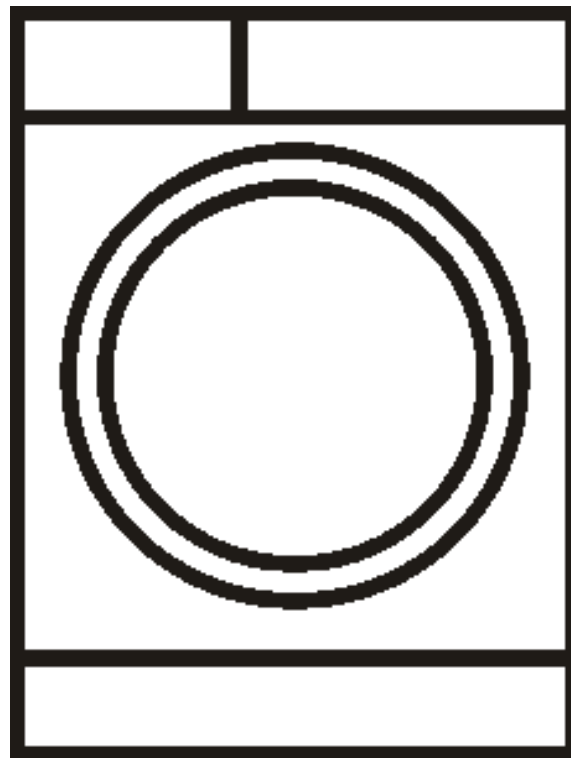


Washing Machine

Model: E Products

Service Manual



Note:



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

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1.3 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.

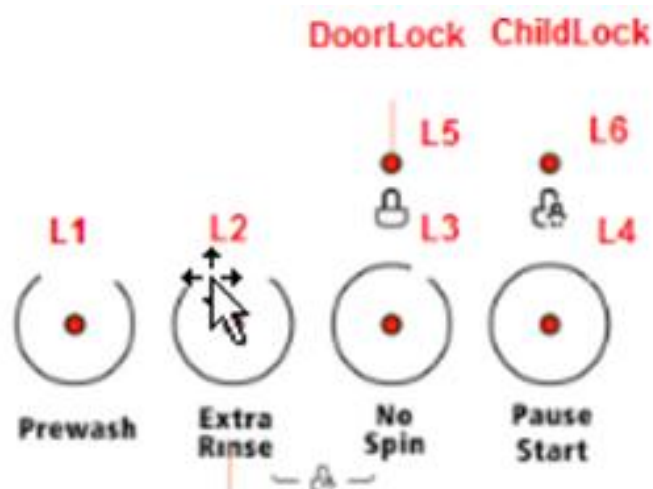
Symbol	Meaning
 ELECTRIC SHOCK	Indicates a caution (including a warning). Specific instruction is followed by a graphic or characters in or near. Symbol left warns an electric shock.
 DO NOT DISASSEMBLE	Indicates prohibition (act must not be conducted). Specific instruction is followed by a graphic or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

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.

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. Service mode



L1	Prewash
L2	Extra Rinse
L3	No Spin
L4	Pause Start
L5	Door Lock
L6	Child Lock

2.1 Versions information checking

Rotate the nob to any program from "ON/OFF", Press the "L1", "L3", "L1", "L3" button in order in 10 seconds, then the door will be locked (L5 turns on), L4 turns on. that means machine enters service testing mode. Testing 01, and the abbreviation is T01. (note: All the lights in the bottom line show in binary format. The L4 light means number 1, so as the T01. L3 light means number 2, L2 means number 4, and L1 means number 8.) press L4, L6 will turn on, and the lights in bottom line show the **project version**; in binary format.

2.2 Display the error code mode

After entering service testing mode, press L1, until L3, L5 turn on. The others turn off. That means T02, error mode.

1) Press L4 two times. Then the four lights in the bottom line shows the error code. if L1 twinkles only, that means no error. You can check the others error codes, according to the Schedule of failure alarm

the machine runs The "K1" light display the error code is index (the index with 1-10).

2) Press the "L1" changed into the error code with last time, there is display 10 times at most.

4) It can memory 10 error codes at most, the two error connection only record one time

5) Clear all the error codes: press L2+L3 3 seconds, all error codes after hearing buzzing.

6) Press L4 again, and you will exit error mode.

2.3 The user interface testing(T04)

1. After entering service testing mode, press L1,until L2 turns on, the others turn off, that means T04.
2. Press L4 two times.
3. Display project number about 2 seconds, L6 will turn on simultaneously. And the project number will be showed by the four lights in the bottom in binary format.
4. Display program vision number about 2 seconds, L6 will turn off simultaneously. And the program vision number will also be showed in binary format.
5. Then the four lights will turn on one by one ,from L1 to L4.
6. Press L2,enter knob test . Rotate the knob to different position, and the led lights (L1-L6) will turn on in binary fomat.L6 means number 16,L4 means number 8,L2 means number 2, and L1 is number1 .
7. Finally, press L4 to exit the user interface testing.

2.4 Water level checking(Drain pump checking, water switch checking, inlet valve checking)

2.4-1 Drain pump checking(T05)

1. After entering service testing mode, press L1,until L2,L4 turns on, the others turn off, that means T05
2. Press L4 two times , then L3 turns on, pump testing starts. If all the water drain out,L1—L4 turns off. If it can not drain water out ,L3 will twinkle all the time. Then you should confirm the connect to the pump.
3. Finally, press L4 to exit drain pump checking.

2.4-2 Water switch checking(T06)

1. After entering service testing mode, press L1,until L2,L3 turns on, the others turn off, that means T06
2. Press L4 two times , then L1 turns on, water begin fill the machine from the water inlet to the level for the main wash.
3. Press L4 to exit water switch checking. And it will drain all the water out of the machine, finally.

