LG

WASHING MACHINE
SERVICE MANUAL

CAUTION

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

MODEL : WD(M)-106(8)0F(H)D/WD(M)-106(8)5F(H)D

WD(M)-126(8)0F(H)D/WD(M)-126(8)5F(H)D

WD(M)-146(8)0F(H)D/WD(M)-146(8)5F(H)D

WD-1061FD/WD-1261FD/WD-1266FD

WD-1461FD/WD-1466FD

WD-1288FHD/WD-1488FHD

WD-1480(5)FDN/WD-1480(5)FDF

CONTENTS

1. SPECIFICATION

| ITEM		WD(M)-1060F(H)D/WD(M)-1065F(H)D/WD(M)-1260F(H)D/ WD(M)-1265F(H)D/WD(M)-1460F(H)D/WD(M)-1465F(H)D	WD(M)-1080F(H)D/1085F(H)D/280F(H)D/1285F(H)D WD(M)-480F(H)D/1485F(H)D/WD-1061FD/1261FD/1266FD WD-1461FD/1466FD/1288FHD/1488FHD/1480(5)FDN/1480(5)FDF
POWER SUPPLY		220-240V~, 50Hz	
PRODUCT WEIGHT		65kg	
ELECTRICITY CONSUMPTION	WASHING	230W	
	SPIN (1400rpm)	440W	
	DRAIN MOTOR	38W	
	WASH HEATER	2000W	
REVOLUTION SPEED	WASH	45rpm	
	SPIN	1400 rpm : No spin/400/800/1000/1400 rpm	
		1200 rpm : No spin/400/800/1000/1200 rpm	
		1000 rpm : No spin/400/600/800/1000 rpm	
OPERATION WATER PRESSURE		0.3-10kgf/cm^2 (30-1000kPa)	
CONTROL TYPE		Electronic	
WASH CAPACITY		7kg	
		Synthetic (4.0kg), Delicate (3.0kg), Wool (2.0kg)	
DIMENSION		600mm(W) × 600mm(D) × 850mm(H)	
WASH PROGRAM		Coloureds, Synthetic, Delicate, Wool, Rapid, Whites, Whites-Eco	Cotton-Eco, Cotton, Synthetic, Delicate, Wool, Hand Wash, Quick 30
RINSE		Super, Normal, Hold	
DOOR SWITCH TYPE		Bi-Metal type	
WATER LEVEL		9 steps (by sensor)	
RESERVATION		From 3 hours to 19 hours	
SENSING OF THE LAUNDRY AMOUNT		Adapted	
FUZZY LOGIC		Adapted	
DISPLAY OF THE REMAINING TIME		Adapted	
ERROR DIAGNOSIS		9 items	
POWER AUTO OFF		Adapted	
CHILD LOCK		Adapted	
AUTO RESTART		Adapted	
RAPID		Adapted	

2. FEATURES & TECHNICAL EXPLANATION

2-1.FEATURES

■ **Jumbo drum**

LG's jumbo drum can wash about 40% more load than conventional washing machine. A bigger drum improves the wash performance.
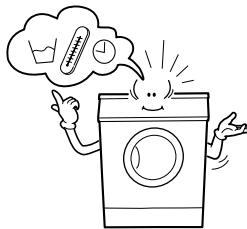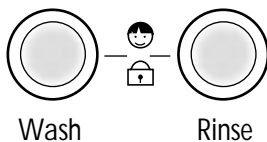
■ **More economical by Intelligent Wash System**

Intelligent Wash 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.
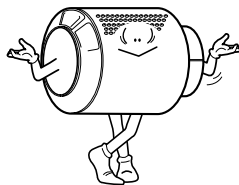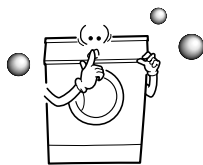
■ **Direct Drive system**

The advanced Brushless DC motor rotates the Drum directly without belt and pulley.

■ **Child-Lock**

The Child-Lock system has been developed to prevent children from pressing any button to change the program during operation.

Wash   Rinse

■ **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.

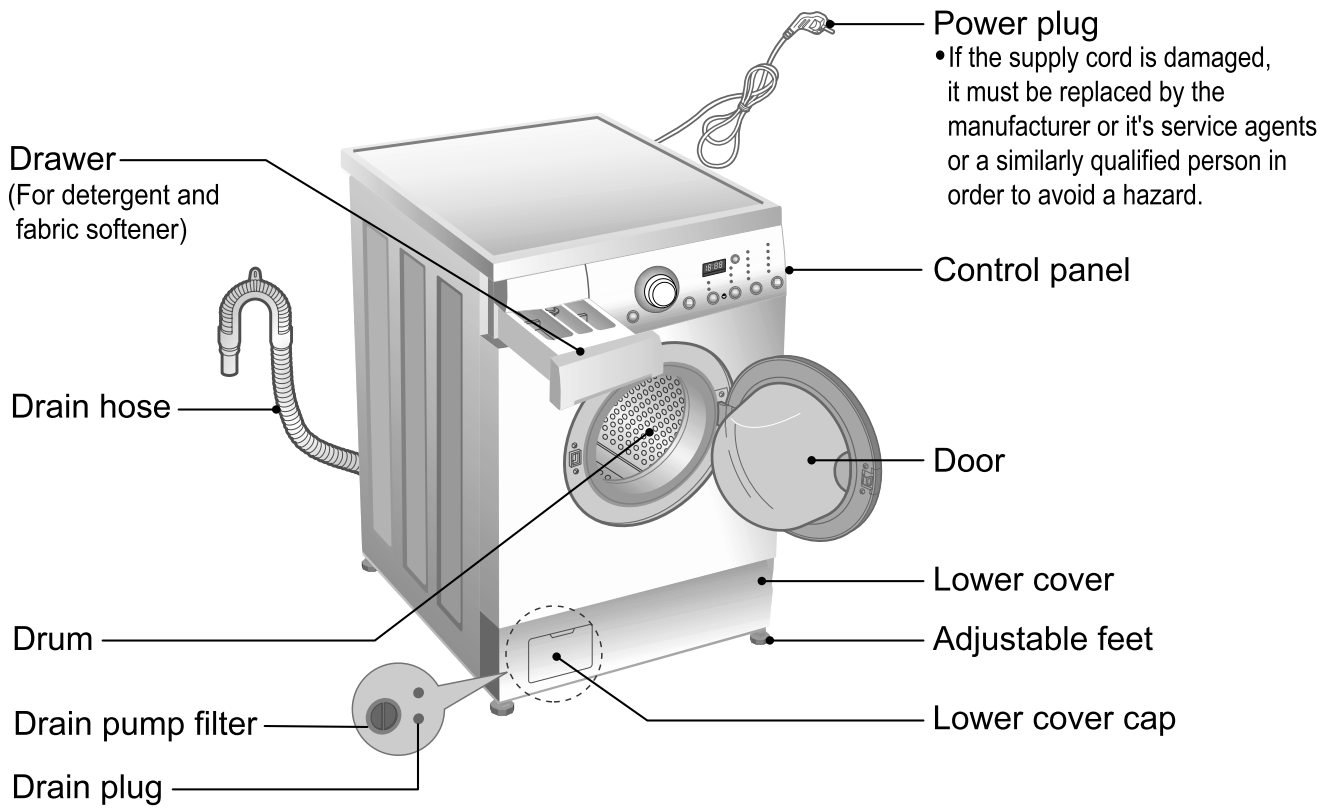| SENSING | PROCESSING | DETERMINATION | EFFECT |
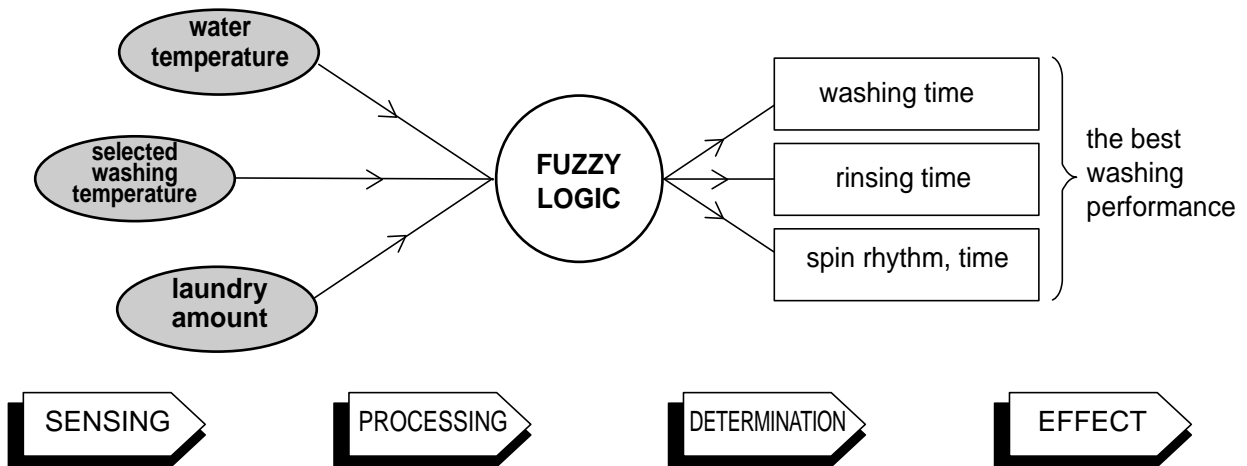
2-3.WATER LEVEL CONTROL

● This model adopts a pressure sensor which can sense the water level in the tub.

● Water supply is stopped when the water level to the preset level, 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.

3. PARTS IDENTIFICATION

Drawer
(For detergent and
 fabric softener)

Drain hose

Drum

Drain pump filter

Drain plug

Power plug
• If the supply cord is damaged,
  it must be replaced by the
  manufacturer or it's service agents
  or a similarly qualified person in
  order to avoid a hazard.

Control panel

Door

Lower cover

Adjustable feet

Lower cover cap

■ACCESSORIES

Inlet hose   Wrench
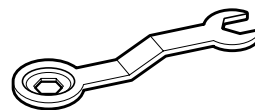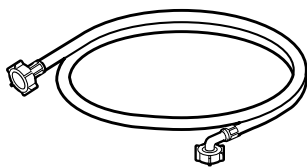
4. INSTALLATION

⑴ Before servicing ask the customer what the trouble is.

⑵ Check the adjustment (power supply is 220-240V~, remove the transit bolts....)
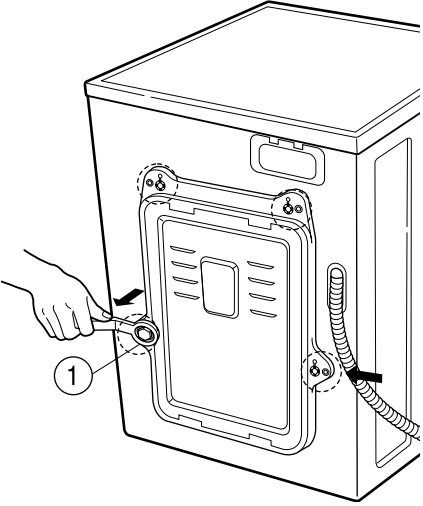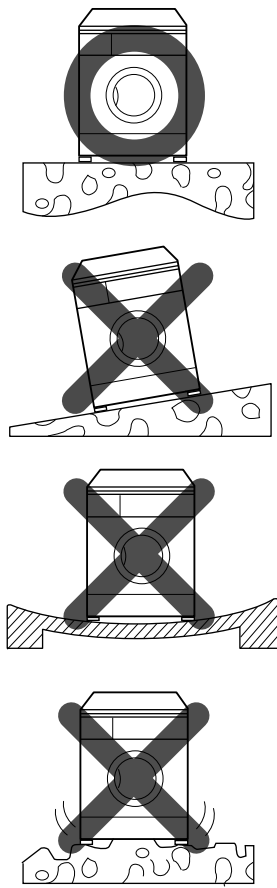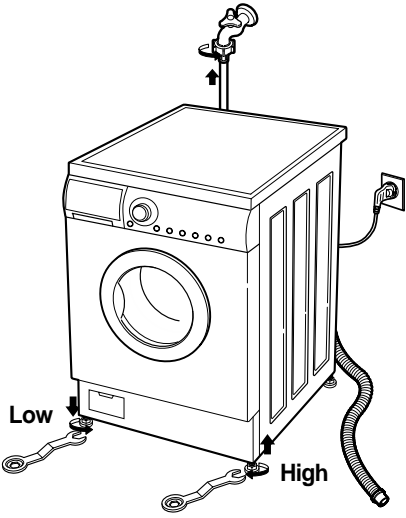
⑶ Check the troubles referring to the troubleshooting.

