

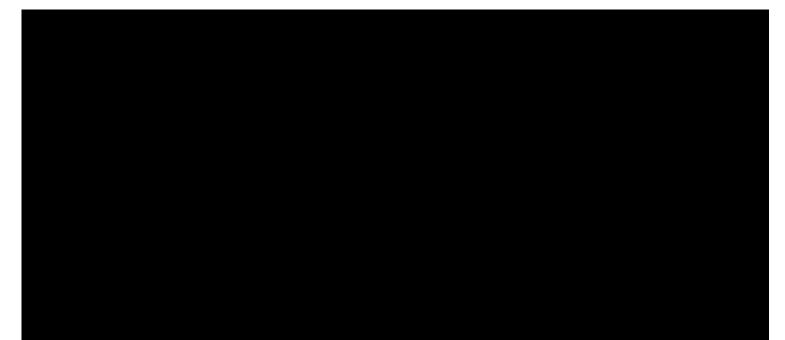
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# WASHING MACHINE SERVICE MANUAL

#### CAUTION

READ THIS MANUAL CAREFULLY TO DIAGNOSE TROUBLE CORRECTLY BEFORE OFFERING SERVICE.

MODEL : WD-1015(0~9)S(U)P WD-8015(0~9)S(U)P WD-1015(0~9)N(U)P WD-8015(0~9)N(U)P WD-1015(0~9)T(U)P WD-8015(0~9)T(U)P WD-9015(0~9)S(U)P WD-6515(0~9)S(U)P WD-9015(0~9)N(U)P WD-6515(0~9)N(U)P WD-9015(0~9)T(U)P WD-6515(0~9)T(U)P







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## **1. SPECIFICATION**

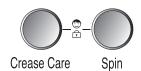
ІТ	EM	WD-1015(0~9)S(U)P WD-8015(0~9)S(U)P	WD-1015(0~ WD-8015(0~	, , ,	WD-8015(0~9)T(U)P WD-6515(0~9)T(U)F	WD-1015(0~9)T(U)P WD-9015(0~9)T(U)P					
POWER	SUPPLY	220-240V~, 50Hz									
	T WEIGHT	50kg	,								
	WASHING	190W									
ELECTRICITY	SPIN (800rpm)		300W								
CONSUMPTION	DRAIN MOTOR			32							
	WASH HEATER	19	00W		2000W	2100W					
	WASH			50r	pm						
		WD-6515(0~9)S	(N)(T)(U)P		400 / 500 / 600 / 6	50rpm					
REVOLUTION SPEED		WD-8015(0~9)S	(N)(T)(U)P		400 / 500 / 600 / 8	00rpm					
	SPIN	WD-9015(0~9)S	(N)(T)(U)P	400 / 600 / 800 / 9	000rpm						
		WD-1015(0~9)S	(N)(T)(U)P		400 / 600 / 800 / 1	000rpm					
OPERATION WA	TER PRESSURE		0.3-10k	gf / cm²	(30-1000kPa)						
CONTR	OL TYPE	Electronic									
WASH C	APACITY	Synthetic(1.5), Delicate(1.0)	Synthetic(1.7), De	elicate(1.5)	Synthetic(2.0), Delicate(2.0)	Synthetic(3.0), Delicate(2.0)					
		Wool(1.0), Hand Wash(1.0)	Wool(1.5), Hand	wash(1.5)	Wool(2.0), Handwash(2.0)	Wool(2.0), Handwash(2.0)					
		Quick 30(1.0)	Quick 30(	1.5)	Quick 30(2.0)	Quick 30(2.0)					
DIMENSION [(W)mi	m X (D)mm X (H)mm]	600 X 360 X 850	600 X 360 X 850 600 X 440 X 850 600 X 550 X 850 600 X 550 X								
WASH PI	ROGRAM	Cotton, Synthetic, Delicate, Wool, Hand Wash, Quick 30, Rinse+Spin									
OPT	ION	Bio, Time Save, Rinse +, Pre-Wash, Crease Care, Rinse Hold									
DOOR SW	/ITCH TYPE	Bi-Metal type									
WATER	LEVEL	9 steps (by sensor)									
RESER	VATION	From 3 hours to 19 hours									
SENSING OF THE L	AUNDRY AMOUNT	Adopted									
FUZZY	LOGIC	Adopted									
DISPLAY OF THE	REMAINING TIME	Adopted									
ERROR D	IAGNOSIS	10 items									
POWER A	UTO OFF	Adopted									
CHILD	LOCK	Adopted									
AUTO R	ESTART			Ado	pted						

## 2. FEATURES & TECHNICAL EXPLANATION

## 2-1.FEATURES







#### Protection against creases

With the alternate rotation of the drum, creasing in the laundry is minimized.

### More economical by Fuzzy Logic System

FUZZY Logic System detects the amount of load and water temperature, and then determines the optimum water level and washing time to minimize energy and water consumption.

### Child-Lock

The Child-Lock system has been developed to prevent children from pressing any button (except Power button) to change the programme during operation.



### Low noise speed control system

By sensing the amount of load and balance, automatical distributes load evenly to minimize the spinning noise level.

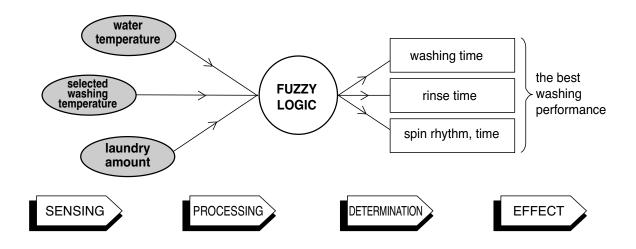


#### Auto Restart

Although the washing machine is turned off by a power failure, it restarts automatically where it stopped when power is supplied again. and it will be the same the machine is unplugged and is plugged in again.

## 2-2.DETERMINE WASHING TIME BY FUZZY LOGIC

To get the best washing performance optimal time is determined by sensing of water temperature, selected washing temperature and laundry amount.



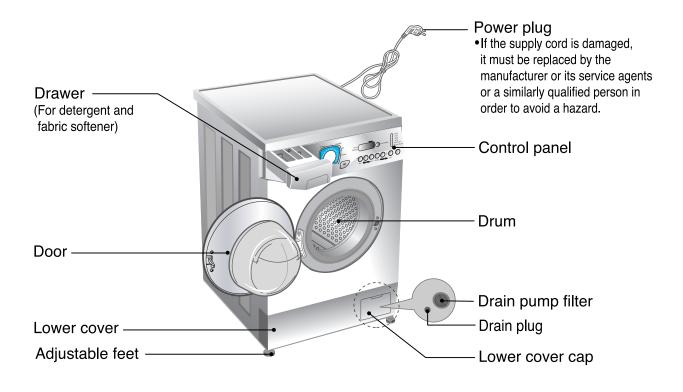
## 2-3.WATER LEVEL CONTROL

- This model adopts a pressure sensor which can sense the water level in the tub.
- When the water level reaches to the preset level the water supply is stopped, then the washing program proceeds.
- Spinning does not proceed until the water in the tub reduces a certain level.

