



Service Manual

Auto Washer

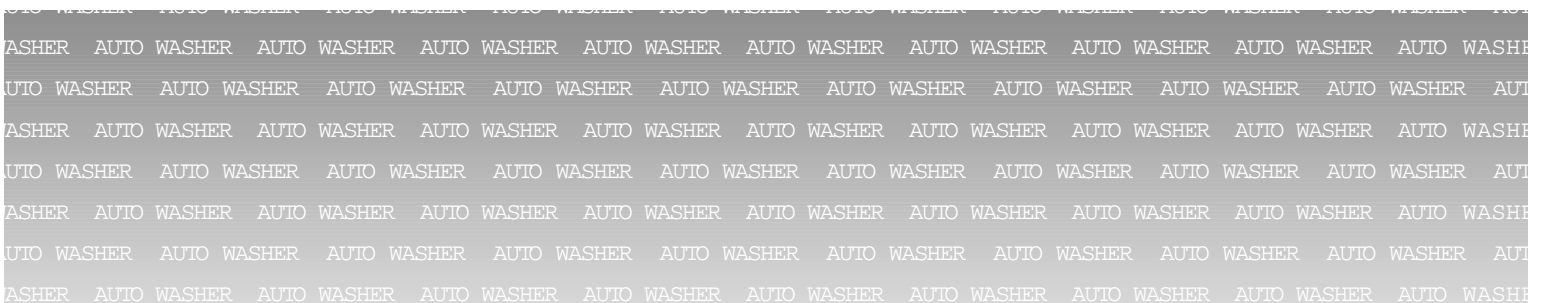
Model: DWF-1098/1398/1068/1048

✓ Caution

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (<http://svc.dwe.co.kr>).



DAEWOO ELECTRONICS CO., LTD.



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1. SPECIFICATIONS

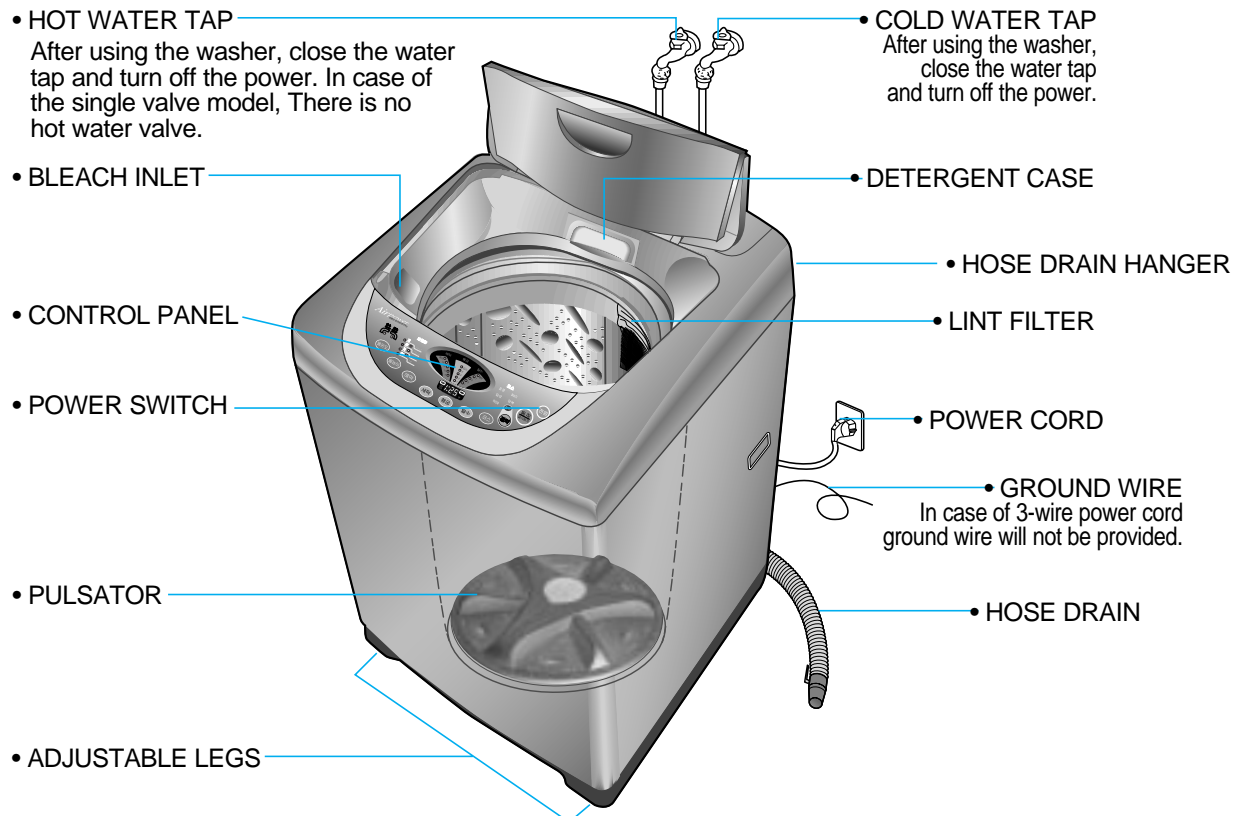
NO.	ITEM			DWF-1098	DWF-1068	DWF-1048	DWF-1398
1	POWER SOURCE			AVAILABLE IN ALL LOCAL AC VOLTAGE AND CYCLE			
2	POWER		50Hz	490W			500W
	CONSUMPTION		60Hz	550W			
3	MACHINE	NON-PUMP		47Kg(GROSS:50Kg)			
	WEIGHT	PUMP		49Kg(GROSS:52Kg)			
4	DIMENSION(WXHXD)			630X1010X670			630X1030X670
5	WASHING COURSE			FULL AUTOMATIC 6 COURSE (STANDARD/BLANKET/SUIT/ECONOMY/LIGHT/HEAVY)			
6	WATER CONSUMPTION			NORMAL 250l			NORMAL 270l
7	WATER LEVEL SELECTION	HIGH	97l			103l	
		●	87l	94l			
		MIDIUM	77l			87l	
		●	70l			77l	
		LOW	62l			70l	
		●	47l			56l	
		E.LOW	36l			37l	
8	OPERATING WATER PRESSURE			0.3~8kgf/cm²(2.94N/cm²~78.4N/cm²)			
9	REVOLUTION PER MINUTE	50Hz	WASH	120~130RPM			100~110RPM
			SPIN	630~640RPM			630~640RPM
		60Hz	WASH	125~140RPM			105~120RPM
			SPIN	675~695RPM			675~695RPM
			SUIT COURSE	WASH:55(50Hz), 65(50Hz)			50/60
10	PULSATOR			6WINGS(Ø406mm)			
11	WATER LEVEL CONTROL			ELECTRONICAL SENSOR			
12	ANTI-NOISE PLATE			○ (OPTION)			
13	GEAR MECHANISM			HELICAL GEAR			SPUR GEAR
14	LINT FILTER			○			
15	SOFTENER INLET			○			
16	FUNCTION FOR SOAK WASH			○			
17	ALARM SIGNAL			○			
18	RESIDUAL TIME DISPLAY			○			
19	AUTO. WATER SUPPLY			○			
20	NEW WATER FLOW			WATER FLOW FOR ADJUST THE UNBALANCED LOAD			
21	FUNCTION FOR BUBBLE			○ (MECHANICAL TYPE)			
22	AUTO RE-FEED WATER			○			
23	AUTO POWER OFF			○			

2. STRUCTURE OF THE WASHING MACHINE

The parts and features of your washer are illustrated on this page.
Be come familiar with all parts and features before using your washer.

NOTE

- The drawing in this book may vary from, your washer model. They are designed to show the different features of all models covered by this book, Your model may not include all features.
- Page references are included next to same features.
Refer to those pages for more information about the features.



Accessories

DRYTEN [OPTION]	COVER UNDER [OPTION]	WATER TAP ADAPTER	INLET HOSE
HOSE DRAIN O AS [NON-PUMP]	HOSE DRAIN O AS [PUMP]	HOSE DRAIN CLAMP	CONNECTOR INLET [OPTION]

3. FUNCTIONS OF THE CONTROL PANEL

■ Dwf-1098, 1398

Control panel has micom sensor.

As the buttons are pressed, the lamps indicating the selection of your desired washing program will light up.



	<ul style="list-style-type: none"> • It can be used to choose water temperature to be supplied. • As the button is pressed, it will be repeated. COLD → COLD + HOT → HOT • In case of the single valve model, there is no wash temperature selector function.
	<ul style="list-style-type: none"> • It can be used to adjust amount of water according to the size of the load to be washed. • As the button is pressed, water level is selected by MEDIUM → ● → HIGH → ● → E.LOW → ● → LOW → ● → MEDIUM
	<ul style="list-style-type: none"> • It can be used to pre-engage time for wash
	<ul style="list-style-type: none"> • It can be used to adjust washing time. • As the button is pressed, you will see the repeated. 6 → 10 → 14 → 18 → SOAK
	<ul style="list-style-type: none"> • This button selects the number of times you want to rinse. • As the button is pressed, it will repeat. • 1 time rinse → 1 time feed rinse → 2 times rinse → 2 times feed rinse → 3 times rinse → 3 times feed rinse → 4 times rinse → 4 times feed rinse. • In case of the pump model, there is no feed rinse or spray rinse selector function.
	<ul style="list-style-type: none"> • It can be used to change spin time. • As the button is pressed, it will repeat. 1 → 3 → 5 → 7 → 9.
	<ul style="list-style-type: none"> • It can be used to select the full-automatic course. • As the button is pressed, it will selected by following order: FUZZY → BLANKET → ECONOMY → LIGHT → HEAVY → SUIT
	<ul style="list-style-type: none"> • Press this switch to turn the power on or off. After turning off the power. wait for more then 3seconds and then turn it on again.
	<ul style="list-style-type: none"> • Operation and temporary stop are repeated as they are pressed. • When you want to change course in operating; press the "START/HOLD" button → Select the course that you want to change → press the "START/HOLD" button again.
	<ul style="list-style-type: none"> • The lamps easily indicate the option selection of washing program and process by letters.

■ Dwf-1068, 1048

Control panel has micom sensor.

As the buttons are pressed, the lamps indicating the selection of your desired washing program will light up.



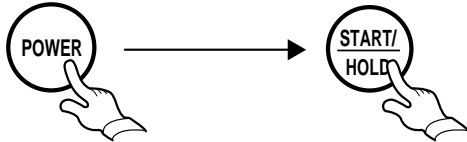
WASH TEMP.	<ul style="list-style-type: none"> It can be used to choose water temperature to be supplied. As the button is pressed, it will be repeated. COLD → COLD + HOT → HOT In case of the single valve model, there is no wash temperature selector function.
WATER LEVEL	<ul style="list-style-type: none"> It can be used to adjust amount of water according to the size of the load to be washed. As the button is pressed, water level is selected by MEDIUM → ● → HIGH → E.LOW → ● → LOW → ●
RES.	<ul style="list-style-type: none"> It can be used to pre-engage time for wash.
WASH	<ul style="list-style-type: none"> It can be used to adjust washing time. As the button is pressed, you will see the repeated. 6 → 10 → 14 → 18 → SOAK
RINSE	<ul style="list-style-type: none"> This button selects the number of times you want to rinse. As the button is pressed, it will repeat. 1 time rinse → 1 time feed rinse → 2 times rinse → 2 times feed rinse → 3 times rinse → 3 times feed rinse → 4 times rinse → 4 times feed rinse. In case of the no shower function model, there is no shower rinse. In case of the pump model, there is no feed rinse or spray rinse selector function.
SPIN	<ul style="list-style-type: none"> It can be used to change spin time. As the button is pressed, it will repeat. 1 → 3 → 5 → 7 → 9.
COURSE	<ul style="list-style-type: none"> It can be used to select the full-automatic course. As the button is pressed, it will selected by following order: FUZZY → BLANKET → LIGHT → HEAVY → SUIT → ECONOMY
ECO.	<ul style="list-style-type: none"> It can be used to select the economic course.
START HOLD	<ul style="list-style-type: none"> Operation and temporary stop are repeated as they are pressed. When you want to change course in operating; press the "START/HOLD" button → Select the course that you want to change → press the "START/HOLD" button again.
POWER	<ul style="list-style-type: none"> Press this switch to turn the power on or off. After turning off the power, wait for more then 3seconds and then turn it on again.

4. WASHING PROCEDURE AND COURSE SELECTION

■ Full Automatic Course

1. FUZZY COURSE (SENSOR);

- This selection is for general washing except extraordinary clothes.
- Artificial brain sensor selects properly the various kind of washing condition such as washing time, rinse times, spin time water level and washes well. If you want to soak, press the "WASH" button to adjust "SOAK" after the course selection. Procedure to press the button;



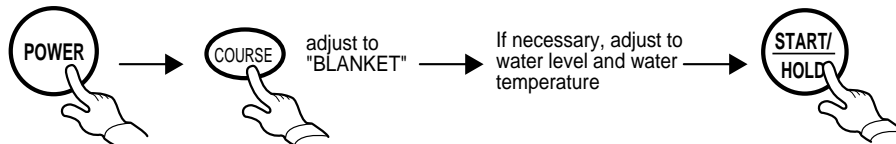
2. LIGHT COURSE

- This selection is effective for washing light or less dirty wash. Procedure to press the button;



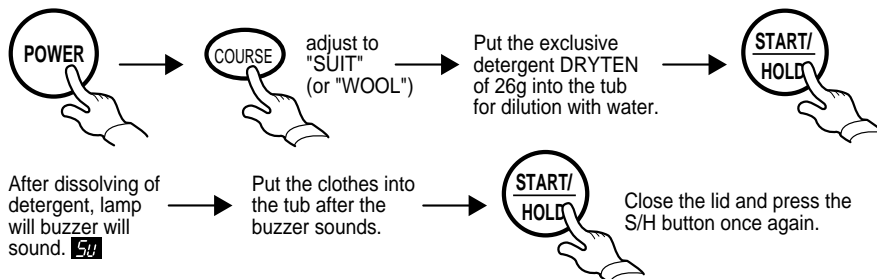
3. BLANKET COURSE;

- This selection is effective for blanket, curtain, carpet, etc ...
- Do not wash general-electric blanket absolutely (4kg's limitation for one-time-wash). Procedure to press the button;



4. SUIT COURSE;

- This selection is effective for high-quality sweater, underwear, wool, etc ...
- When the washer is operated, selection for water level will be selected "MEDIUM" by automatically in order to prevent the laundry.
- Use detergent that is "Only for dry-cleaning".
- 1.5kg's limitation for one-time-wash.