2.4-3 Inlet valve checking (T08)

1. After entering service testing mode, press L1,until L1 turns on, the others turn off, that means T08
2. Press L4 two times , L1 and L2 turn on.
3. Press L1,L2 turns on, pre-wash inlet valve begin to work for 10 seconds.
4. Press L1, L1 and L2 turn on, main inlet valve and pre-wash inlet valve work simultaneously until the water in the machine reaches the set level. If it can not reach the level in 5 minutes. Water injection will also stop.
5. Press L4 to exit Inlet valve checking . And it will drain all the water out of the machine, finally.



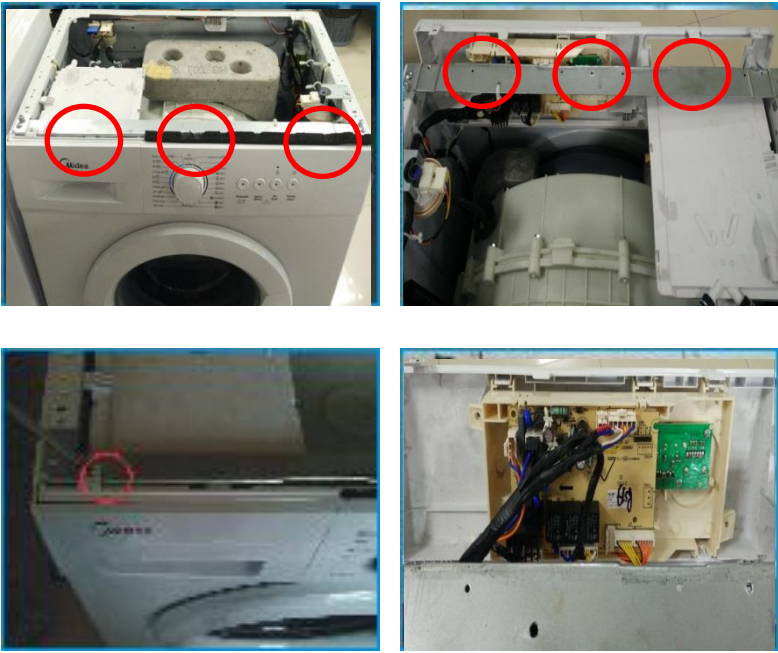
2.5 spin velocity checking(T10)


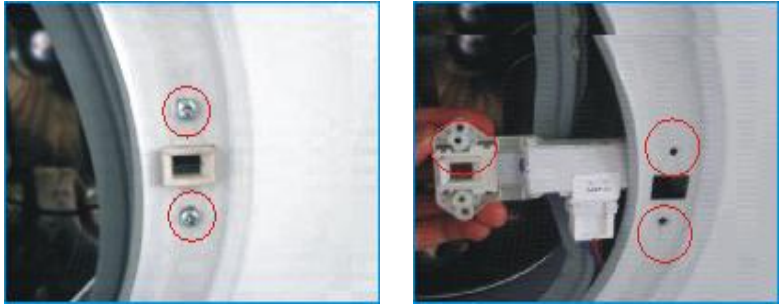


1. After entering service testing mode, press L1,until L1,L3 turns on, the others turn off, that means T10
2. Press L4 two times , L3and L4 turn on. Then basket assembly spins at the velocity of 45 r/m, rotates clockwise 15 seconds, stop 10 seconds, and rotates anticlockwise 15 seconds, stop 10 seconds again, and that cycle repeats.
3. Press L4 to exit spin velocity checking mode. And motor stops.

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

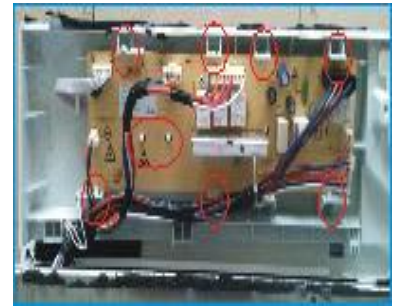
3 UNPACKING WAYS OF MAIN PARTS

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>	

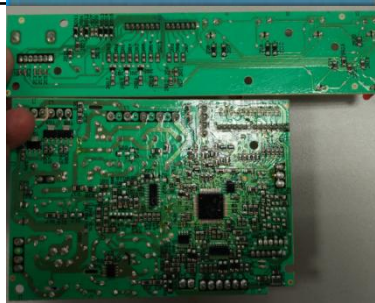
<p>4. Undo the lower panel I.Open the filter cover, release the screw on the lower panel. II.Turn the washing machin back at an angle, pinch the clasp ,and push it out.</p>	
<p>5. Undo the door lock I.Open the door of washing machine. II.Take the outer gasket Take the outer gasket III.Remove two screws on the door lock, and take down the door lock. IV.Take out the door lock and draw out the plug.</p>	
<p>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.</p>	
<p>7. Undo the facade counterweight I.Undo the front plate II.Remove six screws pull out the facade counterweight.</p>	

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



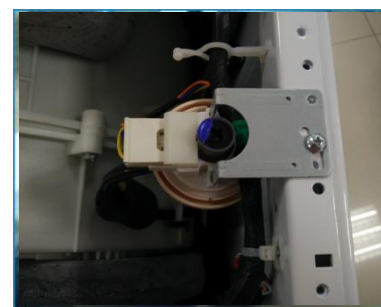
10. Undo the detergent box
I.Undo the top cover and the control pane
II.Release the hose clamp and pull out the inlet hose.
III.Release the hose clamp and pull out the detergent box hose, and then take out the detergent box.



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



12. Undo the pressure switch
I. Undo the top cover
II. Pull out the plugs on the pressure switch.
II. Loosen the screw of pressure switch
III. Disconnect the pressure switch from air pipe.



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.