## 2-4.THE DOOR CAN NOT BE OPENED

- While program is operating.
- While **Door Lock** light turns on.

## **3. PARTS IDENTIFICATION**



ACCESSORIES

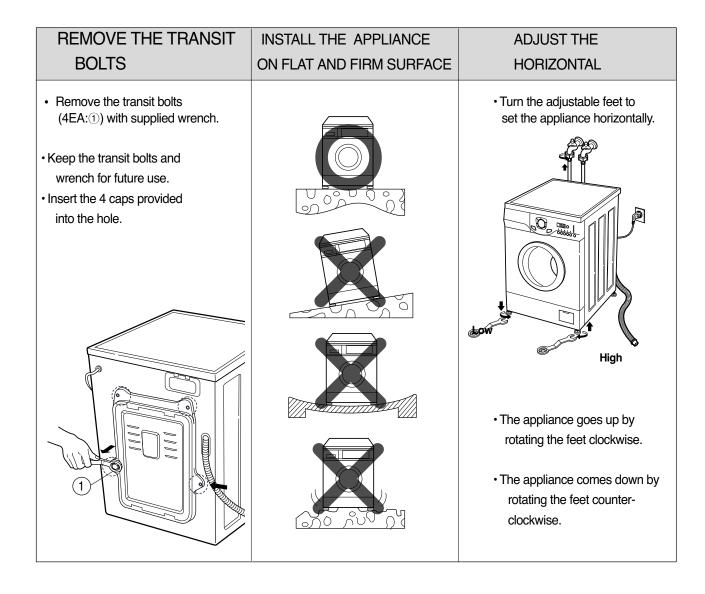


## 4. INSTALLATION

- 1 Before servicing ask the customer what the trouble is.
- 2 Check the adjustment (power supply is 220-240V, remove the transit bolts....)
- 3 Check the troubles referring to the troubleshooting.
- 4 Decide service steps referring to disassembly instructions.
- **5** Then, service and repair.
- 6 After servicing, operate the appliance to see whether it works O·K or NOT.

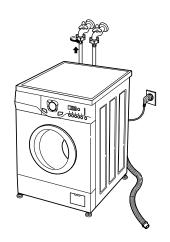
#### STANDARD INSTALLATION

The appliance should be installed as follows.

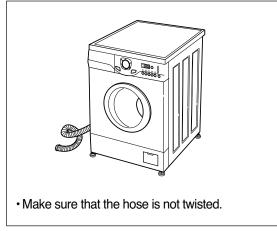


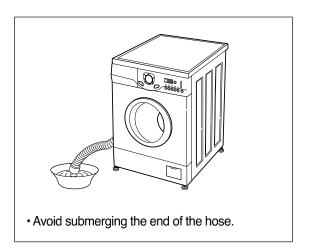
#### HOW TO CONNECT INLET HOSE

- Check that the rubber washer is inside of the valve connector.
- Connect the inlet hose firmly to prevent leak.



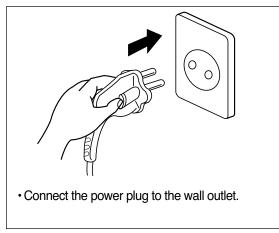
#### CONNECT DRAIN HOSE

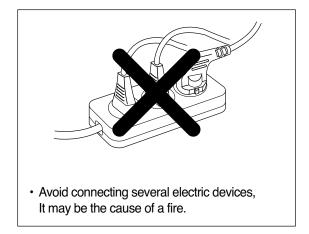




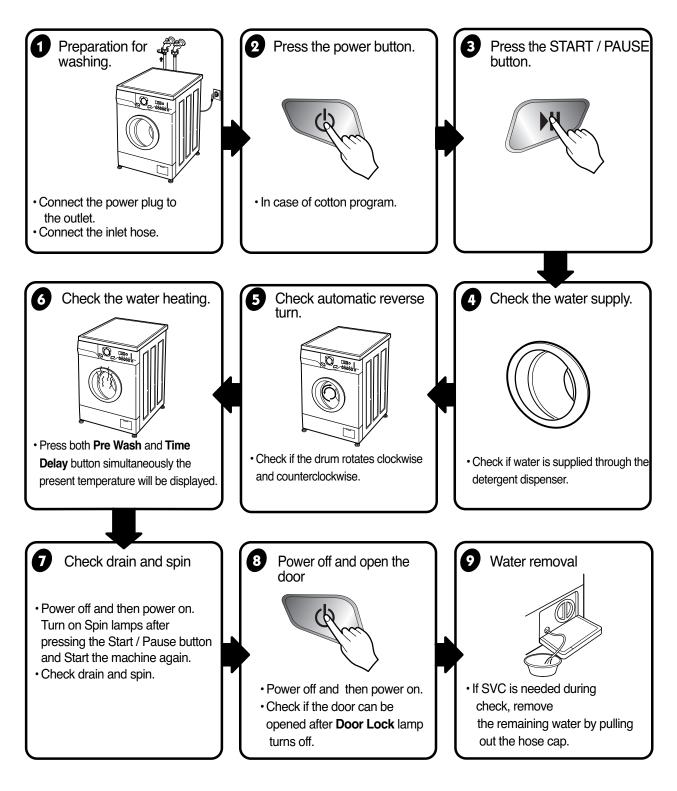
\* The drain hose should be placed under 100cm from the floor.