NOTE

- Only cold water should be supplied for washing.
- Be sure to use only the detergent exclusively used for the washer.
- Do not use the washer to wash leather clothes, or chamois clothes.
- Separate white color/light-colored from colorfast clothes.

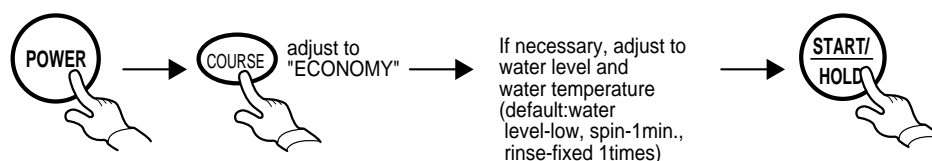
5. HEAVY COURSE;

- This selection is effective for blue-jean, climbing clothes, ruck sack, sports wear, etc ...
- If you want to soak, press the "WASH" button to adjust to "SOAK" after the course selection.



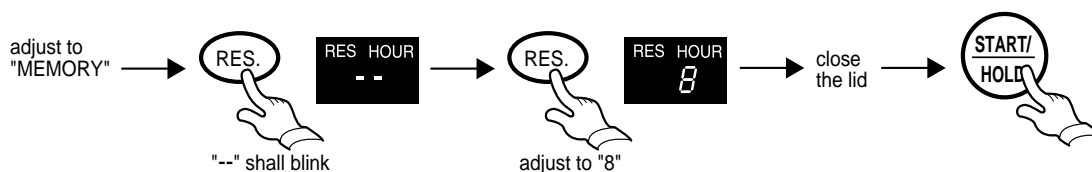
6. ECONOMY COURSE;

- This selection is effective for washing light or less dirty wash.
- Regulate the quantity of water according to load to be washed. Procedure of press the button;



Reserved Washing

- Reservation can be made from 2 hours to 48hours.
example) To make reservation to complete washing in 8hours.



- Now the reservation is mode.

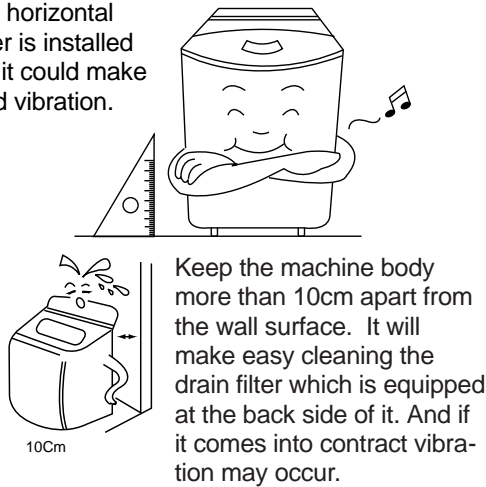
Partial Selection Among Wash, Rinse or Spin

Washing contents	Procedure to press the button			
Only Wash				<p>End of washing informed by buzzer.</p> <p>After the end of the washing, the power switch will be turned off automatically.</p>
Only Rinse				
Only Spin				
Wash & Rinse		→		
Wash & Spin		→		
Rinse & Spin		→		
Wash → Rinse → Spin		→ →		

5. DIRECTIONS FOR INSTALLATION AND USE

Installing Place

Install the washer on a horizontal solid floor. If the washer is installed on an unsuitable floor, it could make considerable noise and vibration.

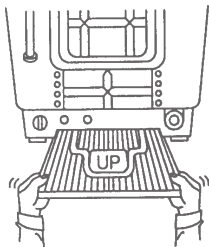


Never install in these places

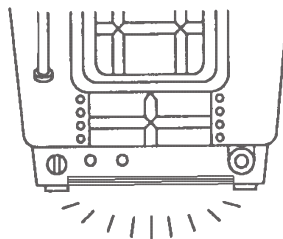
- The place where it would be exposed to direct sunlight.
- The place nearby a heater or heat appliance.
- The place where it would be supposed to be frozen in winter.
- The kitchen with coal gas and a damp place like a bathroom.

Installation Of The Under Base Cover [Option]

- 1** The packing box opened, there is a noise insulation plate at the bottom of the back (DWF-1398) or front (DWF-1098, 1068, 1048).



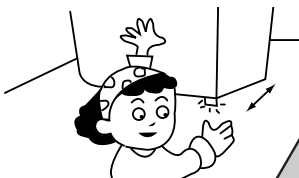
- 2** Push the noise insulation plate into the end, which decrease the noise made by this washer.



How To Install On An Inclined Place

1 Horizon Setting

After controlling the height by turning the adjustable leg, let the washer put down to the ground.



2 Check the Horizon Status

Check the position of tub above the center of the washer.



NOTES

The openings must not be obstructed by carpeting when the washing machine is installed on a carpeted floor.

■ How to Connect the Inlet Hose

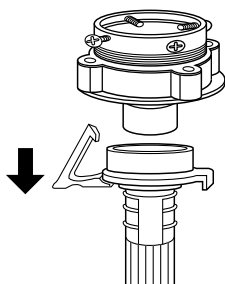
Be careful not to mistake in supplying between the hot(maximum : 50°C) and cold water.

In using only one water tap or in case of attached one water inlet valve, connect the inlet hose to the cold water inlet valve.

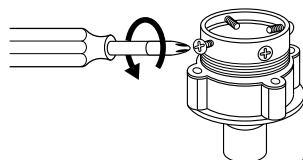
Do not over tighten : this could cause damage to couplings.

• • • • FOR ORDINARY TAP

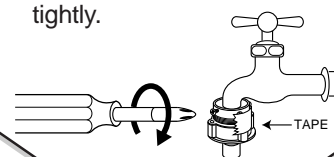
- 1 Pull down the collar of the inlet hose to separate it from the water tap adapter.



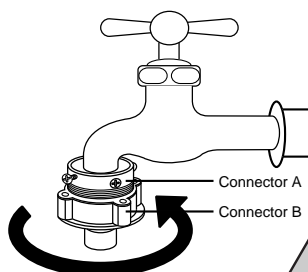
- 2 Loosen the four screws at the water tap adapter, but don't loosen the screws until they are separated from the water tap adapter.



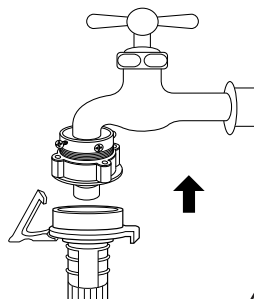
- 3 Connect the water tap adapter to the water tap tighten the four screws evenly while pushing up the adapter so that the rubber packing can stick to the water tap tightly.



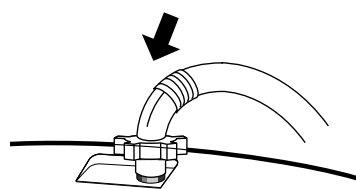
- 4 Remove the tape, and screw connector B into connect A tightly.



- 5 Connect the inlet hose to the water tap adapter by pulling down the collar of the hose end.



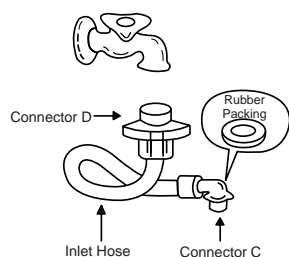
- 6 Connect the inlet hose adapter of the hose to the water inlet of the washer by turning it clockwise to be fixed tightly.



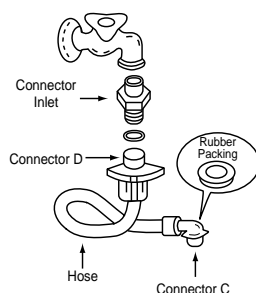
- Please check the rubber packing inside the inlet hose adapter of the hose.

• • • • FOR SCREW-SHAPED TAP

- 1 Connect the inlet hose to the water tap by screwing the connector D tightly.



- 2 Connect the connector-inlet supplied if necessary.



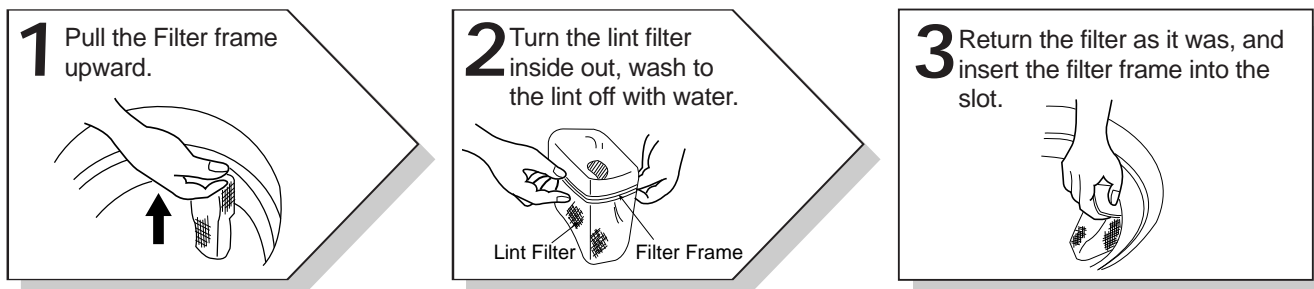
- 3 Insert the inlet hose adapter into the water inlet of a washer and turn it to be fixed.



- Assert the packing in the inlet

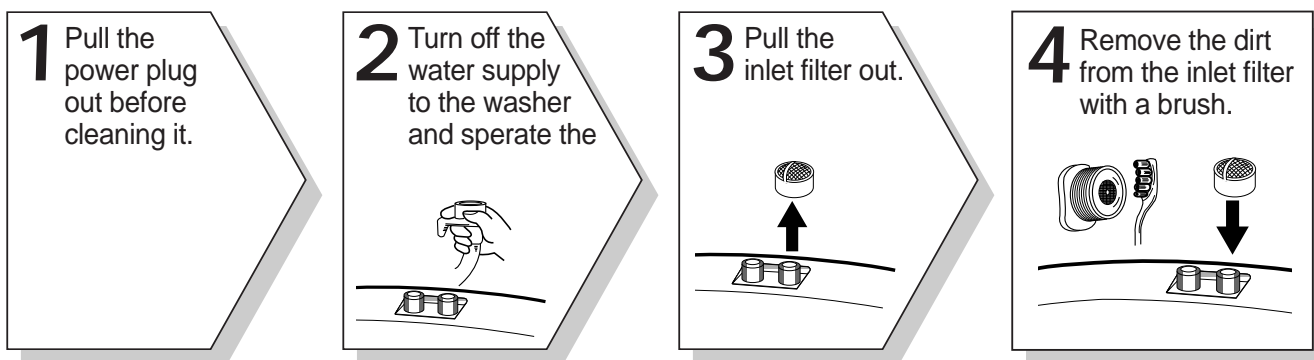
■ How To Clean The Filter

• • • • CLEANING THE LINT FILTER



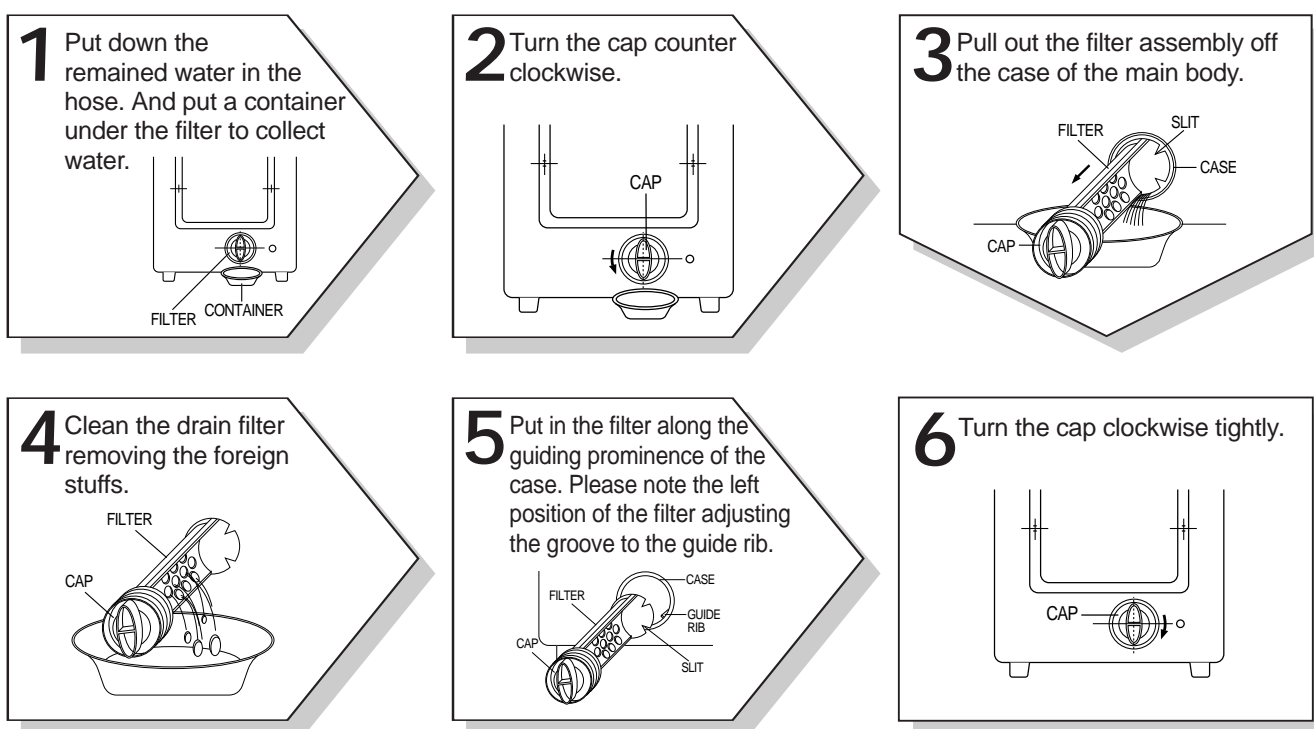
• • • • CLEANING THE WATER INLET FILTER

- Clean the filter when water leaks from, the water inlet.



