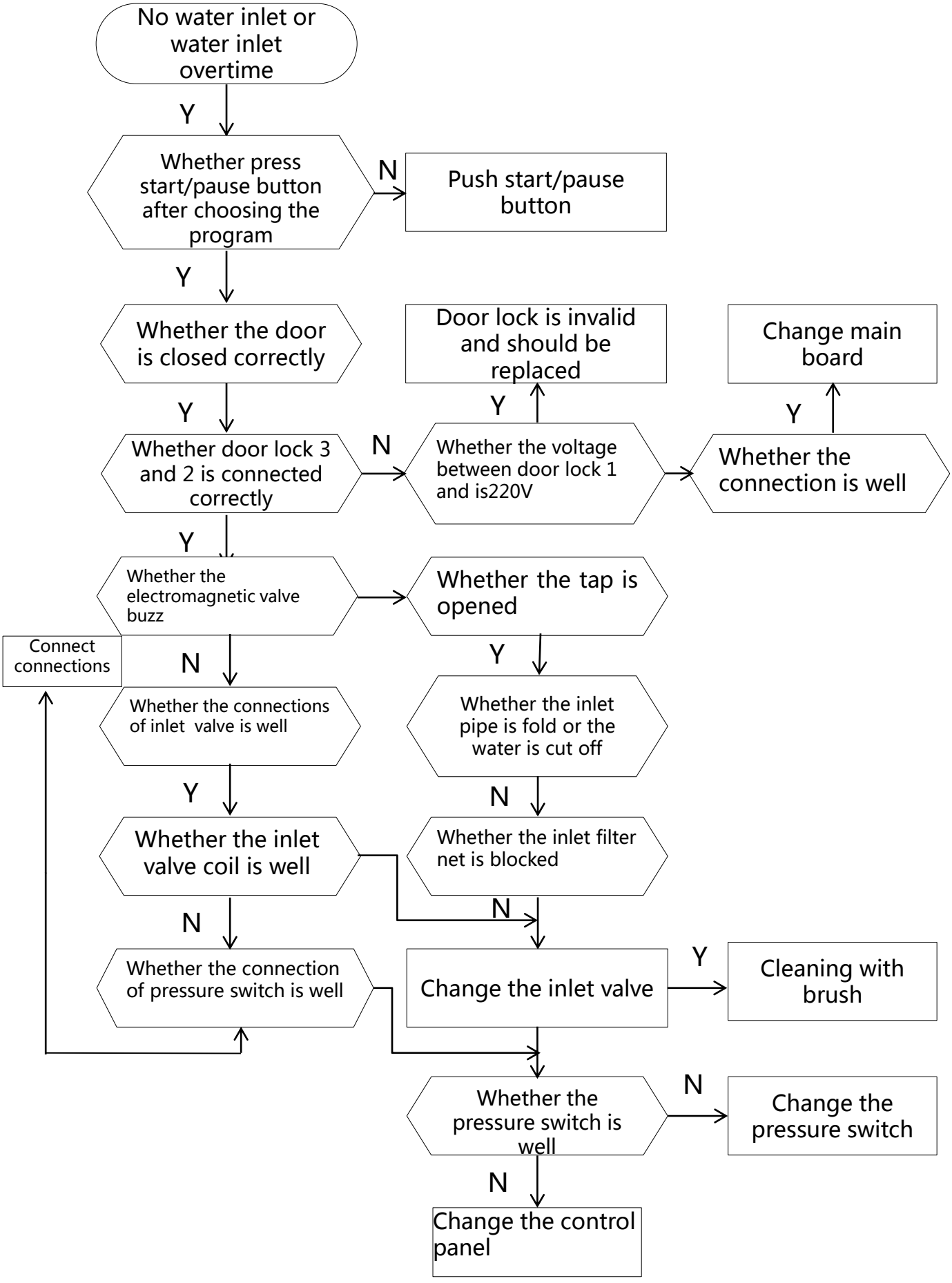


2. Door non-locked & its maintenance

