

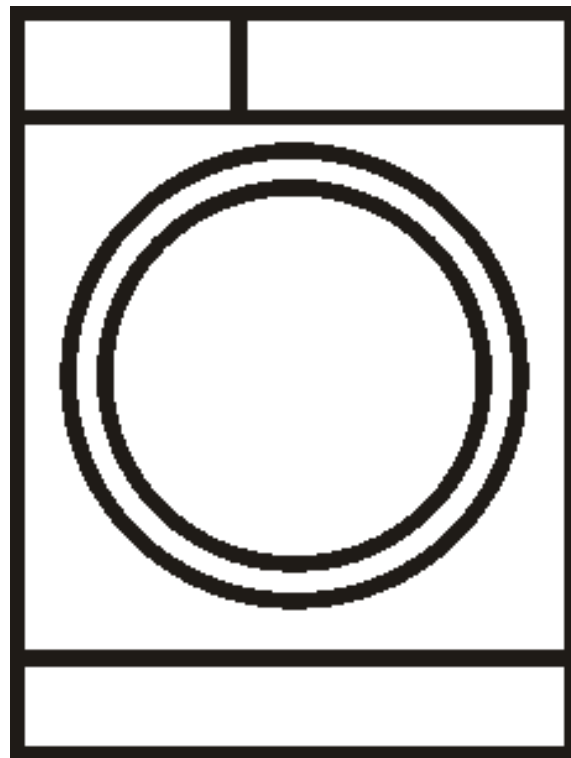
Washing Machine

Model:

MFC100-U1501

MFC120-U1401

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 servicing, note the 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

1.2.1 Observe Warnings

Be sure to follow special warning and precautions that are described on part labels and in the owner manual.

1.2.2 Parts Assembly and Wiring

Be sure to use insulation material (such as tube and tape). And be sure to 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 to see that the screws, parts, and wiring are restored to their original positions, and check the insulation between the external metals and the socket plug. In addition, place the washing machine in a level position (less than 1 degree) to prevent vibration and noise during operations.

1.2.4 Insulation Checks

Pull out the plug from the power receptacle, pour water into the spin tub, and then set the timer.

Check to see that the resistance insulation between the terminals of the plug and the externally



exposed metal is greater than 1M .

Note :When it is impossible to insulation check with a 500V insulation resistance tester, use other testers for inspection.




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 cord for the work such as disassembling which is not unnecessary 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 , amalfunction or a defect may occur. Also , a short circuit , ignition or other danger to the customer may occur.

1 Precaution

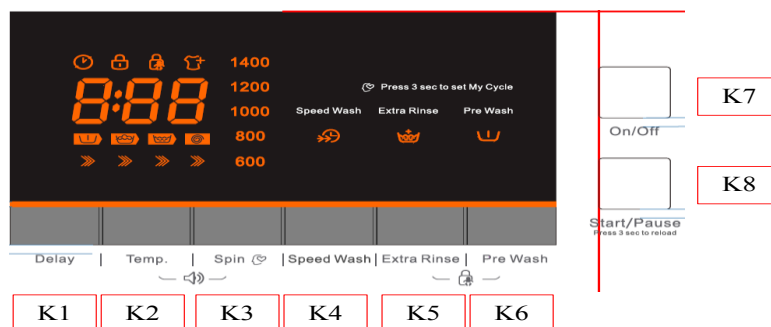
WARNING	
 CHECK INSULATION RESISTANCE	After repair, measure insulation resistance between the charging part(power cord plug) and the non-charging metallic part (ground) with an insulation resistance meter (500V).The resistance shall be 10M or more. Failing to check the insulation resistance may cause a short circuit, electric shock or other diseases to the customer.
 DO NOT MODIF	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 110 VAC/15 A socket for the washing machine. Use an exclusive 220VAC/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 in a 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 PATTEN 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 30s.

Press [K1] or [K2] to select test program. Press [K8] button to confirm your selection and start the selected test. If you want to go back to test selection interface, press the [K8] button to cancel previous selection.

2.1.1 Version switchover (t01)

- 1) Enter into service mode, LED displays "t01"
- 2) Press [K8] 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 [K8] 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 [K8] 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 [K8] 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 [K8], LED displays project number.
- 3) Press [K1] button, LED displays version number.
- 4) Press [K8] to go back to version information checking status, LED display "t03" .

2 FACTORY PATTEN DETECTION

2.1.4 UI Checking (t04)

- 1) Press [K8] button to illuminate the whole LED display.
- 2) Press [K1] button, the whole LED display flashes.
- 3) Press [K8] to stop flash, LED display "t04"

2.1.5 Drain pump checking (t05)

- 1) Enter into service mode, LED displays "pup" .
- 2) Press [K8] 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 [K8] button to exit, LED displays "t05"

2.1.6 Pressure switch checking (t06)

- 1) Enter into service mode, drain out the water, LED displays LL.
- 2) Press [K8] 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.

2.1.7 Water temperature sensor and heater checking (t07)

- 1) Press [K8] 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 [K8] button to exit, LED displays "t07"

2.1.8 Inlet valve checking (t08)

- 1) Enter into service mode, drain out the water, LED displays "UU" . Press [K8] 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 for 5s.
- 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.

2.1.9 Rotating checking (t09)

- 1) Enter into service mode, LED displays "tUB"
- 2) Press [K8] button, inner drum rotates in 45r/m clockwise for 10s and stop for 10s, over and over again.
- 3) Press [K8] button to turn off the motor and exit, LED displays "t09" .