• • • • CLEANING THE DRAIN FILTER

- In case "U" shape drain hose, this filter's equipped at the cack side of washer.
- This drain filter is to screen the foreign stuffs such as threads, coins, pins, buttons etc ...
- If the drain filter is not cleaned at proper time (every 10 times of use), Drain problem could be caused.



6. FEATURE AND TECHNICAL EXPLANATION

Feature of the Washing Machine

- ① The first air bubble washing system in the world.
- ② Quiet washing through the innovational low-noise design.
- ③ The wash effectiveness is much more enhanced because of the air bubble washing system.
- ④ The laundry detergent dissolves well in water because of the air bubble washing system.
- ⑤ The adoption of the water currents to adjust the unbalanced load.
- ⑥ One-touch operation system.

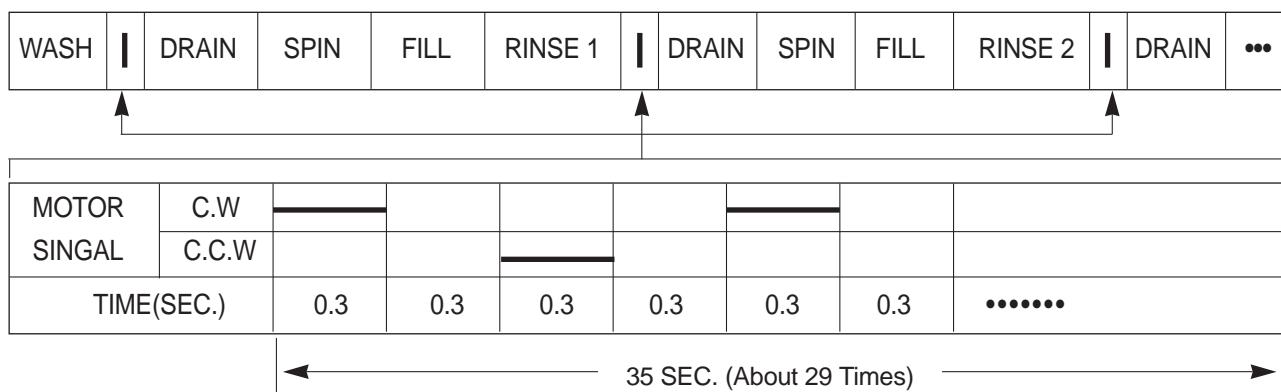
Water Current to Adjust the Unbalanced Load

It is a function to prevent eccentricity of the clothes after wash by rotating pulsator C.W and C.C.W for 35 seconds.(But, the SUIT course have no operation of the water currents to adjust the unbalanced load.)

EFFECT

It reduces vibration and noise effectively while spinning.

WATER FLOW

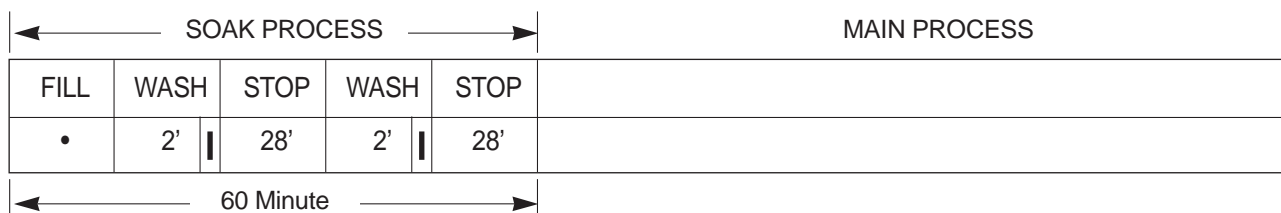


Function for Soak Wash

DISPLAY THE RESIDUAL TIME

When the SOAK WASH is selected, the total wash time increases because 60 minutes for soak process are added to the time of main process.

PROGRESS



NOTES

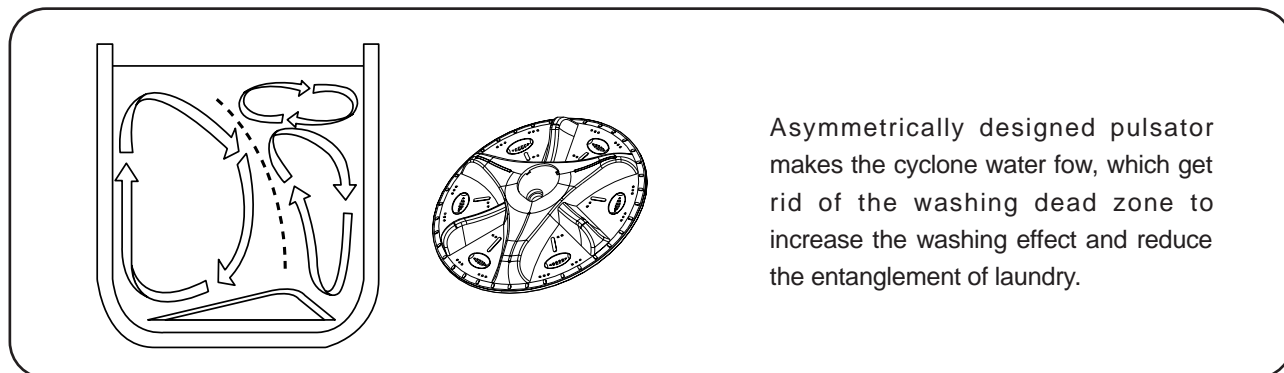
'|' mark indicates the operation of the water currents to adjust the unbalanced load.

Automatic Water Supply System For Blanket Wash

The water level would be lowered because the blanket absorbs water at the beginning of washing. Therefore, after 30 seconds, the operation is interrupted to check the water level, and then the water is supplied again until the selected water level is reached.

Pul sator System

When the pulsator is rotated C.W or C.C.W at a high speed, it makes the cyclone water flow from the asymmetrically designed pulsator as shown below.



Automatic Draining time Adjustment

This system adjusts the draining time automatically according to the draining condition.

Draining condition	Good draining	The washer begins spin process after drainage.
	Bad draining	Draininig time is prolonged.
	No draining	Program is stopped and gives the alarm.

FUNCTIONAL PRINCIPLE

- ① The micom can remember the time from the begining of drain to reset point when the pressure switch reaches to "OFF" point

Drain Time	Movement of the Program
Less than 15 minutes	Continue draining
More than 15 minutes	Program stops and gives the alarm with UE blinked on display lamp.

- ② In case of continuous draining, residual drain time is determined by micom.

Draining time as a whole = D + 90

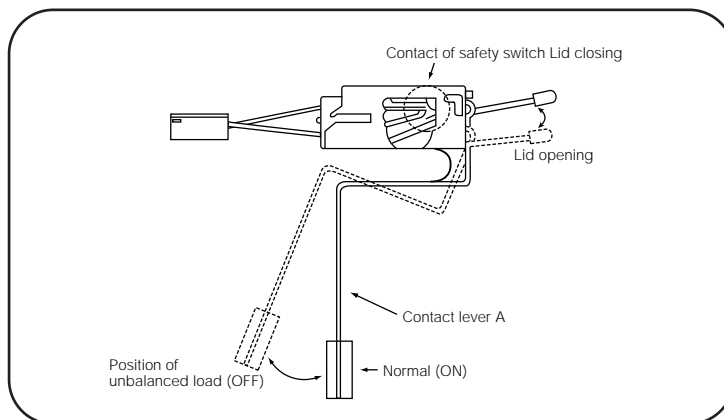
D Residual drain time.
90 The time remembered by micom.

Automatic Unbalance Adjustment

This system is to prevent abnormal vibration during intermittent spin and spin process.

FUNCTIONAL PRINCIPLE

- ① When the lid is closed, the safety switch contact is "ON" position.
- ② In case that wash loads get uneven during spin, the outer tub hits the safety switch due to the serious vibration, and the spin process is interrupted.
- ③ In case that P.C.B. ASS'Y gets "OFF" signal from the safety switch, spin process are stopped and rinse process is started automatically by P.C.B. ASS'Y.
- ④ If the safety switch is operated due to the unbalance of the tub, the program is stopped and the alarm is given.



NOTES

The alarm finished when you close the lid after opening it. Check the unbalance of the wash load and the installation condition.

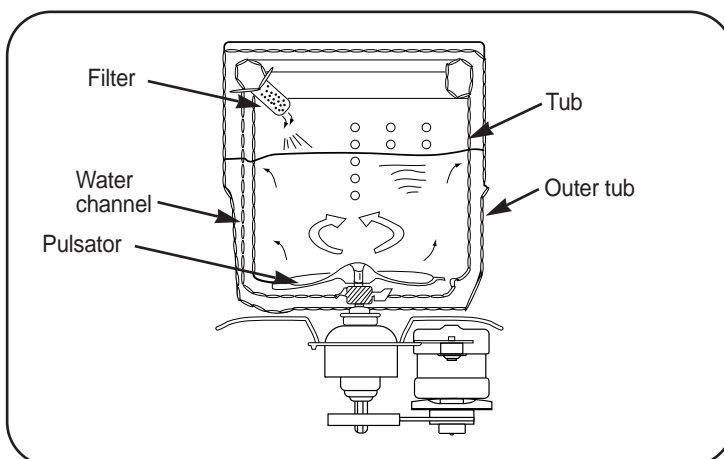
Circulating-Water Course and Lint Filter

CIRCULATING-WATER

The washing and rinsing effects have been improved by adopting the water system in which water in the tub is circulated in a designed pattern.

When the pulsator rotates during the washing or rinsing process, the water below the pulsator vanes creates a water currents as shown in figure.

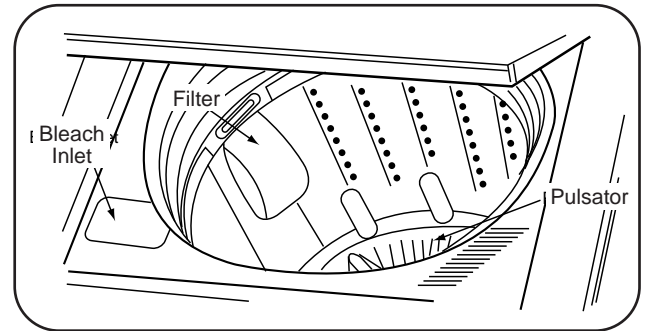
The water is then discharged from the upper part of the tub through the water channel. About 40 L/min. water is circulated at the 'high' water level, standard wash load and standard water currents.



Lint Filter

Much lint may be obtained according to the kind of clothes to be washed and some of the lint may also sticks to the clothes.

To minimize this possibility a lint filter is provided on the upper part of the tub to filter the wash water as it is discharged from the water channel. It is good to use the lint filter during washing.



HOW TO REPLACE LINT FILTER

- ① Pull the filter frame upward.
- ② Turn the lint filter inside out, and wash the lint off with water.
- ③ Return the filter as it was, and fix the filter frame to the slot.

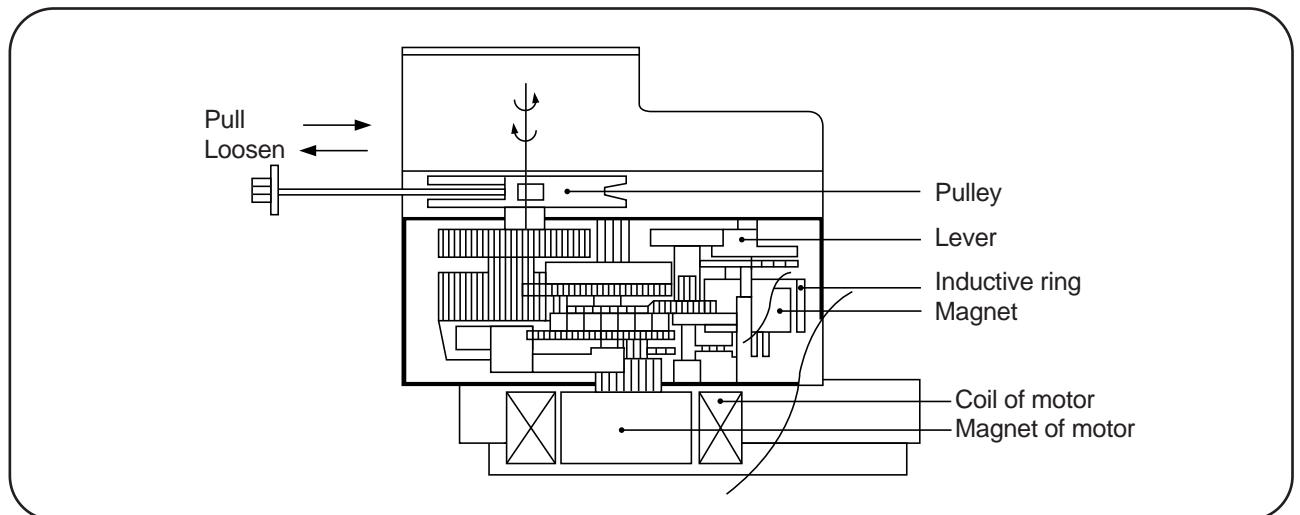
Residual Time Display

When the START/HOLD button is pressed, the residual time (min.) is displayed on the time indicator, and it will be counted down according to process.

