

SERVICE MANUAL

Order No.

Front Load Washing Machine**MODEL: C510WM12**

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Washing Machine
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Chapter 1. General Information

1-1. General Guidelines

When servicing, observe the original dress. If a short circuit is found, replace all parts which are overheated or damaged by the short circuit. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed. Confirm that the screws, parts and wiring which were removed in order to service are put in the original positions, or whether there are the portions which are deteriorated around the service places serviced or not. And be sure safety of that.

1-2. Function indication symbols

(You will see them in the program introduction table)

- Signify the program has this course.

- Signify the washing machine doesn't have this function.

Chapter 2 Product Feature

2-1. Features

(1). 300mm diameter porthole, door may be open at a 180 degrees.

Facilitate view of wash process, facilitate unloading and easy to use with large port.

(2). Class A energy-saving

Scientific design for tub can reduce the use of water heavy during washing, consequently upgrade the energy efficiency class to A, also use scientific washing

(3). Multi-gear speed controller

According to different costuming, you can select corresponding spin speed, from 0 to 1000 rpm.

(4). Unique gasket design featuring no residual water hidden inside.

By the unique gasket, washing machine can left no residual water hidden between outer drum and front board.

2-2. Specification

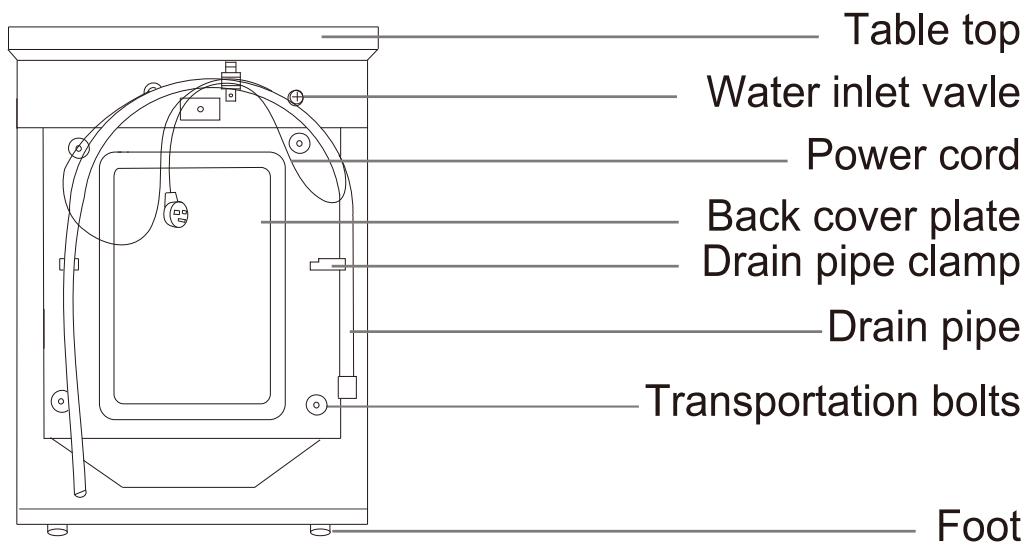
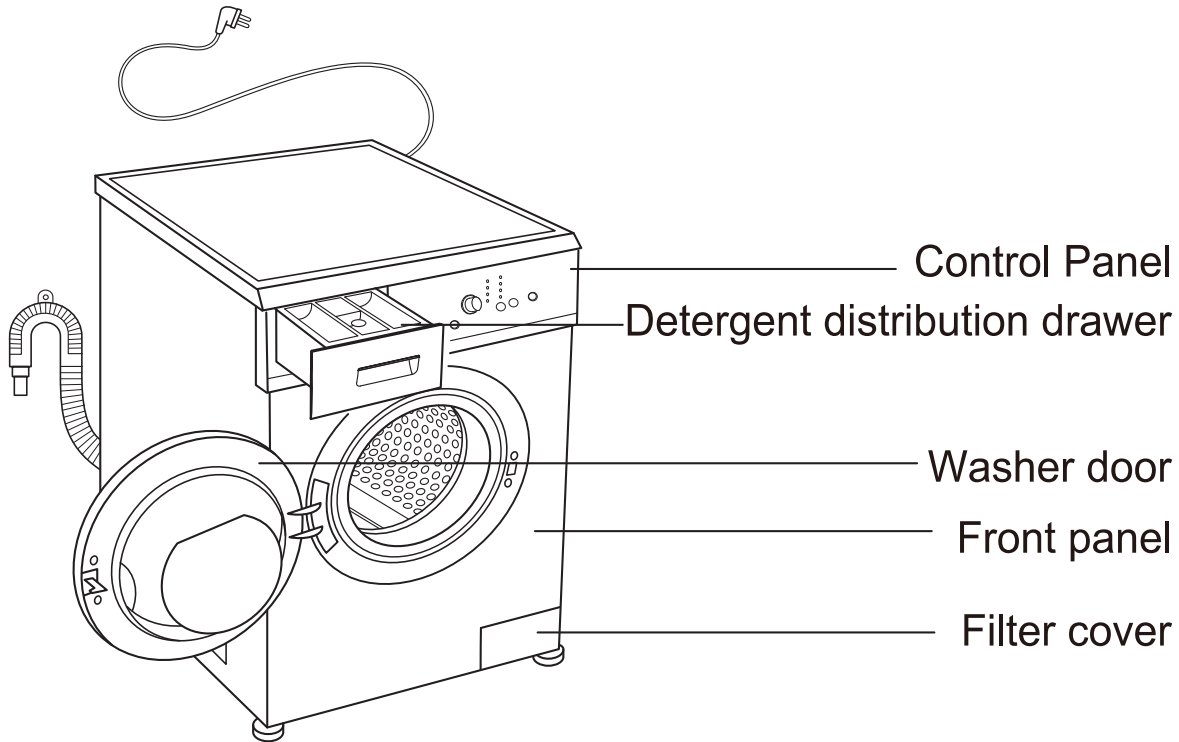
washing machines		U3515H1W	
1. Product identification			
Description of appliance		Washing machine	
Type of appliance(FS = standing, BI = built-in)		FS	
Supplier own brand			
Supplier bar code (Europe)	EAN	Shomar	
Commercial Brand / Model			
Commercial bar code	EAN	Shomar	
2. Key-Features			
Energy efficiency class		A	
Washing performance class		B	
Spin efficiency class		C	
Programs	n°	11	
Capacity	kg	5	
Spin speed (max.)	rpm	1000	
Noise level (sound pressure level)	dB(A)	71	
Energy consumption per wash circle	kWh	0.95	
Water consumption per wash cycle	l	49	
Annual average energy consumption *	kWh	190	
Annual average water consumption*	l	9800	
Residual dampness HW50-1010/HW50-810S/HW50-610S (spin result)	%	54%	
Adjustable thermostat (water temp. adjust from - to)	°C	90 -※	
Drum capacity dry laundry / water	kg / l	5/42	
Auto water level adjust (depending on volume of filled in laundry)	AWL	I	
Washing time (max.)	min	196	
Washing temperatures (program-controlled)	°C	40/ 60 /90	
Certification's (CE)		CE	
Approvals (VDE/GS / TÜV/GS / IMQ)			
* per average 200 wash cycles (EN50242) T= COLD			
3. Basics data			
Unit dimensions (H x W x D)	mm	850x595x520	
Net weight	kg	65	
Voltage/frequency	V/Hz	220V-240V~/50Hz	
Input power / main fuse (intensity)	W / A	2000/10	
Work top / removable		I/I	
Control M = electromechanical, E = electronic, F = fuzzy		E	
Drum S = stainless steel / Z = zinc coated		S	
Tub P = Polyprop./ S = stainless steel		P	
Door:			
aesthetic (R = round, Y = big eye, Q = square)		R	
Diameter	cm	30	
Outer door frame S= stainless steel / M = metal / P = plastic		P	
Inner door G= glass / P= plastic		G	
Detergent compartments	n°	3	
Removable compartment for liquid detergent		-	
Delay timer (from - to)	h	-	
Self cleaning suds pump		-	
4. Safety systems			
Auto door lock	ADL		
Motor overheating protection	MOP		
No heating without water	NHW		
Auto water cool-down (before drain 90°C boiled water)	AWC		