2.1.10 Spin speed checking (t10)

- 1) Press [K8] to enter into service mode, LED displays "spn" .
- 2) Press [K8] 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 \geq 1000rpm, target speed is 1000rpm and if declared speed $<$ 1000rpm,target speed is its declared speed)
- 3) Press [K8] button to exit and LED displays "t10" .

2 FACTORY PATTEN DETECTION

2.2 Self-check

- Turn on the machine , to take turns 【K3】 【K5】 【K3】 【K5】 ,the door locked, enter the test mode, display the T01, press the 【K1】 or 【K2】 to show "T15" .
- Press [K8] button, put into the function test mode, display TST, then press again, display version number and project number;
- Press 【K1】 or 3 seconds later again, display the temperature of NTC;
- Press 【K1】 or 3 seconds later again, display water level frequency;
- Press 【K1】 or 3 seconds later again, display "U2" ,main wash valve is open;
- Press 【K1】 or 3 seconds later again, display "U1" ,main wash valve is close ,pre-wash valve is open;
- Press 【K1】 or 3 seconds later again, display "PuP" , pre-wash valve is close, drain pump is open;
- Press 【K1】 or 3 seconds later again, display "HEA" , drain pump is close , HTC is open;
- Press 【K1】 or 3 seconds later again, the heater is close ,the motor rotates forward 3 seconds, stop 2 seconds, display the motor speed, accelerate to 1000 rpm;
- Press [K8], display the "T15" , back to the function test mode.
- Exit need to close the power.

2.3 Marketing-show (no-water testing)


The sales display mode can not be used in this PCB.

3 UNPACKING WAYS OF MAIN PARTS

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
<p>1. Undo the back cover Undo four screws fit between back plate and cabinet, and then pull out.</p>	
<p>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.</p>	
<p>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 .</p>	

3 UNPACKING WAYS OF MAIN PARTS

4. Undo the service plate box
I. Open the filter cover, release the screw on the lower panel.
II. Turn the washing machine 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
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 service plate box.
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 lower counterweight
I. Undo the front plate
II. Remove four screws pull out the lower counterweight.



3 UNPACKING WAYS OF MAIN PARTS

8. Undo the gasket
I. Undo the top cover, control panel, service plate box, 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
I. Undo the control panel
II. Remove 5 screws between the control panel and PCB panel



10. Undo the detergent box
I. Undo the top cover and the control panel
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

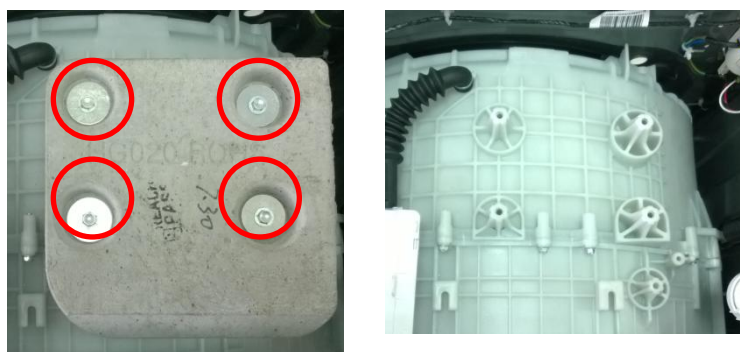
12. Undo the pressure switch
I. Undo the top cover
II. Pull out the plugs on the pressure switch.
II. Loosen the pressure switch hose clamp, and pull out the hose from the pressure switch interface.
III. Rotate the pressure switch anticlockwise by 90°, and then pull out the pressure switch.



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 four 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 two.



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, service
plate box and front plate.
II. Remove four screws and
plug and nip out clamp
between drain hose and
the drain pump, and then
pullout the drain hose.



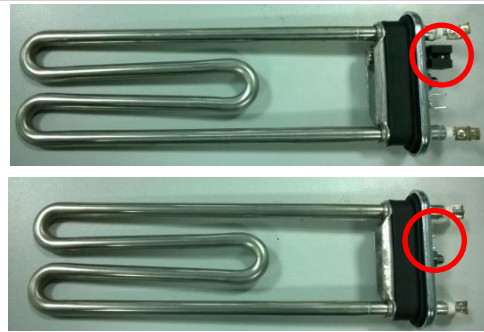
18. Undo the heater

I. Undo the top cover
II. Undo control panel,
service plate box, motor
and front plate
III. Remove the bolt and
pull out the heater plug.



3 UNPACKING WAYS OF MAIN PARTS

19. Undo the NTC
I. Undo the top cover, control panel, service plate box 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 eleven 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
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 absorbers
I. Lift out the outer tub kit.
II. Undo the absorbers pin between absorber and rear tub, remove the absorbers.



24. Undo the motor
I. First let the machine lie down on the back and then pull out the motor wire and grounding wire.
II. Use spanner to remove the motor screws, and lift up the motor with the other hand in case of falling to the drain pump



4 MALFUNCTION CODES AND EXPLANATIONS

Schedule of failure alarm

Malfunction code	Reason	Description	Solution
E10	Inlet water overtime	The water level doesn' t changed in 3 minutes during filling the water.	Open the water tap, to check if the inlet hose is squashed or kinked, check the filter in the inlet valve is blocked or not; check if the water pressure is too low.
E12	Overflow	The water level is higher than the overflow water level.	Check the water inlet valve, Valve fail
E20	Fault connection of the drain pump	The water level doesn' t changed in 3 minutes during drain the water.	Check the drain pump. Check the filter of the drain pump to prevent jam. Check the drain hose to prevent jam.
E21	Overtime 3min of the drainage	The water level.	Overtime draining
E30	The door has not been closed over 3 times	Fail to lock the door lock for 6 times when the PCB ties to lock the door lock after you press the Start keys.	Check the door hook and the door lock to get correct location.
E31	Don' t unlock the door lock	Fail to unlock the door lock 6 times	Check the door Lock
E33	Water level sensor fail	The frequency of the water level sensor is out of the spec.	Check the water level sensor
E34	Temperature sensor fail	The temperature sensor(NET) get broken	Check the PCB and the motor
E60	The motor don' t drive	The motor don' t drive for 5 times	Water temperature sensor cutting-out Check the PCB and the motor Check the motor communicate wire
E61	The speed don' t transmit signal	The PCB can' t get speed transmit signal when the motor drive	Check the speed transmit line of the motor to prevent fall of Check the PCB and the motor Check the motor communicate wire