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

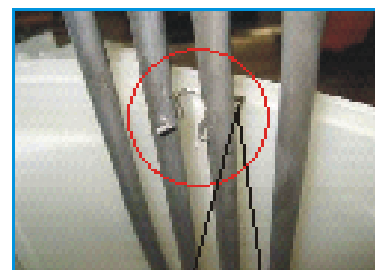


17. Undo the drain pump
 I. Undo the top cover,
 control panel, lower cover
 and front plate.
 II. Nip out clamp between
 drain hose and the drain
 pump, and then pull out
 the drain hose.
 III. Loosen the screws fitted
 on the drain pump, and
 then pull out the drain
 pump.



18. Undo the heater

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


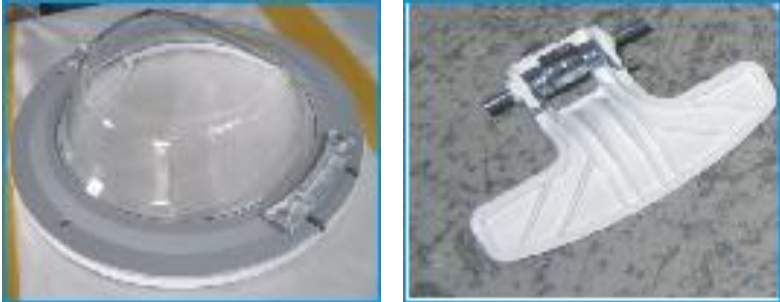






In the red circle it is the
 heater support, clamping
 the heater.



Heater

NTC

<p>19. Undo the NTC I. Undo the top cover, control panel, lower cover and front plate. II. Undo the NTC with special tools.</p>	
<p>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 six screws on the inner door. III. Remove the outer door and the inner door with special tool.</p>	
<p>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.</p>	
<p>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.</p>	 <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  Pin </div> <div style="text-align: center;">  Airproof Ring </div> </div>

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 pull out 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	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

