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WASHING MACHINE SERVICE MANUAL

CAUTION

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

MODEL: WD(M)-14400(5)TB / WD(M)-14401(6)TB / AWD-14400TB /

WD(M)-13400(5)TB / WD(M)-13401(6)TB /

WD(M)-12400(5)TB / WD(M)-12401(6)TB /

WD-12411(6)TB / WD-12417TBX /

WD(M)-11400(5)TB / WD(M)-11401(6)TB /

WD(M)-10400(5)TB / WD(M)-10401(6)TB /

WD-10411(6)TB / WD-10417TBX



P/No.: 3828ER3044R

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1. SPECIFICATION

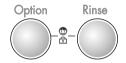
Γ	TEM	WD(M)-14400(5)TB / WD(M)-14401(6)TB WD(M)-13400(5)TB / WD(M)-13401(6)TB WD(M)-12400(5)TB / WD(M)-12401(6)TB WD-12411(6)TB / WD-12417TBX	WD(M)-11400(5)TB / WD(M)-11401(6)TB AWD-14400TB WD(M)-10400(5)TB / WD(M)-10401(6)TB WD-10411(6)TB / WD-10417TBX							
POWE	R SUPPLY	220-240V~, 50Hz								
PRODU	CT WEIGHT	6	65kg							
	WASHING	2	30W							
ELECTRICITY	SPIN	4	440W							
CONSUMPTION	DRAIN MOTOR		38W							
	WASH HEATER	20	W000							
	WASH	4	5rpm							
		1400 rpm :400/	800/1000/1400 rpm							
REVOLUTION SPEED	SPIN	1300 rpm :400/s	800/1000/1300 rpm							
		1200 rpm :400/800/1000/1200 rpm								
		1100 rpm : 400/800/1000/1100 rpm								
OPERATION W	ATER PRESSURE	0.3 - 10kgf/ crif (30 - 1000kPa)								
CONT	ROL TYPE	Electronic								
		Cotton & Cotton-Eco (Rating)								
WASH	CAPACITY	Synthetic (3.5kg), Wool/Silk (2kg), Hand Wash (2kg), Delicate (3kg), Quick 30(5kg), Baby Care(6kg), Duvet(9Tog)								
DIMI	ENSION	600mm(W)X550mm(D)X850mm(H)								
WASH	PROGRAM	Cotton, Synthetic, Wool/Silk, Hand Wash, Delicate, Quick 30, Baby Care, Duvet								
R	INSE	Rinse+, Medic Care Rinse, Normal, Rinse Hold								
DOOR SV	WITCH TYPE	Bi-Metal type								
WATE	ER LEVEL	9 steps (by sensor)								
RESE	RVATION	From 3 hours to 19 hours								
SENSING OF THE	E LAUNDRY AMOUNT	Adapted								
FUZZ	Y LOGIC	Adapted								
DISPLAY OF TH	IE REMAINING TIME	Adapted								
ERROR	DIAGNOSIS	11 items								
POWER	AUTO OFF	Adapted								
CHIL	D LOCK	Adapted								
AUTO	RESTART	Non								
R	APID	Adapted								

2. FEATURES & TECHNICAL EXPLANATION

2-1. FEATURES



■ 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.



■ Child-Lock

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

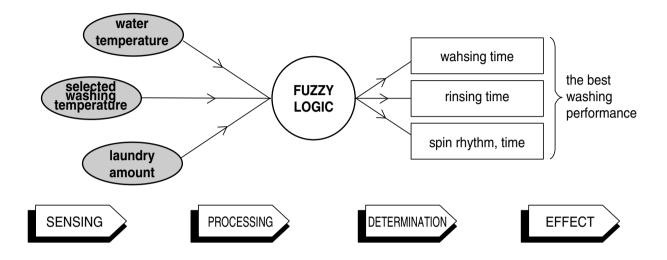


■ Safety device (Aqua lock)

WD(M)-14400(5)TB/13400(5)TB/12400(5)TB/11400(5)TB Aqua lock System is designed for detecting water leak during operation to prevent water from flooding over the floor.

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.



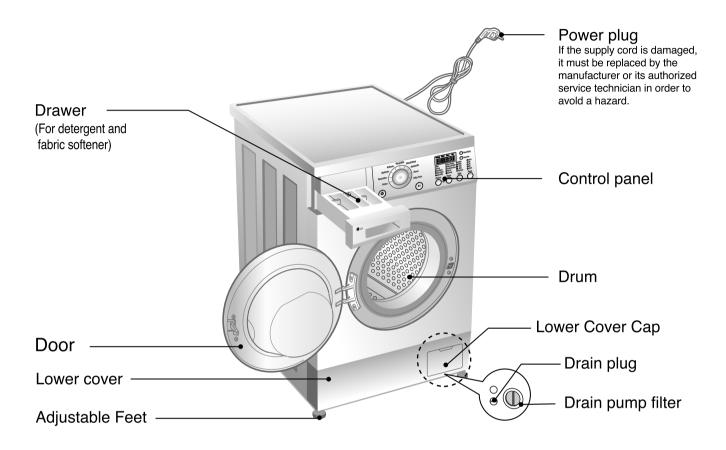
2-3.WATER LEVEL CONTROL

- This model adopts a pressure sensor which can sense the water level in the tub.
- Water supply is stopped when the water level to the preset level, then the washing program proceeds.