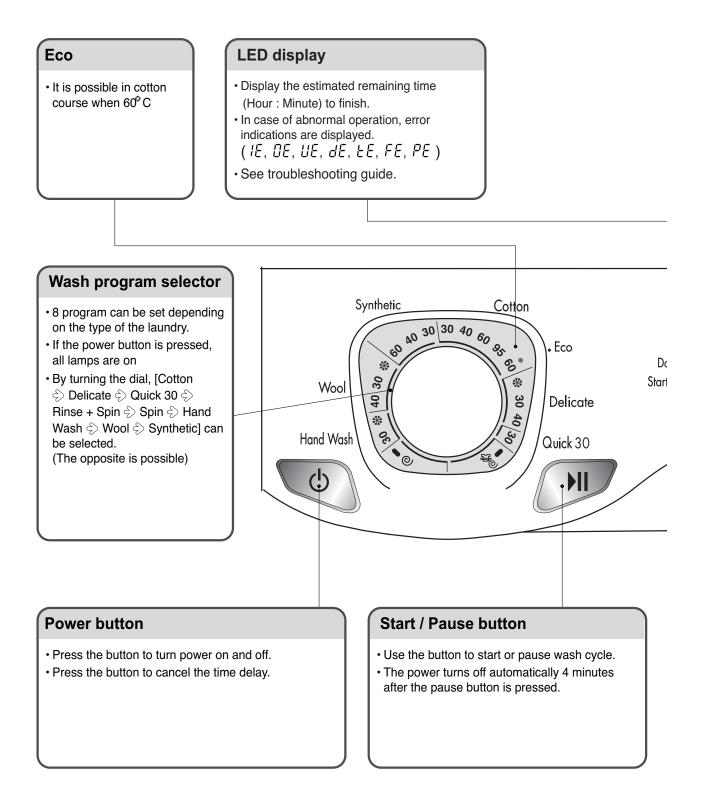
#### CONNECT POWER PLUG





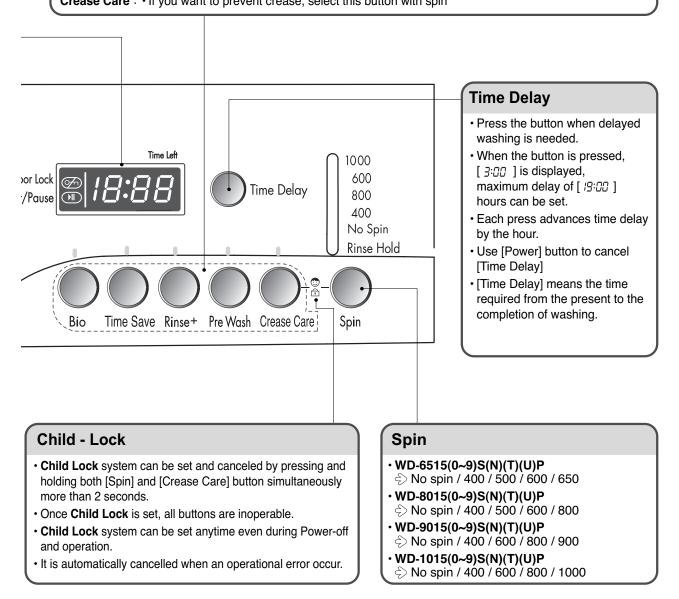
### **7** TEST OPERATION



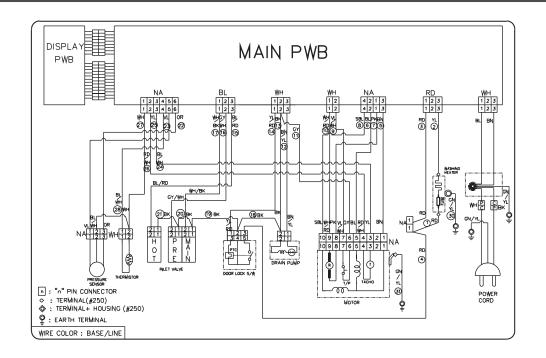


#### Option

Bio : • If you want to eliminate protein stains(milk, blood, chocolate...), you may select Bio by pressing the option button.[You can select Bio when temperature is higher than 60° C in Cotton and Synthetic.]
Time Save : • By selecting the Time Save option, the wash time may be reduced, depending on the program selected.
Rinse<sup>+</sup> : • If you wish to rinse more, the Rinse<sup>+</sup> option will remove any trace of detergents.
Pre Wash : • If the laundry is heavily soiled, "Pre Wash" course is effective.
• Pre Wash is available in Cotton and Synthetic Program.
Crease Care : • If you want to prevent crease, select this button with spin



## 6. WIRING DIAGRAM / PROGRAM CHART



			* Water Supply : W·S * Intermittent S												it Sp	oin	: ŀS	3	*	Dis	entangle	: D·T																							
МС					Washing									Rinse															Spin				Α												
	Y			P	re				Ma	ain								Nor	ma	I						Rins	se -	-	Ľ	Spii	'	E	U												
$ \rangle\rangle$	$\langle c \rangle$	ſ	□ - ∽ Drain Washing ♥ · ∽		V - vy Drain Washing		Drain											Wa	shing	Sta	iycoo	cooling		1	1			2	2			3	3			2	Ļ.					N	ò	Norm	nal
CO	S T E	E							W · S	Heating	Washing	W · S	Rinsing	Drain	Drain	l · s	W · S	Rinsing	Drain	l S	W · S	Rinsing	Drain	l · s	W · S	Rinsing	Drain	<b>-</b> . s	W · S	Rinsing	Drain	Spin	D.T	D	O F F	Worki Tim	ing e								
	\ \F	> [	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	20	20	(Hour:Minute)											
U R S E	Tim		120	мIN	60	240	120		MIN	120	60	60	60	240	120	360	60	240	120	360	60	240	120	360	60	240	120	360	60	480	120	20	20												
Cot	ton			8					42 87	$\square$	$\geq$	$\leq$																						About	2:35										
Syntl	hetic	T		$\geq$	$\leq$	$\overline{}$			26 51		>	<																						About	1:22										
Deli	cate		$\leq$	>	<	$\geq$			4		>	$\overline{}$																				-		About	1:03										
Wo	ol		$\geq$	>	<	$\leq$			4 18		$\geq$	$\langle$																						About	58										
Han	d Was	sh	$\geq$	>	<	$\leq$		in natur	4 24		$\geq$	$\langle$													*****	*****		*****						About	57										
Qui	ick 30	)	$\geq$	$\geq$	$\leq$	$\leq$			11	$\square$	$\geq$	$\leq$												,	*****									About	30										
	nse Spin						$\geq$	>	<	<	$\leq$																							About	20										
S	pin												About	12																															

Basic Cycle

Optional Cycle

\* Pre-Setting Time : Water Supply - 120 sec. Drain 60 sec.

 $^{\star}$  ~ Time for varies as the temperature or ~ ~ the amount of laundry

\* Basic time is minute in washing chart \* The actual program time can be varied with the load amount, water temperature or ambient temperature

\* Pre Wash : If the laundry is heavily soiled, "Pre Wash" course is effective. Pre Wash is available in Cotton and Synthetic Program.

- \* Eco : By selecting Eco function, the water temperature is reduced and washing time is lengthened. So you can economize in your consumption of energy.
- \* Rinse+ : If you wish to rinse more, the Rinse+ function will remove any trace of detergents.
- \* Bio : If you want to eliminate protein stains (milk, blood, chocolate...), you may select Bio function by pressing the option button.
- \* Quick 30 : By selecting this function, you may wash a small quantity of colored laundry which is lightly soiled fast.
- You can select Bio function and Eco function when temperature is higher than 60°C in Cotton and Synthetic. If the function is \* selected, the beginning water temperature can not be changed.