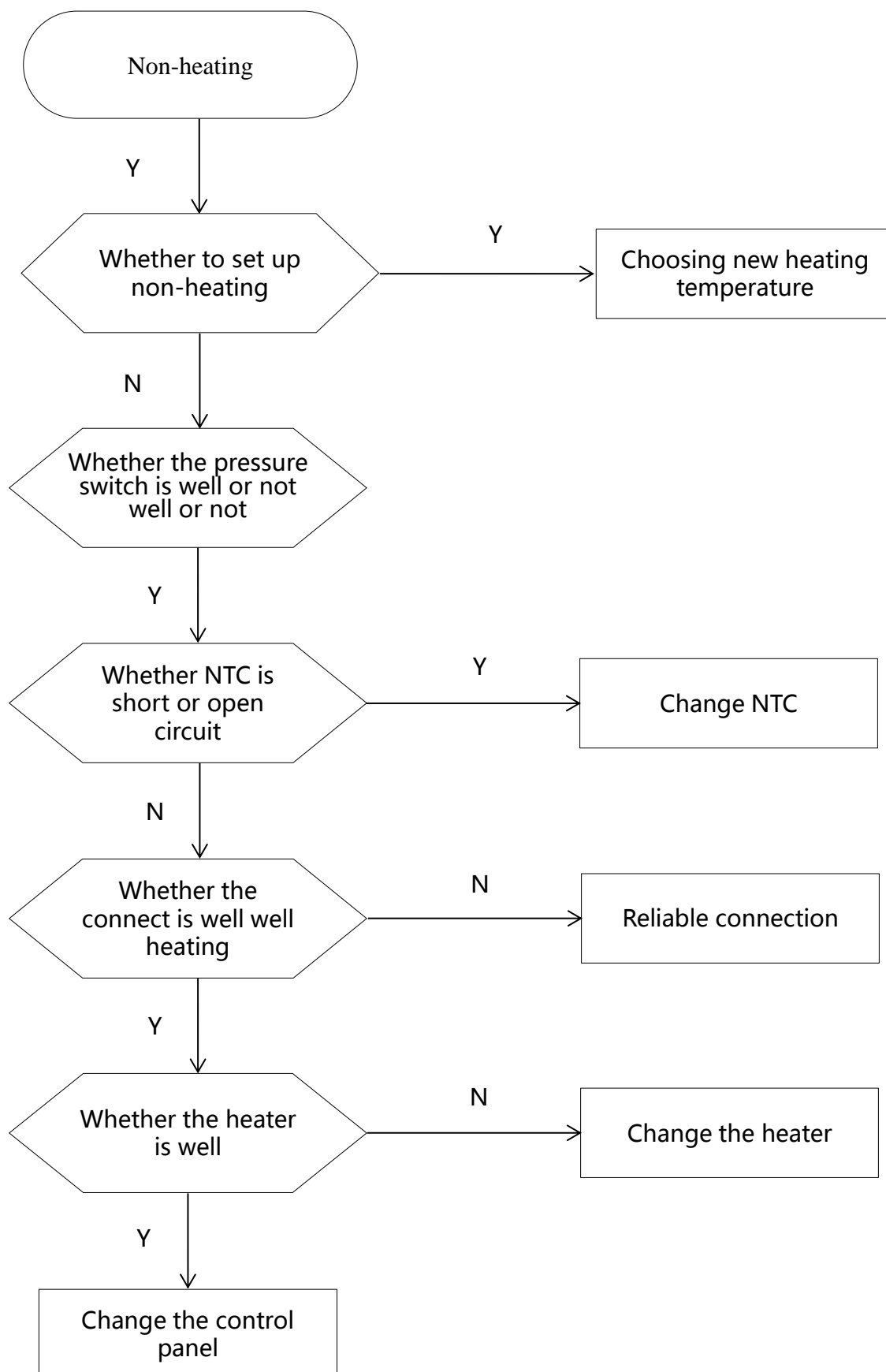
4 MALFUNCTION CODES AND EXPLANATIONS



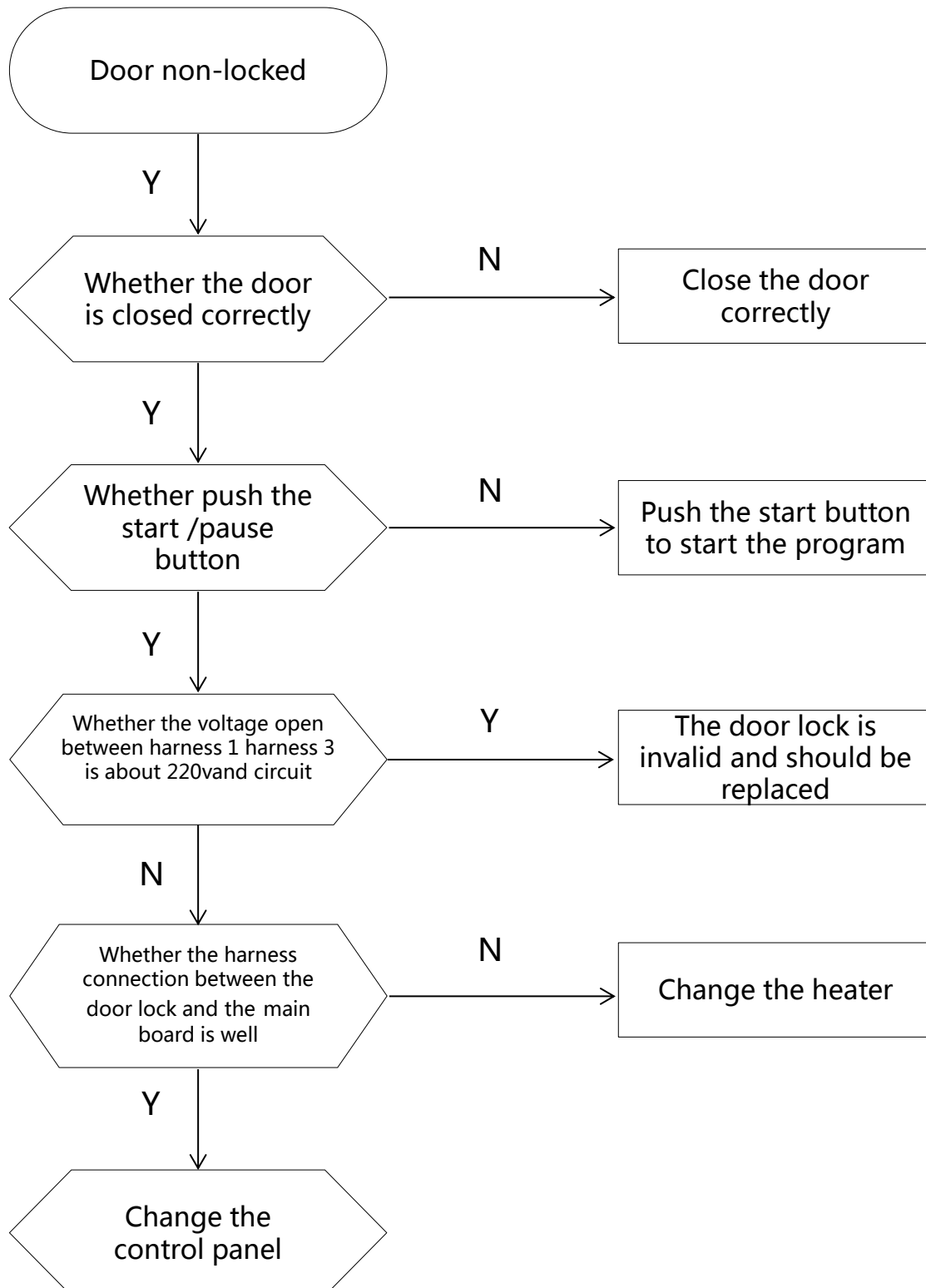
Malfunction code	Reason	Description	Solution
E62	The speed don' t transmit signal abnormality	Triac get broken	Check the speed transmit line of the motor to prevent fall of Check the PCB and the motor Check the motor communicate wire
E70	The button get stuck when press it over 10 second	The Power button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