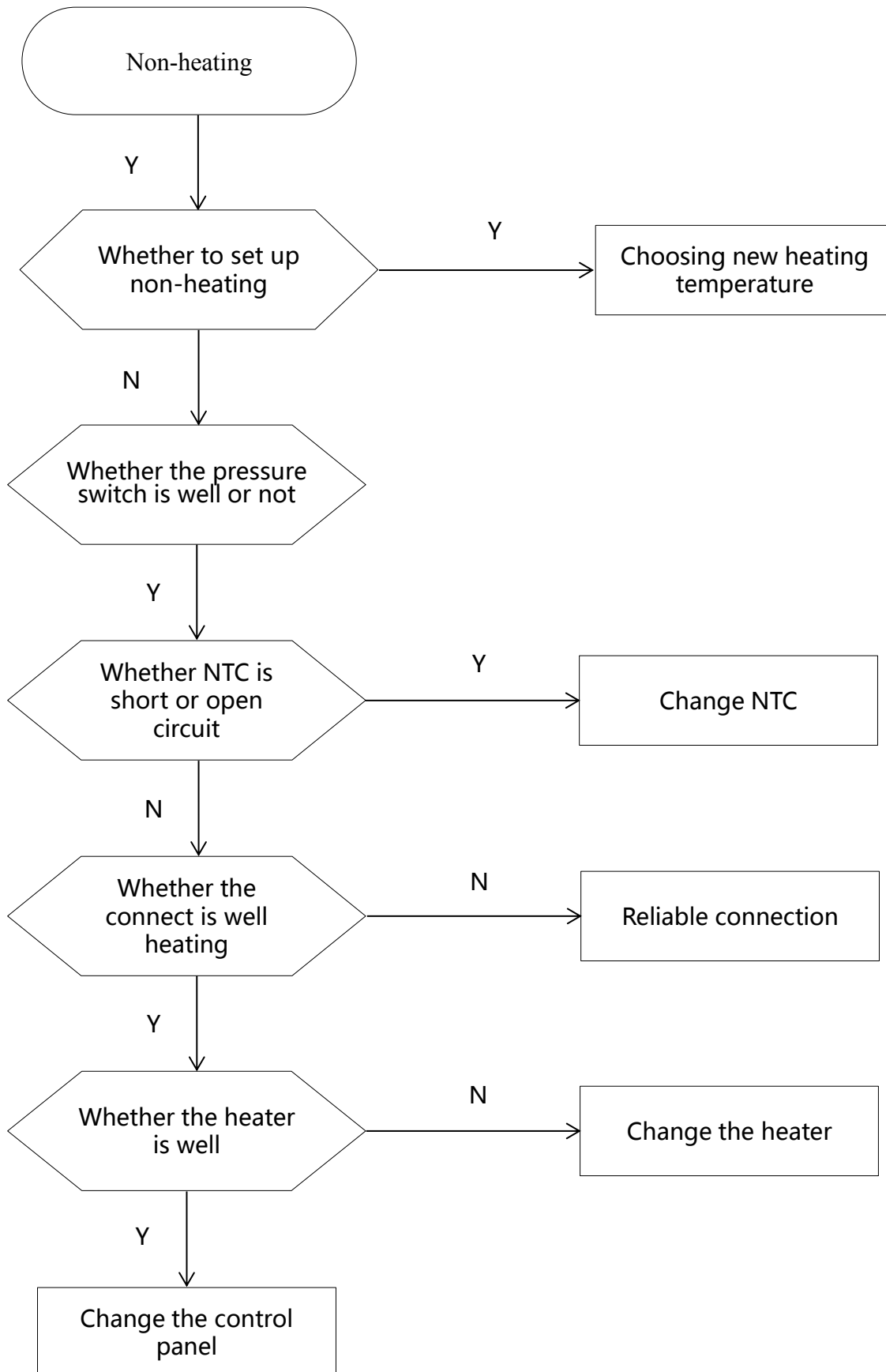
4 MALFUNCTION CODES AND EXPLANATIONS

Malfunction code	Reason	Description	Solution
E62	The speed don' t transmit signal abnormality	Triac get broken	Check the speed transmit line of the motor to prevent fall of Check the PCB and the motor Check the motor communicate wire
E70	The button get stuck when press it over 10 second	The Power button lodge in the panel	Check the button install and control