## 7. TROUBLESHOOTING

## 7-1.BEFORE PERFORMING SERVICE

- Be careful of electric shock or disconnecting the parts while trouble shooting.
- Voltage of each terminal in 220-240V and DC while applying an electric current.

## 7-2.QC TEST MODE.

- ① Pressing Pre Wash and Crease Care button simultaneously.
- 2 Power button ON with pressing upper two button. then buzzer sound twice.
- ③ Press the START / PAUSE button as follows.
  - [Press the START / PAUSE button more 4 times until stop spinning]

Pressing number of [START / PAUSE] button	Checking Point	Display Status					
None	All lamps turn on	(1 <b>2:</b> 22					
1 time	Clockwise spin (lef)	Motor rpm (About 50)					
2 times	Low speed Spin	Motor rpm (About 63~67)					
3 times	High speed Spin	Motor rpm (About 79~85) : WD-6515(0~9)T(U)P WD-8015(0~9)S(N)(T)(U)P					
		Motor rpm (About 95~106) : WD-9015(0~9)T(U)P WD-1015(0~9)S(N)(T)(U)P					
4 times	Inlet valve for pre-wash operation	Water level frequency (225~265)					
E times	Inlet valve for main-wash operation						
5 times	Hot inlet valve in case of hot water fill	Water level frequency (225~265)					
6 times	Inlet valve for main-wash operation	Water level frequency (225~265)					
7 times	Counterclockwise spin (right)	Motor rpm (About 50)					
8 times	A Heater is in operation for 3 sec.	Water Temperature					
9 times	Draining pump operation	Water level frequency					
10 times	Auto off operation						

## 7-3.HOW TO KNOW THE WATER LEVEL FREQUENCY

\* Press the Bio and Time delay button simultaneously.



The digits means water level frequency (10<sup>-1</sup> kHz)

ex) 241 : Water level frequency =  $241 \times 10^{-1}$ kHz = 24.1kHz

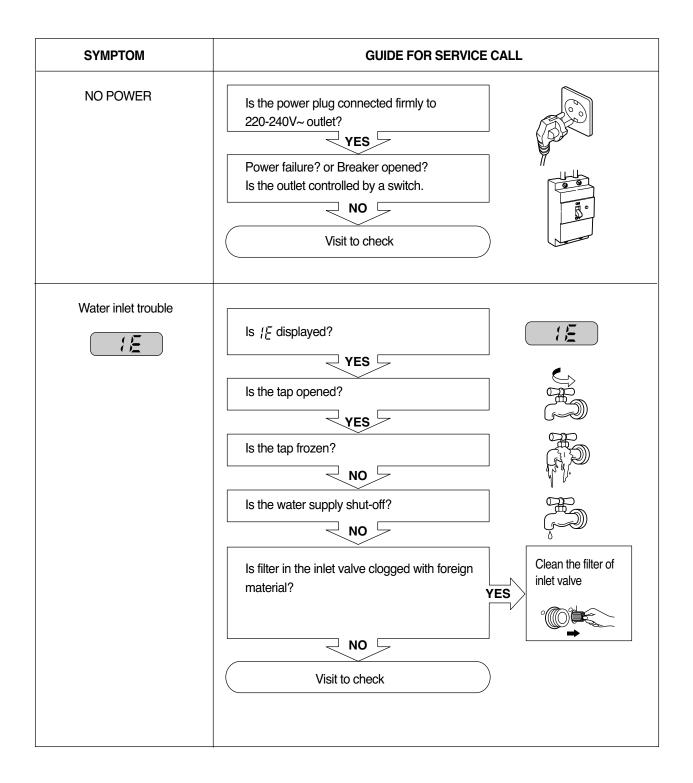
## 7-4.ERROR DISPLAY.

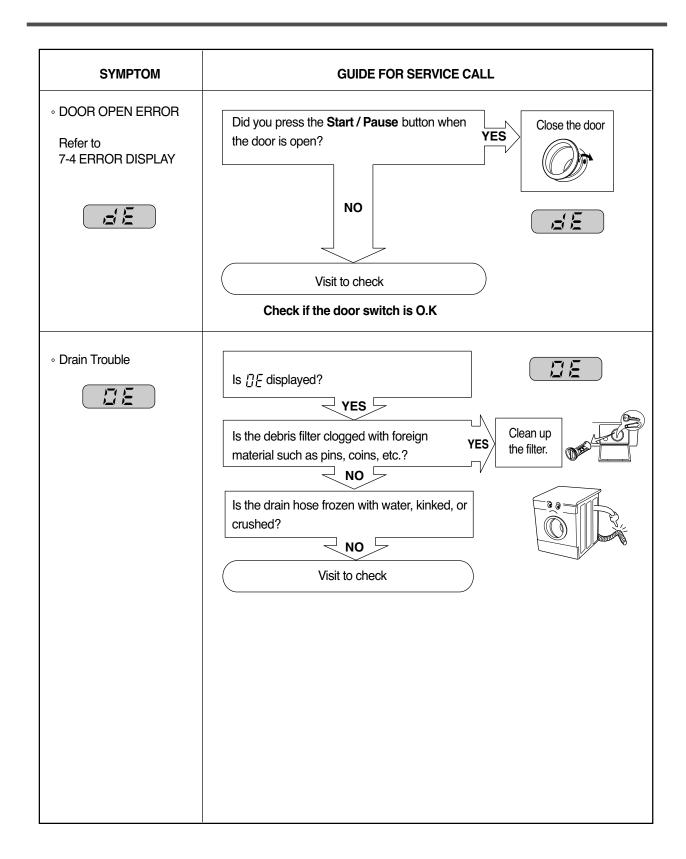
- If you press the [Start / Pause] button any error except *PE* will disappear and the machine will change into pause status.
- In case of  ${}^{\mathbb{C}}P\mathcal{E}_{\mathbb{J}}$ ,  ${}^{\mathbb{C}}\mathcal{E}_{\mathbb{J}}$ , if the error is not resolved within 15 sec. In case of other errors, if the error is not resolved within 4 min. Power will be turned off automatically and the error only will be blinked. But in the case of  ${}^{\mathbb{C}}\mathcal{F}\mathcal{E}_{\mathbb{J}}$ , power will not be turned off.