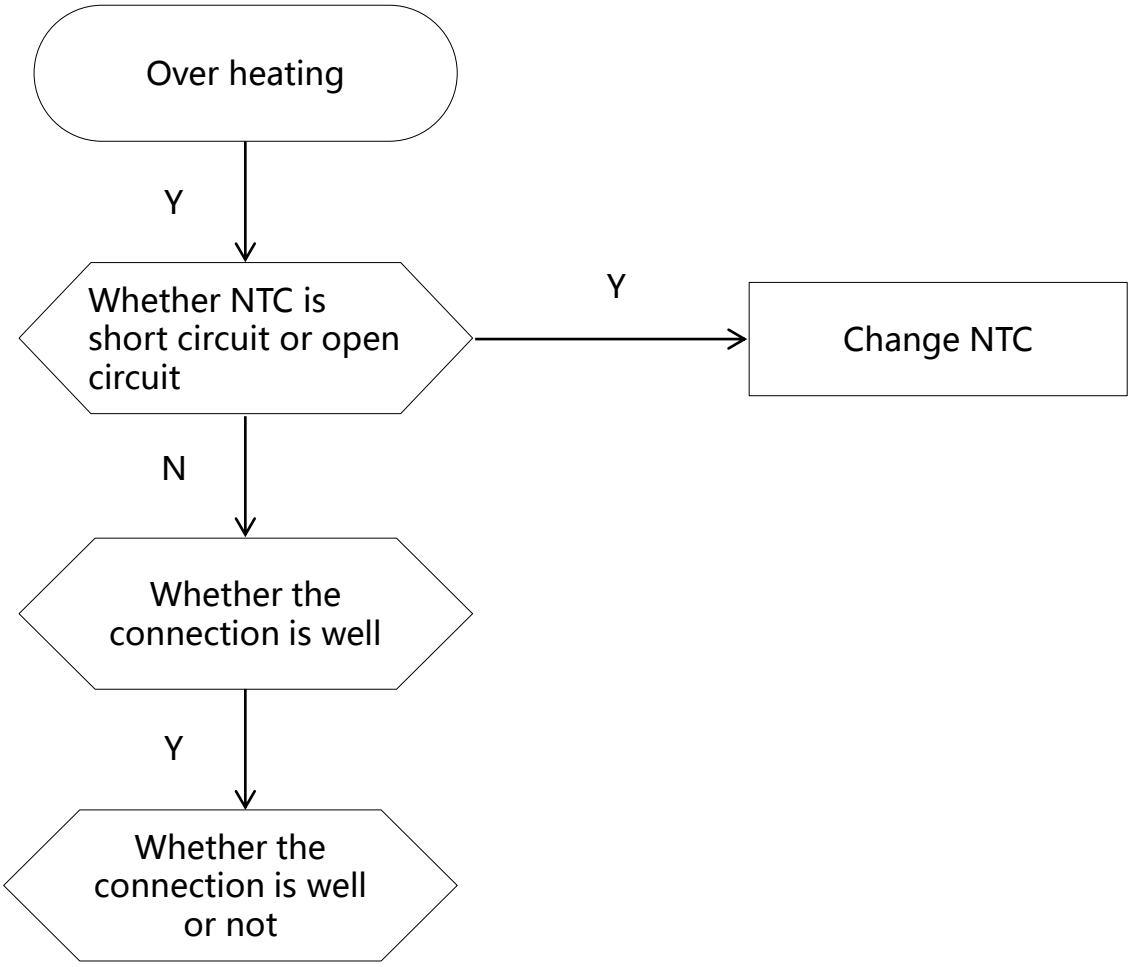


5 TROUBLESHOOTING

3. No water inlet or water inlet overtime