C510WM12

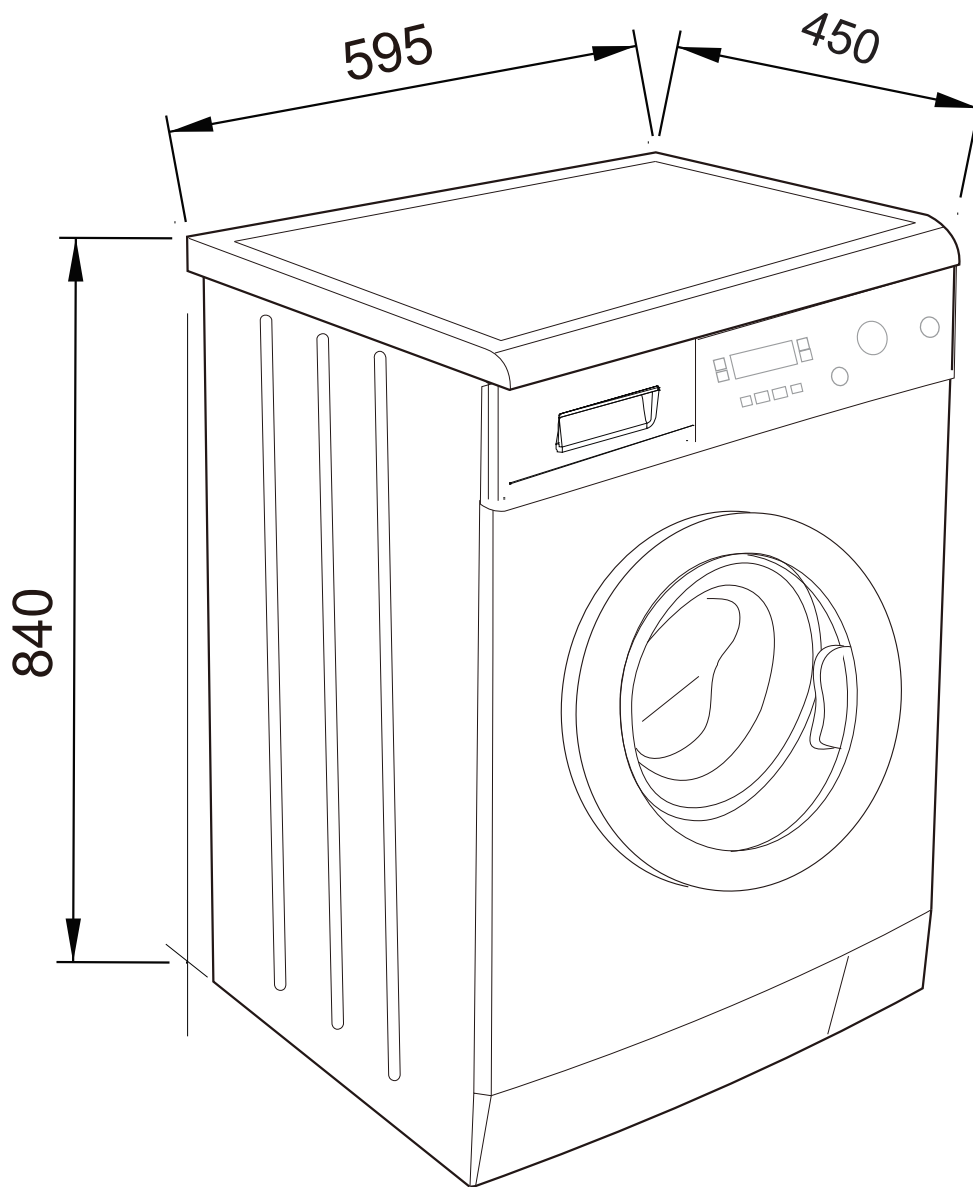
Child protection			●
5. Programs			
1) Synthetic 30°C		n°	●
2) Synthetic cold		n°	●
3) Wool 40°C		n°	●
4) Spin		n°	●
5) Quick Wash		n°	●
6) Cotton Pre-wash		n°	●
7) Cotton 90°C		n°	●
8) Cotton 60°C		n°	●
9) Cotton 40°C		n°	●
Speed			●
Intense			●
ON/OFF			●/●
Power			●
6. Packing dimensions & loadability			
Packing dimensions (H x W x D)		mm	890x650x560
Gross weight		kg	68
40' Container load		pcs	220
7. Logistic / recycling information			
Packing weight		kg	2
Packing materials / Recycling symbols			
Carton (weight)		gr	Shrink package
Polystyren (weight)		gr	1800
Polyethylene foil (weight)		gr	100
Other packing materials (weight)		gr	100
Wood (weight)		kg	-
8. Service			
User instruction (languages)			
Max. failure rate (12 Months after sales to end customer)		%	
9. Delivery Time of First Batch			

Chapter 3 Appearance brief introduction

3-1. Name of parts



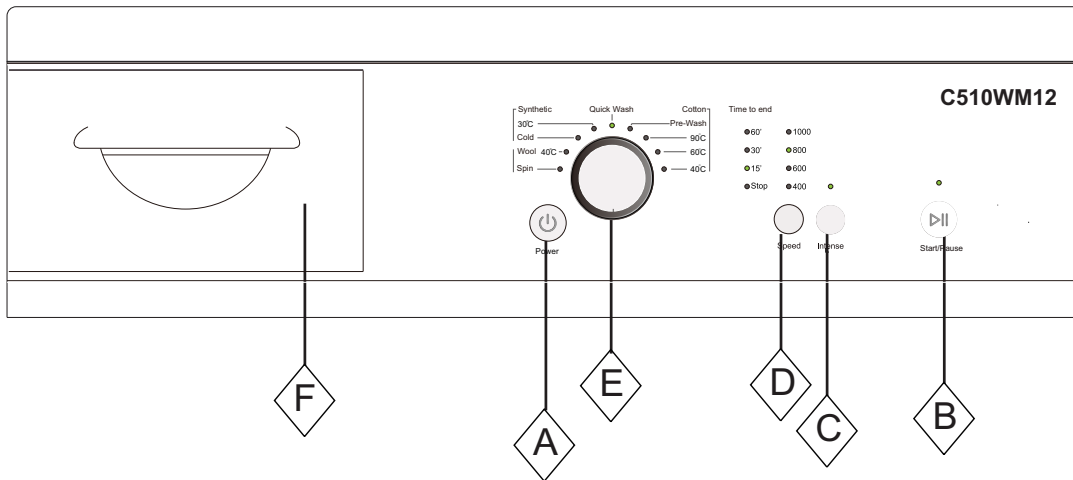
3-2. Dimension



DIMENSION(PACKING)(H X W X D):890x640x530

UNITS:mm

Chapter 4 Operational Guidance



A Power button

Press the “Power” button to switch on the washer. Press this button again and hold it for 2 seconds to switch it off. After switching on the washer, if any button is not pressed within 2 minutes, it will automatically turn off.

B Start/Pause button

Press the “Start/Pause” button, the washer will start or pause. When the washer pauses, the indicator will flash. When the washer is turned on and this button is not pressed. While the washer working, if you want to cancel the programme, you need to press the Start/ Pause button if strand then press the Power button

C Intense button

Press the “Strong” button to select or cancel the function of intensive washing. This function is to increase washing time, times of rinse and spinning time of the main wash stage of the selected program. This function is not available for the “Rinse” and “Spin” programs.

E Program knob

Select the desired program by turning this knob. After turning on the washer, it automatically selects the program of last washing.

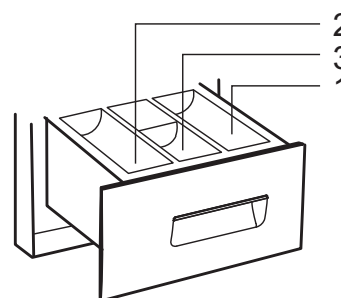
D Speed button

Touch this button lightly to select the desired speed. When a speed is set, the indicator light will be light on.

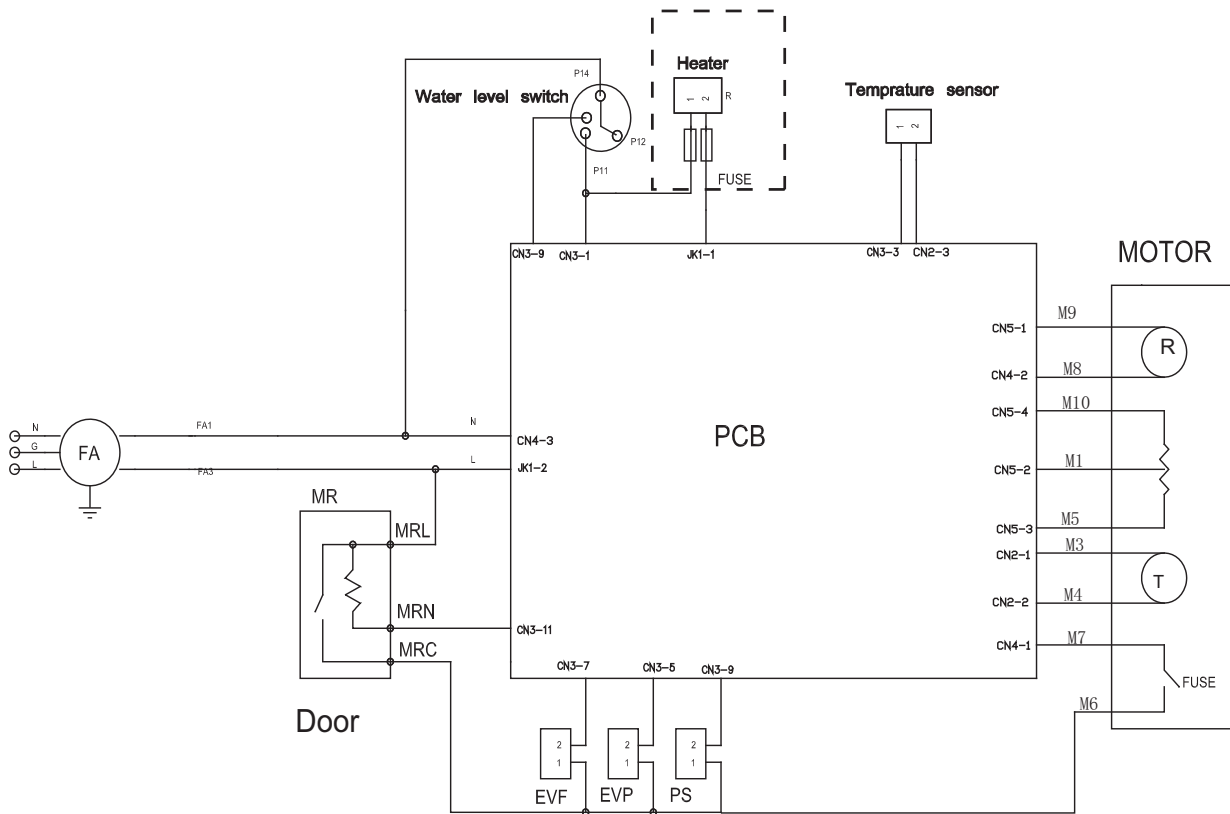
F Detergent distribution drawer

Open the drawer, three compartments can be seen:

- 1 Pre-wash detergent box
- 2 Main wash detergent box
- 3 Softener and bleach box



Chapter 5 Wiring circuit



EVF---main inlet valve
 EVP---pre inlet valve
 PS----drain pump

Chapter 6 Program Introduction

Program	Prewash			Wash			Third rinse			Second rinse			First rinse			Soften			Spin			
	Inlet	Wash	Drain	Inlet	Wash	Drain	Inlet	Wash	Drain	Inlet	Wash	Drain	Inlet	Wash	Drain	Inlet	Wash	Drain	Spin low speed	Spin high speed	Un tangle	
Cotton Prewash	2	10	6	2	★	6						2	8	6	2	2	8	2		9		1
Cotton				2	★	6						2	8	6	2	2	8	2		9		1
Synthetic				2	★	6						2	4	6	2	2	3	2		6		1
Wool				2	★	4						2	4	4	2	2	3	2		4		1
Quickwash				1	★	3						1	2	3	1	2	1	2		7		1
Spin																				9		2

★ : The washing time will change according to the heating status.

Chapter 7 Maintain and Self check

7-1. Caution in maintenance

1. Before the failure diagnosis, watch out for the electric shock and make sure that the power plug is disconnected and then service.
2. After the power switches on, each load will automatically load voltage 220-240V or DC.
3. Before touching the PCB, please touch the earthing wire at first to avoid that the PCB is broken by the static.
4. Exposed terminals, PC board, and rotating parts may cause injury and/or electrical shock. To reduce the risk of electrical shock, disconnect power and allow 60 seconds for capacitors to discharge before servicing.

7-2. Self check

Press "Strong Wash" button, and plug in, then the WM will be on self-inspection mode, all the indication light will be on. Press start/pause button starts the Testing Program.

1. Door lock switch testing, if the door is unlocked, Failure alarm 1.
2. Water inlet for main wash valve 5S, Water inlet for prewash valve 5S, and hot water inlet 5S, if it can't reach the 1st water level within 2 Mins, Failure alarm 5. 3. Heating 10S
3. Heat the water for 10 Secs.
4. Water drainage to empty cylinder water level, if it can't reach the empty cylinder water level within 2 Mins, Failure alarm 2.
5. Spin speed to the Max RPM of this Model.
6. Unlock program finishes, all the indication light is off except the "stop" indication light.

If it's necessary to stop the program during the testing, press the start/pause button or makes power off; if there's failure alarm during the testing, pls deal with it according to the Alarm Handling Methods.

7-3. Motor and noise test

Press the "Strong" button, then plug in. When all the lights lighting, press the "Speed" button to start the test. Then real-time speed will be display.

1. Drum run at 50rpm for 10 seconds clockwise.
2. Stop for 10 seconds
3. Drum run at 50rpm for 10 seconds anti-clockwise.
4. Drum run at 93rpm for 10 seconds anti-clockwise.
5. Drum run at 200rpm for 10 seconds anti-clockwise.
6. Drum run at Max speed for 60 seconds anti-clockwise.
7. End.

Show End when finish testing, press the "Speed" button then the testing procedure will be re-start after the motor stop running.

7-4. Model select

Press the "Speed" and "Strong wash" button and plug in, the machine will be on Model Selection mode, the Buzzer beeps one time.

When it comes in the Model selection mode, the 55cm 6kg 1200 rpm model is set as default, during the following time, all the indication light is on alternately, the light of spin exclusion is on; the light of speed is all on. Press "speed" button, makes 5kg and 6kg switch over.

Speed indication light status	Corresponding Model
all on	6kg
all off	5kg

The speed of the model can be adjustable bwtween 1250/1050/950/850/750/650/1350 under the condition that all the speed light is off, while the speed can be adjustable between 1260/1060/960/860/760/660/1360 with all the speed light on.

washing program indication light	Corresponding spin speed
Light of spin exclusion on	1350/1360
light of wool wash on	1250/1260
light of synthetic 0 °C on	1050/1060
light of synthetic 30 °C on	950/960
light of quick wash on	850/860

7-5. Failure sheet

failure mode	failure information	failure reason	the action
Err 1	The Start/Pause light doesn't light, the buzzer alarms	the lock is unlocked or the door is not closed rightly.	Close the door again, if it occurs however. Check the wire of the lock, the motor, and the PCB, if it is normal. If the part is wrong.
Err 2	The Start/Pause light keeps flickering 2 times. After 4 seconds repeat.	trouble in pump.	Clean the filter of pump, make sure it isn't stopped by something. If the alarm occurs however, check the pump, the PCB, the main wire. Make sure that the parts are normal, the connection among them are normal.
Err 3	The Start/Pause light keeps flickering 3 times. After 4 seconds repeat.	trouble in temperature sensor	Check the temperature sensor, the PCB, the heater, make sure that the parts are normal. The connection among them are normal.
Err 4	The Start/Pause light keeps flickering 4 times. After 4 seconds repeat.	trouble in heater.	Check the temperature sensor, the PCB, the heater, make sure that the parts are normal. The connection among them are normal.
Err 5	The Start/Pause light keeps flickering 5 times. After 4 seconds repeat.	trouble in inlet water.	Shut down the machine. Check the tap, make sure it is open. Check the connection of the valve, the PCB, the water level sensor, the Air Trap, make sure these parts are normal, the connection of them are normal.
Err 7	The Start/Pause light keeps flickering 7 times. After 4 seconds repeat.	trouble in the motor. the temperature of motor is too high or the rev is abnormality	Shut down the machine, turn on it 15 minutes later. If the trouble is return, check the motor, the PCB, make sure the parts are normal, the connection are normal.
Err 8	The Start/Pause light keeps flickering 8 times. After 4 seconds repeat.	the water level is abnormality, up to the allow highest level.	Usually it will release from trouble automatically, if it occurs again, check the connection of the water level sensor and the PCB, make sure that the connection is right.

Chapt 8 Error Display and Troubleshooting

8-1. Troubleshooting unnormal

The following circumstances do not constitute problems. Do not contact the maintenance service until the problem has been confirmed.