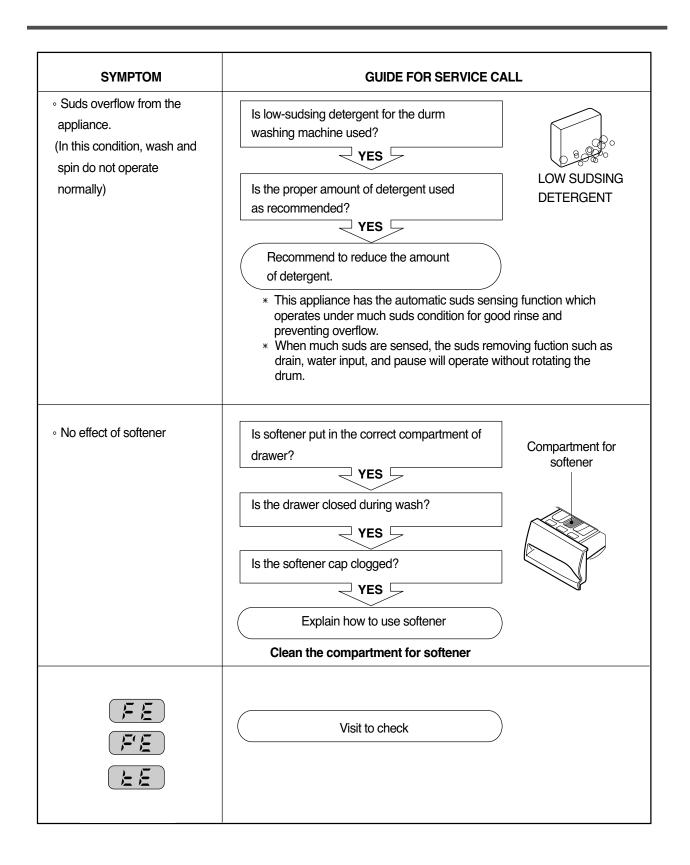
	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	: ) =	<ul> <li>Water has not reached to the pre-set level within 4 min. since inlet valve operated, or water has not reached to the normal level within 25 min.</li> </ul>
2	IMBALANCE ERROR		<ul> <li>The appliance is tilted.</li> <li>Laundry is gathered to one side.</li> <li>Non distributable things are put into the drum.</li> </ul>
3	DRAIN ERROR		<ul> <li>Water has not drained enough within 8 min.</li> </ul>
4	OVERFLOW ERROR	FE	<ul> <li>Water is automatically being pumped out because too much water is in the tub.</li> </ul>
5	SENSOR PRESSURE S / W ERROR	<b>;;;;</b>	<ul> <li>The sensor pressure switch is out of order.</li> </ul>
6	DOOR OPEN ERROR		<ul> <li>The [Start / Pause] button is pressed with the door open.</li> <li>The door switch is out of order.</li> </ul>
7	HEATING ERROR	<u> </u>	<ul> <li>The thermistor is out of order.</li> </ul>

## 8. ERROR DIAGNOSIS AND CHECK LIST

## 8-1. DIAGNOSIS AND ANSWER FOR ABNORMAL OPERATION



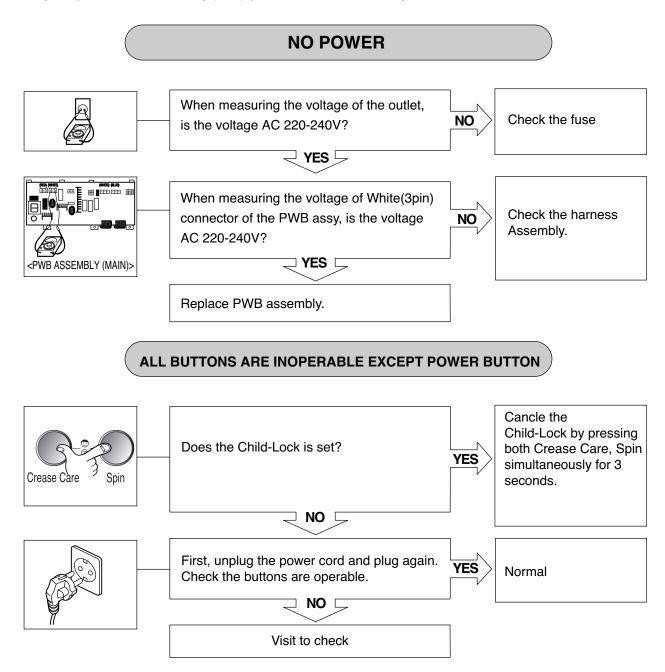


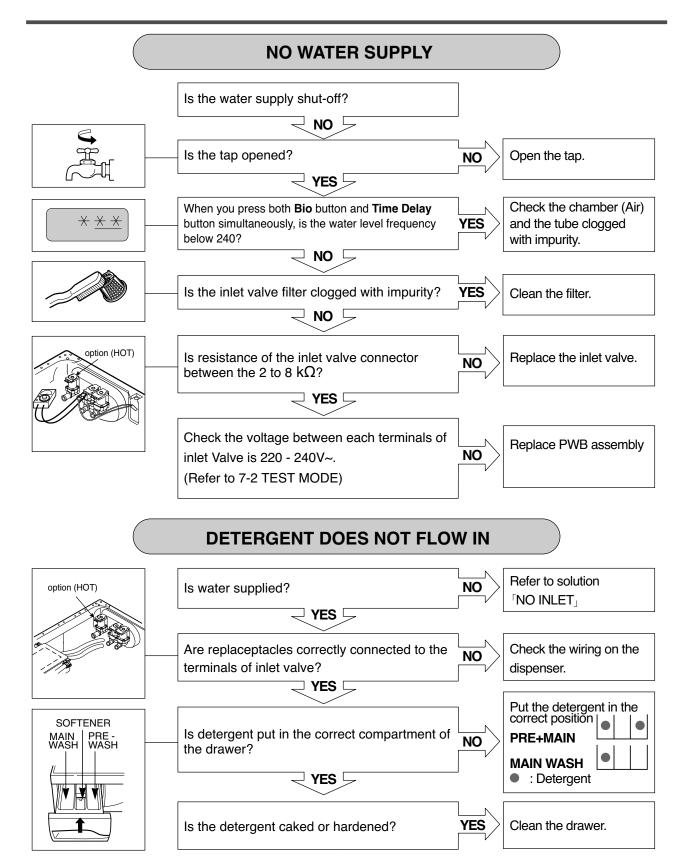


## 8-2.FAULT DIAGNOSIS AND TROUBLESHOOTING

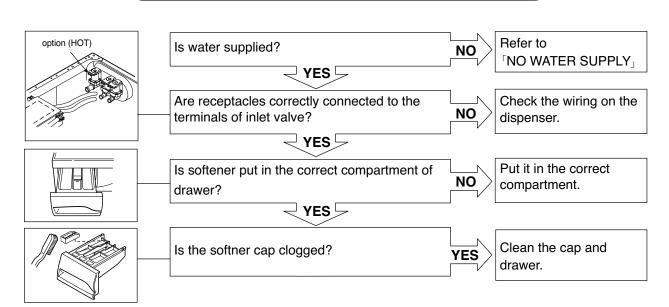
#### CAUTION

- 1. Be careful of electric shock or disconnecting the parts while troubleshooting.
- 2. First of all, check the connection of each part terminal with wiring diagram.
- 3. If you replace the PWB assembly (Main), put in the connectors correctly.