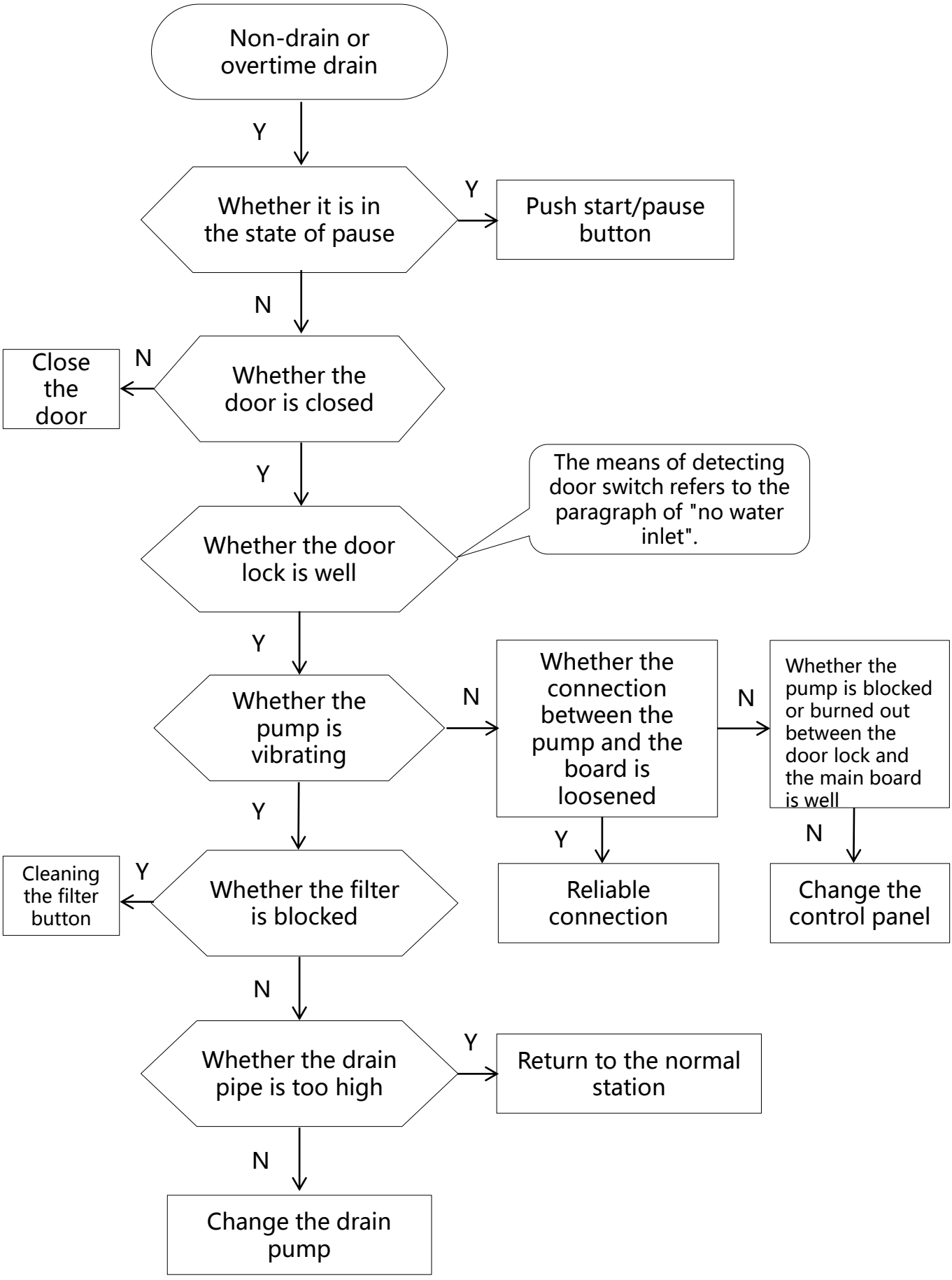


4. The water temperature in the drum exceed a certain