⑷ Decide service steps referring to disassembly instructions.

⑸ Then, service and repair.

⑹ After servicing, operate the appliance to see whether it works O·K or NOT.

■ STANDARD INSTALLATION
The appliance should be installed as follows.

REMOVE THE TRANSIT BOLTS	INSTALL THE APPLIANCE ON FLAT AND FIRM SURFACE	ADJUST THE HORIZONTAL
• Remove the transit bolts (4EA: ①) with supplied spanner. • Keep the transit bolts and spanner for future use. • Insert the 4 caps provided into the hole		• Turn the leveling feet to set the appliance horizontally. **Low** **High** • The appliance goes up by rotating the feet clockwise. • The appliance comes down by rotating the feet counter-clockwise.

7

■ 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

· Make sure that the hose is not twisted.
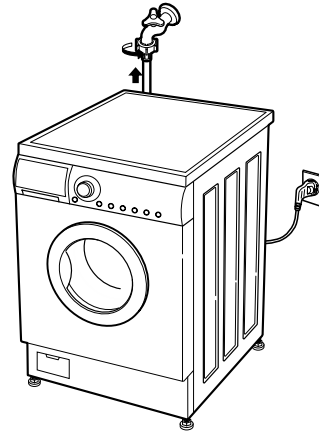
· Avoid submerging the end of the hose.
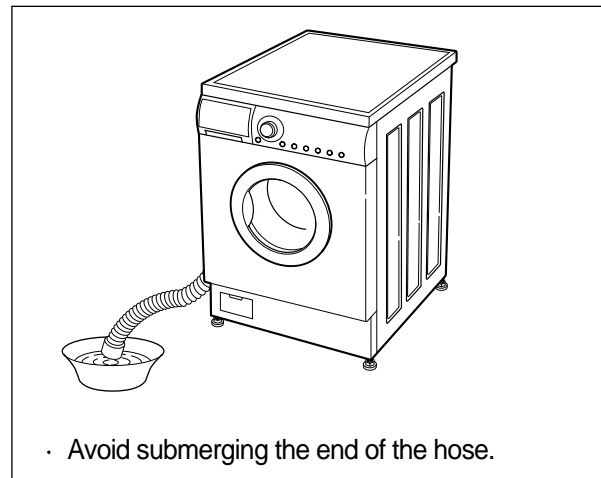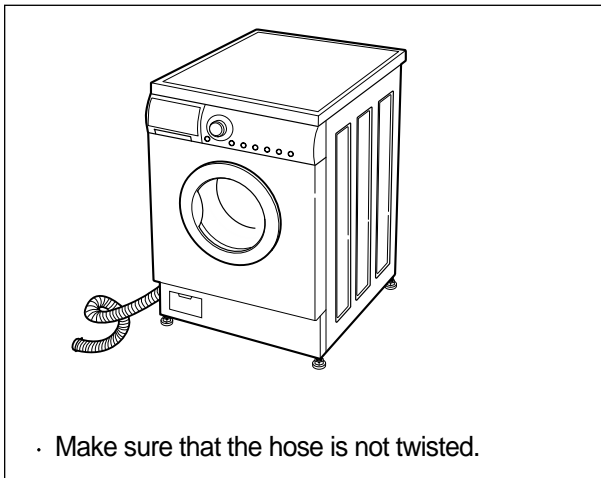
※ The drain hose should be placed under 100cm from the floor.

■ CONNECT POWER PLUG

· Connect the power plug to the wall outlet.

· Avoid connecting several electric devices, It may be the cause of a fire.
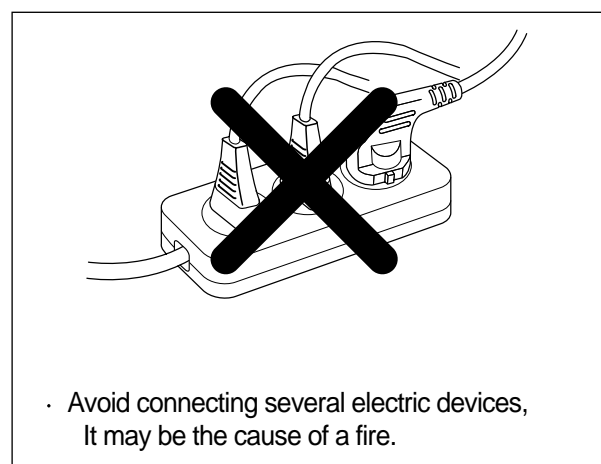
8
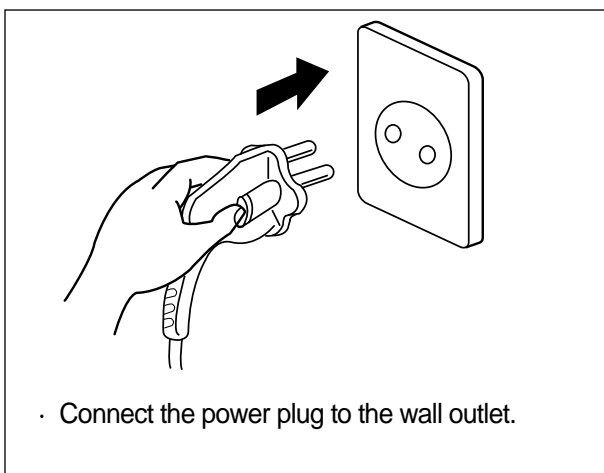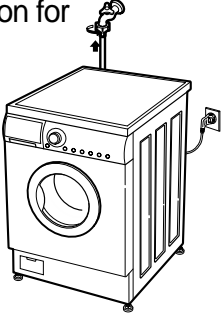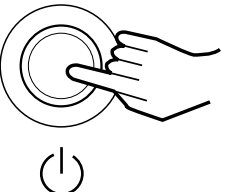
⑦ TEST OPERATION

1 Preparation for washing.
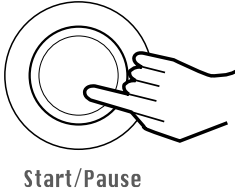
- Connect the power plug to the outlet.
- Connect the inlet hose.

2 Press the power button.
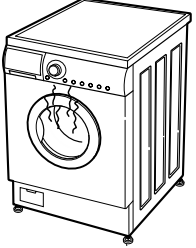
3 Press the Start/Pause button.

Start/Pause
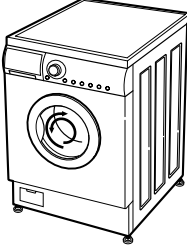
- In case of coloureds program.

6 Check the water heating.
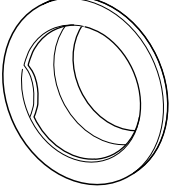
· Press the **Temp.** button and the present temperature will be displayed.

5 Check automatic reverse turn.

· Check if the drum rotates clockwise and counterclockwise.

4 Check the water supply.
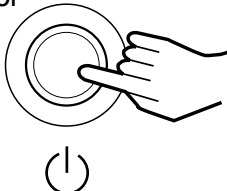
· Check if water is supplied through the detergent dispenser.

7 Check drain and spin
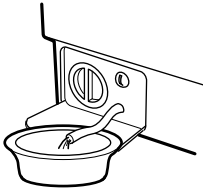
· Turn off **Wash** and **Rinse** after pressing the **Start/Pause** button and start the machine again.
· Check drain and spin.

8 Power off and open the door

· Power off and then power on.
· Check if the door can be opened after 3 minutes.

9 Water removal

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

5. OPERATION

[WD(M)-1060F(H)D / 1065F(H)D / 1260F(H)D / 1265F(H)D / 1460F(H)D / 1465F(H)D]

Wash program selector

- 7 program can be set depending on the type of the laundry.
- If the power button is pressed, Coloureds program is automatically set.
- By turning the dial, [Coloureds ⇨ Synthetic ⇨ Delicate ⇨ Wool ⇨ Rapid ⇨ Whites ⇨ Whites-Eco]can be selected. (The opposite is possible)

LED display

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

Whites-Eco

- If you want to get the almost same effect as that in 95°C whites program with less energy consumption, select White-Eco program.

Synthetic

Coloureds

Delicate

Whites-Eco

Wool

Whites

Rapid

Start/Pause

(Power) button

- Press the button to turn power on and off.
- Press the button to cancel the delay finish.

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.

Rinse hold

- If you desire to leave fabrics in the machine without spinning after rinse to prevent wrinkling, you may select rinse Hold by pressing the Rinse button.
- To drain and spin, press the Rinse button to turn off the Rinse Hold lamp.

Time Delay

- Press the button when delayed washing is needed.
- When the button is pressed, 3:00 is displayed, maximum delay of 19:00 hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay]
- [Time Delay] means the time required from the present to the completion of washing.

18:88
Time Left

Time Delay

- 1400
- 1000
- 800
- 400

- 95°C
- 60
- 40
- 30

Rinse Hold
Pre Wash
Main Wash

Super
Normal

No Spin
Cold

Wash   Rinse   Spin   Temp.

Water temperature selector

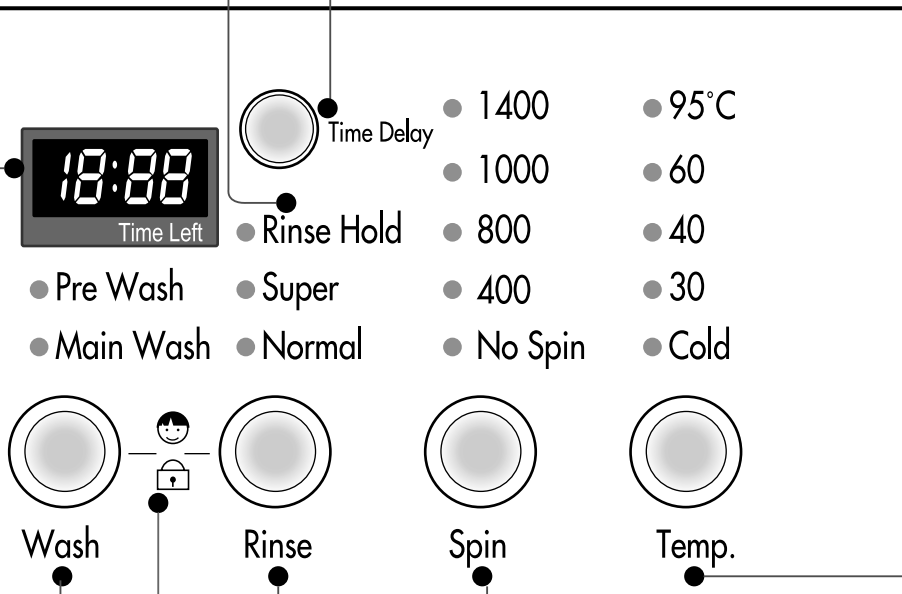- Press the button to select water temperature.
- The water temperature [40°C ⇨ 60°C ⇨ Cold ⇨ 30°C] can be selected in Coloureds or Synthetic.
- 95°C is selected for Whites only.
- By pressing the button while operating the washer, the present temperature is displayed.

Child - Lock

- **Child Lock** system can be set and canceled by pressing and holding both [Wash] and [Rinse] 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.

For manual wash, rinse and spin speed

- Use these buttons to change wash/rinse/spin.
- When lamp is off, no selection has been made.
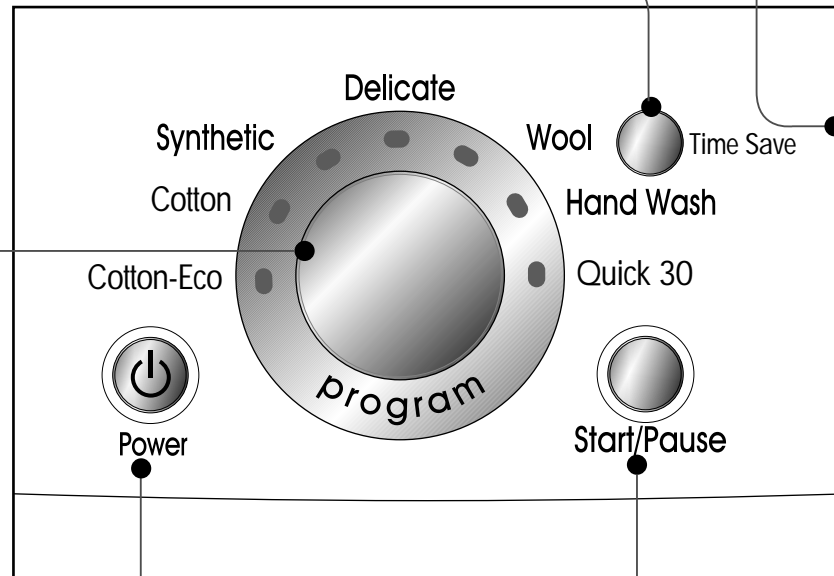- Prewash is available for coloureds, whites, white-eco, and synthetic.