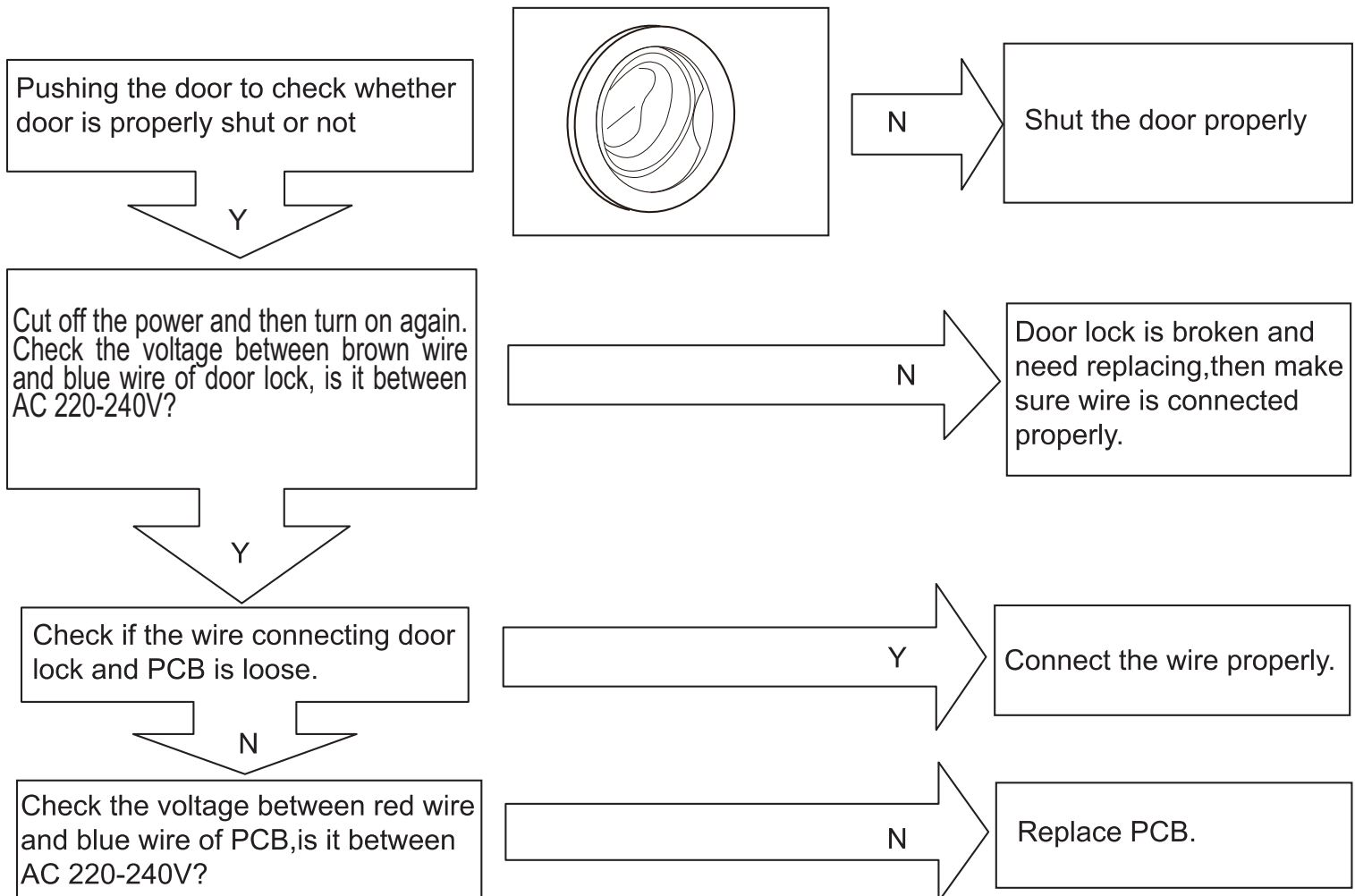
Problem	Possible cause
The washing machine fails to operate	<ol style="list-style-type: none"> 1. Poor connection to power supply 2. Power failure 3. Door is not properly closed 4. Machine has not been switched on
Washing machine can not be filled with water	<ol style="list-style-type: none"> 1. Water tap is not turned on 2. Water pressure is less than 0.03 MPa 3. The inlet hose is kinked 4. Water supply failure 5. The program dial is not properly set 6. The door is not properly closed 7. The inlet hose filter is blocked
The machine is draining while it is being filled	<ol style="list-style-type: none"> 1. The height of the drainage hose is below 80cm (if it should be within 80-100cm) 2. The drainage hose end is in water
Drainage failure	<ol style="list-style-type: none"> 1. Drainage hose is blocked 2. Drainage hose end exceeds 100cm above the floor 3. The filter is blocked
Strong vibration during spin	<ol style="list-style-type: none"> 1. Not all packing bolts have been removed 2. Washing machine is located on an uneven surface or is not level 3. Machine load is over 5kg
Operation stops before completion of a wash cycle	<ol style="list-style-type: none"> 1. Water or electricity failure 2. Washing machine is in soaking cycle
Operation stops for a period of time	<ol style="list-style-type: none"> 1. Washing machine is in anti-crease soaking cycle 2. Washing machine gives an error message
Excessive foam in the drum, which is spilled to the distribution drawer	<ol style="list-style-type: none"> 1. The detergent is not a low-foaming type or for manual wash 2. Excessive use of detergent

8-2. Troubleshooting

Error 1

Error message: Error message:Door is not properly shut 20s after program is started.
presents motor thermal protector disconnect.

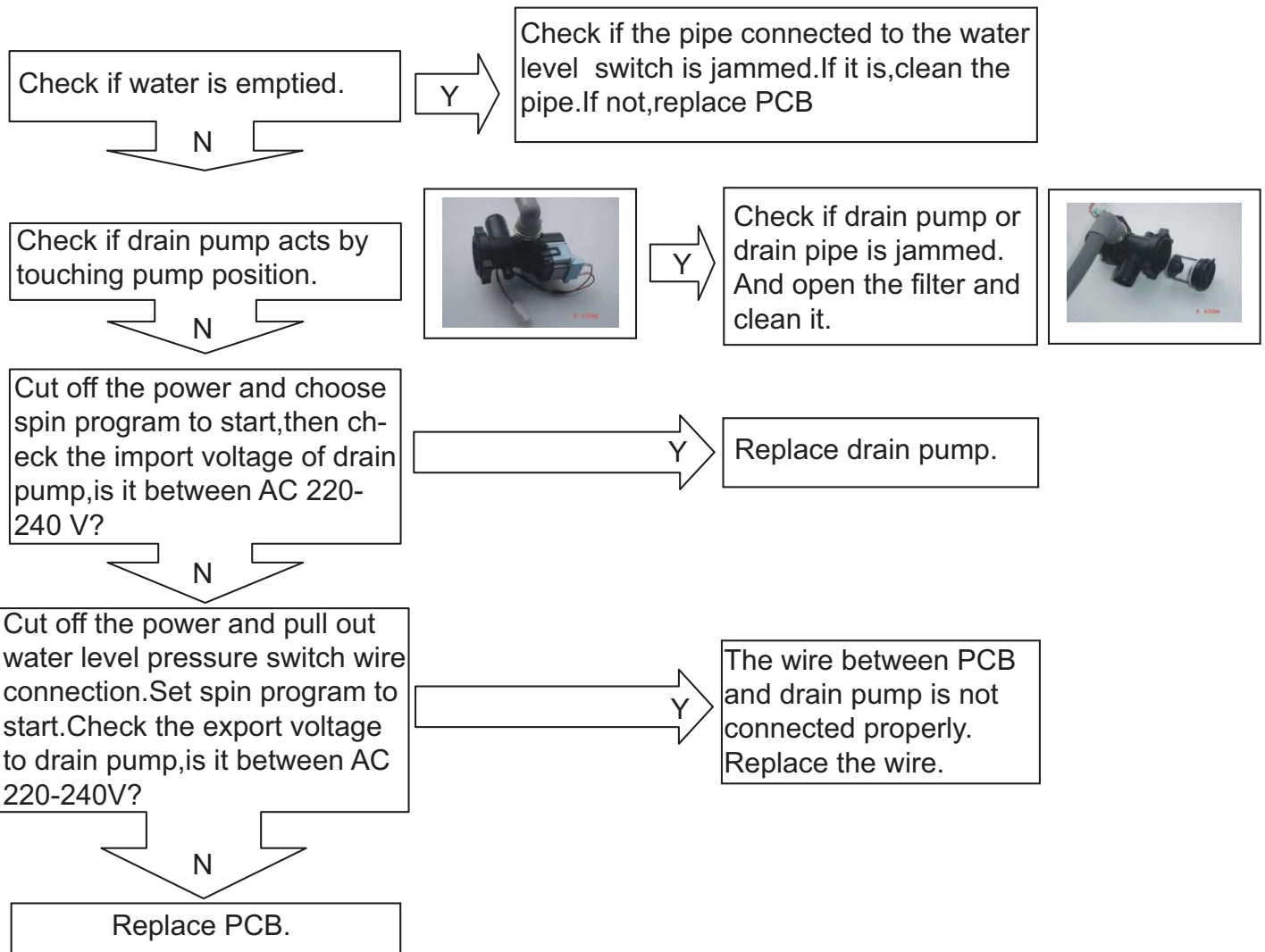
Troubleshooting:



Error 2

Error message: Drainage error, water not emptied within 6 min.