level for alarm

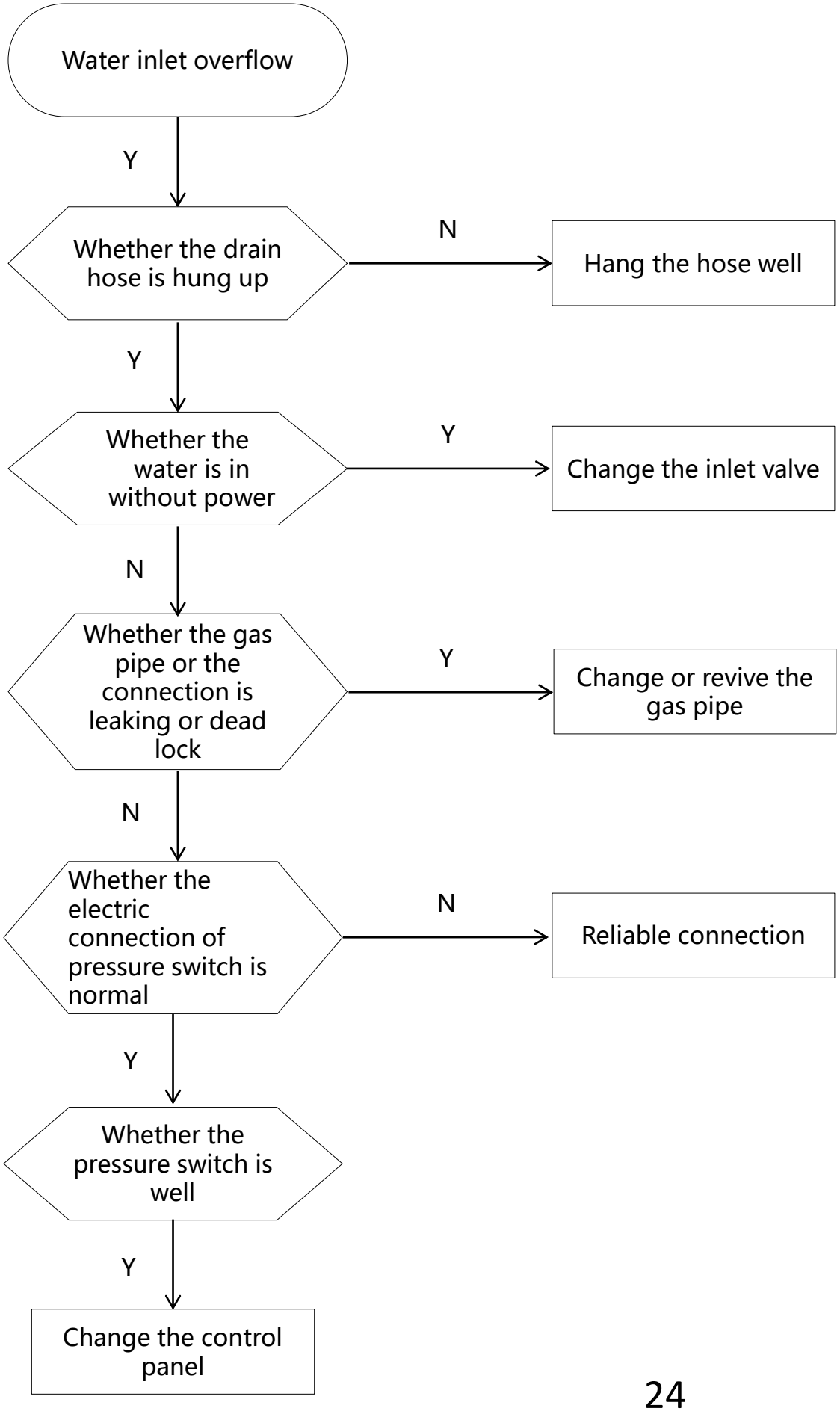


5 TROUBLESHOOTING