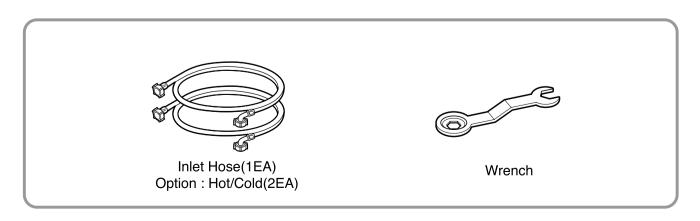
2-4.THE DOOR CAN NOT BE OPENED

· While program is operating.

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 Kor NOT.

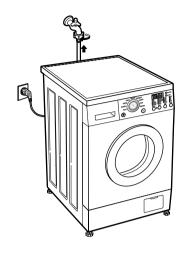
■ STANDARD INSTALLATION

The appliance should be installed as follows.

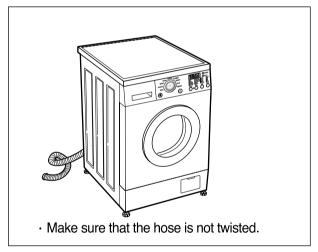
INSTALL THE APPLIANCE REMOVE THE TRANSIT **ADJUST THE BOLTS** ON FLAT AND FIRM SURFACE **HORIZONTAL** Remove the transit bolts (4EA: · Tum the leveling feet to set the with supplied spanner. Keep the appliance horzontally. transit bolts and · spanner for future use. · Insert the provided 4 caps · into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

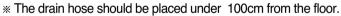
■ HOW TO CONNECT INLET HOSE

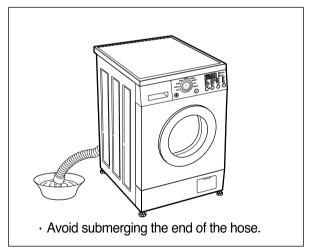
- · Check that the rubber washer is inside of the valve connector.
- · Connect the inlet hose firmly to prevent leak.



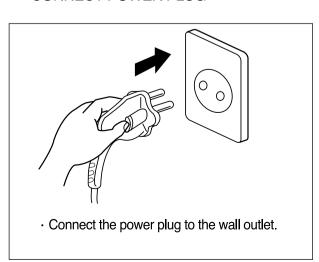
■ CONNECT DRAIN HOSE

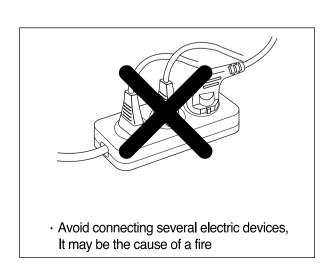




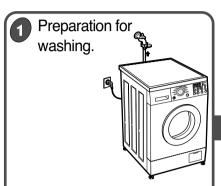


■ CONNECT POWER PLUG





7 TEST OPERATION



Press the power button.



Press the Start/Pause button



· In case of coloureds program.

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

Check the water heating



 Press the Temp. button and the present temperature will be displayed. Check automatic reverse tum.



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

Power off and open the door.



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

Water removal



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

5. OPERATION

Wash program selector

- 9 program can be set depending on the type of the laundry.
- · If the power button is pressed, Cotton program is automatically set.
- By turning the dial, [Cotton, Cotton-Eco, Synthetic, Delicate, Woo/Silk, Hand Wash, Quick 30, Duvet, Baby Care] 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 DE UE JE LE FE PE CE LE REPF)

· See troubleshooting guide.



POWER button

· Use this button to turn the power On/Off

Start/Pause button

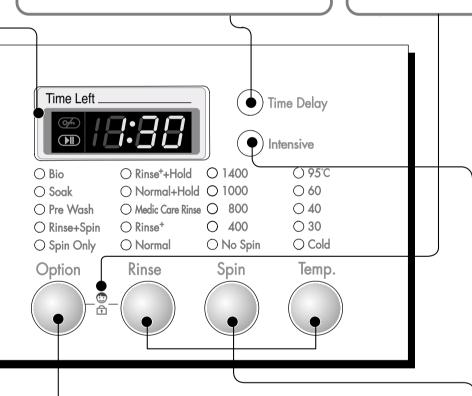
- Use the button to start or pause wash cycle.
- The power turns off automatically 4 minutes after the pause button is pressed.

Time Delay

- · Press the button when delayed washing is needed.
- When the button is pressed, ∃:00 is displayed, maximum delay of '9:00 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.

Child - Lock

- Child Lock system can be set and canceled by pressing and holding both [Rinse] and [Option] button simultaneously more than 2 seconds.
- Once Child Lock is set, all buttons are inoperable except power button
- Child Lock system can be set anytime even during
- · Power-off and operation.
- · It is automatically cancelled when an operational error occur.



INTENSIVE

- If the laundry is heavily soiled "Intensive" option is effective.
- By selecting the Intensive option, the wash time may be extended, depending on the program selected.
- To use this option press the Intensive button once before the wash program is started.

OPTION button

- Pre Wash: Use this option for loads that need pretreatment. It add 16 minutes pre wash and drain.
- Rinse+Spin: Use this option to rinse and then spin.
- Soak: Use this mode to wash normal clothes or think and heavy clothes which are excessively dirty.
- Spin Only: When you want Spin only, select this option.
- Bio: If you want to eliminate protein stains, you may select Bio function.

