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WASHING MACHINE SERVICE MANUAL

CAUTION

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

MODEL: WD-1018(0~9)SUP WD-10302TUP WD-8018(0~9)SUP WD-10302NUP WD-6518(0~9)SUP WD-10302SUP WD-1018(0~9)NUP WD-80302TUP WD-8018(0~9)NUP WD-80302NUP WD-6518(0~9)NUP WD-80302SUP WD-1018(0~9)TUP WD-65302TUP WD-8018(0~9)TUP WD-65302NUP WD-6518(0~9)TUP WD-65302SUP

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1. SPECIFICATION

		WD 1019/0-0\SLID	WD-1018(0~9)NUP	WD 1010/0- 0\TUD					
ITEN	М	WD-1018(0~9)SUP WD-8018(0~9)SUP WD-6518(0~9)SUP WD-10302SUP WD-80302SUP WD-65302SUP	WD-1018(0~9)TUP WD-8018(0~9)TUP WD-6518(0~9)TUP WD-10302TUP WD-80302TUP WD-65302TUP						
POWER	SUPPLY		220-240V~, 50Hz						
PRODUCT	T WEIGHT	55kg	60kg	65kg					
	WASHING	11	l0W	180W					
ELECTRICITY	SPIN (800rpm)		320W						
CONSUMPTION	DRAIN MOTOR		30W						
	WASH HEATER		2100W						
	WASH		50rpm						
REVOLUTION		WD-6518(0~9)S(N)(T)U	P / WD-65302S(N)(T)UP	400/500/600/650rpm					
SPEED	SPIN	WD-8018(0~9)S(N)(T)U	400/500/600/800rpm						
		WD-1018(0~9)S(N)(T)U	400/600/800/1000rpm						
OPERATION WA	TER PRESSURE	0.3-10kgf/cm² (30-1000kPa)							
CONTR	OL TYPE	MICOM							
		refer to the rating label							
WASH C	APACITY	Synthetic(1.5), Delicate(1.0) Wool(1.0), Hand Wash(1.0) Quick 30(1.0)	Synthetic(3.0), Delicate(2.0 Wool(2.0), Handwash(2.0) Quick 30(2.0)						
DIMEN	NSION	600mm(W)×360mm(D)×850mm(H) 600mm(W)×440mm(D)×850mm(H) 600mm(W)×550mm(D)×850mm							
WASH PF	ROGRAM	Cotton, Synthetic, Delicate, Wool, Hand Wash, Quick 30, Drain							
OPT	ION	Bio, Rinse +, Pre-Wash, Crease Care							
DOOR SW	/ITCH TYPE	Bi-Metal type							
WATER	LEVEL	9 steps (by sensor)							
RESER	VATION	From 3 hours to 19 hours							
SENSING OF THE LA	AUNDRY AMOUNT	Adopted							
FUZZY	LOGIC	Adopted							
DISPLAY OF THE I	REMAINING TIME	Adopted							
ERROR DI	AGNOSIS	7 items							
POWER A	UTO OFF	Adopted							
CHILD	LOCK	Adopted							
AUTO RE	ESTART		Adopted						

2. FEATURES & TECHNICAL EXPLANATION

2-1.FEATURES



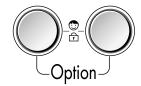
■ Protection against creases

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.

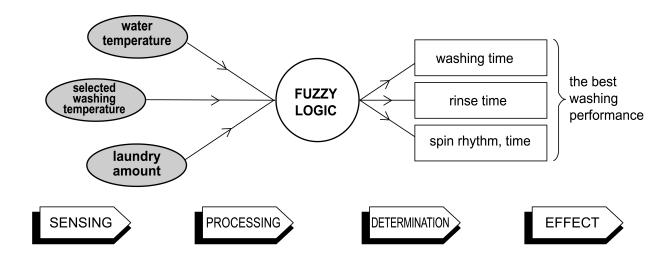


■ Auto Restart

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.



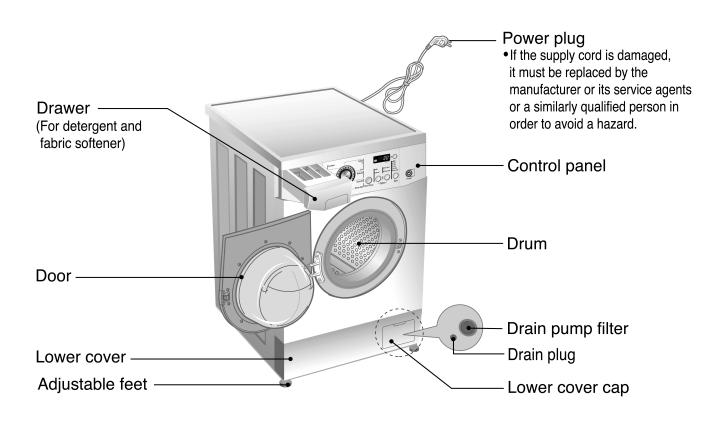
2-3.WATER LEVEL CONTROL

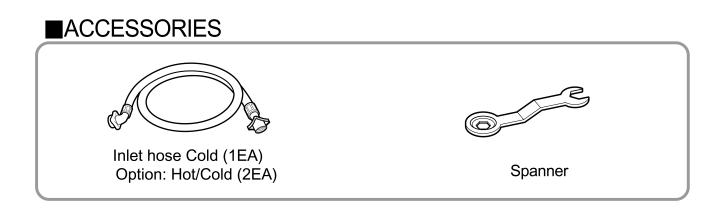
- This model adopts a pressure sensor which can sense the water level in the tub.
- When the water level reaches to the preset level the water supply is stopped, then the washing program proceeds.
- Spinning does not proceed until the water in the tub reduces a certain level.