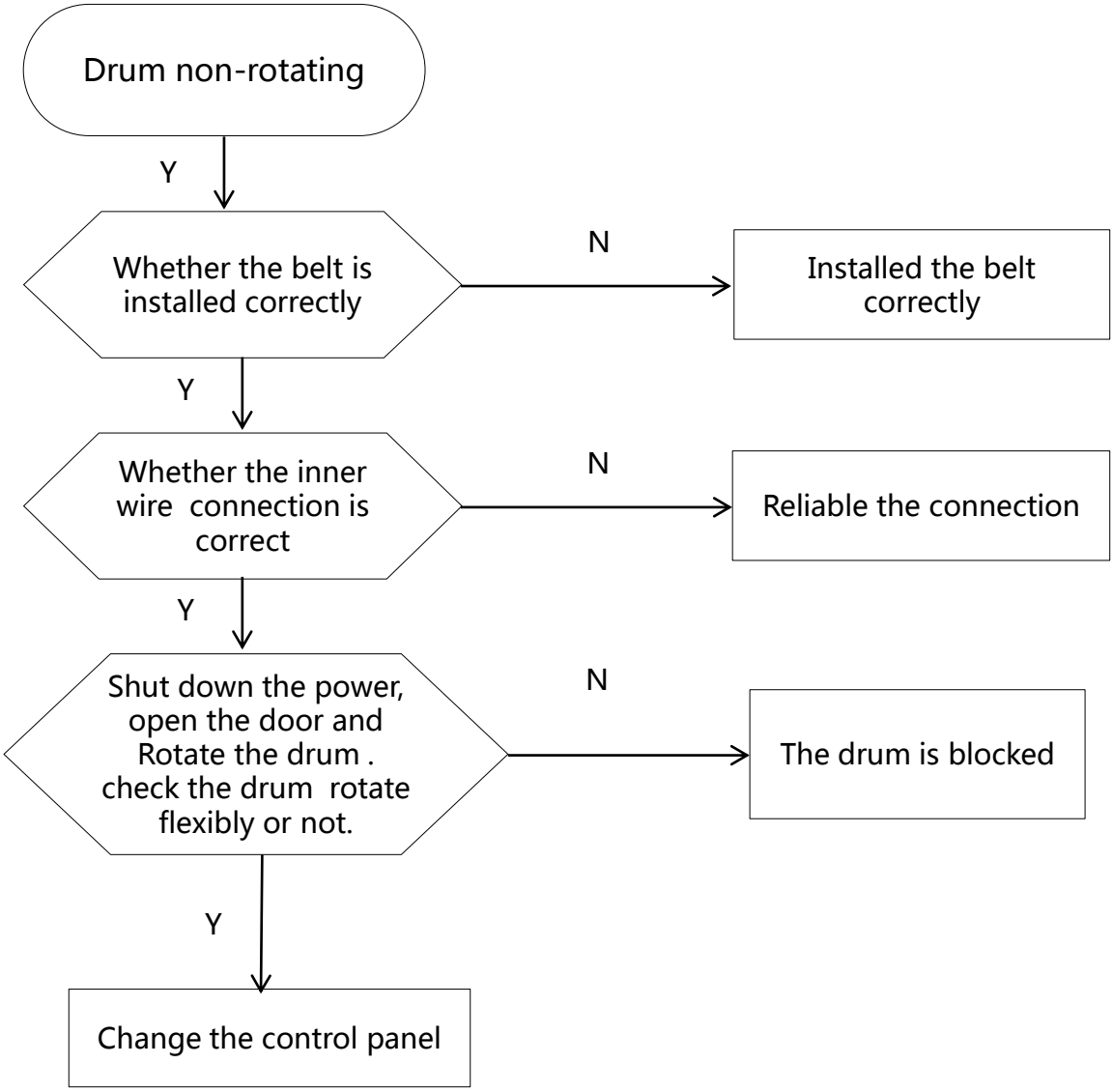
5. Maintenance of non-drain or drain exceed the setting time