When operation is finished, the TIME INDICATOR will light up .

Drain Motor

STRUCTURE

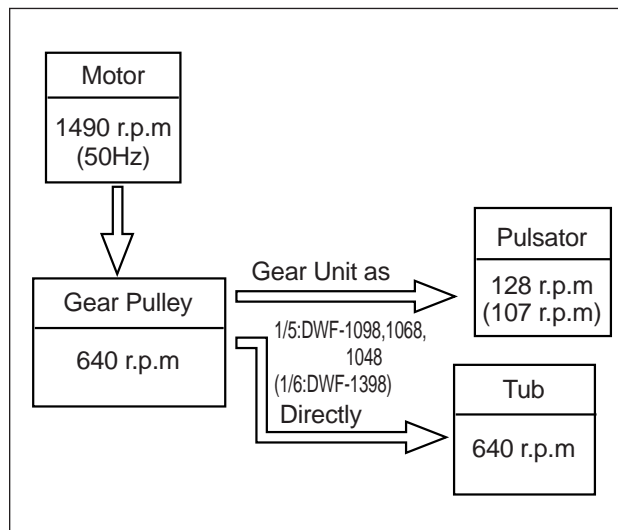
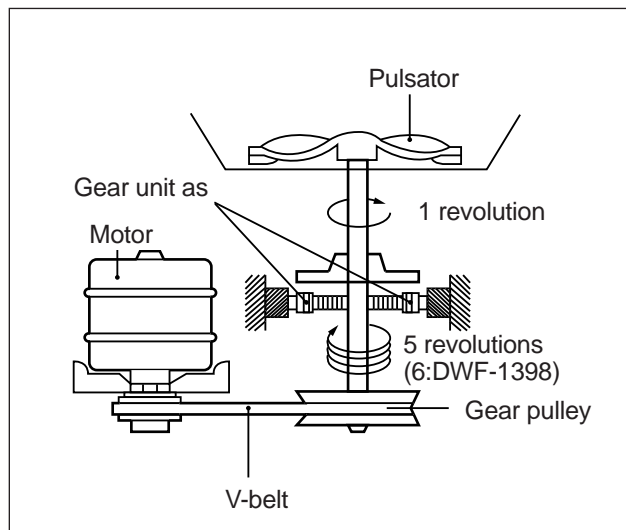
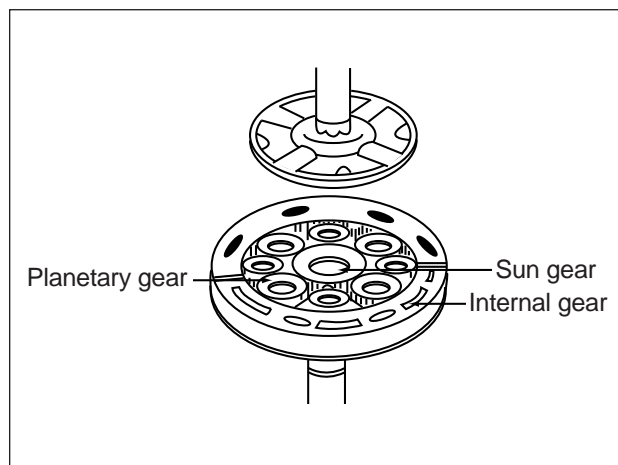
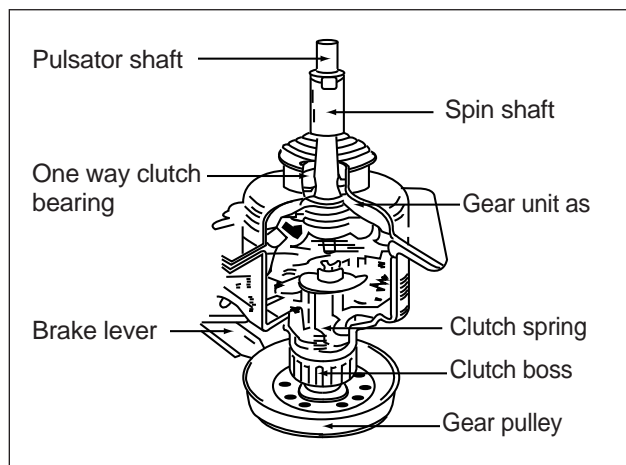


FUNCTIONAL PRINCIPLE

- ① When the DRAIN MOTOR connected to the power source, the DRAIN MOTOR rotates with 900 r.p.m and revolves the pulley by gear assembly for reducing.
- ② When the pulley is rotated, the pulley winds the wire to open the drain valve.
- ③ Therefore, rotation of pulley changed to the linear moving of wire.
- ④ The wire pulls the brake lever of Gear Mechanism Ass'y within 5 seconds.
- ⑤ After the wire pulled, gear assembly is separated from motor and condition of pulling is held by operation of the lever.
- ⑥ When the power is turned off, the drain valve is closed because the wire returns to original position.

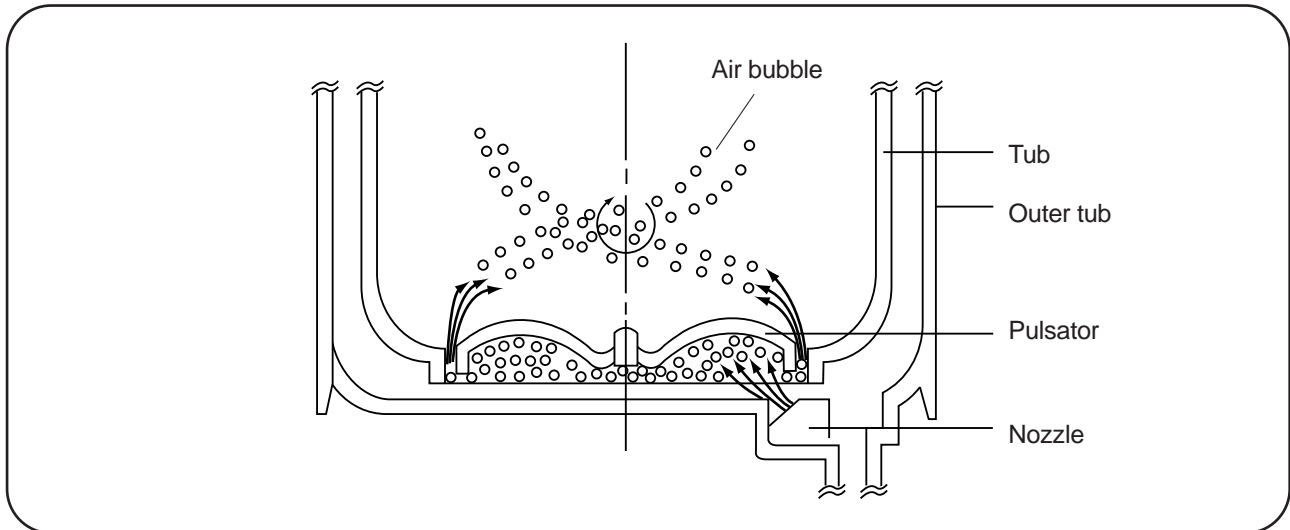
Gear Mechanism Ass'y

The proper water currents is made by the rotation of pulsator at a low speed to prevent the damage to the small sized clothes.



Functional Principle of Bubble Washing Machine

ACROSS SECTION



FUNCTIONAL PRINCIPLE

Bubble generator supplies the air from the bottom of outer tub to the inner space of pulsator, the air is dispersed by the rotation of pulsator. Air-bubble is created by the centrifugal force, and rises up.

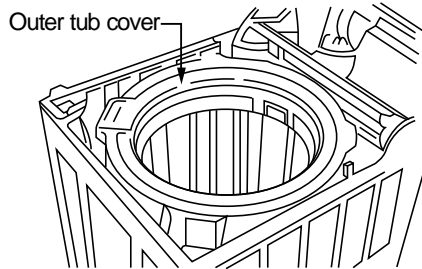
7. DIRECTIONS FOR DISASSEMBLY AND ADJUSTMENT

Warning

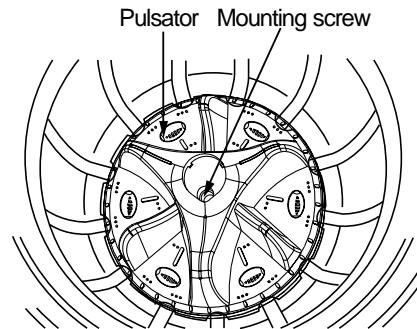
BEFORE ATTEMPTING TO SERVICE OR ADJUST ANY PART OF THE WASHING MACHINE, DISCONNECT THE POWER CORD FROM THE ELECTRIC OUTLET.

Gear Mechanism Ass'y Replacement

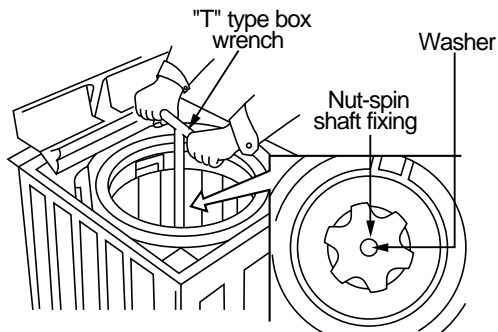
- Raise the top plate on the outer cabinet.
- Loosen four screws mounting outer tub cover and remove outer tub cover from the tub ass'y.



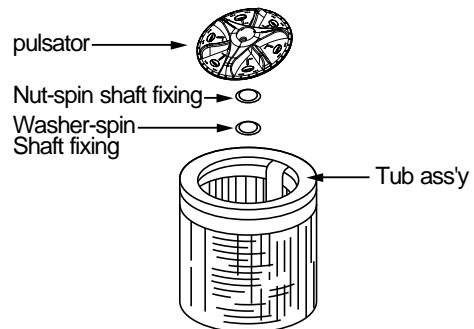
- Loosen the pulsator mounting screw and remove the pulsator.



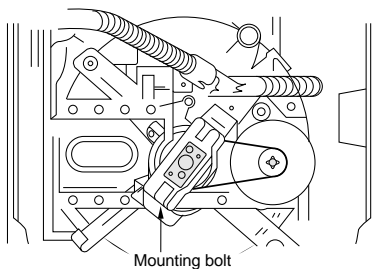
- Remove the spinner shaft flange nut by using 'T' type box wrench.



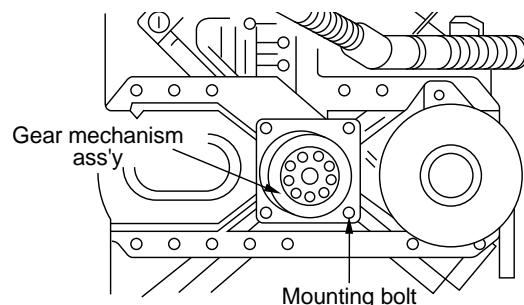
- Remove the tub ass'y.



- Lay the front of the washer on the floor.
- Remove four bolts mounting the plate-gear protect by using a box wrench and remove plate-gear protect.
- Remove the V-belt.



- Remove four bolts mounting the gear mechanism ass'y by using a box wrench.
- Pull out the gear mechanism ass'y.

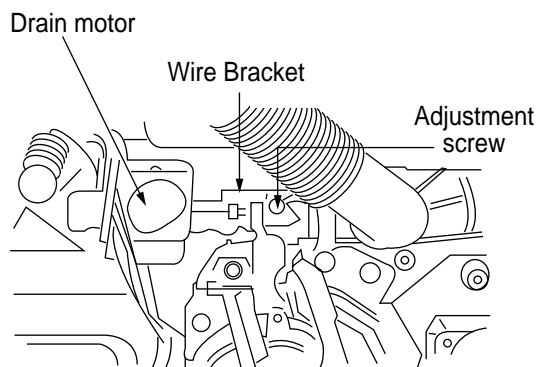


NOTES

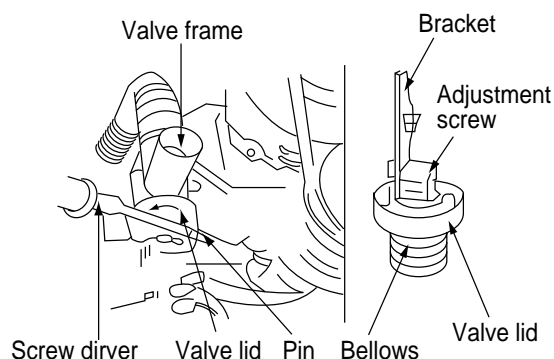
To assemble the gear mechanism ass'y, reverse the disassembly procedure.

Drain Motor and Valve

- Lay the front of the washer on the floor.
- Loosen the adjustment screw and four bolts mounting the drain motor.
- Take out the wire of drain motor from the bracket.