Rinse, Spin, Temp, Button

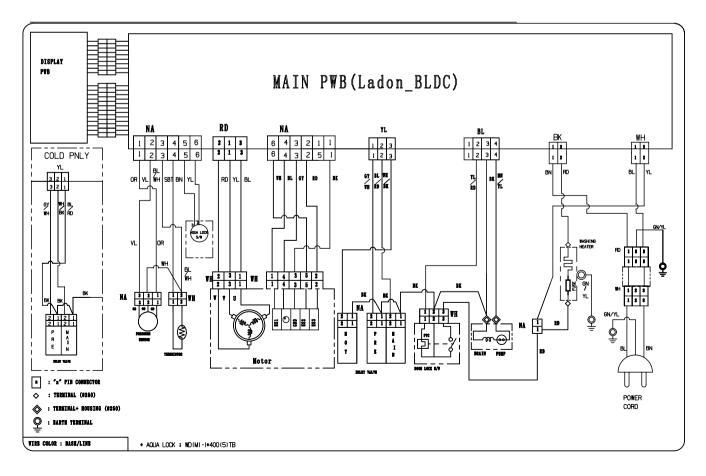
- Select a water temperature based on the type of load you are washing.
- To change the spin speed, press the Spin Speed button repeatedly to cycle through available options.
- To change the soil level, press the Soil Level button repeatedly until the desired setting is on.

6. WIRING DIAGRAM / PROGRAM CHART

			* Water Supply : W·S * Intermittent Sp									oin	: I·S	;	*	Dis	entangle : D·T																
€ VC					٧	Vas	hin	<u>g</u>					Rinse										Spin				Α						
	Y √C		Pı	re					ain				Normal Rinse +							- Op			E	T									
// `	\setminus_{Γ}	w	>			w	Was	hing	Sta	ycoo	ling		1		_		2	2	,		3	3			4	1	,				N	Ó	Normal
C/	S T E	S	Washing	Drain	- · s	S	Heating	Washing	W S	Rinsing	Drain	Drain	- S	W S	Rinsing	Drain	l S	W · S	Rinsing	Drain	- S	W S	Rinsing	Drain	- S	W S	Rinsing	Drain	Spin	D·Τ	D	O F F	Working Time (Hour:Minute)
	\ \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	(Floar.iviiriate)
U \ R S E	Time (SEC)	120	MIN	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	
Cott	on		8		***			42 87		><															***	***				-			About 1:40
Baby	/ Care		.8.					87 42 87		><																							About 2:20
Syn	thetic		>	<				26 51		><	\leq														HHH								About 1:30
Del	licate		\geq	\leq	\leq			18		<u> </u>	\leq									<u> </u>													About 1:00
Woo	ol/Silk		>	<	$<$ $^{\circ}$			18		><	$<$ $^{\circ}$							┢		ŀ					HHH:					┢	┢		About 1:00
Han	dwash		>	\leq				4 24		><	<u> </u>														***	***							About 1:00
Duv	et		\geq	\leq			NEXE S	39																	***					X			About 1:10
	uick		\geq	\leq						><	\leq		_				•																About 30
	nsing Spin				\geq	\geq	>	<	=																								About 21
D	rain			About 1																													

Basic Cycle

The actual program time can be varied with the load amount, water temperature or ambient temperature



^{* *} 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

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 Option, 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	(B:88)				
1 time	Clockwise spin (right)	Drum rpm (About 40~50)				
2 times	Low speed Spin	Drum rpm (About 53~65)				
3 times	High speed Spin	Drum rpm (About 120~140)				
4 times	Inlet valve for prewash operation	Water level frequency (25~65)				
	Inlet valve for mainwash operation	Water level frequency (25~65)				
5 times	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 40~50)				
8 times	Heater is in operation for 3 sec.	Water temperature				
9 times	Circulation pump operation	Water level frequency				
10 times	Draining pump operation	Water level frequency				
11 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 X 10^{-1} kHz = 24.1 kHz

7-4. ERROR DISPLAY

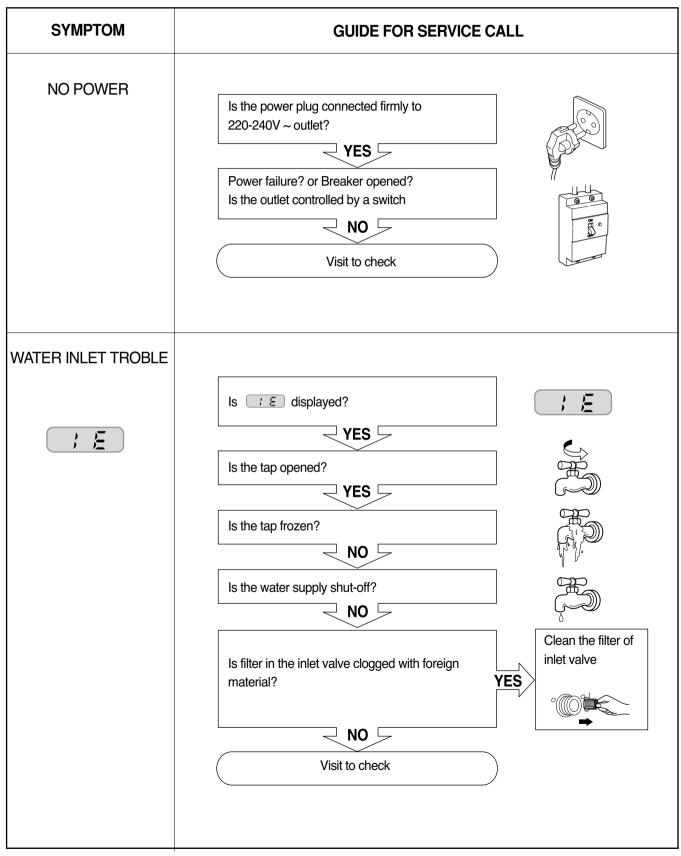
- If you press the Start/Pause button when an error in displayed, any error except $\frac{1}{2}\frac{1}{4}$ will disappear and the machine will change into pause status.
- In case of FE, EE, EE, EE if the error is not resolved within 20 sec. In the case of other errors, if the error is not resolved within 4 min., power will be turned off automatically and the error only will be blinked. But in the case of EE, power will not be turned off.