Time Save

- It is possible in Cotton-Eco, Cotton, Synthetic, Delicate, Wool and Hand Wash programs.
- By selecting the Time Save option, the wash time may be reduced, depending on the program selected.

LED display

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

Wash program selector

- 7 program can be set depending on the type of the laundry.
- If the power button is pressed, Whites program is automatically set.
- By turning the dial, [Cotton-Eco ⇨ Cotton ⇨ Synthetic ⇨ Delicate ⇨ Wool ⇨ Hand Wash ⇨ Quick 30] can be selected. (The opposite is possible)

Delicate

Synthetic   Wool   Time Save

Cotton   Hand Wash

Cotton-Eco   Quick 30

program

Power   Start/Pause

(Power) button

- Press the button to turn power on and off.
- Press the button to cancel the delay finish.

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.
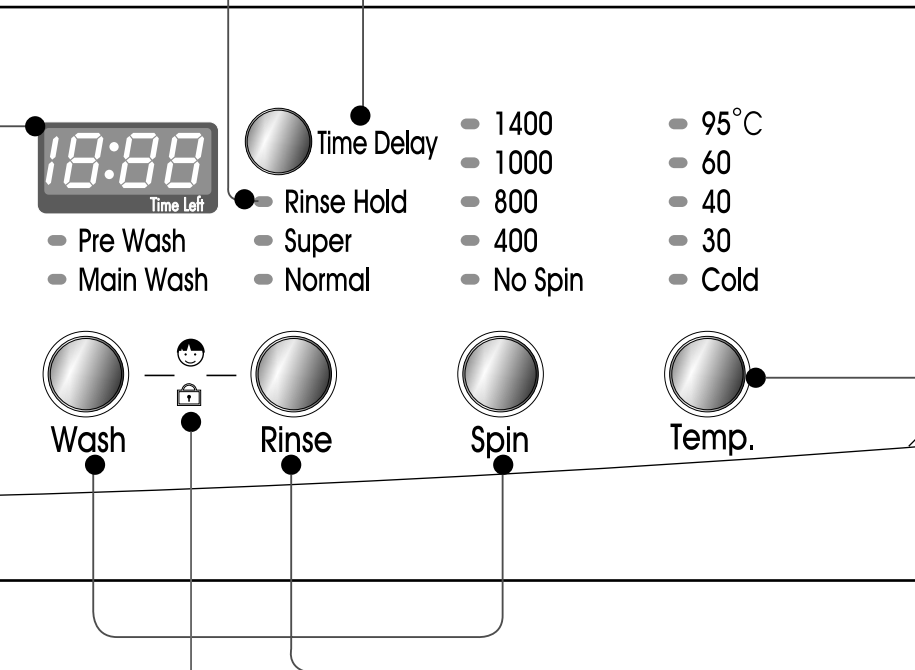
Rinse Hold

- If you desire to leave fabrics in the machine without spinning after rinse to prevent wrinkling, you may select Rinse Hold by pressing the Rinse button.
- To drain and spin, press the Rinse button to turn off the Rinse Hold lamp.

Time Delay

- Press the button when delayed washing is needed.
- When the button is pressed, $3:00$ is displayed, maximum delay of $19:00$ hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay]
- [Time Delay] means the time required from the present to the completion of washing.

Water temperature selector

- Press the button to select water temperature.
- **Cotton-Eco**: 60°C ⇆ 40°C
- **Cotton**: 40°C ⇆ 60°C ⇆ 95°C ⇆ Cold ⇆ 30°C
- **Synthetic**: 40°C ⇆ 60°C ⇆ Cold ⇆ 30°C
- **Delicate, Wool, Quick 30** : 30°C ⇆ 40°C ⇆ Cold.
- **Hand Wash** : Cold ⇆ 30°C ⇆ 40°C.
- 95°C is selected for Cotton only.
- By pressing the button while operating the washer, the present temperature is displayed.

$18:88$ Time Left

Time Delay

Rinse Hold

- Pre Wash
- Main Wash
- Super
- Normal

- 1400
- 1000
- 800
- 400
- No Spin

- 95°C
- 60
- 40
- 30
- Cold

Wash   Rinse   Spin   Temp.

Child - Lock

- **Child Lock** system can be set and canceled by pressing and holding both [Wash] and [Rinse] 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.

For manual wash, rinse and spin speed

- Use these buttons to change wash/rinse/spin.
- When lamp is off, no selection has been made.
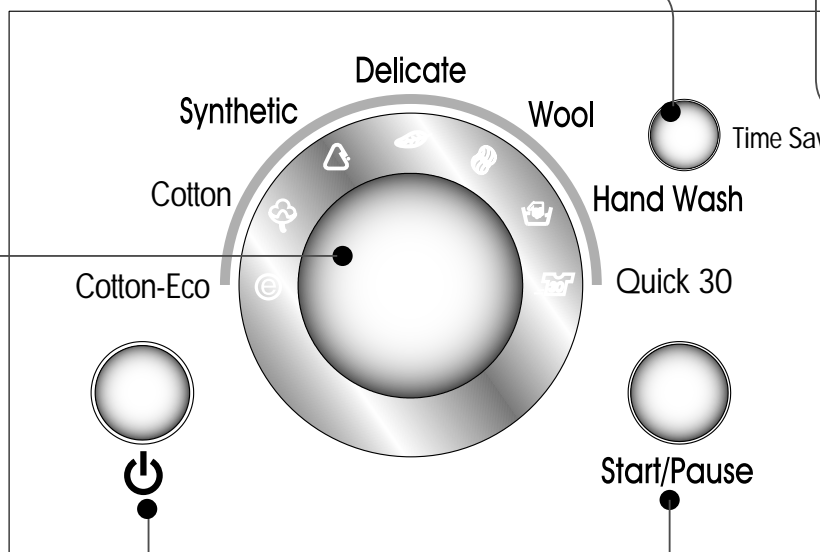- Prewash is available for Cotton-Eco, Cotton, Synthetic.

Time Save

• It is possible in Cotton-Eco, Cotton, Synthetic, Delicate, Wool and Hand Wash programs.
• By selecting the Time Save option, the wash time may be reduced, depending on the program selected.

LED display

• Display the estimated remaining time (Hour : Minute) to finish.
• In case of abnormal operation, error indications are displayed.
 ($IE, OE, UE, dE, tE, FE, PE, CE, LE$)
• See troubleshooting guide.

Wash program selector

• 7 program can be set depending on the type of the laundry.
• If the power button is pressed, Whites program is automatically set.
• By turning the dial, [Cotton-Eco ⇨ Cotton ⇨ Synthetic ⇨ Delicate ⇨ Wool ⇨ Hand Wash ⇨ Quick 30] can be selected. (The opposite is possible)

Delicate
Synthetic   Wool
Cotton   Hand Wash   Time Sav
Cotton-Eco   Quick 30

Start/Pause

(Power) button

• Press the button to turn power on and off.
• Press the button to cancel the delay finish.

Start/Pause button

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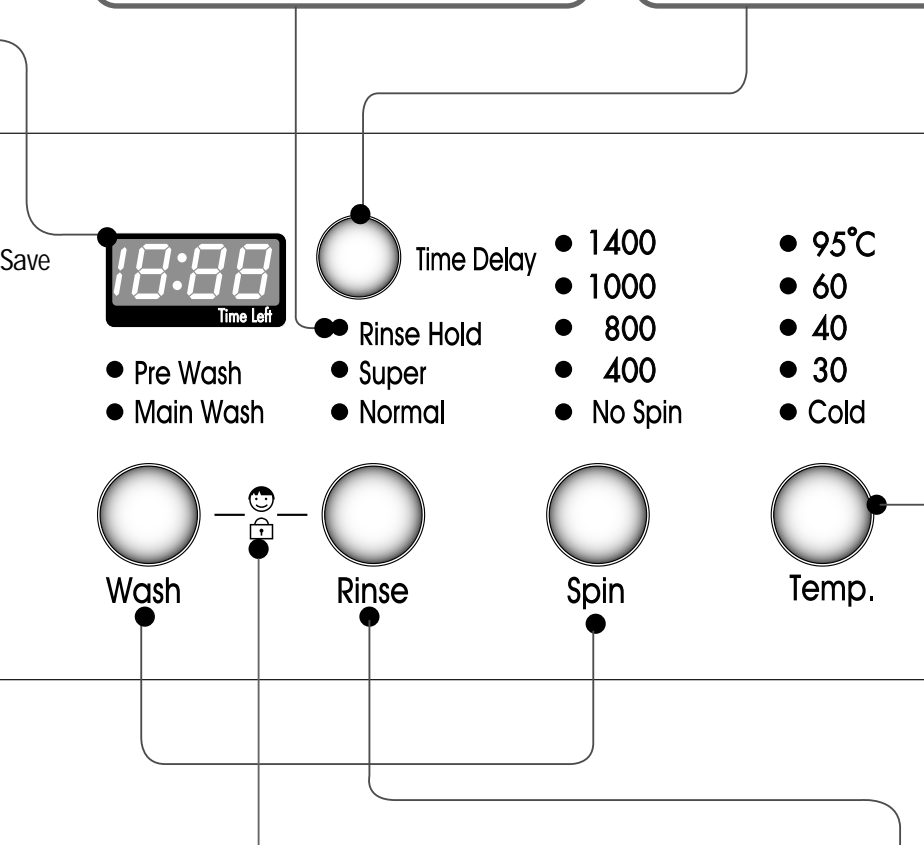• The power turns off automatically 4 minutes after the pause button is pressed.

Rinse Hold

- If you desire to leave fabrics in the machine without spinning after rinse to prevent wrinkling, you may select Rinse Hold by pressing the Rinse button.
- To drain and spin, press the Rinse button to turn off the Rinse Hold lamp.

Time Delay

- Press the button when delayed washing is needed.
- When the button is pressed, $3:00$ is displayed, maximum delay of $19:00$ hours can be set.
- Each press advances time delay by the hour.
- Use [Power] button to cancel [Time Delay]
- [Time Delay] means the time required from the present to the completion of washing.

Water temperature selector

- Press the button to select water temperature.
- **Cotton-Eco**: 60°C ⇄ 40°C
- **Cotton**: 40°C ⇄ 60°C ⇄ 95°C ⇄ Cold ⇄ 30°C
- **Synthetic**: 40°C ⇄ 60°C ⇄ Cold ⇄ 30°C
- **Delicate, Wool, Quick 30** : 30°C ⇄ 40°C ⇄ Cold.
- **Hand Wash** : Cold ⇄ 30°C ⇄ 40°C.
- 95°C is selected for Cotton only.
- By pressing the button while operating the washer, the present temperature is displayed.

Save

$18:88$ Time Left

Time Delay

Rinse Hold

- Pre Wash
- Main Wash
- Super
- Normal

- 1400
- 1000
- 800
- 400

- 95℃
- 60
- 40
- 30
- No Spin
- Cold

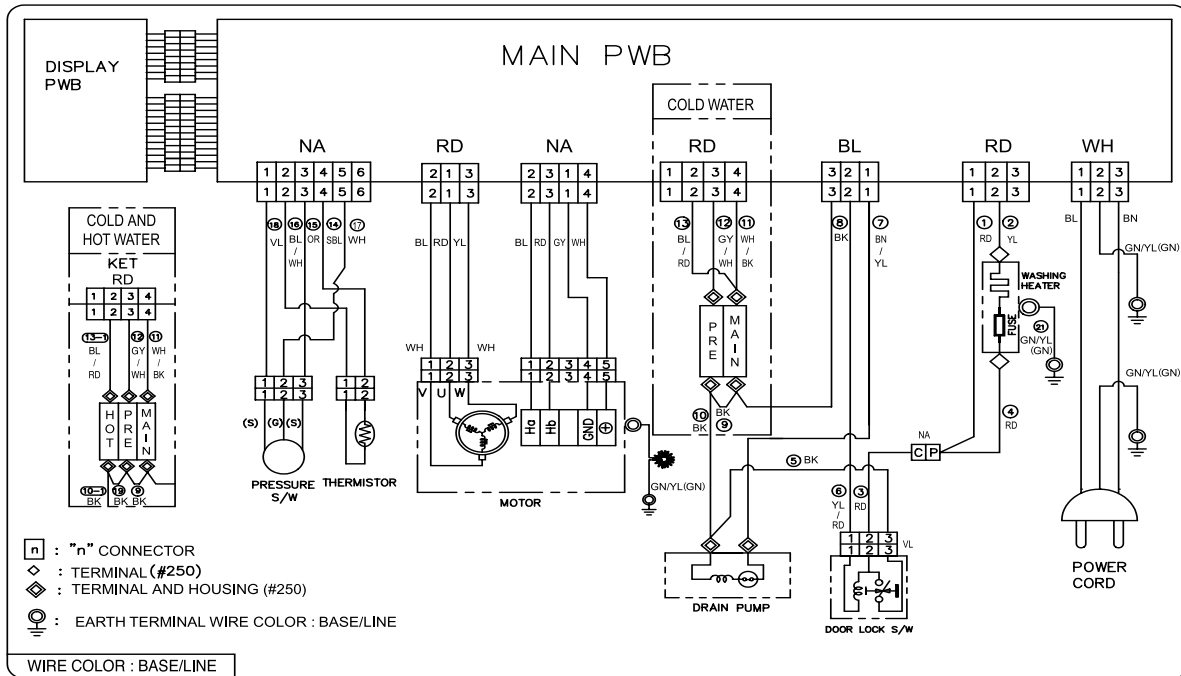Wash   Rinse   Spin   Temp.