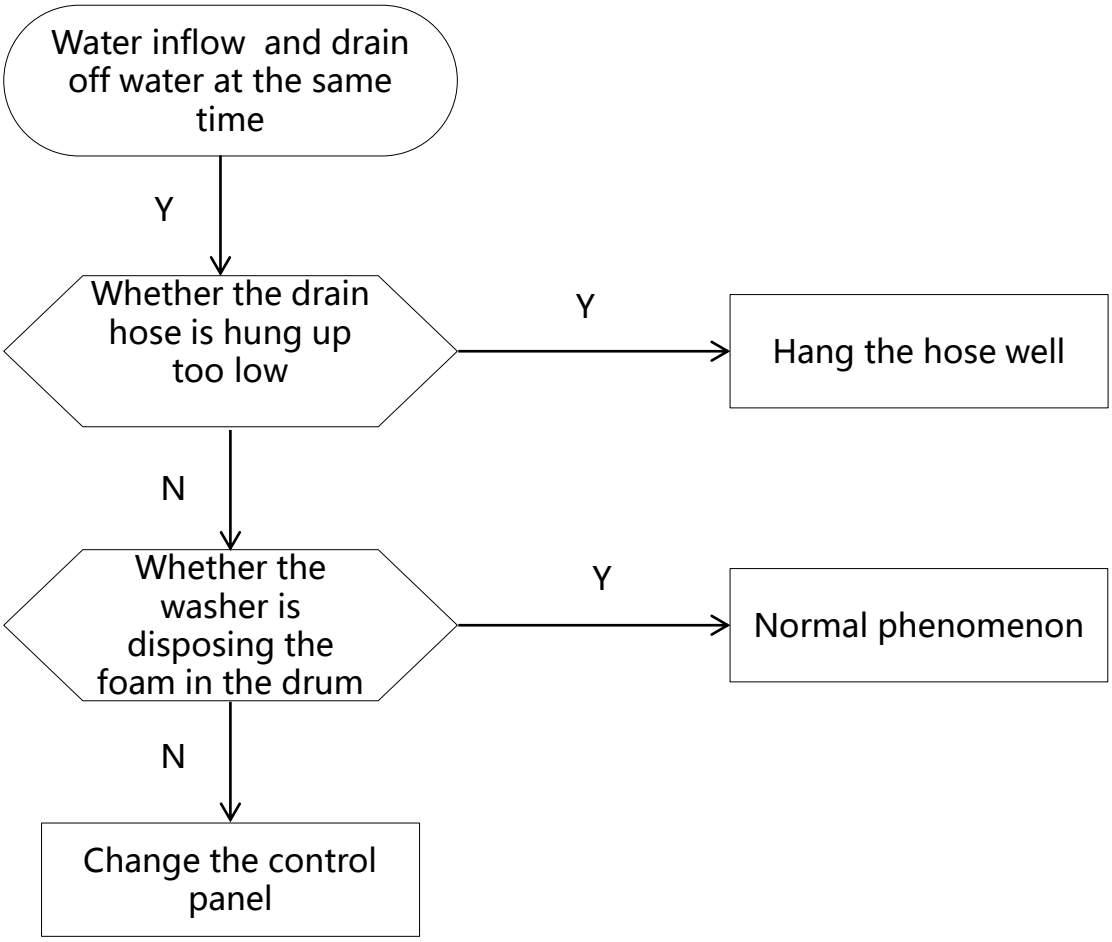
6. Water inlet overflow malfunction maintenance