Fault tree

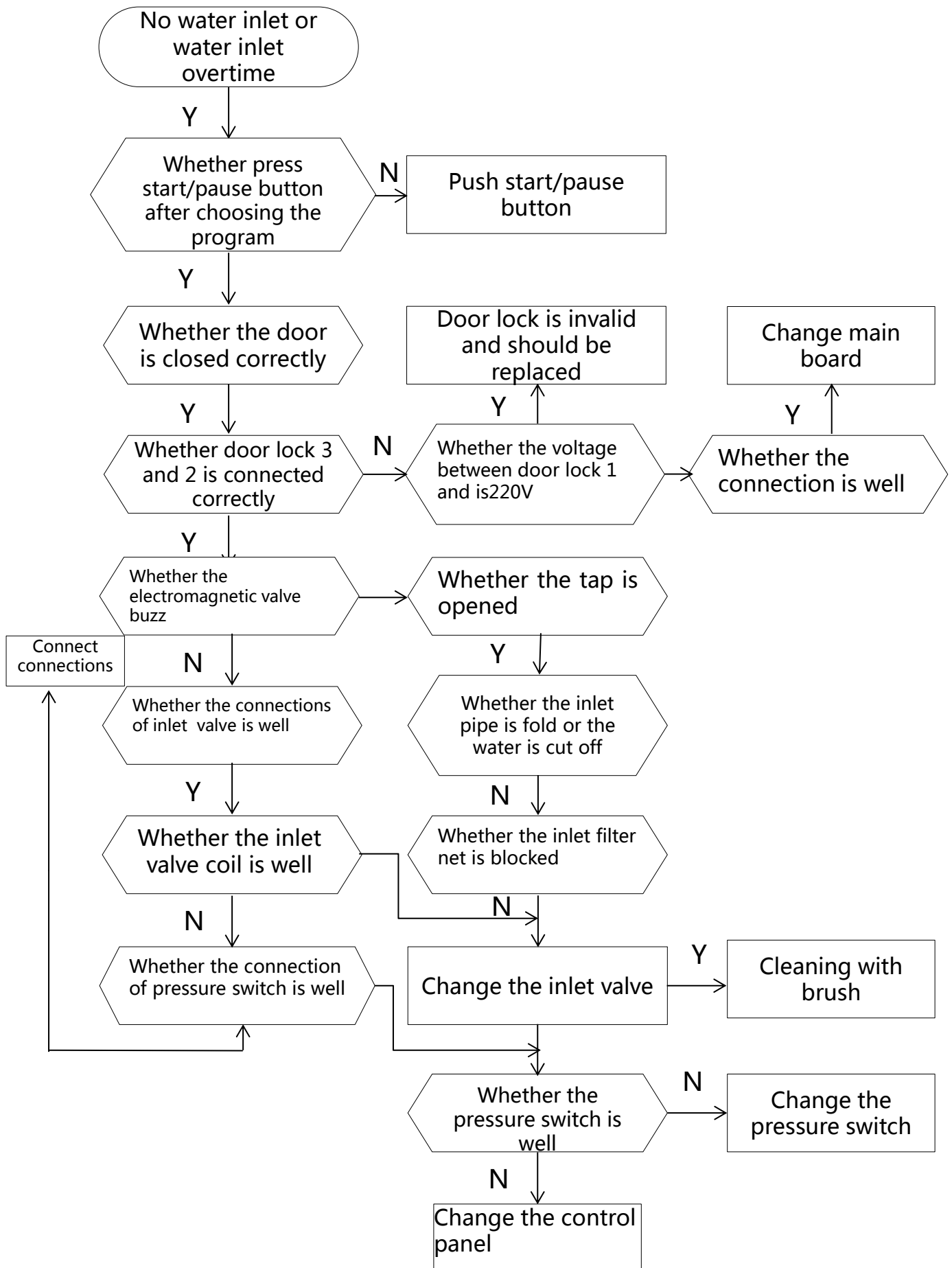
1. Maintenance non-heating malfunction



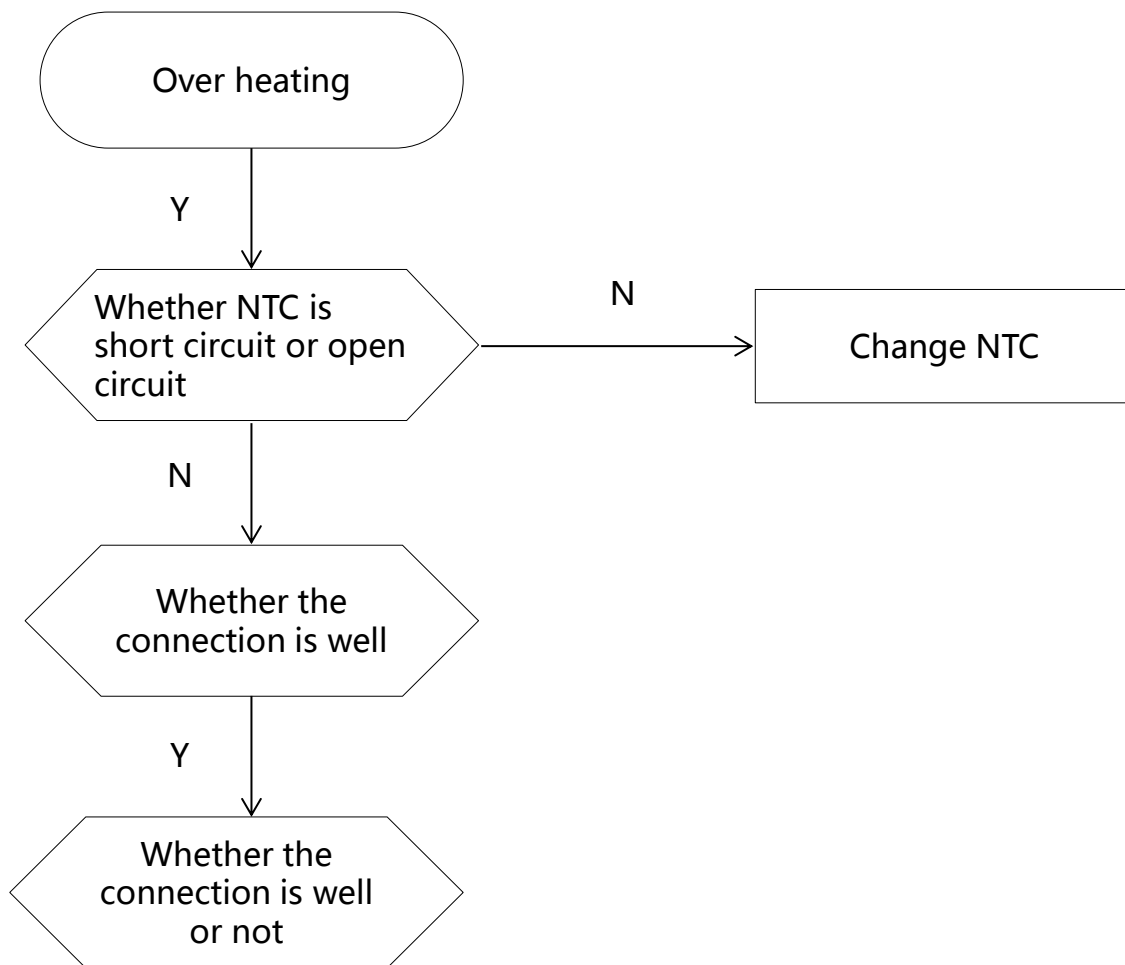