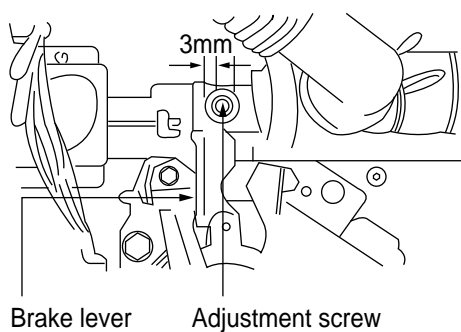


- Separate the drain motor from the bracket.
- Turn the valve lid by using screw driver as shown in figure and remove the valve lid from the valve frame.

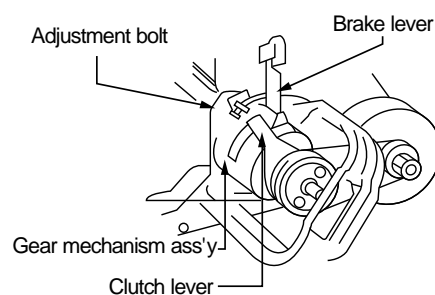


Brake Adjustment

- Loosen the adjustment screw fastening the bracket and place the adjustment screw to the brake lever as shown in figure.
- Tighten the adjustment screw completely.



- Loosen the adjustment bolt and turn the adjustment bolt until the end of the bolt touches to the brake lever.
- Tighten the lock nut and apply a small amount of paint-lock.



NOTES

1. The brake adjustment has been made at the factory, so that it is not to re-adjust. However, in case of insufficient brake operation, perform the upper procedure.
2. Overtightening of the adjustment bolt will cause poor brake performance.
3. Undertightening of the adjustment bolt will cause continuous bracking and, thereby, cause the problems of the motor during the spin cycle.

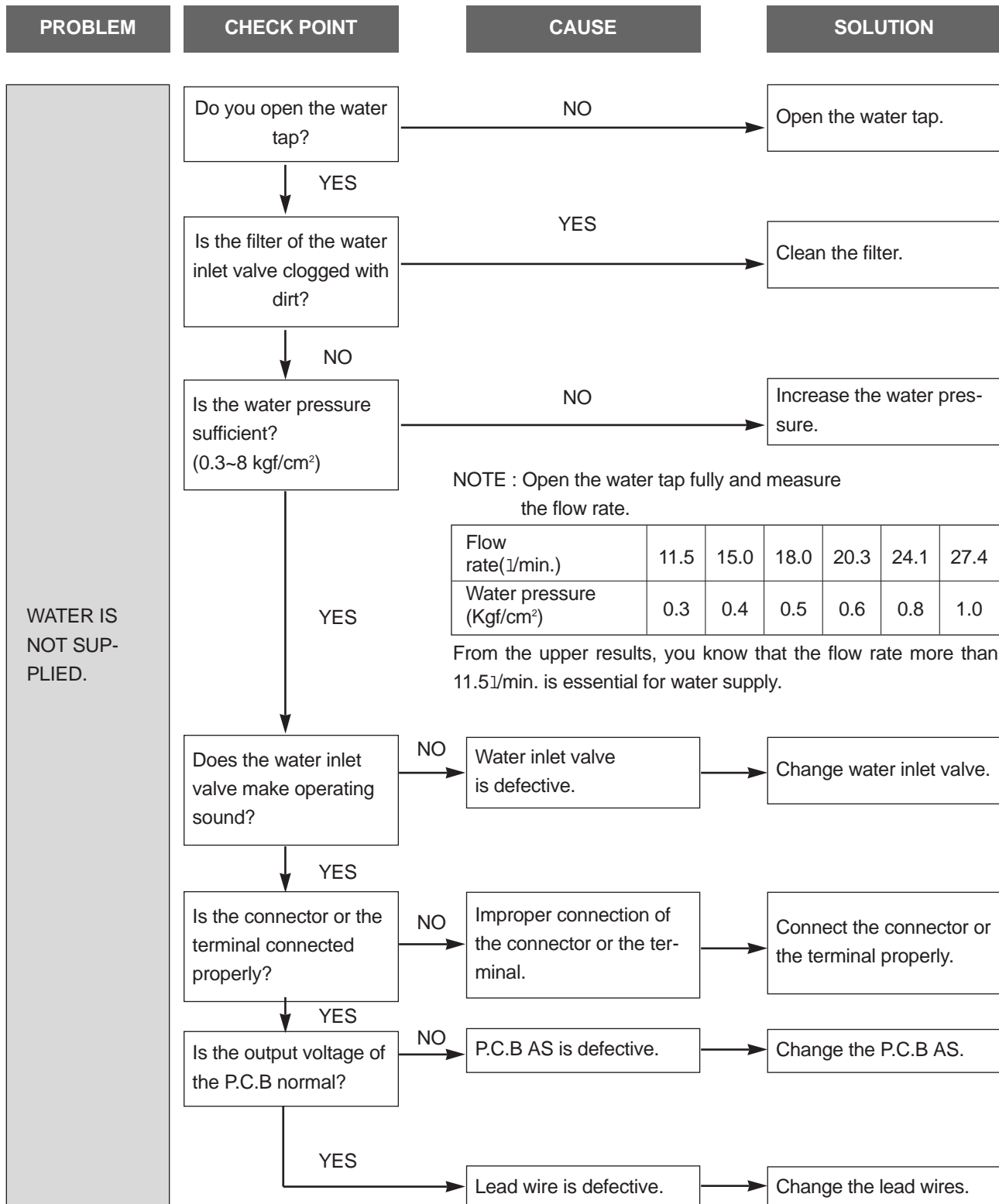
8. TROUBLE SHOOTING GUIDE



NOTES

1. When replace the P.C.B. ASS'Y do not scratch the surface of the P.C.B. ASS'Y.
2. Disconnect the power cord from the electric outlet.

Concerning Water Supply



PROBLEM	CHECK POINT	CAUSE	SOLUTION
WATER SUPPLY IS NOT STOPPED.	Does the water supply continue while the power is turned off?	YES The water inlet valve is defective.	Change the water inlet valve.
	NO Does the water supply start as soon as you press the power switch?	YES The triac of P.C.B is defective.	Change the P.C.B ASS'Y.
	NO Operate the washer after setting the water level to "HIGH"		
	Does the water supply continue after the water reaches to the "HIGH" level?	NO	Normal operation.
	YES Is the air tube of water level switch kinked or deformed?	YES Air tube is defective.	Change the air tube.
	NO Pressure switch is defective.		Change the pressure switch.

Concerning Washing

PROBLEM	CHECK POINT	CAUSE	SOLUTION
THE PUL-SATOR DOES NOT ROTATE EVEN IF THE WATER IS SUPPLIED.	Does the motor operate after finishing water supply?		
	NO Does pulsator rotate in only one direction?	YES The triac of P.C.B is defective.	Change the P.C.B ASS'Y.
	YES Does the motor make operating sound?	NO	Normal
	NO Is the motor coil disconnected?	YES Motor is defective.	Change the motor.
	YES Is the connection condition of capacitor terminal good?	NO Improper connection	Connect the terminal properly.
	YES Is the V-belt worn out?	NO V-belt is defective.	Change the V-belt.
	NO		Change the motor.

Concerning Draining

PROBLEM	CHECK POINT	CAUSE	SOLUTION
THE WASHER DOES NOT DRAIN.	Do you install the drain hose properly?	NO Improper installation	Install the drain hose properly.
	YES Is the foreign matter accumulated inside the pump housig?	YES Malfunction of drainage by the foreign matter	Remove the foreign matter from the pump housig
	NO Is the output voltage of the drain pump normal?	YES Drain pump is defective	Change the Drain pump
	NO	P.C.B ASS'Y is defective.	Change the P.C.B ASS'Y.

Concerning Spinning







PROBLEM	CHECK POINT	CAUSE	SOLUTION
THE WASHER DOES NOT SPIN.	Is the lid open?	YES	Close the lid.
	NO		
	Does the door switch operate normally?	Door switch is defective.	Change the door switch.
	Does the safety switch operate normally?	NO Safety switch is defective.	Change the safety switch.
	YES		
	Is the connector of P.C.B ASS'Y connected properly?	NO Improper connection of the connector.	Connect the connector properly.
	YES	P.C.B. ASS'Y is defective.	Change P.C.B ASS'Y.
	Does the pulsator rotate while the tub does not rotate?		
	NO		
	YES		
	Is the input voltage of the drain motor normal?	YES Drain motor is defective.	Change the drain motor.
	NO	P.C.B ASS'Y is defective.	Change the P.C.B ASS'Y.
	Is the V-belt worn out?	YES V-belt is defective.	Change the V-belt.
	NO		
	Is the input voltage of motor normal?	YES Motor is defective.	Change the motor.
	NO		
	Is the connection condition of capacitor terminal good?	NO Improper connection.	Connect the terminal correctly.
	YES	P.C.B ASS'Y is defective.	Change the P.C.B ASS'Y.

Concerning Operation

PROBLEM	CHECK POINT	CAUSE	SOLUTION
THE INDICATOR LAMPS(L.E.D) DO NOT LIGHT UP WHEN THE POWER BUTTON IS PRESSED.	Is the plug connect-ed to electric outlet?	NO	Connect the plug.
	↓ YES		
	Is Fuse opened?	YES	Change Fuse
	↓ NO		
	Is the condition of power button good?	NO Power button is defective	Change P.C.B ASS'Y.
	↓ YES		
	Is the connector of the P.C.B. ASS'Y connect-ed properly?	NO Improper connection of the connector.	Connect the connector properly.
	↓ YES		
	Is input voltage of the transformer normal?	NO Transformer is defective	Change the transformer.
		P.C.B. ASS'Y is defec-tive.	Change P.C.B ASS'Y.
PROGRESS LAMPS(LED) DO NOT LIGHT UP.	Do you press START/HOLD button?	NO	Press START/HOLD but-ton.
	↓ YES	P.C.B ASS'Y is defective.	Replace P.C.B ASS'Y.
MOTOR ROTATES WHEN START/HOLD BUTTON IS NOT PRESSED.	Does the pressure switch operate normally?	NO Pressure switch is defec-tive.	Change the pressure switch.
	↓ YES		
	Check the output voltage of P.C.B ASS'Y	Abnormal P.C.B ASS'Y is defective	Change P.C.B ASS'Y.
ABNORMAL NOISE DUR-ING WASH PROCESS.	Is the strange noise gen-erated when the pulsator rotates in TEST MODE of P.C.B ASS'Y?	YES There is foreign matter between pulsator and tub.	Remove the foreign mat-ter.
	↓ NO		
	Is the V-belt worn out?	YES V-belt is defective.	Change the V-belt.

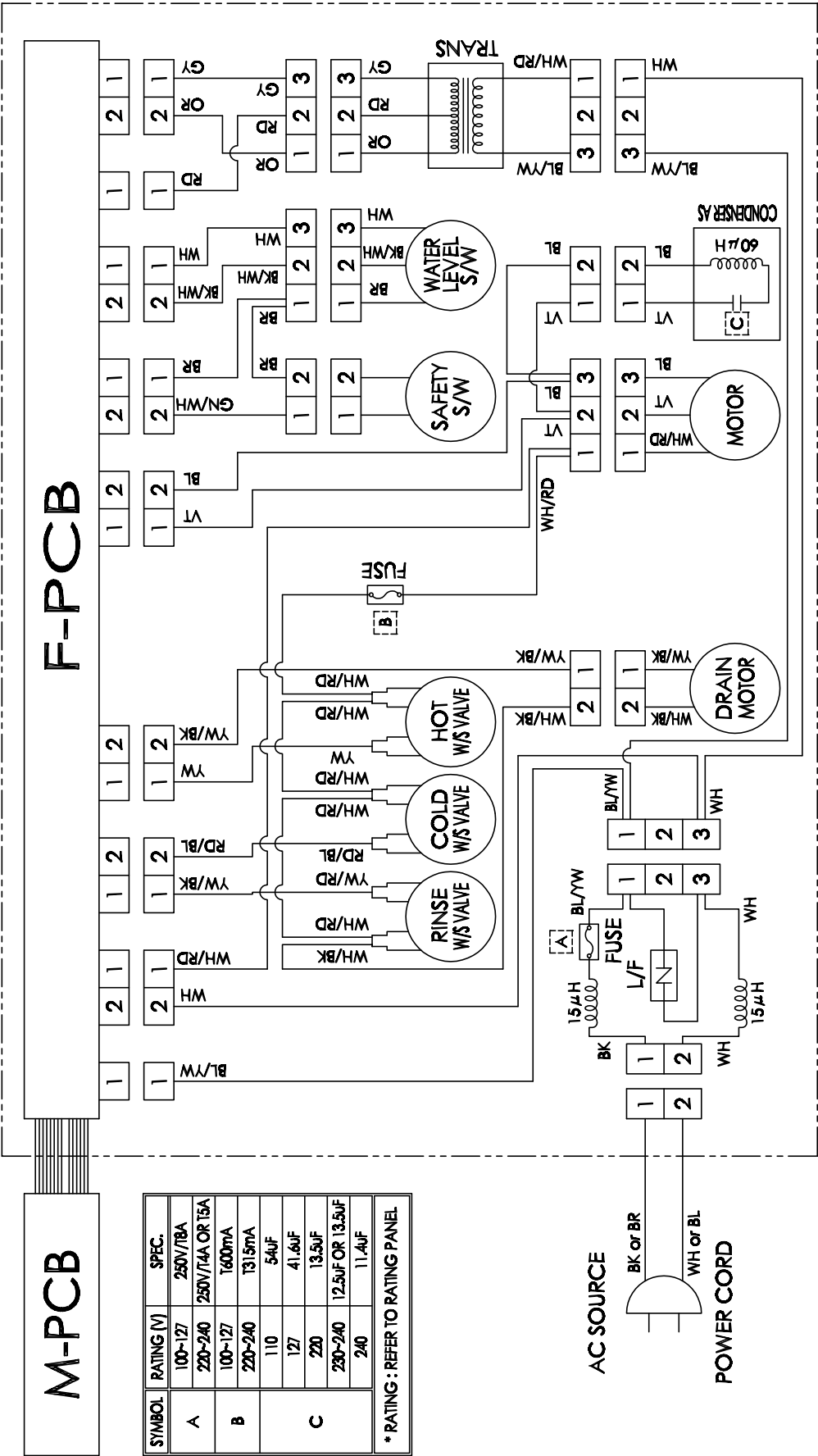
9. PRESENTATION OF THE P.C.B ASS'Y

Concerning Error Message

MESSAGE	CAUSE	SOLUTION
	Improper installation of drain hose.	Install drain hose properly.
	The drain hose is blocked up by foreign matter.	Remove foreign matter from drain hose.
	Drain motor is inferior.	Change drain motor.
	The water tap is closed.	Open the water tap.
	The water inlet filter clogged.	Clean the water inlet filter.
	It passes over the 60 minutes, yet it doesn't come to assigned water level.	Check whether or not it comes to the assigned water level.
	Wash loads get uneven during spin.	Re-set wash loads evenly.
	Poor installation of the unit.	Proper installation.
	The lid is opened.	Close the lid.
	The safety switch is inferior.	Change the safety switch.
	The load sensing is inferior. After the load sensing operates about 15 seconds, the message is displayed during 0.5 second and water level is always fixed 'high'.	Change the P.C.B. ASS'Y.
	The water level sensing is inferior.	Check the water level sensor and the contact part of the connector.