5 TROUBLESHOOTING

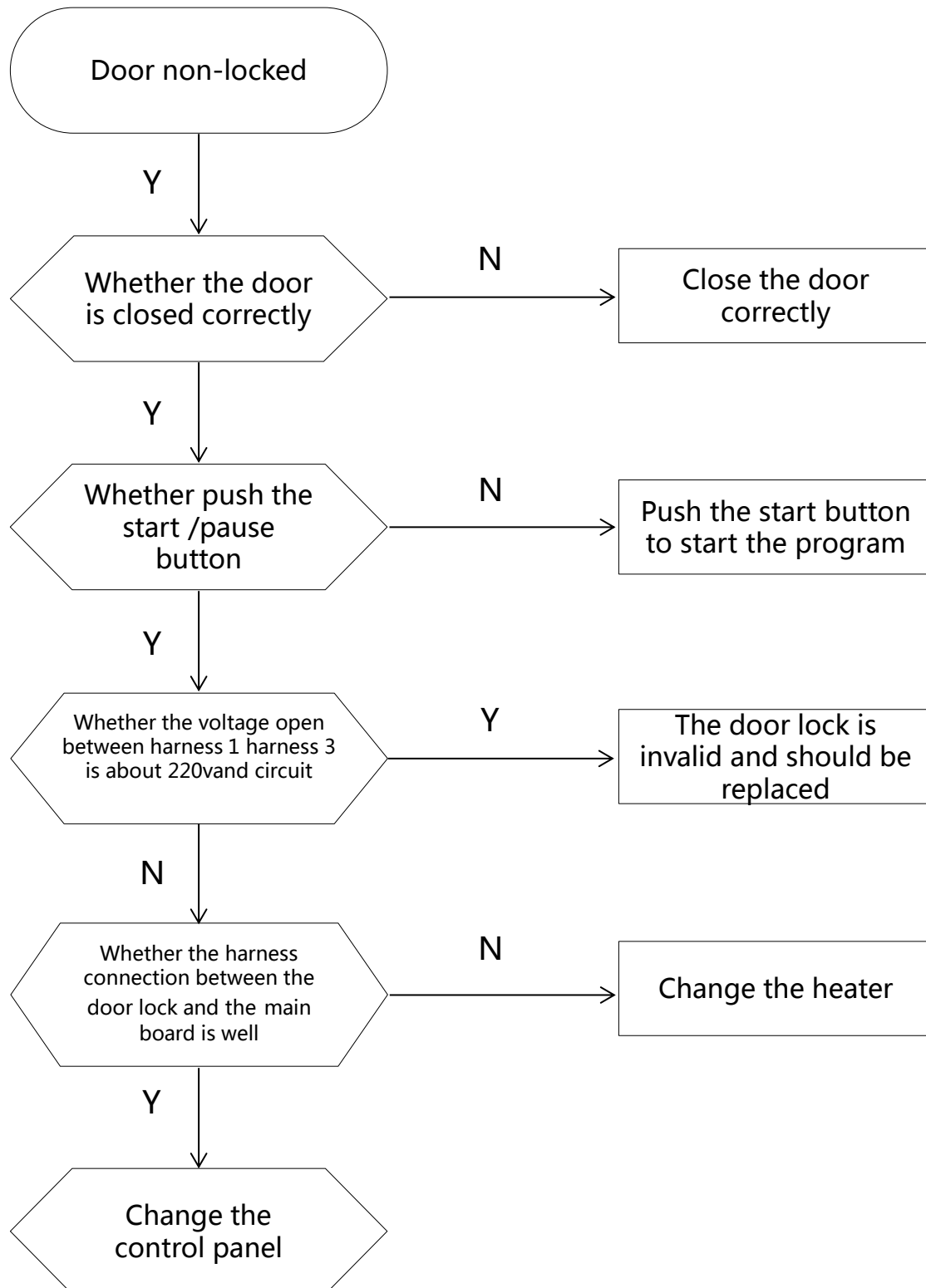
Fault tree

1. Maintenance non-heating malfunction



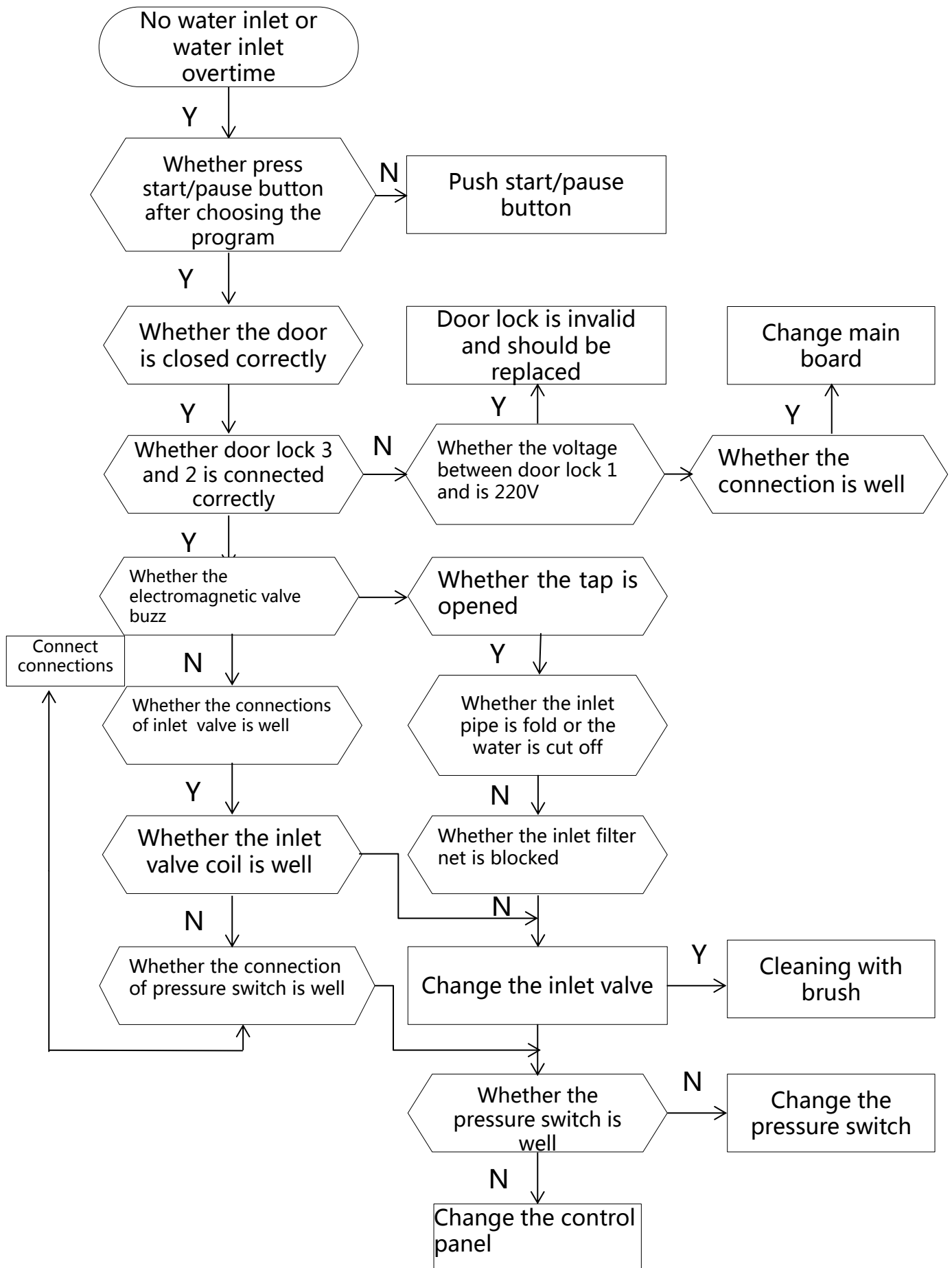
5 TROUBLESHOOTING

2. Door non-locked & its maintenance



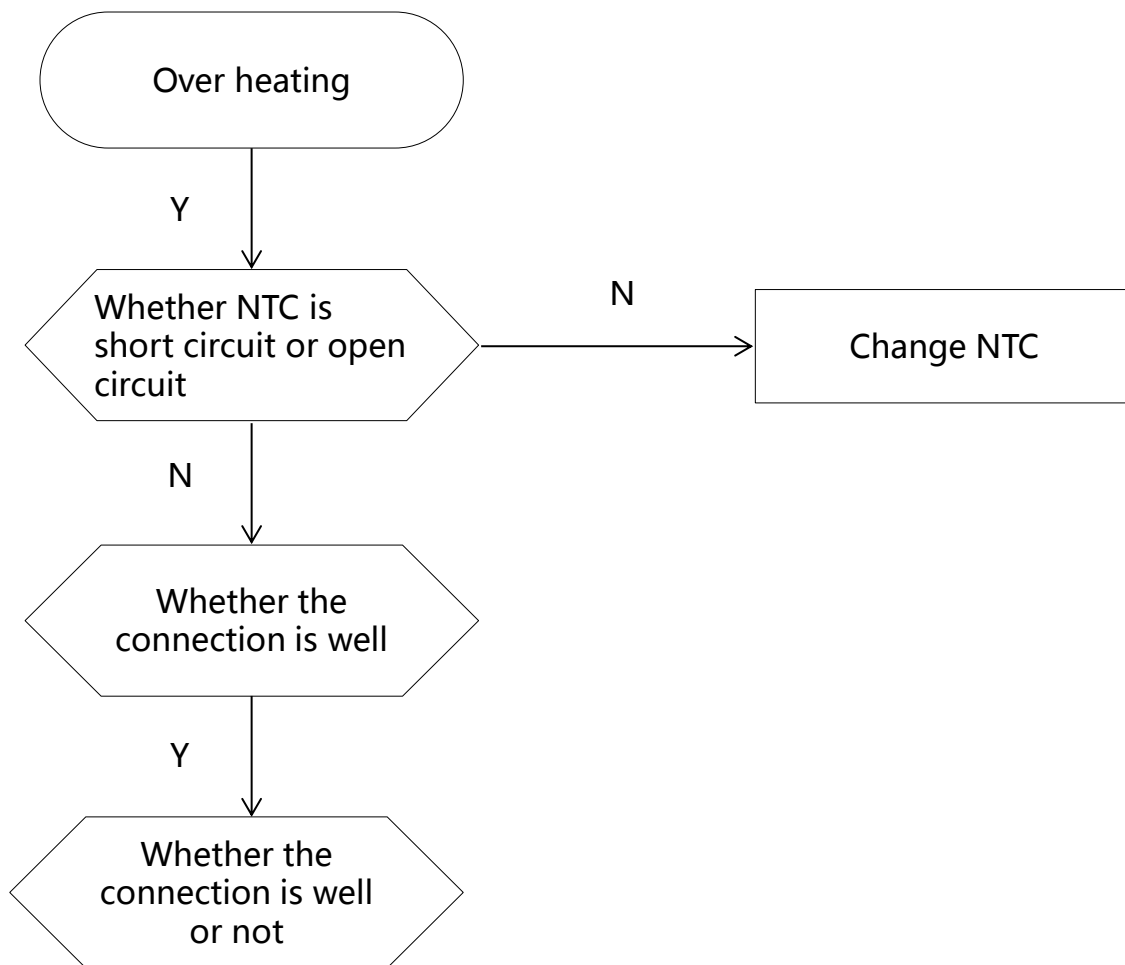
5 TROUBLESHOOTING

3. No water inlet or water inlet overtime



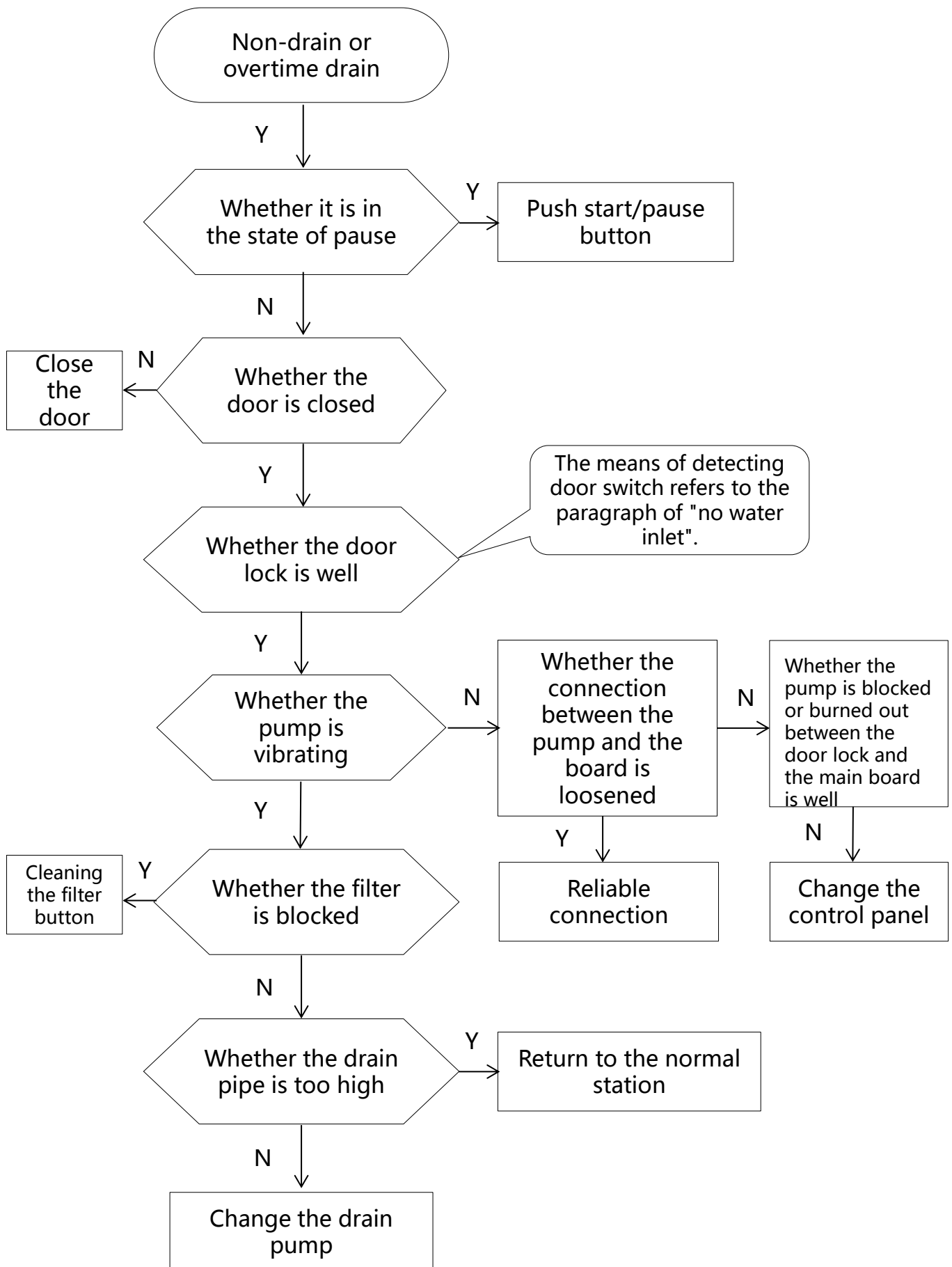
5 TROUBLESHOOTING

4. Cleaning with brush



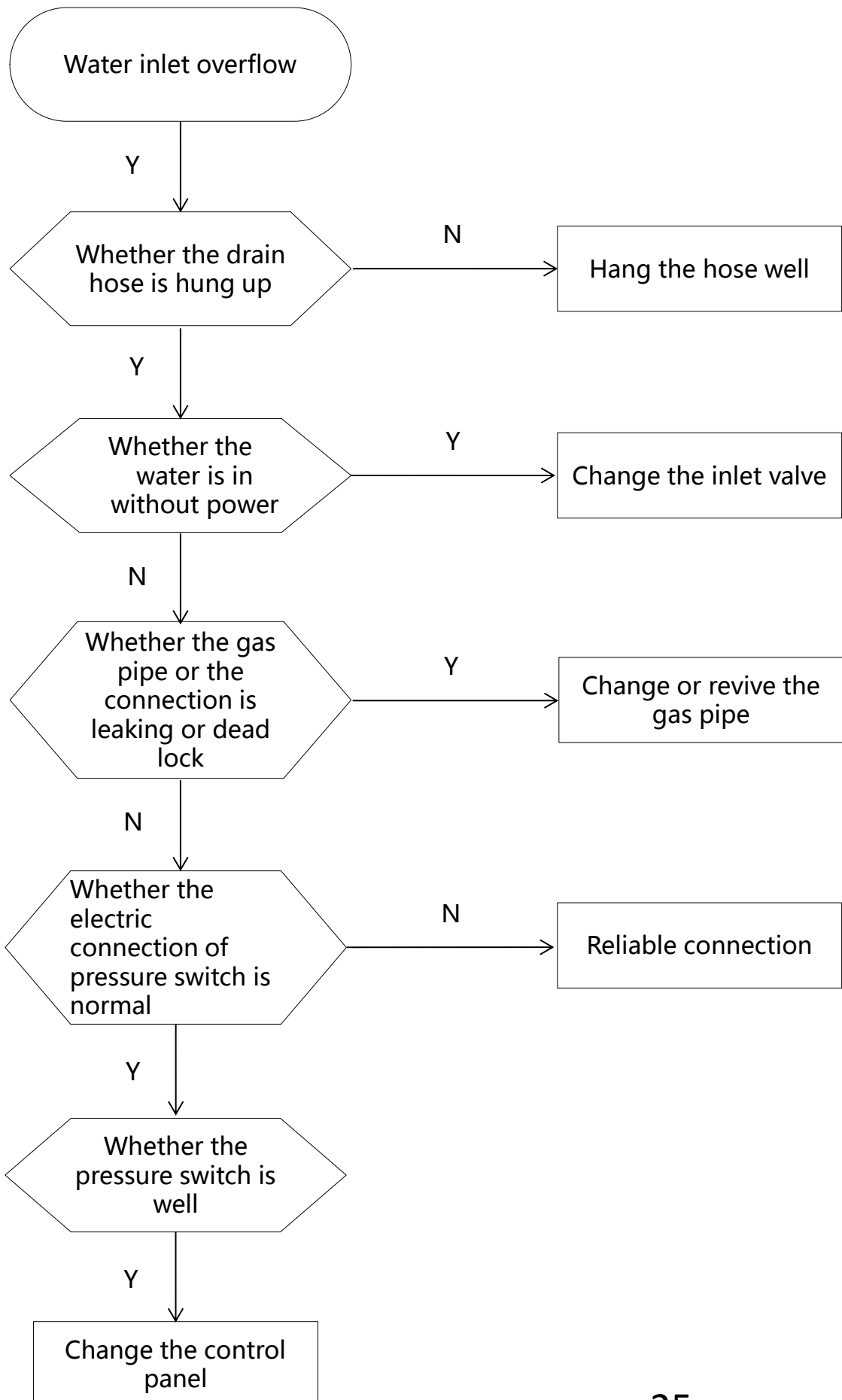
5 TROUBLESHOOTING

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



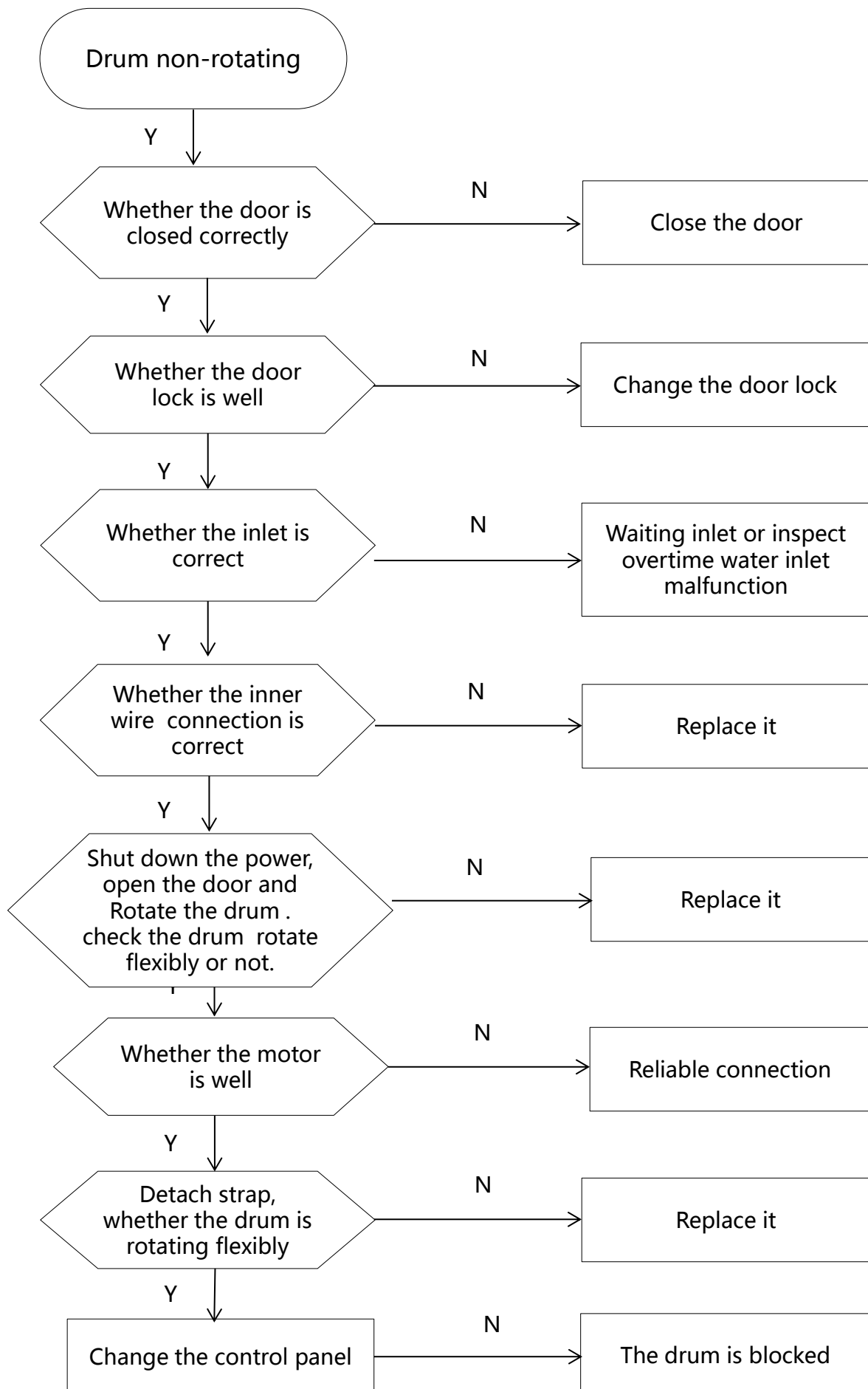
5 TROUBLESHOOTING

6. Water inlet overflow malfunction maintenance