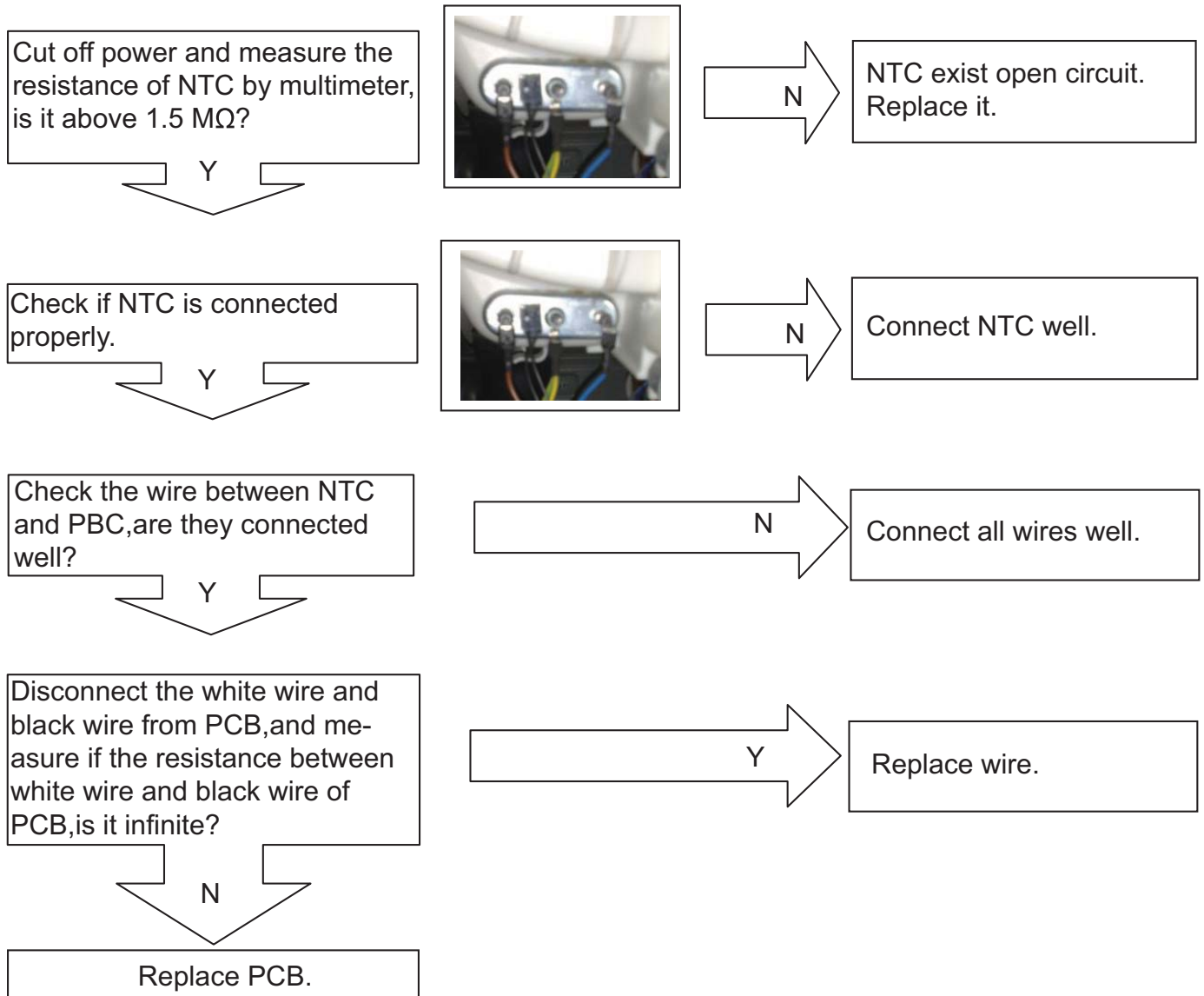
Troubleshooting:



Error 3

Error message: Temperature sensor is not properly connected or damaged
(display at the end of a program).

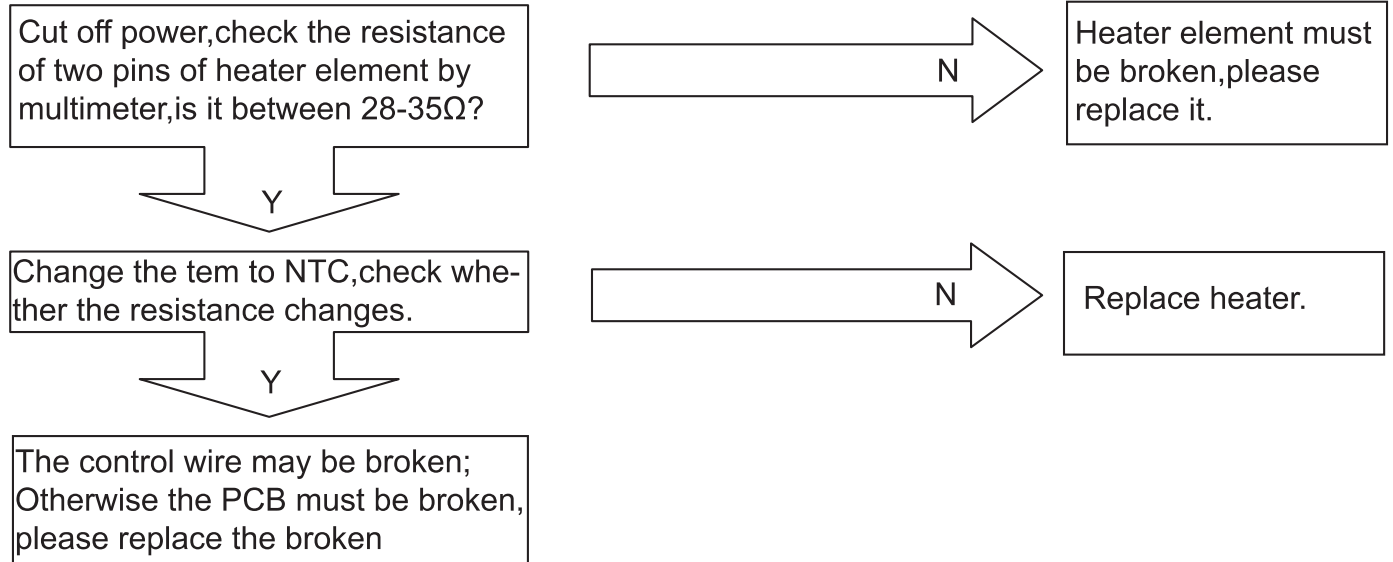
Troubleshooting:



Error 4

Error message: The heater may be broken.

Troubleshooting:

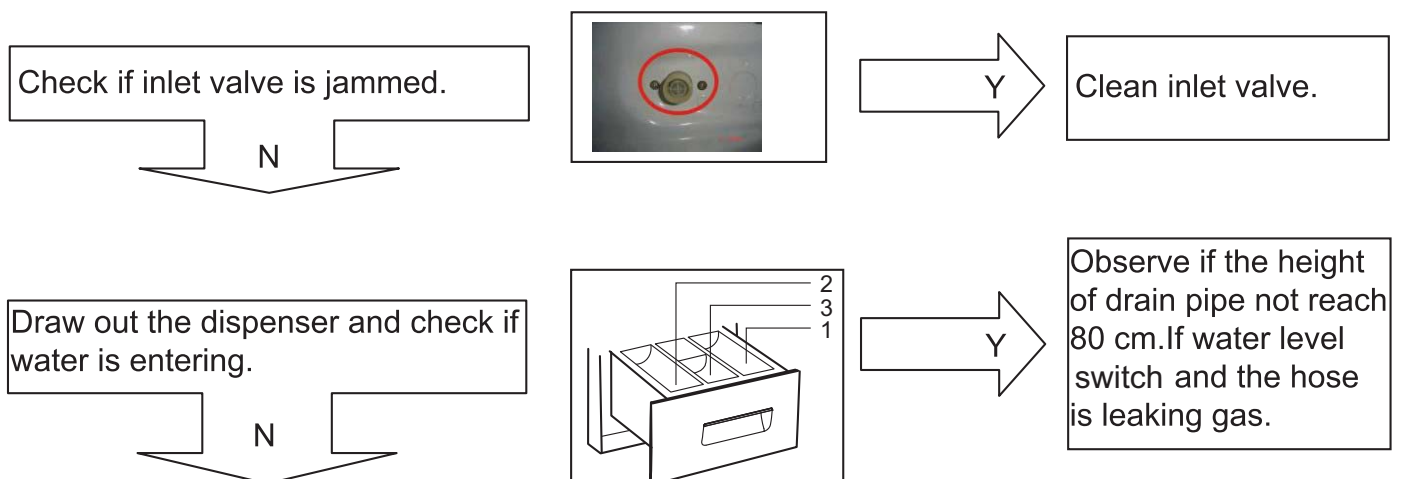


Error 5

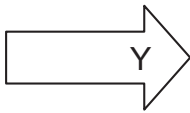
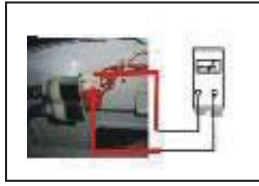
Error message:

If the water inflow can not reach the washing water level within 8 minutes.

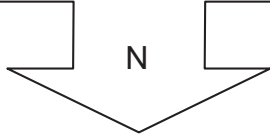
Troubleshooting:



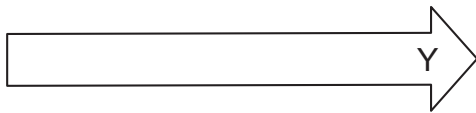
Turn on power, and set pre-wash mode, then start. Check the import voltage of electromagnetic valve by multimeter, is it between AC220-240V?



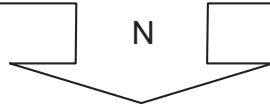
Electromagnetic valve must be broken, please replace it.



Check if export voltage from PCB to electromagnetic valve, is it between AC 220-240V?



The wire connected PCB and inlet valve is not properly. Please reconnect if or replace it.



Replace PCB.

Error 7

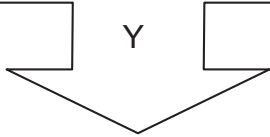
Error message: Motor overheat protection or is damaged.