WRING DIAGRAM [Dwf-1098, 1398, 1068, 1048 non-pump]

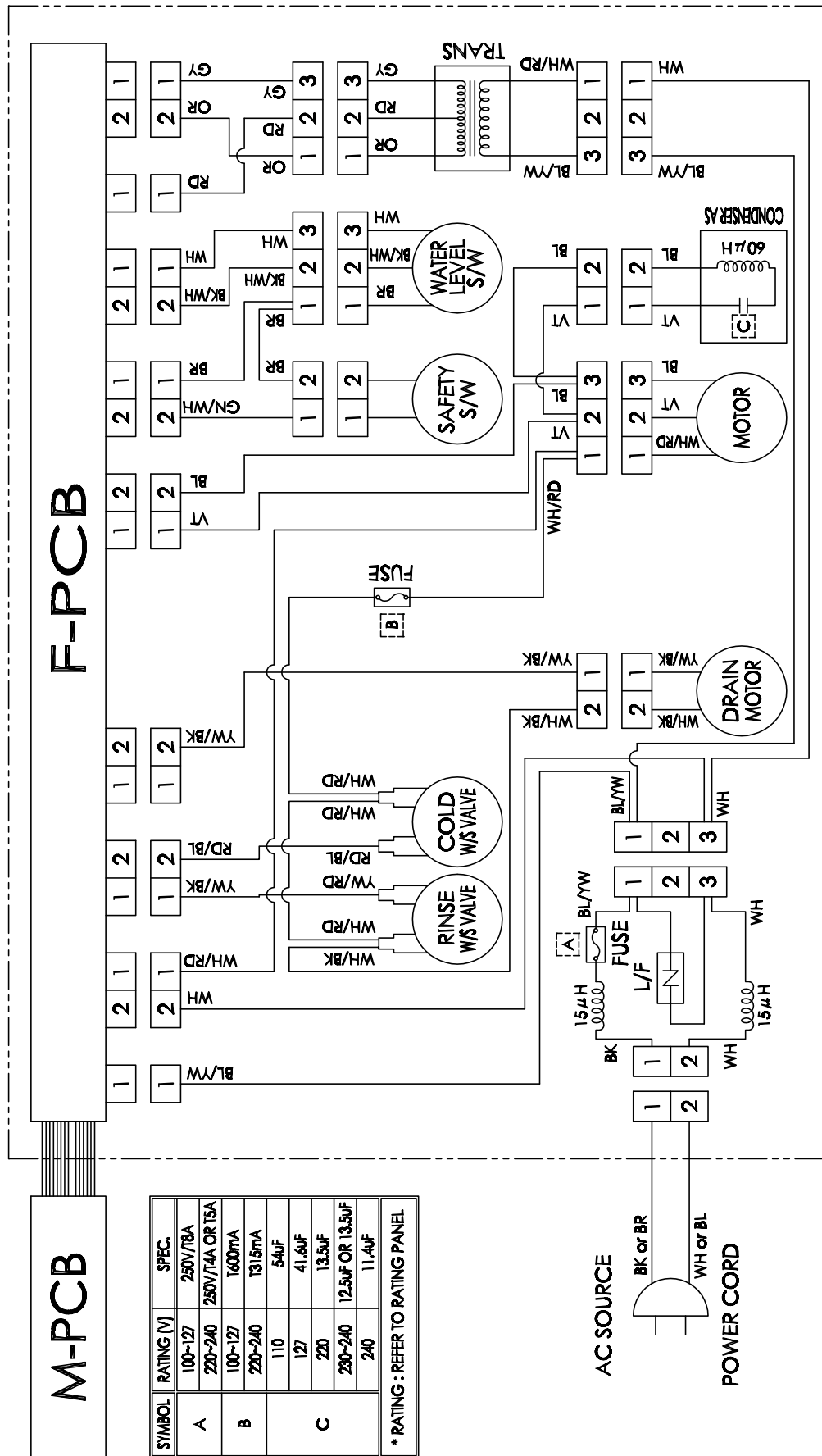
WIRING DIAGRAM



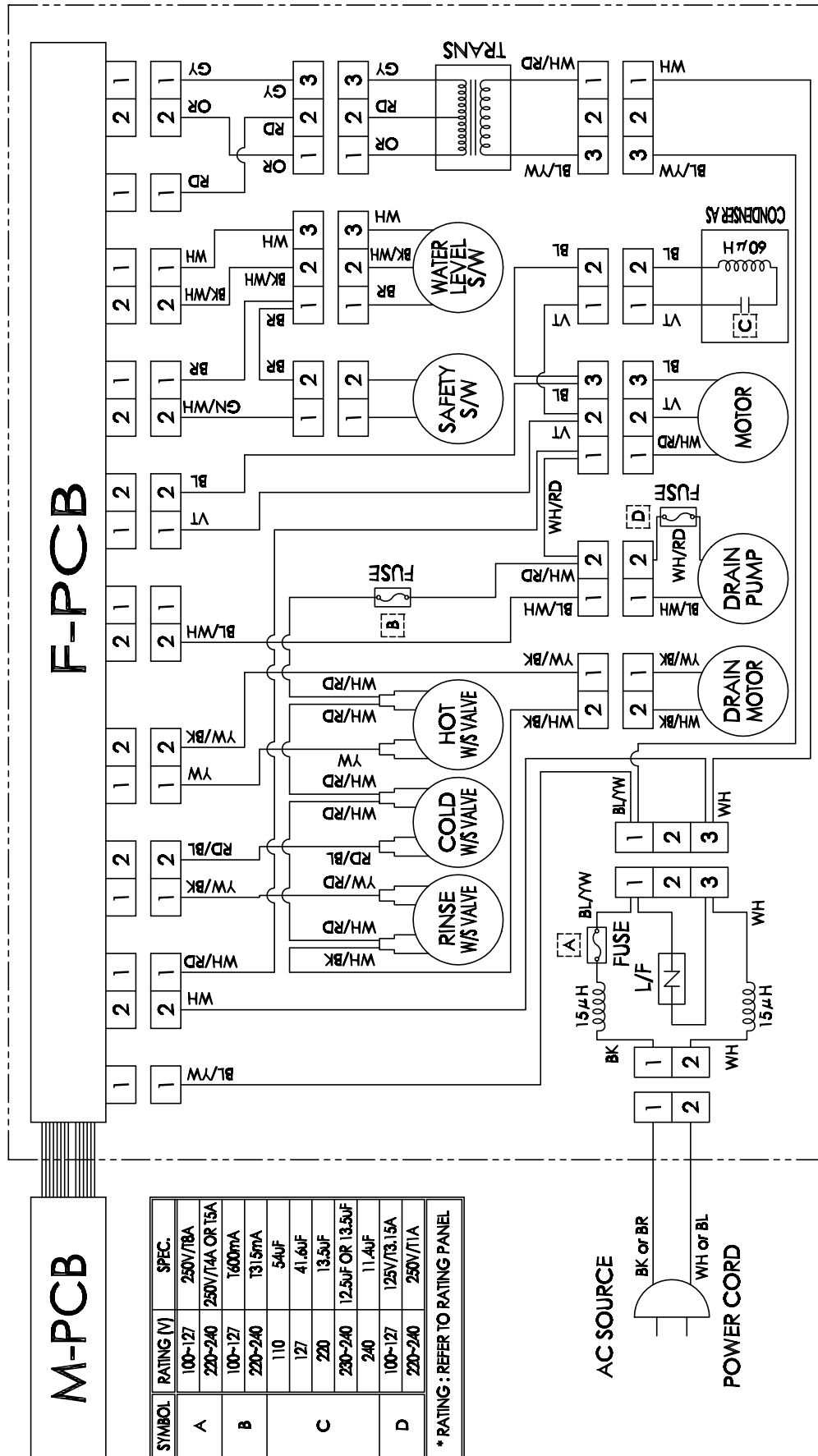
SYMBOL	RATING (V)	SPEC.
A	100-127	250V/T8A
	220-240	250V/T4A OR T5A
B	100-127	1600mA
	220-240	1315mA
C	110	54μF
	127	41.6μF
	220	13.5μF
	230-240	12.5μF OR 13.5μF
	240	11.4μF