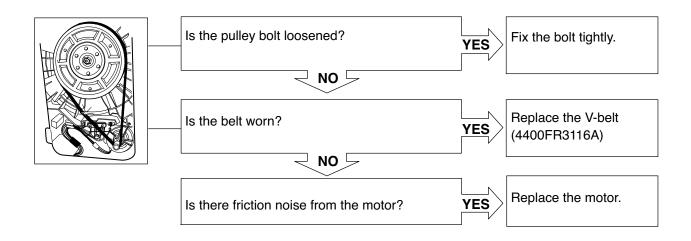




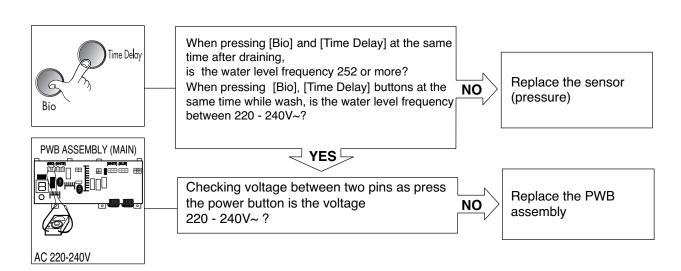
### SOFTENER DOES NOT FLOW IN



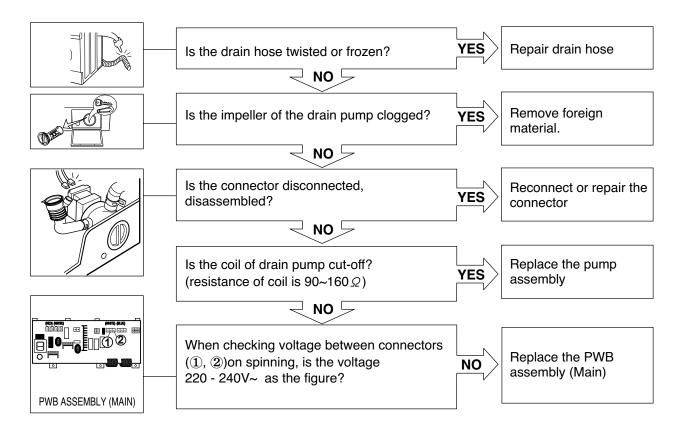
### **ABNORMAL SOUND**

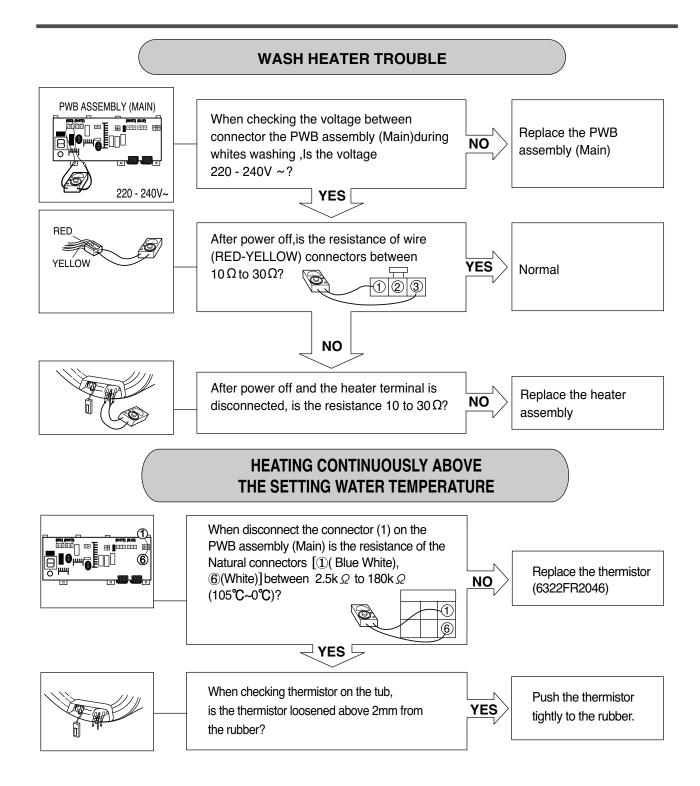


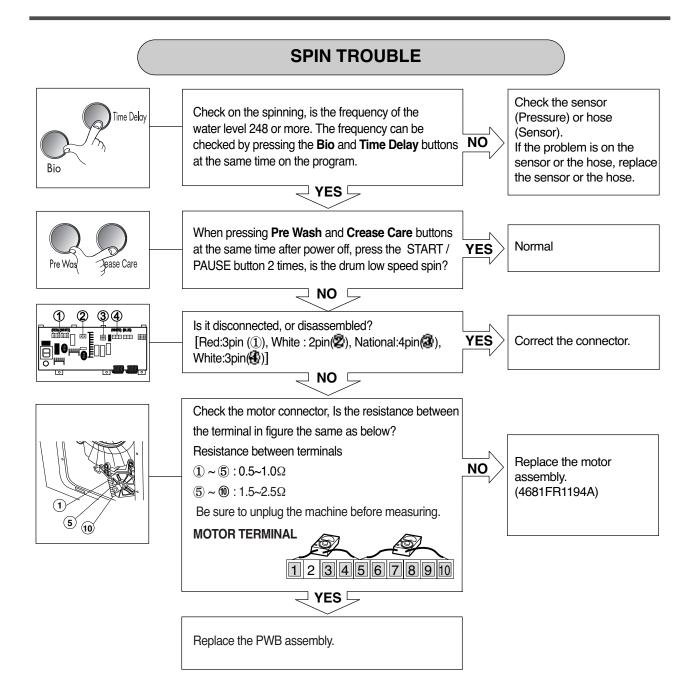
### **HEATING WITHOUT WATER**



#### **DRAIN MALFUNCTIONING**



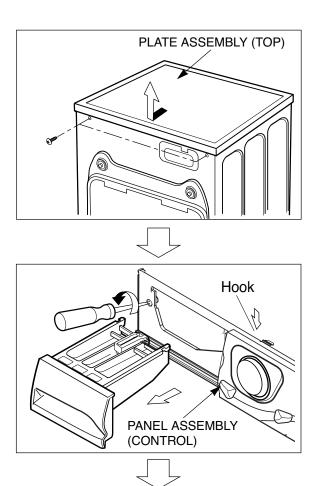


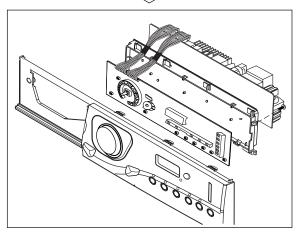


## 9. DISASSEMBLY INSTRUCTIONS

\* Be sure to unplug the machine out of the outlet before disassembling and repairing the parts.