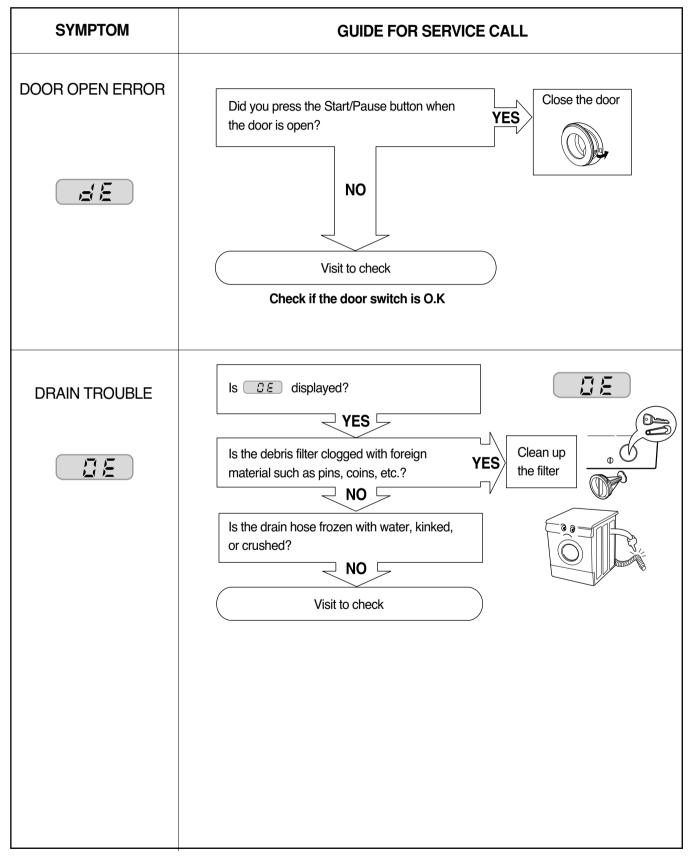
	ERROR	SYMPTOM	CAUSE
1	WATER INLET ERROR	;	 Water has not reached to the pre-set level within 8 min. since inlet valve operated, or water has not reached to the normal level within 25 min.
2	IMBALANCE ERROR		 Load is too small. The appliance is tilted. Laundry is gathered to one side. Non-distributable things are put into the drum.
3	DRAIN ERROR		○ Water has not drained enough within 10 min.
4	OVERFLOW ERROR	FE	OWater 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		The Start/Pause button is pressed with the door open.The door switch is out of order.
7	HEATING ERROR	EE	○The THERMISTOR is out of order.

	ERROR	SYMPTOM	CAUSE
8	CURRENT		MAIN PWB ASSEMBLY is out of order
	ERROR		☞ Replace the MAIN PWB ASSEMBLY
			○ Winding in the STATOR ASSEMBLY is short-circuited.
			☞ Replace the STATOR ASSEMBLY
9	LOCK ERROR		○ The connector (3-pin, male, white) in the LEAD WIRE
9			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
10	WATER LEAKS	AE	Water leaks
			[WD(M)-14400(5)TB/13400(5)TB/12400(5)TB/11400(5)TB]
44	POWER	JE JE	The washer experienced a power failure.
11	FAILURE		Restart the cycle.

8. ERROR DIAGNOSIS AND CHECK LIST

8-1.DIAGNOSIS AND ANSWER FOR ABNORMAL OPERATION





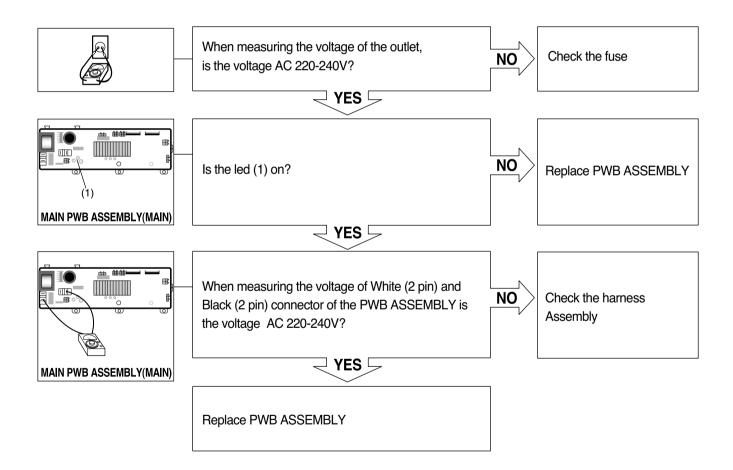
SYMPTOM	GUIDE FOR SERVICE CA	ALL
suds overflow from the appliance, (in this condition, wash and spin do not operate normally)	Is low-sudsing detergent for the drum washing machine used? YES Is the proper amount of detergent used as recommended? Pecommend to reduce the amount of detergent. This appliance has the automatic suds sensing operates under much suds condition for good overflow. When much suds are sensed, the suds removing drain, water input, and pause will operate without the suds removing the sud	rinse and preventing
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? Explain how to use softener Clean the compartment for softener	Compartment for softener
FE CE FE LE LE RE	Visit to check	