2-4.THE DOOR CAN NOT BE OPENED

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

3. PARTS IDENTIFICATION

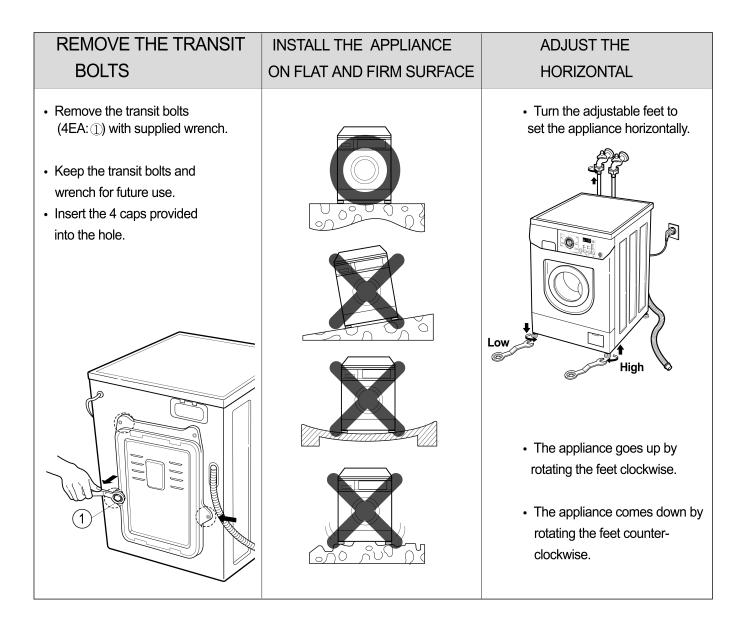




4. INSTALLATION

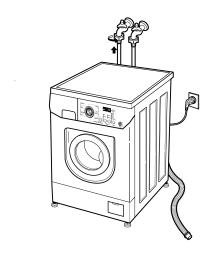
- 1 Before servicing ask the customer what the trouble is.
- 2 Check the adjustment (power supply is 220-240V, remove the transit bolts....)
- 3 Check the troubles referring to the troubleshooting.
- 4 Decide service steps referring to disassembly instructions.
- 5 Then, service and repair.
- 6 After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

The appliance should be installed as follows.

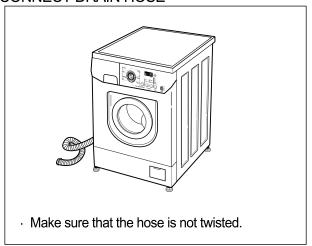


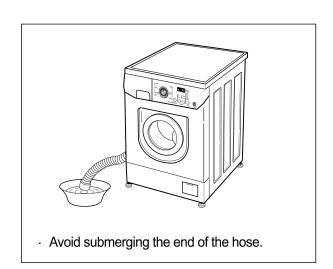
■ HOW TO CONNECT INLET HOSE

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



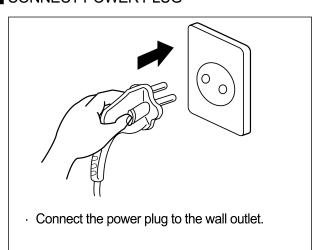
■ CONNECT DRAIN HOSE

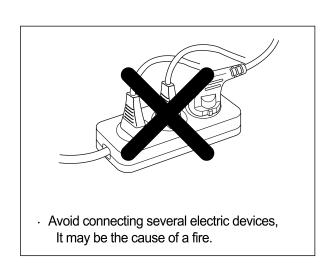




** The drain hose should be placed under 100cm from the floor.

■ CONNECT POWER PLUG





7 TEST OPERATION



- Connect the power plug to the outlet.
- Connect the inlet hose.

2 Press the power button.



• In case of cotton program.

Press the START/PAUSE button.



6 Check the water heating.



 Press both Spin and Option(Bio, Rinse+) button simultaneously the present temperature will be displayed. Check automatic reverse turn.



 Check if the drum rotates clockwise and counterclockwise. Check the water supply.



· Check if water is supplied through the detergent dispenser.

- Check drain and spin
- Power off and then power on.
 Turn on Spin lamps after pressing the Start/Pause button and Start the machine again.
- · Check drain and spin.

8 Power off and open the door



- · Power off and then power on.
- Check if the door can be opened after **Door Lock** lamp turns off.

9 Water removal



 If SVC is needed during check, remove the remaining water by pulling out the hose cap.

Eco

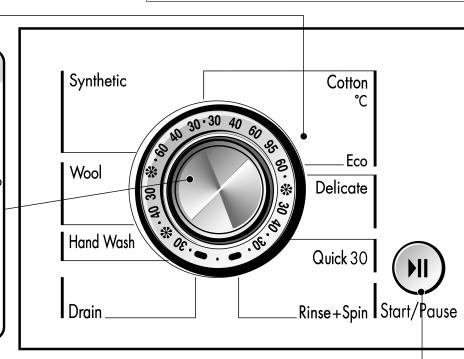
 It is possible in cotton course when 60°C

LED display

- Display the estimated remaining time (Hour : Minute) to finish.
- In case of abnormal operation, error indications are displayed.
 (IE, DE, UE, dE, EE, FE, PE,)
- See troubleshooting guide.