* RATING : REFER TO RATING PANEL

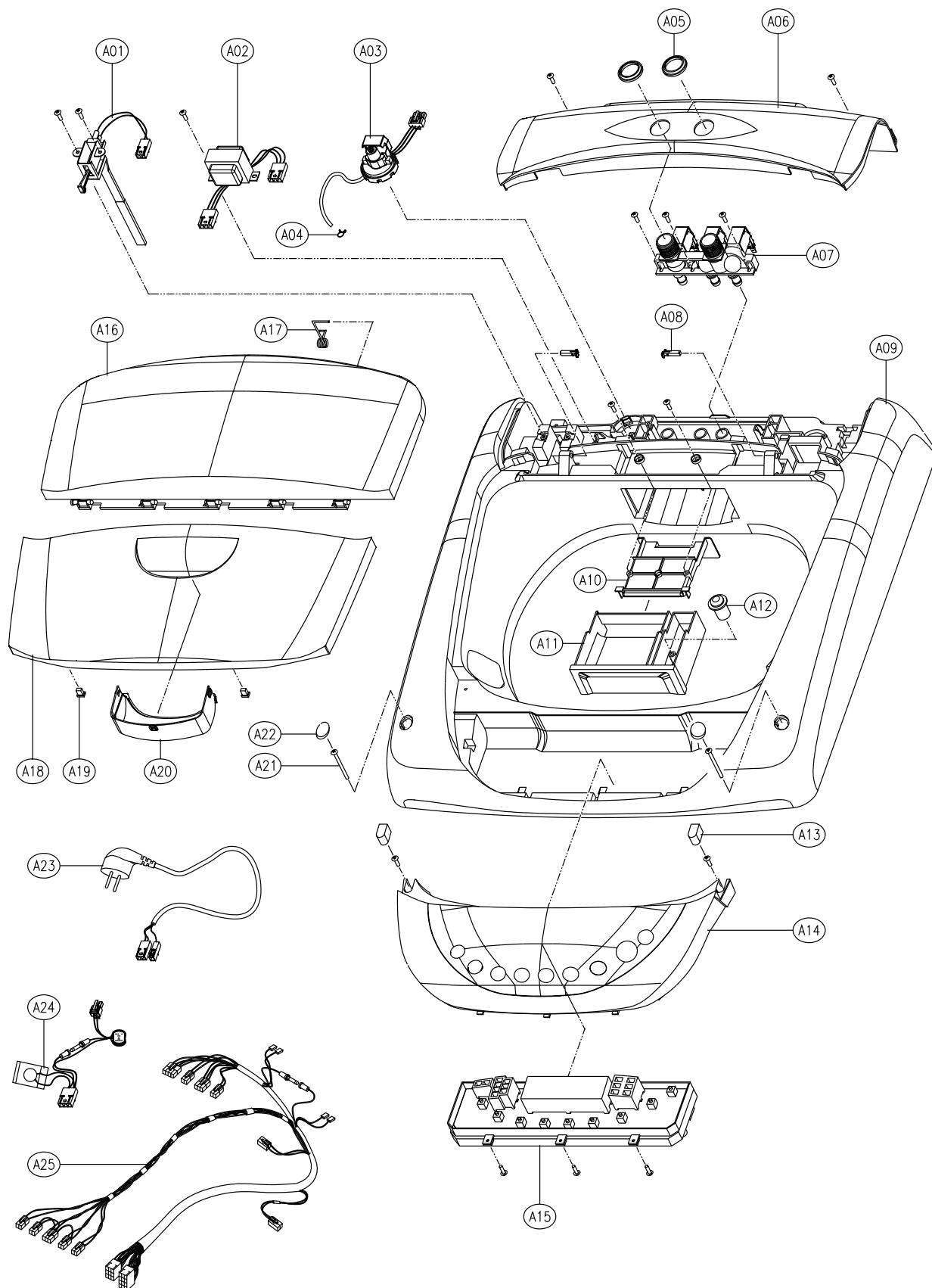
WIRING DIAGRAM

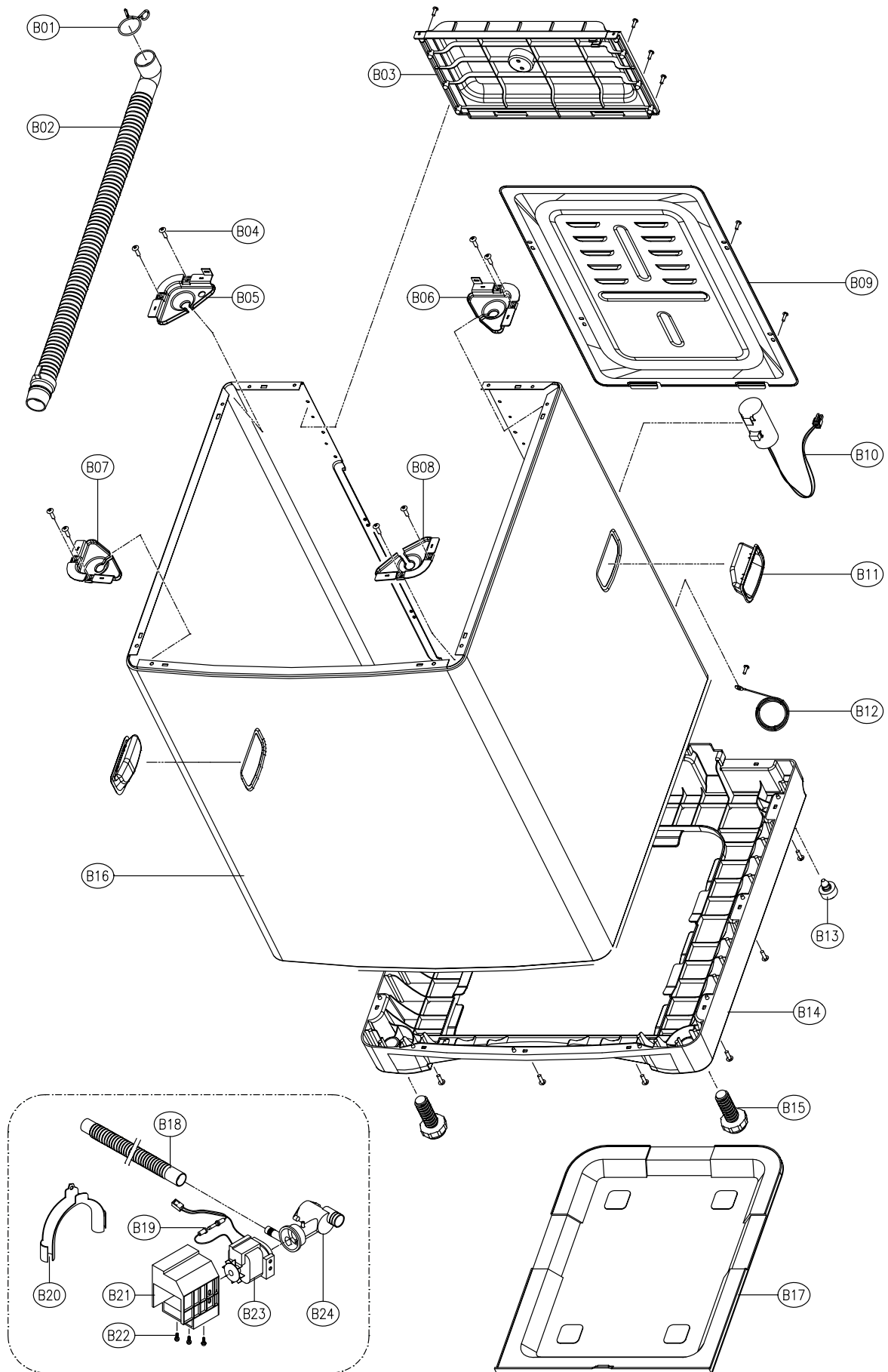


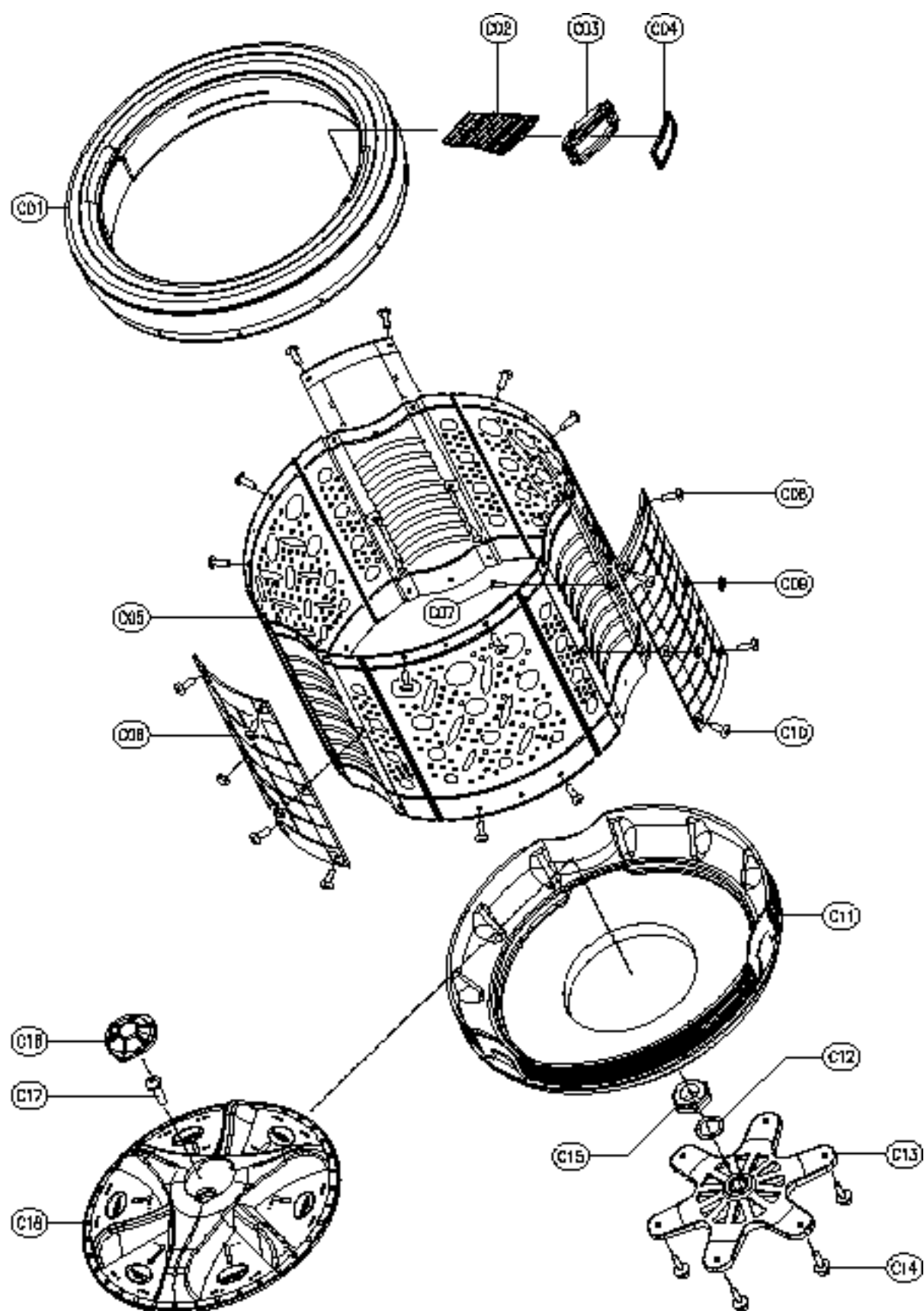
WIRING DIAGRAM

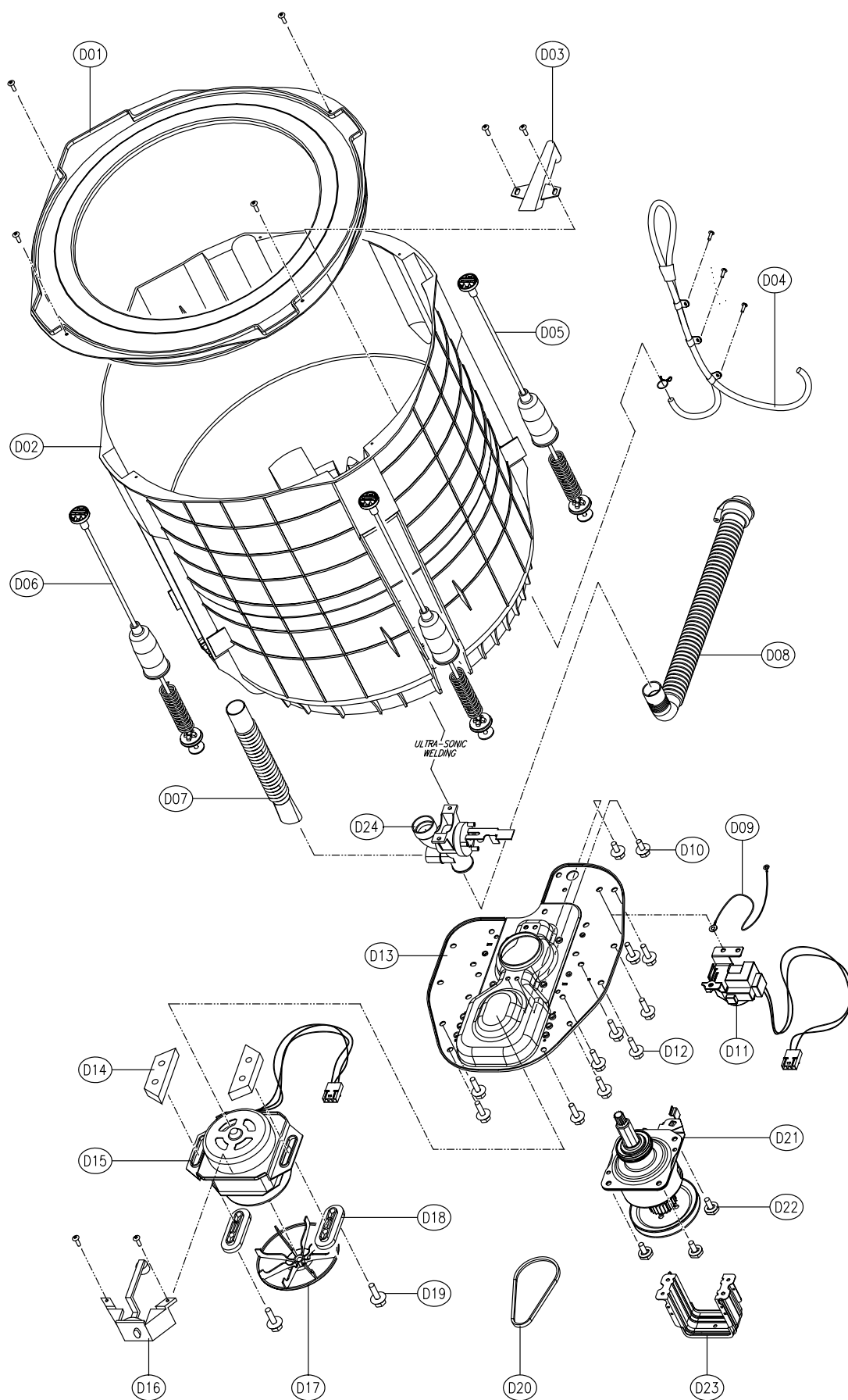


■ Parts Diagram









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■ Parts List

1. DWF-1098, 1398, 1068, 1048

NO	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
A01	3619044100	SWITCH SAFETY	DWF-1098	1	
A02	5EP1048010	TRANS POWER	T5-V1, AC 110-130V	1	
	5EP1048020		T5-V1F, AC 110-130C		FUSE
	5EP1048030		T5-V2, AC 220-240V		
	5EP1048040		T5-V2F, AC 220-240V		FUSE
A03	3614800960	SENSOR PRESSURE	DC 5V, CDN-D7	1	
A04	4507D08150	CLAMP	MFZN HOSE PIE=4	1	
A05	3612300110	GASKET VALVE	PVC-S	2	1EA:SINGLE VLAVE
A06	3614220600	PANEL B	ABS	1	
	3614220640		ABS, SINGLE VALVE	1	
A07	3615407110	VALVEINLET AS	AC 100V/50,60Hz	1	
	3615407120		AC 110~130V/60Hz		
	3615407100		AC 220V/60Hz		
	3615407130		AC 220~240/50Hz		
A08	3612902400	HINGE DOOR	POLYACETAL	2	
A09	3614516300	PLATE T	ABS	1	
	3614516310		ABS, SINGLE VALVE		
A10	3618101700	NOZZLE DETERGENT	PP	1	
A11	3611118100	CASE DETERGENT	ABS	1	
A12	3610907800	CAP SOFTENER	PP	1	
A13	3610909900	CAP	NBR	2	
A14	3614221300	PANEL F AS	1098, INMOLD	1	
	3614221310		1098, INMOLD, SINGLE V/V		
	3614230100		1068		DECORATOR FILM
	3614230110		1068, SINGLE V/V		(3611614700/10)
A15	PRPSSWZLOO	PCB AS	1098(1398)	1	
	PRPSSWZ—OO		1098(1398)C		SINGLE VALVE
	PRPSSWZ—OO		1098(1398)P		PUMPL
	PRPSSWZMOO		1068		
	PRPSSWZ—OO		1068C		SINGLE VALVE
	PRPSSWZ—OO		1068P		PUMP
A16	3611794400	DOOR B	ABS	1	
A17	3615110100	SPRING DOOR	SUS304 D-2.0	1	