Child - Lock

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- **Child Lock** system can be set anytime even during Power-off and operation.
- It is automatically cancelled when an operational error occur.

For manual wash, rinse and spin speed

- Use these buttons to change wash/rinse/spin.
- When lamp is off, no selection has been made.
- Prewash is available for Cotton-Eco, Cotton, Synthetic.

6. WIRING DIAGRAM / PROGRAM CHART

[WD(M)-1060F(H)D / 1065F(H)D / 1260F(H)D / 1265F(H)D / 1460F(H)D / 1465F(H)D]

MAIN PWB

DISPLAY PWB

COLD WATER

NA RD NA RD BL RD WH

COLD AND HOT WATER
KET

HOT PRE MAIN

PRESSURE S/W   THERMISTOR   MOTOR   DRAIN PUMP   DOOR LOCK S/W

WASHING HEATER   FUSE   POWER CORD

PRE MAIN

n : "n" CONNECTOR
◇ : TERMINAL (#250)
◈ : TERMINAL AND HOUSING (#250)
⏚ : EARTH TERMINAL WIRE COLOR : BASE/LINE

WIRE COLOR : BASE/LINE

PROGRAM CHART   * Water Supply : W·S   * Intermittent Spin : I·S   * Disentangle : D·T

CYCLE / COURSE / STEP	Wash										Rinse																Spin			END	AUTO OFF		Normal Working Time (Hour:Minute)
	Pre				Main					Normal (Hold)												Extra (Hold)											
					Washing		Staycooling			1				2				3				4											
	W·S	Wash	Drain	I·S	W·S	Heat	Wash	W·S	Rinse	Drain	Drain	I·S	W·S	Rinse	Drain	I·S	W·S	Rinse	Drain	I·S	W·S	Rinse	Drain	I·S	W·S	Rinse	Drain	Spin	D·T				
Step	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	
Time (SEC)	120	MIN	60	300	120		MIN	120	60	60	60	300	120	360	60	300	120	360	60	300	120	360	60	300	120	360	60	600	120	20	20	
Coloureds		8					22 / 52																									About 1:59
Whites		8					1 / 40	3 TIMES																								About 2:42
WhitesEco		8					37 / 67																									About 2:58
Rapid							10																									About 54
Delicate							25																									About 1:05
Wool							15																									About 55
Synthetic		8					22 / 52																									About 1:32
Wash		8					22 / 52																									About 1:09
Rinse																																About 39
Rinse Hold																																About 39
Spin																																About 12
Wash + Rinse		8					22 / 52																									About 1:48
Wash +Spin		8					22 / 52																									About 1:14
Rinse + Spin																																About 50

* ▬▬▬ Basic Cycle
* ⋯⋯⋯ Optional Cycle
* Pre-Setting Time : Water Supply - 120 sec.
                    Drain   - 60 sec.
* ~ 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.

[WD(M)-1080F(H)D/1085F(H)D/1280F(H)D/1285F(H)D/1480F(H)D/1485F(H)D
WD-1061FD/1261FD/1266FD/1461FD/1466FD/1288FHD/1488FHD/1480(5)FDN/1480(5)FDF]
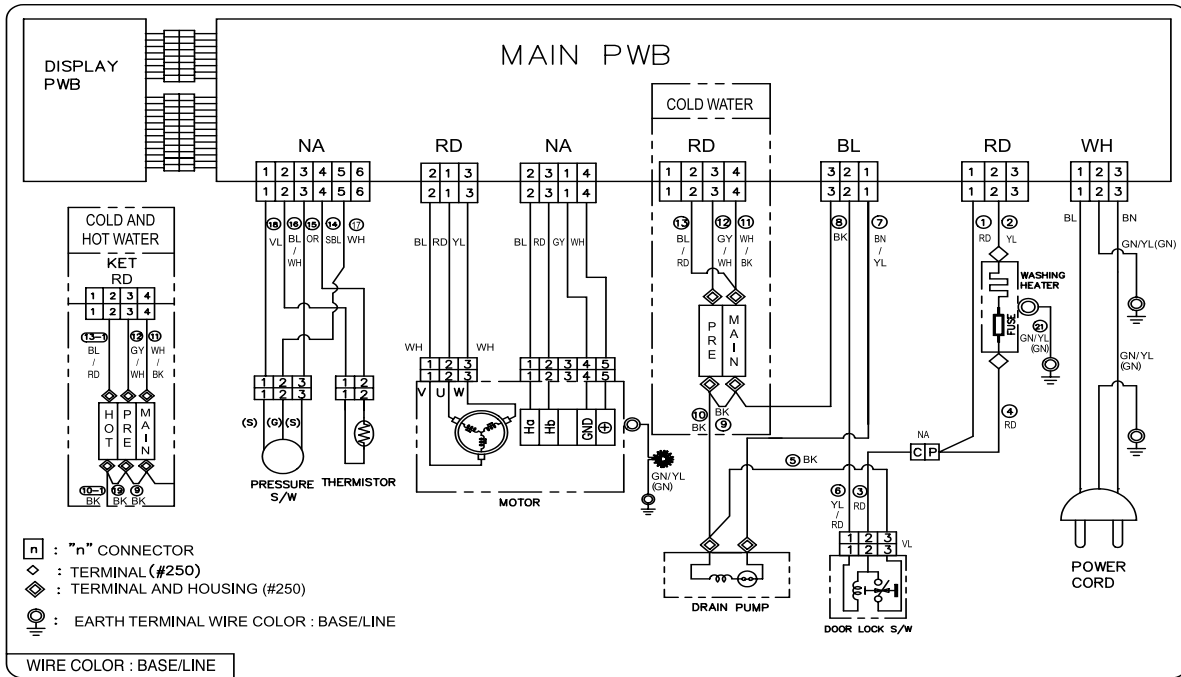
¡ ( ) : WD(M)-1080F(H)D / 1085F(H)D / 1280F(H)D / 1285F(H)D / WD-1061FD / WD-1261FD / 1266FD / 1288FHD

PROGRAM CHART   * Water Supply : W·S   * Intermittent Spin : I·S   * Disentangle : D·T

COURSE / CYCLE STEP	Wash										Rinse																Spin			END	AUTO OFF		Normal Working Time (Hour:Minute)
	Pre			Main						Normal (Hold)													Extra (Hold)									
					Washing		Staycooling			1			2			3			4														
	W·S	Washing	Drain	I·S	W·S	Heat	Wash	W·S	Rinse	Drain	Drain	I·S	W·S	Rinse	Drain	I·S	W·S	Rinse	Drain	I·S	W·S	Rinse	Drain	I·S	W·S	Rinse	Drain	Spin	D·T	END			
Step	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	
Time (SEC)	120	MIN	60	300	120		MIN	120	60	60	60	300	120	360	60	300	120	360	60	300	120	360	60	300	120	360	60	600	120	20	20	
Cotton	8					60 / 96		3 TIMES																								About 2:43(2:39)
Cotton-Eco	8					1 / 40																										About 2:58
Synthetic	8					23 / 59																										About 1:32
Quick 30						12																										About 30
Delicate						1 / 29																										About 1:07
Wool						1 / 23																										About 1:01
HandWash						1 / 29																										About 1:00
Wash	8					60 / 96																										About 1:03
Rinse																																About 39
Rinse Hold																																About 39
Spin																																About 12
Wash + Rinse	8					60 / 96																										About 1:48
Wash +Spin	8					60 / 96																										About 1:14
Rinse + Spin																																About 38

* ▬▬▬ Basic Cycle
* ░░░░ Optional Cycle
* Pre-Setting Time : Water Supply - 120 sec.
                Drain   - 60 sec.
* ~ 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

17

7. TROUBLESHOOTING

7-1.BEFORE PERFORMING SERVICE

■ Be careful of electric shock or disconnecting the parts while troubleshooting.

■ Voltage of each terminal in 220-240V~ and DC while applying an electric current.

7-2.QC TEST MODE.

① Pressing **Rinse**, and **Spin** button simultaneously.

② Power supply 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	$18:88$
1 time	Clockwise spin (right)	Drum rpm (About 40~52)
2 times	Low speed Spin	Drum rpm (About 55~65)
3 times	High speed Spin	Drum rpm (About 95~140)
4 times	Inlet valve for prewash operation	Water level frequency (25~65)
5 times	Inlet valve for mainwash operation	Water level frequency (25~65)
	Hot inlet valve in case of hot water fill	
6 times	Inlet valve for mainwash operation	Water level frequency (25~65)
7 times	Counterclockwise spin (left)	Drum rpm (About 40~52)
8 times	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 **Rinse** and **Spin** button simultaneously.

＊＊＊
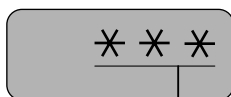
● The digits means water level frequency (10^{-1} kHz)

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

7-4.ERROR DISPLAY.
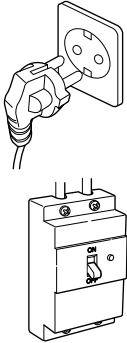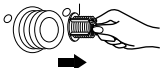
- If you press the Start/Pause button when an error in displayed, any error except PE will disappear and the machine will change into pause status.
- In case of PE , tE , dE , if the error is not resolved within 20 sec. In the case of other errors, if the error is not resolved within 4 min., power will be turned off automatically and the error only will be blinked. But in the case of FE , power will not be turned off.
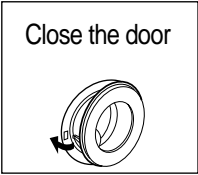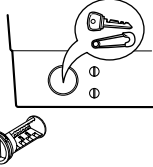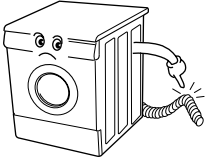
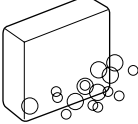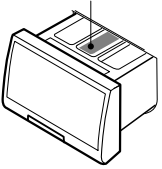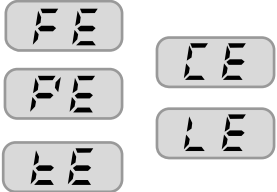|	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	┌ ᴵ E ┐	○ Water has not reached to the pre-set level within 8 min. since inlet valve operated, or water has not reached to the normal level within 25 min.
2	IMBALANCE ERROR	┌ UE ┐	○ Load is too small. ○ The appliance is tilted. ○ Laundry is gathered to one side. ○ Non-distributable things are put into the drum.
3	DRAIN ERROR	┌ OE ┐	○ Water has not drained enough within 10 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	┌ dE ┐	○ The Start/Pause button is pressed with the door open. ○ The door switch is out of order.
7	HEATING ERROR	┌ tE ┐	○ The THERMISTOR is out of order.