2. Door non-locked & its maintenance



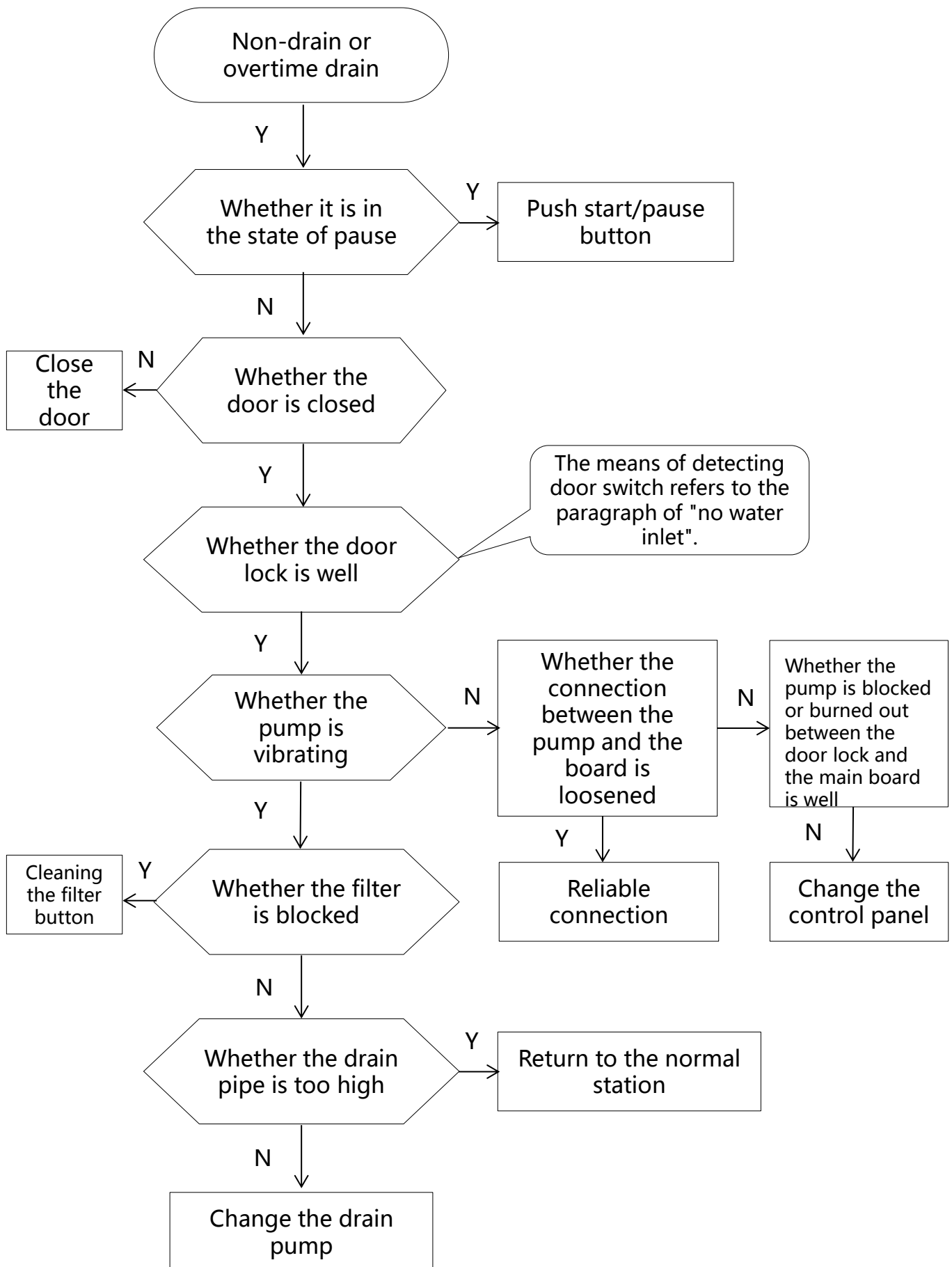
3. No water inlet or water inlet overtime