Wash program selector

- 9 program can be set depending on the type of the laundry.
- If the power button is pressed, all lamps are on
- By turning the dial, [Cotton⇒Eco
- Delicate <> Quick 30
- ⇒ Rinse + Spin ⇒ Drain ⇒ Hand Wash ⇒ Wool ⇒ Synthetic] can be selected.
 (The opposite is possible)



Start/Pause button

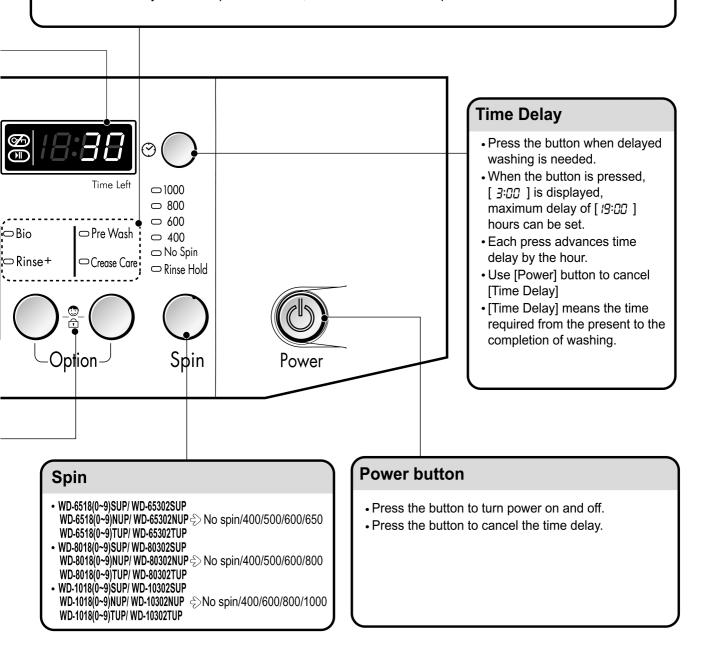
- Use the button to start or pause wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.

Child - Lock

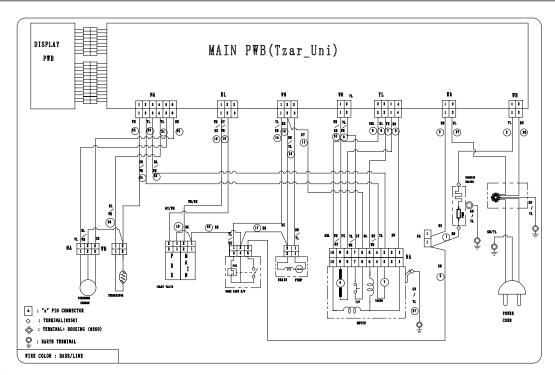
- Child Lock system can be set and canceled by pressing and holding both Option(Bio, Rinse+) button and option(Pre Wash, Crease Care) button simultaneously more than 2 seconds.
- Once Child Lock is set, all buttons are inoperable.
- **Child Lock** system can be set anytime even during Power-off and operation.
- It is automatically cancelled when an operational error occur.

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.]
- Rinse⁺: If you wish to rinse more, the Rinse⁺ 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



WIRING DIAGRAM / PROGRAM CHART





VC.				٧	Vas	hin	g					Rinse												Spin			Г	A U T						
1/A		Р	re			77	Ma	ain				Normal Rinse +									Ľ,	Spin												
11/c	L	s				Wie	shing	81	усоо	ling			1			2			3				4				П			E	ΙĠΙ	Norm	Normal	
C T E	w s	Washing	Drain	. 8	s	Heating	Washing	w s	Ringing	Drain	Drain	S	w	Rinsing	Drain	S	w s	Ringing	Drain	60	w s	Ringing	Drain	! 8	w	Rinsing	Drain	Spin	0.7	D	O F	Working Time (Hour:Minute)	ing e	
N/ P	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:winuse)		
B Time	120	MN	90	240	120			120	60	60	60	240	120	390	90	240	120	360	60	240	120	360	60	240	120	360	60	480	120	20	20			
Cotton	-	0	Н		-		42	\Box	\times	<	-		-	H	Н	Н			-				-	-	-	-	-				Н	About 2:3	35(2:34)	
Synthetic		5	<				28 51		\sim	<				H		H							-	-	_	-						About	1:24	
Delicate		>	<	<	-		18		\sim	<	-			F	F	F								-				F				About	58	
Wool		>	<	<	-		18		><	<													-	-							Н	About	58	
Handwash		>	<	\leq		-	24		\times	<					Н								-			-						About	57	
Quick 30		>	<	\leq	-		11		><	<	-				Н		_						_		-						Н	About	30	
Rinse + Spin		_		=	=	-	-	=	_		_				•									-	-	-						About	20	
Drain										=	-	-	_	_	-	=	=															About	1	

- Basic Cycle Optional Cycle
- * Pre-Setting Time : Water Supply 120 sec. Drain
- the amount of laundry * - Time for varies as the temperature or
- 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.

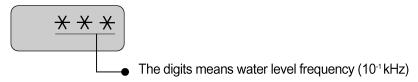
- ① Pressing Option (Bio, Rinse+) and Option (Crease Care/Pre Wash) button simultaneously.
- ② Power button ON with pressing upper two button. then buzzer sound twice.
- ③ Press the START/PAUSE button as follows.

[Press the START/PAUSE button more 4 times until stop spinning]

[1 1033 tile 0 17 ti (17) 7 to	SE button more 4 times until stop spir	""'91						
Pressing number of [START/PAUSE] button	Checking Point	Display Status						
None	All lamps turn on	(
		WD-8018(0~9)SUP/WD-6518(0~9)SUP WD-80302SUP/WD-65302SUP						
		☆ ☆ ☆ ☆ : WD-1018(0~9)NUP/WD-10302NUP						
		WD-8018(0~9)NUP/WD-6518(0~9)NUP WD-80302NUP/WD-65302NUP						
		☆ ☆ ☆ ☆ : WD-1018(0~9)TUP/WD-10302TUP						
		WD-8018(0~9)TUP/WD-6518(0~9)TUP WD-80302TUP/WD-65302TUP						
1 time	Counterclockwise spin (left)	Motor rpm (About 50)						
2 times	Low speed Spin	Motor rpm (About 58~62)						
3 times	High speed Spin	Motor rpm (About 79~85) : WD(M)-6518(0~9)S(N)(T)UP						
		Motor rpm (About 79~85) : WD(M)-8018(0~9)S(N)(T)UP						
		Motor rpm (About 95~106) : WD(M)-1018(0~9)S(N)(T)UP						
4 times	Inlet valve for pre-wash operation	Water level frequency (225~265)						
5 times	Inlet valve for main-wash operation	Water lavel frequency (225~265)						
J unics	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	Clockwise 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 Option (Crease Care/Pre Wash) and Time delay button simultaneously.