	ERROR	SYMPTOM	CAUSE
8	CURRENT ERROR	`C E`	• MAIN PWB ASSEMBLY is out of order ☞ Replace the MAIN PWB ASSEMBLY • Winding in the STATOR ASSEMBLY is short-circuited. ☞ Replace the STATOR ASSEMBLY
9	LOCK ERROR	`L E`	• The connector (3-pin, male, white) in the LEAD WIRE ASSEMBLY is not connected to the connector (3-pin, female, white) of STATOR ASSEMBLY. ☞ Reconnect or repair the connector • The electric contact between the connectors [3-pin, male, white in the LEAD WIRE ASSEMBLY and 4-pin, female, natural in the MAIN PWB ASSEMBLY is bad or unstable. ☞ Reconnect or repair the contact in the connector • The LEAD WIRE ASSEMBLY between the STATOR ASSEMBLY and MAIN PWB ASSEMBLY is cut (open circuited). ☞ Repair the damaged (open-circuited) the LEAD WIRE ASSEMBLY • The hall sensor is out of order/defective. ☞ Replace the STATOR ASSEMBLY

8. ERROR DIAGNOSIS AND CHECK LIST

8-1.DIAGNOSIS AND ANSWER FOR ABNORMAL OPERATION

SYMPTOM	GUIDE FOR SERVICE CALL
NO POWER	Is the power plug connected firmly to 220-240V~ outlet? **YES** Power failure? or Breaker opened? Is the outlet controlled by a switch **NO** Visit to check
WATER INLET TROUBLE	Is 〔 I E 〕 displayed? **YES** Is the tap opened? **YES** Is the tap frozen? **NO** Is the water supply shut-off? **NO** Is filter in the inlet valve clogged with foreign material? → **YES** → Clean the filter of inlet valve **NO** Visit to check

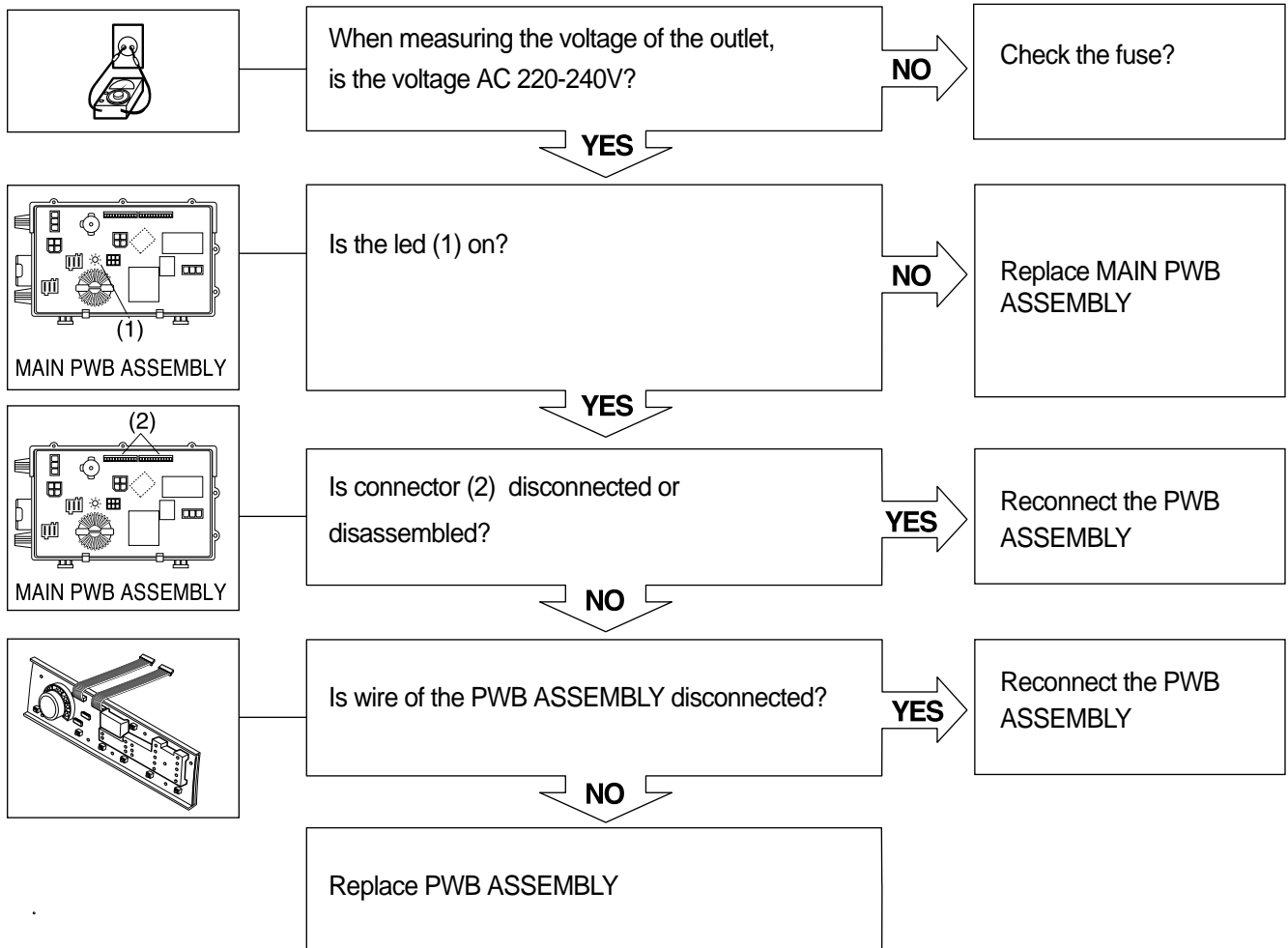| SYMPTOM	GUIDE FOR SERVICE CALL
◦ DOOR OPEN ERROR dE	Did you press the **Start/Pause** button when the door is open? **YES** → Close the door **NO** Visit to check **Check if the door switch is O.K**
◦ DRAIN TROUBLE OE	Is OE displayed? OE **YES** Is the debris filter clogged with foreign material such as pins, coins, etc? **YES** → Clean up the filter. **NO** Is the drain hose frozen with water, kinked, or crushed? **NO** Visit to check

SYMPTOM	GUIDE FOR SERVICE CALL
◦ Suds overflow from the appliance. (In this condition, wash and spin do not operate normally)	Is low-sudsing detergent for the drum washing machine used? **YES** Is the proper amount of detergent used as recommended? **YES** Recommend to reduce the amount of detergent. ∗ This appliance has the automatic suds sensing function which operates under much suds condition for good rinse and preventing overflow. ∗ When much suds are sensed, the suds removing function such as drain, water input, and pause will operate without rotating the drum. LOW-SUDSING DETERGENT
◦ No effect of softener	Is softener put in the correct compartment of the 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
F E P E E E C E L E	Visit to check

23

8-2.FAULT DIAGNOSIS AND TROUBLESHOOTING
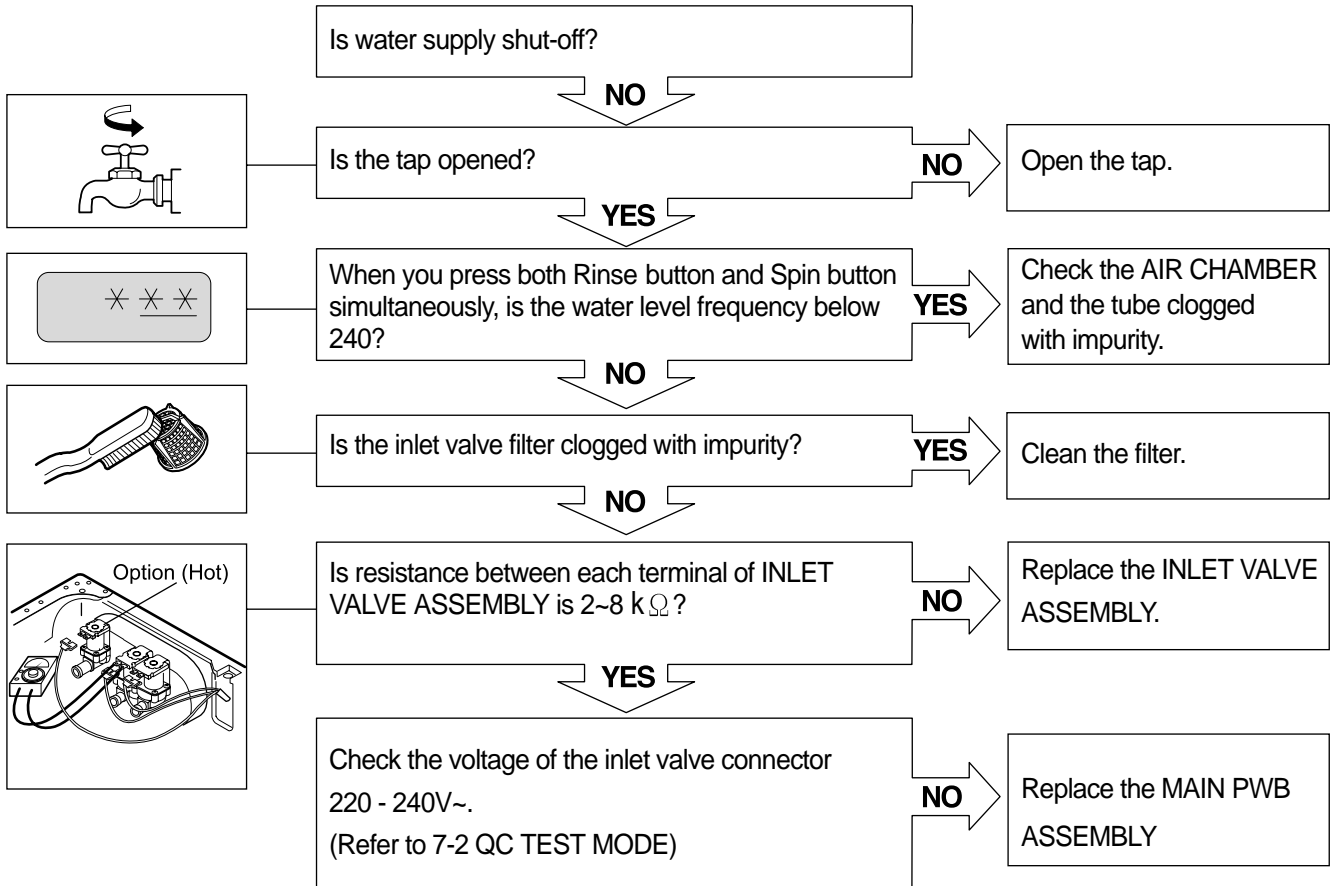
CAUTION

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.
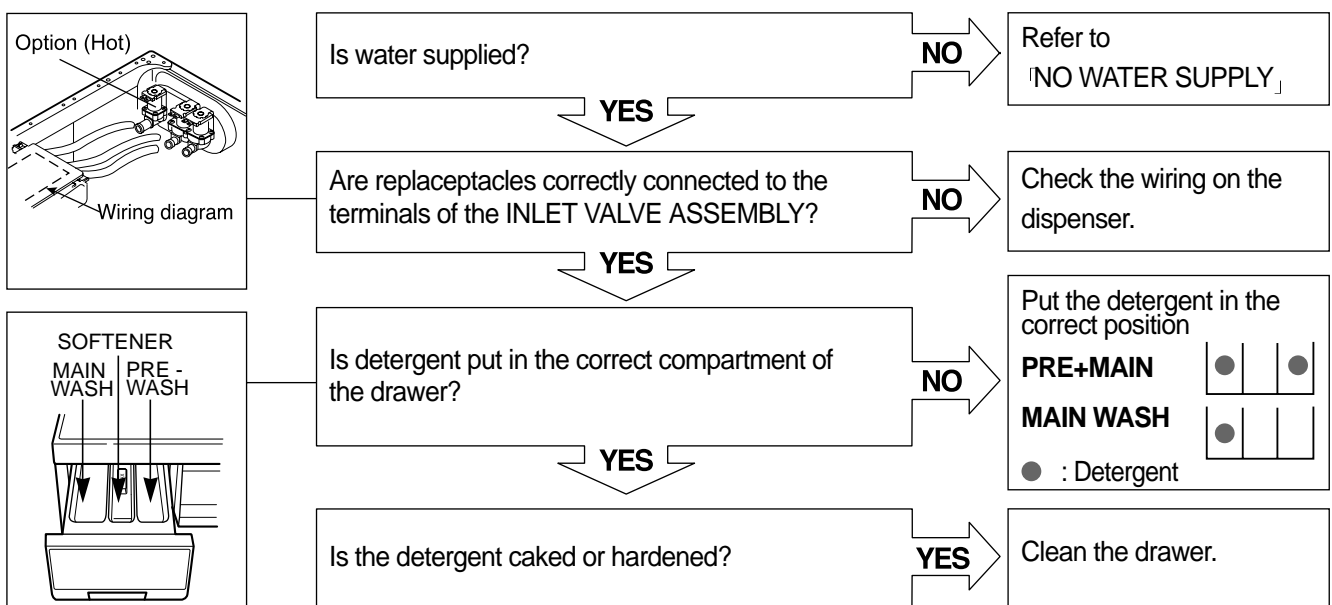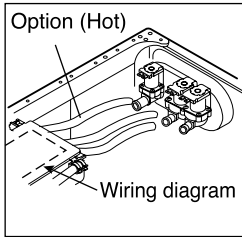3. If you replace the MAIN PWB ASSEMBLY, put in the connectors correctly.