7. Drum non-rotating malfunction maintenance



8. Maintenance water inflow and drain off water at the same time



5 TROUBLESHOOTING

Malfunction and solution

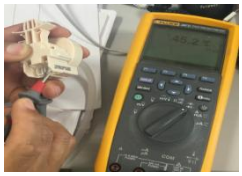
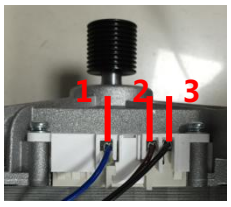
Description	Solution
The washing machine does not work	1.Check whether the power and the water are ok 2.Check whether the door lock is well and the door is closed correctly 3.Check whether the water level sensor is ok
Water leakage	Correctly connect the inlet water pipe.
The speed of the clothes is abnormal	Reload and distribute the laundry evenly in the drum.
There is the peculiar smell in the washing machine	Run a Self clean(Drum clean) cycle without any clothes.
No water is visible in the drum	1.Check whether the water tap is open 2.Check whether the water level sensor is ok 3.Check whether the filter of the inlet valve is blocked
The remaining detergent is left on the clothes	The water-fast component of the non-phosphorus. detergent will be left on the clothes to form the line scale. Please select 【rinse】 or 【 spin 】 programme or brush away the fleck with the brush when the clothes is dried.
The washing machine does not fill	1.Open the water tap. 2.Check the selection of the procedure. 3.Check the water. 4.Pressure to see if the water pressure is insufficient. 5.Put through the feed-water. 6.Close the washing machine's door. 7.To check it the inlet water pipe is bent or blocked.
The washing machine fills and empties at the same time.	1.Make sure the end of the drainage pipe to be higher. 2.Check if the drainage pipe and sewage have been sealed
No drainage of the washing machine	1.Check if the drainage pump is blocked. 2.Check if the drainage pipe is bent or blocked. 3.Check the height of the drainage nozzle, make sure it is 0.6-1.2 meter from the bottom of the washing machine.

5 TROUBLESHOOTING

Vibration of the washing machine	1.Level the washing machine. 2.Fasten the adjustable foot 3.To check if the internal packing for the transportation have all been removed.
The bubble spills from the detergent	1.Check if the detergent is excessive, if it is the specialized detergent for the cylinder washing machine. 2.Dip one scoop of the softener mixed with 1/2 liter of water to the detergent box II. 3.Reduce the usage amount of the detergent in the next time's wash.
The machine stops when the procedure has not been finished	1.Check whether the power is ok 2.Check whether the water is ok
The drainage pump has noise during the operation when the water has just been drained	The inner barrel water of the washing machine has been drained but there is still a small amount of water in the drainage pump and pipe. The drainage pump continuously operates and takes in the air, and at this time there is the noise, which is normal situation.
To stop for some time during the wash procedure	The washing machine adds water automatically. Because there is too much bubble in the tube, the washing machine is cleaning the bubble.
If you cannot solve the above abnormal situations, would you please: **1. To turn the procedure knob to 【OFF】, pull out the attachment plug;** **2. To close the water tap, and contact the nearest service center.**	