8-2. FAULT DIAGNOSIS AND TROUBLESHOOTING

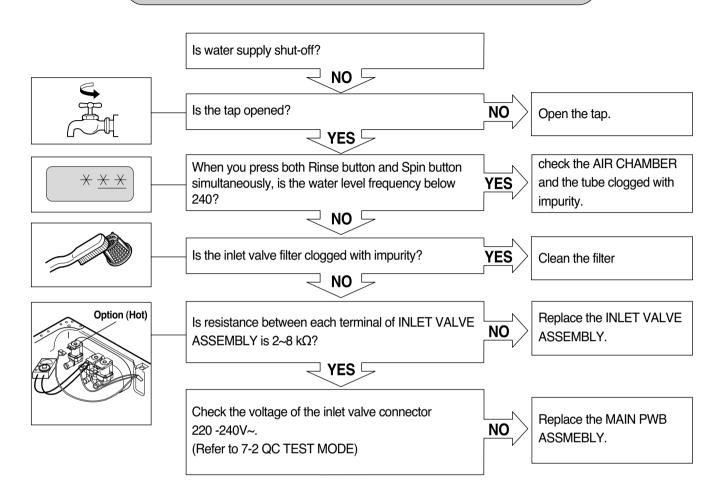
CAUTION

- 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 MAIN PWB ASSEMBLY, put in the connectors correctly.