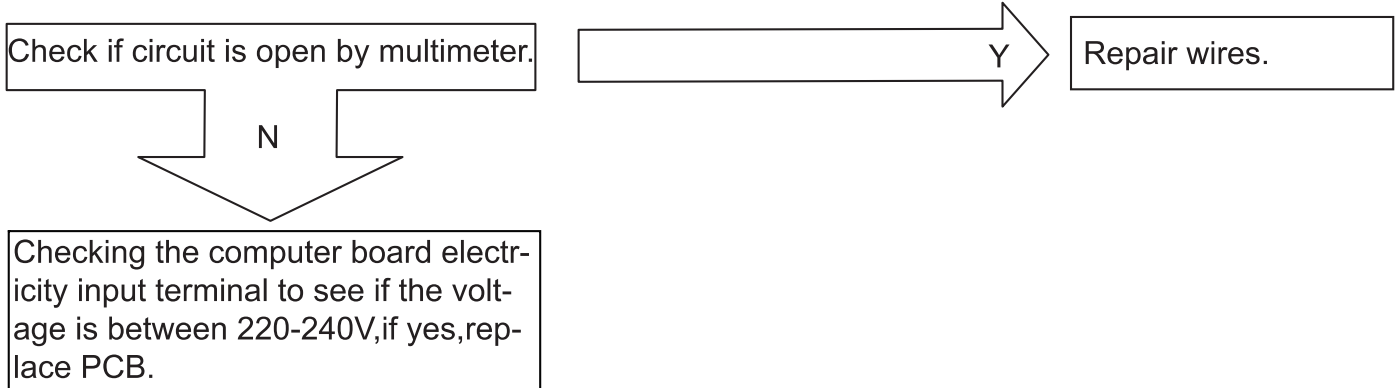
Troubleshooting:

Cut off power and check if motor wires, inductance wires are connected well.



Reconnect well.

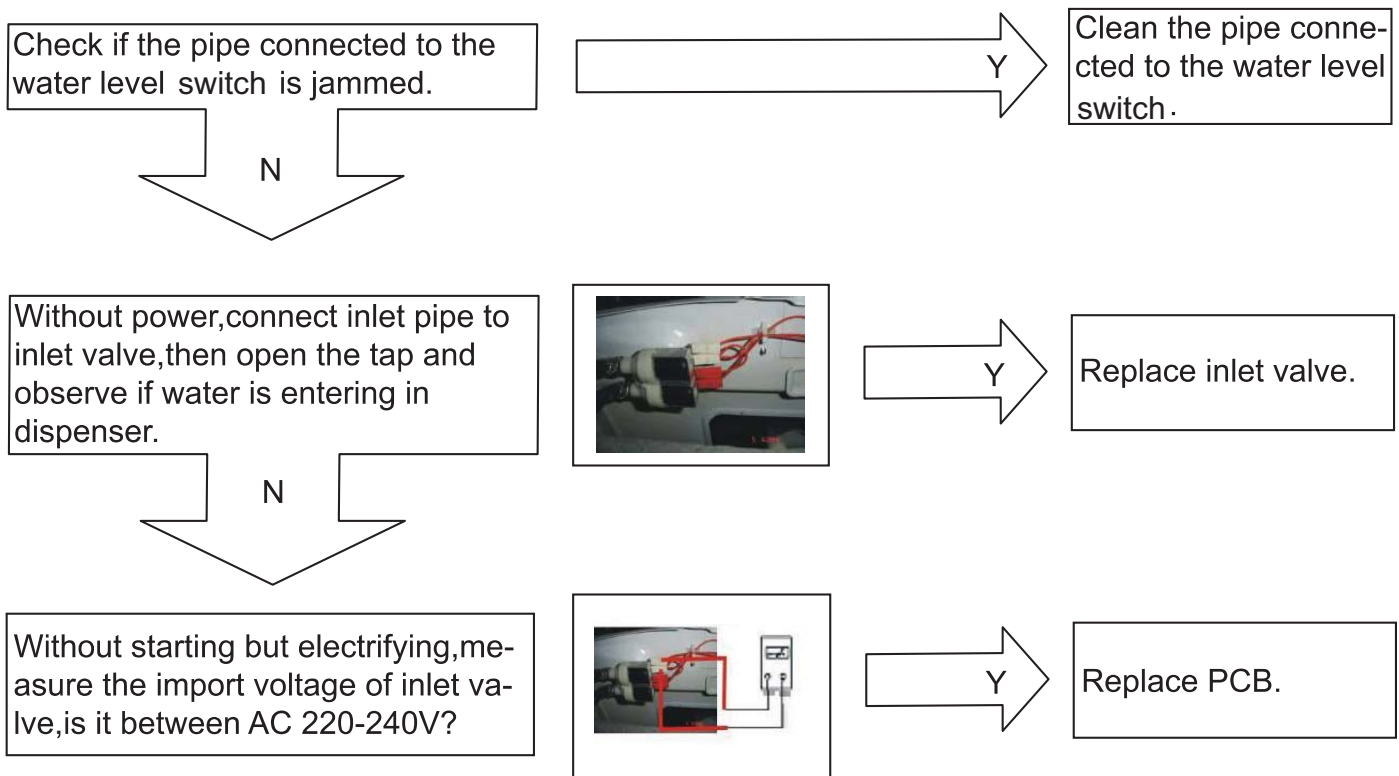




Error 8

Error message:Water level exceeds protection value.

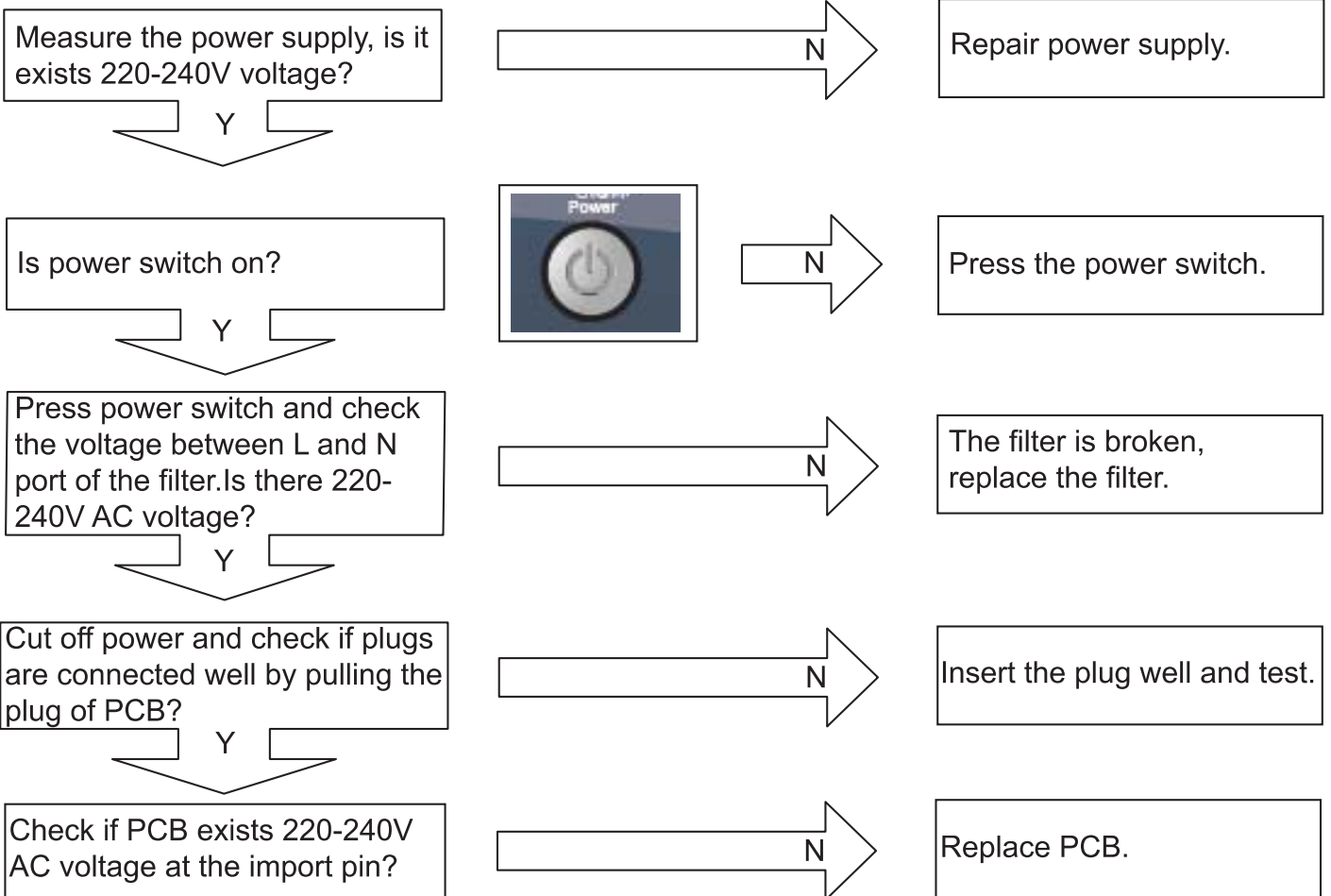
Troubleshooting:



8-3. Examination & Troubleshooting

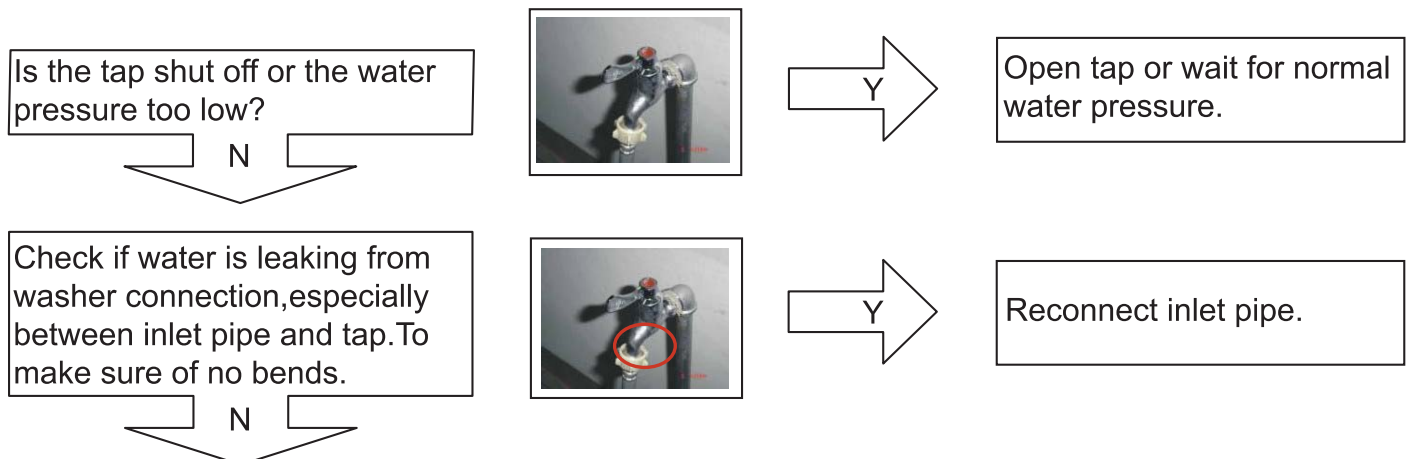
8-3-1. Display nothing

Troubleshooting:

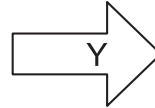
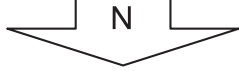


8-3-2. No water inleting

Troubleshooting:

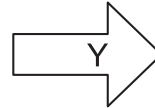
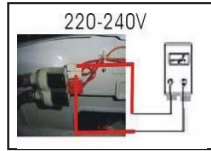
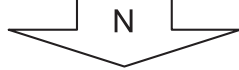


Check if filter of electromagnetic valve is jammed?



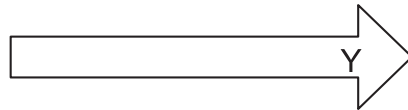
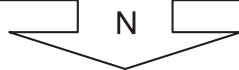
Clean filter.

Choose pre-wash program and start, check if there is 220-240V at import pin of electromagnetic valve?



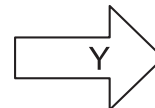
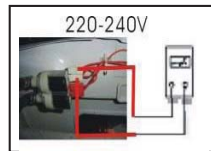
Replace electromagnetic valve.

Is there open circuit between electromagnetic valve and PCB?



Reconnect the wire.

Choose pre-wash program and start then check if there is 220-240V at export pin of electromagnetic valve?

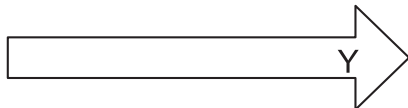
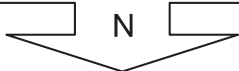


Replace PCB.

8-3-3. No draining

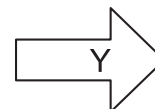
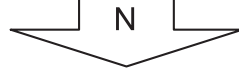
Troubleshooting:

Is the height of drain pipe too high?



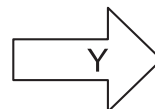
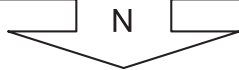
Adjust the height of drain pipe to 80-100cm.

Turn filter anticlockwise open and check if filter is jammed?



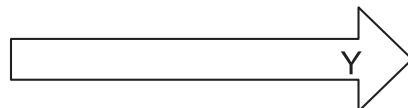
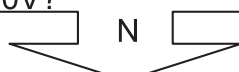
Clean and tighten filter clockwise.

Check if hose-connecting cylinder to pump is bent or jammed?



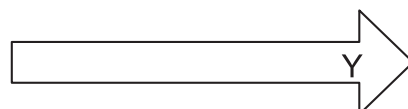
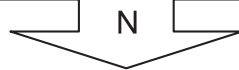
Arrange hose and clean.

Turn on power and choose spin program to start. Measure if import voltage of drain pump is 220-240V?



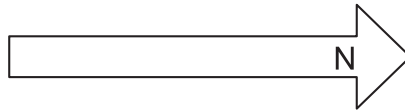
Replace drain pump.

Cut off and check if the connection between drain pump and PCB is open?



Replace the wire.

Turn on and select spin program to start. Measure export voltage of PCB to the drain pump, is it 220-240V?

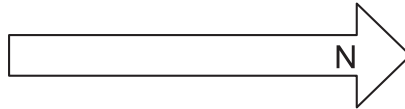
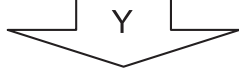


Reconnect the wire.

8-3-4. Abnormal noise and vibration

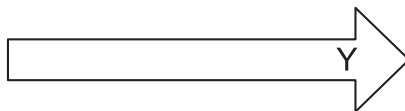
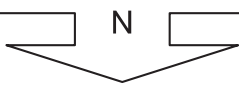
Troubleshooting:

Is the pack screws dismantled?



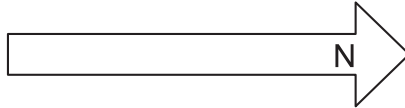
Dismantle the screws.

Is there foreign material in the washer?



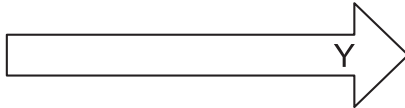
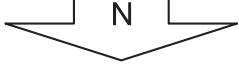
Clean the washer.

Is washer in balance?



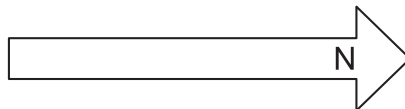
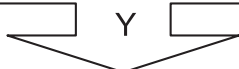
Adjust adjustable feet.

Is belt loose or worn?



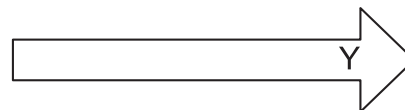
Replace it.

Remove belt and turn belt pulley by hand, and then check if there is different noise?



Dismantle triangle and check the bearing. If it is broken, replace it.

Turn on power and set spin program, then start check if there is different noise from motor?

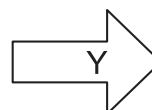
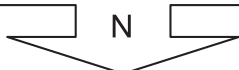


Replace the motor.

8-3-5. Water leaking

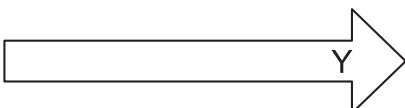
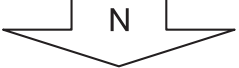
Troubleshooting:

Check if water is leaking from the inlet pipe or the tap?

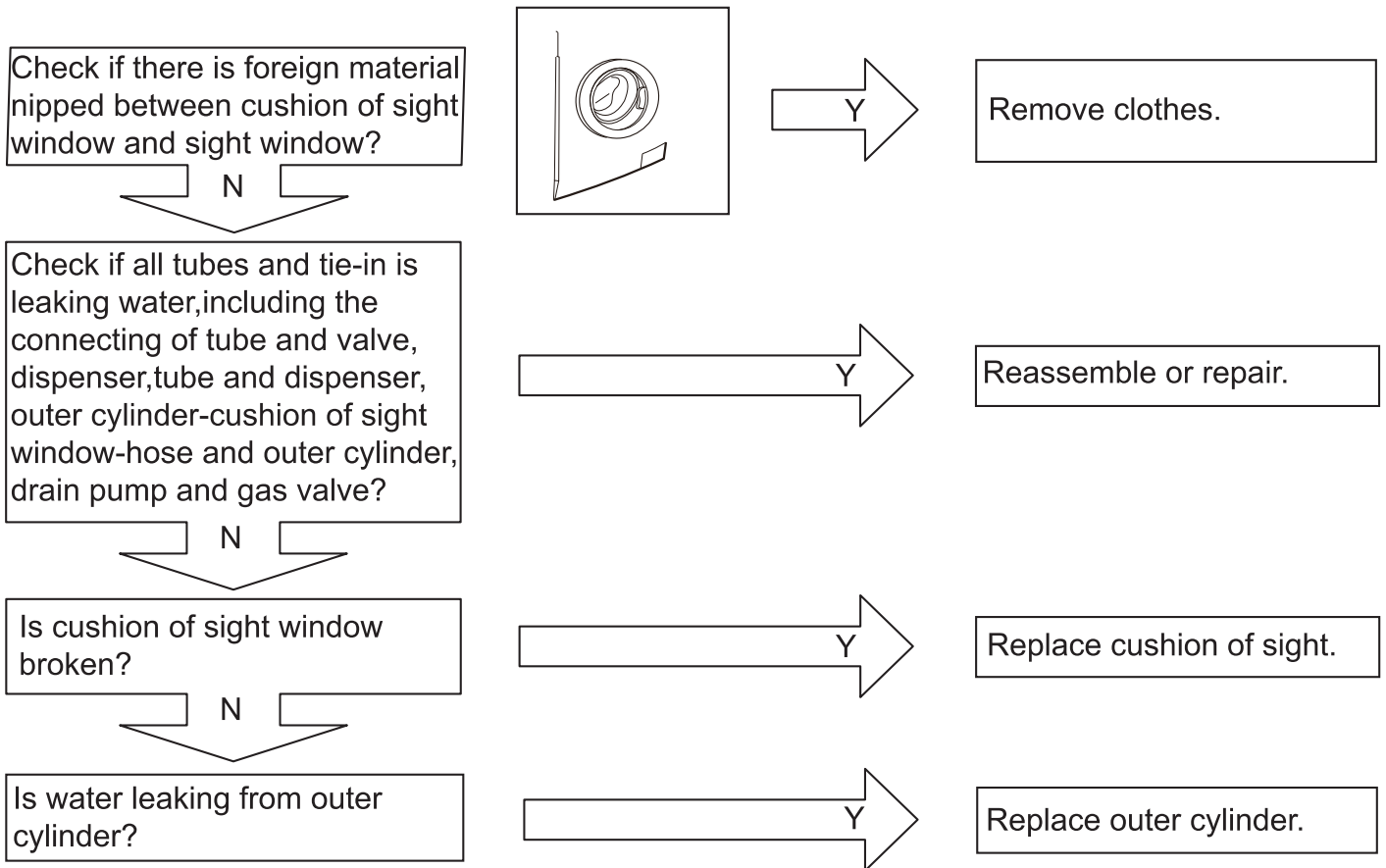


Readjust it.