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

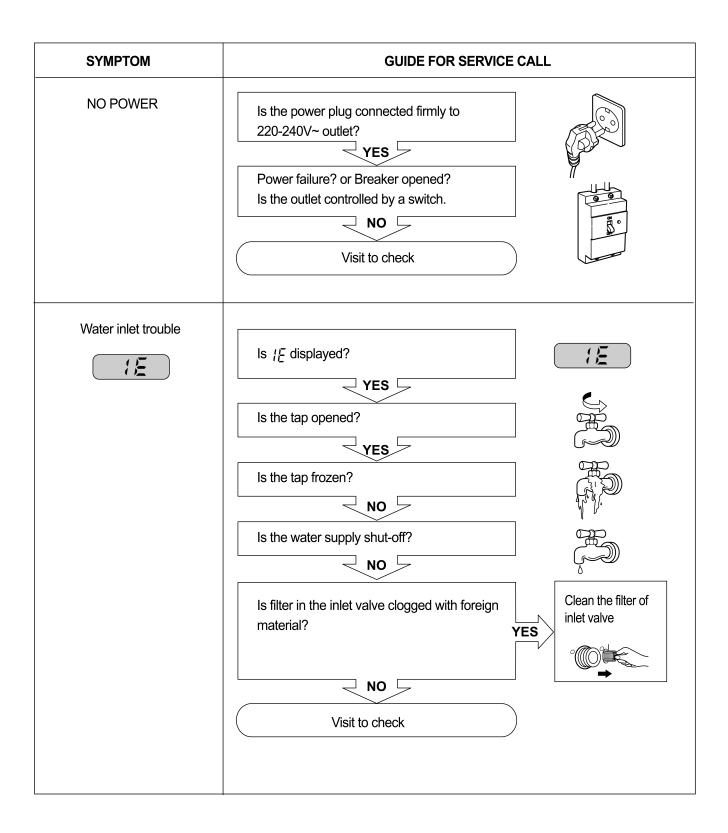
7-4.ERROR DISPLAY.

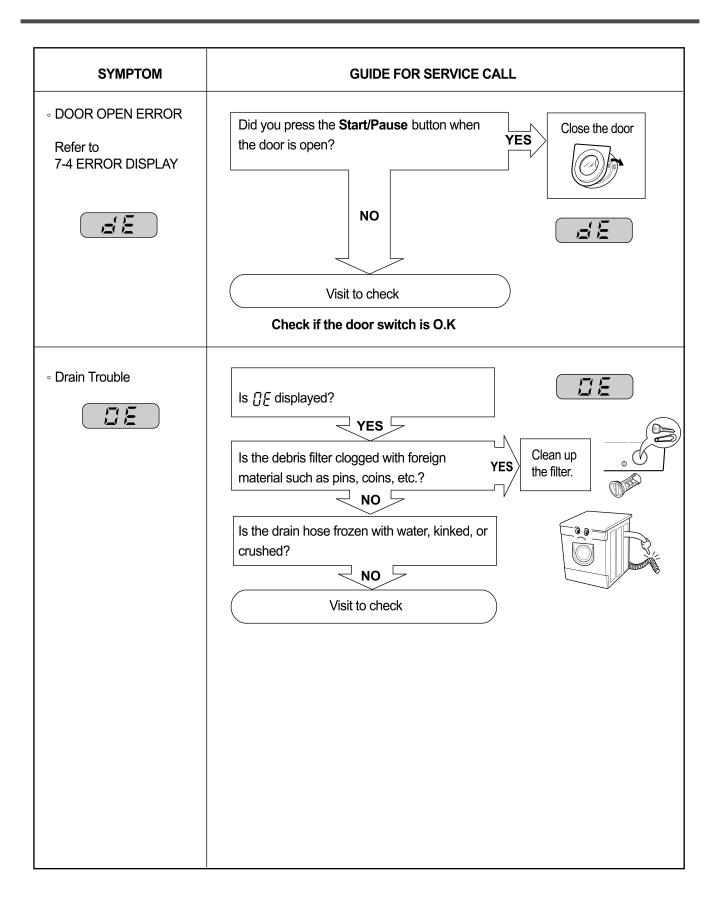
- If you press the [Start/Pause] button any error except PE will disappear and the machine will change into pause status.
- In case of ${}^{\mathbb{F}}E_{\mathbb{J}}$, ${}^{\mathbb{F}}E_{\mathbb{J}}$, ${}^{\mathbb{F}}E_{\mathbb{J}}$, if the error is not resolved within 15 sec. In case of other errors, 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 ${}^{\mathbb{F}}E_{\mathbb{J}}$, power will not be turned off.

	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	(!E	O 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.
2	IMBALANCE ERROR	UE	 The appliance is tilted. Laundry is gathered to one side. Non distributable things are put into the drum.
3	DRAIN ERROR		○ Water has not drained enough within 8 min.
4	OVERFLOW ERROR	FE	Water is automatically being pumped out because too much water is in the tub.
5	SENSOR PRESSURE S/W ERROR	FE	The sensor pressure switch is out of order.
6	DOOR OPEN ERROR	<u>a£</u>	 The [Start/Pause] button is pressed with the door open. The door switch is out of order.
7	HEATING ERROR	FE	○ The thermistor is out of order.