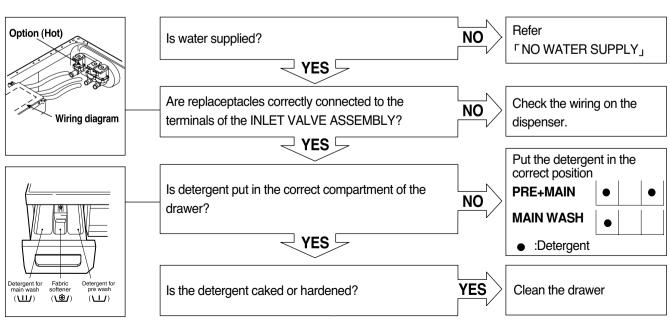
NO POWER



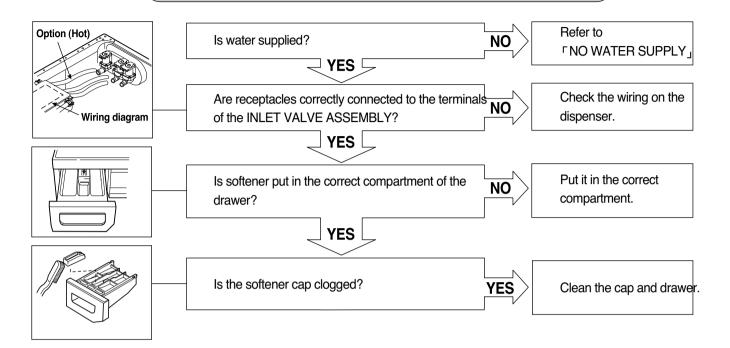
NO WATER SUPPLY



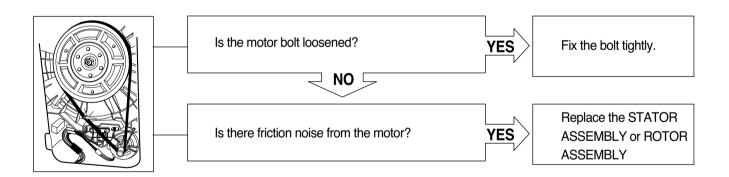
DETERGENT DOES NOT FLOW IN



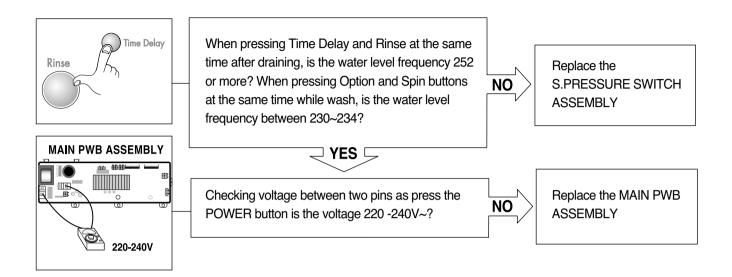
SOFTENER DOES NOT FLOW IN



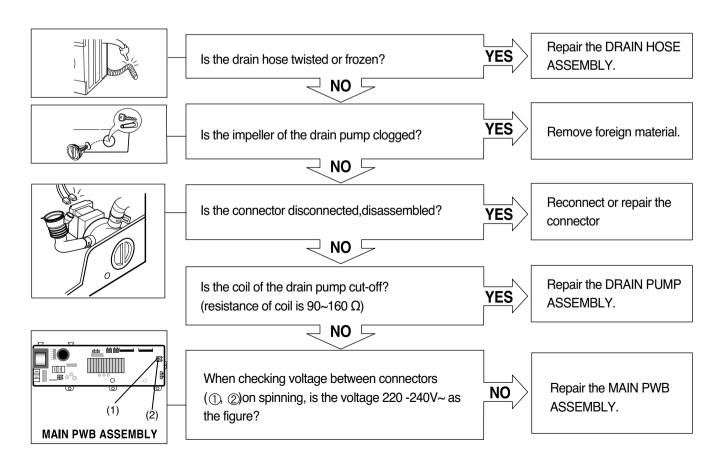
ABNORMAL SOUND



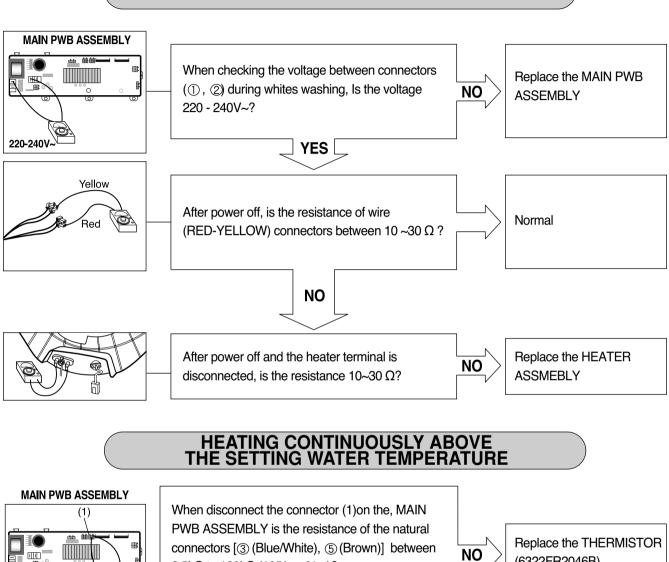
HEATING WITHOUT WATER

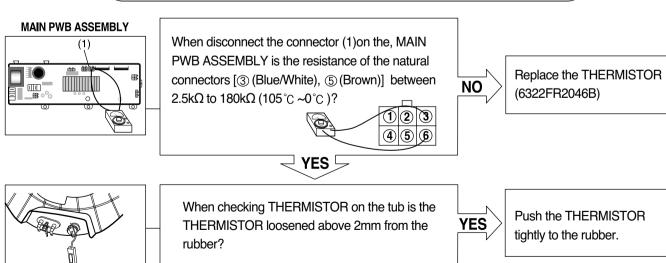


DRAIN MALFUNCTIONING

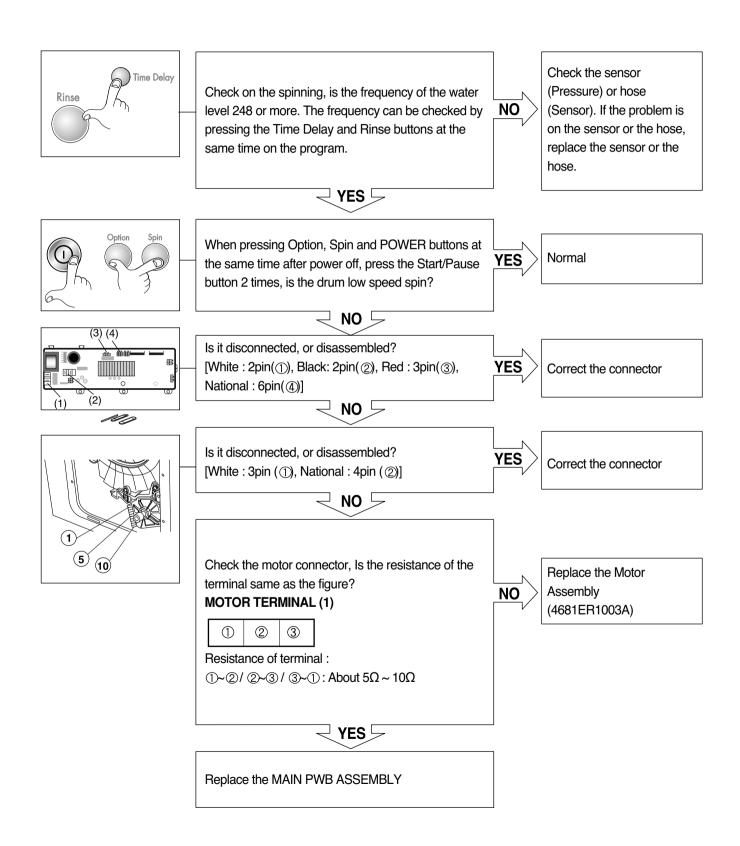


WASH HEATER TROUBLE





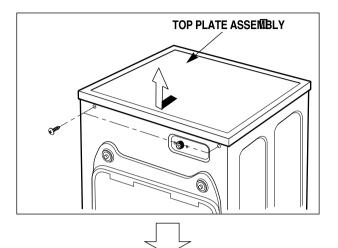
SPIN TROUBLE



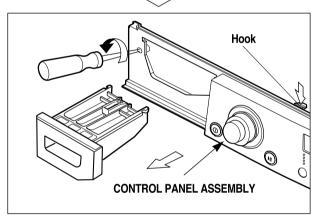
9. DISASSEMBLY INSTRUCTIONS

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

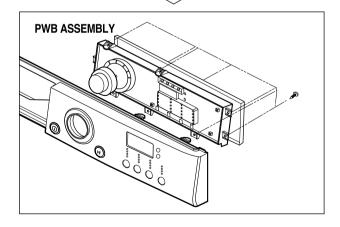
CONTROL PANEL ASSEMBLY



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

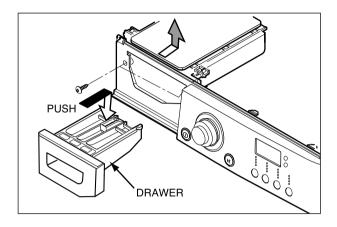


- ① Disconnect the ASSEMBLY connector.
- 2 Pull out the drawer and unscrew 2 screws.
- ③ Push 2 upper hooks down and pull the control panel.

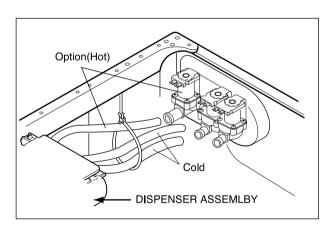


① Disconnect the PWB ASSEMBLY from the control panel by unscrewing 7 screws.