6 CHECK POINT OF CIRCUIT

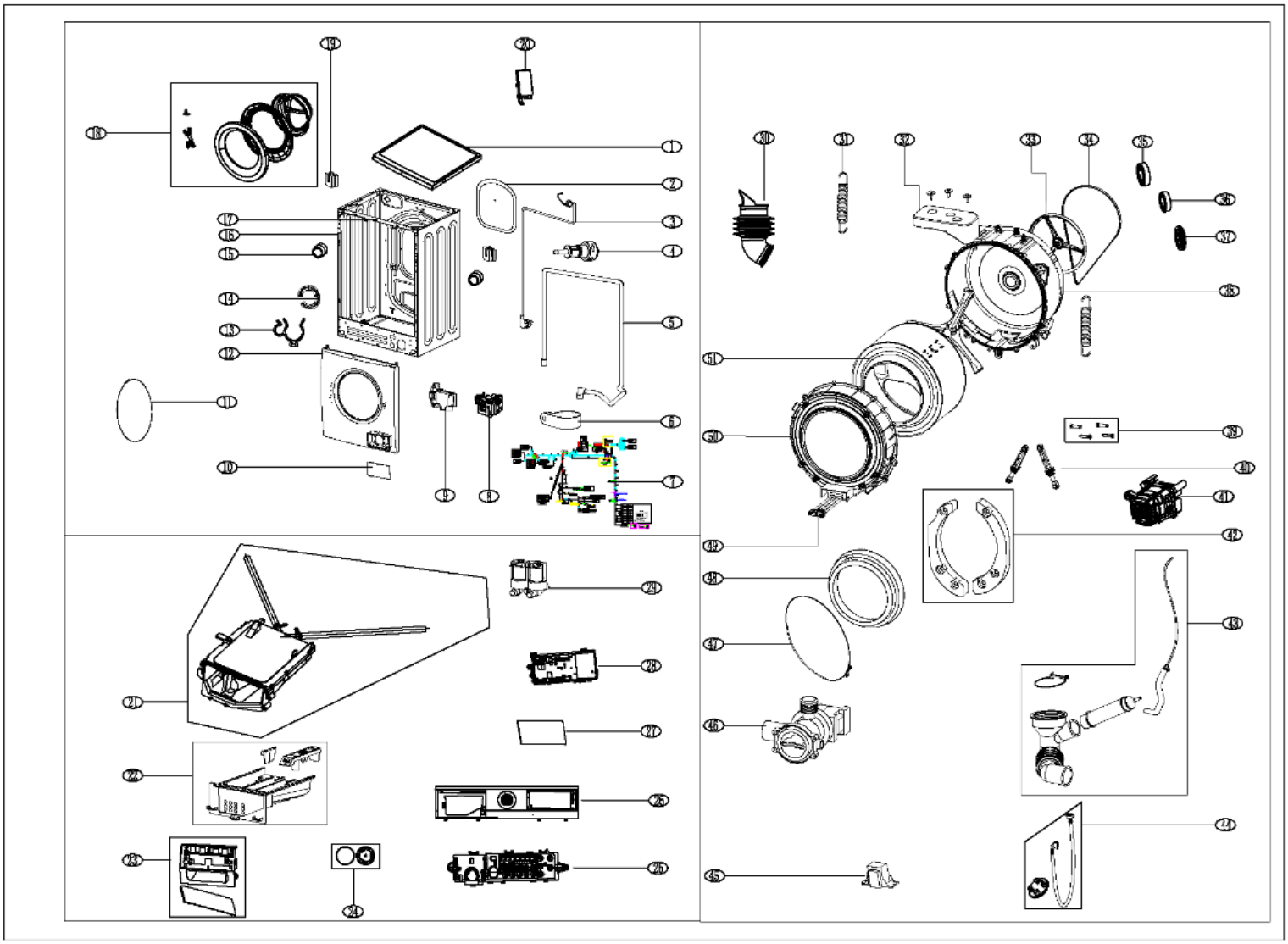
Before repairing, use multimeter to judge circuit stand of fail.

No	Parts	Picture	Test Description	Parameter	Remarks
1	Water sensor		Measuring two vertical terminals.	Capacitance value range 40-50nF-PASS	
2	Door lock		Check the resistance	Pin1~Pin2 Resistance value range 100-300Ω-PASS (Pin1~Pin3 / Pin2~Pin3 No value)	
3	Water valve		Measuring resistance.	Resistance value range 3-6KΩ-PASS	
4	Pump		Measure the resistance.	Resistance value range 150-250Ω-PASS	
5	Heater		Measuring resistance.	Resistance value range 20-35Ω-PASS	
6	NTC		Measuring resistance.	Resistance value range 4.8kΩ±8%@25℃0-PASS	
7	Motor		Measure the resistance of the toroids	Resistance value range 1~10Ω-PASS (Pin1~Pin2~Pin3)	

7 SERVICE TOOLS

Number	Tools	Suitable kit
1	Sleeve spanner	Heater 1
		Motor 1 counterweight 5
		Drum tub assembly
		Strap screw
2	Spanner	Adjust pulley screw leg and undo transport bolts
3	Pliers and pinchers	Assembling or auxiliary function
4	Other tools(screwdriver, pliers and so on)	Common service tools

8 EXPLOADED VIEW AND BOM LIST



NOTE :
Please get the updated part list from the service center

The end!