8. ERROR DIAGNOSIS AND CHECK LIST

8-1.DIAGNOSIS AND ANSWER FOR ABNORMAL OPERATION



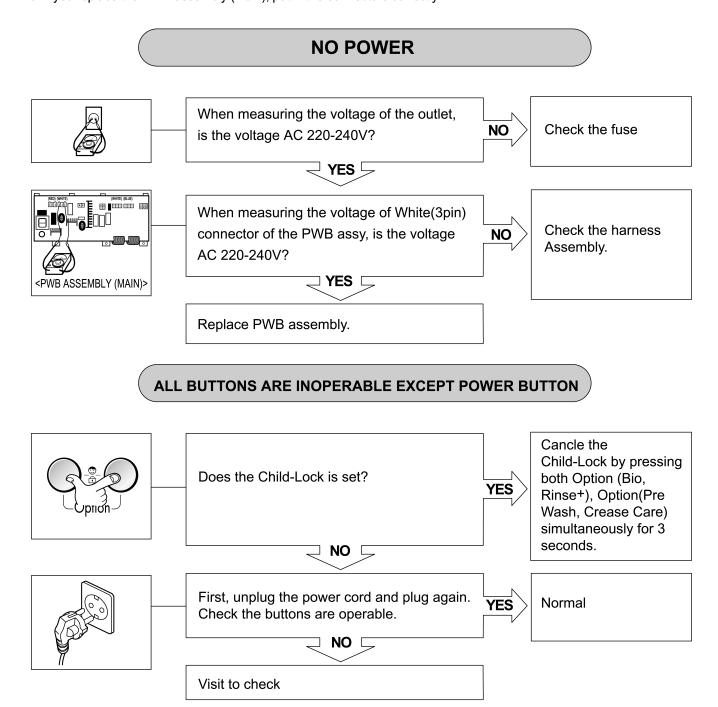


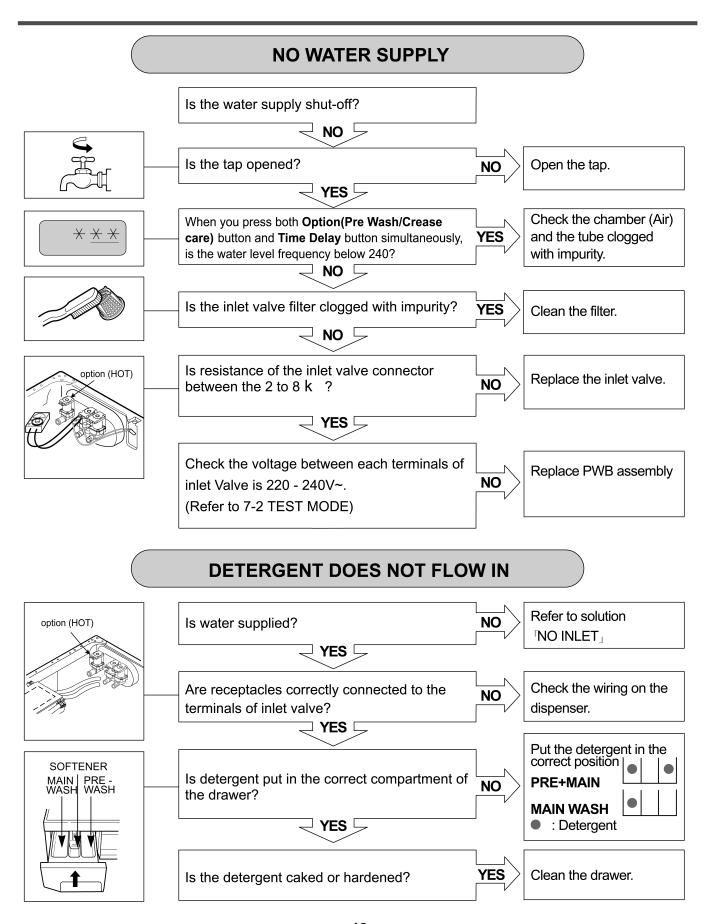
SYMPTOM	GUIDE FOR SERVICE CA	ıLL				
 Suds overflow from the appliance. (In this condition, wash and spin do not operate 	Is low-sudsing detergent for the durm washing machine used?	LOW SUDSING				
normally)	Is the proper amount of detergent used as recommended? YES Recommend to reduce the amount	DETERGENT				
	* This appliance has the automatic suds sensi operates under much suds condition for good preventing overflow. * When much suds are sensed, the suds remodrain, water input, and pause will operate with drum.	d rinse and oving fuction such as				
∘ No effect of softener	Is softener put in the correct compartment of drawer? YES Is the drawer closed during wash? YES Is the softener cap clogged? YES Explain how to use softener Clean the compartment for softener	Compartment for softener				
FE FE	Visit to check					

8-2.FAULT DIAGNOSIS AND TROUBLESHOOTING

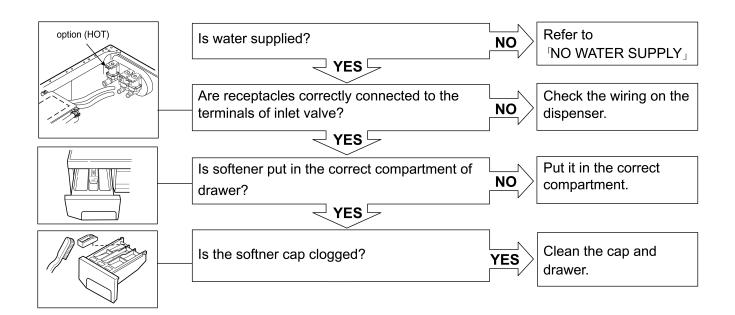
CAUTION

- 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.