DISPENSER ASSEMBLY

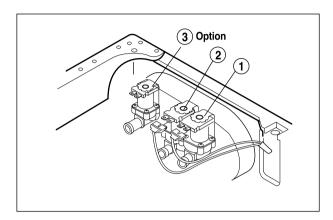


- ① Disassemble the TOP PLATE ASSEMBLY.
- ②Pull out the drawer slightly upward.
- ③Unscrew 2 screws.



- $\ \, \bigcirc$ Disassemble hose clamps and hoses.
- ② Disassemble the ventilation bellows and the water inlet bellows from the tub.

INLET VALVE ASSEMBLY



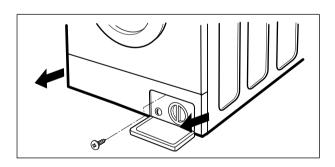
- ① Disconnect the wiring connector.
- ② Unscrew 2(4) screws from the back.
- * When reconnecting the connector
- * Cold only model

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

* Cold only model

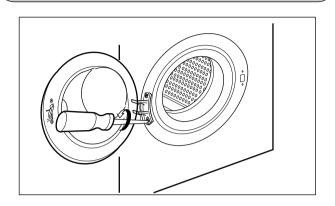
VALVE #1 (MAIN)	Whited/Black-Black
VALVE#2 (PRE)	Gray/White-Black
VALVE#3 (HOT)	Blue/Red-Black

LOWER COVER



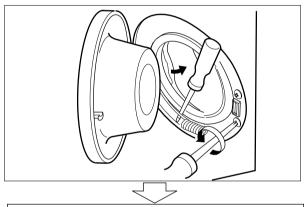
① Open the lower cover CAP by using coin and pull out the lower cover inthe arrow direction after a screw is unscrewed.

DOOR ASSEMBLY

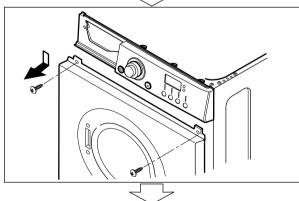


- Open the door completely.
- ② Remove the two screws from the hinge.
- * When removing the DOOR ASSEMBLY, it is necessary to hold the BRACKET that is inner of the CABINET COVER.

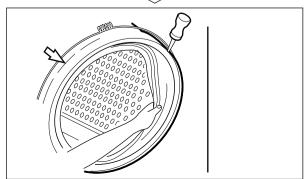
GASKET



- 1) Take apart the CLAMP ASSEMBLY (cabinet).
- ②Unscrew 2 screws from the CABINET COVER.
- ③Open the lower cover cap and unscrew 1 screw inside (Refer to page 27)
- Take apart the LOWER COVER.

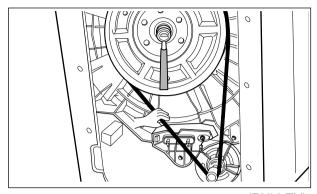


- ① Disassemble the CONTROL PANEL ASSEMBLY. (Refer to page 25)
- ②Unscrew all the screws on the upper and lower sides of the CABINET COVER.



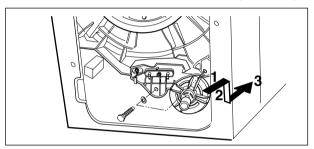
- ①Take apart the tub CLAMP ASSEMBLY
- ② Make sure that the drain hole of the GASKET is put beneath when reassembling the GASKET.
- * Refer to the arrow mark on the TUB COVER.

ROTOR ASSEMBLY, STATOR ASSEMBLY, FRICTION DAMPER ASSEMBLY



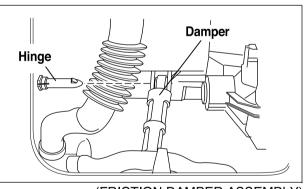
- 1 Remove the back cover.
- ② Take off the belt turning the pulley.
- ③ Unscrew the bolt to pull out the pulley.





- ① Unscrew 2 screws from the bracket.
- ② Push the motor in the arrow direction for disassembling and take out it at the front of the Washing Machine.
- ③ When reassembling the motor, make sure that motor mounting bushings are not taken off from the bracket.





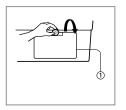
(10.01.011)

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

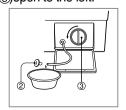
(FRICTION DAMPER ASSEMBLY)

■ 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.



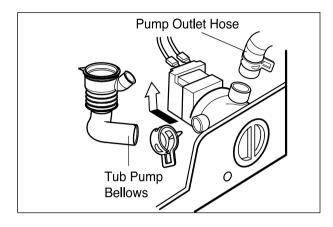
 Unplug the drain plug (②), allowing the water to flow out. At this time use a vessel to prevent water flowing on to the floor. When water does not flow any more, turn the pump filter (③)open to the left.



3. Remove 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.

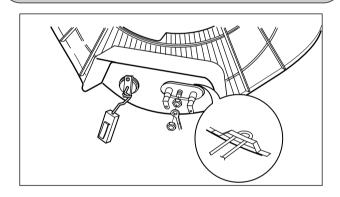


DRAIN PUMP ASSEMLBY



- 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 ASSEMBLY

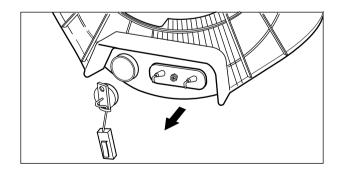


① Loosen the M6 heater nuts to pull out the HEATER ASSEMBLY.