NO POWER

When measuring the voltage of the outlet, is the voltage AC 220-240V?	**NO** →	Check the fuse?
↓ **YES**		
Is the led (1) on?	**NO** →	Replace MAIN PWB ASSEMBLY
↓ **YES**		
Is connector (2) disconnected or disassembled?	**YES** →	Reconnect the PWB ASSEMBLY
↓ **NO**		
Is wire of the PWB ASSEMBLY disconnected?	**YES** →	Reconnect the PWB ASSEMBLY
↓ **NO**		
Replace PWB ASSEMBLY		

(1) MAIN PWB ASSEMBLY

(2) MAIN PWB ASSEMBLY

NO WATER SUPPLY

Is water supply shut-off?

NO

Is the tap opened? → **NO** → Open the tap.

YES

When you press both Rinse button and Spin button simultaneously, is the water level frequency below 240? → **YES** → Check the AIR CHAMBER and the tube clogged with impurity.

NO

Is the inlet valve filter clogged with impurity? → **YES** → Clean the filter.

NO

Is resistance between each terminal of INLET VALVE ASSEMBLY is 2~8 k Ω ? → **NO** → Replace the INLET VALVE ASSEMBLY.

YES

Check the voltage of the inlet valve connector 220 - 240V~.
(Refer to 7-2 QC TEST MODE) → **NO** → Replace the MAIN PWB ASSEMBLY

Option (Hot)

DETERGENT DOES NOT FLOW IN

Option (Hot)

Wiring diagram

Is water supplied? → **NO** → Refer to 「NO WATER SUPPLY」

YES

Are replaceptacles correctly connected to the terminals of the INLET VALVE ASSEMBLY? → **NO** → Check the wiring on the dispenser.

YES

SOFTENER
MAIN WASH | PRE - WASH

Is detergent put in the correct compartment of the drawer? → **NO** → Put the detergent in the correct position

PRE+MAIN ● | | ●

MAIN WASH | ● |

● : Detergent

YES

Is the detergent caked or hardened? → **YES** → Clean the drawer.

SOFTENER DOES NOT FLOW IN

Is water supplied? → **NO**	Refer to 「NO WATER SUPPLY」

YES

Are receptacles correctly connected to the terminals of the INLET VALVE ASSEMBLY? → **NO**	Check the wiring on the dispenser.

YES
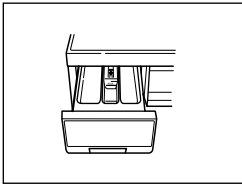
Is softener put in the correct compartment of the drawer? → **NO**	Put it in the correct compartment.

YES
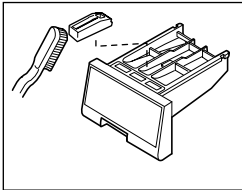
Is the softener cap clogged? → **YES**	Clean the cap and drawer.

Option (Hot)

Wiring diagram

ABNORMAL SOUND
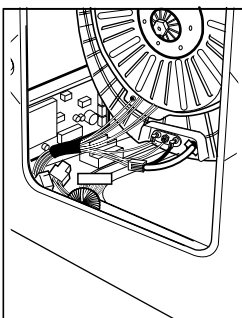
Is the motor bolt loosened? → **YES**	Fix the bolt tightly.

NO

Is there friction noise from the motor? → **YES**	Replace the STATOR ASSEMBLY or ROTOR ASSEMBLY.

26

HEATING WITHOUT WATER

Rinse   Spin

MAIN PWB ASSEMBLY

220-240V

When pressing Rinse and Spin at the same time after draining, is the water level frequency 252 or more? When pressing Rinse, Spin buttons at the same time while wash, is the water level frequency between 230 - 243 ?

NO → Replace the S.PRESSURE SWITCH ASSEMBLY

YES ↓

Checking voltage between two pins as press the POWER button is the voltage 220 - 240V~?

YES → Replace the MAIN PWB ASSEMBLY

DRAIN MALFUNCTIONING

Is the drain hose twisted or frozen?

YES → Repair the DRAIN HOSE ASSEMBLY.

NO ↓

Is the impeller of the drain pump clogged?

YES → Remove foreign material.

NO ↓

Is the connector disconnected, disassembled?

YES → Reconnect or repair the connector

NO ↓

Is the coil of the drain pump cut-off?
(resistance of coil is 90~160 Ω)

YES → Repair the DRAIN PUMP ASSEMBLY.

NO ↓

When checking voltage between connectors (①, ②) on spinning, is the voltage 220 - 240V~ as the figure?

NO → Repair the MAIN PWB ASSEMBLY.

②   ①

MAIN PWB ASSEMBLY

WASH HEATER TROUBLE

MAIN PWB ASSEMBLY

220 - 240V~

When checking the voltage between connectors (①, ②) during whites washing, Is the voltage 220 - 240V ~?

NO → Replace the MAIN PWB ASSEMBLY

YES

YELLOW

RED

After power off,is the resistance of wire (RED-YELLOW) connectors between 10Ω~30Ω?

YES → Normal

NO

After power off and the heater terminal is disconnected, is the resistance 10~30Ω?

NO → Replace the HEATER ASSEMBLY

HEATING CONTINUOUSLY ABOVE THE SETTING WATER TEMPERATURE

MAIN PWB ASSEMBLY

When disconnect the connector (1) on the, MAIN PWB ASSEMBLY is the resistance of the natural connectors [②(Blue/White), ④(Sky blue)] between 2.5kΩ to 180kΩ (105℃~0℃)?

NO → Replace the THERMISTOR (6322FR2046B)

YES

When checking THERMISTOR on the tub is the THERMISTOR loosened above 2mm from the rubber?

YES → Push the THERMISTOR tightly to the rubber.
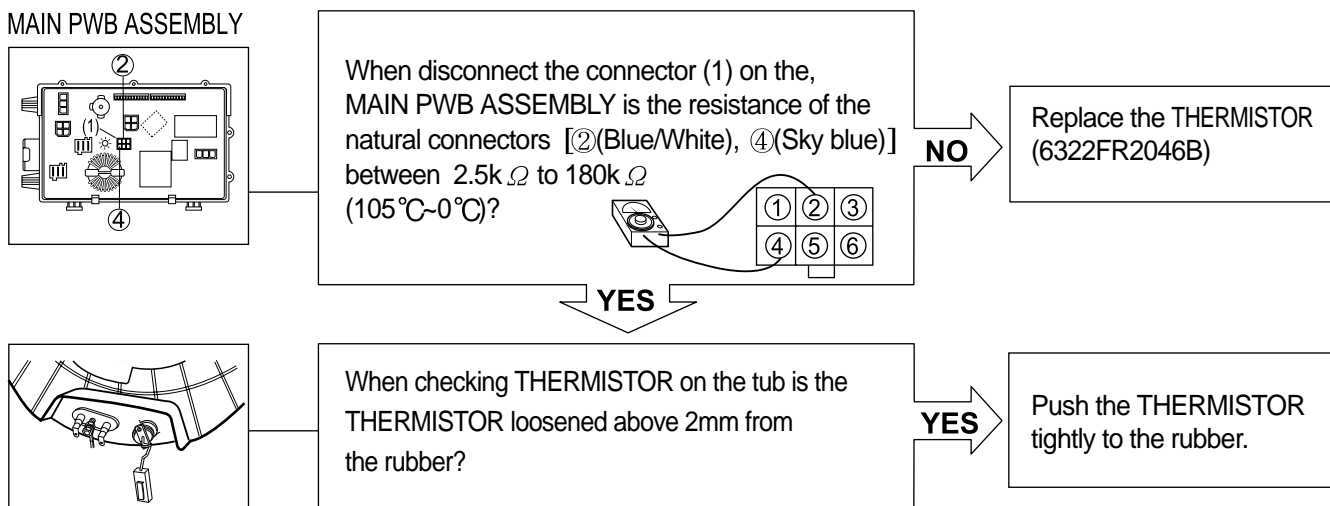
SPIN TROUBLE
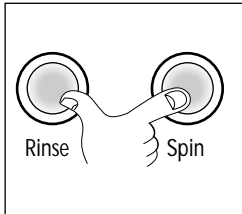
Check on the spinning, is the frequency of the water level 248 or more. The frequency can be checked by pressing the Rinse and Spin buttons at the same time on the program.

NO → Check the S.PRESSURE SWITCH ASSEMBLY or HOSE (Pressure). If the problem is on the S.PRESSURE SWITCH ASSEMBLY or the HOSE, replace the S.PRESSURE SWITCH ASSEMBLY or the HOSE.

YES
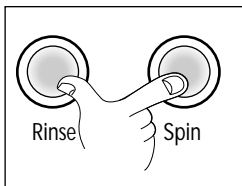
When pressing Rinse, Spin and POWER buttons at the same time after power off, press the Start/Pause button 2 times, is the drum spinning at low speed?

YES → Normal

NO
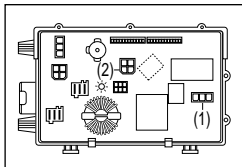
Is it disconnected, or disassembled?
[Red:3pin (1), NA:4pin (2)]

YES → Correct the connector.

NO
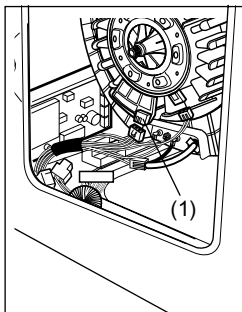
Check the motor connector, Is the resistance of the terminal same as the figure?

MOTOR TERMINAL (1)

①	②	③
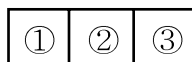
Resistance of terminal:

①~② / ②~③ / ③~① : About $5\,\Omega \sim 10\,\Omega$

NO → Replace the STATOR ASSEMBLY (4417FA1994E)

YES

Replace the MAIN PWB ASSEMBLY

9. DISASSEMBLY INSTRUCTIONS

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

CONTROL PANEL ASSEMBLY
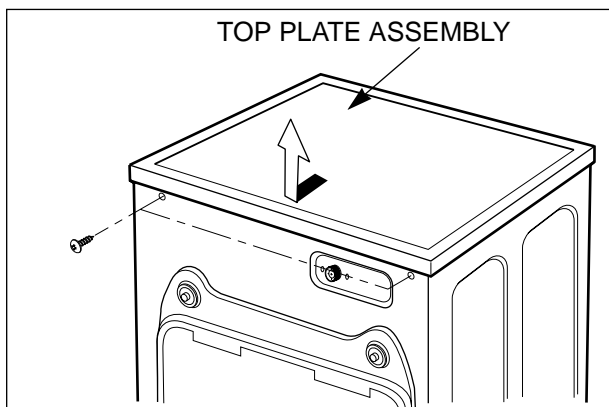
TOP PLATE ASSEMBLY

① Unscrew 2 screws on the back of the top plate.

② Pull the top plate backward and upward as shown.

Hook

CONTROL PANEL ASSEMBLY
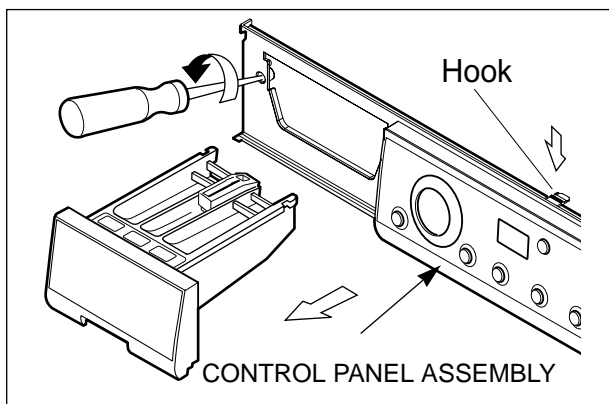
① Disconnect the ASSEMBLY connector.

② Pull out the drawer and unscrew 3 screws.

③ Push 2 upper hooks down and pull the control panel.
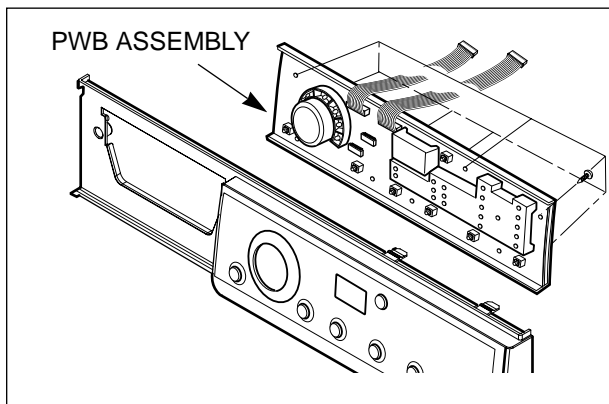
PWB ASSEMBLY

① Disconnect the PWB ASSEMBLY from the control panel by unscrewing 9 screws.