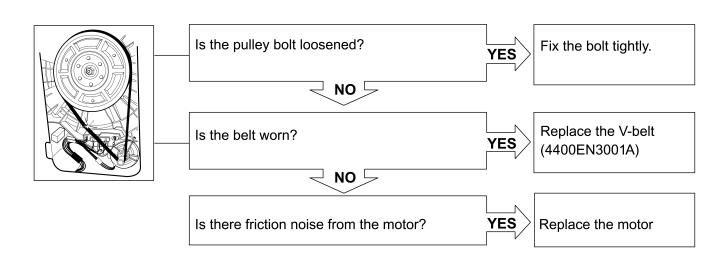




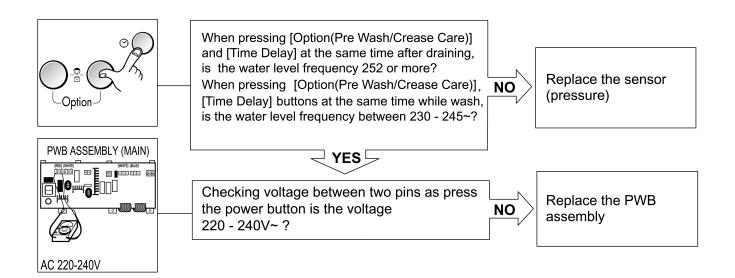
SOFTENER DOES NOT FLOW IN



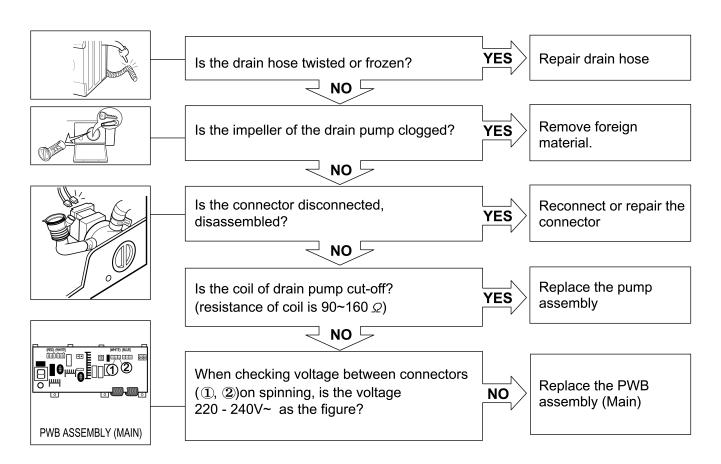
ABNORMAL SOUND



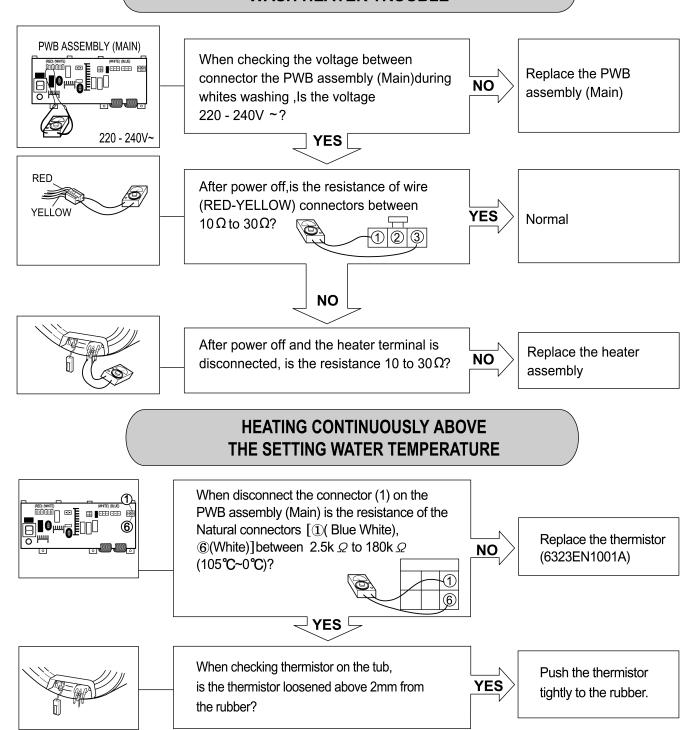
HEATING WITHOUT WATER



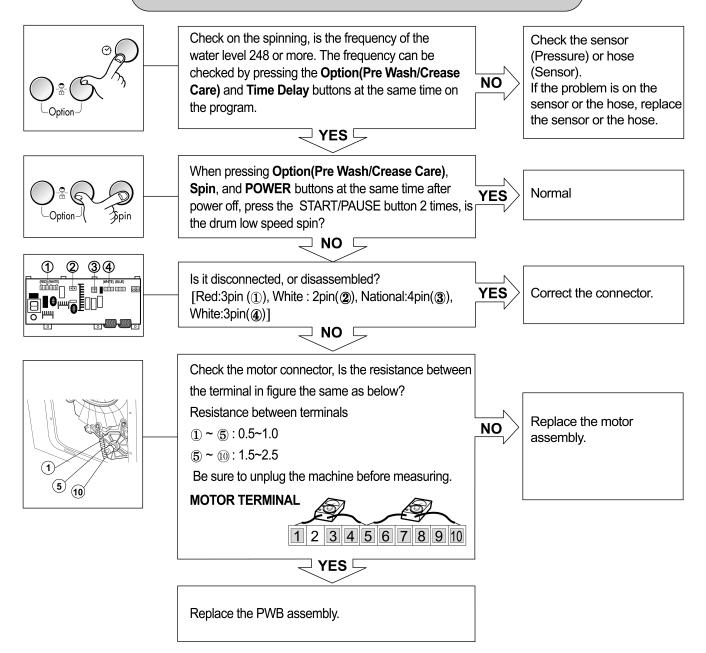
DRAIN MALFUNCTIONING



WASH HEATER TROUBLE



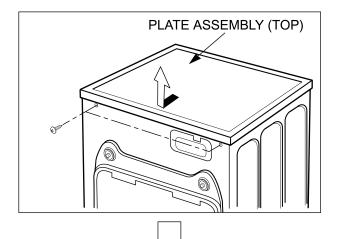




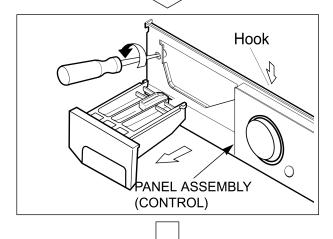
9. DISASSEMBLY INSTRUCTIONS

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

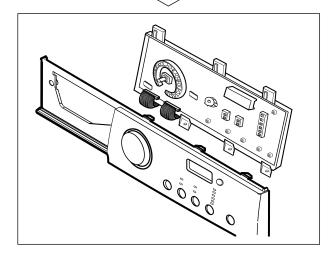
CONTROL PANEL



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

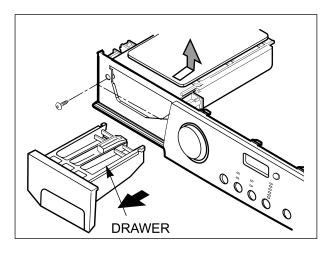


- ① Disconnect the PWB Assembly connector from Main lead wire Assembly.
- 2 Pull out the drawer and unscrew 2 screws.
- ③ Push upper hooks down on the top and pull the control panel.

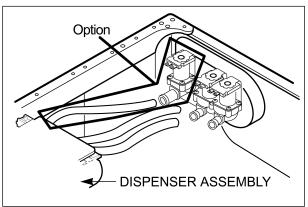


① Disconnect the PWB assembly (Main & Display) from the control panel by unscrew 3 screws.

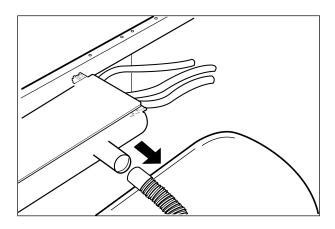
DISPENSER ASSEMBLY



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

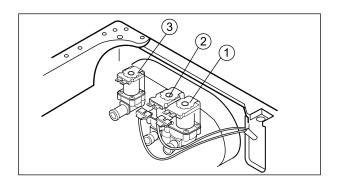


 $\ensuremath{\textcircled{1}}$ The hose clamps and the hose are disassembled.



① The ventilation bellows and the water inlet bellows are disassembled on the tub.

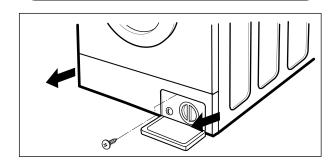
INLET VALVE



- ① Disconnect the wiring receptacle.
- ② Unscrew 2 screws from the back.
- *When reconnecting the connector

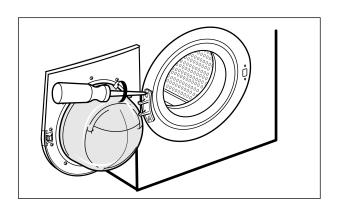
VALVE #1 (MAIN)	White/Black-Black
VALVE #2 (PRE)	Gray-White/Black
VALVE #3 (HOT)	Blue/Red - Black

LOWER COVER



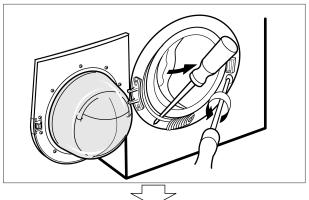
■ Open the lower cover cap by using coin and pull out the lower cover in the arrow direction after a screw is unscrewed.