Is drain pipe broken?



Replace drainpipe.



8-4. Parameter of primary electronic appliance

1.The stator resistance of motor

At normal temperature, using multimeter to detect 5 and 10 point of motor's socket, the electric resistance should be 1.67-1.85 Ω .

2.The rotor resistance of motor

At normal temperature, using multimeter to detect 8 and 9 point of motor's socket, the electric resistance should be 1.68-1.87 Ω .

3.Motor protector

At normal temperature, using multimeter to detect 6 and 7 point of motor's socket, to check whether the motor can carry electricity.

4.Electromagnetic valve

At normal temperature, using multimeter to detect both sides of the electromagnetic valve, the electric resistance should be 3.6-3.9 Ω .

5.Heater

When the washing machine is working, using multimeter to detect input terminal of the heating pipe, the normal electric resistance is about 30 Ω .

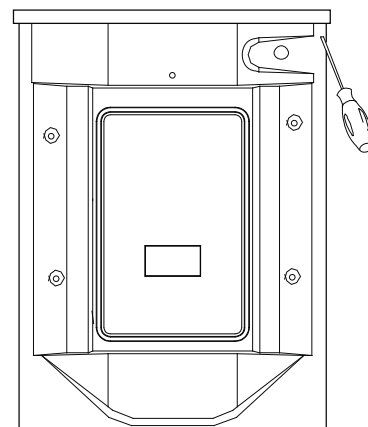
Chapter 9. Disassembly guide

Attention:

1. Pull out the plug before disassembly.
2. Keep the wire away from sharp stuff, avoid any brokage of isolation protector therefore avoid creepage.
3. Collect screws, accecoories and keep them in difference place, avoid missing parts so that the technicians could reassemble them.

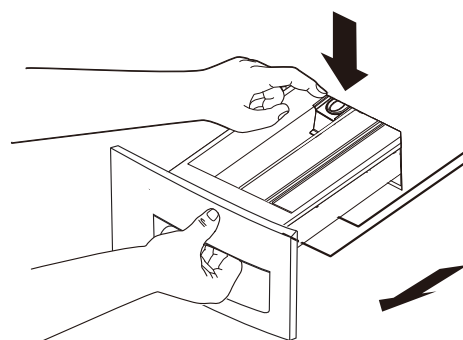
Dismantle the top cover:

1. Dismantle the 2 fixing screws at each side of the top cover.
2. Pull back the top cover and then take it off.



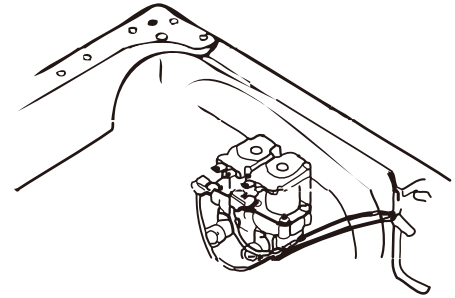
Dismantle the soap dispenser:

1. Press the siphon cover with your forefinger.
2. Pull out the soap dispenser.



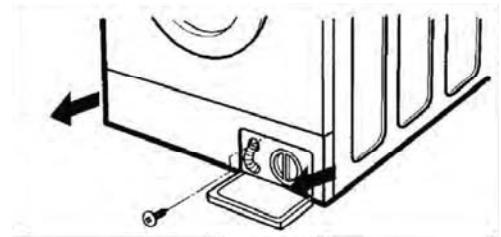
Dismantle the Electromagnetic valve

Pull out the wire connecting the valve, release the two screws and the two clips of hose. Then take off Electromagnetic valve.



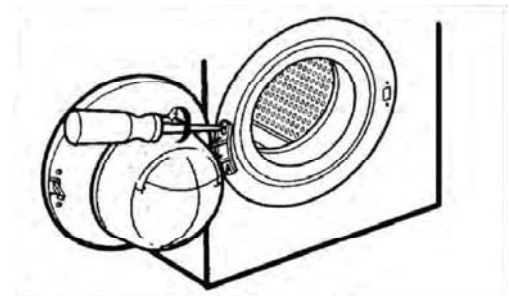
Dismantle the Lower plaque

Open the filter cover with coin, release the screw then take off the lower plaque.



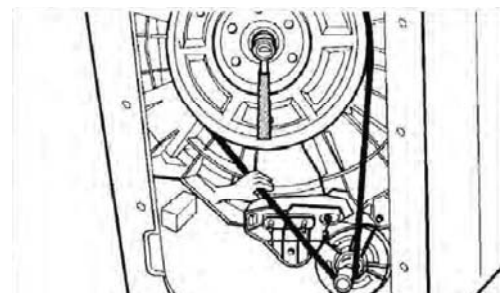
Dismantle the door

Open the door, release the screws fixing the hinge. Then take off the door.



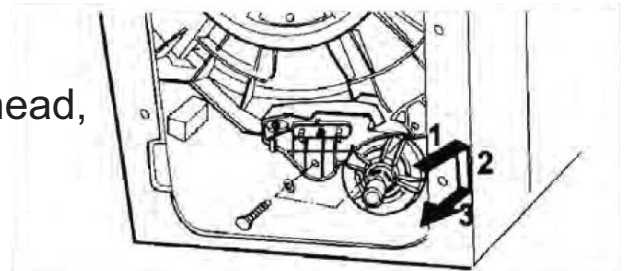
Dismantle the belt pulley

Cut off the power, remove the back cover, take off the belt. Then release the bolt of belt pulley. Then pull out the pulley.



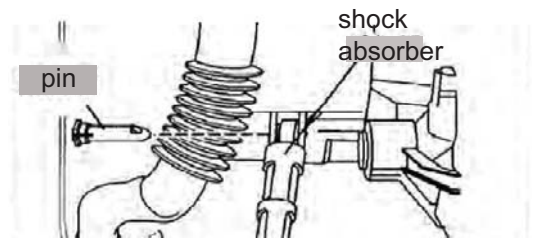
Dismantle the motor

Release the two screws on the Motor bracket. Pull the motor along the arrowhead, then take off the motor.



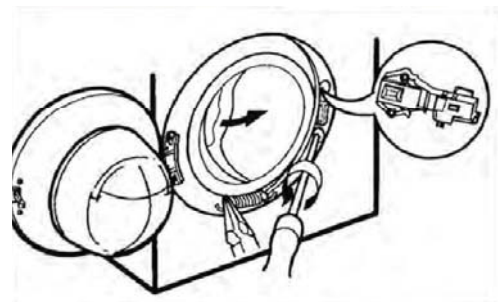
Dismantle shock absorber

Pull out the pin of shock absorber, then take off the bolt and washer of on the cabinet. The pins can not be used again.



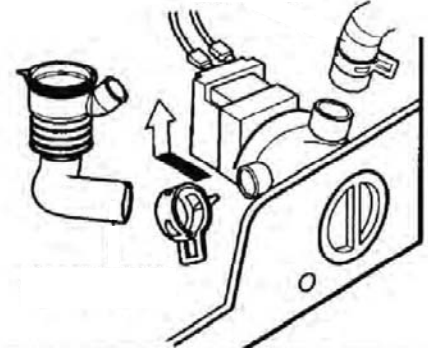
Dismantle the door lock

Take off the tightening ring of rubber cushion, release the two screws of door lock. Pull out the wire connecting the lock, then take the lock out.



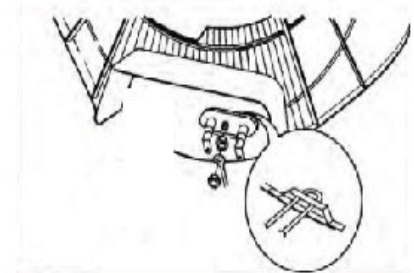
Dismantle the drain pump

Remove the lower plaque. Release the screws fixing the pump. Take off the clips of hose and pull out the wire, then take out the drain pump.



Dismantle the heater

Pull out the wire connecting the heater. Release the nut on the heater. shake the heater and take it out.



Note: If there are some thing such as coins and caddice between inner drum and outer tub, you can disassemble the heater and take them out.

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