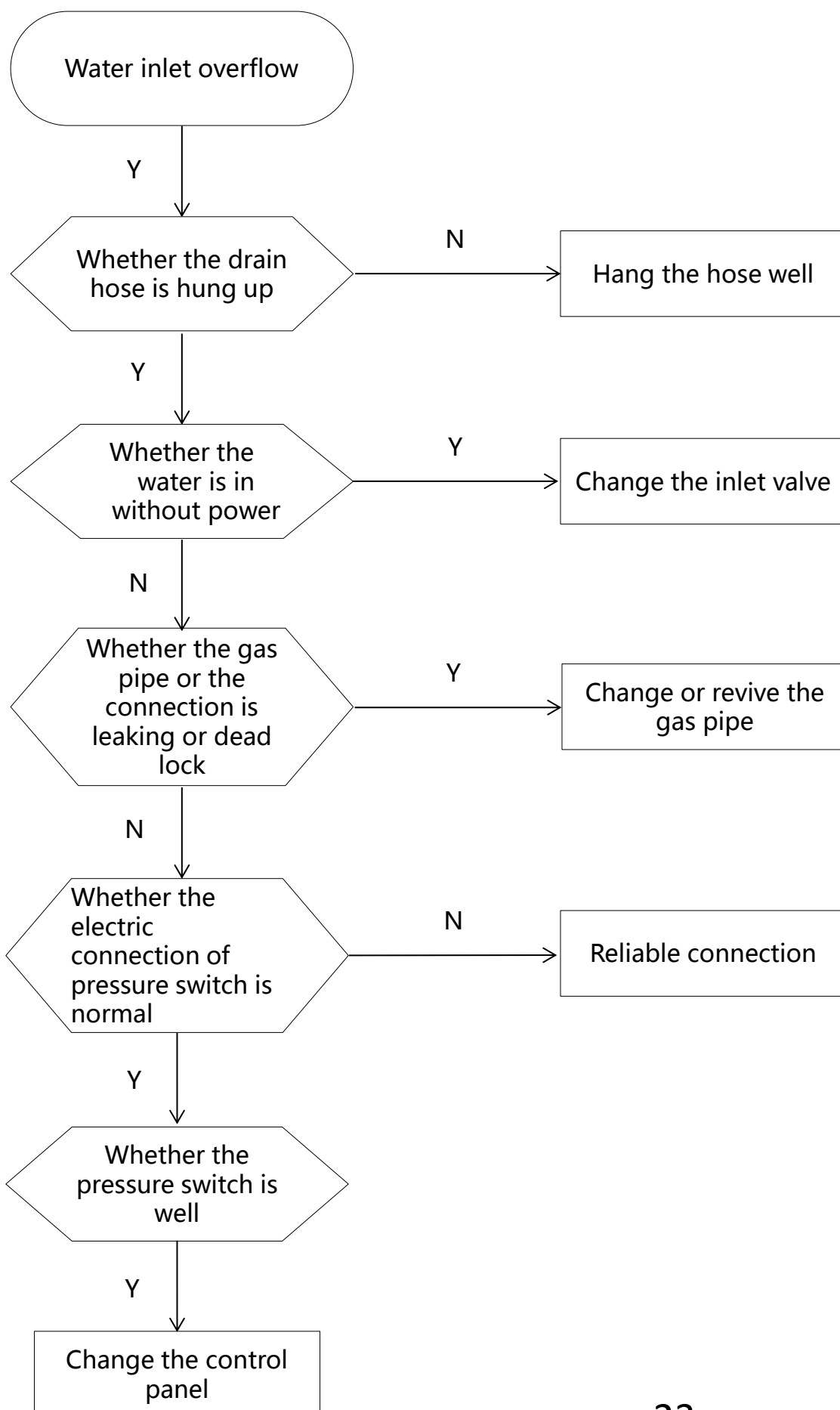
4. Cleaning with brush



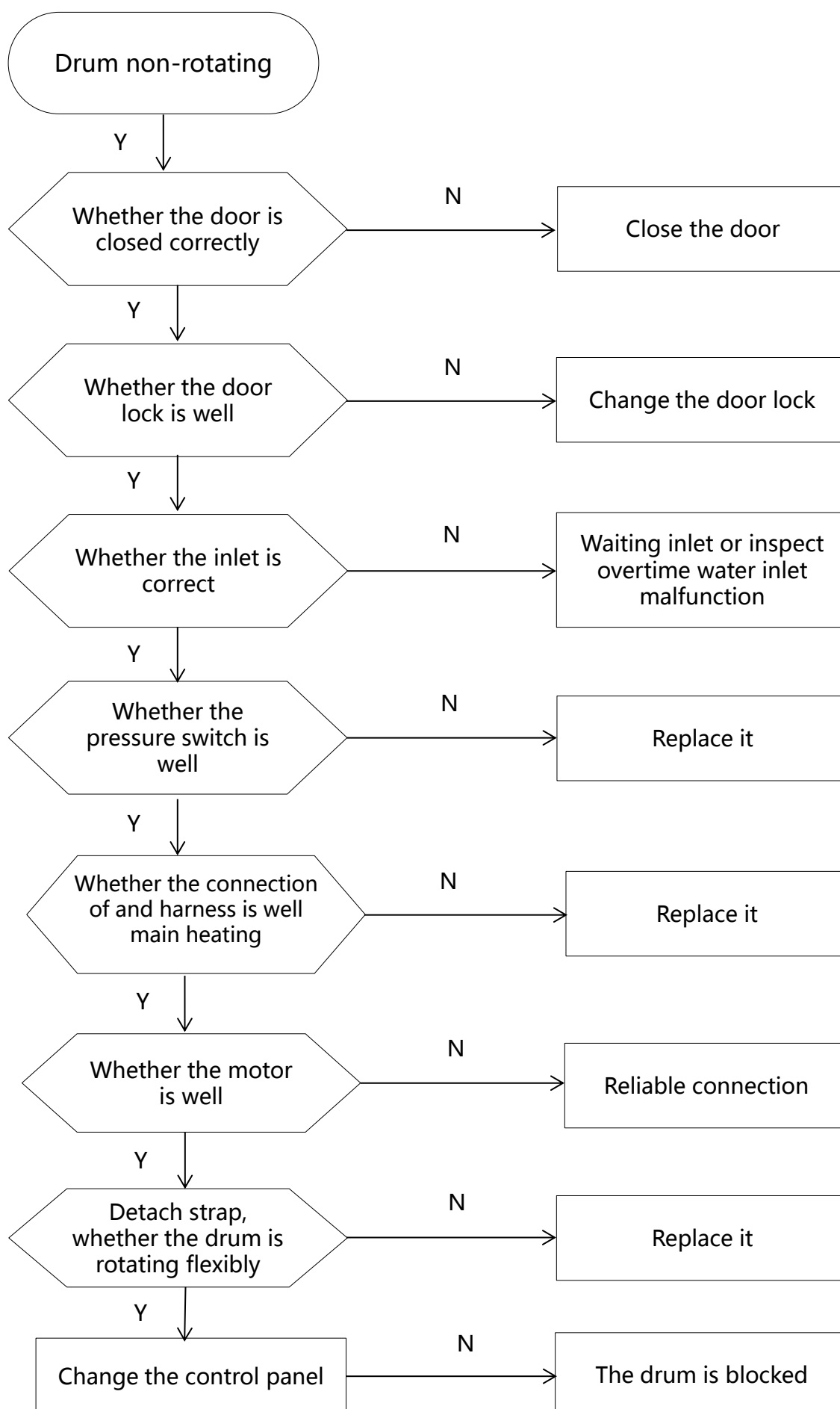
5. Maintenance of non-drain or drain exceed the setting time