DOOR

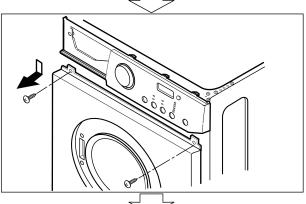


- ① Open the door completely.
- ② Remove the two screws from the hinge.
- *When removing the door assembly, it is necessary to hold the bracket that is inner of the cabinet cover.

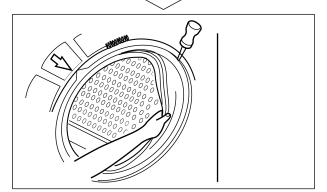
GASKET ASSEMBLY



- 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.

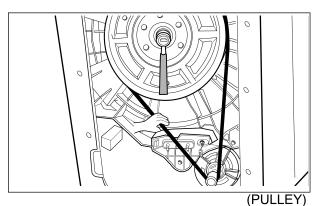


- ① Disassemble the cantrol panel. (refer to the 25page)
- ② Unscrew all the screws on the upper and lower sides of the cabinet cover.

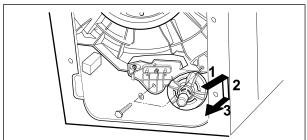


- ① Take apart the tub gasket clamp.
- ② Make sure that the drain hole of the gasket is put beneath when reassembling the gasket.
- *Refer to the arrow mark on the tub cover.

PULLEY, MOTOR, DAMPER

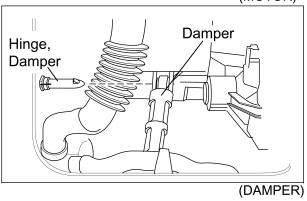


- ① Remove the back cover.
- ② Take off the belt turning the pulley.
- $\ensuremath{\mathfrak{J}}$ Unscrew the bolt to pull out the pulley.



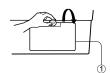
- ① Unscrew 2 screws from the bracket.
 - ② Push the motor in the arrow direction for disassembling.
 - ③ When reassembling the motor, make sure that motor mounting bushings are not taken off from the bracket.



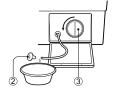


- ① Pull out the hinge, pressing its snap.
- ② Do not use the pulled out hinge again. It may be taken off during operation.

■ 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.

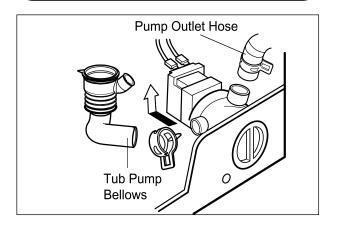


Unplug the drain plug (②), then the water flows out, At this time use a vessel to prevent water flowing on the floor. If the water does not flow any more,turn the pump filter (③) open to the left.