### **CONTROL PANEL**



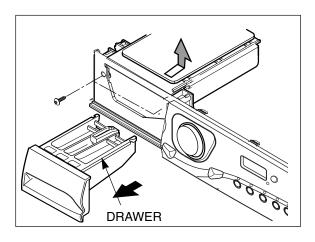


① Unscrew 2 screws on the back of the top plate.② Pull the top plate backward and upward as shown.

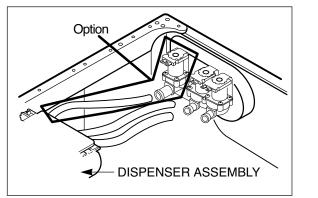
- Disconnect the PWB Assembly connector from Main lead wire Assembly.
- ② Pull out the drawer and unscrew 2 screws.
- ③ Push upper hooks down on the top and pull the control panel.

 Disconnect the PWB assembly (Main & Display) from the control panel by unscrew 3 screws.

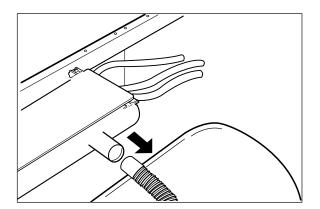
## DISPENSER ASSEMBLY



- ① Disassemble the top plate assembly.
- ② Pull out the drawer to arrow direction.
- ③ Unscrew 2 screws.



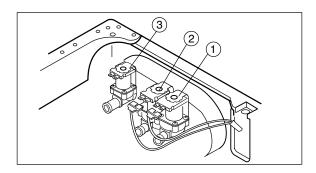
1 The hose clamps and the hose are disassembled.



① The ventilation bellows and the water inlet bellows are

disassembled on the tub.

#### **INLET VALVE**

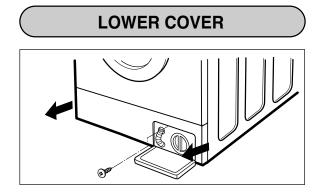


① Disconnect the wiring receptacle.

0 Unscrew 2 screws from the back.

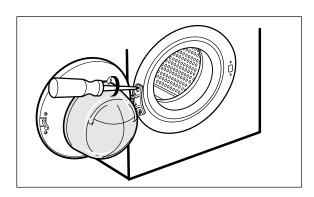
 $\ensuremath{\ensuremath{\mathbb{K}}}$  When reconnecting the connector

VALVE #1 (MAIN)	White / Black-Black
VALVE #2 (PRE)	Gray / White - Black
VALVE #3 (HOT)	Blue / Red - Black



Open the lower cover cap by using coin and pull out the lower cover in the arrow direction after a screw is unscrewed.

DOOR

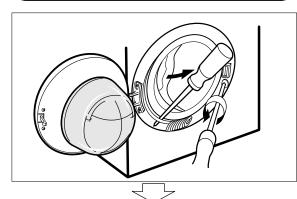


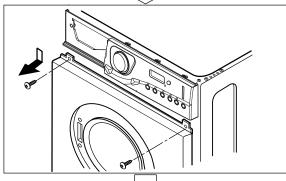
① Open the door completely.

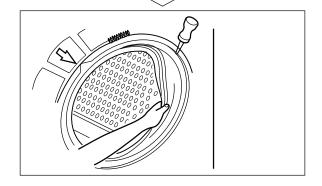
② Remove the two screws from the hinge.

When removing the door assembly, it is necessary to hold the bracket that is inner of the cabinet cover.

### **GASKET ASSEMBLY**



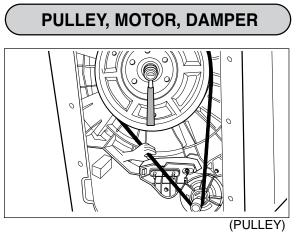


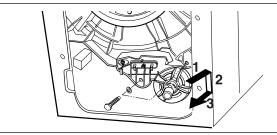


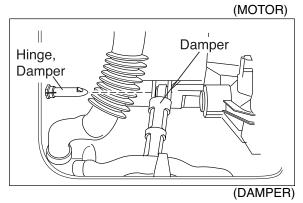
- ① Take apart the cabinet gasket clamp.
- (2) Unscrew 2 screws from the cabinet cover.
- ③ Open the lower cover cap and unscrew 1 screw inside.
- ④ Take apart the lower cover.
- ① Disassemble the cantrol panel. (refer to the 25page)
- ② Unscrew all the screws on the upper and lower sides of the cabinet cover.

- ① Take apart the tub gasket clamp.
- ② Make sure that the drain hole of the gasket is put beneath when reassembling the gasket.
   ※ Refer to the arrow mark on the tub cover.

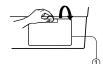
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#### Clean the drain pump filter



Open the lower cover cap (①) by using a coin. Turn the drain plug (②) to pull out the hose.



Unplug the drain plug (2), then the water flows out, At this time use a vessel to prevent water flowing on the floor. If the water does not flow any more,turn the pump filter (3) open to the left.

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Take out any foreign material from the pump filter (③). After cleaning, turn the pump filter(③) clockwise and insert the drain plug (②)to the original place. close the lower cover cap.

① Pull out the hinge, pressing its snap.

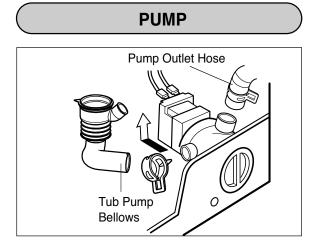
② Do not use the pulled out hinge again. It may be taken off during operation.

- Unscrew 2 screws from the bracket.
   Push the motor in the arrow direction
- ② Push the motor in the arrow direction for disassembling.
- ③ When reassembling the motor, make sure that motor mounting bushings are not taken off from the bracket.

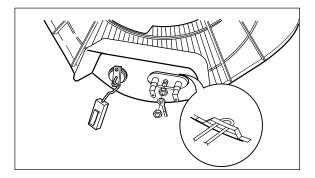
③ Unscrew the bolt to pull out the pulley.

② Take off the belt turning the pulley.