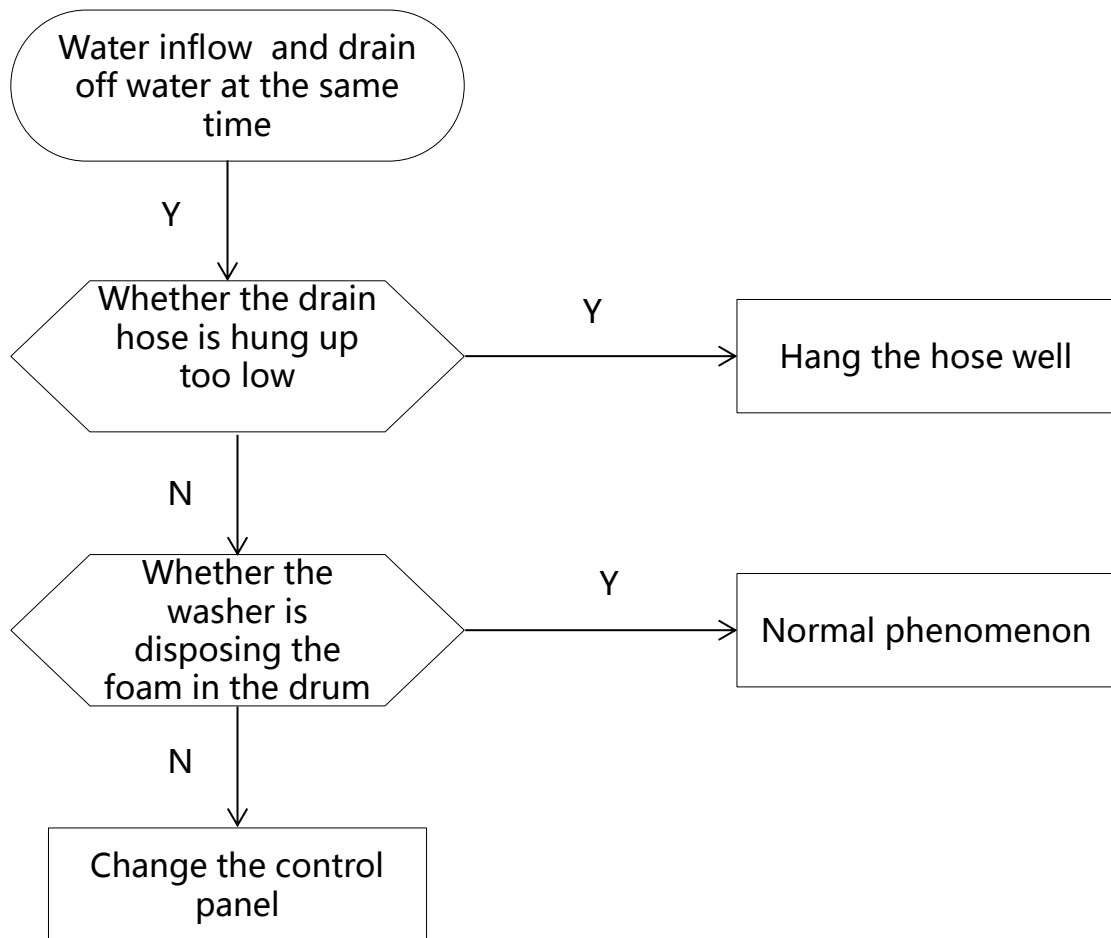
5 TROUBLESHOOTING

7. Drum non-rotating malfunction maintenance



5 TROUBLESHOOTING

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	Close the washing machine's door.
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	No fault-water is under the visible area.
There is the remaining water in the softener's box	No fault- the effect of the softener will not be affected.
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	Open the water tap. Check the selection of the procedure. Check the water. Pressure to see if the water pressure