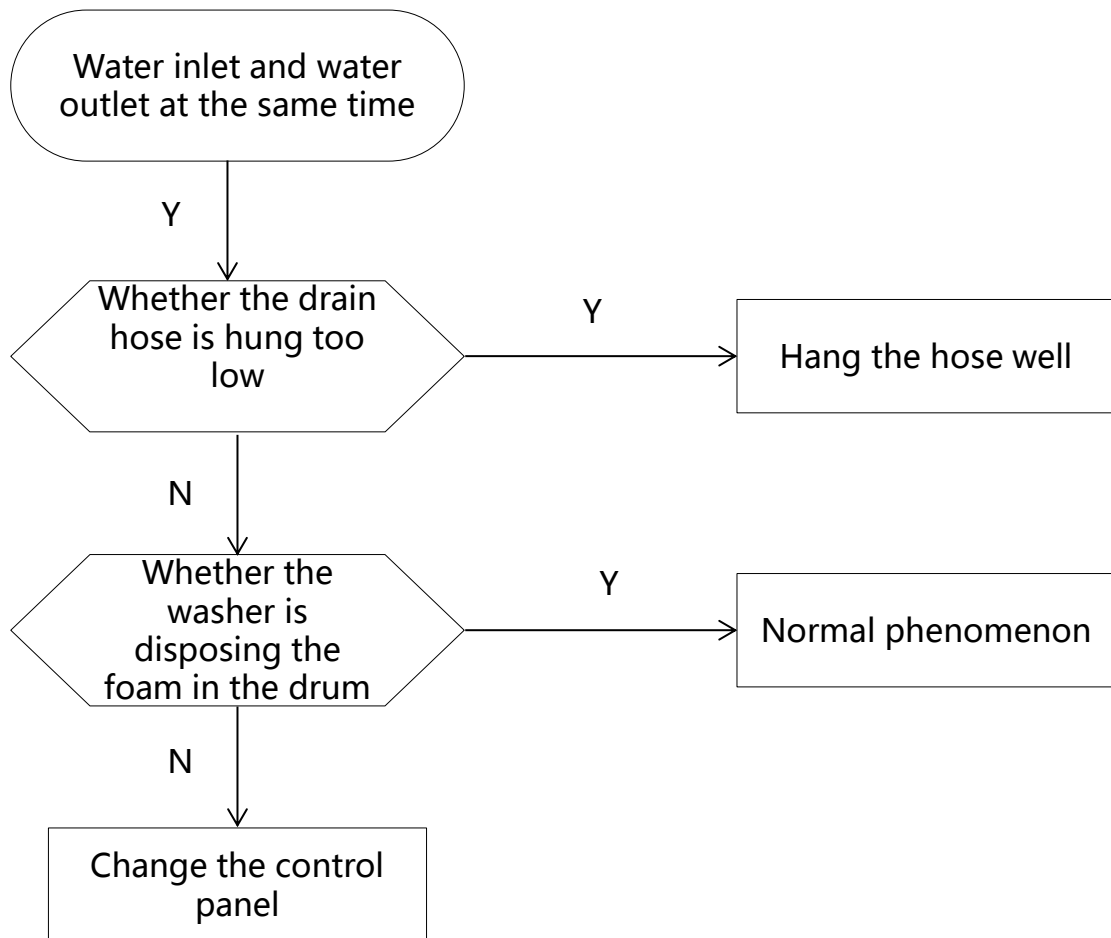
6. Water inlet overflow malfunction maintenance



7. Drum non-rotating malfunction maintenance



8. Maintenance water inlet and water outlet at the same time










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	<p>Open the water tap.</p> <p>Check the selection of the procedure.</p> <p>Check the water.</p> <p>Pressure to see if the water pressure is insufficient.</p> <p>Put through the feed-water.</p> <p>Close the washing machine's door.</p> <p>To check it the inlet water pipe is bent or blocked.</p>
The washing machine fills and empties at the same time.	<p>Make sure the end of the drainage pipe to be higher.</p> <p>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.</p>
No drainage of the washing machine	<p>Check if the drainage pump is blocked.</p> <p>Check if the drainage pipe is bent or blocked.</p> <p>Check the height of the drainage nozzle, make sure it is 0.6-1 meter from the bottom of the washing machine.</p>

<p>Vibration of the washing machine</p>	<p>Level the washing machine. Level the washing machine. Fasten the footing. To check if the internal packing for the transportation have all been removed.</p>
<p>The bubble spills from the detergent</p>	<p>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.</p>
<p>The machine stops when the procedure has not been finished</p>	<p>Power failure or water cut.</p>
<p>The drainage pump has noise during the operation when the water has just been drained</p>	<p>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.</p>
<p>To stop for some time during the wash procedure</p>	<p>The washing machine adds water automatically. Because there is too much bubble in the tube, the washing machine is cleaning the bubble.</p>
<p>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.</p>	

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

No	Parts	Picture	Test Description	Parameter
1	Control board		The display or light is not show The washing don' t running	Check the PCB
2	Water Level Switch		The water level is higher or lower than the overflow water level. Water level sensor fail.	Check the water level switch
3	Door lock		The door has not been closed over 3 times. Don' t unlock the door lock	Check the door lock
4	Water valve		Inlet water Overtime	Check the inlet hose is squashed or kinked,. Check the filter is blocked or not. Check if the water pressure is too low.
5	Pump		Drained water overtime Inlet water and drain water meanwhile	Check the pump
6	Heater		The water don' t heater	Check the HTC
7	Motor		The washing machine Don' t running	Check the motor



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!