DISPENSER ASSEMBLY
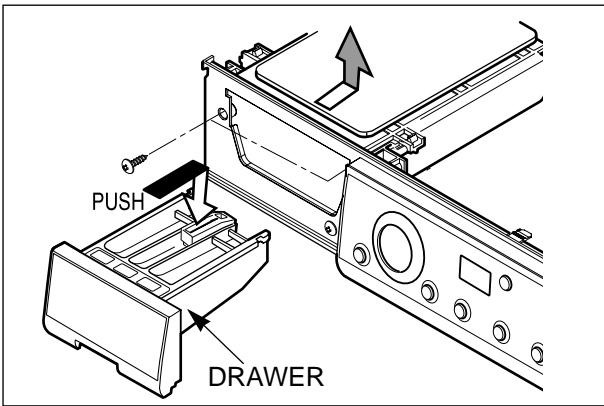
① Disassemble the TOP PLATE ASSEMBLY.

② Pull out the drawer slightly upward.

③ Unscrew 2 screws.
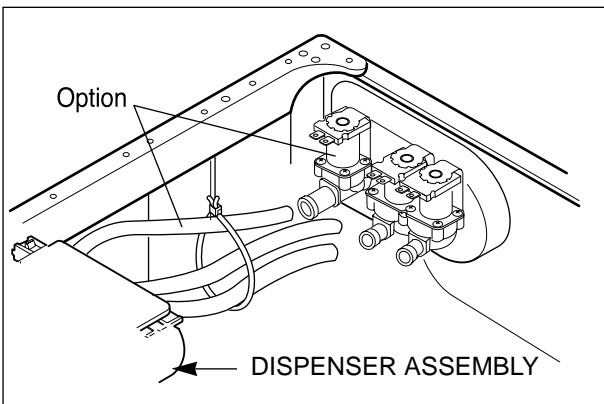
① Disassemble hose clamps and hoses.

② Disassemble the ventilation bellows and the water inlet bellows from the tub.

INLET VALVE ASSEMBLY
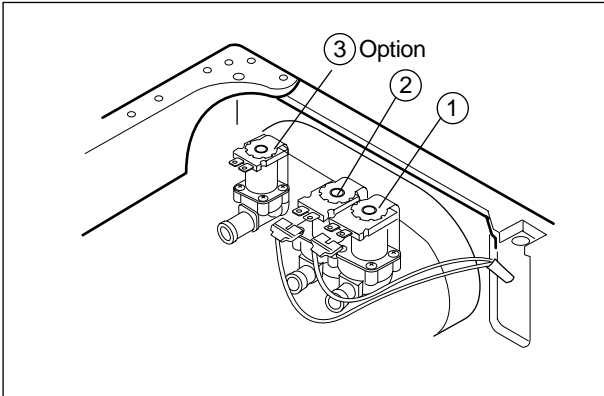
① Disconnect the wiring connector.
② Unscrew 2 screws from the back.

∗ When reconnecting the connector

∗ Cold only model

VALVE#1 (MAIN)	Whited/Black-Black
VALVE#2 (PRE)	Gray/ White - Black

∗ Cold and Hot model

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

MAIN PWB ASSEMBLY
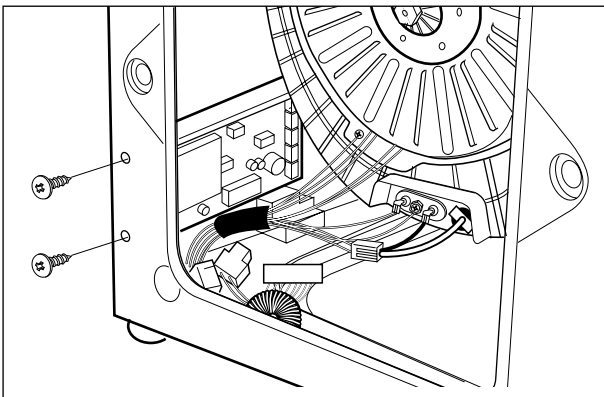
① Remove the back cover.
② Unscrew 2 screws.
③ Pull the MAIN PWB ASSEMBLY as shown.

LOWER COVER
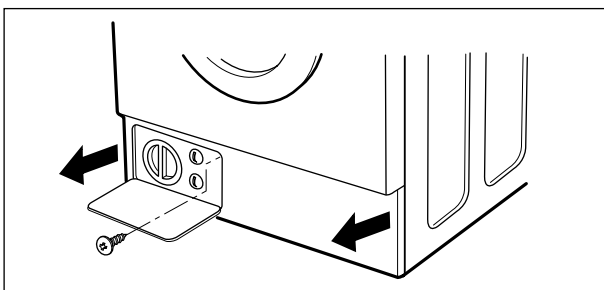
① Open the lower cover CAP by using coin and pull out the lower cover in the arrow direction after a screw is unscrewed.

DOOR ASSEMBLY
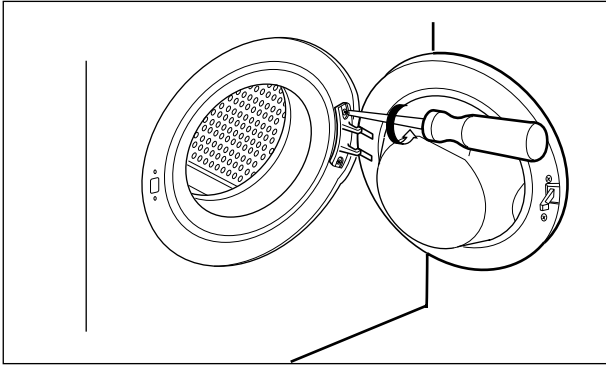
① Open the door completely.
② Remove the two screws from the hinge.

※ When removing the DOOR ASSEMBLY, it is
   necessary to hold the BRACKET that is inner of the
   CABINET COVER.

GASKET
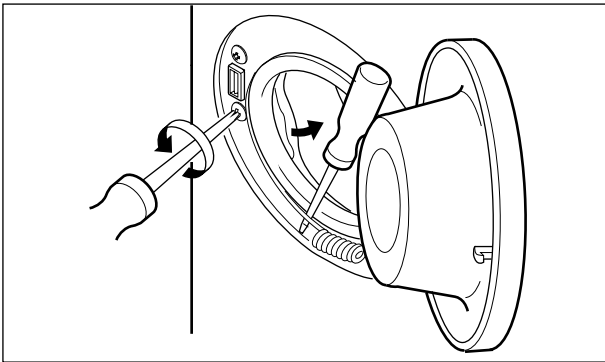
① Take apart the CLAMP ASSEMBLY (cabinet).
② Unscrew 2 screws from the CABINET COVER.
③ Open the lower cover cap and unscrew 1 screw inside
④ Take apart the LOWER COVER.
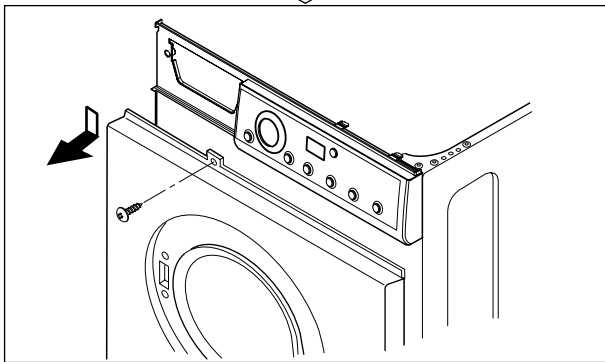
① Unscrew all the screws on the upper and lower sides of
   the CABINET COVER.
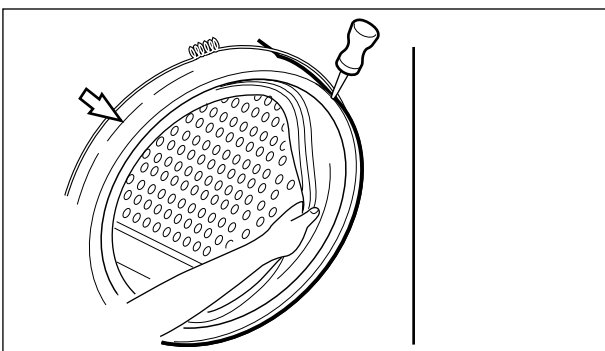
① Take apart the tub CLAMP ASSEMBLY
② Make sure that the drain hole of the GASKET is put
   beneath when reassembling the GASKET.
※ Refer to the arrow mark on the TUB COVER.

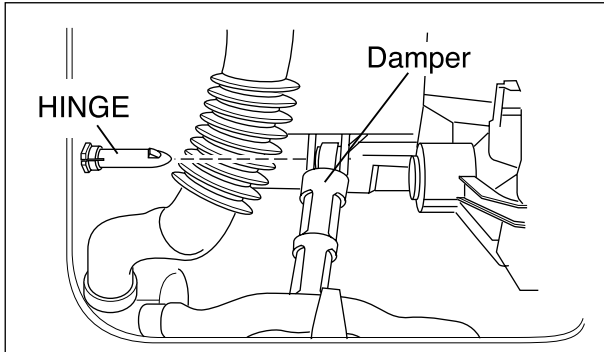## ROTOR ASSEMBLY, STATOR ASSEMBLY, FRICTION DAMPER ASSEMBLY
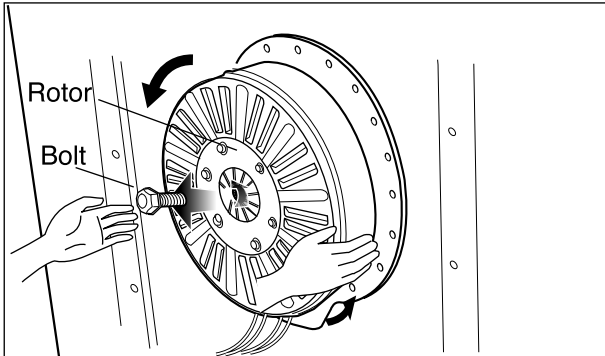
(ROTOR ASSEMBLY)

① Remove the BACK COVER.

② Unscrew the bolt to pull out the ROTOR ASSEMBLY.
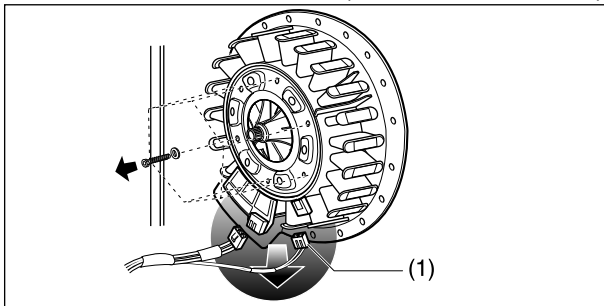
(STATOR ASSEMBLY)

① Disconnect the wiring connector.

② Unscrew 6 bolts from the STATOR.
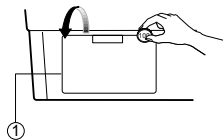
③ Remove the BODY FRAME.
   (Only 1400 rpm models)
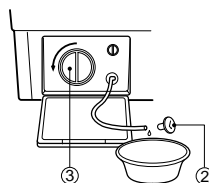
∗ Note : Hook of connector (1) is on the backside

(FRICTION DAMPER ASSEMBLY)

① Pull out the HINGE, pressing its snap.

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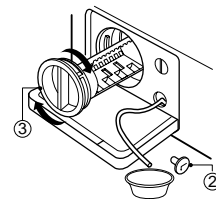   It may be taken off during operation.

■ Clean the drain pump filter

Open the lower cover cap (①) by using coin.

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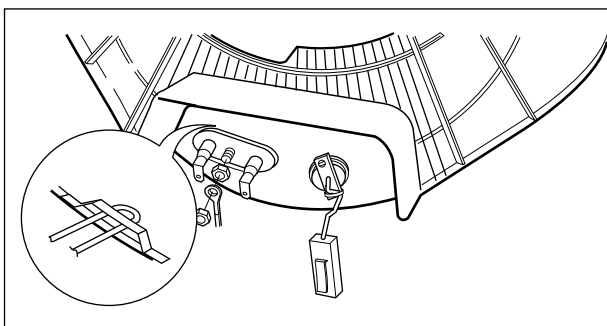
Take out any foreign material from the pump filter (③). After cleaning, turn the pump filter (③) clockwise and insert the drain plug (②) to the original place. close the lower cover cap.