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NO	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
A18	3611794500	DOOR F	ABS	1	
A19	3611504100	CUSHION DOOR	CR	2	
A20	3612604100	HANDLE DOOR	PP	1	
A21	3616008500	SPECIAL SCREW	M5(T1)X10	1	
A22	3610909700/10	CAP PLATE L/R	ABS	1	
A23	3611302900	POWER CORD AS	3X0.75, 300X2, L=1800	1	CP-2PIN
	3611302800		A VCTFK 2X0.75 2.3M		FLAT 2PIN
	3611302600		H H05V/4A, FERRITE	1	ITALIAN 3PIN
	3611303300		GTSA-3 3X0.75		ARGENTINE
A24	3618918400	UNIT FUSE FILTER	AC 250V/4A, FERRITE	1	
	3618918400		AC 250V/8A, FERRITE		
	3618914810		AC 250V/5A, FERRITE		TUV
A25	3612757600	HARNESS AS	NON-PUMP	1	220~240:315mA(5F3GB3102L)
	3612757610		SINGLE V/V		100~130:600mA(5FKGD6012S)
	3612757620		PUMP		
B01	3611201000	CLAMP	HSW3, MFZN D36	1	NON-PUMP
B02	3613213500	HOSE DRAIN O AS	EVA L=950MM	1	NON-PUMP
B03	3614514600	PLATE UPPER	PP	1	
B04	7112501411	SCREW TAPPING	T1 TRS 5X14 MFZN	8	
B05	3615302210	SUPPORTER TUB BL	SPG 1.4T	1	
B06	3615302310	SUPPORTER TUB BR	SPG 1.4T	1	
B07	3615302410	SUPPORTER TUB FR	SPG 1.4T	1	
B08	3615302510	SUPPORTER TUB FL	SPG 1.4T	1	
B09	3611413600	COVER BACK	SPG 0.5T	1	
B10	3618920000	ASSY CONDENSER	11.4μF+60μH	1	~240V
	3618919900		13.5μF+60μH		220V(1098)
	3618921100		15.0μF+60μH		220V(1398)
	3618920500		41.6μF+60μH		127V
	3618920400		54.0μF+60μH		110V
B11	3612603300	HANDLE CABINET	PP	1	
B12	3610068700	HARNESS OUTER	50/0.18 GN ST710489-2	1	
B13	4509D10020	FOOT	BUTYL RUBBER	2	
B14	3610310200	BASE U	PP	1	
	3610310210		PP, PUMP		
	3610312200		PP(1398)		DWF-1398

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NO	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
B15	3617702100	LEG ADJUST	SBR, PP	2	
B16	3610808510	CABINET	PAINTING, DWF-1094	1	
B17	3611403710	COVER UNDER	PP	1	"UP" MARKING
B18	3613217800	HOSE DRAIN O	PE-LD	1	PUMP
B19	3618703760	TERMINAL PUMP	C 250V/1A	1	AC 220V-240V
	3618703770		AC250V/3.15A		AC 110~130V
B20	3612502300	GUIDE DRAIN HOSE	PP	1	PUMP
B21	3611405320	COVER PUMP	PP(B360F)	1	PUMP
	3611405301		UL/CSA(466FWU, HFH-400)		
B22	7112501611	SCREW TAPPING	T1 TRS 5X16 MFZN	3	PUMP
B23	3963220330	MOTOR SHADED POLE	AC 110V/60Hz	1	
	3963821530		AC 120V/ 60Hz		
	3963322730		AC 220V/60Hz		
	3963513430		AC 220V~240V/50Hz		
B24	3611901530	FILTER AS	E-TYPE	1	PUMP
C01	3616104900	BALANCER AS	98 SERIES	1	
C02	3611900700	FILTER	NYLON	1	FILTER AS
C03	3611903000	FRAME FILTER	PP	1	(3611903100)
C04	3613008900	HOLDER	PP	1	
C05	3618815300	TUB	430J1L	1	
C06	3612507200	GUIDE FILTER AS	HIDDEN FILTER	3	
C07	3616008600	SPECIAL BOLT	SUS, M5X10	1	
C08	4505E05050	SPECIAL SCREW	5.2X18	12	
C09	3616008700	SPECIAL NUT	SUS, FLANGE NUT M5	6	
C10	3616003700	SPECIAL SCREW	SUS 5.5X16	12	
C11	3618815200	TUB U	FRPP	1	DWF-1098/68
	3618815500		FRPP		DWF-1398
C12	3616006500	SPECIAL WASHER	SUS301 T=0.8	1	
C13	3617200600	FLANGE TUB	ALDC12 VE1	1	
C14	3616007000	SPECIAL SCREW	SCM24H, 6.5X24	6	
C15	3616006200	SPECIAL NUT	ZDC2	1	
C16	3610908300	CAP PULSATOR	PP	1	
C17	4505E3203A	SC.PULSATOR FIX AS	6X26.5 O-RING+SILOCK	1	
C18	3619703500	PULSATOR AS	PULSATOR+INSERT	1	

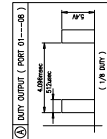
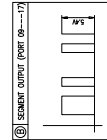
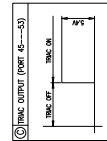
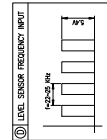
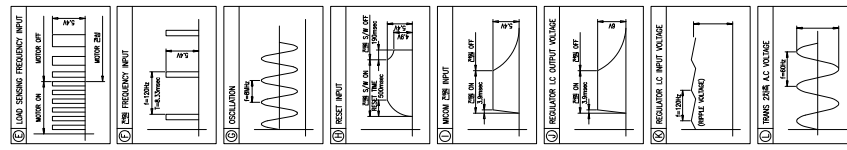
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NO	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
D01	3611410400	COVER TUB O	PP	1	DWF-1098/68
	3611413900		PP		DWF-1398
D02	3618807100	TUB O	PP	1	DWF-1098/68
	3618807120		PP, PUMP		DWF-1098/68, PUMP
	3618807110		PP		DWF-1398
D03	3618101400	NOZZLE BODY	PP	1	
D04	3613223300	HOSE AS	PVC, BUBBLE	1	
D05	3619802600	SUSPENSION AS (B)	DWF-1094, WH, BACK	1	DWF-1098/68
	3619803900		DWF-1398, WH, BACK		DWF-1398
D06	3619802500	SUSPENSION AS(F)	DWF-1094, YW, FRONT	1	DWF-1098/68
	3619803800		DWF-1398, YW, FRONT		DWF-1398
D07	3613208901	HOSE OVERFLOW	PELD, L=280MM	1	NON-PUMP
D08	3613218500	HOSE DRAIN I AS	PELD=EVA, L=219.5	1	NON-PUMP
	3613212100	HOSE DRAIN I	LDPE+EVA, L=184	1	PUMP
D09	36121718200	INNER EARTH WIRE	GN VSF(30/0.18) L=184	1	PUMP
	3612713100		AWG18 16/0.26 GN/YW		STANDARD AREA
D10	3616006900	SPECIAL SCREW	SCM24H, 6.5X18	4	
D11	3966130200	MOTOR SYNCHRONOUS	AC 100V/50.60Hz, ST=18	1	NON-PUMP
	450ED45100		AC 110~130V/60Hz, ST=18		
	3966320300		AC 220V/60Hz, ST=18		
	3966010200		AC 220~240V/50Hz, ST=18		
	3966130220		AC 110V/50.6Hz, ST=23		PUMP
	450ED45120		AC 110~130V/60Hz, ST=23		
	3966320320		AC 220V/60Hz, ST=23		
	3966010220		AC 220~240V/50Hz, ST=23		
D12	3616007000	SPECIAL SCREW	SCM24H, 6.5X24	20	
D13	3610387400	BASE	SECEN 2.05	1	
D14	3611529400	CUSHION DOWN	POM 107X31X6.7	2	
D15	3964131110	MOTOR CONDENSER	AC 110V/50.6Hz	1	
	3964221210		AC 110~127V/60Hz		
	3964821310		AC 120~127V/60Hz		
	3964321210		AC 220V/60Hz		
	3964311410		AC 220~230V/50Hz		
	3964510410		AC 220~240V/50Hz		
D16	3610402900	BODY BUBBLE AS	98 SERIES(MOTOR TYPE)	1	

✓ **Caution:** In this Service Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service information Center(<http://svc.dwe.co.kr>)

NO	PARTS CODE	PARTS NAME	DESCRIPTION	Q'TY	REMARK
D17	3618401400	PULLEY MOTOR AS	ADC-12, DS=10, DP=48.5	1	60Hz
	3618401420		ADC-12, DS=10, DP=53.0		50Hz
D18	3611502000	CUSHION UPPER	POM 107X31X6.7	2	
D19	7650802811	BOLT HEX	6B-1 8X28 HS MFZN	2	
D20	3616590220	BELT V	M20.5, AGING	1	
	3616590230		M21, AGING		
D21	3617306300	GEAR MECHANISM	GM-1098-NS6X0	1	DWF-1098/68
	3617306310		GM-1098-NS6P0		DWF-1098, PUMP
	3617306500		GH-1398-NS6X0		DWF-1398
D22	7640802011	BOLT HEX	6B-1 8X20 SW MFZN	4	
D23	3618301300	PROTECTOR GEAR	SBHG 1.6T	1	
D24	3615404020	VALVE DRAIN AS	5591D VE	1	NON-PUMP

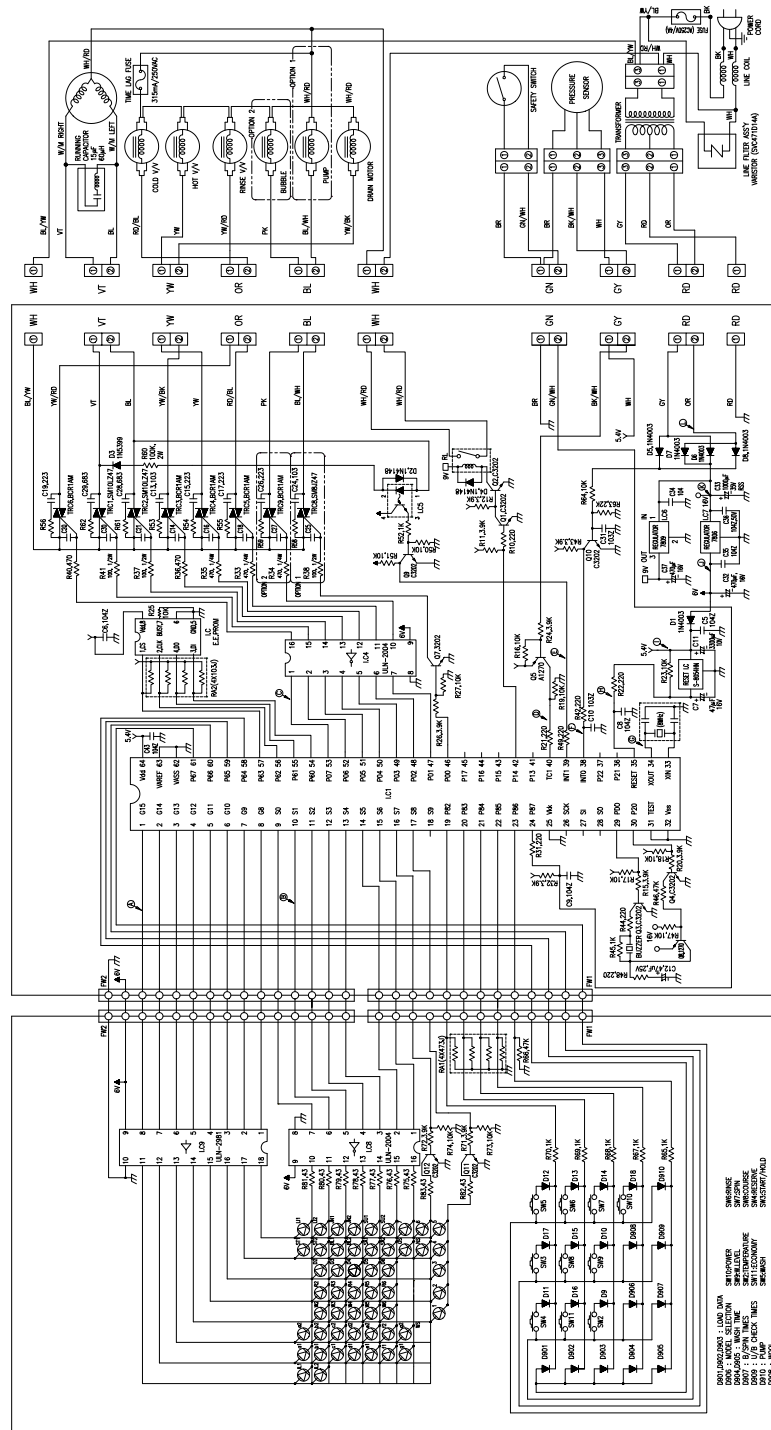
DWF-1068, 1048 Circuit Diagram



SWAK (6) FEED (6) 9min. (6) 7
15min. (6) 40min (6) 5
14 (6) 1 (6) 3
10 (6) 2 (6) 1
6 (6) 1
50

HT COLD HIGH ☐ ☐ ☐ ☐
MEDIUM ☐ ☐ ☐ ☐
LOW ☐ ☐ ☐ ☐
ELOW ☐ ☐ ☐ ☐

RES 18.8
HOUR
MIN.



MAIN P.C.B

FRONT P.C.B



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