CAUTION

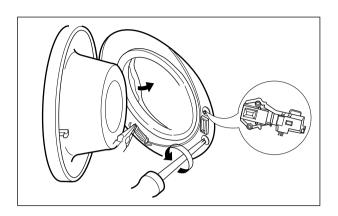
When mounting the HEATER ASSEMBLY be sure to insert the HEATER ASSEMBLY into the heater clip on the bottom of the tub.

THERMISTOR



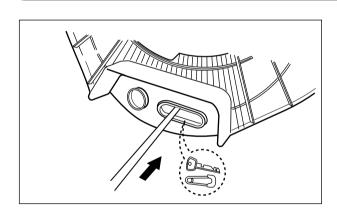
- ① Pull it out by holding the THERMISTOR bracket. If it is pulled by the wire, it may be broken.
- ② When mounting the THERMISTOR again, make sure that it is got back tight to the bushing.

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.

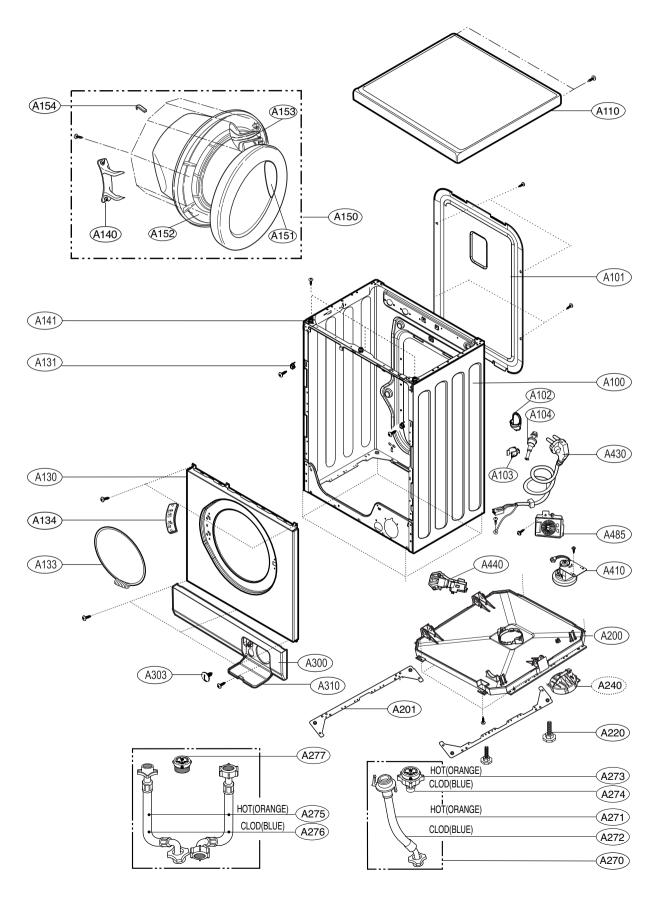
WHEN FOREIGN MATERIAL IS STUCK BETWEEN DRUM AND TUB



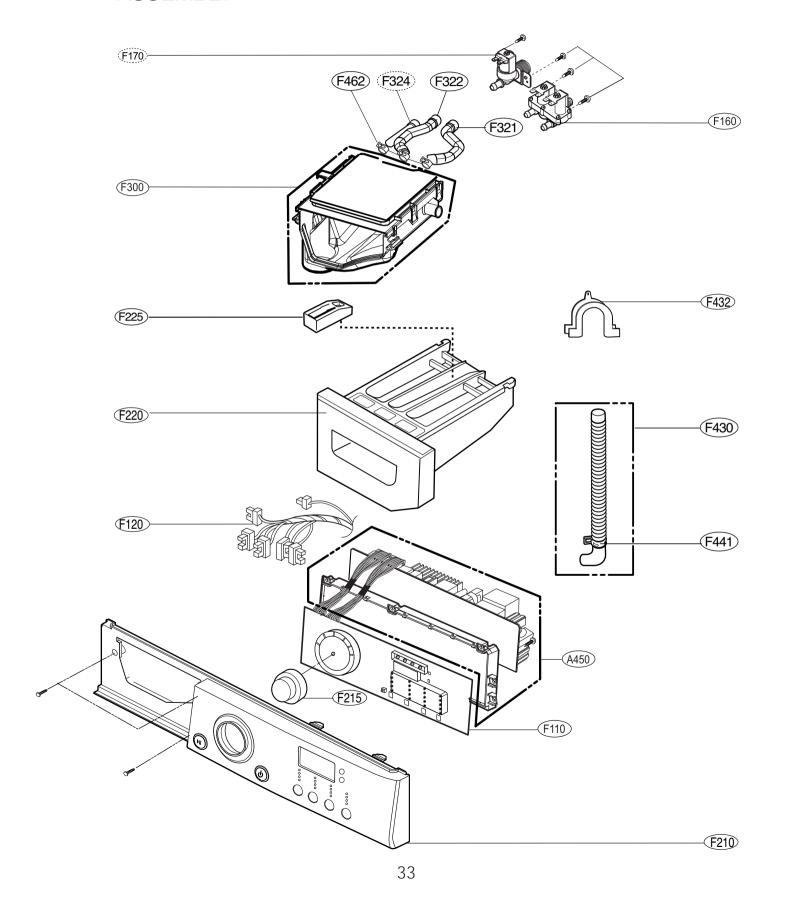
- ① Remove the HEATER ASSEMBLY.
- ② Remove the foreign material (wire, coin and others) by inserting a long bar through the hole.

10. EXPLODED VIEW AND PART LIST

10-1. THE PART LIST OF CABINET ASSEMBLY



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



10-3 THE EXPLODED VIEW OF DRUM & TUB ASSEMLBY