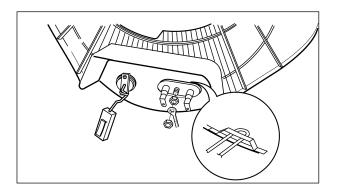
Take out any foreign material from the pump filter (③). After cleaning, turn the pump filter(③) clockwise and insert the drain plug (②) to the original place. close the lower cover cap.

PUMP



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

HEATER

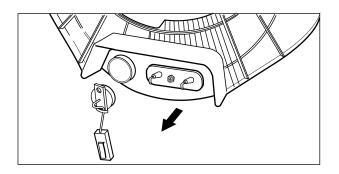


① Loosen the M6 heater nut to pull out the heater.

CAUTION

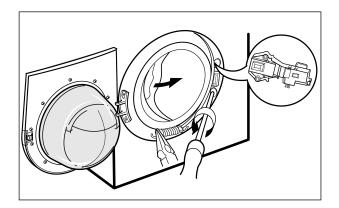
When mounting the heater, be sure to insert the heater into the heater clip on the bottom of the tub.

THERMISTOR



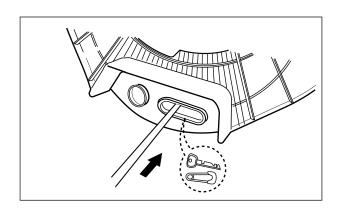
- ① Pull it out by holding the thermistor bracket.
- * If it is pulled by the wire, it may be broken.
- ② When mounting the thermistor again, make sure that it is got back tight to the bushing.

SWITCH ASSEMBLY, DOOR LOCK



- ① 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.

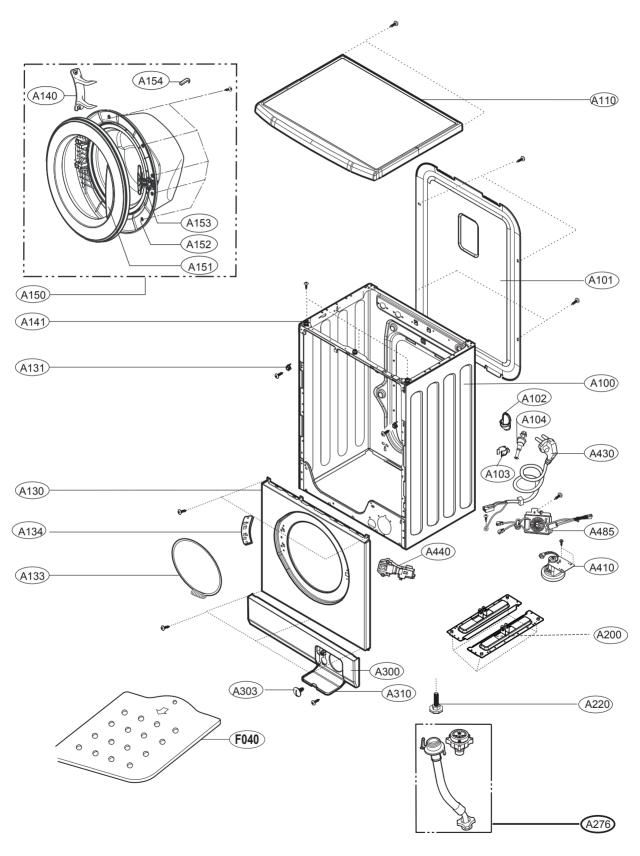
WHEN FOREIGN MATERIAL IS STUCK BETWEEN DRUM AND TUB



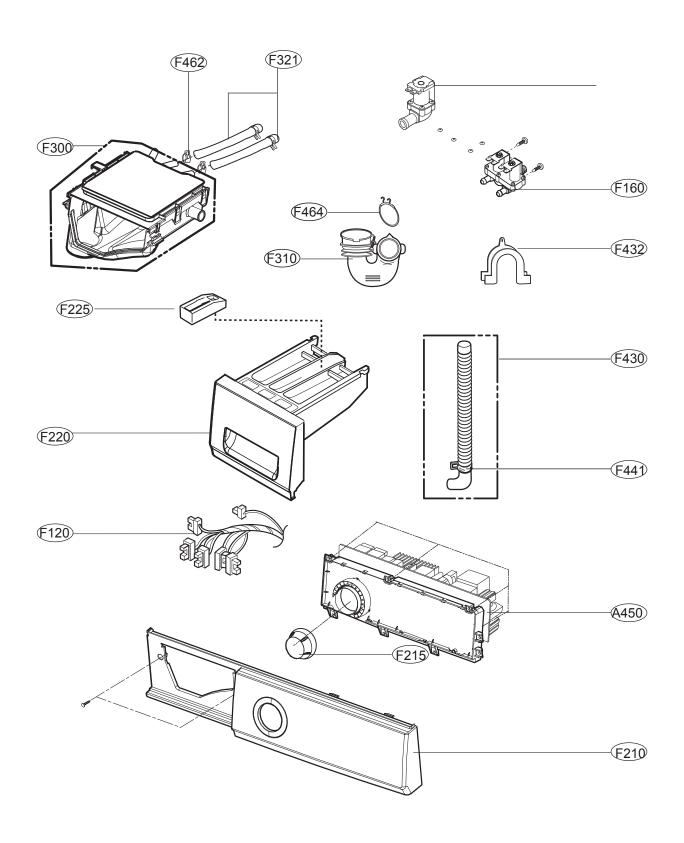
- ① Remove the heater.
- ② Remove the foreign material (wire, coin and others) by inserting a long bar through the hole.

10. EXPLODED VIEW

10-1.THE EXPLODED VIEW OF CABINET ASSEMBLY



THE EXPLODED VIEW OF CONTROL PANEL & DISPENSER ASSEMBLY



10-3 THE EXPLODED VIEW OF DRUM & TUB ASSEMBLY