1 Remove the back cover.



### HEATER



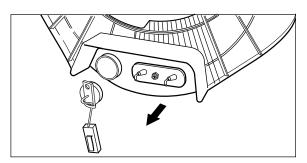
- (1) Remove pump outlet hose.
- Remove tub pump bellows.
- (3) Remove cap (Remaining Hose.)
- ④ Disconnect the wiring.
- (5) Unscrew 2 screws.
- (6) Remove the pump.

① Loosen the M6 heater nut to pull out the heater.

## CAUTION

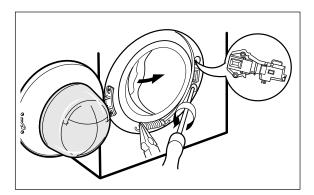
When mounting the heater, be sure to insert the heater into the heater clip on the bottom of the tub.

### THERMISTOR



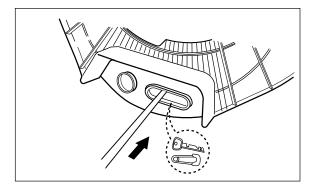
- ① Pull it out by holding the thermistor bracket.
- \* If it is pulled by the wire, it may be broken.
- ② When mounting the thermistor again, make sure that it is got back tight to the bushing.

## SWITCH ASSEMBLY, DOOR LOCK



- Take apart the cabinet cover clamp and release the gasket.
- (2) Unscrew 2 screws holding the door lock.
- (3) Disconnect the door lock from the wiring connector.

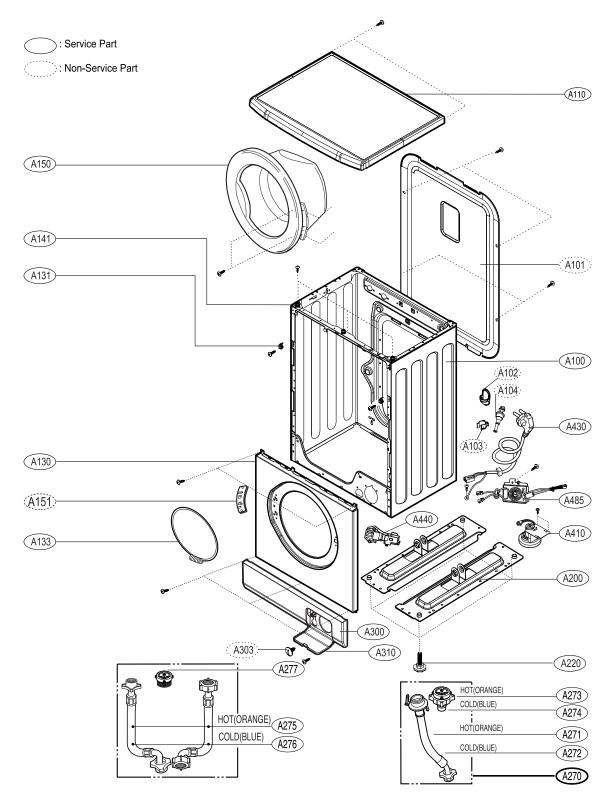
### WHEN FOREIGN MATERIAL IS STUCK BETWEEN DRUM AND TUB



- ① Remove the heater.
- ② Remove the foreign material (wire, coin and others) by inserting a long bar through the hole.

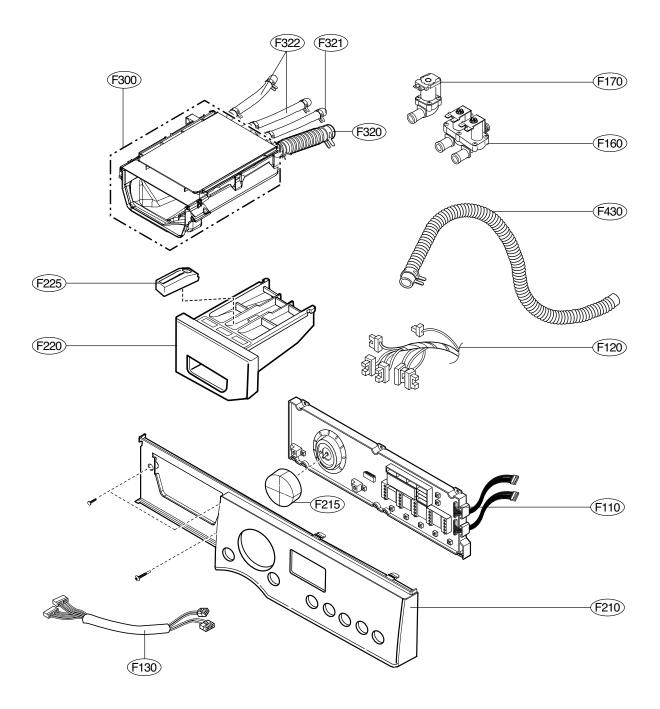
## **10. EXPLODED VIEW**

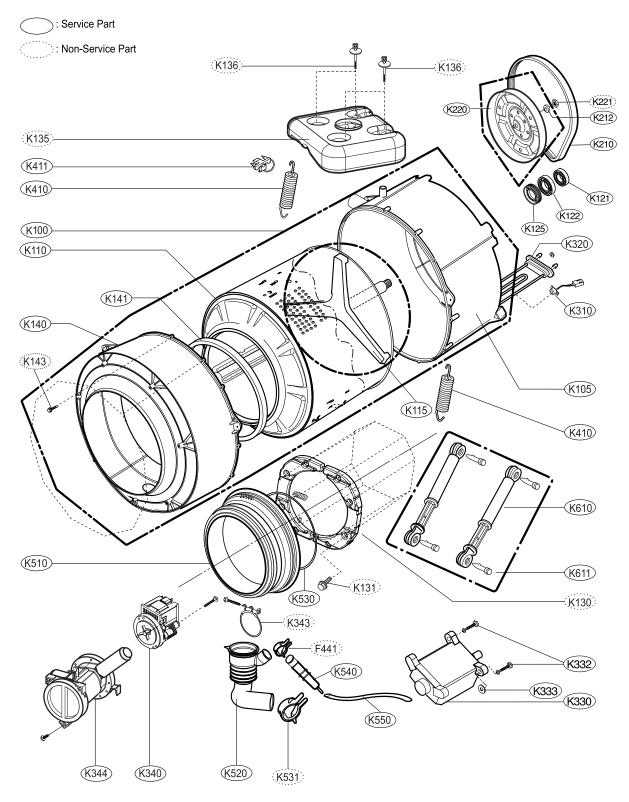
## 10-1.THE EXPLODED VIEW OF CABINET ASSEMBLY



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# 10-2 THE EXPLODED VIEW OF CONTROL PANEL & DISPENSER ASSEMBLY





## 10-3 THE EXPLODED VIEW OF DRUM & TUB ASSEMBLY

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