is insufficient. Put through the feed-water. Close the washing machine's door. To check it the inlet water pipe is bent or blocked.
The washing machine fills and empties at the same time.	Make sure the end of the drainage pipe to be higher. Check if the drainage pipe and sewage have been sealed, if they have been, there will be the poor ventilation to cause the sip hon age effect.
No drainage of the washing machine	Check if the drainage pump is blocked. Check if the drainage pipe is bent or blocked. Check the height of the drainage nozzle, make sure it is 0.6-1 meter from the bottom of the washing machine.

5 TROUBLESHOOTING

Vibration of the washing machine	Level the washing machine. Level the washing machine. Fasten the footing. To check if the internal packing for the transportation have all been removed.
The bubble spills from the detergent	Check if the detergent is excessive, if it is the specialized detergent for the cylinder washing machine. Dip one scoop of the softener mixed with 1/2 liter of water to the detergent box II. Reduce the usage amount of the detergent in the next time's wash.
The machine stops when the procedure has not been finished	Power failure or water cut.
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	NTC		Check the resistance	Resistance value range 4-6KΩ-PASS	
2	Water Level Sensor		Check the resistance between 1 and 3	Resistance value range about 10-50 Ω -PASS	
3	Door lock		Check the resistance	2 seconds after the power supply can automatically locked Resistance value range 30-300Ω-PASS	
4	Water valve		Check the resistance	Resistance value range 3-6KΩ-PASS	
5	Drain pump		Check the resistance	Resistance value range 150-250Ω-PASS	
6	Heater		Check the resistance	Resistance value range 20-35Ω-PASS	

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

The end!