DRAIN PUMP ASSEMBLY
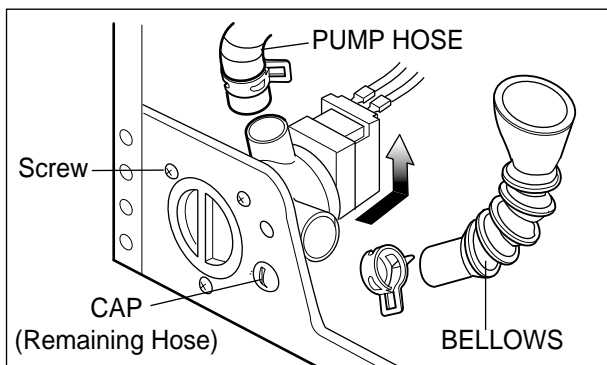
① Remove PUMP HOSE.

② Remove BELLOWS..

③ Remove CAP (Remaining Hose.)

④ Disconnect the wiring.

⑤ Unscrew 3 screws
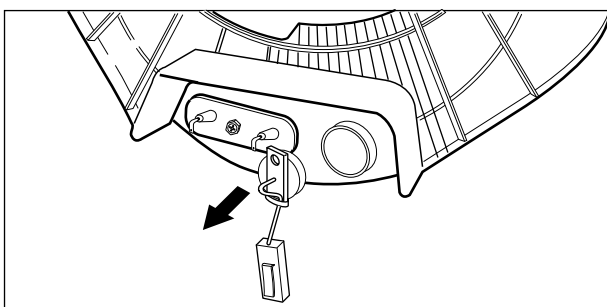
⑥ Remove the DRAIN PUMP ASSEMBLY.

HEATER ASSEMBLY

① Loosen the M6 heater nuts to pull out the HEATER
ASSEMBLY.

CAUTION

When mounting the HEATER ASSEMBLY be sure to
insert the HEATER ASSEMBLY 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
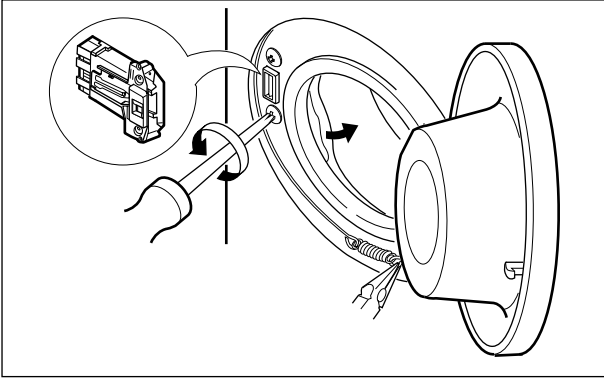
① Take apart the CLAMP ASSEMBLY (cabinet) and release the GASKET.

② Unscrew 2 screws holding the DOOR SWITCH ASSEMBLY.

③ Disconnect the door lock from the wiring connector.
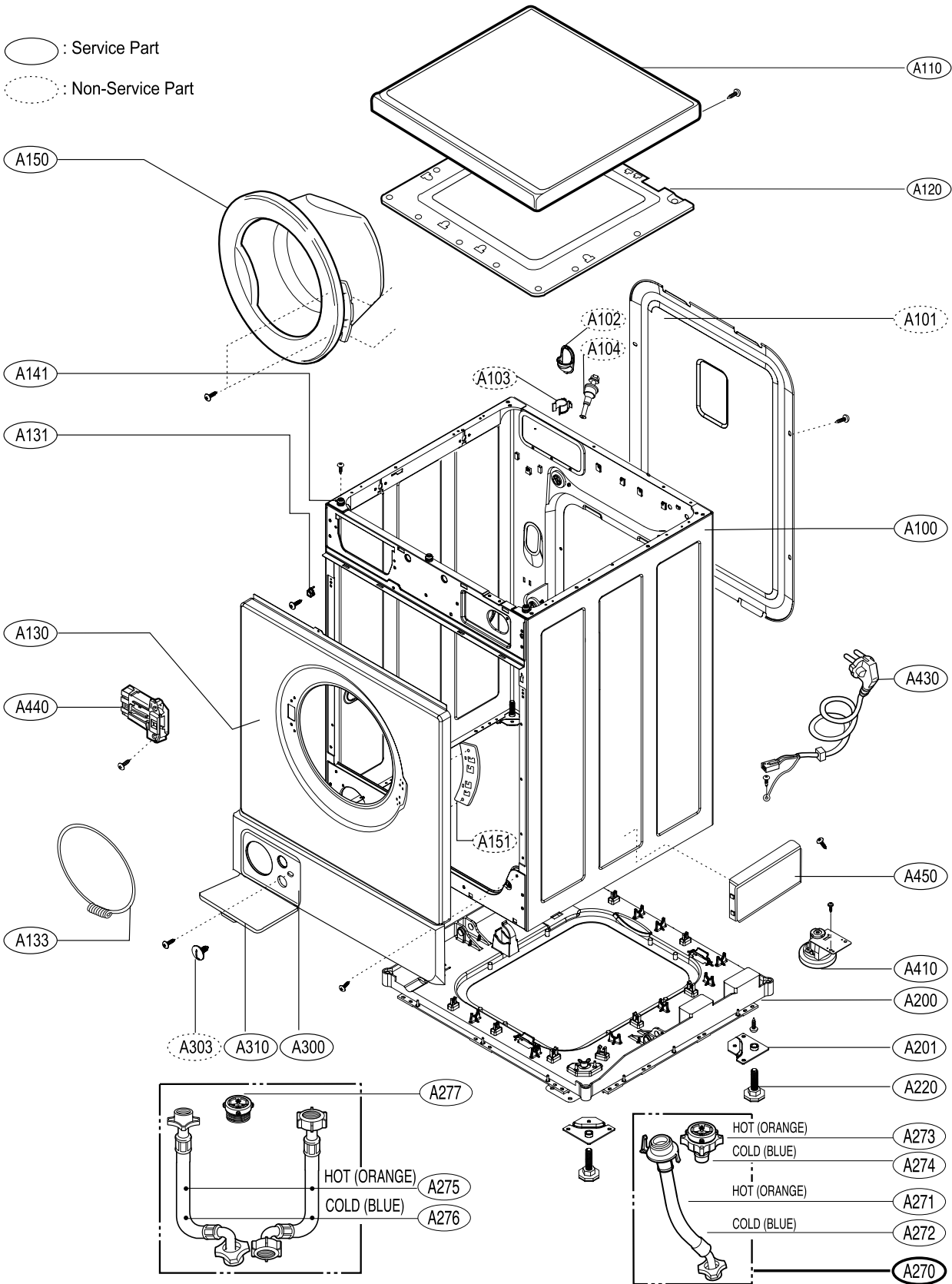
WHEN FOREIGN MATERIAL IS STUCK BETWEEN DRUM AND TUB
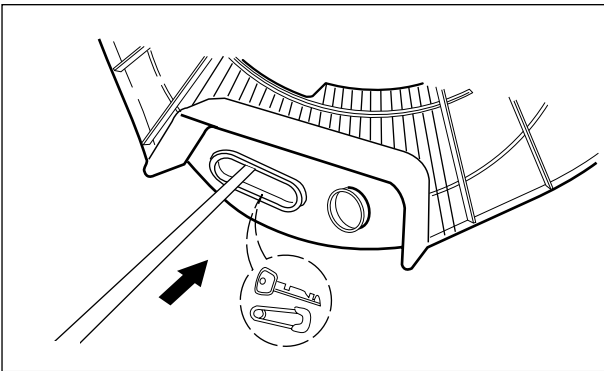
① Remove the HEATER ASSEMBLY.

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

10. EXPLODED VIEW AND PART LIST

10-1.THE PART LIST OF CABINET ASSEMBLY

⬭ : Service Part

⬭ : Non-Service Part
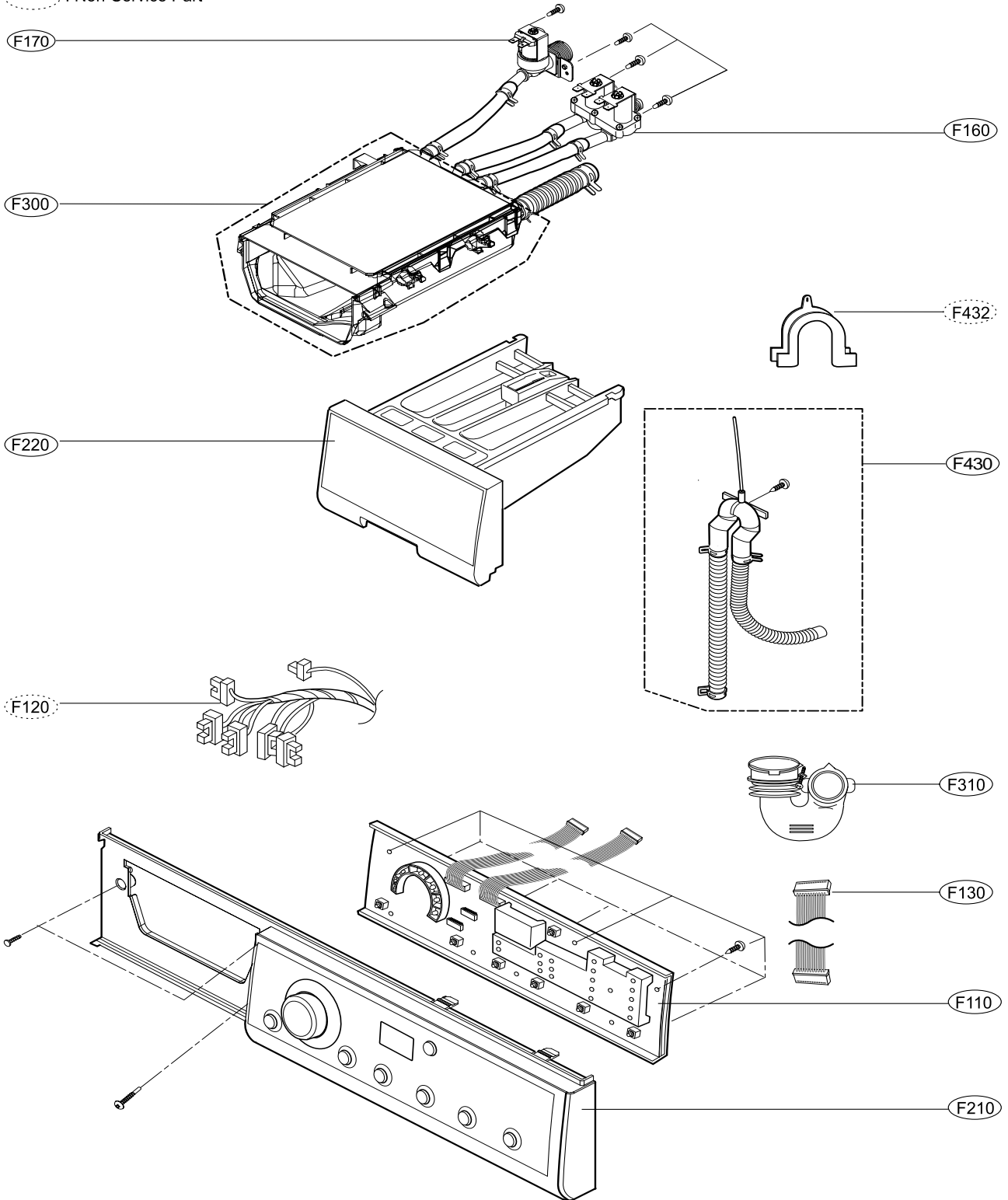
A150
A110
A120
A141
A102
A104
A103
A101
A131
A100
A130
A440
A430
A133
A151
A450
A303 A310 A300
A410
A200
A201
A220
A277
HOT (ORANGE) A273
COLD (BLUE) A274
HOT (ORANGE) A275
COLD (BLUE) A276
HOT (ORANGE) A271
COLD (BLUE) A272
A270

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

⬭ : Service Part

⬭ : Non-Service Part

F170

F160

F300

F432

F220

F430

F120

F310

F130

F110

F210

: Service Part

: Non-Service Part

K124 K350 K126 K360

F140

K411

K420

K143

K211

K122 K121

K125

K320

K110

K100

K141

K140

K310

K143

K105

K410

K510

K610

K611

K341

K130

K530

K131

K343

K344 K340 K531 K520 F441 K540 K550

LG